

GRAVESEND TO TILBURY

📍 Southern Region

Van Elle's Specialist Piling team was appointed by Ferrovial Construction to deliver a deep foundation package in Gravesend as part of a major National Grid infrastructure upgrade.

The works formed part of National Grid's programme to replace ageing tunnel infrastructure and facilitate the construction of a new tunnel between Tilbury and Gravesend.

PROJECT BACKGROUND

- Appointed by Ferrovial Construction.
- The project involved the installation of 56 No. 150mm diameter down-the-hole (DTH) piles within an existing shaft structure, providing the foundations required for the next phase of construction.
- Working from the base of a shaft approximately 40 metres below ground level, the team drilled a further 12.7 metres to install the piles, supporting the development of access shafts that will be used by the tunnel boring machine during future construction activities.

CHALLENGE

The project presented a number of technical and logistical challenges due to the highly constrained working environment.

The piling works were undertaken within a deep shaft, requiring operations to be carried out approximately 40 metres below ground level. In addition, the team was required to drill through 3 metres of reinforced concrete slab before progressing through concrete blinding located approximately 9.7 metres below ground level.

Restricted site access and lifting limitations further increased the complexity of the works, requiring careful consideration of equipment selection and installation methodology. The programme was also critical, with the piling package needing to be completed efficiently to support the wider construction schedule.

SOLUTIONS

To meet the project's technical requirements, the DTH piling technique was selected to drill through 3 metres of reinforced concrete slab and concrete blinding before installing the piles to the required depth.

Due to site lifting constraints, a Klemm 702 rig was chosen as it was compatible with the available crane capacity and could operate effectively within the confined shaft environment.

Careful planning and coordination enabled the installation of all 56 piles within the restricted-access working area. Originally programmed for three weeks, the piling package was completed in just two weeks, supporting the wider National Grid construction programme.

The completed works provide the foundations required for the next phase of tunnel construction between Tilbury and Gravesend, supporting the replacement of critical energy infrastructure.

AT A GLANCE

- **Sector:** Infrastructure
- **Solutions & Techniques:** DTH (Down-the-Hole) Piling
- **Client:** Ferrovial Construction
- **Van Elle Division:** Specialist Piling

EQUIPMENT

- Klemm 702

