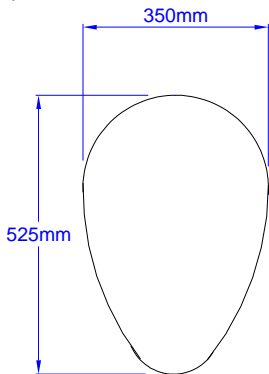


Renewing egg shaped sewers in Adelaide with Interline CIPP

May 2010

Interflow has successfully renewed in total 484 metres of 525mm x 350mm egg shaped sewer and reinstated a total of 28 junctions as part of a 1.5km sewer rehabilitation contract for United Water in Adelaide.

This was the first time that Interflow had renewed an egg shaped pipe of this size (as shown in Figure below). For this project Interflow used Interline CIPP its structural lining system for deteriorated pipelines.



The egg shaped sewer dimensions.

Interline CIPP is a polyester felt composite lining system that is installed into the host pipe by inverting it under a head of water. The liner is installed in a soft form so it takes the shape of the host pipe. This makes Interline CIPP suitable for pipes of all shapes including non-circular pipes and pipes with bends. Hot water is then used to cure the liner. After cure the ends of the liner are trimmed and sealed to the access chambers.

Aside from dealing with the general complexities of renewing ovoid pipelines (e.g. dealing with variability of cross-sectional shape, different structural requirements compared to circular pipes) a major challenge of this project

was that the deteriorated concrete egg shaped sewer runs below Adelaide's South Road, a busy dual carriage way. Interflow's lining crew had to overcome tight traffic constraints whilst working from access chambers located on the busy roadway. Due to the high volume of cars that use the road during the weekday work was only permitted at night or on weekends when traffic was lightest.

As part of the project risk mitigation strategy Interflow relocated its resin impregnation equipment from Sydney to Adelaide for this project. The impregnation plant and equipment was established at Interflow's Adelaide depot (as shown in the photo below), which was in close proximity to the site location. This allowed the liner to be impregnated off site and inside factory controlled conditions during week days.



The felt liner was impregnated with resin offsite.

To minimise disruption to the community and road users Interflow created a comprehensive Traffic Management Plan which focused on carrying out the relining work during a 48 hour working window on the one weekend. Interflow crews mobilised and established the site on the Friday evening at the end of the traffic peak.

The plan was to install 2 separate Interline CIPP liners in two separate installations and over two separate night shifts; the first at 178m long and the second at 198m long.

To deal with the challenges of working in the ovoid geometry Interflow used camera and robotic cutting equipment specifically made for traversing in ovoid pipes. This equipment made it possible to perform a CCTV survey of the pipe and cut and reinstate lateral junctions at productivity rates comparable to those used in circular pipes.

The work was completed within the timing constraints and without incident and the site was disestablished prior to the start of the traffic peak on Monday morning. As a result the ovoid pipe was effectively renewed with only minimal disruption to the community and no impact on regular week day road users.

United Waters' Manager of Water and Wastewater Systems Projects, Mr Naz Dastoor, commented that "Interflows ability to install spiral wound liners in deteriorated sewers is well known to United Water. We are pleased to find that your experience in the operations of our network, including flow, traffic and community management can be applied with equal success to cured-in-place liners in ovoid sewers".

This project was another example of how Interflow was able to provide a solution that met the needs of the client. With Interline CIPP Interflow continues its commitment to offering its clients solutions of the highest value.