

**National Asset Delivery**  
**Technical Surveys and Testing**

**Works Information for 570127 A303**  
**Cheshay's Hill WB MP224.0 Geo**  
**Ground Investigation**

**CONTENTS AMENDMENT SHEET**

<b>Amend. No.</b>	<b>Revision No.</b>	<b>Amendments</b>	<b>Initials</b>	<b>Date</b>
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**LIST OF ANNEXES**

**Appendix 1    Supplementary Constraints**

## **1 DESCRIPTION OF THE WORKS**

### **1.1 Project objectives**

1.1.1 The principle objective of this project is:

- (1) To undertake an intrusive ground investigation to inspect and record the ground (and groundwater, if any) conditions at two sites where slope failures have either occurred or may occur.
- (2) To undertake in situ testing and sampling of the soils to derive appropriate characteristic values of geotechnical parameter and the waste classification code.

1.1.2 The specification that applies to the *works* is included in Section 6

### **1.2 Scope of works**

1.2.1 The *works* to be provided under this contract are:

- (1) The fieldwork will comprise 5 no. machine dug trial pits to a minimum depth of 3m with associated sampling and in-situ testing. The pits will be undertaken at two locations within the lower part of the cutting.
- (2) Vegetation clearance at the location of each trial pit.
- (3) Laboratory testing will be undertaken on selected samples taken from the trial pits and will include geotechnical classification, shear strength and geochemical tests. Separate samples taken from the trial pits will be subjected to waste classification testing using the Highways England standard suite.
- (4) A factual report is to be provided as noted in 1.3 below and the Specification.

### **1.3 Deliverables**

1.3.1 The *Contractor* is required to produce the following deliverables:

- (5) A factual report shall be provided for the Investigation as detailed in the Specification. The Contractor will supply the final reports as an electronic PDF copy, a copy prepared using the HA Toolkit and as AGS (v4.0) data.

## 2 EXISTING INFORMATION

- 2.1.1 The Drawings listed below apply to this contract. Refer to the site information for details of existing site conditions including ground conditions, limitation on access, position of existing structures etc.

<b>Drawing Number</b>	<b>Title</b>	<b>Revision</b>
HE570127-KIER-VGT-A3030MP224-DR-CE-0600_01	Exploratory Hole Location Plan	C2
TOPO1250_A303_16_3072	C2 Statutory Undertakers Plans	n/a
TOPO1250_A303_16_3073		
TOPO1250_A303_16_3074		
TOPO1250_A303_16_3075		

### **3 CONSTRAINTS ON HOW THE CONTRACTOR PROVIDES THE WORKS**

#### **3.1 General**

- 3.1.1 The *Contractor* Provides the Works in such manner as to minimise the risk of damage or disturbance to or destruction of third party property.
- 3.1.2 The *Contractor* complies with the constraints and meets with the requirements outlined in Appendix 1.
- 3.1.3 The *Contractor* submits information detailing how the *Contractor* will provide the Works to the *Employer* prior to the *works* commencing. This information will include any lifting plans, risk assessments, method statements, the *Contractor's* staff training information and any other relevant Health and Safety requirements.

#### **3.2 Working hours & site specific constraints**

- 3.2.1 The *Contractor's* working hours for site works shall be expected to be from 0730 to 1800hrs subject to any restrictions placed on the works by the traffic management.
- 3.2.2 Trial pits may require the excavator to track up the lower part of the cut slope to reach the positions of the pits where site/TM constraints do not allow for a long reach excavator to be used.
- 3.2.3 Locations of trial pits are to be stripped/cut under the supervision of the Designer's ecologist before any plant is tracked onto the slope or any excavation commences.
- 3.2.4 Arisings from the trial pits shall be stockpiled on temporary sheeting to minimise damage to the soft estate.
- 3.2.5 The *Contractor* shall use appropriate protective measures are required to prevent plant from damaging either the filter drain or the pavement.
- 3.2.6 The *Contractor* shall clean the carriageway of all mud, stone etc. arising from the works prior to re-opening to traffic.

