

**National Asset Delivery  
Technical Surveys and Testing**

**605748 A47 Lowestoft Sussex Rd-  
Lighthouse  
Drainage Survey**

**Works Information**

**CONTENTS AMENDMENT SHEET**

<b>Amend. No.</b>	<b>Revision No.</b>	<b>Amendments</b>	<b>Initials</b>	<b>Date</b>
0	0	Original version issued with tender	SH	29/07

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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 drainage and services survey of the existing drainage located on the A47 between Sussex Road and Lighthouse in Lowestoft. The survey should be a pipework and chambers defect survey by CCTV. Services survey will be by GPR. The scheme extents is shown on drawings HE605748-GEN-A47\_Lighthouse-DE-CH-0000\_01.

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:

1.2.2 Drainage survey to be carried out of the existing drainage system within the scheme extents as shown on drawings HE605748-GEN-A47\_Lighthouse-DE-CH-0000\_01.

(1) High volume jetting to be carried out to the existing drainage where blockages are encountered.

(2) Root cutting to be carried out to the existing drainage where root blockages are encountered.

1.2.3 Ground Penetrating Radar survey to locate existing drainage services within the scheme extents as shown on drawings HE605748-GEN A47\_Lighthouse-DE-CH-0000\_01.

(1) GPR survey to CS229 for 3-dimensional mapping of the existing drainage system as shown on drawings HE605748-GEN-A47\_Lighthouse-DE-CH-0000\_01.

(2) The equipment shall have antenna at a range 300MHz and 800MHz. This will be a wheeled survey, due to the need to assess the pavement and road areas due to street furniture associated with it.

(3) The Operator will show proof of a Wireless Telegraphy Act 2006 license which is current with 3 years left to run.

### 1.3 Deliverables

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

1.3.2 CCTV Drainage Survey of the existing drainage system as shown on drawings HE605748-GEN-A47\_Lighthouse-DE-CH-0000\_01.

(1) The Drainage Survey deliverables (data submission and report) are to be in accordance with CS 551 Drainage Surveys.

- (2) Drainage Survey summary report in PDF and digital data format with original xml file output.
- (3) Drainage Survey drawings in DXF and PDF format.
- (4) Drainage Survey data to be packaged with a proprietary software viewer necessary to view all of the data in accordance with the following:
  - all of the coded data (both header and detailed defect observations) for every inspection carried out on every section of pipework, culvert, chamber, and gully, including repeat inspections;
  - all of the associated photographs and videos in JPEG & MJPEG format;
  - facilities that allow the survey data to be viewed in conjunction with the video and photographs, such that viewing an asset or observation in the data will automatically retrieve the associated section of video and relevant photographs;
  - an unrestricted licence for the use of the software viewer.
- (5) Drainage Survey data to be provided in HADDMS shape file format to upload to the Highways Agency Drainage Data Management System (HADDMS).
- (6) Refer to the Schedule of requirements.

1.3.3 GPR services survey of the existing drainage system as shown on drawings HE605748-GEN-A47\_Lighthouse-DE-CH-0000\_01.

- (1) The Drainage Survey deliverables (data submission and report) are to be in accordance with CS 551 and CS 229 as appropriate.
- (2) A written report summarising the findings of the GPR survey. This shall highlight any issues or problems associated or encountered. The validity of the measurements.
- (3) The survey area shall be referenced with OS coordinates for the outline area.
- (4) All data will be in electronic format.
- (5) A CAD drawing of the results will be made available with the final report.
- (6) A PDF copy of the CAD drawing shall be made available with the final report.
- (7) Quality control of the data shall be achieved by lifting manhole covers and taking the invert level of the pipe with a GNSS receiver and cross referencing to the scan.
- (8) Refer to schedule of requirements

## 2 EXISTING INFORMATION

- 2.1.1 A Pipe and Defect Survey by CCTV shall be carried out on the A47 between Sussex Road and the Lighthouse, surveying all assets on the verge and central reserve. The minimum extents are shown below but should be extended where practically possible to include the outfall.

OS Grid reference 654804, 294539– 655083,294280

The drainage on the slip road is not required as part of this survey.

- 2.1.2 The inventory details of the existing drainage system are shown on HA DDMS.
- 2.1.3 The scheme extents are shown on drawings below.

