

St Mary's Church - Whitby, North Yorkshire



Project:

Cliff Instability Remediation

Location:

Whitby, North Yorkshire

Client:

The Parish of Whitby and Ruislip

Consulting Engineer:

Alan Wood & Partners

Project Value:

£100,000.00



Description:

Landslides and cliff instability due to natural erosion are well documented along the Yorkshire coast. Records dating back to 1785 describe instability of the East Cliff in Whitby and in particular, above Henrietta Street.

In November, rainfall within the UK reached record levels resulting in significant localized flooding and landslides. Alan Wood & Partners were investigating a similar slip above Church Street in Whitby when it became apparent that a further slip had occurred on the cliff just below St Mary's Church, adjacent to the '100 Steps'. The Geotechnical Team of Alan Wood & Partners was commissioned to investigate the failure mechanism and to devise remedial measures to reduce the risk of further failures.

The Geotechnical Team recommended that safe guards were immediately put in place to protect the lives and property of the residents at the bottom of the cliff, on Henrietta Street, along with measures to prohibit the public from accessing the unstable head of the cliff.

The geology, geomorphology, hydrogeology and topography of the slope were quickly established in order to analyze the stability of the slope, using LimitState Geo software and to inform proposed remedial works. This was carried out using specialist rope access contractors on a very sensitive site with a great deal of public interest.

The remedial work comprised the installation of rock bolts, duckbill anchors, rock netting, erosion protection and a bespoke groundwater management system.