

FAIRFAX COUNTY VIRGINIA SANITARY FORCE MAIN

Force main renovation project

Project Overview

Fairfax County, is one of Virginia's largest counties located just south of Washington, D.C. across the Potomac River, it has one of the nation's largest sanitary sewer systems—collecting and cleaning up to 161 million gallons of wastewater per day for about 340,000 residential and business connections. The county's wastewater collection and conveyance system covers nearly 234 square miles.

About 20 years ago, the county installed dual 36-inch prestressed concrete cylinder pipe (PCCP) sanitary force mains. At that time, they only put one of these lines in service and kept the second line capped and flooded for future use. Due to current capacity concerns, Fairfax County needed to reinstate the second 36-inch line. After inspecting the line, it was discovered that areas of the pipe had degraded over time and it was currently unsuitable for until first addressing these issues. It was decided a combination of dig-and-replace and cured-in-place-pipe (CIPP) rehabilitation was the best means of repair. Taking into consideration the internal pressures and the location of the line, the county and its engineers determined which sections would be repaired and which would be rehabilitated.

Insituform worked with Garney Construction to rehabilitate the sections deemed suitable for CIPP repair. The method of repair for this section was determined because the force main ran through a park, down roadways and entered a high school property. Due to these factors, a full dig-and-replace would have been a major disruption to the surrounding residences and businesses. Utilizing the InsituMain® CIPP product and epoxy resin, Insituform installed nine liners to rehabilitate 4,125 LF of 36-inch PCCP pipe. This project was completed on time and on budget.



Pipeline Details and Project Summary

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| Project: | Difficult Run Force Main |
| Location: | Fairfax County, Virginia |
| Length Size: | 4,125 LF |
| Pipe Size: | 36-inch PCCP |
| Pressure: | 100 psi |
| Installation: | Water |
| Owner: | Fairfax County |
| Engineer: | Hazen and Sawyer |
| Prime Contractor: | Garney Construction |

“Insituform has a strong turnkey operation—they take care of business. They also have a strong safety culture. Insituform has comprehensive product knowledge and their level of planning and preparation before commencement of a lining operation is textbook. Insituform is very professional and we worked together in a very helpful and cooperative manner.”

*Steve Ford, Vice President
Garney Construction*



Access area through park