#### **3.3 Health, Safety and Environment & Risk Management**

##### Health and Safety requirements

- 3.3.1 In Providing the Works the *Contractor* meets the requirements of Annex 2 of the supplementary constraints relation to health and safety duties.
- 3.3.2 The *Contractor* shall comply with the requirements of Highways England's safety passport scheme and ensure that all of his employees, and any of his subcontractor's, are registered in accordance with the implementation of the

scheme. Details on the scheme can be found here:

<http://www.highwayssafetyhub.com/safety-passport.html>

- 3.3.3 For details of the CDM duty holders, refer to the pre-construction information.
- 3.3.4 Before commencing the construction phase of the *works*, the *Contractor* confirms to the *Employer* that adequate welfare facilities are in place. Where the facilities detailed in section 5 are not deemed adequate, the *Contractor* provides all necessary facilities to Provide the Works and to comply with the minimum requirements set out in HSE guidance document L153.

#### Environmental requirements

- 3.3.5 In Providing the Works the *Contractor* meets the requirements of Annex 2 of the supplementary constraints in relation to environmental duties.

#### Risk Management

- 3.3.6 The *Contractor* identifies, manages and mitigates risks in accordance with the principles of ISO31000.
- 3.3.7 The *Contractor* submits a risk register, which captures all risks associated with the delivery of the *works* including those identified by the *Employer*, with his tender and maintains it for the contract period.

#### **4 REQUIREMENTS FOR THE PROGRAMME**

- 4.1.1 The *Contractor* submits programme to the *Employer* with his tender.
- 4.1.2 The *Contractor* Provides the Works taking into account the following programme constraints:
- (i) the *starting date* and *completion date* and any post site works, reporting and review period
  - (ii) The services and other things provided by *Employer* (see Section 5)
- 4.1.3 The programme should be in the form of an activity and time related bar chart, produced as a result of a critical path analysis.
- 4.1.4 The programme should preferably be provided in either a PDF or MS Excel format and cover the full contract period including post site activities. Activities should be clearly defined and named and the programme should detail the following:
- (i) dates and times associated with the project, including the *starting date*, *completion date* & *Contractor's* planned completion, and any other dates or times that will specifically impact the delivery of the project
  - (ii) activities associated with delivering the project
- 4.1.5 The *Contractor* updates the programme every 4 weeks. The *Contractor* submits an updated programme to the *Employer* upon request.

**5 SERVICES AND OTHER THINGS PROVIDED BY THE *EMPLOYER***

5.1.1 The following temporary traffic management is expected to be provided by the *Employer* to allow the *Contractor* to Provide the Works:

- (1) Closure of westbound lane 1.

5.1.2 The other things that will be provided by the *Employer* are as follows:

- (1) Welfare facilities will be provided by the principal contractor.

## **6 SPECIFICATION FOR THE WORKS**

6.1.1 The specification shall be the Site Investigation Steering Group's "Specification for Ground Investigation" published by Thomas Telford Services Limited in 2012, with information, amendments and additions as described in the following Schedules.

Schedule 1. Information and site-specific requirements

Schedule 2. Exploratory holes

Insofar as any amendment and/or addition may conflict or be inconsistent with any provision of the "Specification for Ground Investigation" the amendments and/or additions shall always prevail.

# SCHEDULE 1: INFORMATION AND SITE SPECIFIC REQUIREMENTS

## S1.1 Name of contract

A303 Cheshay's Hill WB MP224/0 Ground Investigation.

## S1.2 Investigation Supervisor

Supervision of the Investigation will be managed on a day to day basis by the Principal Contractor who will be the traffic management contractor. Additional supervision may be provided by Highways England.

The Investigation Supervisor who shall be an employee of Kier Highways Ltd and whose name and contact details will be provided at the start up meeting, is responsible only for the technical output of the Investigation.

## S1.3 Description of site

See the Scheme specific Site Information supplied as part of the tender package.

