



CASE STUDY

Trenchless culvert solution for critical Gold Coast stormwater asset

SUMMARY

Client

City of Gold Coast

Location

Maudsland, Queensland

Challenge

A deteriorating 1.82m twin-cell concrete pipe culvert with minimal crown cover required structural rehabilitation.

Sector

Transport

Solution

StifPipe® Fibre-Reinforced Polymer (FRP) structural liner.

Outcome

A 50-year design life was achieved with a rapid, 1.5-week installation that minimised traffic disruption.

Products

StifPipe®

Hychem delivered an advanced, trenchless rehabilitation solution for the City of Gold Coast, restoring a critical twin-cell culvert's structural integrity with minimal disruption.

Utilising the innovative StifPipe® system, the project was completed rapidly, ensuring long-term durability and safeguarding essential public infrastructure against future degradation.

The challenge

The Department of Transport and Main Roads identified a critical stormwater culvert showing signs of degradation. Located under a key road with minimal cover, traditional excavation and replacement methods would have caused significant, costly disruption to local traffic. The project required an innovative, trenchless solution that could fully restore the culvert's structural capacity and provide a guaranteed long-term service life without impacting the road above.

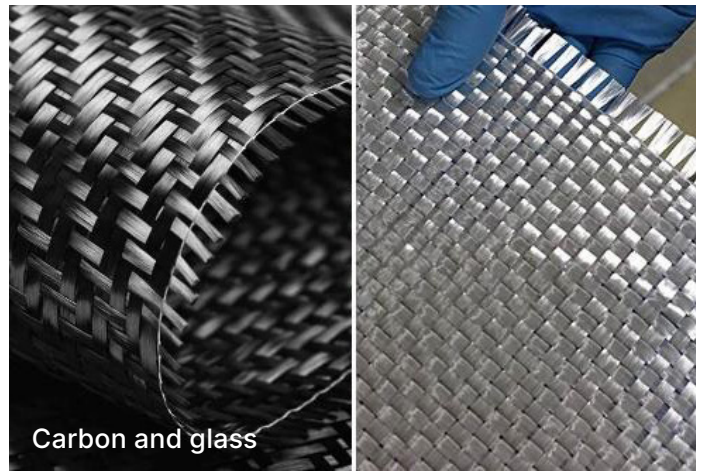


The engineered solution

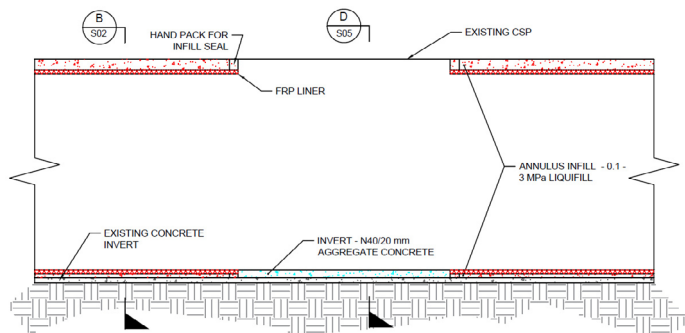
The revolutionary StifPipe® system was selected as the optimal engineered solution. This lightweight yet incredibly strong Fibre-Reinforced Polymer (FRP) pipe is specifically designed for trenchless slip-lining applications. Its non-corrosive, non-metallic properties make it ideal for stormwater environments, guaranteeing a minimum 50-year design life. A total of 15 custom-manufactured StifPipe® segments were easily installed within the host pipe, demonstrating what the client, Tony White, described as an "ease of installation" that minimised the need for traffic control.

The outcome

The project successfully restored the structural integrity of the critical culvert with unparalleled efficiency. The entire 24-metre relining was completed in just 1.5 weeks, a testament to the system's innovative design and rapid installation capabilities. By choosing a trenchless StifPipe® solution, the client avoided the high costs and public disruption of conventional methods while securing a durable, corrosion-free asset engineered to perform for decades.



Layer configuration



Example drawing for a StifPipe Installation

Pipe Installation