

EMERGENCY SEA WALL STABILISATION, DOVER

Client: Costain for Network Rail

Value: £600,000

Duration: Emergency 1 week over Christmas, 4 weeks January 2016

Project Detail

Extensive storm damage had caused the railway's concrete defence sea wall at Shakespeare beach, between Dover Priory and Folkstone, to suffer from considerable settlement. This had caused large cracks to appear from top to bottom on the wall, and had created sink holes to appear beneath the track.

Suttle Projects were contacted on Boxing Day to urgently attend the site and help devise a plan to secure the stability of the railway's defences, then assist in the development of a long-term engineering solution for the future of this important rail link.

Suttle Projects advised Costain and Network Rail that the defence wall had been undermined, and proposed that sheet piles be driven along the toe of the seawall to form a cut-off wall and prevent further migration of backfill fines from behind the defence wall. We further proposed the installation of rock armour to increase the passive resistance and combat against overturning of the failing wall. Suttle Projects were subsequently contracted to supply and install this work.

We installed a 294 steel sheet pile retaining wall on the beach, utilising our 25 and 35 tonne excavator mounted Movax vibratory units. We placed rock armour, provided by our colleagues at Suttle Stone Quarries, (who opened Swanworth Quarry during the Christmas period), between the sheet piles and concrete defence wall.

The work was performed during tidal shifts throughout the day and night.

To extend the working area and create a temporary protection at the worksite, we deployed a dozer to grade the beach material, forming suitable working platforms for the piling and earthworks teams.



Our design team provided Costain and Network Rail with further information and advice to assist in the decision-making process that formed the permanent works solution. This ultimate resolution was enabled by the rapid and effective response by the Suttle, Costain and Network Rail teams.