## S1.4 Main works proposed and purpose of this contract

See Section 1 of this Works Information.

## S1.5 Scope of investigation

The Investigation comprises 5 no. machine dug trial pits to a maximum depth of 3m with associated geotechnical and geo-environmental sampling.

Hand vane tests will be required.

Laboratory testing will comprise both geotechnical and geo-environmental testing as detailed later in this Specification.

An electronic PDF copy of the Factual Report is required together with a copy prepared using the HA Toolkit.

Schedules 3, 4 and 5 are not required for this Investigation.

## S1.6 Geology and ground conditions

See the Scheme specific Site Information supplied as part of the tender package.

A Preliminary Sources Study Report (HAGDMS Report No. 30386) dated August 2018 is available upon request. This report contains copies of the historic exploratory holes undertaken at the site.

## S1.7 Schedule of Drawings

See Section 2 of this Works Information.

## **S1.8 General Requirements (Specification Section 3) Particular restrictions/relaxations**

### ***S1.8.1 Quality Management System (Clause 3.3)***

The Contractor must provide the works under a quality management system which is certified to ISO 9001, incorporates an environmental management system which works to the principles of ISO 14001, includes requirements for adopting the principles of BS 11000 and complies with good industry practice and encourages innovation during the contract duration.

### ***S1.8.2 Professional Attendance (Clause 3.5.2)***

Professional Attendance shall be provided by the Contractor in the form of the provision of technical staff as necessary to fulfil the technical logistical and quality requirements of the works. The number of technical staff available shall make full allowance for breaks/down time as a result of seven day and shift working.

### ***S1.8.3 Provision of ground practitioners and other personnel (Clauses 3.6.1 & 3.6.2)***

The Contractor is not required to provide any ground practitioners or other personnel during the course of the site operations.

The Contractor is not required to complete Appendix A – Rates for Ground Practitioners and Other Personnel.

### ***S1.8.4 Hazardous ground, land affected by contamination and notifiable and invasive weeds (Clauses 3.7.1 & 3.22)***

The site has been classed as green in accordance with the Guidance for Safe Investigation of Potentially Contaminated Land and appropriate PPE and controls are required.

### ***S1.8.5 Additional information on services not shown on Contract Drawings (Clause 3.7.2)***

Not applicable

### ***S1.8.6 Known/suspected mine workings, mineral extractions etc. (Clause 3.7.3)***

Not applicable

### ***S1.8.7 Protected species (Clause 3.7.4)***

There is potential for protected species to be present. If during the Investigation, protected species or bird nests are encountered, works are to stop immediately and the Investigation Supervisor is to be approached for advice on how to proceed.

Vegetation clearance shall be undertaken by a Sector Scheme 18 Accredited contractor.

### ***S1.8.8 Archaeological remains (Clause 3.7.5)***

Not applicable

**S1.8.9 Security of the site (Clause 3.11)**

Breaching of existing barriers is not required. All plant, materials and equipment shall be removed from site at the end of each shift so temporary fencing is not required overnight unless any trial holes are left open.

**S1.8.10 Traffic management (Clause 3.12)**

See Section 5 of this Works Information.

**S1.8.11 Restricted working hours (Clause 3.13)**

See Section 3 of this Works Information.

**S1.8.12 Trainee site operatives (Clause 3.14.1)**

Not permitted.

**S1.8.13 Contamination avoidance and/or aquifer protection measures required (Clauses 3.15.2 & 3.15.3)**

Not applicable

**S1.8.14 Maximum period for boring, pitting or trenching through hard material, hard stratum or obstructions (Clauses 2.8, 4.3 & 6.4)**

Where hard material or obstructions are encountered in the trial pits, the Contractor shall inform the Investigation Supervisor who will instruct him to either abandon the hole or choose another location.

**S1.8.15 Reinstatement requirements (Clause 3.16)**

Topsoil shall be stripped and stockpiled separately so that it can be re-spread over the plan area of the pit after backfilling.

