

GLADSTONE HARBOUR HDD INTERSECT CROSSINGS

PROJECT CURTIS ISLAND WATER AND SEWERAGE INFRASTRUCTURE PROJECT

CLIENT GLADSTONE AREA WATER BOARD & GLADSTONE REGIONAL COUNCIL JV

TIME 23 MONTHS



GLADSTONE



CROSSING LENGTH:
THREE
2125M HDD
HARBOUR CROSSINGS

PIPE:
DN250 HDPE 100 PN25
SEWAGE RISING MAIN
DN250 HDPE 100 PN25
POTABLE WATER MAIN
DN500 HDPE 100 PN25
POTABLE WATER MAIN

RIG:
AMERICAN AUGER
DD 1080
PRIME DRILLING
PD 500
DD 220

INSTALLATION:
2X RIG INTERSECT
DN600 STEEL LINER
DN300 STEEL LINER
3X RIG SPREADS
WORKING

Using pioneering technologies and innovative engineering solutions, Coe Drilling delivered one of the most complex Horizontal Directional Drilling (HDD) intersect projects in Australia, completing three harbour crossings in sensitive marine environmental conditions, 75m below sea level.

The project involved the construction of two potable water pipelines and a sewer pressure main, each 14km in length, under the Gladstone Harbour to provide infrastructure for three LNG proponents on Curtis Island via connections to the existing mainland infrastructure.

Coe Drilling undertook extensive engineering pre-planning and coordination with the client and port operators to address the challenges of installing 2.1km of HDD HDPE at a depth of 75m below sea level through hard rock under the busy Gladstone Harbour. The engineering resulted in the installation of DN600 and DN300 steel liners first.

Coe Drilling proposed innovative technologies and alternative construction methodologies to overcome the complex geotechnical conditions, marking a number of technical milestones for trenchless technology in Australia:

- Delivering the first HDD intersect technology on all three harbour crossings
- Using Gyroscopic Steering Tools on hard rock crossings involving HDD intersects
- Installing the deepest recorded HDPE crossings.

Coe Drilling implemented hydrofracture analysis and downhole pressure monitoring tools to ensure no drilling fluid losses into the harbour.

FIRST HDD INTERSECT

FIRST USE OF HDD INTERSECT TECHNOLOGY WITH GYROSCOPIC STEERING TOOLS IN AUSTRALIA

DEEPEST HDPE CROSSINGS

DEEPEST RECORDED HDPE CROSSINGS IN AUSTRALIA 75M BELOW SEA LEVEL

LONGEST MICRO-TUNNELLING PIPELINE

LONGEST SUB-SEABED MICRO-TUNNELLING PIPELINE TO DATE

AWARD WINNING

AUSTRALIAN SOCIETY OF TRENCHLESS TECHNOLOGIES 'PROJECT OF THE YEAR' & 'NEW TECHNOLOGY' AWARDS



WATER & WASTE



A QUANTA SERVICES COMPANY