

**National Asset Delivery
Technical Surveys and Testing**

**Works Information
570129 M5 J31 Electrical and
Communication Duct Survey**

CONTENTS AMENDMENT SHEET

Amend. No.	Revision No.	Amendments	Initials	Date
0	0	Original version issued with tender	ET	28/09/20

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1 DESCRIPTION OF THE WORKS

1.1 Project objectives

- 1.1.1 The principle objective of this project is to undertake an electrical and communication duct survey across the area shown on drawing(s):
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Also, providing a subsequent report in accordance with the requirements detailed in the specification.

- 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:

- (i) Locate and record the position and condition of all street lighting equipment including ducting within the area shown on drawing(s):
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- (ii) Locate and record the position of all traffic signal equipment including ducting within the area shown on drawing(s):
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1.3 Deliverables

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

- (i) Drawing showing the size and position of street lighting equipment including:
 - Lighting columns and luminaires
 - Controller cabinets and feeder pillars
 - Duct boxes
 - Lighting ducting
- (ii) Drawing showing the locations of street lighting ducting
- (iii) The number and condition of ducts and equipment is to be recorded and shown on relevant drawings
- (iv) The number of cables per duct is to be recorded and shown on relevant drawings.

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
HE570129B-KIER-HLG-M5_J31_ML_Z-DE-EO-0100_01	Location Plan
HE570129B-KIER-HLG-M5_J31_ML_Z-DE-EO-0100_02	Statutory Undertakers Apparatus
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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 Access to the site for undertaking works will not be possible without the provision of traffic management – This will be provided by the Employer.
- 3.2.2 Due to the requirement for Traffic Management I and specialist access, it is envisaged that works will be restricted to night-time shifts. Temporary Traffic Management (TTM) shall not be implemented prior to the hour of 20:00 hrs nor removed later than 06:00 hrs. Late installation / early removal of Traffic Management or alteration to the length of closure may occur subject to the recorded on-site traffic flow. It is anticipated that in most cases, Traffic Management removal will commence at 04:00 hrs to allow sufficient time for removal. There may be an option for daytime working but this will be discussed on mobilisation and should not be part of any tender proposal.
- 3.2.3 Traffic Management layout will be finalised during mobilisation and will be in accordance with Traffic Signs Manual (TSM) Chapter 8.
- 3.2.4 Any site and task-specific lighting shall be directed away from dense vegetation and shall be positioned such that it does not cause a hazard to on-coming road users.

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 which can be found in documents

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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

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

Risk Management

- 3.3.5 The *Contractor* identifies, manages and mitigates risks in accordance with the principles of ISO31000.
- 3.3.6 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)
 - (iii) Other surveys are being commissioned for this scheme so the option to minimise traffic management requirements and disruption to public must be considered by sharing road space bookings. This will be discussed at mobilisation and the programme updated to take this into account.
- 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) 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
- (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:
- (i) Lane closures on slip road, junction circulatory, A30 and A38
 - (ii) Lane closures to be moved as necessary
- 5.1.2 Access arrangements & licences for works on third party land to be provided by the *Employer*

FOR INFORMATION ONLY

6 SPECIFICATION FOR THE WORKS

- 6.1.1 The *Contractor* shall undertake the works in accordance with: *TD 23/99 All-Purpose Trunk Roads Inspection and Maintenance of Traffic Signals and Associated Equipment and GG 184 Specification for the use of Computer Aided Design*;
- 6.1.2 All ducts should be traced to their destination drawpit or column with the installation of draw rope in accordance to Clause 501.8. The reference of the origin and destination drawpit of each duct should be recorded. Caution is needed as not all cables in drawpits may be lighting. Drawpits must not be left open and unattended.
- 6.1.3 Lifting of duct box covers will be in accordance with Clause 507.15. Any lifting to take place in accordance with relevant Manual Handling method statements, with any silt and debris cleared from the cover/duct box as necessary. Damaged frames and covers which are inaccessible are to be replaced in accordance to Clause 507.18. The Contractor shall undertake the works in accordance with: HA 104/09 Chamber Top and Gully Tops For Road Drainage and Services: Installation and Maintenance.
- 6.1.4 The number and size of ducts in each duct route is to be noted together with the number, colour & size of cables present in each one.
- 6.1.5 Ducts shall be tested and cleaned in accordance with clause 509 in the Specification for Highway Works. The ducts shall have an air test in accordance with Clause 509.2 and shall be checked and cleaned with a mandrel in accordance with clause 509.9. Any blockages, with the approximate position, are to be noted.
- 6.1.6 The information to be recorded should include:
- (a) The location, number and orientation of lighting columns
 - (b) The location, number and orientation of signal heads
 - (c) The location of controller cabinets and feeder pillars
 - (d) The location and size of duct boxes
 - (e) Schematic of duct runs to correspondent chambers
 - (f) The direction of duct runs and number of ducts within each run
 - (g) The number of cables within each duct, with any spare capacity to be noted
 - (h) The location and size of carriageway loop boxes
 - (i) The location, size and type of carriageway loops
- 6.1.7 A survey of the location and directions of street lighting ducting is required over the area shown on drawings:
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Shown on a drawing at a scale of 1:500, in AutoCAD .dwg format

6.1.8 Ducts to be rodded with a 'Cobra' as necessary

6.1.9 AutoCAD data/drawings to include:

- (a) A structured layering system
 - (i) Layer names to be in accordance with GG 184
 - (ii) Do not mix 2d and 3d data on the same layer
 - (iii) Keep similar entities on the same layer
 - (iv) Keep block reference on same layer as block contents (not layer 0)
 - (v) Colour of all entities, including blocks, to be set to 'by layer'
 - (vi) All title block and drawing frame data to be in separate layer from the site survey information
- (b) AutoCAD drawing files to be purged of all unused blocks and layers prior to forwarding to Kier, and to have a line type scale of 1
- (c) Information to be provided in AutoCAD 2013 format with a maximum printed size of A1 landscape only. Continuation sheets should be identified clearly with registration by grid lines and overlap. A key plan is to be provided to co-ordinate sheets
- (d) A north point is to be provided on each sheet. Grid lines shall be shown at 50m intervals by symmetrical crosses with co-ordinates shown above the grid line and to the right of the intersection