Areas, adjacent to the trial pits, to be used for the stockpiling of the arisings shall be protected by a mat or geotextile to minimise the potential for disturbance of the topsoil in these areas.

**S1.8.16 Hygiene facilities required (Clauses 2.20 & 3.16.1)**

Not applicable

**S1.8.17 Unavoidable damage to be reinstated by Contractor (Clause 3.16.1)**

Not applicable

**S1.8.18 Accuracy of exploratory hole locations (Clauses 3.19 & 3.20)**

The Investigation Supervisor will set out the location of each exploratory hole in consultation with the Contractor and his personnel.

The Contractor shall determine the final positions of the exploratory holes using a suitable GPS system capable of locating the holes to within 1m of plan position and within 0.25m in elevation.

**S1.8.19      *Photography requirements (Clause 3.25)***

See S1.11.7

**S1.8.20      *Site Lighting***

If works are to be undertaken at night then temporary lighting is required. The lighting shall be directed towards the works area to minimise light spillage and alternatives to light towers should be considered.

**S1.9      Percussion boring (Specification Section 4) Particular restrictions/relaxations**

Not applicable.

**S1.10 Rotary drilling (Specification Section 5) Particular restrictions/relaxations**

Not applicable

**S1.11 Pitting and trenching (Specification Section 6) Particular restrictions/relaxations**

***S.11.1 Indirect detection of buried services and inspection pits (Clauses 3.8.3 & 6.1)***

The locations of all known statutory undertaker's plant is shown on the C2 drawings which form part of the contract. The location of the highways drainage is shown on the Exploratory Hole Location Plan (Dwg No. HE570127-KIER-VGT-A3030MP224-DR-CE-0600\_01).

The plans show that the trial pits should not encounter any buried services but the requirement for hand dug inspection pits to supplement the CAT scan at each trial pit location will be determined by the Contractor's H&S procedures.

***S1.11.2      Restrictions on plant or pitting/trenching methods (Clauses 6.2 & 6.3)***

Trial pits shall be excavated by machine. Where the machine is fitted with steel tracks, appropriate protection measures are required to avoid any damage to the filter drain or pavement.

The Contractor may use a standard or long reach machine subject to his assessment of the site conditions and any constraints that may result from his selection of machine.

No trial pits shall be left open overnight.

***S1.11.3      Entry of personnel (Clause 6.5)***

No personnel are to enter the pits.

**S1.11.4 Alternative pit and trench dimensions (Clause 6.7)**

Trial pits shall be a minimum of 0.9m wide and are scheduled for a maximum length of 10m.

**S1.11.5 Abstracted groundwater from land affected by contamination (Clause 6.9.2)**

Not Applicable

**S1.11.6 Backfilling (Clause 6.10)**

Trial pits shall be backfilled with the arisings in layers not exceeding 500mm and compaction of the backfill shall be undertaken by the excavator. The pit shall be left proud and topsoil shall be placed on the final ground surface. No excess material is to be removed from site.

**S1.11.7 Photographic requirements (Clause 6.12)**

Photographs shall meet the requirements of Clause 3.25 and are required as follows:

- i. Area of trial pit before vegetation clearance.
- ii. Area of trial pit post vegetation clearance but before excavation
- iii. Long side of trial pit upon completion of the pit.
- iv. Spoil heap.
- v. Trial pit after backfilling and topsoiling.

Additional photographs should be taken if any relict shear surfaces or other geotechnical features of note are encountered during the excavation.

**S1.11.8 Artificial lighting (Clause 6.12.2)**

Required if there is insufficient daylight to provide clear images of the strata exposed in each trial pit face.

**S1.11.9 Provision of pitting equipment and crew for Investigation Supervisor's use (Clause 6.13)**

Not applicable

**S1.12 Sampling and monitoring during intrusive investigation (Specification Section 7) Particular restrictions/relaxations****S1.12.1 Address for delivery of selected geotechnical samples (Clause 7.6.1)**

Not applicable

**S1.12.2 Retention and disposal of geotechnical samples (Clause 7.6.2)**

Samples shall be retained for a period of 28 days after the submission of the final electronic (HA PDF toolkit) version of the report.

