

# Rosyth CVF - Crane Rail Beam Piling

**Client :**  
Babcock Marine

**Designer :**  
Halcrow

**Main Contractor :**  
BAM Nuttall

**Location :**  
Rosyth, Scotland

**Date :**  
2008 - 2009



BAM Ritchies installed 293 610mm diameter raking piles with up to ten metre deep rock sockets as part of the Goliath crane rail beam foundations. The piles were installed in a trench adjacent to the existing dockside buildings.

The crane base on the east side had been piled conventionally but on the west side, owing to the ground conditions, the need for raking piles, the close proximity to existing building and the need for good environmental controls, a different approach was needed. Conventional rigs were incapable of installing the proposed design and minimise the environmental impact of the project.

BAM Ritchies researched and developed a suitable system using innovative simultaneous drilling and casing large diameter Reverse Circulation Down-the-Hole (RCDTH) hammer equipment. It was the first application of its type in the UK of techniques for high capacity angled piles.

The original design for the west crane beam was a combination of vertical and raking 1050mm piles but the proximity of the buildings meant this was not possible using conventional large diameter piling rigs.

This resulted in bespoke drilling rigs with short mast lengths and an innovative tool handling system using simultaneous drilling techniques being used by BAM Ritchies.

Another example of innovation was the use of bespoke access working platforms that were developed in-house using non-slip materials to allow safe access across a two metre wide and two metre deep pit during the drilling and installation of the piles.

The client has acknowledged the commendable innovative technical approach, strong willingness to develop alternative solutions and safe methods, and was pleased with the partnering approach that contributed towards the success of the project.



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