

Municipal Case Study

White Bionax® PVC0 Sewer Pressure Pipe Supports New High-Profile Development in Terrebonne, QC

Record-breaking project saw 3,200m of pressure main pipe installed for a first-of-its-kind application in the province

BIONAX®

Product: White Bionax® PVC0

Length and Size of Pipe:
3,280m x 12 inches

Contractor:
Monco Construction

Municipality:
City of Terrebonne, Quebec

- White colour and print line for easy differentiation from a water pipe
- Reduced friction losses and pumping costs
- On-Site technical support
- Higher impact strength
- Increased cyclic strength
- Lighter weight for easier handling



THE CHALLENGE

The City of Terrebonne is a well-situated suburb located in the North Shore region of Montreal. The area is strategically positioned just 15 minutes from downtown Montreal, 10 minutes from Laval and two hours to Quebec City, thanks to its close proximity to Highway 40 and Highway 640.

As a result of its convenient location, Terrebonne is becoming a popular place to live in the province and, as a result, is undergoing a period of rapid population growth. New residential and commercial developments were being built to support the growing demand for housing in the area.

Crucially, the City of Terrebonne required water infrastructure that would support these new developments as well as future population growth. This was a large-scale, high-profile project which would demand more than 3 km of pressure rated pipe to transport wastewater from the development to the nearby Gabrielle-Roy pumping station.

The City needed an innovative piping solution and a capable partner that could help train and support the construction crew working on the installation.



The project went perfectly. Our crew really enjoyed working on this project. The White Bionax® PVCO product is very lightweight and easy to use, especially when you get to the larger diameters.

ÉMILIE CARTIER,
Project Manager, Monco Construction

THE SOLUTION

Traditionally, sewer pipes used for these municipal projects have been blue PVC DR-18 pipes. The key stakeholders at the City of Terrebonne were comfortable using this product, and it was their default choice for this type of application.

But IPEX knew there was a better solution for this sewer piping system: White Bionax® PVCO.

This industry-leading product, which offers all the same benefits as the Bionax® PVCO pipe system, had never been used for this type of application before in Quebec. And given the importance and size of the project, the IPEX team knew it would take some persuading for the City to agree to a new, unknown product for such a significant project.

But the team also knew that White Bionax® PVCO offered several critical benefits over traditional options.



EASY IDENTIFICATION

First of all, DR-18 sewer pipes are blue, the same colour as the potable water pipe, which can be confusing for contractors during future maintenance work. The white colour and 'Sewer Pressure/ Non-Potable' print line on White Bionax® help to easily distinguish sewer pipes from water pipes.



REDUCED FRICTION LOSS

What's more, White Bionax® offers a larger internal diameter compared to DR-18. It delivers 10% more volume for wastewater, which helps improve flow rates, reduces pumping costs and allows for increased system demand in the future.



ON-SITE TECHNICAL SUPPORT

But the IPEX team had a 35-year-strong working relationship with the City, and because of this reliability and a reputation for delivering quality products and exceptional work, the City was willing to take a chance on White Bionax® PVCO for this new large-scale application. Given IPEX's on-site training, support and follow-up service, the City was confident this would be the right solution for the job.

The City chose 3,280m of White Bionax® PVCO 235 psi (1,620 kPa) 300mm for the project.

On top of the previously mentioned benefits, White Bionax® also offers higher impact strength, increased cyclic strength and lower surge pressure for the same flow conditions when compared to PVC pipe. It's also lighter weight making it easier for handling.

The project required a larger-than-average pipe to help serve both the current population within the development, but also future growth in the area, which was expected to expand considerably over the following years.

IPEX is one of the only pipe system manufacturers that offers white PVCO piping, especially in larger diameters. While many sewer pipes used in this application are often 4, 6 and 8 inches, the pipe used for the Terrebonne project was 12 inches to accommodate the increased demand on the system.

This was also a challenging installation because it had to be done in a busy



Testing 1km section of the pipe for a perfect seal before the next section.

urban environment, compared to the traditional remote, rural locations, which added to the complexity of the project. The IPEX team provided on-site installation training to the construction crew to ensure the project went smoothly.

Due to the large scale of the project, rather than testing the tightness at the end of the installation, the contracting team had to run tests in 1km phases. They tested each section to ensure it

had a perfect seal before laying the next 1km section.

After each test and rigorous quality control by IPEX, the contractors were ecstatic that each pipe section was leak-free, and they could move on to the next phase. Thankfully, all the tests were completed successfully, and the entire length of the 3km pipe was leak free throughout the duration of testing.

THE RESULTS

The project took four months to complete, from August to November 2022 and went off without a hitch.

The City of Terrebonne and the contracting teams were thrilled with the results of the installation. The design engineers were especially impressed with IPEX's innovation with a new hose used for discharge applications. The contractor appreciated on-site training from IPEX staff before the installation started. The installers also enjoyed the lightness of the large diameter of White Bionax® PVCO 300mm as the ease of handling helped them install the pipe quickly.

The overall success of this project has demonstrated that White Bionax® PVCO can be used effectively in these large-scale sewer applications throughout Quebec and the rest of Canada.