

Whitby Maritime Hub

Whitby

Keller were contracted by Willmott Dixon Construction Limited to install Rigid Inclusions on their project at Whitby maritime Hub. Keller were able to provide a solution that enabled the use of shallow simply reinforced footings and was also low vibration as work was taking place near existing services and retaining structures.



The project

The construction of a new Maritime Training Hub in Whitby.

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 12.0m 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 works also had to be undertaken within tidally influenced conditions.

The solution

Keller were engaged at a very early stage, and we proposed a displacement RI 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 RIs were successfully installed in just a few days, allowing the Contractor to follow on quickly with the foundation installation works

Project facts

Owner(s)

North Yorkshire Council

Keller business unit(s)

Keller UK

Main contractor(s)

Willmott Dixon Construction Ltd

Solutions

Bearing capacity / settlement control

Markets

Institutional/public

Techniques

Rigid inclusions

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