

Alphington sewer replacement, Melbourne

Case study – Segmental shafts and J series jacking pipes



Precast provides easier installation for vital infrastructure

A century old brick sewerage system in Melbourne's Alphington is being upgraded to service the community for the next 100 years. Precast concrete has been a key component in the construction phase of this vital infrastructure.

The project includes the replacement of a section of the North Yarra Main Sewer. The construction contract was awarded to Lend Lease Engineering and Humes was awarded the contract to supply precast concrete shafts and pipes.

After a lengthy design and tender process, it was decided that trenchless pipe installation was the appropriate solution. Humes' J series jacking pipe was chosen for the project and manufactured at our Laverton factory in Melbourne's south-west. DN1500 J series jacking pipes were supplied with a high density polyethylene (HDPE) lining which was cast into the inside surface of the pipe, to protect against hydrogen sulphide corrosion. Several interjack stations were also supplied to assist with installation.

Precast segmental shafts for the sewer were manufactured at our factory in Echuca and supplied to Robb Carr Pty Ltd who were sub-contracting to Lend Lease. These ranged between six and nine metres in diameter and were in excess of 10 metres deep.

Shafts are commonly constructed in-situ so Humes' Southern Region Engineered Solutions Manager, Alex Graff, was pleased that precast was chosen for this project.

"We've been able to showcase the benefits of using precast segmental elements," Mr Graff said. "They are easier to install and it's also a safer system that reduces the safety risks on site."

The new sewer main will service the area for the next century, reducing the risk of maintenance issues such as blockages, which can be costly and disruptive to the community.

Project

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Principal

Melbourne Water

Contractors

Lend Lease Engineering
Robb Carr Pty Ltd

Product supplied

Segmental shafts up to 9m in diameter,
DN1500 J series jacking pipes and interjack stations



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