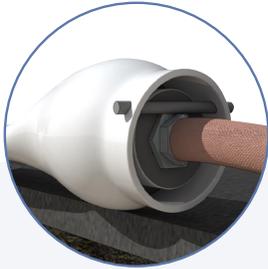


Case Study

City of Winnipeg Picks Eco-Friendly NovaForm™ to Repair First of Many Stormwater Outfalls

Steam-powered install means water is the only discharge from this PVC-based Expand-in-Place liner



Product: NovaForm™

Client: City of Winnipeg

Engineering Consulting Firm:
KGS Group

NOVAFORM™
PVC LINER

- A fully trenchless solution
- Inspection made easy
- Minimal disruption
- Low operational cost



This project was a challenge because of location, but the end result looks great. IPEX was great to work with and supplied all the support we needed from start to completion of the project.

Greg Regier, Manager
Sewer & Water Division, Maple Leaf Construction

The Challenge

The City of Winnipeg's water infrastructure is in need of an overhaul, specifically when it comes to the many stormwater outfalls that flow into the Assiniboine River.

With their original clay tile deteriorating after 50 years of use, many of these outfalls are in need of replacement or repair. The options are to either dig up all the pipework and replace it or re-line the existing pipes.

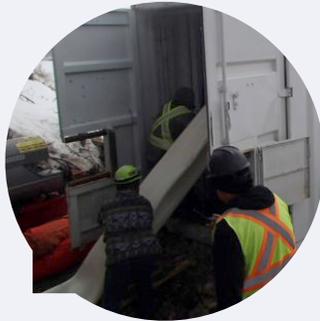
But this specific project presented a unique challenge. The outfall was located directly next to a private residence on Assiniboine Avenue. This meant the team was dealing with a confined space and congested installation area to make the needed upgrades.

It also meant the solution needed to cause as little disruption and be as environmentally friendly as possible, ensuring there was no chemical output that would impact the waterways or affect local residents.

The NovaForm™ PVC Liner Process



Preparing & Conditioning



Pulling



Processing



Finishing

The Solution

Ripping out the existing pipe would cause too much upheaval to the surrounding area, so the only course of action was to re-line the existing clay tile pipe.

From the outset, it was clear to the City, engineers and contracting firm, who had all worked with IPEX products for more than 20 years, that the NovaForm™ PVC Liner was the only product that would meet all the requirements for this project.

This IPEX product, which is relatively new to the Canadian market, is specifically designed to be heated and conditioned at the job site, then pulled into an existing sewer line.

The pipe is then plugged and expanded by introducing steam and then air, allowing it to form snugly against the host pipe. As air is added, the pipe cools and hardens, producing a fully functional pipe.

With NovaForm™, there's no need to wait for the material to cure before you can run water through it. Once it's installed and hits the required temperature, the PVC liner is good to go.

Not only was NovaForm™ the best solution in terms of installation and materials (given the tight working conditions), it was also the most eco-friendly option having absolutely zero environmental impact.

As an engineered thermoplastic, NovaForm™ is installed using steam, and the only job site discharge is water. Using NovaForm™ also meant there was no need to capture and treat contaminated curing liquid, which often had to be done with other lining materials.



Fully functional pipe after the existing clay pipe is relined with NovaForm PVC liner

This was a challenging project with unique site conditions, including restricted access due to the adjacent private properties and a slight curve in the host pipe alignment. Trenchless rehabilitation was the preferred method for this site given the extensive costs that would have been associated with open-cut requirements (shoring for protecting the existing buildings and restoration of landscape features). NovaForm™ was the perfect solution to fully rehabilitate the pipe while also saving the client money. The installation process was relatively quick and the adjacent private property owners also appreciated that the curing process did not involve any harsh fumes or chemicals. IPEX was very supportive throughout the design and construction process, and the project was a great success.

Nicole Vidal

Municipal Technologist, KGS Group



The Results

The installation was a success and took just four days to complete. The timing of the installation had to be done with pin-point precision to ensure it wasn't too cold or too warm to install the pipe.

With the installation taking place in early spring, the temperature needed to be cold enough that the area surrounding the Assiniboine River was still frozen, ensuring installation crews could run their equipment along the hardened banks. The water level also needed to remain below the outfall outlet.

At the same time, the temperature also had to be warm enough to ensure the NovaForm™ PVC liner was pliable enough to install into the host pipe.

The timing with snowy conditions and temperamental weather was especially challenging, but the team pulled it off. The engineers and contractors also benefited from set-up training and installation support from IPEX, who were on-site for the duration of the project.

This storm outfall relining project was the first of its kind for the City of Winnipeg. It's part of a larger initiative to reline hundreds of deteriorating storm outfall pipes throughout the capital. The success of this project has resulted in IPEX working with the City of Winnipeg to make NovaForm™ an official City-approved product to use for all relining projects in the future.