

TRAFFIC TECHNOLOGY CONTRACT (TTC)

BETWEEN

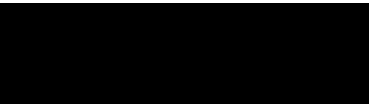
(1) TRANSPORT FOR LONDON

**(2) TELENT TECHNOLOGY SERVICES
LIMITED**

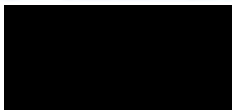
LOT 3 (SOUTH)

VOLUME 2 of 5

Initialed



For and on behalf of Telent Technology Services Limited



For and on behalf of Transport for London

Date

23.....MARCH.....2023



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 3 (THREE) – SOUTH

Schedule 3

Statement of Requirements

Part 2: Capital Works

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SCHEDULE 3

STATEMENT OF REQUIREMENTS PART 2: CAPITAL WORKS

2. PART 2: CAPITAL WORKS		
<p>This Statement of Requirements will not be read in isolation but will be read and complied with in strict accordance with all other Statements of Requirements.</p> <p>The requirements set out in this section of the Statement of Requirements are applicable to all Works Instructions. The aim of this section is to capture all of the requirements which the Contractor is required to observe and comply with in respect of the delivery of Capital Works. Most of the requirements in the following sections are applicable for all systems (Traffic Signals, OVD and VMS). Where the requirements are not applicable to Traffic Signals, but are applicable to OVD and VMS, this is expressly stated.</p>		
2.1. Build Brief		
<p>This section outlines the types of information and requirements the Authority will include in a Build Brief for Proposed Capital Works.</p>		
Build Brief Contents		
2.1.1.	The Contractor will complete Capital Works in accordance with the Build Brief that will form part of the Works Instruction issued by the Authority.	Mandatory
2.1.2.	The Authority will complete the Concept Design for all Traffic Signal Capital Works excluding the Electrical Design and the Controller Configuration which will be the responsibility of the Contractor.	For Information Only
2.1.3.	For all Capital Works, the Contractor will complete (without limitation) the Electrical Design and a Foundation Design where required. The Contractor will complete the Contractor's Detailed Design for all Instructed Capital Works in accordance with the Capital Works Conditions of Contract.	Mandatory
2.1.4.	<p>The Build Brief will contain:-</p> <ul style="list-style-type: none">• A completed Build Brief, in the format included in Annex C1: Build Brief form• Concept Design documents as per Schedule 3• Programme / Key Dates• Prices / Cost Schedule	Mandatory

	<ul style="list-style-type: none"> • Works information detailing the scope of the project 	
2.1.5.	The information contained in the Build Brief issued by the Authority may vary depending on the scope of Capital Works being instructed by the Authority.	For Information Only
2.1.6.	For Capital Works, the Contractor will assess whether any Temporary Traffic Regulation Orders (TTROs) are required and inform the Authority.	Mandatory
2.1.7.	For OVD and VMS Capital Works where TTROs are required, the Authority may reclassify the Capital Works to a Type E Scheme Request.	For Information Only
2.1.8.	For Capital Works, the Contractor will inform the Authority if their proposal for the delivery of the Capital Works includes any Departures from Standards which will need to be submitted to the Authority for approval.	Mandatory

2.1.9.

The Contractor will be ready to start on Site for each Scheme Request Type within the timescales set out in the table below:

Scheme Request Type	Description
A	<p>Type A Scheme Request</p> <p>The Contractor will be ready to start on Site within a minimum of sixty five (65) Business Days of receiving a Works Instruction from the Authority in order to meet the Completion Date specified in the relevant Build Brief.</p> <p>For Instructions where the Contractor is responsible for acquiring permits for Major Traffic Management, the Contractor should be ready to start on Site within a minimum of ninety five (95) Business Days of receiving a Works Instruction from the Authority in order to meet the Completion Date specified in the relevant Build Brief.</p>
B	<p>Type B Scheme Request</p> <p>The Contractor will be ready to start on Site within ten (10) to sixty four (64) Business Days of receiving a Works Instruction from the Authority in order to meet the Completion Date specified in the relevant Build Brief.</p>
C	<p>Type C Scheme Request</p> <p>The Contractor will be ready to start on Site within a minimum of forty five (45) Business Days of receiving a Works Instruction from the Authority in order to meet the Completion Date specified in the relevant Build Brief. Type C Scheme Requests will only be issued for OVD and VMS Capital Works.</p>

Mandatory

	<table><tr><td>D</td><td><p>Type D Scheme Request</p><p>The Contractor will be ready to start on Site within a minimum of ninety five (95) Business Days of receiving a Works Instruction from the Authority in order to meet the Completion Date specified in the relevant Build Brief. Type D Scheme Requests will only be issued for OVD and VMS Capital Works.</p></td></tr><tr><td>E</td><td><p>Type E Scheme Request</p><p>If the Authority accepts that Temporary Traffic Regulation Orders are required the Contractor will start on Site within one hundred and thirty (130) Business Days of receiving a Works Instruction from the Authority in order to meet the Completion Date specified in the relevant Build Brief. Type E Scheme Requests will only be issued for OVD and VMS Capital Works.</p></td></tr></table>	D	<p>Type D Scheme Request</p> <p>The Contractor will be ready to start on Site within a minimum of ninety five (95) Business Days of receiving a Works Instruction from the Authority in order to meet the Completion Date specified in the relevant Build Brief. Type D Scheme Requests will only be issued for OVD and VMS Capital Works.</p>	E	<p>Type E Scheme Request</p> <p>If the Authority accepts that Temporary Traffic Regulation Orders are required the Contractor will start on Site within one hundred and thirty (130) Business Days of receiving a Works Instruction from the Authority in order to meet the Completion Date specified in the relevant Build Brief. Type E Scheme Requests will only be issued for OVD and VMS Capital Works.</p>	
D	<p>Type D Scheme Request</p> <p>The Contractor will be ready to start on Site within a minimum of ninety five (95) Business Days of receiving a Works Instruction from the Authority in order to meet the Completion Date specified in the relevant Build Brief. Type D Scheme Requests will only be issued for OVD and VMS Capital Works.</p>					
E	<p>Type E Scheme Request</p> <p>If the Authority accepts that Temporary Traffic Regulation Orders are required the Contractor will start on Site within one hundred and thirty (130) Business Days of receiving a Works Instruction from the Authority in order to meet the Completion Date specified in the relevant Build Brief. Type E Scheme Requests will only be issued for OVD and VMS Capital Works.</p>					
2.1.10.	<p>If the Contractor is required to start on site earlier than ten (10) Business Days, work may be instructed by the Authority using Scheme Type B, in accordance with line item 90 of Schedule 6, Part B - Schedule of Capital Works Rates. Please note this will be limited to small scale works (up to £5,000.00 (Five thousand GBP)) only and not include any requirement or costs for Power or Communications</p>	Mandatory				
2.1.11.	<p>If the Contractor fails to meet the timescales specified for Scheme Types B, C or D then any uplift will not be chargeable and the provisions of Schedule 5 will be applied as applicable</p>	Mandatory				
Contractor's response to Build Brief						
2.1.12.	<p>The Contractor shall provide the following in their response to a Build Brief issued by the Authority:</p> <ul style="list-style-type: none">• Delivery Execution Plan• Programme of Works• Price & Cost Schedule	Mandatory				

2.1.13.	A standardised Delivery Execution Plan (DEP) will be submitted as detailed in Schedule 3 Part 1 section 1.19 , detailing the way in which the Contractor will carry out their projects. New DEP will only need to be submitted in Build Brief responses where they deviate from the standard plan.	Mandatory
2.1.14.	The programme will need to provide details of how the Contractor intends to meet the Key Dates set out by the Authority. For projects greater than £5,000,000 (Five Million pounds) the programme will need to meet the requirements set out in Schedule 3 Part 1 section 1.19	Mandatory
2.1.15.	The Contractor will complete a full Cost and Price schedule (provided by the Authority) detailing the quantities of each line item required to carry out the Works.	Mandatory
2.1.16.	The Contractor shall provide its response for consideration by the Authority via the System within 5 (Five) Business Days.	Mandatory
2.1.17.	The Contractor shall not commence any Works and Services detailed on the Build Brief until a Works Instruction is issued by the Authority.	Mandatory

2.2. Permitting, Traffic Management and Lane Rental

This section outlines the Contractor's responsibilities in relation to Permitting, Traffic Management and Lane Rental. This section also covers how the Contractor should interact with the appropriate bodies to ensure appropriate arrangements are in place to undertake Capital Works.

