

**National Asset Delivery  
Technical Surveys and Testing**

**A5 Safety Improvement Schemes  
Surveys - Pavement**

**Works Information**

**CONTENTS AMENDMENT SHEET**

<b>Amend. No.</b>	<b>Revision No.</b>	<b>Amendments</b>	<b>Initials</b>	<b>Date</b>
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## 1 DESCRIPTION OF THE WORKS

### 1.1 Project objectives

- 1.1.1 The principle objective of this project is to carry out a Pavement Survey, laboratory testing, and then subsequently provide associated reports & drawings.
- 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:

Category	Survey Description
Pavement Investigation	<p>Pavement investigation in accordance with HD 29/08.</p> <p>Exploratory holes (hand dug pits) in accordance with BS 5930:2015 to confirm subgrade in the verge widening area.</p> <p>Laboratory Tests to Determine pH value, sulphide and sulfate content of the ground.</p> <p>Soil samples for basic characterisation (and additional asbestos testing), followed by WAC testing on any hazardous samples, and the updating of Highways England's Asbestos Action Plans.</p>

### 1.3 Deliverables

- 1.3.1 The *Contractor* is required to produce the following deliverables:
- (1) An appropriate individual to attend pre-commencement site inspection & client meeting.
  - (2) Propose temporary traffic management required. Once agreed *Employer* will provide the temporary traffic management.
  - (3) Plant, materials & labour to carry out a pavement survey on site for the timings as stated in section 3 and specification as stated in section 6.
  - (4) Reports as detailed in section 6.

## 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.

HE564883-HE-GEN-A5_ML-DE-CH-0000 01	Drg	Location Plan 1 (All locations)
HE564883-HE-VGN-A5_ML-DE-Z-0000 01	Drg	Newton Lane Technical Surveys
HE564883-HE-VGN-A5_ML-DE-Z-0000 02	Drg	Kilsby Crossroads, Kilsby Bends & Venture Caravans Technical Surveys 1 of 2
HE564883-HE-VGN-A5_ML-DE-Z-0000 03	Drg	Kilsby Crossroads, Kilsby Bends & Venture Caravans Technical Surveys 2 of 2
HE564883-HE-VGN-A5_ML-DE-Z-0000 04	Drg	Daventry Road Crossroads Technical Surveys
HE564883-HE-VGN-A5_ML-DE-Z-0000 05	Drg	Weedon Bec Technical Surveys 1 of 2
HE564883-HE-VGN-A5_ML-DE-Z-0000 06	Drg	Weedon Bec Technical Surveys 2 of 2
HE564883-HE-VGN-A5_ML-DE-Z-0000_07	Drg	Northampton Road Technical Surveys
HE564883-HE-VGN-A5_ML-DE-Z-0000_08	Drg	Grays Lane Pury Road Technical Surveys

HE564883-HE-VUT-A5_ML-DE-CH-2700 01	Drg	Newton Lane Statutory Undertakers
HE564883-HE-VUT-A5_ML-DE-CH-2700 02	Drg	Kilsby Statutory Undertakers 1 of 2
HE564883-HE-VUT-A5_ML-DE-CH-2700 03	Drg	Kilsby Statutory Undertakers 2 of 2
HE564883-HE-VUT-A5_ML-DE-CH-2700 04	Drg	Daventry Road Crossroads Statutory Undertakers

HE564883-HE-VUT-A5_ML-DE-CH-2700 05	Drg	Weedon Bec Statutory Undertakers 1 of 2
HE564883-HE-VUT-A5_ML-DE-CH-2700 06	Drg	Weedon Bec Statutory Undertakers 2 of 2
HE564883-HE-VUT-A5_ML-DE-CH-2700 07	Drg	Northampton Road Statutory Undertakers
HE564883-HE-VUT-A5_ML-DE-CH-2700 08	Drg	Grays Lane Pury Road Statutory Undertakers
HE564883-HE-VUT-A5_ML-DE-CH-2700 09	Drg	Statutory Undertakers Key and Notes

NOTE: Full C2 returns are attached to this document.

