



Flood and Coastal Erosion Risk Management Research Programme

Guidance on embedded retaining wall design

Project Summary SC130038/S

This project provides good practice advice on selecting and designing vertical embedded retaining walls commonly used in flood and coastal risk management that comply with European design standards (Eurocodes).

The guidance replaces the CIRIA (formerly the Construction Industry Research and Information Association) guidance C580 Embedded retaining walls - guidance for economic design. Since C580 was published in 2003 all 10 Eurocode design standards have been published and adopted within the UK.

This guide is a response to industry need for an update and extension to C580. It will help those involved in selecting, designing and constructing embedded retaining walls to comply with the requirements of Design Approach 1 (DA1) of the Eurocodes. It now includes full Eurocode compliance, and compatibility of Eurocode 7 (EC7) with Eurocodes 2 (EC2) and 3 (EC3). It also includes the difficulties of working in softer, less competent ground, and the many (often subtle) advances in engineering analyses, design and construction.

It advises on the design of temporary and permanent cantilever, anchored, single and multi-propped retaining walls embedded in a wide range of fine grained and coarse grained competent soils and very weak rocks.

It also provides information on:

- available wall types and construction methods
- design considerations
- design of temporary support systems and
- inspection, monitoring and maintenance.

A comprehensive update of the ground movements' database presented in the earlier guidance is also included, along with case studies, design examples and good practise examples that are consistent with the recent research and current analytical techniques.

The guidance and recommendations provide important, comprehensive information of for practising geotechnical engineers. They will help improve the design and performance of embedded retaining walls benefiting a

wide range of the flood risk management assets owned and operated by the Environment Agency and others.

This summary relates to information from the following project:

Report: SC130038

Title: Guidance on embedded retaining wall design

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Project manager: Owen Tarrant, Flooding and Communities

Research contractor

CIRIA. Project Director: Kieran Tully

Research collaborators:

Asim Gaba	(Arup)
Stuart Hardy	(Arup)
Lauren Doughty	(Arup)
William Powrie	(University of Southampton)
Dimitrios Selemetas	(Cementation Skanska)

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Website: <https://www.gov.uk/government/organisations/flood-and-coastal-erosion-risk-management-research-and-development-programme>

Email: fcerm.evidence@environment-agency.gov.uk

Enquiries: enquiries@environment-agency.gov.uk

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