Schedule 16: Permitting, Traffic Management and Lane Rental sets out the policies, general guidance and best practices and will be read in conjunction with this section.

General

2.2.1.	Where the Contractor is not performing the role of Principal Contractor then the Principal Contractor will in most instances be responsible for arranging Traffic Management and Permits. This could be the arrangement where an external or internal contractor is the Principal Contractor.	For Information Only
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Contractor Led Traffic Management and Permitting

2.2.2.	<p>The Contractor will apply for Permits in accordance with the instructions and guidance outlined, currently set out in the London Permit Scheme (LoPS);</p> <p>https://tfl.gov.uk/info-for/urban-planning-and-construction/our-land-and-infrastructure/roadworks-and-street-faults?intcmp=3514</p> <p>The Contractor will comply with updated guidance and regulations as and when they change. Changes to LoPS will not be compensable in terms of time or cost.</p>	Mandatory
2.2.3.	The Contractor will ensure that the relevant Permits are applied for in timely order to meet the relevant target Commissioning Date and Completion Date identified in each Works Instruction.	Mandatory
2.2.4.	If the Contractor is responsible in accordance with Schedule 16 for submission of any Permits, the Contractor will not be entitled to any cost or time relief / compensation should any Permits not be submitted in a timely manner.	Mandatory

2.2.5.	The Contractor will comply with all Traffic Management activities required to complete the Services in accordance with the Contract including Schedule 16: Permitting, Traffic Management and Lane Rental.	Mandatory
2.2.6.	For the avoidance of doubt the Authority reserves the right to review Traffic Management Drawing Plans before they are submitted as part of any permit application.	For Information Only

2.3. Civil Engineering Works

This section outlines how the Contractor will deliver Civil Engineering Works by;

- Procuring and managing the Civil Engineering Works as Principal Contractor; or
- how the Contractor will interact with a Civil Engineering Contractor that has been procured by the Authority, Borough, Developer or Third Party or Service Recipient.

2.3.1.	The Contractor will engage directly with the Authority's (or other Service Recipients, as applicable) Civil Engineering Contractor, in accordance with the requirements of the relevant Works Instruction, for all Authority led Schemes in order to (without limitation) coordinate and share information such as progress updates, key milestones and overall delivery timelines.	Mandatory
2.3.2.	<p>Without prejudice to the Authority's right to issue a Works Instruction pursuant to the terms of the Contract:</p> <ul style="list-style-type: none">• the Contractor will, where they are not responsible for procuring Civil Engineering Works, undertake and complete a Visual Inspection with the Civil Engineering Contractor and the Authority;• Where the Contractor is responsible for procuring and managing Civil Engineering Works the Contractor will undertake a Visual Inspection with the Authority alone;• Where the Contractor is responsible for procuring and managing Civil Engineering Works the Contractor will ensure in pursuant of the Contract that all defects are corrected by Completion of the Works; and <p>Where the Contractor is not responsible for procuring Civil Engineering Works the Contractor will notify the Authority at, or promptly following, the Visual Inspection, and, in any event, within the timescales (as may reasonably be requested) for doing so under the Authority's contract with the Civil Engineering Contractor, of any defects or snags in the Civil Engineering Works, which would affect the commencement, carrying out and/or completion of the Works in accordance with the Works Instruction.</p>	Mandatory

2.3.3.	<p>Where the Contractor is responsible for procuring the and managing the Civil Engineering Works the Contractor will undertake the following activities (without limitation) as required by any Works Instruction :</p> <ul style="list-style-type: none"> (1) traffic signals ducting in the carriageway and footway; (2) excavations in the footway and carriageway for traffic signals ducting and / or installation of infrastructure; (3) installation of pole retention sockets and controller base (4) construction of new traffic signal draw pit chambers (5) demolition and rebuilding of existing traffic signal draw pit chambers (6) permanent Reinstatement of Contractor's own excavations/trenching, inclusive of road markings (7) slot cutting in carriageway for Detector Loop and/or Feeder cable metres; and (8) installation of below ground detection (9) installation or removal of tactile paving (10) installation or removal of kerbing less than or equal to 2 metres in length at any given location <p>Only Civil Engineering Works that are for the purpose of Installation, Maintenance, Modification or removal of traffic signal, OVD or VMS Equipment will be instructed via the Contract and will be delivered in accordance with the Statement of Requirements Part 3 of Schedule 3.</p>	Mandatory
2.3.4.	<p>The Contractor will complete all Works in accordance with the New Roads and Street Works Act 1991 and/or notwithstanding clause (19) (Change in Law) its replacement(s) or successor(s) from time to time.</p>	Mandatory

2.3.5.	Where the Contractor is not responsible for procuring and managing the Civil Engineering Works. Unless specified in the Works Instruction or as a change to the Scope under a Works Instruction, the Contractor will not be obliged to carry out works to ducting if the ducting is blocked or in a way which prevents installation. This work will be undertaken by a Civil Engineering Contractor.	Mandatory
2.3.6.	If specified in any Works Instruction, or as a change to the Scope under a Works Instruction, the Contractor will undertake a duct survey which will be chargeable in accordance with line item 76 of Schedule 6, Part B - Schedule of Capital Works Rates as specified in Part 3 of Schedule 3.	Mandatory

2.4. Installation

This section outlines how the Contractor will complete installation activities and the standards it should adhere to when completing installation.

General

2.4.1.	The Contractor will complete all Installation activities in accordance with the Capital Works Conditions of Contract and the requirements set out in the Works Instruction issued by the Authority.	Mandatory
2.4.2.	For all Capital Works, the Contractor will commence Installation only after the detailed design information specified in Part 1 of Schedule 3 has been submitted on the System.	Mandatory
2.4.3.	The Authority will reserve the right to inspect Sites at any point during Installation.	For Information Only
2.4.4.	Unless otherwise specified in a Works Instruction by the Authority, the Contractor will be responsible for the removal and disposal of all redundant Equipment on the Site at the completion of any Capital Works and for the avoidance of doubt all Waste Electrical and Electronic (WEEE) Equipment must be disposed in accordance with Schedule 20.	Mandatory
2.4.5.	The Contractor must notify the Authority via the System when undertaking Works at Site. The Contractor must provide documentation as set out in Part 1 of Schedule 3 before Commissioning can take place.	Mandatory
2.4.6.	The Contractor must notify the Authority of any non-standard equipment de-commissioned from Site, for example but not limited to, Automatic Number Plate Recognition (ANPR) cameras.	Mandatory
On-site Changes		
2.4.7.	The Contractor will notify the Authority clearly stating the reason, if any of the Equipment cannot be Installed at the proposed location identified in the relevant Works Instruction.	Mandatory

2.4.8.	Where the Contractor is unable to Install Equipment at the specific location identified in a Works Instruction, the Contractor will undertake further site investigation to determine an alternative location for Installation and notify the Authority and the Contractor will not undertake any Works until the Authority has instructed any changes in accordance with the Capital Works Condition of Contract.	Mandatory
Installation of Portable and Temporary Signals		
2.4.9.	The Contractor will complete the Installation of Portable Signals and Temporary Signals in accordance with the relevant Works Instruction.	Mandatory
2.4.10.	The Contractor will adhere to Annex C2: Portable Traffic Signals when installing Portable Signals.	Mandatory
2.4.11.	When installing Portable Signals or Temporary Signals, the Contractor will ensure that it updates the System when the Traffic Signals are switched out and the Portable Signals or Temporary Signals are operational and that the current Timing Sheet is "shelved" on the System.	Mandatory

2.5. Commissioning

This section outlines how the Contractor will complete Commissioning and the criteria they will need to meet in order for a Site to be certified Commissioned; "Commissioning" will include the processes as detailed in the requirements below.

