Bath Charter Township
Newsletter June 2017

Emergency Sewer Repair

Some people enjoyed joking on social media that it might have been a meteorite strike, but really the sink hole required an emergency sewer repair. And it was expensive. And it disrupted traffic and households in the neighborhood.

But it could have been worse – if it had caused a sewage backup in a neighboring basement or if it had occurred near Park Lake, under a major road, or even under I-69.

On the evening of March 27, the sanitary sewer main collapsed near the intersection of Gary Lane and Ann Drive, causing a sink hole. Southern Clinton County Municipal Utilities Authority (SCCMUA) was soon on site and reported the occurrence. Under our emergency purchasing policy, we contracted with Leavitt & Starck Excavating, who was on site the next morning.

March 27 sewer collapse near Gary Lane and Ann Drive. Emergency repairs such as this can be expensive. Photo from Facebook; photographer unknown.

This was a dynamic project, and its scope evolved as the work progressed. The ground water and soils were evaluated and determined that extensive dewatering of the site was necessary to avoid additional collapse during the repair and, in turn, to protect life safety and surrounding infrastructure and property. Two temporary wells were drilled to dewater the site before excavation could be completed, which added time and cost to the project.

And the immediate fix turned out to be "more a patch than a repair." The permanent repair required cured in place pipelining (CIPP) to provide structural strength. Liquiforce was hired to install the CIPP, which was completed the first week of June.

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Monday through Friday
8:00 am—5:00 pm

Cured In-Place Pipelining (CIPP)

The main sewer interceptor was constructed in the early 1970s. And the concrete in the pipe is susceptible to corrosion from sulfides generated by the wastewater. Over decades, the corrosion has severely deteriorated much of this pipe.

CIPP is a method of adding a plastic liner insider the existing sewer main. It essentially creates a brand new pipe inside the existing pipe. The new pipe provides structural integrity, is resistant to sulfide corrosion, reduces groundwater infiltration, and has an estimated life of seventy-five years. It is installed via existing manholes, so excavation is not needed. As a rule of thumb, CIPP is about half the cost of excavating and replacing a main (and much less expensive than an emergency repair).

Based on the SAW televising, we have identified two distinct areas of the sewer interceptor as high importance for CIPP this summer/fall. The engineering firm Prein & Newhof has been hired to assist with putting the work out for bids. This is a major sewer main, and these two projects will prevent another expensive emergency repair in the future.

- About 3900 feet of the interceptor from Webster, along Ann Drive, under I-69, to the Lift Station 203 project. This area includes the location of the recent collapse at Gary Lane. Over half of the Township's sewage flows through this pipe.
- About 3700 feet of the interceptor from Drumheller, north on Webster, and west on Clark. About two-thirds of our sewage flows through this pipe.

SAW Grant Sewer Video: This photo is from televising the sewer in April 2016 at the location of the emergency repair. It shows the sulfide corrosion on the inside of the concrete sewer interceptor. The thick black item in the center is a rubber gasket between two sections of the concrete pipe; the pipe sections have been corroded away to the point that the gasket is falling in. With the gasket missing, ground water infiltrates the pipe. And the ground water carries grains of sand and sediment. Over time, more sand and more dirt create an empty pocket or void outside the pipe. When this void increases in size, it can collapse causing a sink hole in the road above and breaking the pipe below. The photo also shows a "shelf" on the sides of the pipe where the pipe has corroded above the waterline.

Lift Station 203

This is the major project we had planned for this year. Lift Station 203 on Drumheller Road was built in 1974 and is now in extremely deteriorated condition and at risk of failure. Planning for this project has gone through several delays and revisions the last few years, largely due to issues with plans to construct a half million gallons of storage in conjunction with Lift Station 203.

In light of the recent emergency repair and the immediate needs of the sewer interceptor, this project is now planned to be phased with rehabilitation of the lift station occurring this year and the addition of the storage several years in the future. We have contracted with Prein & Newhof to design, bid, and oversee construction of Lift Station 203.

