



SOLENO

MASTERING WATER SUSTAINABLY



KUSTOMFLO

Upgrading Municipal Infrastructure with KUSTOMFLO Large HDPE Pipe

SEWER AND WATER SYSTEM UPGRADE

Location: City of Joliette, Quebec

Installation: August 2025

PROJECT DETAILS

Distributor: JU HOULE Distribution

Contractor: TGC Inc.

Engineer: Parallèle 54

PRODUCT DESCRIPTION

Diameter: 2400mm

Length total: 4m

Profile Information: Closed profile

SITE CONDITIONS

Trench Depth: 9.5m

Trench Dimensions: 12m

Type of existing soil: rock, clay, dense soil

Backfill Material: concrete, CG-14, excavation material

Surface Material: paving

CONTEXT

Major upgrade of the sewer and water system in an urban area

The City of Joliette has undertaken a vast project to upgrade its sewer and water systems in an urbanized area with several physical and technical constraints.

This second phase aimed to replace a segment of the stormwater drainage system, while maintaining traffic, access to surrounding buildings, and active municipal services.

The main objective: to integrate a durable, waterproof solution that is perfectly suited to complex construction site conditions, including unstable clay soil and a large burial depth.

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CHALLENGE

Deep installation with tight spaces required large HDPE pipe

The project involved a deep pipe installation of up to 4m, requiring a 2,400mm diameter large HDPE pipe as the main conduit. Construction took place in a densely populated urban area, surrounded by schools and commercial buildings, leaving minimal room for staging and maneuvering.

The unstable clay soil conditions further complicated excavation and backfilling, demanding a solution that could adapt to poor ground stability. Adding to the complexity, the work had to be carried out while maintaining full operation of active municipal services, including the aqueduct and sanitary sewer lines.

Additionally, a secondary network located above the main system required careful coordination to ensure both networks remained functional throughout construction.



SOLUTION

KUSTOMFLO HDPE pipes, custom-made.

The city opted for KUSTOMFLO large HDPE pipes, custom-made with KRAH technology. This solution offered precise customization, making it possible to meet diameter, strength and assembly requirements under extreme conditions.

Solenio also provided custom-made manholes, designed in a virtually monolithic manner to simplify their installation at the desired height.



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BENEFITS

The Benefits of KUSTOMFLO large HDPE pipe

"The manholes are as easy to install as a standard hose, and above all, very light."

A solution for the future for cities in transition. This project demonstrates how KUSTOMFLO pipes are a sustainable, adaptable and cost-effective solution for municipalities, combining structural performance, ease of installation and environmental resilience.

- **Accelerated installation** despite depth and soil conditions, thanks to the lightness and maneuverability of HDPE pipes.
- **Maintaining access to surrounding buildings** throughout the project.
- **Reduced handling and safety** risks on site.
- **Flexibility of adjustment during the project**, thanks to the responsiveness of the Soleno technical team.
- **Avoidance of delays:** Soleno quickly presents itself on site to adapt certain elements and ensure the continuity of the work.
- **Excellent urban integration** at the end of the project with the complete redevelopment of the street: bike paths, sidewalks, tree planting.



"What I like most about the KUSTOMFLO product is how easy it is to handle. It's a huge advantage in conditions like the ones we had here."

–Project Manager



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GREATER VERSATILITY FOR ROBOTIC DELIVERY SYSTEM



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