Water & Scour

Client:
Afonwen Sea Defence

Location:
Lynn Peninsular, North Wales

Summary

The site is located on the southern side of the Lynn Peninsular, 7 miles west of Porthmadog in North wales. The Dovey Junction to Pwllheli railway hugs the coastline at Afonwen, and is protected from the advancing ocean by a combination of sea defence structures.

The existing rock armour protection at the eastern extent of the sea defence has deteriorated leaving exposed sections of the sand and gravel cliff faces exposed to erosion. Sea spray and shingle have been crashing onto the railway during high tides disrupting rail operations on a regular basis.

Project Overview

To dismantle and re-construct the existing sea defence using both existing and imported 3 – 6 tonne sized rock armour, incorporating a geotextile separating membrane. The new sea defence would be constructed to a height of 6.7m AOD, with a 1V:2H seaward facing slope. Two of the worst affected areas were identified and repaired, totalling over 130 metres in length.

The breakwater was re-built using 45 tonne excavators mounted with rock grapples, operating on the beach at the location of the sea defence. Additional machinery located in the site compound 200metres away sorted rock, and loaded materials into 25 tonne dump trucks for delivery to the beach. A temporary Strail' modular rail crossing was installed for the duration of the works to enable materials to be transported over the railway under possession.

Successes

Working in an environment with Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) status, CML worked closely with the Countryside Council for Wales and the Marine Fisheries Agency throughout the project to complete the project to the satisfaction of all parties involved and cause minimal disturbance to the sensitive surrounding environment.