



Refurbished Terminal Supports Travellers from Isle of Man to Liverpool

Case Study

DYWIDAG installed strand anchors to support and strengthen the quay wall in the new Isle of Man ferry terminal being constructed in the Port of Liverpool.

PRODUCTS

DYWIDAG Strand Anchor System

LOCATION

United Kingdom

TIMELINE

2020 - 2023

SCOPE

Supply

Technical Support

OWNER

Isle of Man Government Department of Infrastructure

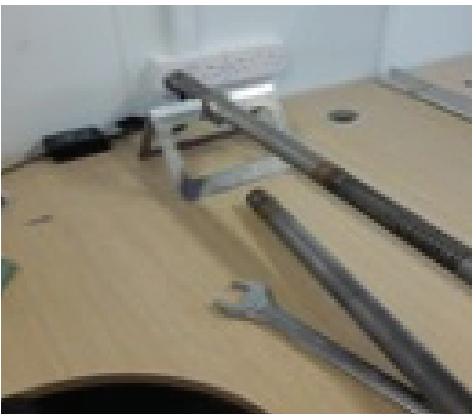
GENERAL

CONTRACTOR

John Sisk & Son Ltd

SUBCONTRACTOR

Bachy Soletanche



Context

Thousands of tourists, business people and commuters travel via ferry between Liverpool and the Isle of Man each year. Construction of the new Isle of Man ferry terminal, located on the Princes Half-Tide Dock at the Port of Liverpool, was part of a £30 million investment to modernize the northern part of the dockland area, including a complete refurbishment of the Douglas Promenade and a new cruise ship terminal, along with numerous residential, commercial and leisure facilities. Specifically, DYWIDAG was hired to support the refurbishment of the aging ferry terminal facility.

Solution

With their long experience working on ground engineering projects in the Liverpool dock sea front area, the contractor Bachy Soletanche was involved early in the project to provide advice to both the clients architect and the consulting engineering team.

Due to the layer of granite present on site which would prevent the team from mobilising conventional boring tools and because GI advised a presence of large areas of 'made ground' across the site, decisions were made to relocate the original pile design lay-out to try and avoid as many obstructions as possible.

LDA Piles combined with DYWIDAG Strand Anchors were chosen to be the optimal solution to keep cost and time to a minimum for the main structure. DYWIDAG Strand was used to tie the existing Quay Wall back to the new reinforce concrete construction behind.

In total, 14 DYWIDAG DCP Strand Anchors, were installed to help support and strengthen the existing quay wall. The anchors – designed by Remedy Geotechnics - varied in size and length from 5 to 10 strands and overall anchor length from 26 to 39 meters. The anchoring team drilled and installed the anchors using a long reach excavator fitted with a mast drilling rig. Due to the proximity of the quay wall to the anchor entrance points, specially constructed scaffolding was used. High winds hampered the use of the crane needed for installation, due to the site's exposed location on the river Mersey.

To add to the challenges, Bachy Soletanche had to fulfil its commitment to minimising the project's environmental impact, by preventing any hydraulic oil spills into the river.