

# A12 Ingatestone Soil Nails

**Client :**  
Highways Agency

**Designer :**  
Atkins

**Main Contractor :**  
Nuttall John Martin

**Location :**  
Essex

**Date :**  
2005



BAM Ritchies was contracted to carry out slope stabilisation work on the A12, Ingatestone by-pass.

The scope of work comprised drilling and grouting 454 self-drilling soil nails (including test nails) into a steepened cutting, excavated by sister company Nuttall John Martin, in order to widen this important trunk road.

BAM Ritchies used a hydraulic feed beam equipped with a Klemm top hammer mounted on a 360 degree excavator.

The nails were drilled to depths of between 4m and 8m in length at an angle of 30 degrees in four rows. The face height was approximately 5m at an angle of 45 degrees over a length of 250 metres.

After the soil nails were completed, a plastic coated galvanised mesh was placed over the entire face of 1,280m<sup>2</sup> and secured by plates on the soil nails tightened to a nominal load.

The next stage involved installing the Armater hexagon cellular mesh over the top of the plastic coated mesh was secured to the face with over 1,400 pins and buckles.