

Snap Tite

FIELD REPORT

Snap-Tite® No-Dig Solution Lessens Disruption and Expedites Project Timeline for NYSDOT

BACKGROUND

Nestled in the "southern tier" along Interstate 86, the New York State Department of Transportation (NYSDOT) in the town of Painted Post is responsible for a significant amount of road miles in Steuben County, neighboring the Finger Lakes region. Resident Engineer, Stacey Forenz, Assistant Engineer, Levi Zemak, and their team spent three years putting together an action plan to address deteriorating roads and the drainage assets below roadway surfaces.

CHALLENGE

Steuben County, New York, is a beautiful area but hidden below its roadways were hundreds of aging drainage culverts. NYSDOT installed culverts of various types and materials throughout the years, including corrugated metal, reinforced concrete and even old ductile iron pipe, used for storm drains. Many of these culverts were more than 50 years old and had varying ranges of deterioration including inverts that were severely damaged or completely gone, separated joints, backfill infiltration, and more.

For almost two years, Forenz and her team compiled detailed information and created a filing system for their culvert inventory. They gathered key information such





as host pipe size, a conditio rating system (1-5 based on critical action), a recommended rehabilitation solution, and

additional critical information. In total, the team reviewed more than 500 culverts; 70 of which were repaired in the summer of 2021 with the help ISCO Industries' (ISCO) Snap-Tite experts and culvert lining products. **LeBlanc:** "The ability to work with a crew that felt very comfortable being hands-on was really helpful in the field. I

"

"Reline was an attractive option because it did not require excavation, traffic detours during our busy lake tourism season, or disturbance to our already hectic pavement schedule."

77

STACEY FORENZ PROJECT ENGINEER, NYSDOT enjoyed working with everyone very much."

Forenz: "It certainly helped that all materials were available to us through a state purchasing contract. When we needed something custom or specific to solve unique challenges, Don and the Snap-Tite team were there to help. Once you've committed to digging up a road, you can't stop. If something isn't working or weather happens, you can't just stop, you've committed to finishing that day. With the sliplining technique, you still have an open channel for water that

allows you to pause work and come back the next day and finish the installation—freeing you of time under pressure.

Snap-Tite and DLVEWS have been accommodating. We had some last-minute changes and the team was great to try to make that happen."

CONCLUSION

"The results were extremely favorable. Everything has its challenges, and this was no different," said Forenz. Culverts with directional changes, connections that were made decades ago and decaying, along with multiple other obstacles created challenges throughout the project. The Snap-Tite culvert lining products saved significant time and allowed the NYSDOT team in Painted Post to tackle a lot more pipe rehabilitation in one summer than they ever thought possible."



SOLUTION

It was important for Forenz and her team to conceptualize such a massive rehabilitation. A primary area of focus was on rehabbing the entire segment of road rather than tackling each facet of the

job individually. For example, only targeting the pavement section, culvert work or roadside drainage singularly. The NYSDOT team partnered with Don LeBlanc, project engineer, DLVEWS and Snap-Tite, to determine proper culvert liners for the project, including the right liner size and length. LeBlanc also assisted in the field on installation best practices.

The hydraulics of the culverts were also a major focus of this initiative. To meet the hydraulic requirements, a maximum pipe liner diameter was selected as well as utilization of the HydroBell; an inlet improvement device that helps with flow capacity. The combination of the HydroBell and the flow characteristics of the pipe successfully accomplished the goals. To maintain the long-term structural integrity of the newly lined pipe, a low-density cellular concrete was pumped into the annular space at about 25-30 pounds per cubic foot.

CUSTOMER FEEDBACK

ISCO: "What were some of the biggest advantages of using ISCO's Snap-Tite product line for your culvert rehab project?"

Forenz: "The fact that we could split our crews into different teams to tackle multiple culverts per week was a huge advantage. Also, when [LeBlanc] told us that this pipe could be used as a direct bury solution, it gave us a whole new perspective. I no longer needed to worry about using various materials to complete the culvert length."