FIBRE OPTIC CONDUIT INSTALLATION

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

PROJECT OVERVIEW

The newly installed conduit will be part of an overall scheme to install a new fibre optic from Sydney to Melbourne. UEA was engaged to install approximately 7,000 metres around the NSW town of Sassafras, located within the City of Shoalhaven on the road between Nowra and Braidwood. The region is within the bushland that was significantly damaged during the 2020 bushfires.

LOCATION
Sassafras NSW

CLIENT
Private

PIPE
DN63 HDPE

GEOLOGY
Rock

LENGTH
8,772 metres

TECHNIQUE
HDD

SCOPE OF WORKS

UEA was initially engaged to install 7,000m of DN63 HDPE conduit via horizontal directional drilling methods, including the linking between bores, all traffic control, proving of installed pipe and the installation of pits. The overall length was broken into smaller bores between 75 and 150 metres which were completed by a DitchWitch AT3020. The longer bores, up to 300 metres in length, were completed by a DitchWitch AT40.
As a part of the scope of works UEA completed two creek crossings, both of which were of significant environmental sensitivity due to a rare tadpole habitat.

After the successful and swift completion of the initial 7 kilometres, the client was able to see the benefit of the HDD process and a further 1.8 kilometres of conduit was added to the scope.

CONSTRUCTION

Before the construction phase could begin, UEA walked the project numerous times to plan pit locations. The initial 7 kilometres was handed over as a package with UEA designing the pit location – in consultation with the client – to best fit drill rig set-ups. Once the design had been finalised, UEA walked the entire route with the 'Land Council' to ensure that the works would not damage any area of indigenous significance. Works commenced with the first section of the project located within extremely hard and abrasive sandstone. Once

this was completed, progression increased with the AT40 consistently completing 300 metre shots in sandstone every two days.

The two creek crossings were identified as environmentally sensitive and UEA designed each crossing to go as deep as possible and to utilise environmentally friendly drilling products to ensure that if a frac out occurred there would be no impact on the sensitive area. Good drilling practices and solid rock formation meant that both bores were completed without any issues.

CHALLENGES

Several challenges presented themselves throughout the project. Ground conditions at the start of the project were extremely difficult, being extremely hard and abrasive, with significant wear on the tooling and slow progression. The access off the road onto the verge was difficult due to the soft/wet ground, sloped verge and open dish drain beside an 80km/hr road. Full-time traffic control was utilised with the a localised speed zone of 40km/hr applied during daylight hours. Access tracks were constructed at multiple locations along the route.

COMPLETION

Upon completion of the HDD scope, all of the pits were installed and link-ups were completed. The entire route was then roped, and a mandrel pulled through, to ensure that the pipework met client specifications. The client then hauled the new fibre optic, commenting that the bore profiles and link-up works installed by UEA had reduced the hauling pressures significantly.