

A30 Chiverton – 1500dia tunnel / concrete sleeve

Client: Kier Utility (Costain)

Location: Chiverton

Value: £376k

Duration: 13 Weeks

Summary:

Kier Utility (working for Costain on behalf of Highways England) required a new 1500dia concrete sleeve installing under the A30 (near Truro) as part of the A30 Chiverton to Carland Cross road improvement scheme. The 1500dia concrete sleeve was to allow 2 x 710mm dia plastic pipes to pass through (also as sleeves), with ultimately 2 x 500mm water mains then being housed within the sleeves. The 1500dia tunnel x 75m long will be installed as a pipe jack using a full faced TBM.

Specialist Equipment / Works Involved:

ATL own a large fleet of shoring equipment including sheets & frames, some of which was used to construct the drive & reception pits on this scheme.

The drive pit was 6m x 4m in plan x 7m deep, with reception pit being 7.5m x 3.5m in plan x 5m deep. ATL installed these cofferdams with the aid of their own 36ton zero swing excavator, which was also used to lift the TBM in/out of cofferdam during the tunnelling works.

ATL’s own TBM with rock head was used to dig through the Phyllite ground, which it chewed through with ease, nearly doubling forecast production & saving 2 weeks on the tunnel operation alone.

Installing plastic sleeves

ATL proposed to cast timber rails, set in concrete to gradient within the 1500 tunnel, to allow the twin 710mm plastic pipes to be slid along into position. ATL also proposed to install steel restraining bars (fabricated by ATL) within the tunnel to prevent the 710mm plastic pipes from floating when the tunnel void was pumped full of grout later. Both details worked very well & the pipes were installed successfully with no issues.

The client was extremely pleased with all the work carried out on this site with the contract programme being reduced by a total of 3 weeks.

