

CaseHistory

CIPP Saves Quintessential Small Town Ambiance



For some insertions, steam was introduced to bring the resin to its cure temperature.

Application:	CIPP liner for vitrified clay and concrete sanitary sewers
Resin:	Vipel® isophthalic polyester
Diameter:	8 inches (20.3 centimeters)
Total length:	12,800 feet (3,900 m)
Location:	Collierville, Tennessee, USA
Installed:	2007

Collierville, Tennessee has a quaint downtown district with a classic gazebo town square listed on the National Register of Historic Places. So when underground sewer pipelines showed signs of weakness, tearing up streets to replace the pipe would have been a civic nightmare.

The trenchless solution designed by consulting engineers Jordan, Jones & Goulding, Inc. (JJG) had new seamless cured-in-place-pipe (CIPP) built inside the old pipe. Insituform Technologies®, Inc. (ITI) installed the CIPP using a felt tube saturated with Vipel® corrosion-resistant resin from North American resin leader AOC.

CIPP Saves Town Ambiance, continued



With trenchless CIPP upgrading the sewer's underground, the Southern charm on Collierville streets was not impacted.

Adding a dimension of community pride to the project, AOC world headquarters are about five minutes away from the Collierville downtown.

“If this project had been standard open-cut construction, it would have taken six months, instead of the four-and-a-half weeks it took,” said ITI Senior Project Engineer Randy Hansbrough. “By not having to dig trenches, the environment and town ambiance were preserved. Businesses did not have to face shutdowns, and roads stayed open to traffic.”

The Collierville project rehabilitated 12,800 feet (3,900 m) of 8-in (20.3-cm) vitrified clay and concrete sanitary sewer pipe installed at various stages in the 1960s. “This was a major infrastructure management undertaking,” said Murray Beard, Project Manager for the Public Service Department of the Town of Collierville. There were a variety of issues in different areas. In some places, soil settlement was causing depressions in the roadway. There were leaking joints. Root intrusions were causing backup. And we had inflow/infiltration of storm waters during heavy rains.”



Resin-impregnated felt tube was shipped to the job site and inverted into existing manholes.

How Insituform® works

Steve Lindsey, Senior Pipelines Rehabilitation Specialist for the Memphis office of JJG, Inc., developed the plan to fix the problem by having the host pipe cleaned out then relined with Insituform® CIPP.

The Insituform process started with a non-woven polyester felt liner custom-made for the host pipe and in predetermined lengths for on-site insertions. Prior to insertion, the felt was impregnated with wet resin at Insituform's special facility in Jacksonville, Florida, then shipped to the job site under controlled conditions to prevent premature resin cure.

To speed installation, minimize disruption and eliminate digging, access to the Collierville sewer pipe was made through existing manholes. As the wet-out tube was inserted, internal water pressure or air pressure was used to invert the tube and move it forward and against the pipe's inner wall. Depending on the pipe conditions and location for a specific inversion, the water was heated or steam was introduced to raise the temperature of the resin to its curing point.

CIPP Saves Town Ambiance, continued

Temperature was then maintained for a specific time to ensure a complete cure. When fully cured, the resin became a crosslinked solid which resulted in a new seamless liner inside the old pipe.

The Vipel resin for the job is a high molecular weight isophthalic polyester engineered for CIPP use and proven in applications throughout North America. Lindsey pointed out the significance of CIPP resin specification. “As important as the felt tube is, it is just the vehicle for getting the resin inside the host pipe,” he said. “The resin is the new pipe.”

ITI Field Engineer Bill Crockett observed, “Collierville shares a common thread with many other small towns we’ve been to across America,” said. “Their sewer infrastructure was aging, and digging up Main Street would be incredibly disruptive.”

About Jordan, Jones & Goulding

With headquarters in Norcross, Georgia, and offices throughout the Southeast, Jordan, Jones & Goulding, Inc. (JJG) is a client-based consulting firm offering engineering, management and planning services. JJG areas of expertise include environment and water resources, management and operations, land development, transportation and transportation planning, tunnels, trenchless rehabilitation technologies and geotechnics, and water and wastewater. For more information, phone (770) 455-8555, e-mail info@jjg.com or go to www.jjg.com.

About Insituform®

Insituform Technologies® Inc. is a leading worldwide provider of proprietary technologies and services for rehabilitating sewer, water and other underground piping systems without digging and disruption. To learn more information about the Company, visit www.insituform.com.

About AOC

Headquartered in Collierville, Tennessee, AOC is a leading global supplier of resins, gel coats, colorants, additives and synergistic systems for composites and cast polymers. AOC is the North American leader in resins for corrosion-resistant applications. For more information on AOC materials, services and commitment to CIPP, contact Ben Bogner by e-mailing bbogner@aac-resins.com or phoning (630) 665-2675.