Drawing Number	Title	Revision / Date
HE605748-GEN-A47_Lighthouse-DE-CH-0000_01	Location Plan	July 2020

## 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.
- 3.1.4 The Contractor should spend a maximum of 15 minutes looking for manhole covers, utilising shovels and metal detectors, any chambers not located must be reported to the supervisors, whom will arrange for them to be found during daylight, a decision, depending on programme and traffic management arrangement will be made to determinate if the manhole is re-surveyed.
- 3.1.5 The Contractor must state the amount of silt and sediment that has been allowed for.

### 3.2 Working hours & site specific constraints

- 3.2.1 The *Contractor's* working hours for site works shall be 20:00 – 6:00 (subject to traffic counts).
- 3.2.2 *Contractor* to remain within the Highways Boundaries for the duration of the works, except where agreed with both the *Employer* and the land owner in advance, as per clause **Error! Reference source not found..**
- 3.2.3 Access to the site will be from Highways England network. It is assumed that the works will be completed under lane closure, however the Contractor must state in this submission if a full closure is required.
- 3.2.4 Traffic Management will be arranged by Employer and Traffic Management drawings will be available in advance. Once a programme has been agreed with the Contractor the employer will arrange a book road space, and apply for any temporary traffic orders. The programme will be confirmed once these have been approved.
- 3.2.5 The drainage survey works require entry into confined spaces (drainage chambers, pipes and outfalls etc), the Contractor is to provide risk assessment and method statement for confined spaces work.

### 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 in 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 Refer to the Site Information supplied separately
- 3.3.4 Before commencing the Surveys 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.
- 3.3.5 Provide details on how First Aid arrangements will be provided.

- 3.3.6 Provide certificates for Third Party Indemnity and Public Liability as held by the Contractor.
- 3.3.7 The Principal Contractor shall be the Traffic Management provider when Traffic Management is used.

#### Environmental requirements

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

#### Risk Management

- 3.3.9 The *Contractor* identifies, manages and mitigates risks in accordance with the principles of ISO31000.
- 3.3.10 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, this is a provisional programme and will be confirmed prior to works.
- 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);
  - (iii) Anticipated dates on site start on the 19/10/2020 and end on 23/10/2020, this is to be confirmed. Works cannot commence prior 1 September 2020 and must be completed by December 2020.
- 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 Project or MS Excel format and cover the full contract period including post site activities. Activities should be clearly defined and named, and the following shall be shown on the programme:
- (i) the *starting date*, *completion date* & *Contractor's* planned completion
  - (ii) for each activity, the proposed resources (plant & labour) expected to deliver each activity should be shown on the programme
  - (iii) review periods for any reporting requirements
  - (iv) key dates for the *Employer* to provide 'services and other things'
  - (v) key dates for co-ordination with Others
- 4.1.5 The *Contractor* updates the programme upon request. The *Contractor* submits an updated programme to the *Employer* upon request.
- 4.1.6 The *Contractor* must liaise with the Traffic Management Contractor at the end of every shift to confirm requirements for the following shift.
- 4.1.7 Any site issues/delays must be reported, initially, to the site supervisor and highlighted within the daily site report. Following each night shift, the report should be sent to the *Employer* by midday the next day.

**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) The traffic management is anticipated to consist a lane closure or full carriageway closure and is to be installed after 20:00 and removed before 06:00. TM requirements are to be confirmed by the Contractor.
- (2) Welfare facilities shall be supplied by the Contractor.

5.1.2 Not used.

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## 6 SPECIFICATION FOR THE WORKS

6.1.1 Please refer to document 'Schedule of Requirements' for a full specification of the works supplied separately.

6.1.2 Recyclers are to be used without deviation unless otherwise instructed.

### 6.1.3 Drainage to be surveyed

All drainage assets within the site extents are to be surveyed and must extend to outfall, unless otherwise stated.

- **Note:** The tenderers should all have access to HADDMS and be competent to interrogate the system and establish any historic or legacy information to aid their pricing. Appended are the relevant drawings for the highway within the scheme extents. They may not represent the current asset and are invalidated.

