

Simpson Street Tunnel Rehabilitation and Lining Stage 1

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The Simpson Street drainage Tunnel in Warrnambool was built in the early 1970's as a Whitlam era RED Employment scheme and allows a large area of East Warrnambool to drain directly into the Hopkins River to the South. Council is now looking after and failed piece of critical drainage infrastructure.

A video walk of the 700 metre long tunnel reveals that the tunnel is unlined for 384 meters and cut through limestone of varying quality and strength. In the unlined section, the tunnel is scouring out along weak seams in the limestone and getting wider as areas erode. The worst section of tunnel is located under the Geelong to Warrnambool Rail line.

The remaining 316 meter is lined with a Steel multi plate culvert, which after 50 year in service has rusted out long the invert, what is occurring behind the Steel culvert is uncertain.

In 2008 Council engaged consultants to prepare an options paper for future works in the tunnel. The investigation identified the tunnel was undersized for the catchment it services and supercharging flows were a major risk of damaging or collapsing to the unlined tunnel sections.

5 options where investigated and the preferred solution was lining the tunnel with no capacity increase and diverting part of catchment form the tunnel to another outfall.

In 2015 Council completed lining of 118 m of tunnel with the Tunneline (cast in suit concrete liner) process.

The next section of lining works is underway which will see a Glass Fibre reinforced pipe GFRP liner inserted to the tunnel via pipe jacking method, and the space around the liner grouted.

In total, Council is investing \$7,000,000 in tunnel rehabilitation works and stormwater diversion works to alleviate problems created 50 years ago by poor planning and under investment in technical expertise.

References:

Simpson Street Tunnel Investigation – Update report, WCC Councillor of officer discussion report.