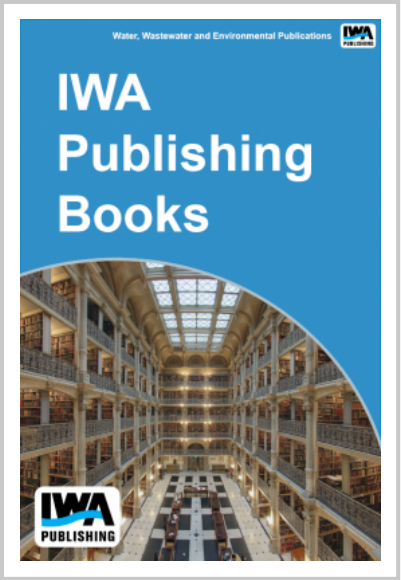
Demonstration and Evaluation of Innovative Wastewater Main Rehabilitation Technologies



The lack of knowledge on the performance of innovative wastewater rehabilitation technologies, specifically for large-diameter pipes, and the limited ability to determine the most cost-effective, long-term rehabilitation methods for wastewater collection systems has been identified as a critical need. Key stakeholders have indicated that several pipe scenarios were of interest for demonstrating innovative wastewater rehabilitation technologies including those applicable to challenging site conditions such as large diameter pipes (> 48-in.) and pipes with challenging configurations. To help provide this information, the U.S. Environmental Protection Agency (USEPA) developed an innovative technology demonstration program to evaluate technologies that have the potential to increase the effectiveness of the operation, maintenance, and renewal of aging water distribution and wastewater conveyance systems and reduce costs. This program is intended to make the technologies' capabilities better known to the industry. This report describes the demonstration and performance evaluation of two emerging wastewater rehabilitation technologies.

Demonstration of the Reline America Blue-Tek™ liner in Frisco, Texas on 888 ft of 10-in. VCP was a successful project that provided valuable information on the design, installation, and QA/QC for UV-Cured CIPP used to rehabilitate wastewater mains. This technology requires licensed contractors and has similar requirements to other commonly used rehabilitation materials. Mechanical testing showed that the liner exceeded the design and manufactures suggested requirements with a flexural strength greater than 55,000 psi and flexural modulus greater than 1,900,000 psi. The overall discounted demonstration cost was $39,194 for a unit cost of $46.88/lf.

Demonstration of the Insituform iPlus® Composite liner in Irving, Texas on 17,200 ft of 97-in. RCP was a successful project that provided valuable information on the design, installation, and QA/QC for large-diameter reinforced CIPP used to rehabilitate wastewater mains. This technology requires licensed contractors and similar requirements to other commonly used rehabilitation materials, although full-length projects of this size are rare. Mechanical testing showed that the liner exceeded the design and manufactures suggested requirements with a flexural strength greater than 11,000 psi and flexural modulus greater than 1,000,000 psi. The overall unit cost for the liners was $740/lf.

Publication Date: 01/09/2014
ISBN13: 9781780405933
eISBN: 9781780405933
Pages: 80

Print:
Standard price: £29 / €36 / $44
Member price: £22 / €27 / $33

eBook:
Standard price: £29 / €38 / $50
Member price: £22 / €29 / $38