

Close fit lining of a watermain

by Interflow Products Manager Paul Chalhoub

The need to rehabilitate watermains with trenchless methodology has grown significantly over the past decade in Australia. The growth has been fuelled by water authorities demanding solutions that not only deliver cost benefits, but also comply with key performance indicators around community, safety, environment and returning the asset back to service.

THE MARION ROAD watermain renewal project in South Australia presented all of the challenges described above. The project involved the renewal of 6.9 km of DN600 concrete-lined mild steel locking bar pipe. The tender was prepared, let and managed under the project management and procurement contract with SA Water, who jointly manage the delivery of the metropolitan capital works program for Adelaide. BJ Jarrad, a member of the Civil Contractors Panel for SA Water, was successful in securing this project, with Interflow providing delivery of the specialist close-fit lining portion of the works.

This trunk watermain, which was installed in 1898, is the oldest locking bar steel pipe in South Australia. Due to the criticality and age of the main, the client decided to renew the asset. The pipeline was situated in a challenging urban area with high traffic volumes. Furthermore, it was necessary to renew the pipeline with nominal flow capacity reduction to the original watermain. These requirements eliminated the conventional dig and relay option as well as the trenchless sliplining option.

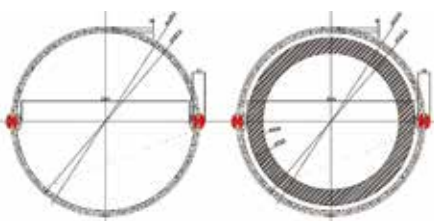
Interflow's close fit lining technology, Titeflow, met the needs of this project. Titeflow produces a close fitting liner solution using die reduction technology with PN16 polyethylene (PE) pipe. Although not new to Australia, die reduction technology has evolved in recent years. The Titeflow equipment used on the Marion Road project was compact and powerful, which in turn led to reduced space on-site. This was particularly important in this project and minimised the traffic impact on a major arterial road.

HOW TITEFLOW WORKS

The Titeflow process involves taking a standard PE pipe with an outside diameter slightly larger than the



New PE pipe being inserted into the host pipe to be rehabilitated.



Host pipe before and after renewal.

inside diameter of the host pipe to be rehabilitated. The PE pipe is butt fused together to form a continuous string, and then pulled through a reducing die and kept under tension to temporarily reduce its diameter. In this state the PE pipe is able to be pulled through the host pipe. Once in its final position the tension is released and the PE pipe reverts to its original diameter and produces a tight-fit lining within the host pipe.

Titeflow is an innovative method for renewing watermains and pressure sewers. It provides asset owners with all the benefits of a PE pressure pipe without having to compromise on the diameter and without a disruptive and costly open-cut dig and relay process.

THE FUTURE OF TITEFLOW

Interflow is committed to remaining at the forefront of the pipeline renewal industry and continuing to offer the highest value services to its clients. Interflow believes that Titeflow represents an advance in the trenchless rehabilitation industry, offering greater value and minimal impact to the community and environment.

There are many future opportunities for Trenchless Technology in the watermain renewal sector. It is anticipated that with further technical advancements, Trenchless Technology will play a major role in water pipeline renewals.

The introduction of Titeflow has presented an attractive and competitive product for large diameter water and pressure pipes.

Interflow will continue to work with the needs of its clients and aim to introduce innovative and competitive solutions.

For more information about Interflow's sewer, stormwater and water pipe renewal capabilities, and to find out more about the full range of pipeline services Interflow can provide, visit interflow.com.au 