Busy Highway Uninterrupted by Roadway Construction

To fix a deteriorated culvert running under a state road here, the New York State DOT (NYSdot) turned to Slate Hill Constructors Inc., Warners, New York. The 60-in. diameter corrugated metal pipe (CMP) put in less than two decades ago was on the way to total failure.

The mandate to Slate Hill Constructors was to maintain the water flow rate and to cause the least interruption to traffic on the two-lane road.

New York State Route 318 in the upstate, Finger Lakes region has an Annual Average of Daily Traffic (AADT) volume of nearly 5,000 vehicles. This is due mainly to the Waterloo Premium Outlets® center that has more than 100 stores and has become one of the major destinations for the area which includes state parks and wineries.

"This was a NYSdot project called a job-order contract," explained Dale Carlson, project manager for Slate Hill Constructors.

The project called for fixing two, 118-ft runs of the culvert pipe. "Well, you know what happens to metal pipe, especially with the amount of salt used during the winters up here," Carlson said. "We decided to slipline it. We had a bunch of pipe projects where we relined using different materials and suppliers and ADS came in with the right product so we used it."

Carlson elected to use 48-in. diameter NEWLINER pipe from Advanced Drainage Systems Inc. (ADS) (NYSE: WMS). A closed-profile, spiral wound pipe, the pipe is made from high-density polyethylene (HDPE) that is resistant to corrosion, chemicals, abrasion and able to handle a pH range from 1.25 to 14. Designed specifically for storm water sliplining projects, NEWLINER has a smooth outer wall along with a smooth inner wall that increases hydraulic efficiency with a Manning’s ‘n’ value of 0.012. It is available in diameters ranging from 12 to 60 in. with threaded, soil-tight joints. The pipe meets ASTM F894 - Standard Specification for Polyethylene Large Diameter Profile Wall Sewer and Drain Pipe. According to ADS, NYSdot gives its products a 70-year service life rating.

"The pipe has the smooth interior for the water flow requirement and sliplining was an easy way of doing it without digging up the roadway and really inconveniencing traffic," he continued. "To install the pipe it was really easy because we were able to downsize to 48 in. from 60 and still maintain the water flow rate. Lining up and pushing in the pipe took less than a day and a half. The grouting took a little longer because you have to be careful doing that. We did not use a normal controlled flow grout. We wanted a product that would flow better and so we used a high-strength grout with Portland cement. From start to finish it was probably a two-and-half to three-week project.

"We liked the fact that the ADS pipe is smooth. So when you’re slipping through stuff you don’t any bumps or edges — it’s all the same dimensions."

Article was provided by ADS.