

# MICROTUNNELLING: AN ALTERNATIVE SOLUTION

When a drainage capacity issue was identified as the cause of flooding on Whiteman Street in Melbourne, D.J. Mac Cormick Contractors was able to provide a fully trenchless solution utilising microtunnelling.

In June 2016, the City of Melbourne identified a drainage capacity issue after heavy rainfall caused flooding at Whiteman Street and Clarendon Street, Melbourne. The project initially required a solution involving both the open cut construction of a 153 m drainage pipe and the microtunnelling of a 30 m drainage pipe under tram tracks, with a downstream flow to a 1,650 mm main.

Perth-based D.J. Mac Cormick Contractors proposed an innovative alternative, suggesting the whole project be microtunnelled. The company's no-dig solution was designed to minimise disruption to pedestrian, cyclist and road traffic, as well as reducing social and environmental impacts.

The 153 m drive was required to install the 900 mm drainage pipe, while an 800 mm drainage pipe was installed under the tram tracks on a 30 m drive. The project required that the spoil excavated during boring was tested and disposed of, in line with the Environmental Protection Authority standards for grounds with contaminated material.

An involved community engagement strategy was also required due to the busy tram station at located nearby at Clarendon Street. Its proximity to Crown Casino Melbourne, only 500 m away from the project, contributed to the high volume of pedestrian and cyclist traffic in area.

Before construction could begin, a number of permits and plans were required. This included permits from Yarra Trams and VicRoads, as well as the preparation of traffic management, safety and environmental plans,

which needed to be approved and implemented when works started.

A track monitoring system was introduced to ensure settlement tolerances were met and a CCTV inspection was planned to take place on completion of project, before client handover. D.J. Mac Cormick Contractors conducted all of the works in-house, with the launch and receiving shaft temporary design works checked for loadings.

The shoring for the project was provided by Ground Support Systems Australia. The project commenced in July, with works to be completed by the end of August 2016. The project involved the construction of several drainage structures on the pipelines and connections into an existing 1,650 mm drainage main. **T**



The launch of a TCC 900 closed face tunnelling machine.



The launch shaft set up with a Davit Arm.

D.J. Mac Cormick Contractors is a leading microtunnelling and infrastructure construction company, with locations in Western Australia, South Australia, Victoria, New South Wales and Queensland. Its specialist team of personnel have more than 40 years of experience and a reputation for excellence as substantiated by its numerous Australian and international projects and awards.

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