



SOLENO

MASTERING WATER SUSTAINABLY



KUSTOMFLO

CULVERT REPLACEMENT FOR SHORT TERM ROAD CLOSURE

CULVERT REPLACEMENT

Location: New Berlin, NY

Installation: June 2025

PROJECT DETAILS

Distributor: Chemung Supply Co.

Contractor: Town of New Berlin

PRODUCT DESCRIPTION

Diameter: 84"

Length: 60'

Profile Information: Closed profile

Joints: Gasket

SITE CONDITIONS

Trench Depth: approximately 15'.

Trench Width: 13' to 15' after exhuming old pipe.

Backfill Material: locally supplied embedment material was a sandy gravel compacted to 90% standard proctor.

Surface Material: topped off with road base material and bituminous asphalt pavement.

SITE CONDITIONS

The existing corrugated metal culvert on the project site exhibited significant deflection and ovalization, which resulted in roadway settlement and visible signs of collapse within the culvert. In response to these conditions, the town proposed a complete culvert removal and replacement. The priority was to find a product that could be installed quickly, minimizing road closure time. To address this, Chemung Supply reached out to Soleno to confirm the availability and appropriate pipe profiles in 84-inch and 96-inch diameters. Soleno was able to provide an 84-inch closed profile KUSTOMFLO pipe that met the project's cover loading requirements. Moreover, Soleno efficiently delivered the product to the site within three weeks of Chemung's initial inquiry, resulting in a completed project with only one week of road closure. Soleno representatives were on-site to provide guidance to the contractor, ensuring smooth installation and timely project progress.

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CONTEXT

In 2006, the metal culvert on 104 Holmesville Hill Road collapsed in the town of Berlin, New York. It was replaced with another metal pipe; however, this replacement closely resembled the original structure and soon raised concerns about its potential to collapse again due to seasonal high-pressure runoff.

Chemung Supply Company was brought in to address the issue. Their first objective was to find a solution that would minimize road closure time—a critical factor for local residents and emergency services. The second priority was to install a new culvert capable of handling high volumes of water at the existing trench depth, providing long-term durability and improved drainage performance.



SOLUTION

To address the structural and hydraulic challenges of the site, Soleno manufactured and delivered three 20-foot pipes, each with an 84-inch diameter, directly to the project location.

Before being lifted and carefully positioned into the trench, gaskets were applied to the spigot ends of each pipe to ensure a secure and watertight connection once pipes were connected. The pipes were then assembled sequentially in the trench. This method streamlined installation, minimized handling, and maintained the structural integrity of the pipe joints.



BENEFITS

The implementation of KUSTOMFLO pipes provided several key advantages that contributed to the project's success:

- **Lightweight:** The KUSTOMFLO pipes are significantly lighter than traditional concrete or metal culverts, increasing maneuverability and decreasing installation time.
- **Durability:** KUSTOMFLO is made of HDPE, and inert material that is highly resistant to corrosion and chemical degradation, thereby providing a significantly longer useful life than concrete or steel pipes.
- **Reduced Shipping Costs:** Lighter pipe materials led to lower transportation expenses, reducing overall project costs.
- **Improved Maneuverability:** Using only a small excavator, the pipes were safer and easier to handle and position on-site, streamlining the installation process.
- **Minimized Road Closure Time:** Faster handling and assembly of the pipes contributed to shorter road closure periods, minimizing disruption to local traffic.
- **Simplified Assembly:** The pipe design allowed for quicker, more efficient assembly in the field.
- **Project-Specific Flexibility:** A range of pipe profile options enabled Chemung Supply Company to select the ideal solution tailored to the site's unique trench depth and hydraulic needs.



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