TRENCHLESS REHABILITATION OF SEWER MAIN ASSET

OFFSHORE PLUMBING & PIPELINE

Tawhiti Road Sewer Main | South Taranaki District Council

PROJECT OVERVIEW

The rising main along Tawhiti Road, Hāwera had reached an advanced state of age-related deterioration, with corrosion, lining failure, and joint weaknesses identified through condition assessment. The 750m long DN150 concrete-lined steel pipeline, installed in the 1930s, presented increasing leak and failure risks, particularly where it crossed beneath a live railway and twin 11kV power cables. Given the presence of critical infrastructure, shallow cover in places, and a busy transport corridor, open-trench replacement carried significant safety, cost, and operational challenges. A trenchless rehabilitation method was required.

DN150 CLS SEWER MAIN

THE CHALLENGE

Enviromental Challenges - Zero-excavation corridor beneath rail and highway including twin 11kV power cables linked to oil & gas network infrastructure.

Congested Corridor - Congested corridor with stormwater, water, gas, and other utilities. Limited shutdown windows for Mason Road WWPS. Minimising traffic disruption along Tawhiti Road, and alternative SHWY route through Glover Road.

LINER PREPARATION

FLANGE PREPARATION

THE SOLUTION

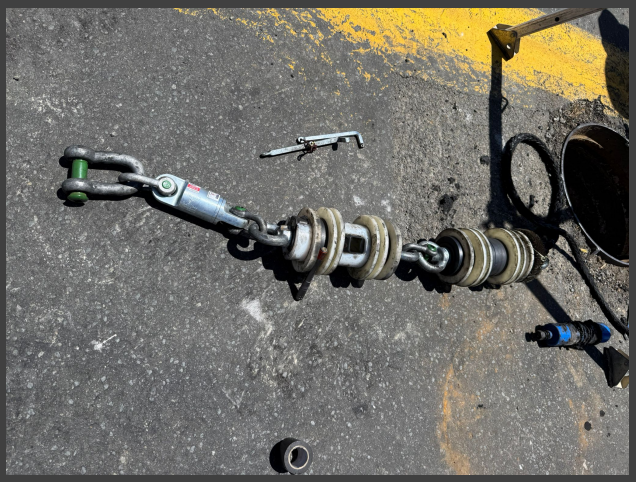
The ASOE Fabric-Reinforced Flexible Plastic Pipe (FRFPP) is folded into a U-shape, winched through the main, and expanded with air to form a close-fit, leak-resistant inner hose. It acts independently of the host pipe yet gains ring stiffness from the casing—ideal where the pipe is mostly sound but excavation is impossible. This installation was the first ASOE liner deployed in New Zealand, demonstrating its suitability for local pressure.

THE PROCESS

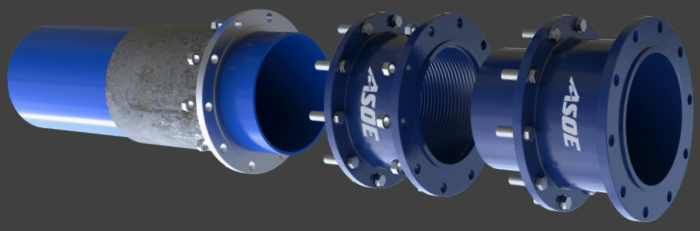
Day 1 – Site Establishment & Over-pumping Setup
Access pits were established at pump station end of the 750m section, and over-pumping systems were set up to maintain wastewater flows from the Mason Road WWPS. The existing concrete-lined steel main was exposed, cleaned, and prepared for relining, with entry and exit points confirmed for the long pull.

Day 2 – Pigging & CCTV Inspection
The rising main was mechanically cleaned using foam pigs to remove debris and scale. A full CCTV inspection followed, verifying internal condition and confirming the line was suitable for the 750m pull-through. Final measurements and alignment checks were completed before liner installation.

Day 3 – Liner Installation, Pressure Testing & Commissioning
The ASOE DN150 FFRP liner was winched into place over the full 750m alignment, passing safely beneath the railway and 11kV power corridor. Once installed, end terminations were fitted, and a pressure test confirmed the integrity of the new liner. The line was commissioned, over-pumping removed, and the site reinstated with minimal disruption.



SETTING UP TO PIG LINE



PULLING LINER INTO PLACE

LINER/ FLANGE SEALING

THE RESULTS

Restored Pressure Integrity: Verified to 6 Bar exceeding normal operating demand.

Minimal Surface Disruption: Only one access pit required by pump station, manhole was used to launch liner

Cost & Time Savings: Avoided deep excavation, utility diversions and extensive reinstatement works.

Environmental Protection: Prevented potential leakage near creek and residential homes by renewing the pipe wall internally.

Safety First: A leading example of how trenchless technology removes the need for dangerous excavation around rail and high-voltage infrastructure.

CONCLUSION

By combining Offshore Plumbing & Pipeline's drainage and pipeline expertise with PipeTech's ASOE technology, South Taranaki DC achieved a rapid, non-disruptive renewal of a critical sewer rising main.

The project reinforces the benefits of trenchless pressure-lining—achieving long-term performance with minimal disturbance to high-risk corridors—setting a strong precedent for rehabilitating similar pressure mains around Aotearoa.

PURPOSE BUILT WINCH

PIPETECH'S AGING INFRASTRUCTURE MAINTENANCE AND REHABILITATION

For information on how PipeTech can support the maintenance and rehabilitation of your 3 waters assets, including pressure main relining, concrete pipeline repairs, and trenchless rehabilitation of critical supply infrastructure. Please contact our team of specialists. We're equipped to deliver safe, compliant solutions for even the most complex potable water pipe repair projects.

SCAN FOR MORE INFO

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