

Alkimos Wastewater Scheme

HDPE lined pipes

Case study



HDPE lined pipes for Alkimos sewer upgrade

The \$360m Alkimos Wastewater Treatment Scheme is one of the most significant sewerage infrastructure projects to be built in Western Australia in recent years. Located approximately 40 kilometres north of Perth, the infrastructure is projected to service a population of around 150,000 people by the year 2030.

An Alliance was formed in late 2006 between The Water Corporation of Western Australia and companies Brookfield Multiplex, MacMahon Contractors, and Zueblin Australia for the design and construction of the Alkimos Wastewater Treatment Plant. The project involved the extension of the Quinns Main Sewer, the construction of a state-of-the-art wastewater treatment plant and an ocean outfall. The treatment plant's initial capacity is 20MI/day with a provision to expand to 160MI/day.

Since the mid 1960s the Water Corporation has traditionally installed Humes centrifugal spun pipes with a Plastiline™ lining in main sewer applications. This project called for the supply of concrete pipes with extra cover to reinforcement, incorporating a High Density Polyethylene (HDPE) corrosion protection lining.

With an unparalleled ability to manufacture lined reinforced concrete pipes, Humes was chosen to supply approximately 1,450 metres of 1,950mm and 1,200mm HDPE lined class 4 and 6 pipes and specials for the open trench section of the Quinns Main Sewer.

All pipes were manufactured at Humes' Welshpool Plant in Perth, and delivered to site using purpose-made steel bolsters, which were attached to the truck, to ensure safe carriage and conform to the customer's strict site safety requirements.

The project demanded stringent quality assurance and testing to ensure the pipe's projected service life of 100 years would be achieved. All pipes were manufactured and type-tested to AS 4058 - 2007 – Precast Concrete Pipes. Additional load and water absorption tests were also carried out.

Upon completion of the pipe supply and installation, Darrin Wells, Earthworks Package Manager for The Alkimos Water Alliance stated: "The experience has been professional, pleasant and accurate. It has been a pleasure to do business with Humes."

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Project

Alkimos Wastewater Treatment Scheme

Client

The Alkimos Water Alliance

Product supplied

1450m of 1200 - 1950mm HDPE lined pipe