SAW Grant

In 2013 the Township and engineers at C2AE applied for a Stormwater, Asset Management, and Wastewater (SAW) grant from the Michigan Department of Environmental Quality (DEQ). The Township was awarded a grant of $490,500 for eligible costs; this grant required a 10% match by the Township. The majority of the work under the SAW grant was to televise and assess conditions of manholes and mains throughout the old sections of the sewer system. The SAW work was completed at the end of May and is now being downloaded for computer access by the Township and SCCMUA.

SAW Grant Sewer Video: This photo is from televising the sewer interceptor in April 2016. The grid pattern is the rebar support cage that is built into the concrete pipe. Since it is exposed, it means that the pipe has been corroded half-way through. This photo also shows a gasket beginning to fall out of place between two sections of the concrete pipe and a shelf at the waterline on the sides.

The SAW data includes rating each piece of the sewer on a scale of 1 to 5 for its present condition or probability of failure and also on a scale of 1 to 5 for its criticality or the consequence of failure. Multiplication of the two ratings results in a score from 1 to 25 for its business risk. The scores can be conveniently color coded on maps, and the videos of sewer segments and other information can be directly linked into the data. DEQ considers scores of 16 to 25 as high importance.

The SAW report includes a capital improvements plan for the sewer system, identifying sections of the sewer which should be repaired or upgraded in the next few years and sections to consider later. Following the emergency repair this spring, we reviewed the near-complete SAW data to identify other areas that should be considered for near-term repair.

Celebrating 8 Years!

Bath Farmers Market

Anniversary Party
July 20, 2017
3—7 pm

James Couzens Memorial Park
13751 Main Street, Bath

Ice Cream Social ● Zucchini 500 Race
Photo Booth ● Music Petting Zoo
Community Art Contest ● Pet a Goat!
Art Project ● Guest Chef

Summer Solstice Party

Friday, June 23, 2017 ● 6:30 – 9:30 p.m.

Wiswasser Park & Rickard Boat Launch

Competitions, Games, Demonstrations, Hands-on Activities, Obstacle Course, Inflatables, Water Activities, Food Trucks & Much More!

Hosted by Friends of Park Lake

Sewer Rate Increase

Last year, the Township hired Tom Traciak of Umbaugh & Associates to perform a rate analysis. Mr. Traciak is greatly respected for his work across the state, and we previously worked with him around 2006. Completing the rate study has been on hold for the past year due to the revisions of the Lift Station 203 project and questions about its cost estimate. And now we're proposing CIPP and other work, all of which impacts the analysis.

As the list of projects is finalized, and the amount of bonding determined, the rate study is now being completed. The Board of Trustees will weigh in regarding assumptions about growth in the Township and fees, and the Board will have the final vote on the rate increase. There will be a double-digit increase in sewer rates. It will be significant but really is necessary and is cheaper than not performing the maintenance and repairs.

Other Sewer Projects

Based on the SAW study and experience from SCCMUA, several other projects are being planned within the next couple years:

- **Spot Repairs** – Four locations with offset joints or sags in the pipe will require excavation for repairs underneath Park Lake Road. Clinton County Road Commission plans to repave Park Lake Road in 2018, so the sewer work should be done prior to the road work.
- **Lift Station 501** on Herbison Road serves both Bath and DeWitt Township. It is being rebuilt this year. DeWitt is taking the lead on the project, but Bath will be responsible for about a quarter of the bill.
- **Telemetry** for a new radio and taller antenna are needed upgrades for the lift station communications system.
- Rehabilitative lining is needed to protect several **manholes** throughout the system.
- Lining of ductile iron **forcemain ends** is appropriate preventive maintenance.
- **Lift Station 204** on Park Lake Road needs new pumps.
- **Lift Station 205** on Park Lake Road needs pumps and controls.
- **Lift Station 206** at Dutch Hills needs new pumps and controls.
- **Lift Station 208** on Coleman Road is due for significant repairs in the near future.

Bath Days Festival

August 4 & 5, 2017

www.bathdays.com

2016 Bath Days Tub Race Winner:
Bath Township Fire Department