BORES, ARGENTON

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

PROJECT OVERVIEW

Significant electrical growth rates in summer mainly due to the increasing use of domestic air conditioning has seen the summer and winter peak loads significantly increase in the North Lake Macquarie area. The main objectives of the Argenton electrical upgrade project were to provide firm supply capacity, address the distribution limitations and improve future reliability for customers in the North Lake Macquarie area.

LOCATION
Argenton NSW

CLIENT
CLM Excavations

PIPE
180mm

GEOLOGY
Reactive clays, industrial waste & groundwater infiltration

LENGTH
120 metres

TECHNIQUE
HDD

DESIGN

A bore design was developed that was acceptable to RailCorp, whilst fitting within the narrow 5.5 metre easement and meeting the required depth of cover under the Caltex multi products pipeline.

The bore design called for 8 parallel bores with a total of 16 x 180mm and 9 x 63mm PE electrical conduits to be installed. In order to accommodate all the conduits within the narrow easement, an ‘over and under’ design was proposed with the 11kV conduits installed as single bores and the 33kV conduits in a trifurcated arrangement. Tight tolerances of +/- 100mm horizontal and +/-200mm vertical alignment on all bores added to the complexity and accuracy of the project.

CONSTRUCTION

UEA utilised its 25 tonne Vermeer D50 x 100 to undertake the bores. Geotechnical information supplied by the client suggested medium to high plasticity sandy clay, extending to siltstone, which would become stronger and less weathered with depth. A comprehensive survey was provided by the client with each bore line pegged at five metre spacings along the entire route. Beaver tail reamers were utilised for the pre-reaming passes in conjunction with a comprehensive mud program, designed to reduce the swelling of the reactive clays and to help carry out solids contained within the mudstone.