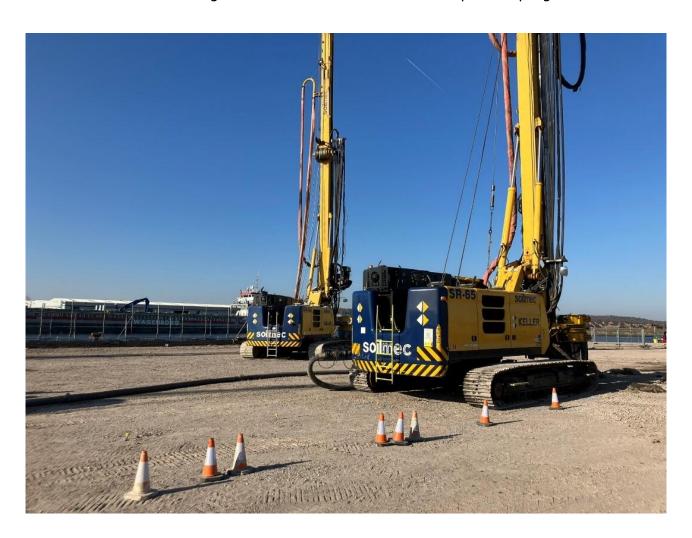# Grandidges Quay

Birkenhead

Keller were contracted by Glencar Construction Limited to provide a combination of both rigid inclusions and CFA solutions. Keller offered a fully displacement solution for the warehouse & sprinkler tank areas and Installed CFA piles for the crane base area next to a sensitive Dock Wall. This facilitated the adoption of a ground bearing floor slab and Keller switched the rigs between RI & CFA methods to optimise programme.

The project

The construction of a new HQ for a specialist wood manufacturer, comprising a 163,000 sq ft 52m clear span warehouse on a brownfield docklands site.

The challenge

To provide a foundation solution through up to 17m of very low strength Tidal Flat Deposits whilst limiting settlement to <25mm and 1:500. Having originally designed this warehouse on piles, we were asked to offer an alternative that would accelerate the build and cut carbon. We were also asked to provide support to a heavily loaded crane base area which was positioned immediately next to an existing dock wall and through some very coarse backfill.

The solution

Keller offered a combination of RIs and CFA piling for this scheme. The RIs were installed to facilitate shallow foundations (200kN/m2) and a ground bearing floor slab (53kN/m2). For the crane base, 450 & 600mm diameter CFA piles were adopted so as limit load shed and penetrate to depth. Keller were also able to switch between the RI and CFA tools using the same rigs, which avoided additional mobilisation costs. The works were completed swiftly, with the substructure activities following on immediately behind. This afforded the Main Contractor the opportunity to accelerate their programme.

Project facts

Owner(s)
The Mersey Docks and Harbour Company

Keller business unit(s)
Keller UK

Main contractor(s)
Glencar Construction Limited

Solutions
Bearing capacity / settlement control

Markets
Commercial

Techniques
Rigid inclusions
CFA piles

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