

**National Asset Delivery  
Technical Surveys and Testing**

**Works Information for Area 14 Non-  
destructive testing of lighting columns  
2020/21**

**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	LPM	16/03/20 20

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**LIST OF ANNEXES**

**Appendix 1** **Supplementary Constraints**

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## 1 DESCRIPTION OF THE WORKS

### 1.1 Project objectives

- 1.1.1 The principle objective of this project is non-destructive testing to assess the structural integrity of lamp columns on the network to support the development of future value management bids.
- 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
Electrical and Communications	Stability dynamic push pull testing

### 1.3 Deliverables

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

Full report detailing the structural stability of all lighting columns on MS Excel as specified in TD23/99

## 2 EXISTING INFORMATION

2.1.1 Refer to the site information for details of existing site conditions including ground conditions, limitation on access, position of existing structures etc.

Drawing Number	Title	Revision / Date
1	Location of columns to be tested (A66 Little Burdon to Yarm interchange sheet 1 of 4)	0/ Mar 20
2	Location of columns to be tested (A66 Little Burdon to Yarm interchange sheet 2 of 4)	0/ Mar 20
3	Location of columns to be tested (A66 Little Burdon to Yarm interchange sheet 3 of 4)	0/ Mar 20
4	Location of columns to be tested (A66 Little Burdon to Yarm interchange sheet 4 of 4)	0/ Mar 20
5	Location of columns to be tested (A66 Little Burdon to Yarm interchange- Eaglescliffe interchange)	0/ Mar 20
6	Location of columns to be tested (A66 Little Burdon to Yarm interchange- Yarm interchange)	0/ Mar 20
7	Location of columns to be tested (A66 Blackwell village)	0/ Feb 20
8	Location of columns to be tested (A1 Coatham Munderville)	0/ Feb 20

### **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 20:00 to 06:00 Monday to Friday working only.

#### **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 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.

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#### 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)
- Programme of works are as follows:
- 1<sup>st</sup> to the 16<sup>th</sup> February A66 Little Burdon to Yarm Interchange
  - 17<sup>th</sup> and 18<sup>th</sup> February A66 Blackwell Village
  - 19<sup>th</sup> February A1(M) Coatham Munderville
- 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* 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:

- A66 Little Burdon to Yarm Interchange- twin fast lane closures on main carriageway, lane 1 closures with switching where required on slips
- A66 Blackwell Village- Traffic light closures
- A1(M) Coatham Munderville- outer ring closures

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

- (1) welfare facilities will be provided by the principle contractor.

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## **6 SPECIFICATION FOR THE WORKS**

- 6.1.1 The test system shall apply a static load accurately simulating the bending moments induced by wind and dead load forces to allow defects and flaws in both the foundations and critical areas of the column to be detected and shall be tested in accordance with the Institution of Lighting Professionals TR22 "Managing a Vital Asset: Lighting Supports".
- 6.1.2 The test system shall be valid for steel and aluminium columns.
- 6.1.3 The test system shall be capable of analysing the effect on the structural stability of the column caused by in situ attachments.
- 6.1.4 The test system shall be capable of analysing the effect on the structural stability of the column caused by proposed seasonal attachments such as hanging baskets, banners, CCTV cameras, festive decorations etc.
- 6.1.5 A pre-test survey and risk assessment shall be carried out to ensure disruption is minimised to highway users and operatives and Health & Safety issues are addressed.
- 6.1.6 The measurement procedure shall begin with a visual inspection to determine geometrical and geographical properties such as ground conditions, exposure, column type, base, shaft, diameters, wall thickness, bracket, lantern type, door size and position etc.
- 6.1.7 Information from the visual inspection shall be loaded into the testing software and the structural integrity of the column, foundation overturning moments, and maximum bending moments shall be calculated in accordance with BS EN 40.
- 6.1.8 An increasing force shall be applied to the column in a controlled manner until the test load is achieved and the condition of the lighting column assessed from the variation in its deflection as the load is increased.
- 6.1.9 The force and column deflection/ reaction shall be carefully monitored and the test halted should ground movement / material defects be detected prior to the test load being reached.
- 6.1.10 Should the column be found to be in danger of imminent failure/ collapse or suffer catastrophic failure during testing during the test, the column shall be secured to safeguard operatives and members of the public.
- 6.1.11 Test results shall classify if a column is structurally sound, if ground movement was detected, if material defects were detected, and if any significant visual defects were observed together with recommended remedial action.
- 6.1.12 Testing shall be carried out by fully trained technicians/ operatives. Bidders shall provide details of technicians/ operatives and their qualifications with due regard to the testing equipment, testing procedures, health & safety, working on the highway etc.