

Client: J Murphy & Sons / Network Rail
Site: FTN/GSMR Node Site
Location: Chard, Devon

Project Description

GTL Partnership were employed by Murphy's to design, supply and supervise the installation and testing of helical (screw) piles for Network Rail FTN/GSMR node site south of Chard in Devon.



Geotechnical Ground Conditions

The soils investigation indicated superficial deposits overlaying stiff sandy gravelly clay.

The site investigation of a borehole with SPT and Dynamic Probes Super Heavy were used for the design of the piles.

The site sloped away from the RDS base toward the boundary. This change in level was taken into account in the design of the piles under lateral loading as it would affect the pile capacity.

Helical Pile Design and Testing

GTL designed the helical piles for a RDS narrow base, with loads of 70kN in compression and 37kN in Tension.

GTL carried out a static analysis using a combination of end bearing and shaft friction to generate the required pile capacity in tension and compression.

GTL predicted the settlement and movements under load using industry recognised software in Oasys Pdisp and Alp.

The tension test yielded results of 2.5 mm at 100% of safe working load compared with predicted settlements of 2 mm at design Stage.

