



Case Study ▶

## Metro Vancouver Turns to Polyurethane for Added Capacity

Designing for potentially shaky ground under a pipeline transporting wastewater through urban and environmentally sensitive areas can be tricky. Flexible yet tough polyurethane lined and coated pipe provides an ideal solution; durable coatings ensure minimal installation damage while the interior application protects the metallic surfaces from damage caused by corrosion.

AWWA C222 industry standard compliant for interior and exterior of steel water pipe and fittings.

### Case Study: Wastewater Transmission

Regional water and wastewater provider Metro Vancouver strives to provide its ratepayers the same reliable service they've received since the agency opened its doors in 1914. Achieving their goal is increasingly difficult as growth, aging infrastructure and environmental mandates burden the agency's resources. Utilities like Metro Vancouver are therefore increasing their emphasis on the long-term value of the products installed in their systems; capital dollars simply cannot be invested in assets that won't last.

Polyurethane became the material of choice for Metro Vancouver sewage forcemains in 2000 after an extensive, multi-year evaluation of competitive technologies. The agency sought out a replacement for coal tar enamel due to mounting environmental concerns regarding its application and impact on the surrounding environment. When the laboratory and field results were assessed, Metro Vancouver selected polyurethane over epoxies and cement mortar. It offered superior corrosion protection, a cohesive system suited for both shop and field application, and a durable finish proven with an extensive track record and test data to back it up.



Crews install polyurethane coated steel pipe

In 2006, aging infrastructure and a growing population prompted Metro Vancouver to invest in a major sewer line known as the Jervis Forcemain No. 2.

### The Nitty Gritty

**Project:** Jervis Forcemain No. 2

**Scope:** 40 miles Lining and 30 miles Coating of 4,700 Lineal Feet of 48" Welded Steel Sewer Pipe with DuraShield 210

**Owner:** Metro Vancouver, Vancouver, British Columbia, Canada

**Completion Date:** September, 2011

## Case Study: Wastewater Transmission

The added capacity eased the burden on the existing Jervis main, which transports wastewater out of the downtown area to a treatment facility. The project was divided into four distinct scopes of work for bidding purposes. The primary segment, known as the planetarium section, relied on polyurethane lined and coated steel pipe produced by Northwest Pipe Company's Portland, Oregon facility. This segment represents more than 4,700 feet of pipe with 30 mils applied to the exterior and a 40 mil interior application. The Jervis interior field joints utilize the DuraShield 310 Joint and Repair System (JARS) kits for a homogeneous polyurethane barrier to the wastewater flows.

DuraShield 210 polyurethane provided a number of solutions for the Jervis project. Both polyurethane and steel pipe are flexible products, ideal for the seismically active geography of the Pacific coast. Outside, polyurethane coating protects the metallic pipeline surfaces from potential saltwater intrusion in the surrounding soils and stray currents from other urban infrastructure systems. Within the forcemain, the polyurethane lining prevents corrosion from attacking the steel substrate in the aggressive wastewater flows. Grits and solids are no match for the abrasion and impact resistance of DuraShield 210.

The second Jervis forcemain went online in late 2011. Years of case studies and testing tell the story; downtown Vancouver residents can expect years of clean waterways and enjoy the peace of mind that comes from confidence in their wastewater infrastructure system.

*"We chose polyurethane for its superior abrasion resistance. We chose LifeLast for their excellent customer service and support."  
-Paul Wilting, P.E., Senior Engineer, Metro Vancouver*

Questions or technical assistance on your specification or project?  
Contact us; we're happy to help. Email us at [info@LifeLast.com](mailto:info@LifeLast.com) or call (512) 628-2112.



## The Nitty Gritty

**Project:** Jervis Forcemain No. 2

**Scope:** 40 mils Lining and 30 mils Coating of 4,700 Lineal Feet of 48" Welded Steel Sewer Pipe with DuraShield 210

**Owner:** Metro Vancouver, Vancouver, British Columbia, Canada

**Completion Date:** September, 2011