

M50 / A40 Rock Cuttings Stabilisation

Client :
Highways Agency

Designer :
Mouchel Parkman

Location :
Ross on Wye

Date :
2006



**Ground Engineering Awards
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BAM Ritchies carried out rock face stabilisation works on the M50 and A40 near junction 3 – Rudhall and Oveross Cuttings, near Ross on Wye.

The scope of the works covered stabilisation of rock faces at six cuttings comprising various activities including de-vegetation, scaling, dentition work, sprayed concrete, drilling and installation of rock anchors, bolts and dowels.

As most of the activities involved working at height on potentially loose rock faces alongside active motorway and dual carriageways, particular care and attention was required in the planning methodology and assessment of risk.

Drilling was carried out using a 'Klemm' rotary percussive hydraulic top hammer 'drifter' drill mounted onto a 'Fuchs' rubber wheeled excavator via a 'roto tilt' device. These measures (together with remote controls for the driller) enabled safe and remote positioning of the mast to the desired orientation.

Generally, tendons comprised galvanised single section high yield 'Gewi' threadbar [grade 500/600 N/mm²] which were grouted in with neat OPC grout. Rock face meshing involved both high strength 'tensioned' TECCO® mesh and conventional mild steel drape mesh depending on the circumstances encountered.

De-vegetation work was carried out in advance of the main works, prior to the bird nesting season, from the baskets of MEWP's and by supplementary roped access technicians. Where possible, scaling was undertaken at the same time as de-vegetation.

The job also comprised significant elements of sprayed concrete infill, concrete bags and masonry dentition works to treat specific features – all carried out by BAM Ritchies in-house workforce.

As the requirements for each cutting could not be finalised until the Traffic Management was in place and vegetation clearance carried out, a full range of resources and skills were available to carry out any of the stabilisation solutions specified by the client's geotechnical designers.

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