



Certification Performance Criteria Guidance

B3.1 Ground Investigation Reports

Revision B

Performance Criteria

Certifiers shall check that an adequate ground investigation has been carried out and shall review the scope of the investigation and the contents of the report to satisfy themselves that the conclusions and recommendations are appropriate.

Certifiers shall check that the investigation takes account of the effect of any new building works on the stability of existing buildings in the vicinity of those works.

In those circumstances where it is considered that a ground investigation is not required, Certifiers shall ensure that the reasons why it is not considered necessary are recorded.

Certifiers shall satisfy themselves that sufficient enquiry and/or investigation has been made to confirm that the proposed site will not be influenced by unconsolidated mineral workings.

Background

Standard 1.1 requires that the design of every building is to take account of the nature of the ground so that it will not lead to the collapse of the building or such deformation which would make the building unfit for use, unsafe or cause damage to other parts of the building, its fitments or fittings. Furthermore the construction of a building should not cause impairment of the stability of any part of another building.

Hence a suitable investigation must take account of the nature and use of the building together with its position relative to other buildings.

Certifiers should review the scope and the results of the investigation in relation to the effect that the ground conditions will have on the design of the foundations. The investigation must have taken account of the need to investigate the presence of harmful or dangerous substances, including the presence of radon or other harmful gases. Certifiers are not required to certify measures taken to prevent any threat to the health of people in or around the building due to the presence of harmful or dangerous substances, including radon gas, as these are covered by standards within Section 3 of the Building Regulations. However, Certifiers must ensure that the effects of such measures on the structure of the building have been considered.

Guidance

A ground investigation should be carried out for all projects with the exception of minor, single-storey domestic extensions, where it might be difficult to undertake an intrusive investigation or in special circumstances where a detailed knowledge of the ground conditions can be demonstrated without the need for a ground investigation. Where an intrusive investigation is not carried out the reasons for this should be documented and a report prepared detailing what other investigations, studies, etc were undertaken to determine the ground conditions and the effect they will have on the design of the foundations to the building.

Any ground investigation should be carried out using the methods described in BS EN 1997-2: 2007.

Clause 1.1.4 in the Technical Handbook provides further guidance on the scope of investigations.

All aspects of the nature of the ground should be taken into consideration including ground movement caused by:

- swelling, shrinkage or freezing of the subsoil, or
- landslip, or
- subsidence such as that arising from the collapse of abandoned mineral workings or quarrying

Information on the scale and nature of problems arising from mining instability, natural underground cavities and adverse foundation conditions is available from the following sources:

- British Geological Survey
- The Coal Authority
- The Local Authority records

The Certifier should be able to present:

- Desk study to identify scope and extent of ground investigation including the need for any mineral investigation
- Factual report recording sampling and testing undertaken
- An interpretive report containing recommendations for foundation design

Certifiers must be able to show that the competence and experience of the organisation employed to undertake sampling and testing has been assessed.

Certifiers must be able to present evidence to show that they have studied the report and that the scope of the investigation and the recommendations in the report have been checked, either by themselves, or by a suitably qualified and experienced person not involved with the design of the investigation and that they have satisfied themselves as to their adequacy prior to certification.

Minor Domestic Extensions

The BSD publication 'Procedural Guidance on Certification' advises that the ground conditions must be described on the warrant plans. When this has not been based on a ground investigation then Certifiers must record how the ground conditions were determined and the reasons for not

carrying out a suitable investigation. It is unlikely that this approach will be acceptable for anything other than the most minor of projects.

Specialist Advice

There may be circumstances where the ground conditions are such that the Certifier may not have the competence to certify the adequacy of the ground investigation and its conclusions and may have to rely on the competence of others, who are able to provide specialist advice on behalf of the Approved Body. Certifiers should record what advice they have taken and from whom, the extent to which they have reviewed the report, in particular how they have satisfied themselves that the scope, methodology and conclusions of the investigation are appropriate.

Examples of Major Non-conformances

Absence of or grossly inadequate evidence of the Certifier's review of the scope of the investigation and/or the contents of the report including the findings and recommendations.

Failure to demonstrate that an adequate ground investigation was undertaken in relation to the design of the foundations.

Failure to demonstrate that adequate enquiry regarding mineral workings was carried out in an area for such activity.

Examples of Improvement Issues

Insufficient evidence of the Certifier's review of the scope of the investigation and/or the contents of the report including the findings and recommendations.

Deficiencies in the scope of the ground investigation in relation to the design of the foundations.

Absence of a record as to why a ground investigation was not carried out for a minor project.

Absence of a record as to why a mineral investigation was not carried out for a minor project in an area known for such activity.

March 2022