### **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 determined but are expected to be overnight 20:00-06:00.
- 3.2.2 There are no firm dates to undertake the survey works but they are expected be between the period 24<sup>th</sup> February to the 21<sup>st</sup> April 2020.
- 3.2.3 The works on site is expected to take 5 days and the contractor will be given 3 weeks notice.

#### **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 which can be found in document: Pre-Construction Information A5 Safety Surveys 1.
- 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:
- (1) the *starting date will be 24/02/2020* and *completion date* (all results received by Highways England) *will be 04/05/2020*.
  - (2) If the site works are completed earlier then the lab testing and reports are expected to be completed within another 2 weeks.
  - (3) The services and other things provided by *Employer* (see Section 5)
  - (4) The contractor is to allow for a pre-start meeting on TBC, to develop the programme.
  - (5) Welfare facilities are to be in place prior to works commencing on site
  - (6) Other Contractors will be working on this site, the principal contractor is to liaise with all parties to develop a programme for the works, it is anticipated that different surveys can be carried out concurrently to minimise the length of the programme.
  - (7) The utility surveys must be completed, and the information provided to the PC and other Contractors at the Newton Lane and Daventry Road site locations prior to any excavation works such as boring or core works. This is since there are stats present that will mean that some adjustment to the locations of excavations (bores, cores) following the identification of underground stats.
  - (8) There are multiple site locations on the A5 as part of this package of survey works, the Programme must consider this.
- 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 week. 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 will be provided by the *Employer* to allow the *Contractor* to Provide the Works:

- (1) Temporary Traffic Management will be provided by others under the CWF. The Traffic Management is expected to consist of night-time traffic lights on the A5 at each site location.
- (2) *Contractor* to liaise with *Employer* regarding the Temporary traffic management they require to carry out the works.
- (3) *Contractor is to liaise with the Employer regarding access to site. Contractor is to communicate any access issues and how these may affect the work.*
- (4) Road space on Highways England network is to be managed by the principal contractor.

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

- (1) Welfare facilities are to be provided by the principal contractor, needs are to be identified by the contractor and communicated with the principal contractor.
- (2) Desktop search for utility information (Type D) survey. This information will be provided to the contractor at the pricing stage. The contractor is not required to send out for this information again.

## **6 SPECIFICATION FOR THE WORKS**

### **6.1.1 Site Information**

6.1.2 The site information for both site locations are detailed in HE564883 National TST Model Site Information vr2.1 July 2018 – A5 Safety Improvement Schemes Surveys 1.

6.1.3 Newton Lane Junction and Daventry Road Crossroads locations are located on superficial / drift deposits and are likely to comprise glaciofluvial sand and gravel, underlain by glacial till. There may be perched groundwater within influencing distance of the road pavement (surface water flooding recorded near to Newton Lane), which should be considered within the pavement design.

### **6.2.1 Scope**

6.2.2 The scope of the survey should provide the following –

- Determine the different pavement constructions and their extents.
- Access the overall condition of the various pavement layers and foundations.
- Estimate the remaining life for characteristically similar sections of existing pavements.
- Provide structural strengthening treatment recommendations, so that the pavement can carry the predicted future 40 year traffic loading.
- Provide structural pavement design options for the widening design based on the ground conditions and existing construction.

6.2.3 The pavement survey shall conform to the requirements in HD 29/08 “Data for Pavement Assessment”, HD 30/08 “Maintenance Assessment Procedure” & TRL 615 “Development of a more versatile approach to flexible and flexible composite pavement design”.

