

# Polyurethane Excavation Support for CIPP Sanitary Line Installation

Implementation of deep soil stabilization using geotechnical polyurethane to support excavation for CIPP liner to be installed in an existing sanitary line, adjacent to a chiller pad.

## About The Project

<b>Contractor</b> East Coast Poly Solutions	<b>Location</b> Rockville, MD	<b>Product Used</b> Terrathane™ 24-003
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[Learn More About Terrathane™ 24-003](#)

Project Summary: Implementation of deep soil stabilization using geotechnical polyurethane to support excavation for CIPP liner to be installed in an existing sanitary line, adjacent to a chiller pad.



A prominent pharmaceutical company planned to install the CIPP liner in the sanitary lines adjacent to an existing chiller pad at their facility in Rockville, MD. The project required precise excavation work near this critical [infrastructure](#), with the risk of disturbing the structural integrity due to the unstable nature of the 57 stone sub-grade.

The primary challenge was to stabilize the subgrade effectively to allow for safe excavation without compromising the surrounding infrastructure. [East Coast Poly Solutions](#) employed a method known as Deep Soil Stabilization, injecting [Terrathane 24-003](#), a high-density geotechnical polyurethane by [NCFI Polyurethanes](#), at depths of 8 feet, 5 feet, and 2 feet in a 3×3 grid pattern at the surface. This technique aimed to consolidate the 57 stone into a solid mass, enhancing stability and safety.

When injected, the polyurethane used in the soil stabilization process initially behaves as a liquid, allowing it to flow and permeate the annular voids around the stone. This liquid media ensures that the polyurethane can reach and fill the spaces between the gravel particles. After a short period, the chemistry of the polyurethane reacts, beginning a rapid expansion throughout the gravel layer. As it expands, the polyurethane interlocks with the gravel, forming a cohesive matrix. This mixture then cures and hardens, effectively locking the treatment zone into a durable matrix of polyurethane and gravel, which stabilizes the area and provides robust support for the intended excavation and construction activities.

The process required full personal protective equipment (PPE) due to the handling of chemical materials and involved detailed safety meetings, drilling, installation, and clean-up phases. The project was completed over a span of three days, with the polyurethane quickly solidifying to minimize downtime and allowing the construction team to proceed with the excavation ahead of schedule.

The stabilization was successful, preventing any disturbances to the chiller pad or adjacent structures, and facilitated the efficient and safe installation of the CIPP liner. This project demonstrates the effective use of advanced geotechnical polyurethane in providing critical support for complex excavation tasks, ensuring structural safety and showcasing innovative solutions in construction practices.

# Project Gallery