Scheduling and inspection

2.5.1.	<p>The Contractor will be responsible for coordination with the Authority and all relevant Third Parties to undertake Commissioning, on or before the target Commissioning Date under the relevant Works Instruction.</p> <p>When working outside of the Contract Area the maintenance contractor responsible for that area must also be invited by the Contractor</p> <p>The maintenance contractor must respond to the invite at least 24hrs prior to the Commissioning date.</p> <p>If the maintenance contractor does not attend the commissioning they will raise any issues relating to the works in writing to the Authority within 2 Business Days of the Commissioning date.</p> <p>The Authority will review the issues raised by the maintenance contractor and either accept for rectification as Capital Works or reject as acceptable standard.</p>	Mandatory
2.5.2.	<p>The Contractor will give all invited parties named on the Works Instruction / LAT document a minimum of 5 (five) Business Days' notice prior to the date on which Commissioning is due to take place or such shorter period as the Authority in its discretion may require.</p>	Mandatory
2.5.3.	<p>The Contractor will fully comply with all applicable checks notified by the Authority in the Authority's Local Acceptance Test meeting all applicable criteria specified in the Statements of Requirements.</p>	Mandatory
2.5.4.	<p>Where specified in the Works Instruction the Contractor will fully comply with all applicable checks notified by the Authority in the Authority's System Acceptance Test.</p>	Mandatory

Commissioning Criteria

2.5.5.	<p>The Contractor will demonstrate the following to the Authority for a Site to be certified as Commissioned:</p> <p>Installation</p> <ol style="list-style-type: none"> 1. Works Installed in accordance with all relevant Statements of Requirements, standards and Guidance Notes; 2. Works installed in accordance with the relevant Works Instruction issued by the Authority; 3. Site can be maintained in accordance with Schedule 3, Part 4: Maintenance; <p>Safety</p> <ol style="list-style-type: none"> 4. the Site is Safe in all respects; 5. the Contractor completes all checks in accordance with, but not limited to, the requirements 2.5.3 or 2.5.4 of this section dependent on the Works Instruction; <p>Availability</p> <ol style="list-style-type: none"> 6. all Site specific Availability categories are Available; and <p>Documentation</p> <ol style="list-style-type: none"> 7. all Documentation will be provided in accordance with Paragraph 1.12.3 in Part 1 of Schedule 3. 	Mandatory
2.5.6.	Applicable payments in line with Schedule 5 will only be made when Commissioning is complete and certified by the Authority and all documentation is received as set out in 2.5.5	For Information Only
Commissioning of Portable Signals and Temporary Signals		
2.5.7.	Where the Contractor installs Portable Signals or Temporary Signals they will be responsible for scheduling the Commissioning. The Contractor will treat the Commissioning of Portable Signals and Temporary Signals in the same way as a Permanent Signal Layout.	Mandatory

2.5.8.	The Contractor will meet the requirements of and complete a Portable Signals Acceptance Certificate in the form set out in Annex C2: Portable Signals Acceptance Certificate to signify when Portable Signals have been Commissioned. For Temporary Signals a signed Take- Over Certificate should be uploaded to the System.	Mandatory
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2.6. Capital Reporting

This section outlines the reporting requirements for Capital Works. These requirements are in addition to the reporting requirements included in Schedule 8: Contract Management and Reporting.

2.6.1.	The Contractor will submit a 4 weekly report detailing the Reporting Period Value of Capital Works in line with the reporting requirements set out in Schedule 8 (Contract Management and Reporting).	Mandatory
2.6.2.	The Contractor will submit to the Authority a weekly status report including the following; (1) Capital Works completed each week; (2) status of active Capital Works; (3) Capital Works to be commenced in the following week; and (4) any risks and issues including mitigating actions.	Mandatory
2.6.3.	The Contractor will submit to the Authority a weekly status report on power infrastructure and installation services detailing: (1) status of active requests for power infrastructure and installation services; (2) requests completed each week; and (3) new requests for the following week.	Mandatory
2.6.4.	The Contractor will submit to the Authority a weekly status report on Communication Infrastructure and installation services detailing: (1) status of active requests for Communication Infrastructure and installation services; (2) requests completed each week; and (3) new requests for the following week.	Mandatory
2.6.5.	The Contractor will submit a 4 weekly forecast detailing the location of Contractor Personnel, including Sub-Contractors, undertaking any Capital Works.	Mandatory

ANNEX C1: BUILD BRIEF FORM



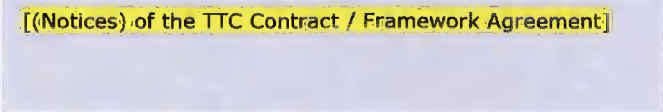
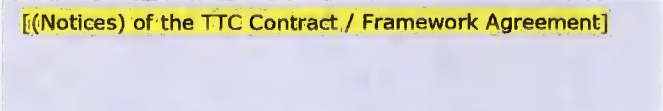
[Refer to Schedule 27]

ANNEX C2: PORTABLE TRAFFIC SIGNALS

[Refer to Schedule 27]

ANNEX C3 CERTIFICATE: PORTABLE SIGNALS ACCEPTANCE CERTIFICATE

Annex C1: Build Brief

Build Brief	
Build Brief must be accompanied by a Scope	
Scheme Request type:	Scheme Type A, B, C, D, E
The site is:	[insert site reference] as detailed in [Insert Drawing reference]
Site Information:	
Site Address:	
The Scope is:	in Schedule 3 (Statement of Requirements) of the TTC Contract / Framework Agreement and is supplemented by the additional information [insert reference] as annexed to this Build Brief.
The Client's representative is:	[Name of Person]
Delegation of Client's actions	
(a) Identity of delegate	The Client's representative [Insert name]
(b) Description of actions delegated	[Insert description of delegated actions/refer to delegated clauses in conditions of contract]
The Client's address for communication	[(Notices) of the TTC Contract / Framework Agreement] 
If other selected above the Client's address for communications is	[Insert if Other selected above]
The Client's address for electronic communications:	[(Notices) of the TTC Contract / Framework Agreement] 
If Other selected above the Client's address for electronic	[Insert if Other selected above]

Principal Contractor for CDM Regulations purposes is:

[the Contractor] [Major Civil Engineering Contractor] [Other]

If Other selected above the Principal Contractor for CDM Regulations purposes is:

[Insert if Other selected above]

Principal Designer for CDM Regulations purposes is:

[the Contractor]

If Other selected above the principal designer for CDM purposes is:

[Insert if Other selected above]

The works are:

As detailed in (1) the Scope (which is not annexed to the Build Brief) and (2) the drawing(s) referenced [insert drawing reference] and other supplementary documents annexed to this Build Brief

The starting date is:

[Insert date]

The completion date is

[Insert date]

The target commissioning date is

[Insert date]

The delay damages are

[insert amount per day] or pro rata thereof

period for reply for Communications (if not 1 week):

[N/A] or [time]

The defects date is (if N/A is selected the defects date shall be 52 weeks after Completion)

[as stated in the Client's Contract Data] or [insert period]

