COOMERA RIVER HDD RECYCLED WATER

OIL/GAS | **SEWER** | STORMWATER | POWER | WATER | TELCO

PROJECT OVERVIEW

This project was part of the Gold Coast Water pumps and pipes project – a program aimed at delivering approximately 80 kilometres of water mains and several pumping stations to the Gold Coast area. The HDD crossing of the Coomera River formed a part of the proposed northern extension of the Pimpama-Coombabah trunk recycled water main. The project was managed by Abi Group (now Lendlease) on behalf of Gold Coast Water.

LOCATION
Gold Coast QLD

CLIENT
Abi Group / Gold Coast Water

PIPE
630mm SDR 9 polyethylene

GEOLOGY
Clay, sand, silts & gravels

LENGTH
330 metres

TECHNIQUE
HDD & pilot boring

SCOPE OF WORKS

- UEA was contracted to install approximately 330 metres of 630mm SDR 9 PE pipe
- UEA utilised its Vermeer D300 x 500 HDD unit to perform the work
- As 90% of the bore was under the river, which was saltwater, UEA chose to utilise its own Digital Control Incorporated SSTI steering system

CONSTRUCTION

The first pilot bore was installed, and a drill mud return line was pulled into place. The initial pilot bore and ream allowed the drill crew to fully understand the changing ground conditions that varied between high plasticity clay, sand, silts and gravels in preparation for the second pilot bore. Whilst the geotechnical information supplied by the client was very accurate, UEA changed its mud plan to ensure the second pilot bore was drilled in effectively and without any mud loss. Upon completion of the second pilot bore an 800mm reamer was attached to the drill string and a tail string was installed to ensure the reamed hole was not lost. The mud plan ensured excellent drill returns were received at exit. Once the reaming process was complete, the pipe was then attached and pulled into place.

The pipe weight was approximately 40 tonnes. The pipe was required to be filled with water to create neutral buoyancy and to prevent the pipe from lifting in the hole and cutting through the surface. Rollers

were also used to support the pipe and reduce friction during pullback. The finished pipe weight for install was nearly 90 tonnes. During installation, the pullback pressure never exceeded 20 tonnes at any time.

COMPLETION

The project was delivered on time and to budget with an excellent safety record – UEA was given a safety award by the client in recognition of the excellent work by the HDD crew. At the time, this the first major river crossing delivered by UEA with its new Vermeer D300 x 500. The experience gained on this project led to more crossings awarded by multiple clients.