

## CASE STUDY

### Dawlish Sea Defences

#### **The Project:**

In February 2014 the sea wall supporting the mainline railway at Dawlish, Devon was breached and damaged in a series of winter storms. The line was repaired and reopened in April 2014. To provide resilience to the repaired seawall a pre-cast L-Wall will be installed onto the lower walkway and concrete apron. The L-Wall will be secured with rock bolts.

#### **The Challenge:**

A ground investigation was required to investigate the geotechnical properties of the walkway and its underlying geology to provide parameters for design of the rock bolts. The challenge was to drill a series of boreholes on the narrow walkway which is elevated above the beach.

#### **The Solution:**

Geotechnical Engineering Limited (GEL) mobilised a multi-purpose Geotechnical Pioneer rig. The Pioneer rig can access borehole locations as narrow as 1.50m and has a working width of 2.50m. The Pioneer rig was able to be tracked along the walkway by the lead driller using its remote control pack. A safe system of work was implemented to protect the operatives whilst working at height. This took the form of safety harnesses with fall arrest blocks on a fixed running line. The Pioneer rig has the dual capability for continuous dynamic sampling of the superficial sand and gravel deposits and rotary coring of the Dawlish Sandstone Formation. Detailed logging of the samples was carried out onsite by the engineering geologist from Geotechnical Engineering to identify any Made Ground, the nature of the superficial deposits and the geotechnical characteristics of the solid geology. Production of a factual report including geotechnical testing carried out in GELs UKAS accredited laboratory has provided the client with sufficient information to calculate the parameters for design of the protection measures.

#### **Project Overview**

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**Project Name:**

Dawlish

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**Project Type:**

Rail, Geotechnical

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**Client Name:**

AMCO

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**Date:**

June 2014

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