**S1.12.3 Frequency of sampling for geotechnical purposes (Clauses 7.6.3 to 7.6.11)**

A small disturbed sample shall be taken from each stratum; where the stratum is thicker than 0.3m, additional small disturbed samples shall be taken at 0.5m intervals.

Bulk disturbed samples shall be taken from each stratum or at 10m intervals.

Groundwater samples shall be taken where there is sufficient ingress to permit samples to be collected.

**S1.12.4 to 1.12.6**

Not applicable.

**S1.12.7 Groundwater level measurements during exploratory hole construction (Clause 7.7)**

Groundwater shall be recorded in accordance with Clauses 7.7.1.to 7.7.3.

**S1.12.8 to 1.12.9**

Not applicable.

**S1.12.10 Retention and disposal of contamination/WAC samples (Clause 7.9.3)**

All untested samples and remaining samples portions shall be kept for a period of 28 days after submission of the approved final report. After this time, the Investigation Supervisor's permission shall be sought for their disposal. The Contractor shall dispose of all samples in accordance with the Waste Disposal Regulations.

Samples submitted to the chemical testing laboratory for analysis shall be disposed of 28 days after submission of the test results.

**S1.12.11 Frequency of sampling for contamination assessment (Clause 7.9.4)****Excavated waste suite – Suite L**

Samples shall be taken from depths of 0.3, 0.75 and 1.2m from hand dug inspection pits where identified in Schedule 2. Additional samples shall be taken from horizons where the ground is suspected of being contaminated (visual or olfactory) and which are not covered listed samples.

**S1.12.12 Sampling method (Clause 7.9.5)**

The requirements of Clause 7.9.5 apply except that the Contractor's experienced ground engineer shall supervise/undertake the sampling.

**S1.12.13 Headspace testing (Clause 7.9.8)**

Not applicable

**S1.13 Probing and cone penetration testing (Specification Section 8) Particular restrictions/relaxations*****S1.13.1 to 1.13.6***

Not applicable.

**S1.14 Geophysical testing (Specification Section 9) Particular restrictions/relaxations**

Not applicable

**S1.15 In situ testing (Specification Section 10) Particular restrictions/relaxations*****S1.15.1 Tests in accordance with British Standards (Clause 10.3)***

Not applicable

***S1.15.2 Hand penetrometer and hand vane for shear strength (Clause 10.4.1)***

Hand vane testing shall be undertaken on suitable materials recovered from the bucket of the excavator. Testing should be undertaken at 0.5m intervals and a minimum of three readings (peak and shear) shall be recorded at each level.

***S1.15.3 to 1.15.10***

Not applicable

**S1.16 Instrumentation (Specification Section 11) Particular restrictions/relaxations*****S1.16.1 to 1.16.12***

Not applicable.

**S1.17 Installation monitoring and sampling (Specification Section 12) Particular restrictions/relaxations**

Not applicable.

**S1.18 Daily records (Specification Section 13) Particular restrictions/relaxations*****S1.18.1 Information for daily records (Clause 13.1)***

Clause 13.1 and 13.2 apply.

***S18.2 Special in situ tests and instrumentation records (Clause 13.4)***

Not applicable.

**S1.19 Geotechnical Laboratory Testing (Specification Section 14) Particular restrictions/relaxations*****S1.19.1 Investigation Supervisor or Contractor to schedule laboratory testing (Clause 14.1.1)***

All laboratory testing will be scheduled by the Investigation Supervisor and as such the Investigation Supervisor will be provided with a preliminary engineering log and a laboratory schedule sheet populated with the samples and sample depths from the specific boreholes within the 48hrs of completion of the exploratory hole.

