WHITBY MARITIME HUB

Endeavour Wharf, Whitby

The project

The construction of a new maritime training hub.

The challenge

The soils comprised up to 4.5m of contaminated and coarse fill underlain by a succession of weak Alluvial soil interspersed with peat bands to around 12m in depth. The site was also impacted by a shallow tidally influenced groundwater table and was sensitive to vibration. The engineers were keen to adopt a solution that would avoid vibration with reduced spoil and carbon.

The solution

Keller was engaged at a very early stage, and proposed a displacement Rigid Inclusions solution instead of piling. The solution provided enhanced stiffness to facilitate shallow foundations designed for a bearing capacity of 200kN/m2. Each column was reinforced with a single bar due to the tidal conditions. The Rigid Inclusions were successfully installed in only a few days, allowing the contractor to follow on quickly with the foundation installation works.

Key achievements

- Facilitated shallow simply reinforced footings.
- Provided a fully displacement solution through contaminated made ground.
- Successfully constructed columns within tidally Influenced conditions.
- Offered a low vibration methodology close to services and retaining structures.

Project information

Application
Bearing Capacity/
Settlement Control

Technique
Rigid Inclusions

Sector
Marine

Client
North Yorkshire Council

Main contractor
Willmott Dixon
Construction Ltd

Contract value
£80,000

Keller companies
Keller UK

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