

## THREE TOWNS SEWERAGE SCHEME

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

<b>LOCATION</b>	Freemans Reach and Richmond NSW	
<b>CLIENT</b>	PSP Alliance for Sydney Water	
<b>PIPE</b>	250mm and 500mm SDR 11 polyethylene	
<b>GEOLOGY</b>	Clay, shale, cobble	
<b>LENGTH</b>	Up to 460 metres	
<b>TECHNIQUE</b>	HDD	

### PROJECT OVERVIEW

The \$A118 million 'Three Towns' sewerage scheme connected residents and businesses in Glossodia, Freemans Reach and Wilberforce with a reticulated sewerage system, northwest of Sydney. The project involved the construction of over 116 kilometres of pipeline with a large percentage undertaken by HDD. The scheme provided improved sewerage services to the un-sewered urban areas of the three towns through the installation of a pressure sewerage system and associated infrastructure. Wastewater from the three towns was transferred via a new pump station at Freemans Reach directly to the Richmond Sewerage Treatment Plant (STP). By connecting to the new system residents will be helping to reduce the number of septic systems in the area, improving local waterways and reducing risks to public health.

### SCOPE OF WORKS

UEA was engaged primarily for two portions of the project – the design and construction of the 460 metre gravity storage pipe from the new Freemans Reach pump station, and the installation of a 250mm transfer main under creeks and roads from the newly constructed pump station to the upgraded Richmond STP.

Works within the pump station site required a large excavation in order to set up the D100 x 120 on a positive grade from the beginning of the bore. Difficulties arose when large Quartzite cobble was encountered along the bore line of the same type, requiring casing on the Hawkesbury River HDD crossing. The PSP delivery team and UEA's team used forward thinking and developed a successful methodology whereby a shaft was excavated over the required connection point, eliminating the need for casing and allowing the successful installation once reaming works were complete.

Installation of the 250mm transfer main included several creek crossings, two main road crossings, working in close proximity to defence force assets and the under boring of the Western Suburbs railway line whilst remaining in service.