***S1.19.2 Tests required (Clause 14.1.2)***

- i. Water content
- ii. Liquid limit, plastic limit, plasticity index
- iii. Particle size distribution by wet sieving
- iv. Shear strength testing – quick undrained shear box on specimens remoulded at natural moisture content using a 2.5kg rammer.

***S1.19.3 Specifications for tests not covered by BS1377 and options under BS1377 (Clauses 14.2.1 & 14.4)***

Not applicable.

***S1.19.4 UKAS Accreditation to be adopted (Clause 14.3)***

Geotechnical laboratory testing is to be conducted by a competent UKAS accredited laboratory for all the tests listed herein.

***S1.19.5 to 1.19.8***

Not applicable.

***S1.19.6 Chemical testing for aggressive ground/groundwater for concrete (Clause 14.6)***

Suite B (Greenfield site – pyrite present) is required.

***S1.19.7 to 1.19.8***

Not applicable.

**S1.20 Geoenvironmental Laboratory Testing (Specification Section 15) Particular restrictions/relaxations*****S1.20.1 Investigation Supervisor or Contractor to schedule laboratory testing (Clause 15.1)***

Investigation Supervisor/Designer

**S1.20.2 Accreditation required (Clause 15.2)**

MCERTS Required

**S1.20.3 Chemical testing for contamination (Clause 15.3)**

Excavated waste Suite L as shown below:-

	Determinand	Limit of detection	Unit
	Chromatogram (TPH)		
	pH		
	ACM Type		
	Asbestos Identification	0.001	%
	Antimony	2	mg/kg
	Molybdenum	2	mg/kg
	Barium	10	mg/kg
	Zinc	0.5	mg/kg
	Selenium	0.2	mg/kg
	Nickel	0.5	mg/kg
	Mercury	0.1	mg/kg
	Lead	0.5	mg/kg
	Copper	0.5	mg/kg
	Chromium	1	mg/kg
	Cadmium	0.1	mg/kg
	Arsenic	1	mg/kg
	Chromium (Trivalent)	5	mg/kg
	Chromium (Hexavalent)	0.5	mg/kg
	Fuel Type	N/A	mg/kg
Hydrocarbons	Aliphatic TPH >C5-C6	1	mg/kg
	Aliphatic TPH >C6-C8	1	mg/kg
	Aliphatic TPH >C8-C10	1	mg/kg
	Aliphatic TPH >C10-C12	1	mg/kg
	Aliphatic TPH >C12-C16	1	mg/kg
	Aliphatic TPH >C16-C21	1	mg/kg
	Aliphatic TPH >C21-C35	1	mg/kg
	Aliphatic TPH >C35-C44	1	mg/kg
	Total Aliphatic Hydrocarbons	5	mg/kg
	Aromatic TPH >C5-C7	1	mg/kg
	Aromatic TPH >C7-C8	1	mg/kg
	Aromatic TPH >C8-C10	1	mg/kg
	Aromatic TPH >C10-C12	1	mg/kg
	Aromatic TPH >C12-C16	1	mg/kg
	Aromatic TPH >C16-C21	1	mg/kg
	Aromatic TPH >C21-C35	1	mg/kg
	Aromatic TPH >C35-C44	1	mg/kg
	Total Aromatic Hydrocarbons	5	mg/kg
	Total Petroleum Hydrocarbons	10	mg/kg
	PAH speciated	Naphthalene	0.1
Acenaphthylene		0.1	mg/kg
Acenaphthene		0.1	mg/kg
Fluorene		0.1	mg/kg
Phenanthrene		0.1	mg/kg
Anthracene		0.1	mg/kg
Fluoranthene		0.1	mg/kg
Pyrene		0.1	mg/kg
Benzo[a]anthracene		0.1	mg/kg
Chrysene		0.1	mg/kg
Benzo[b]fluoranthene		0.1	mg/kg
Benzo[k]fluoranthene		0.1	mg/kg
Benzo[a]pyrene		0.1	mg/kg
Indeno(1,2,3-c,d)Pyrene		0.1	mg/kg
Dibenz(a,h)Anthracene	0.1	mg/kg	