### 6.1.4 Survey requirements

- Wincan VX, which is compatible with the DDMS must be utilised to carry out the survey (Wincan V8 is not compatible with the DDMS). If the contractor is using Wincan V8, evidence **must** be provided that the contractor can, and has, successfully converted the data to DDMS compliance, and an xml file can be generated.
- Survey Engineers must have 'OS19X pipe sewer condition classification' or 'OS30X pipe sewer condition conversion' qualifications, as stated in CS551.

### 6.1.5 Time spent on Jetting (15minutes/3 passes)

- On the understanding that this refers to a carrier run, approximately 90m long and up to 900mm diameter, 15 minutes should be allowed. Lateral gully connections should have 5 minutes allowed for.  
**Note:** It is the contractor's responsibility to allow for time moving between locations and setting up/demobilising.

### 6.1.6 Time to be spent on root cutting

- Root cutting should be carried out within pipe system, the maximum permissible duration of root cutting 30 minutes, however upon reaching the 30 minute cut off the Contractor can discuss with the supervisor if they believe that the obstruction is nearly cleared for an extension of this time.

### 6.1.7 Waste Arrangements

- Waste is to be included within the pricing for 'Item 1' (undertaking the works) and as such will not be treated as an additional cost.
- Copies of Waste Transfer Notes to be sent to Highways England as proof of disposal, weights, etc.

#### 6.1.8 Light site clearance required

- Light site clearance may be required for access to locations and at headwalls and outfalls. This should be priced as a two-operative team, with hedge trimmers and strimmer's, along with standard small hand tools IE Grafter, loppers, crowbars etc.

#### 6.1.9 Welfare facilities

- The survey contractor is responsible for the welfare of their employees and will provide adequate, sufficient and clean site welfare facilities.
- Welfare facilities must include;
  - a. A flushing chemical toilet (including wipes/toilet rolls, etc.)
  - b. Hand wash facilities (hot and cold running water) Including soap, towels and sink for washing
  - c. Seating / rest area which can be adequately heated (seating with backs, a means for heating water for drinks and warming up food (i.e. A microwave oven).

#### 6.1.10 Cancelled Shifts

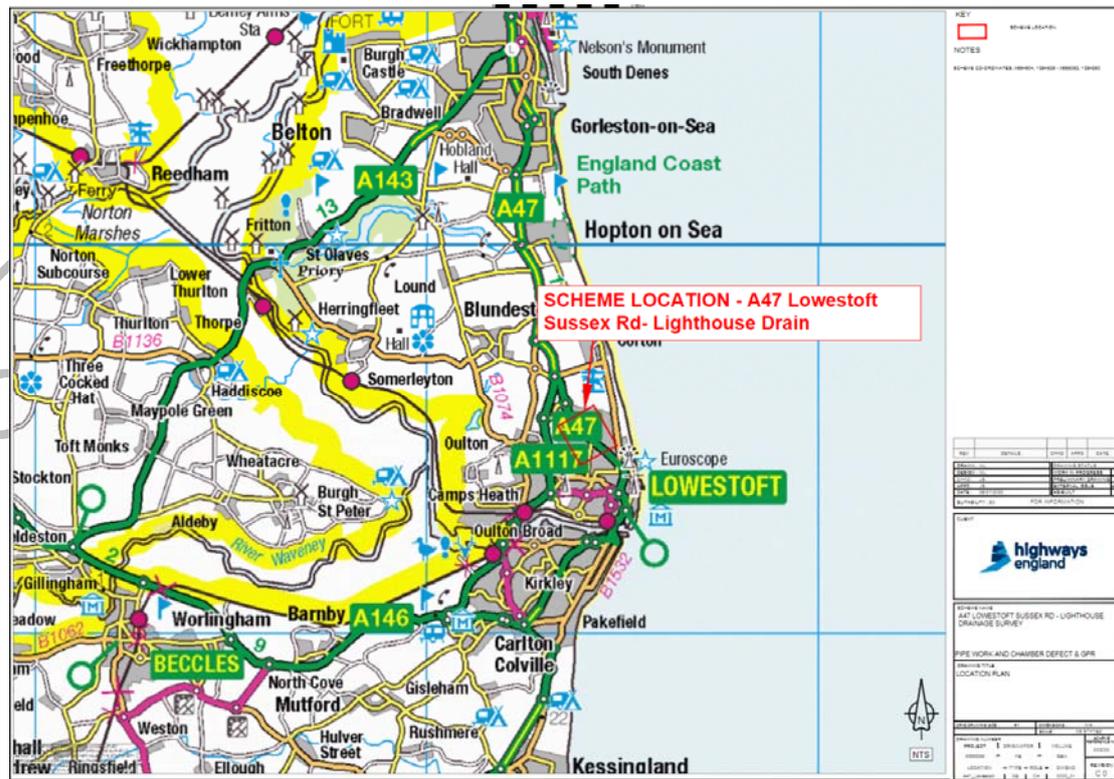
- Shifts maybe cancelled due to several reasons, such as weather, RTC, diversion route due to RTC on other carriageways, etc.
- In this case each cancelled shift will be paid at a defined cost. These will be treated as a Compensation Event when we instruct the Contractor to either 'not start the works' or 'stop the works' and are assessed in accordance with Clause 63 of the core contract documents

