



Candice S. Miller

Public Works Commissioner
Macomb County

FOR IMMEDIATE RELEASE

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Rotted sewer pipe causes sinkhole in Warren

Cement filling and spray lining of underground pipe will prevent larger collapse.

Repairs made inside a sewer pipe in Warren have prevented a sinkhole discovered along 10 Mile Road in Warren from causing a much larger problem -- including the potential collapse of the road.

A relatively small or moderate sized sinkhole is an indicator of a significant problem deep below the surface and requires prompt attention to avoid a major infrastructure problem. In this case, if the sinkhole had grown, it could have led to a pavement collapse on 10 Mile Road. Also, the nearest house is located approximately 50 feet away on Loretta Avenue.

“This sinkhole was right up next to the curb. It was already a hazard and could have quickly become significantly worse,” Macomb County Public Works Commissioner Candice S. Miller said. “In this case, the rotting of corrugated metal pipe installed six decades ago is something we’re seeing more frequently in our inspections or where small sinkholes have occurred.”

After the sinkhole was discovered along the curb of westbound 10 Mile Road at Loretta Avenue, west of Mound Road, inspection revealed that the bottom of a 30-foot-long portion of the elliptical, corrugated metal pipe measuring 11 feet wide in the enclosed part of the Bear Creek Drain had rotted. Storm water got through those openings and caused some of the gravel and dirt bed beneath and around the pipe to be washed away, eventually causing the sinkhole.

The contractor installed temporary internal bracing inside the pipe to stabilize it, and hydraulic cement was used to fill the holes at the bottom of the pipe and in the sinkhole. The crew working inside the pipe applied a coat of geo-polymer spray on the interior of the metal pipe before installing a carbon fiber grid. That was followed by a second spray coat to complete the rehabilitation of the interior of the pipe which was installed in the early 1960s.

The spray-lining method used by the contractor was efficient with long-term protection of the sewer without the alternative of excavation to reach the rotted pipe, tear it out and replace it with new pipe. Its use by Macomb County in the Bear Creek Drain and an unrelated sewer rehabilitation project along 15 Mile Road is the first of its kind in Michigan.

After some additional follow-up inspection, the project is expected to be completed soon with some grouting on the outside of the pipe, up to the sinkhole.

The total cost for construction and engineering was \$230,000.

“It’s a reminder that we need to continue to invest in our aging underground infrastructure by inspecting it, rehabbing it when possible or replacing it when necessary,” Miller said.

VIDEO: Macomb County Public Works Commissioner Candice S. Miller describes the repair of a rotted metal pipe that led to a sinkhole along 10 Mile Road in Warren. Video from within the pipe shows a contractor performing repairs, including the spray lining method.

<https://youtu.be/oOGzv0tH5vM>

PHOTOS:

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An inspector checks the sinkhole along westbound 10 Mile Road near Mound Road in Warren, prior to repair inside the Bear Creek Drain sewer pipe.

The contractor begins working inside the 11-foot-wide, 8-foot-high elliptical corrugated metal pipe that is part of an enclosed stretch of the Bear Creek Drain.

Macomb County Public Works Commissioner Candice S. Miller stands at the filled sinkhole along 10 Mile Road, west of Mound Road, in Warren.



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