	Determinand	Limit of detection	Unit
	Benzo[g,h,i]perylene	0.1	mg/kg
	Total Of 16 PAH's	2	mg/kg
Phenols (BTEX)	Benzene	1	µg/kg
	Toluene	1	µg/kg
	Ethylbenzene	1	µg/kg
	m & p-Xylene	1	µg/kg
	o-Xylene	1	µg/kg
	Total Phenols	0.3	mg/kg

#### **S1.20.4 Waste characterisation (Clause 15.4)**

The Contractor shall assess the waste characterisation status of the materials based on the results of the test carried out above and Guidance on the classification and assessment of waste – Technical Guidance WM3 published by the Environment Agency.

#### **S1.20.5 to S1.20.7 Waste Acceptance Criteria testing (Clause 15.5)**

Not applicable.

### **S1.21 Reporting (Specification Section 16) Particular restrictions/relaxations**

#### **S1.21.1 Form of exploratory hole logs (Clauses 16.1 & 16.2.1)**

Clauses 16.1 and 16.2 apply – there is no requirement to submit a proforma for approval.

#### **S1.21.2 Information on exploratory hole logs (Clause 16.2.2)**

The information required by Clause 16.2.2 applies.

#### **S1.21.3 Variations to final digital data supply requirements (Clause 16.5.1.)**

All digital data shall be combined into a single file.

#### **S1.21.4 Preliminary digital data (Clause 16.5.3)**

A copy of the Preliminary Digital Data (v4.0) shall be submitted to the Investigation Supervisor with the draft Factual Report.

The Contractor shall issue a transmission sheet with each submission confirming that the data has been checked using both keyAGS4 and gINT checker.

All data received by the Investigation Supervisor will be run through both checkers again and will be returned immediately to the Contractor if any errors are found. If the data passes both checks, the Investigation Supervisor will then check the data for content and will again pass any queries back to the Contractor for further action.

#### **S1.21.5 Type(s) of report required (Clause 16.6)**

The factual report shall contain all relevant information set out in Para 16.8.1 sub-clauses (a) to (i).

**S1.21.6 Electronic report requirements (Clause 16.6.3)**

An electronic copy of the Factual Report shall be prepared in accordance with the Highways England's requirements (HA PDF Toolkit). The Investigation Supervisor will add the report to the HE's database and provide the Contractor with the relevant xml. File.

In addition to all drawings in PDF copy being to the original size, they shall all be rotated so as to be in the correct orientation on screen.

**S1.21.7 Format and contents of Desk Study Report (Clause 16.7)**

Not applicable

**S1.21.8 Contents of Ground Investigation Report (or specified part thereof) (Clause 16.8)**

Not applicable

**S1.21.9 Contents of Geotechnical Design Report (or specified part thereof) (Clause 16.9)**

Not applicable

**S1.21.10 Times for supply of electronic information (Clause 16.10.1)**

See S1.21.4 for preliminary data.

Final data shall be submitted with the HA PDF toolkit report.

**S1.21.11 Electronic information transmission (Clause 16.10.2)**

The Contractor shall supply the AGS data, HA PDF toolkit Report and a separate PDF copy of the complete report on a CD.

**S1.21.12 Report approval (Clause 16.11)**

A single electronic copy (PDF format) of the draft factual report shall be submitted via e-mail and the Contractor shall allow 2 weeks for Investigation Supervisor to approve or respond with comments.

No paper copies of the final report are required.

## SCHEDULE 2: EXPLORATORY HOLES

Trial Trench No.	SOP-Toe		Marker Post	Proposed Length (m)	Proposed Depth (m)
	Easting	Northing			
CHT01	333470	114857	224.0+40	10	3
CHT02	333453	114849	224.0+60	10	3
CHT03	333405	114827	224/1+0	10	3
CHT04	333379	114814	224/1+28	10	3
CHT05	333354	114802	224/1+56	10	3