6.2.4 To aid the requirements as stated above we believe that the following data and testing is required by the contractor –

- A Visual Condition Survey (VCS) to assess the surface condition of the pavement and to assess the severity of any defects.
- Subject to confirmation of any buried services; a coring survey to determine the existing pavement structure, layer thicknesses and condition, and to provide samples for laboratory testing.
- Hand dug pits in the verge widening area (subject to buried services) to confirm the subgrade and provide samples for laboratory testing, allow for 12No. at Newton Lane junction and Daventry Road cross roads.
- Dynamic Cone Penetrometer (DCP) tests carried out through the bottom of the core holes, and hand dug pits in the verge widening area, to determine any granular upper foundation layer thickness' and to obtain California Bearing Ration (CBR) profiles of the pavement foundation with depth.
- Samples for sulphate testing in the verge widening area, from the hand dug pits, 1No. sample from each pit.
- Samples for waste characterisation testing in the hand dug pits in the verge widening areas, the ditches (silt), and other localised site locations indicated, to indicate whether each sample is classed as hazardous or

non-hazardous and its European Waste Classification Catalogue Number is to be recorded, and in the event that any of the results come back as hazardous, WAC testing is required. **Additional asbestos testing is required on all samples.** 1No. sample from each pit, and 12No. total samples from ditches as indicated on the Newton Lane drawing, and 31No. at other site locations.

- Unbound Material Sampling (UMS) to confirm the foundation material types, their layer thickness' and performance properties in the core holes and hand dug pits.
- A structural evaluation using the Falling Weight Deflectometer (FWD)
- A laboratory-based materials test programme to determine the pertinent performance related properties of the unbound foundation and bound pavement materials.
- A "Speciated PAH17 Test" for Coal TAR is also required to be undertaken if any core samples show signs of layers being contaminated by coal TAR.

6.2.5 Existing Traffic flow data will be converted to give predicted past/future design traffic in MSA, this information will be provided by Highways England from data available on <http://webtris.highwaysengland.co.uk>.

6.2.6 Testing locations have been approximately established, but it shall be assumed that 29 cores across both sites will be required, provisional locations are indicated on the survey drawings. These locations may be moved following information received from the topo/GPR survey contractor and the visual condition survey suggests this would give a better overview the existing construction. Allowances should be made within the estimate for another 2 cores to cover the eventuality that addition cores are needed after the VCS inspection.

6.2.7 Unbound material sampling is to be undertaken through the base of the core. The UMS shall not exceed a depth of 1.5m beneath the pavement surface.

6.2.8 FWD's shall be at intervals of 10m to 20m in each lane throughout the length of the scheme.

### 6.3.1 Laboratory Testing Programme

6.3.2 Unbound Material Testing shall comprise of moisture Content tests to BS 1377-2 (partially superseded by BS EN ISO 17892-1 and BS EN ISO 17892-2) and BS 812-109

6.3.3 Asphalt Material Testing Program shall comprise of ITSM Tests and Repeated Load Axial Tests (RLAT)

6.3.4 HBM Material Testing Programme to determine the compressive strength in accordance with BS EN 12504-1 and BS EN 12390-1, 3 and 7

6.3.5 The aggressivity of the ground to concrete should be determined in accordance with BRE Special Digest 1. The laboratory tests carried out should include determination of pH value, sulfide and sulfate content and such other determinands as indicated in BRE Special Digest 1 as appropriate in the context of the site under investigation.

- 6.3.6 Sample for waste characterisation testing should be stabilised and tested at an mCERTS accredited / UKAS ISO17020/ISO17025 sampler and tester laboratory for a basic characterisation test for waste disposal purposes. If hazardous properties are encountered, then additional WAC tests shall also be undertaken. Interpretation of the results is also required. Soil sampling to be supplemented with asbestos sampling and testing done in accordance with ISO 17020 and 17025.
- 6.3.7 The Highways England Asbestos Action Plans, included within the supporting information in word document format, shall be updated by the contractor following the testing.
- 6.4.1 **Site Clearance**
- 6.4.2 Vegetation is to be cleared to allow for accurate surveys. Survey contractors are to specify the amount of clearance they require to complete their works, which is to be undertaken by the Topographical Survey contractor.