



HIGHWAY REALIGNMENT

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Whilst many main trunk road schemes have been shelved by the Highways Agency, some councils continue to plan small schemes and provide work for the Site Investigation industry.

Geotechnics Limited has recently undertaken two schemes for Oxfordshire County Council Environmental Services Department. The first was the A415 Marcham Bypass, where cable percussive boreholes, trial pits and dynamic probes were required by consultants W S Atkins - Oxford Transportation, to provide information regarding the insitu condition of the strata and obtain samples for visual examination and laboratory test. The site was over flood plain where Topsoil and Alluvium overlies Corallian Beds containing sandstone horizons at shallow depth.

In addition, Geotechnics has been required to design, implement and interpret the investigation of part of the A4155 between Henley on Thames and Reading at Span Hill and Hampstead Bottom. Here the existing elevation and alignment is most irregular in it's negotiation of both a valley and a steep sided hill. The new road alignment was designed by W S Atkins for O.O.C.

A full desk study was undertaken, including a search of historical maps, geological records and records of the various relevant utilities. In addition, the site investigation report for the adjacent section of road which has recently been upgraded was provided. A walk-over survey of the site was undertaken by Principle Engineer, Trevor Hardie when the opportunity was taken to log an adjacent chalk quarry face. The geology was shown by published maps to consist of Upper Chalk overlain by Reading Beds and Plateau Terrace Gravels which capped Span Hill and Hampstead Hill.

A programme of boreholes and trial pits was devised, the concentrations being in the areas of proposed cuttings and embankments where piezometers were

installed. Mindful of the possibility of swallow holes in the Chalk, particularly at the interface with the Reading Beds, trial pits and window sampling holes were put down. Window sampling was undertaken in Hampstead Bottom to determine whether any 'soft' deposits existed in the valley floor.

The programme of laboratory testing included classification, strength, consolidation and, for slope design in cuttings and embankments, ring shear, shear box and effective stress triaxial tests.

Earthworks design parameters were determined from the insitu and laboratory test results and cuttings and embankment slopes determined using Geotechnics' in-house software programmes.



If you would like any more information on this or any other geotechnical matter, please write to mail@geotechnics.co.uk

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