



POLICY DOCUMENT NO. 2
RECOMMENDED PROCEDURE FOR
GEOTECHNICAL GROUND INVESTIGATIONS

INTRODUCTION

Many of the risks associated with construction projects are related to the geotechnical site conditions, and thus the successful delivery of such projects relies on a proper ground investigation program, and on the management of risks associated with the ground.

As the peak body for geo-professionals concerned with soil mechanics and geotechnical engineering, ISSMGE has a responsibility to set out guidelines for conducting geotechnical ground investigations. These broad guidelines are set out below.

DESIRABLE EXTENT OF INVESTIGATION

It is unwise, and potentially risky, to attempt to reduce the ground investigation program below that which is assessed to be desirable in order to manage the relevant ground risks for the project. The investigation should be sufficiently comprehensive to provide the parameters required for design and enable an assessment to be made of factors that will affect the method of construction. The investigation should extend both laterally and vertically to cover all ground that will influence the development.

PHASES OF THE INVESTIGATION PROCESS

It is prudent to consider the ground investigation process as one that continues throughout and beyond the construction phase, rather than as only a preliminary activity that precedes the main construction. For most projects, the ground investigation process should consist of the following phases:

1. A detailed desk study, including an understanding of the geological history of the site.
2. Development of a preliminary geological and geotechnical model to assist in formulating the ground investigation programme.
3. Preliminary ground investigations for feasibility studies.
4. The main detailed ground investigation phase, to enable refinement of the preliminary geological and geotechnical model and to provide input into the engineering design and assessment of construction methods.
5. An allowance for supplementary investigation to examine anomalies or uncertainties that emerge during the design process.
6. An allowance for additional site investigation during construction.
7. An allowance for the presence of a geotechnical professional to be on site during those phases of the construction involving ground-related risks.
8. Ongoing interpretation of as-built ground conditions and construction monitoring data, to enable comparison with the design assumptions, and to enable implementation of any changes that may be required during construction.

REPORTING THE INVESTIGATION RESULTS

The report should document factually the results of the investigation, and should include such interpretation as has been agreed upon prior to the commencement of the investigation.

At the completion of the project, it is desirable to produce a geotechnical closure report that documents the acquisition, interpretation and utilization of construction data, so that it can be available for future reference.

9th February 2005