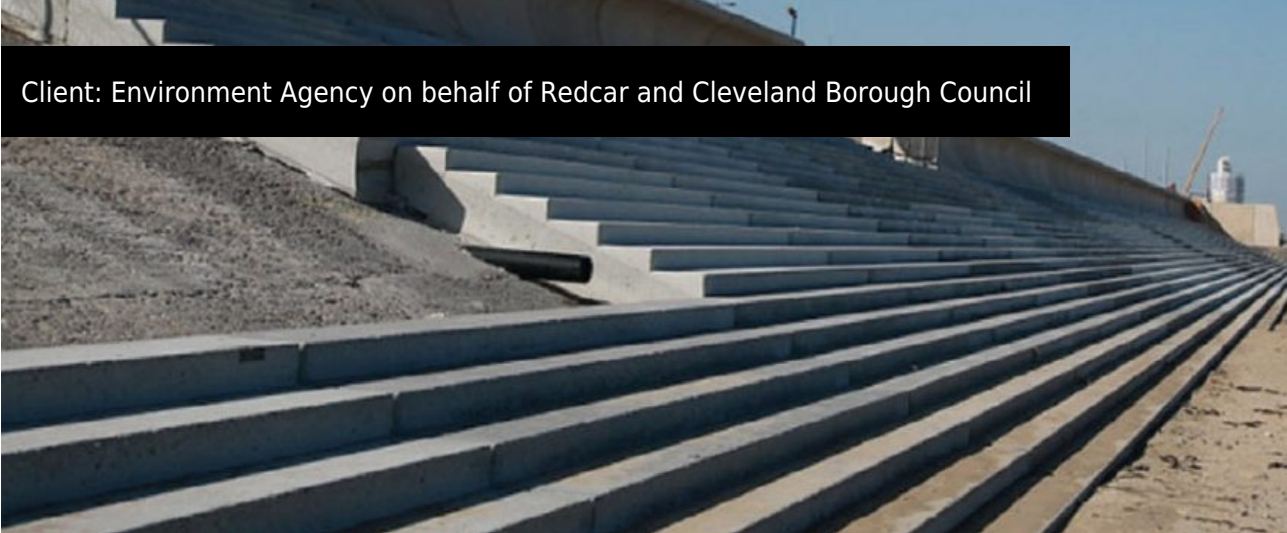


Project: Redcar – Flood Defence Wall / Scheme



Client: Environment Agency on behalf of Redcar and Cleveland Borough Council

The Environment Agency awarded a £21M contract to Birse Coastal, a Birse Civils company, to construct a scheme at Redcar to minimise the risk of coastal flooding to more than 1,000 properties. The new defences stretching for 2.7 kilometres and are intended to reduce coastal erosion and flood risk for the next 50 years and beyond.

The foundations required for the Redcar flood alleviation scheme were installed in front of an existing promenade. They were completed section by section to minimise disruption to the town, its residents and visitors. 132 helical pile foundations installed over just 5 weeks. The new wall includes features such as steps on the sea-facing slope, to reduce the power of the waves hitting the structure and a re-curve upper section, designed to throw water back towards the sea. The design of the wall allows for sea level rises for the next 50 years.



Screwfast Foundations Ltd installed

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132 piles over 3 zones.

Zone 1 = 59 piles each 11.5m long,

Zone 2 = 63 piles each 10.5m long and

Zone 3 = 10 piles each 9m long.

The helical piles were designed with thicker walls to remove the need for galvanizing or additional protection. They were tapered telescopically to aid installation.

All the piles were in 2 sections:

170 x 12.5mm point sections with a

219 x 16mm top section.

The piles had a small 'Top Hat' fitted on top and rebar cages fitted over the top of these to tie them to the wall structure. Installation of Zones 1 & 2 was completed in 4 weeks and Zone 3 in one week.

The contractors assembled the wall from pre-cast concrete sections which were winched into place by crane.

The new wall has been designed to cope with changes in sea levels, which are currently predicted to rise by about 85 centimetres over the next hundred years.