The defect correction period is

28 days (as stated in the Client's Contract Data) or [insert period]

If not as stated in the Client's Contract Data the assessment day(s) is/are

[As set out in the Client's Contract Data] or [insert]

Interval for Submission of Revised Programme (if shorter than 4 weeks):

[N/A][3][2][1]

Public liability insurance (if not £20 million)

[insert other amount]

Employer's liability insurance (if not £10 million)

[insert other amount]

Professional indemnity insurance (if not £10 million)

[insert other amount]

Product liability insurance (if not £20 million)

[insert other amount]

Invoices to be submitted in following format:

[Hardcopy][Electronic]

The contract with Others are (if any annex to this Build Brief):

[N/A][the contracts (or relevant extracts) annexed to this Build Brief]

Performance Bond

[Applies][Does not apply]

The amount of the performance bond (if required) is

£[insert amount]

Contractor Details (to be completed by Contractor)

Scheme Accepted:

[Y][N]

Reason(s) for No

[Do not have sufficient resources to carry out and complete the Proposed Capital Works identified in the Build Brief]

[Cannot achieve the completion date for the Proposed Capital Works identified in the Build Brief]

Completion Date Accepted:

[Y][N]

[Do not have sufficient resources to carry out and complete the Proposed Capital Works identified in the Build Brief]

[Cannot achieve the completion date for the Proposed Capital Works identified in the Build Brief]

The Contractor's address for communications:

[In accordance with (Notices) of the TTC Contract / Framework Agreement]

[Other (if this option is selected insert alternative communications details below)]

If Other selected above the Contractor's address for communications is: [Insert if Other selected above]

The Contractor's address for electronic communications:

[In accordance with (Notices) of the TTC Contract / Framework Agreement]

[Other (if this option is selected insert alternative communications details below)]

If Other selected above the Contractor's address for electronic communications is: [Insert if Other selected above]

Total of the Prices:

£[Insert]

Client Acceptance (to be completed by Client)

P.O Number:

[Enter]

Prices Accepted:

[Y][N]

Date:

[Enter]

Reason for No

[Enter]

Approved by:

[Name]

Date:

[Enter]



Traffic Control Equipment Maintenance and Related Services Contract

Schedule 3

Statement of Requirements

Annex C2 Portable Traffic Signals

*Transport for London
Palestra
197 Blackfriars Road
Southwark London SE1 8NJ*

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This annex to the Schedule 3 (Statement of Requirements) may be updated by the Authority from time to time, and in such instances, the Authority will provide the contractor with the latest copy of this document.

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TRANSPORT for LONDON TRAFFIC DIRECTORATE

Technical Instruction No.:

TI36

Technical Instruction

The Supply, Installation and Commissioning of Portable Traffic Signals (PTS)

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1. Provision of Portable Traffic Signals (PTS)

- 1.1 Portable Traffic Signals (PTS) may be deployed as part of the temporary traffic management supplied by the Contractor that is used to accommodate TD works at permanent traffic signal sites. Where PTS are deployed, the aim is to minimise disruption and manage conflicts that cannot be left uncontrolled if the permanent signals are not in operation.
- 1.2 All PTS deployed for Traffic Directorate (TD) works shall operate in the sequence prescribed by regulation 33(3) and conform to Regulation 35 of the Traffic Signal Regulations and General Directions (TSRGD) 2002.
- 1.3 Direction 56 of TSRGD (2002) requires Portable Traffic Signal control equipment to be type approved via the self certification process. Where the Contractor is instructed to provide Portable Traffic Signals they must use Portable Traffic Signals which are self certified using this process.
- 1.4 Any PTS system and associated traffic management will meet the requirements of the TSRGD and as a minimum the Approved Code of Practice (ACoP). PTS will be supplied, installed and maintained by the Contractor and used in accordance with this Technical Instruction.
- 1.5 In line with paragraph 1.1, the Project Engineer in Traffic Infrastructure (TI) or Performance and Maintenance (P&M) may request PTS are used as part of temporary traffic management at works or the Contractor may propose their use to the Project Engineer for consideration. The Project Engineer will confirm if the Contractor is to supply PTS as part of their temporary traffic management provision.
- 1.6 Temporary traffic management and site safety, including routine checks of the signing, lighting and guarding used are the responsibility of the Contractor.
- 1.7 When requested by the Project Engineer, the Contractor shall provide:-
 - a draft PTS layout drawing by marking up the existing Site Layout Drawing; and
 - a draft Portable Signal Acceptance Certificate (PSAC) showing proposed mode and method of control, permitted stage moves and safety critical and operational timings;
 for approval by the Project Engineer. The design shall be in line with the requirements of section 2 below.
- 1.8 The Project Engineer may provide a PTS layout drawing and PSAC to the Contractor in place of the request in paragraph 1.7. Where the Contractor is requested to provide the PTS design, the Project Engineer will either:
 - approve the draft layout and proposed timings; or
 - specify changes to the proposal.
- 1.9 The PTS layout drawing must show the site reference, site address, project/fault reference (where available), designer's name and the revision number of the PSAC with which it is associated.

- 1.10 The Project Engineer must append his/her signature to the agreed layout of PTS heads and the relevant section of the PSAC to indicate approval.
- 1.11 The Contractor shall order, arrange installation of and commission the PTS system as part of the temporary traffic management on behalf of the Project Engineer in line with sections 2, 3 and 4 below. The PSAC must be signed by the contractor at time of commissioning, and the Project Engineer if in attendance.
- 1.12 Where PTS are deployed at a junction, it is not permissible to include pedestrian facilities in line with TR2537A.
- 1.13 Where the temporary traffic management and works will not present a hazard to pedestrians, it is permissible to deploy PTS with pedestrian facilities at Stand-alone Crossings in line with DfT Traffic Advisory Leaflet TAL 3/11 and HA spec TR2538A.

2. Portable Traffic Signal (PTS) Layout, Timings and Method of Control

- 2.1 The layout of the PTS and timings are to be agreed by the TfL project engineer in line with paragraph 1.8.
- 2.2 A minimum of one primary and one secondary PTS head shall be provided per approach.
- 2.3 When determining the number signal heads to be used on an approach, consideration shall be given to the horizontal and vertical alignment of the road as well as number of lanes.
- 2.4 PTS layouts shall be set up to mimic the vehicle phases of any permanent signals they are replacing as closely as possible taking into consideration the specific requirements of traffic flow and any existing street furniture at the site and on its approaches, as well as the technological limitations of the PTS system to be deployed. The use of filter or indicative green arrows is not permitted.
- 2.5 Where there are existing Traffic Regulation Orders (TROs) or proposed Temporary Traffic Regulation Orders (TTROs) (e.g. NRT, NLT, NO ENTRY, AHEAD ONLY, TURN LEFT, TURN RIGHT, etc), they must be catered for in the proposed temporary traffic management arrangement.
- 2.6 Signs for existing TROs or TTROs may be represented either through the use of illuminated box signs mounted on the PTS signal head or through the erection of trestle signs that display the prohibited moves. Any signage for TROs and TTROs shall meet the illumination requirements set out in the Traffic Signs Regulations and General Directions (TSRGD) 2002.
- 2.7 The Project Engineer shall confirm the mode of operation proposed on the draft PSAC. Vehicle Actuated (VA) mode is the norm for general use of PTS, using a form of above ground detection. However, where the nature of the

site or its surroundings mean Fixed Time (FT) operation is appropriate then this may be selected.

- 2.8 Where Portable Traffic Signals are to be operated under manual control, all approaches to the works area must be clearly visible to the operator at all times.
- 2.9 TD Network Performance (NP) Operations Assurance should be consulted regarding the method of control and timings for all sites, especially for sites on a corridor. In addition, for planned works, timings must be agreed with all relevant stakeholders prior to implementation.
- 2.10 Where the approved PTS system contains Max Sets (e.g. morning peak, evening peak, off peak, etc), all such timings must be recorded on the PSAC.
- 2.11 A copy of the agreed PTS layout together with the approved PSAC must be emailed to the Fault Control Centre (FaultControlFaults@tfl.gov.uk) and also kept in the site file as a record of works undertaken at the site.

