



Case

STUDY

TELEBAGS

Hawes Pier South
Underwater Void Repairs



MARKET SECTOR:
Coastal



LOCATION:
Hawes Pier South
Queensferry, Edinburgh



CONTRACTOR:
Norfolk Marine Limited



CONSULTANT:
Jacobs

The

BACKGROUND

Located at South Queensferry on the shores in the Firth of Forth and in the shadows of the famous Forth Bridge and Forth Road Bridge, approximately 10 miles from Edinburgh city centre, lies Hawes Pier.

This historic structure dates back to the 17th century and was originally a crossing point from the South Queensferry to North Queensferry on the side of the famous tidal river. The pier remains a key facility today providing services for a variety of uses including:

- BP for staff and employees to access the oil terminal at Hound Point.
- Pleasure Cruisers Maid of the Forth and Forth Belle for summer cruises on the forth.
- Cruise Liners when visiting Edinburgh.
- Access to the Forth Bridge for maintenance.
- RNLI for emergencies.

Our Client's

REQUIREMENTS

A sustainable solution for
Underwater Void Repairs

A survey undertaken by the marine contractor detected that the structure was being undermined beneath the waterline.

This was as a result of scour due to the flow of the river compounded by the effect of propeller action from boats operating from the pier.

Our Value Engineered SOLUTION

The introduction of Tenax high modulus Geosynthetics were able to offer the contractor, Norfolk Marine Limited, our Telebags bespoke geotextile bags, fabricated to the exact size needed to fill the voids.

It was determined that there were 6 voids deemed suitable for treatment using the Telebags ranging in length from 0.45m to 9.8m and heights of 0.2m to 0.76m and depths 0.3m to 0.85m. Once placed, the Telebags were pumped with a high strength concrete mix. The geotextile fabric allows the water content to pass through the fabric while retaining the cement and aggregate. Once cured the voids were completely filled with a high strength concrete thus restoring the pier's structural integrity. This treatment has added an anticipated further 50 years life span to the structure of the pier.

The benefits of using Telebags in this case were:

- The Telebags could be produced to the exact size needed to fit the voids
- There was an instant cost saving on materials with a major reduction on man power and working times

