

EUROCODE 7 - Geotechnical Design

Opportunity and challenges

Introduction

On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7:Geotechnical Design – Part 1) became the mandatory baseline standard for ground investigations. Eurocode 7, or EC7 to coin its commonly used abbreviation, will have major implications on geotechnical design. It is the most far reaching document to impact groundworks design in the last 30 years, and will impact all aspects of geotechnical work.

It will be used for public sector projects from this date, but it is anticipated that the take up amongst private sector will be slower until the Building Regulations are revised to reflect the use of EC7.

EC7 will become the new standard for geotechnical investigations, however it does not relate to contamination investigations. In becoming the new standard, many of the older British Standards will become superseded over time. As a result whilst designs could be carried out using the old standards, there will be an issue of whether work is being carried out using the most up to date standards.

So what's new?

In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets a new set of guidance on design procedures. The code makes the design of geotechnical aspects consistent with the other structural design codes, such as that for steel or concrete structures, that are also in force in 2010.

For the first time, there is specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design.

Opportunities

EC7 aims to reduce the conservatism intrinsic to established designed methods and ultimately groundworks costs should reduce in real terms. This is achieved through the requirement for higher quality investigations and sampling, the introduction of partial safety factors, and closer liaison between the structural and geotechnical engineer,

Challenges

Realising the opportunities presented by EC7 will present challenges. Ground investigations will be phased, take longer to complete and cost more, whilst designing to EC7 where none EC7 compliant investigations have been undertaken may not be feasible.

What Should I do?

You've already completed the first step, by simply becoming aware of what EC7 is. Whilst there are grey areas concerning ongoing projects, public authorities such as the Highways Agency and Network Rail are leading the way with adoption of the codes within newly procured design works.

So there is no time like the present to consider the implications for your scheme, either as client, project manager, designer, or investor. For further information how EC7 may affect you feel free to contact your WSP contact or email

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