3. Installation

- 3.1 It is essential that the PTS signal heads are aligned in the direction indicated on the PTS layout drawing and secured at all times. Temporary traffic management used
- 3.2 Where a wired PTS system is used, cables must be fed through ducts where possible. Where cables have to be laid on a road surface or footways, cable protection mats must be used to secure cables and must be glued or pinned to ensure they do not present a hazard to pedestrians or vehicular traffic. Slot cutting of cables is permissible at extra low voltage where ducting / mats is not available.
- 3.3 Cable protection mats can be a hazard to cyclists and motor cyclists, if not properly installed and in particular when wet. Warning signs to diagram 7013 ("RAMP") should be used to warn of the uneven road surface.
- 3.4 When the power supply to a PTS controller is to be fed from an existing controller's electricity power supply (via controller mains isolator) or the site's electricity supply feeder pillar (TCSU8 & TI28), it must be done in a safe manner by making sure that the mains supply source is switched 'OFF' (isolated) before connecting the portable traffic signal controller. The area must be correctly protected by barriers. The system shall be run on either low voltage or extra low voltage with appropriate cable as specified in TR2502.
- 3.5 Should it be necessary to power the PTS controller via a generator, it must be of the silent running type, chained up for security and correctly protected by barriers for safety. The running duration should be calculated and adequate provision made for replenishing fuel to avoid signals going out.

- 3.6 When using battery powered PTS the running duration should be calculated and adequate provision made to replace batteries to avoid the signals going out.
- 3.7 Road users and the PTS system must be protected with signing, lighting and guarding as required in line with the Approved Code of Practice (ACoP). Signing, lighting & guarding of all works areas must conform to the New Roads and Street Works Act (NRSWA).
- 3.8 Where the traffic management meeting requires it, for existing pits that will be the exit points for PTS cables exterior 18mm-thick plywood lids should be cut as inset for the pit lids and the cables taken through holes drilled in the top. At some locations these lids may be subjected to Police seals for security reasons.
- 3.9 When exterior plywood lids are used as in paragraph 3.8 the original metal pit covers must be removed to a safe store until the PTS system is removed.
- 3.10 When using tripods, they should be anchored to the ground by either sandbags or with brackets and steel pins. Any highway damage caused is subject to the NRSWA.

4. Commissioning

- 4.1 All signals on the site that do not form part of the PTS system must be switched off and bagged over including traffic signal heads, pedestrian heads and push buttons.
- 4.2 PTS controller keys should be left on site kept within the existing permanent traffic signal controller to ensure ease of access in an emergency or to effect timing changes should the need arise. If the permanent controller is not on site, the keys to the temporary traffic controller will be left in a location agreed between the Contractor and the Project Engineer. The Project Engineer must ensure FCC is advised of any alternative location.
- 4.3 If the PTS timings prove to be inadequate due to prevailing volume of traffic and / or site conditions, the contractor should advise the Project Engineer of the optimum settings to cope with the prevailing volume of traffic and/or site conditions without compromising safety. The responsibility remains with the Project Engineer to ensure the correctness of the timings and liaise with NP if necessary.
- 4.4 Any changes to the operational or safety critical timings at the time of commissioning must be recorded on the site copy of the PSAC and a copy provided to FCC and the Project Engineer.
- 4.5 The checks required on the PSAC must be completed at the switch-on of the PTS system and the results recorded on the PSAC. The PSAC must be signed by the Contractor to indicate acceptance of the layout in line with the drawing and the mode of operation, method of control and all timings as shown on the PSAC. Three copies must be taken to site; one will be left on

site within the controller, the second will be a copy to be forwarded to Fault Control and the last copy for the Project Engineer's site file.

- 4.6 Any changes to the operational or safety critical timings post commissioning must be agreed with the Project Engineer, recorded on the site copy of the PSAC and a copy provided to FCC and the Project Engineer.

5. Reference Documents

TCSU1 - Controller Installation and Commissioning Specification

SQA-0064 – Design Standards for Signal Schemes in London

TCSU8 - Specification for the Installation of Traffic Signals and Associated Equipment

TI28 - Site installation requirements to meet the Regulations for connection to a (C.N.E) supply using a Protective Multiple Earthing Network (P.M.E)

HGU92105 - Safety at Street Works and Road Works: A Code of Practice

An Introduction to the Use of Vehicle Activated Portable Traffic Signals ('pink book' – HMSO Publication)

Traffic Signs Manual (2009) – Chapter 8

TAL 2/11 – Portable Traffic Signals for the Control of Vehicular Traffic (April 2011)

TAL 3/11 - Signal-controlled pedestrian facilities at portable traffic signals (June 2011)

Traffic Signs Regulations and General Directions (2002) Statutory instrument no. 2002/3113

TR2502B: Performance Specifications for portable traffic signal control equipment for use at road works; Highways Agency

6. Definitions

PTS	Portable Traffic Signals - Traffic signals that conform to diagram 3000.1 of TSRGD (2002)
PSAC	Portable Signals Acceptance Certificate
TD	Traffic Directorate within TfL Surface Transport

TI	Traffic Infrastructure, the section in TD responsible for design and implementation of London's traffic control equipment and systems
P&M	Performance & Maintenance, the section in TD responsible for maintenance of London's traffic control equipment and systems
FCC	Fault Control Centre, the part of P&M responsible for the reporting, management and clearance of Faults
NP	Network Performance, the section of TD responsible for traffic signal co-ordination, corridor management, journey time reliability and operational timings
ACoP	Approved Code of Practice, see HGU92105 Safety at Street Works and Road Works: A Code of Practice in section 5 References
Project Engineer	A TI or P&M authorised engineer and/or their representative
Contractor	The Contractor responsible for capital or maintenance works on traffic signal equipment
NRSWA	New Roads and Street Works Act, the legislative framework for street work activities

7. Document Control

ISS	DATE	PURPOSE	BY	CHK	APP
1	Aug 00	Issue for use	OJ	RGV	RMF
2	Jul 13	Updated for joint TI & PM use. This document amalgamates and supersedes TI 43.	PRB	NCD	KVT

Appendix 1 – Portable Signal Acceptance Certificate (PSAC)

PORTABLE SIGNALS ACCEPTANCE CERTIFICATE (PSAC)Site Ref: (include
leading 0 e.g. 01/009)Project
Engineer:

Revision: Date:

Site Address:

Project / Fault
Reference:PTS
Provider

Company:

Duration of
works:Proposed
taking over: DATE
TIME

24/7 Phone:

In accordance
with drawing:**METHOD OF CONTROL**

1	2	3	4	NORTH

INTERGREENS

equivalent to All Red time + 5s

A B C D

A				
B				
C				
D				

PERMITTED MOVES

✓ Permitted * Not permitted

1 2 3 4

1				
2				
3				
4				

PHASE TIMINGS

Phase	AM	PM	Off	Phase	AM	PM	Off
A Max				B Max			
C Max				D Max			

MODE OF CONTROL

mark with an 'X'

VA		FT		Manual	
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ADDITIONAL INFORMATION**APPROVAL****Part A** (To be completed by Project Engineer before installation)

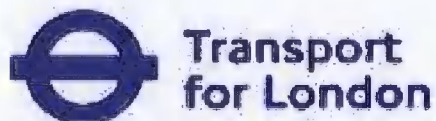
Approved by Project Engineer:	Name	Signature	Date
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COMMISSIONING

Are aspects aligned as per drawing?	Y / N	Are warning signs displayed?	Y / N
Does site signing/ guarding conform?	Y / N	Are all unused aspects bagged over?	Y / N
Are health and safety requirements met?	Y / N		

Part B (To be completed by Signal Contractor at commissioning and take-over)

Checked by Contractor:	Name	Taking over:	Date
	Signature		Time (hh:mm 24-hr clock)
Project Engineer: (if present)	Name	Signature	



TRAFFIC TECHNOLOGY CONTRACT (TTC)

Schedule 3

Statement of Requirements

Annex C3

Portable Signals Acceptance Certificate (PSAC)

*Transport for London
Palestra
197 Blackfriars Road
Southwark London SE1 8NJ*

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This annex to the Schedule 3 (Statement of Requirements) may be updated by the Authority from time to time, and in such instances, the Authority will provide the contractor with the latest copy of this document.

