



CASE STUDY

RIVER WALL REVTMENT & TEMPORARY WORKS DESIGN

CLIENT: DEME GROUP

LOCATION: UK

Highlights:

- Principal Designer
- Temporary Works Design
- Crane Lift Risk Assessment
- Slope Stability Risk Assessment

THE CHALLENGE

Deme Group was appointed to remediate the disused oil terminal and storage depot at Bowling to lower levels of soil and groundwater contamination. Upon completion of the remediation works, the site is to be developed for mixed-use redevelopment, including greenspace/landscaping, various industrial/business uses, and office accommodation.



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THE CHALLENGE, CONTINUED

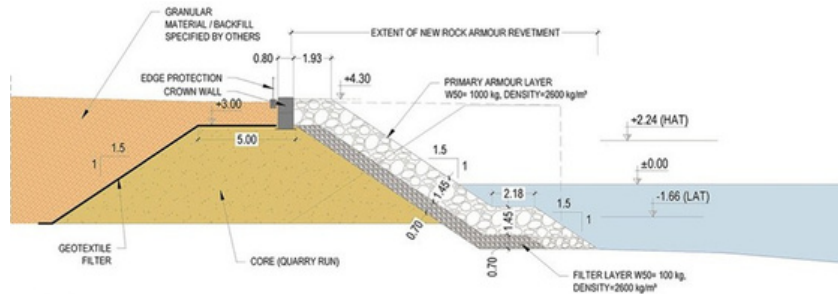
In conjunction with the remediation works, the existing revetment and concrete quayside needed to be replaced with a new revetment constructed using quarried, natural stone. The affected length of shoreline is approximately 250m. From east to west, approximately 100m of the affected length comprises the revetment and oleophilic bio-barrier, while the remainder (i.e. the western end) is concrete quayside. Arthian was appointed by Deme Group to:

- **Undertake Principal Designer's duties** for the design and construction of a new river revetment along the River Clyde.
- **Undertake a temporary works design** for a crawler crane used for demolition works of a sheet-piled wall at the Bowling site and check global slope stability of the new revetment and ground-bearing capacity failure in accordance with BRE 470 'Working Platform for Tracked Plant'.

THE SOLUTION

A bearing capacity assessment in accordance with BRE 470 was undertaken to determine whether the existing revetment core and backfill material were suitable to accommodate the crawler crane loadings for the demolition works of a sheet-piled wall. A granular platform of 1.35m thick 6F2 material was required on the landward side of the revetment.

To understand the effect of the crane loading on the global stability of the revetment, a geotechnical analysis was undertaken using LimitState GEO software to confirm the stability of the revetment during the demolition works.



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