

Proposed Dry Dock - Feasibility Study Swan Hunter (Tyneside)

It was recognised by the Swan Hunter's (Tyneside) Management Team, that if they were to secure a diverse range of significant shipbuilding and fabrication commissions, this could only be realised through major investment in the shipyard at Wallsend.

The creation of a new dry dock facility was seen as business critical. Allied to this was the need to demonstrate that the new facility was significantly advanced and capable of being quickly implemented, to ensure that credible tenders for new contracts could be pursued.

To achieve these overarching objectives, Swan Hunter appointed Entec to undertake a feasibility study associated with the new dry dock facility.

The proposed dry dock replaces the existing slipways, which are inclined and fall into the River Tyne. These are of reinforced concrete construction, founded over significant areas on bearing piles of

steel, concrete and timber. Immediately to the east and west of the slipways are crane gantries. These support cranes, which needed to be retained, having significant lifting capacity.

The environmental impact of the new dry dock at demolition, construction and operational stages would be significant, affecting:

- the ecological entity of the River Tyne, navigation, pollution and a salmonoid fishery;
- the World Heritage site of 'Segedunum Fort', Hadrian's Wall, which culminates at the Tyne within and on the boundary of the Wallsend shipyard; and
- local residents, both north and south of the River Tyne.

Although a complex scheme, requiring a multi-disciplinary approach, with Entec's assistance the following were successfully achieved:

- a positive determination from the planning authority for the new dry dock facility, within the client's specified period, (four months from our appointment); and
- the identification of a feasible engineering solution, which would provide the widest practical dock width.

As well as being cost effective, the selected forms of construction were practical and matched the skills inherent to the shipyard, which would allow extensive work to be done by Swan Hunter's own workforce.

Facts and Figures

Project

Proposed Dry Dock - Feasibility Study

Client

Swan Hunter (Tyneside)

Location

Wallsend, Tyneside, UK

Capital Project Value

£25m

Entec Services

- Project manager and lead consultant
- Geotechnical desk study, site investigation and contamination interpretive report, geotechnical interpretive report
- Environmental appraisal of river flow dynamics, water quality, terrestrial and aquatic ecology, contamination, river sediments dredging, waste management, archaeology, noise and vibration, air quality, traffic, urban design and visual impact
- Topographical survey
- Geotechnical design
- Engineering feasibility study of main features of the new dock (dock floor, dock side and head walls, entrance works, drainage and pumping, and dock gate), 'buildability', construction (equipment, site organisation and operation), drawings and calculations
- Scheme cost data
- Formulation and submission of a planning statement and application



Detailed studies for Tyneside shipyard