Appendix 1

TI36 - The Supply, Installation and Commissioning of Portable Traffic Signals
Issue: 2

PORTABLE SIGNALS ACCEPTANCE CERTIFICATE (PSAC)

Site Ref: (include
leading 0 e.g. 01/009)

Project
Engineer:

Revision: Date:

Site Address:

Project / Fault
Reference:

PTS
Provider

Company:

Duration of
works:

Proposed
taking over:

DATE

TIME

24/7 Phone:

In accordance
with drawing:

METHOD OF CONTROL

1	2	3	4	NORTH

INTERGREENS

equivalent to All Red time + 5s

A B C D

A				
B				
C				
D				

PERMITTED MOVES

✓ Permitted ✗ Not permitted

1 2 3 4

1				
2				
3				
4				

PHASE TIMINGS

Phase	AM	PM	Off	Phase	AM	PM	Off
A Max				B Max			
C Max				D Max			

MODE OF CONTROL

mark with an 'X'

VA		FT		Manual	
----	--	----	--	--------	--

ADDITIONAL INFORMATION

APPROVAL

Part A (To be completed by Project Engineer before installation)

Approved by Project Engineer:	Name	Signature	Date
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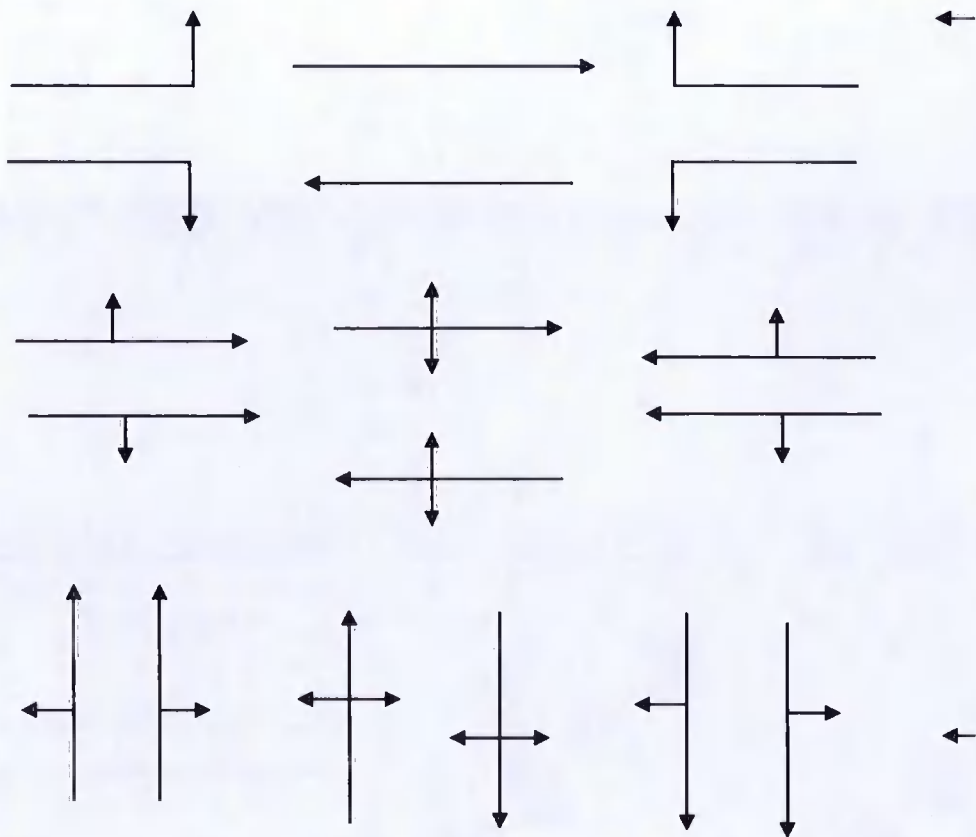
COMMISSIONING

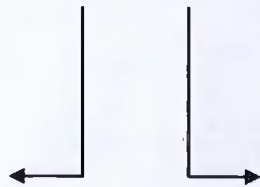
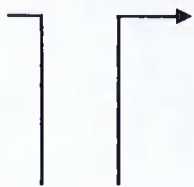
Are aspects aligned as per drawing?	Y / N	Are warning signs displayed?	Y / N
Does site signing/ guarding conform?	Y / N	Are all unused aspects bagged over?	Y / N
Are health and safety requirements met?	Y / N		

Part B (To be completed by Signal Contractor at commissioning and take-over)

Checked by Contractor:	Name	Taking over:	Date
	Signature		Time (hh:mm 24-hr clock)
Project Engineer: (if present)	Name	Signature	

A
B
C
D
E
F
G
H
I
J
K
L
M
O
P
Q
R
S
T
U
V
W
X
Y
Z





NORTH POINTS:









TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 3 (THREE) – SOUTH

Schedule 3

Statement of Requirements

Part 3 – Equipment

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3. PART 3: EQUIPMENT

This Statement of Requirements will not be read in isolation but will be read and complied with in conjunction with all other parts of the Statements of Requirements.

This schedule covers the requirements with which the Contractor will comply when supplying Equipment for Capital Works and Maintenance. This includes the requirements with respect to the Equipment Specifications and standards, support and warranties.

3.1. Supply of Equipment		
3.1.1.	The Contractor will ensure that all Equipment supplied is in accordance with the Authority's Equipment Specifications detailed in Annex E1: Equipment Specifications to this Schedule 3.	Mandatory
3.1.2.	The Contractor will procure and supply all labour, materials, plant and Equipment required for the Maintenance activities in respect of the Equipment under this Contract.	Mandatory
3.1.3.	The Contractor will procure and supply all labour, materials, plant and Equipment required for the delivery of Capital Works under this Contract.	Mandatory
3.1.4.	The Contractor will be responsible for the timely delivery of labour, materials, plant and Equipment to the Site in order to meet the Completion Date for instructed Capital Works and Planned Events as set out in the relevant Works Instruction or Works Order.	Mandatory
3.1.5.	For avoidance of any doubt, the Contractor will be responsible for the timely delivery of labour, materials, plant and Equipment required for Maintenance and Ordered Maintenance, in order to meet the Availability Targets as set out in the Contract.	Mandatory
3.1.6.	<p>Without prejudice to any obligations on the Contractor for the successful Commissioning of a Site in accordance with this Contract, the Contractor will ensure that at Commissioning:</p> <ul style="list-style-type: none"> (1) the Supported Equipment complies with the Equipment Specifications; (2) the Supported Equipment meets all requirements the Authority has stated in the Works Instruction or Order; and (3) all Equipment is Approved Equipment as defined in Annex E2: Authority Approved Equipment List to this Schedule 3. 	Mandatory

