

GROUND INVESTIGATION

SECTION 30

GENERAL REQUIREMENTS FOR GROUND INVESTIGATION

Generally

- 1** Ground Investigation shall be carried out in accordance with Site Investigation in Construction Volume 3: "Specification for Ground Investigation", published by Thomas Telford Services Ltd herein referred to as the "ICE Specification for Ground Investigation" with information, amendments and additions specified in the Schedules in the following Sections of the Specification:

Section 31: Schedule 1: Information,

Section 32: Schedule 2: Exploratory Holes,

Section 33: Schedule 3: Employer's Representative's Facilities,

Section 34: Schedule 4: Specification Amendments,

Section 35: Schedule 5: Specification Additions.

All margin clause references are to the ICE Specification for Ground Investigation clause or Schedule number.

(30.001)

Contaminated land

- 2** Ground investigation on land suspected or known to be contaminated shall be carried out in accordance with the recommendations in Site Investigation in Construction Volume 4: "Guidelines for the Safe Investigation by Drilling of Landfills and Contaminated Land" published by Thomas Telford Services Ltd herein referred to as the "ICE Guidelines".

(30.002)

Definitions

- 3** In addition to the definitions given in the ICE Specification for Ground Investigation, the following definitions shall apply:

(INSERT).

(30.003)

SECTION 31

SCHEDULE 1: INFORMATION

**Name of Contract
SI.1**

4 The name of the Contract shall be as shown on the cover to this Contract Document.

The name of the Contract shall be **(INSERT)**.
(31.001)

**Description of the
Site
SI.2**

5 The description and location of the Site shall be as stated in the Contract.
(31.002)

**Main Works
proposed and
purpose of this
Contract
SI.3**

6 The Main Works proposed to be carried out at the Site are as follows:

(INSERT).

The purpose of this Contract shall be as follows:

- (i) to identify any contamination of the underlying soil and groundwater, and on the surface of the soil,
- (ii) to install within boreholes a suitable lining so that groundwater samples may be recovered and tested for contamination throughout the construction period,
- (iii) to obtain appropriate soil strength parameters for use in designing shallow pad foundations,
- (iv) to obtain appropriate soil strength parameters for use in designing piled foundations,
- (v) to obtain appropriate soil strength parameters for use in designing earth retaining structures,
- (vi) to obtain appropriate soil strength parameters for use in designing sheet piled cofferdams and other temporary works used to ensure safe excavation,
- (vii) to obtain appropriate soil strength parameters for use in designing embankments, cuttings and other earthworks,
- (viii) to obtain appropriate soil strength parameters, bulk densities and water pressure information for use in slope stability analysis,
- (ix) **(INSERT).**

(31.003)

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Scope of Investigation
SI.4

- 7** The scope of the Investigation shall be as specified in the Contract.
(31.004)

Geology and ground conditions
SI.5

- 8** According to Sheet **(INSERT)** of the survey maps issued by the British Geological Survey, the geological formations likely to be encountered at the Site are as follows:**(INSERT)**.

Due to the proximity of the River **(INSERT)**, varying thicknesses of alluvium may overlie the strata shown on the survey map.

The Site was formerly used as **(INSERT)**. The land shall be assumed to be contaminated with a designation Red in accordance with the ICE Guidelines, appendix III, unless and until the nature of the ground is proved otherwise.

- , Details of known contaminants at the Site are as follows:

(i) **(INSERT)**,

(ii) **(INSERT)**.

The following artificial sub - surface obstructions are believed to exist:

(i) **(INSERT)**,

(ii) **(INSERT)**.

The information is given for guidance purposes only, and Railtrack shall not be held responsible if the actual geology of the Site or ground conditions are found to be different from that as stated.

(31.005)

Schedule of Contract Drawings
SI.6

- 9** The Contract Drawings listed in Table 31/I accompany or are referred to in the Contract Conditions, Specification and Bills of Quantities.

Table 31/I	
<u>Number</u>	<u>Description</u>
(INSERT)	(INSERT)

(31.006)

Landowners, tenants and occupiers
SI.6

- 10** Affected landowners, tenants and occupiers are listed below, referenced to areas shown on the Contract Drawings.

(INSERT)

(31.007)

Schedule of documents
SI.6

- I1** The following documented information is available for inspection at the address given:

(INSERT).

The documents listed above are provided for information only, and no warranty is given as to accuracy or completeness.

(31.008)

Particular Contract restrictions
SI.7

- I2** The following particular Contract restrictions shall apply:

(i) notwithstanding depths of exploratory holes shown in Schedule 2, no exploratory hole shall be commenced, terminated or backfilled without the agreement of the Employer's Representative,

(ii) trial pits and boreholes shall be organised to provide test results to the Employer's Representative by **(INSERT)**,

(iii) monitoring and testing of ground water shall be carried out at two weekly intervals unless an alternative period is specified elsewhere in this Specification, until **(INSERT)** and the results forwarded to the Employer's Representative not later than 3 working days after the sampling,

(iv) **(INSERT).**

A provisional sum of £ **(INSERT)** for additional Ground Investigation which may be required consequential upon sampling and test results shall be included in the Contract.

(31.009)

Particular general requirements
SI.8
3.3

- I3** Further to ICE Specification for Ground Investigation, clause 3.3, Railtrack is not able to accept any liability for the accuracy of the Services information provided on the Contract Drawings.

Access routes
3.4

The means of access shall be as specified in the Contract and the conditions applicable to access to Railtrack premises shall be in accordance with Railtrack Line Standard RT/LS/S008.

Working hours
3.8

Working hours shall be as specified in the Contract.

Working areas
3.9

Further to the requirements of the ICE Specification for Ground Investigation, clause 3.9, the working areas shall be as shown on the Contract Drawings and in accordance with Railtrack Line Standard RT/LS/S008.

Professional attendance on the Site
3.12

Further to ICE Specification for Ground Investigation, clause 3.12, the following professional attendance shall be provided full time on the Site:

Experience

Engineer (INSERT).
Geologist (INSERT).

Details of the qualifications and experience of the persons proposed shall be provided with the Tender.

Geotechnical and environmental personnel
3.13

Further to the requirements of ICE Specification for Ground Investigation, clause 3.13, the following geotechnical and environmental personnel shall be provided.

Experience

Engineering Geologist (INSERT).
Geotechnical Engineer (INSERT).
Environmental Specialist (INSERT).

Such personnel shall be required to (INSERT).

Details of the qualifications and experience of the persons proposed shall be provided with the Tender.

Location of exploratory holes
3.14

The location of each exploratory hole shall be as shown on the Contract Drawings. No national grid references are shown on the Contract Drawings or included in Section 32: Schedule 2: Exploratory Holes.

Before any excavation for an exploratory hole commences, the exact position of the hole shall be agreed by the Employer's Representative.

Method of investigation
3.17

Details of the proposed method of forming the exploratory holes, and carrying out the associated tests shall be provided with the Tender.

(31.010)

Particular bore-hole requirements
SI.9
4.1

14 Further to the ICE Specification for Ground Investigation, clause 4.1, the following methods shall not be used:

Percussion boring

Auger boring

Rotary drilling

The minimum diameter of the boreholes shall be (INSERT) mm.

Backfilling
4.6

Boreholes taken at the top of, and in cutting or on embankment slopes shall be backfilled with cement/bentonite grout in accordance with ICE Specification for Ground Investigation, clause 5.5 or other acceptable impermeable backfill.