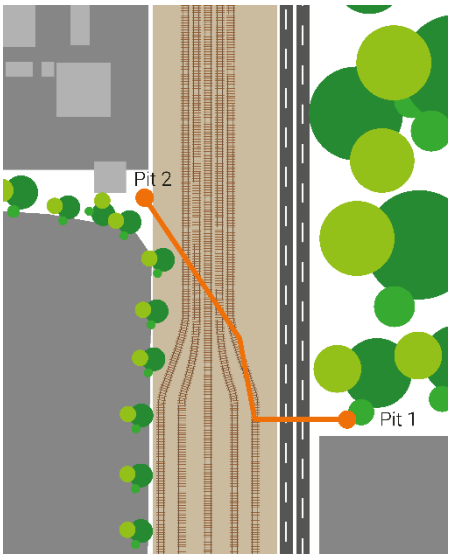
JOB REPORT



POTABLE WATER WEST ARMORY WAY HIGH PRESSURE

CLIENT:
City of Seattle, WA

YEAR OF CONSTRUCTION:
2024

TYPE OF CONSTRUCTION MEASURE:
Rehabilitation of 1,785 linear feet of potable water transmission pipe crossing a railroad between access points

OUR SERVICES:
- Supply and delivery of the flexible high-pressure Primus Liner DN 300 (ANSI/NSF 61 approved)
- Supply and delivery of Primus Line high-pressure connectors with ANSI flanges DN 300

SITUATION:
The city of Seattle had a potable water transmission pipeline that had been compromised due to age and was decommissioned temporarily. There were mechanical faults causing leaks at the joints of the system with soil erosion and water loss in the section spanning the compromised system. The system was comprised of 1,000 linear feet of 20-inch and 785 linear feet of 16-inch diameter pipe. The pipeline had a 45-degree bend and several 22-degree bends throughout the 1,785 linear feet, and an operating pressure of 250 PSI with a hydrostatic test requirement of 300 PSI. The pipeline access points were in an urban area with an electric vehicle charging station, and a residential area in the downstream pit which required a very low profile for access and rehabilitation staging. The pipeline ran directly underneath and across a heavily used railroad that was vital for train usage and was not feasible to disturb. The solution had to be low profile for the working area and able to navigate the various bends in the system and handle a 250 PSI operating pressure. The pipeline also had a significant transition from 20 inches to 16 inches midway through the system.

TECHNICAL DETAILS:

Material of Host Pipe:	Concrete mortar
Transported Fluid:	Potable water
Diameter of Host Pipe:	16 and 20 inches
Operating Pressure:	250 PSI
Primus Line® System:	DN 300 (12”) HD W-Liner
Total Length:	1,785 linear feet
Number of Sections:	1
Installation Time:	2 days

REHABILITATION SYSTEM:

Primus Line® DN 300 FFRP and 2 Primus Line DN 300 connectors (2 x high pressure) for reintegration into the existing water main

PROJECT DESCRIPTION:

Prior to the installation of the Primus Line® system, a CCTV inspection and pipe cleaning were conducted to create a free inner diameter of the pipeline. This is a prerequisite for the installation of the Primus Line® FFRP system as it must be ensured that no damage occurs during the pull-in process due to protrusions. After the pipeline was inspected, pieces of the host pipe were found in the system and had to be removed from the host pipe. Hydrojet cleaning removed any remaining debris. Lining the pipe with Primus Line® FFRP took 50 minutes to pull the length of the pipe from the western pit. The liner was inflated with water and reverted to its original round shape. High-pressure connectors were installed on both sides of the pipeline the following day and access pits were backfilled. After a successful pressure test and disinfection, the rehabilitated water main was handed back to the City of Seattle with minimum disruption and with an extension of useful life by at least 50 years.

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Primus Line explained simply:
Watch the video!