3.1.7.	The Contractor acknowledges and agrees that the Authority may, from time to time and in accordance with the Contract, make changes to the Equipment Specifications to reflect the latest industry standards, and such changes will be fully implemented by the Contractor promptly and in any event within any reasonable time period notified to the Contractor by the Authority.	Mandatory
3.1.8.	The Contractor will ensure that any Installed Equipment used on a Site is compatible with all existing Supported Equipment and works in unison so that the whole Site meets the requirements of the Equipment Specifications. The Authority reserves the right to audit the compatibility of any Installed Equipment or seek information from the Contractor from time to time in respect of whether or not any Installed Equipment is compatible.	Mandatory
3.1.9.	The Authority reserves the right to specify Equipment requirements in the Works Instruction or Works Order provided the Equipment specified by the Authority is Approved Equipment.	For Information Only
3.1.10.	Where a specification mandates TOPAS registration the Contractor will ensure that Equipment has completed registration as per the latest edition of TOPAS 0600.	Mandatory
3.1.11.	Where relevant, the documentation for Registration as defined by TOPAS 0600 will be supplied by the Contractor on request of the Authority. This may include Certificate of Registration (as defined in TOPAS 0600) and individual items from the Technical File (as defined in TOPAS 0600). The Contractor will provide all documentation at no cost to the Authority	Mandatory
3.1.12.	The Contractor will ensure that all activities relating to Equipment shall comply with the latest WEEE Regulations.	Mandatory
3.1.13.	The Contractor will provide cabinet keys as required within the specifications in Annex E1: Equipment Schedule to this Schedule 3 to the Authority on the Authority's request at no cost to the Authority.	Mandatory
3.1.14.	The Contractor will ensure that for all new Installations of Equipment, the Equipment supplied will be of New Condition and comply with this Schedule 3, unless stated otherwise by the Authority, in the Works Instruction.	Mandatory

3.1.15.	<p>Except where the Authority has requested that the Contractor uses Free Issue Equipment in accordance with Clause 9.14 of the Contract, where the Contractor is required to replace:</p> <ul style="list-style-type: none"> (1) a Whole Unit of Installed Equipment as part of Maintenance; or (2) an Assembly (not being a Whole Unit) or a Sub-Assembly of Installed Equipment, as part of Maintenance, then <p>in each case, the Contractor will replace a Unit with (as applicable) either a Whole Unit, Assembly or Sub-Assembly of Equipment of New Condition provided that it is, (where the date is not known, using the Contractor's professional judgement, as may be expected of a properly qualified and experienced engineer of the appropriate discipline(s) in accordance with Good Industry Practice):</p> <ul style="list-style-type: none"> (3) no older than 12 (twelve) months from the date of manufacture; or (4) with a relevant Unit (whether a Whole Unit, Assembly or Sub-Assembly) of Equipment of the same age as such Unit (having been manufactured within 6 (six) months of the date of manufacture of the original Installed Equipment / Unit it is replacing); or (5) newer/younger than the relevant Unit of the Installed Equipment being replaced as per the Asset Profile. <p>but provided that in no event will such Unit be older than the Same Generation of that Equipment or Unit.</p> <p>For the avoidance of doubt, the age of the replacement Equipment will not be older than the Same Generation of the Unit of Installed Equipment due to be replaced and the Contractor will ensure that the replacement Unit:</p> <ul style="list-style-type: none"> (6) Has not been declared by the Authority of having an Obsolescence Factor of 4 (four) or which is any higher than the Installed Equipment being replaced unless otherwise agreed in writing by the Authority; and (7) complies with Clause 9.12 of the Contract and paragraph 3.1.16 of this Schedule 3. <p>For the avoidance of doubt:</p> <ul style="list-style-type: none"> (8) where a replacement Whole Unit is up to 6 (six) months younger than (from the date of manufacture of the Equipment being replaced) the age of the 	Mandatory
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	<p>relevant Installed Equipment will not change within the Asset Inventory; and</p> <p>(9) the replacement of an Assembly or Sub-Assembly pursuant to this paragraph 3.1.15 will not change the age of the relevant Whole Unit of Installed Equipment within the Asset Profile.</p>	
3.1.16.	<p>Except where the Authority has requested that the Contractor uses Free Issue Equipment in accordance with Clause 9.14 of the Contract and confirms the following requirement of this paragraph 3.1.16 can be disregarded in the Works Order or Works Instruction, where the Contractor is required to replace traffic signal aspects as part of Maintenance or Instructed Capital Works, the Contractor will not mix one signal technology, for example, incandescent lamps, with another, e.g. LED lamps, or vice versa, on all phases visible on the impacted approach. For the avoidance of doubt, an approach may be any particular vehicular traffic approach or pedestrian or cycle approach.</p>	Mandatory

3.2. Software, Firmware and Hardware required for Configuration, Maintenance or Operation		
3.2.1.	<p>The Contractor will provide all software which is required for the Works and Services.</p> <p>For avoidance of doubt, this includes, but is not limited to, any software required for configuration, emulation, or simulation of Equipment configuration.</p>	Mandatory
3.2.2.	<p>The Contractor will procure for the Authority all licences required for the use of any software required to configure, operate, or maintain the Equipment by the Authority.</p>	Mandatory
3.2.3.	<p>If the Contractor updates or re-issues software either to resolve bugs or to introduce new features, the Contractor will issue an updated copy of the software along with the release information to the Authority via the System.</p>	Mandatory
3.2.4.	<p>If the Contractor becomes aware of any software or hardware vulnerability that may impact the correct or safe operation of any Equipment, the Contractor will immediately notify the Authority and agree a plan with the Authority on what action to undertake.</p> <p>The notification should be relayed via the System to the Authority's Project Manager within 24 (twenty-four) hours of any applicable vulnerability being identified and include a report that covers, but is not limited to, the impact of the vulnerability, its severity, any identified risk/hazard, scale (in terms of number of sites/units affected in the Lot).</p>	Mandatory
3.2.5.	<p>The Contractor will provide the Authority with licences allowing the Authority to use associated software in perpetuity.</p>	Mandatory
3.2.6.	<p>The Contractor will provide any hardware for hardware-based protection which is required for the use of any software to the Authority. This includes, but is not limited to, USB dongles or keys.</p>	Mandatory
3.2.7.	<p>The number of software licences for each configuration or Maintenance tool along with any required hardware protection devices shall be provided to the Authority will be a minimum of 3 (three) or one for every 50 (fifty) items of equipment installed, whichever is greater.</p>	Mandatory

3.2.8.	The Authority will request additional software licences and hardware protection tools via the System.	For information
3.2.9.	Any software required to configure, maintain, or operate the supplied Equipment will be compatible for use on the most recent long-term servicing channel (LTSC) version of Microsoft (MS) Windows at the Contract Commencement Date. For additions to the Authority Approved Equipment List in line with paragraph 3.4.4 of this Schedule 3, compatibility with the LTSC version of MS Windows at the date of submission will be required.	Mandatory
3.2.10.	The Contractor will provide any hardware required beyond a standard MS Windows laptop which is required to permit the interaction between software and Equipment at the request of the Authority.	Mandatory
3.2.11.	Where Installed Equipment was not part of the Authority Approved Equipment List at the Contract Commencement Date the Contractor will provide any hardware required beyond a standard MS Windows laptop which is necessary to permit the interaction of software and Equipment at the request of the Authority.	Mandatory
3.2.12.	When the Contractor issues or becomes aware of any firmware upgrades, it will notify the Authority via the System within 5 (five) business days.	Mandatory
3.2.13.	The Contractor will only install Equipment with firmware that has been approved by the Authority. If Equipment is Installed with an unapproved version of firmware the Contractor will replace it immediately with an approved version prior to any Acceptance Testing.	Mandatory

