

## Port of Dundee East Redevelopment

### New Wharf & Land Upgrade brings benefits to Dundee



In August 2020, GRAHAM Civil Engineering commenced the construction of a new wharf at the Port of Dundee and the preparation of 15 hectares of land, all to support the emerging energy transition sector.

This work is a key component of the “epic” £40m redevelopment programme at the port that promises to bring “significant benefits” to Dundee and the whole of Scotland.

The scheme consisted of replacing the existing Caledon East Wharf with a new heavy lift quayside that is capable of roll on/ roll off operations as well as conventional lift on/off.

Prince Charles Wharf also received a major upgrade to increase capacity after almost 45 years of service. This required 3 different sizes of tubular piling, and Cleveland Steel & Tubes Ltd (CST) took part in a competitive tender, finally being selected to supply & fabricate the following;

911.8 mm Outside Dia. x 28.9 mm Wall Thickness

1070 tonnes in fabricated 18.7- 26.8m lengths

The main contractor worked closely with all its supply chain partners to ensure all steel tubular and sheet piles were delivered to site without delays, with CST facilities in North Yorkshire fully audited before starting to fabricate the long length

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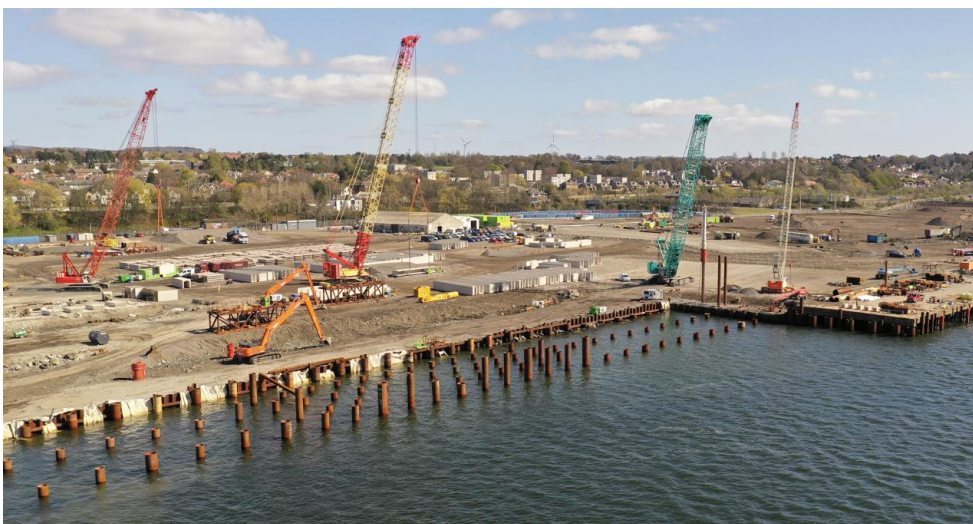
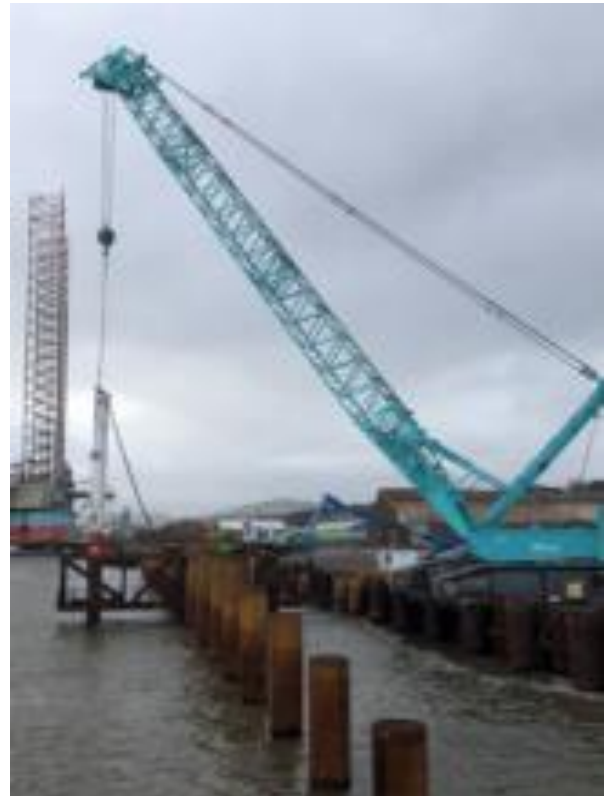
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The port remained operational and open for vessels throughout the project, importantly maintaining a road to the quay throughout the works for use by Port of Dundee. The design also had to be adapted to create a permanent working platform over very weak underlying soils below the site. This resulted in minimal removal of waste to landfill and a vast reduction in the volume of imported aggregates, using the material that was excavated from site efficiently to aid in soil stabilisation, allowing the client to gain an extra 10% of the site.

Strict Project Technical Specifications were in place requiring the tubular piles to be fabricated in accordance with BS EN 1090 EXC2 with a CE Certificate and DOP required.

The Specification also required all circumferential welds to be 100% Ultrasonically Tested (UT) as well as UT testing of 300 mm of the long weld at each end of the finished piles, with certification being issued for all the testing.

The original project design demanded tubular piling 914 mm O/Dia x 25.4 mm Wt., however an Alternative cost effective value engineered solution of 911.8 mm O/Dia x 28.9 mm Wt. was put forward and eventually accepted by the design team. The mother pipe for this size pile was available in stock as new unused surplus offshore gas line pipe, originally produced for Statoil (now Equinor) in Norway. This provided the project with a **Sustainable solution**, showing a substantial carbon savings of approx. 95% or 2200 Tonnes of carbon, when compared to new production. The project was finished during 2021 with the main contractor putting it forward for an award with CECA Scotland under the sustainability



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