

## Summary

The present report deals with the limit analysis for raft foundations, piles and retaining structures according to ENV 1997-1, ENV 1998-1 and ENV 1998-5. From the particular sections of the ENV 1998-5 the static and dynamic soil parameter relevant to the design are identified, and important aspects regarding their determination and application are summarized. The corresponding sections of the ENV 1997-1 are cited and comparisons are carried out.

Experimental methods and correlations for soil dynamic parameters are summarized and are judged with respect to their suitability for the analysis.

Four application examples dealing with aspects that are discussed in detail in the ENV 1998-5 are presented and commented. These examples refer to i) the influence of soil parameters on the seismic soil response, ii) the influence of soil parameters on the estimation of the liquefaction potential, iii) the dynamic earth pressure on retaining walls, and iv) the seismic response of piles.

It is shown that the application of ENV 1998-5 in design yields only a few common points with the ENV 1997-1. The existing state of knowledge allows the calculation of ultimate state for earthquake loading with sufficient accuracy, whereas the reliable prediction of deformations remains still difficult.