

CASE STUDY

DOVERCOURT SEA WALL

Protecting against coastal erosion in Harwich



Parts of the sea wall at Dovercourt were eroding, due to reduction of the foreshore levels caused by a series of extreme storms hitting the Harwich coastline during the winter of 2013/14. Tendring District Council required a solution to repair the damaged toe of the sea wall revetment to prevent further damage to the seawall, and to protect the revetment against the effects of any future reductions in foreshore levels.

If the eroding revetments were left unattended, it could result in a serious collapse or slide of the whole sea wall revetment. Emergency measures were required to ensure a safe, long-term solution to the problem.

The Dovercourt sea wall protects a public recreation area, which was formed several decades ago when land was reclaimed and landscaped. The site is lined with clay and protected by an Open Stone Asphalt revetment. Dog walkers, and other members of the general public who often walk along the crest of the seawall use the area, and their safety is of utmost importance.

The Council wanted to safeguard the structural integrity of the sea wall in a quick and effective manner with the least amount of disruption and cost. The installation required the contractor to work with tide times, which meant that installation periods were restricted.

IKO registered contractor, Hesselberg Hydro has worked with Tendring Council on the Dovercourt sea wall on many occasions, replacing failing concrete-block revetments and extending the revetments along the seawall. This year they won the contract to extend the existing seawall revetment to link the original revetment with a concrete slipway at the northern end of the site.

Roger Smith, Director of Hesselberg-Hydro said, "During a pre-start inspection with the client it was noted that the toe of the northern section of the revetment was exposed due to continuous bombardment from sea waves. The client identified the problem and then asked us to defer our programmed works to carry out the emergency toe works as soon as possible."

One solution to the problem was to extend the existing revetment construction, but this would have required large volumes of excavation with increased times and cost. It was therefore decided to adopt a minimal excavation of the toe area only, infill with a rock layer and fully

Project Sector: Local Authority
Client: Tendring District Council
System: Permatrack Sea Wall Defence System
Products Used: Bituminous Grout
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grout using IKO Bituminous grout. This resulted in a flexible bituminous bound slab, which would follow the future settlement and scour of the toe, thus preventing undermining of the sea wall revetment.

The slab of bituminous mastic grout placed in 2003 was performing well so it was decided to extend this detail to protect the toe section that was being undermined.

IKO's Permatrack Flood Defence System was chosen using IKO Bituminous grout, not only for the quality of the product but also for its track record of performance on coastal projects and the reliability of their fleet of delivery vehicles.

Permatrack seawall grout is supplied hot charge, ready to lay with no re melting required on site. Placement of IKO Bituminous grout requires skill to install at the base of a sloping revetment with skilled operatives of mechanical equipment required. Hesselberg-Hydro has the necessary experience to carry out this job safely, efficiently and effectively.

The main challenge on this project was the tidal conditions, which meant that working time was restricted to two to three hours either side of low tide. Deliveries of material therefore had to be reliable and precisely timed. With the low tide time advancing by approximately 1 hour each day this meant delivery times changed daily, and included very early & very late deliveries.

The contractor mobilised the necessary plant immediately and completed the work within two weeks. IKO was praised for its ability to deliver its materials to the difficult schedule and the client was provided with a solution which met both its timescales and budget.



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