

Bill Boley Project Profile

Total Solutions in Controlled Hydraulic Movement and Jacking

Project Designation/ Location

Installation of the new Valiant 44,000 tonne floating concrete jetty at HM Naval Base Clyde at Faslane, 25 miles north west of Glasgow.

Client

Morgan Est 

End Customer

Royal Navy



Project Challenge

To ensure the four 2 metre diameter steel columns (pictured right) that allow the floating jetty to move with the tides, were kept vertical during the piling operation. Each column is taller than Nelson's Column.

Bill Boley Solution

50 tonne jacks, set at 90 degrees to each other, were used to provide controlled horizontal forces on the tubular columns as they were pile driven into the sea bed.

A total of eight jacks per column were used in twin sets of four, installed at the top and bottom of special framework supporting the columns.

The applied jacking loads were carefully monitored and adjusted to keep the tubes upright in two planes, using data from inclinometers.

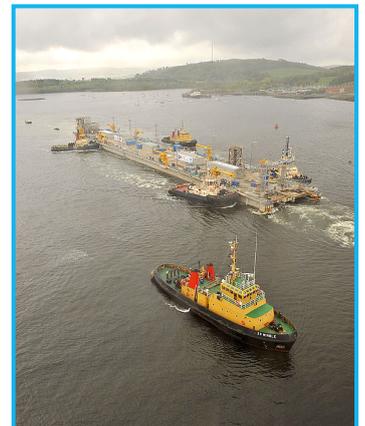


Background Information

The Valiant Jetty has been designed and built by a joint venture between AMEC and Morgan Est. It has been five years in the planning, five years in build and is designed to serve the Royal Navy's submarines for the next 50 years.

At 200 metres long, 28 metres wide, over 10 metres deep and 44,000 tonnes, the jetty is as long as the Navy's current aircraft carriers and more than twice the tonnage, which meant that negotiation of the Rhu Narrows into the Gareloch required careful co-ordination and temporary closure of the port to provide a safe route for the tow. The jetty can accommodate any of the Royal Navy's nuclear-powered, conventionally-armed submarines, but has been designed specifically with the new Astute Class in mind.

The advantage of a floating, rather than a fixed jetty is that it will move with the submarines docked alongside, reducing friction on the submarine and facilitating servicing.



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Bill Boley

"Controlled Hydraulic Movement"