

# Plastiline™ for major Barwon Water sewer upgrade

**Barwon Water has committed over \$20 million to the Geelong Trunk Sewer Strategy to rehabilitate or replace key sections of Geelong's main sewers in the next 10 years.**

The Geelong Trunk Sewer Strategy is designed to ensure Barwon Water continues to meet residential and industrial growth in the Geelong region and includes \$7 million to replace the 85-year-old Southern Ovoid Sewer (originally constructed using reinforced concrete ovoid shaped pipes) between the Geelong Racecourse and Reserve Road, Marshall. Work on replacing the Southern Ovoid Sewer includes:

## Stage 1

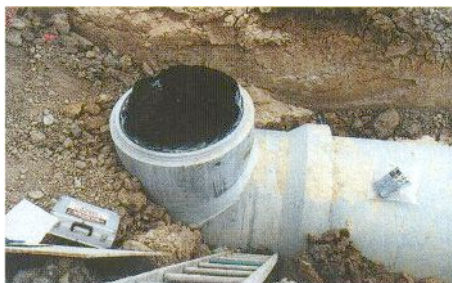
A 1.2km section of the sewer between the Geelong Racecourse and Leather Street, Breakwater, incorporating a 134m excavation under the racecourse.

Barwon Water first used Plastiline™ pipe manufactured by Humes in the late 1960s. Recent investigations conducted by the authority revealed that these pipes remain in original condition after more than 30 years in service.

The success of Plastiline™ concrete pipes in providing the required service life with minimal maintenance prompted Barwon Water to recently call tenders specifically for plastic-lined pipe as part of its Southern Ovoid Sewer Replacement Project.

## Humes' involvement

Humes and the head contractor, Draper's Civil Contracting, worked together to review the design of the Plastiline™ precast concrete maintenance holes as possible alternatives to the specified insitu structures. Barwon Water accepted the alternative. This consisted of Humes fabricating Tee junctions for DN 1650 and DN 1500 pipes using a DN 1100 wedge ring maintenance hole shaft, 500mm in length as the off take.



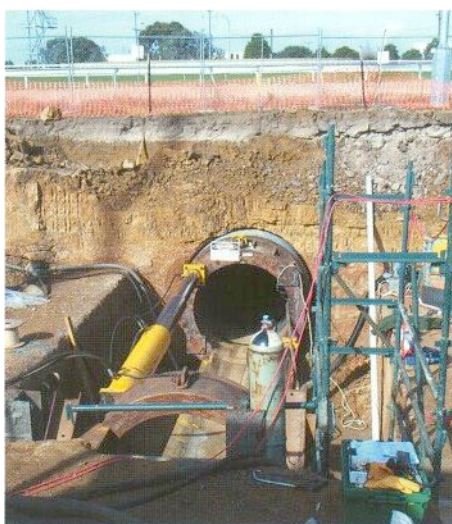
DN 1650 sewerage pipe, Plastiline™ with custom designed DN 1100 maintenance hole Tee junction.

The maintenance hole shaft was extended to the specified level using additional wedge shafts, a converter slab and surrounds including heavy duty cast iron covers.

Humes manufactured DN 1500, DN 1650 and DN 1950 pipes for trench and jackpipe application.

Humes commenced manufacture in 2001, stockpiling product to ensure construction works could be completed in the required timeframe.

As the pipeline crossed several arterial roads and a portion of the Geelong Racecourse, trench construction was unsuitable and in these areas the pipes were jacked.



DN 1950 sewerage pipe, Plastiline™ class 4 jacking pipe going under the Geelong Racecourse and nearby Fellmongers Road.

At Barwon Water's request, Humes began manufacturing the units in late 2001 and stored the pipes and products on behalf of the authority at its Laverton plant until Barwon Water required progressive deliveries to be made to Draper's Civil Contracting beginning in early February 2002.

As the Southern Ovoid Sewer Replacement Project is to be constructed under several key arterial roads as well as the Geelong Racecourse, it was impractical to use trench pipe construction. Pipejacking of the DN 1950 pipes through this area was adopted as the preferred construction method by Barwon Water.

## Barwon Water comment

The use of Plastiline™ pipe within the Southern Ovoid Sewer Replacement Project is an important component of Barwon Water's Geelong Trunk Sewer Strategy according to the authority's Executive Manager Water Systems, Mr Carl Bicknell.

"With Plastiline™ the pipes will have the service life required to fulfil the strategy's objective of upgrading Geelong's sewer system for the 21st Century," he says. "Our investigations have clearly shown that Plastiline™ concrete pipes reduce maintenance and extend the design life of sewer systems."

A full report is available on the Humes' website at [www.humes.com.au](http://www.humes.com.au) – click on the Major Projects section.

Project:	Southern Ovoid Sewer Replacement
Client:	Barwon Water
Location:	Geelong, Victoria
Contractors:	Draper's Civil Contracting
Humes:	Manufacture, test and deliver 1.3km of Plastiline™ sewerage pipe and associated Plastiline™ pipe bends, maintenance hole shafts, converter slabs and heavy duty cast iron covers