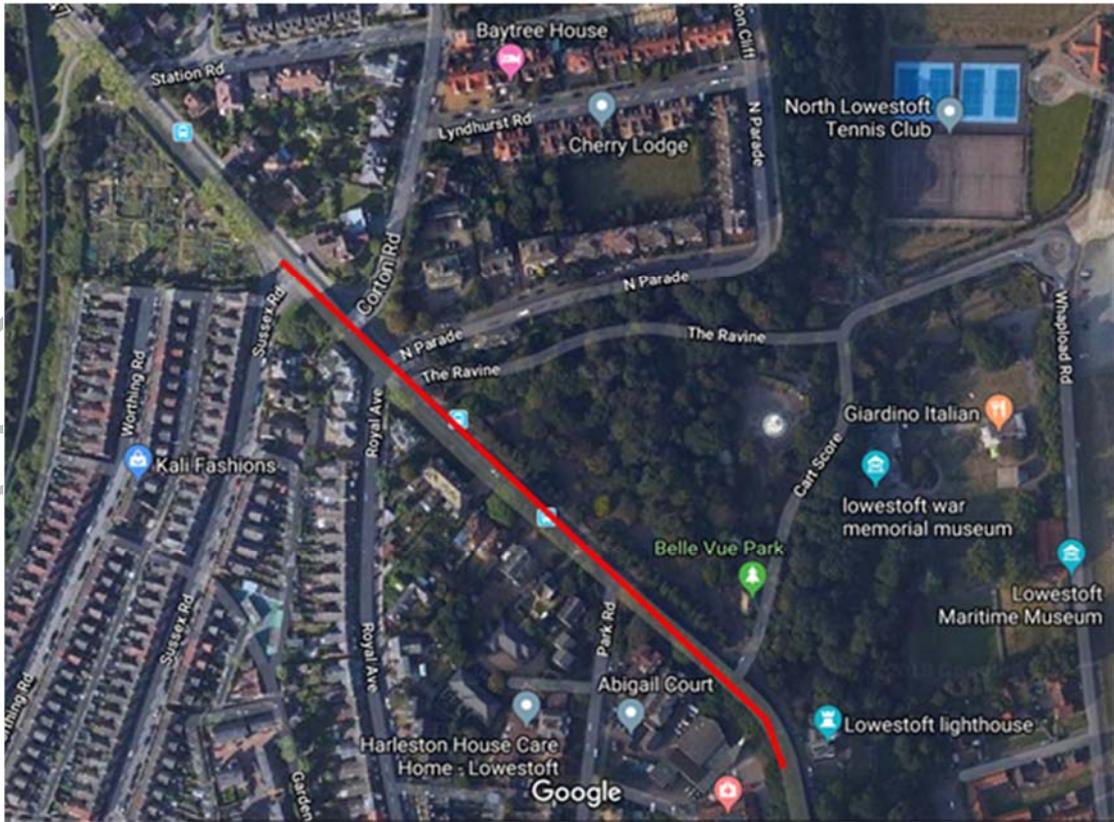
\*Note – Highways England will not be held responsible for damage to site vehicles (IE. punctured tyres, chipped windscreens, etc.), or theft from site vehicles (vehicles must remain locked at all times when unattended).

**Appendix 1** - Supplementary constraints – see separate document.

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### Appendix 2 – Location Plans







**Appendix 4 – Schedules of requirements**

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