

Washed Out- An Innovative Approach to Rehabilitating a Lacerated and Exposed Watermain Located Within an Embankment

When watermains fail they often do so in unfavorable locations. An example of this is the failure of a watermain situated within an embankment adjacent to the Mimico Creek in Toronto, ON. The complexity of this project required innovative thinking and collaboration between the City, its consultant as well as its contractor.

The pipeline discussed within this paper was a 300mm cast iron watermain that had failed as a result of a longitudinal crack. The fracture itself had formed in a section located in a bank beside the creek and during the failure had washed out the surrounding soil and gabion baskets, exposing the watermain to the elements. In addition to this the watermain was critical to the surrounding distribution network as it was one of a few to feed the southwest portion of the City. Due to the severity and location of the break, an emergency repair using the standard replacement procedure would not be possible. As a result of the limited access, difficult site conditions and severity of the failure, it was decided that the best solution was to structurally rehabilitate the pipe with CIPP lining.

This case study will overview the project while highlighting the collaboration between the City, the Consultant and the Contractor that lead to a successful project. It will discuss the technical and environmental challenges, the importance of a proper health and safety plan as well as highlight the innovative technology utilized in order to structural rehabilitate this critical watermain with CIPP lining.