3.3. Modification requiring expansion of functionality for Supported Equipment		
3.3.1.	<p>Unless otherwise specified in the Works Instruction or Works Order for a Modification or a partial Modernisation, the Contractor will demonstrate to the Project Manager's satisfaction the use of all reasonable endeavours to expand, including proposing additions to the Authority's Approved Equipment List, where required, the following functionality within a Unit or Unit(s) of Supported Equipment with an Obsolescence Factor of 1 or 2 in preference to its replacement with New Installed Equipment:</p> <ul style="list-style-type: none"> a) The available digital inputs and outputs b) The number of phases; and c) The number of box signs and secret signs 	Mandatory
3.4. List of Equipment		
3.4.1.	The Contractor will be responsible for seeking approval from the Authority in order to add to or replace Equipment as set out in the latest version of Annex E2: Authority Approved Equipment List to this Schedule 3 in accordance with the Contract.	Mandatory
3.4.2.	The Authority reserves the right to reject any Equipment proposed by the Contractor to add to or replace Equipment on the Authority Approved Equipment List.	For Information Only
3.4.3.	<p>Subject to paragraph 3.4.6 of this Schedule 3 within 20 (twenty) Business Days of the Contract Commencement Date for any Equipment that the Contractor proposes to supply and wishes to be added to the Authority Approved Equipment List, the Contractor will provide the Authority with the information required under paragraph 3.4.7 of this Schedule 3.</p> <p>The Authority will respond in line with paragraph 3.4.9 of this Schedule 3 within 20 (twenty) Business Days.</p>	Mandatory

3.4.4.	<p>Subsequent to the initial submission under paragraph 3.4.3 of this Schedule 3 for any additional Equipment that the Contractor proposes to supply and wishes to be added to the Authority Approved Equipment List, the Contractor will provide the Authority with the information required under paragraph 3.4.7 of this Schedule 3.</p> <p>The Authority will respond in line with paragraph 3.4.9 of this Schedule 3 within 10 (ten) Business Days.</p>	Mandatory
3.4.5.	<p>Where an existing item of Approved Equipment undergoes incremental changes to any of hardware, software and firmware the Contractor will request an update to Annex E2: Authority Approved Equipment List to this Schedule 3 by providing the Authority with the updated affected product information with reference to paragraph 3.4.7 of this Schedule 3 as applicable to the change and specific details of the change for the Authority to review.</p> <p>The Authority will respond in line with paragraph 3.4.9 of this Schedule 3 within 10 (ten) Business Days.</p> <p>Where the Authority determines that the scope of the change warrants consideration as an Innovation Project as defined in Schedule 22, the Authority will notify the Contractor of the rejection and the change may be proposed by the Contractor in line with Schedule 22.</p>	Mandatory
3.4.6.	<p>The Contractor will provide copies of the software or firmware that has been updated for review and/or compatibility testing by the Authority and Third Parties when requested by the Authority.</p>	Mandatory

3.4.7.	<p>A Contractor's submission to the Authority for Equipment approval will include as a minimum:</p> <ul style="list-style-type: none"> (1) Certificates confirming compliance with Electromagnetic Conformity (EMC) 2014/30/EU regulation (2) Certificates detailing the Traffic Open Products And Specifications (TOPAS) certification (where specified) along with the details of any exceptions provided as part of the TOPAS Certification. (3) Certificates detailing any Environmental testing or compliance as required by Equipment Specification and / or TOPAS. (4) FAT plans (if applicable in line with Annex E4: Testing to this Schedule 3). (5) Details of any firmware/software versions required to operate with the Authority's Systems. (6) Details of the manufacturer's warranty covered by section 3.5 of this Schedule 3. (7) Details of their Installation, Maintenance and Decommissioning processes, including manuals and guides explaining fully how to maintain, communicate with and configure the Equipment. (8) A detailed explanation of the capabilities of the Equipment as well as how to operate the Equipment within the roadside environment (9) Details of the unmetered supplies ("UMS") charge code from www.elexon.co.uk. (10) Details of predicted or actual Mean Time Between Failures (MTBFs) for all relevant Equipment (including individual Controllers) as well as predicted or actual MTBFs for the individual Assemblies and Sub-Assemblies that make up any Whole Unit. 	Mandatory
3.4.8.	<p>Where the Authority confirms an item as Approved Equipment it will form a new entry in Annex E2 (Authority Approved Equipment List) to this Schedule 3. For the avoidance of doubt until the updated item is specifically included as Approved Equipment the Contractor will not Install it at Site.</p>	Mandatory

3.4.9.	<p>For each item of Equipment that is the subject of a request under any one of paragraphs 3.4.3, 3.4.4 or 3.4.5 of this Schedule 3 or the Authority will respond with one of the following:</p> <ul style="list-style-type: none"> a) the timescales for Authority review and provision of outcome of that review; b) the Authority's reasonable regime for testing and review and anticipated timescales, for example to check interaction with Authority Systems; c) reasonably request further information from the Contractor, such as performance data from equivalent use elsewhere; or d) reject the proposal in line with paragraph 3.4.2 or paragraph 3.4.5 of this Schedule 3. 	For Information Only
3.4.10.	<p>The Authority reserves the right to audit the Equipment included on the Authority Approved Equipment List from time to time. If any of the Equipment does not meet the criteria set out in the Contract, the Authority reserves the right to remove such Equipment from the Authority Approved Equipment List and the Contractor will provide replacement Equipment to be Installed which complies with the required Equipment Specifications and is duly included in the Authority Approved Equipment List in line with this section 3.4 of this Schedule 3.</p>	Mandatory
3.4.11.	<p>For Equipment which requires software for configuration or operation, information on how to use the software will be provided to the Authority.</p>	Mandatory
3.4.12.	<p>If the Contractor becomes aware that any Documentation has changed during the Contract, the Contractor must advise the Authority within 5 (five) Business Days and provide the updated Documentation using the System with that notification.</p>	Mandatory
3.5. Equipment Guarantee		

3.5.1.	<p>The Contractor will be responsible for all Installed Equipment forming part of the Works and Services, until such time as:</p> <p>a) Maintenance Works: the successful Commissioning of any Equipment; or</p> <p>b) Capital Works: Upon Authority issuance of a Take-Over Certificate</p> <p>The ownership of any Installed Equipment supplied by the Contractor will pass to the Authority upon either a) or b) above as applicable.</p>	Mandatory
3.5.2.	<p>The Contractor will ensure that all Equipment complies with all statutory requirements and regulations relating to its sale and use.</p>	Mandatory

3.5.3	<p>The Contractor provides the following undertakings:</p> <p>a) Subject to paragraph 3.5.3 (c) below, the Contractor will ensure that all Equipment of New Condition Installed in the performance of the Works and Services, is designed to have a minimum Service Life in line with the Equipment types and periods set out in paragraph 3.5.4 of this Schedule 3.</p> <p>b) Without prejudice to the generality of paragraph 3.5.3 (a) above and subject to paragraph 3.5.3 (c) below, the Contractor will procure and provide a guarantee in favour of the Authority that:</p> <p>(i) in relation to Equipment (whether a Whole Unit, an Assembly or a Sub-Assembly) of New Condition, including Controllers, Installed in performance of the Works and Services: All Equipment Installed in the execution of Works and Services has a Service Life in line with the Equipment types and periods set out in paragraph 3.5.4 of this Schedule 3 from the date of Commissioning or issue of the Authority Take-Over Certificate as appropriate; and</p> <p>(ii) in relation to Equipment (whether a Whole Unit, an Assembly or a Sub-Assembly) (and whether New Condition or not), including Controllers, which are replacement parts for Units within Supported Equipment which are to be Installed in performance of the Works and Services: All Equipment Installed in the execution of Works and Services has a Service Life from the date of Commissioning or issue of the Authority Take-Over Certificate as appropriate in line with the Equipment types and periods set out in paragraph 3.5.4 of this Schedule 3.</p> <p>c) Where a Unit is being replaced within Supported Equipment as part of the Services which has an Obsolescence Factor of 3 or 4, and the Contractor is required to use Free Issue Equipment as a replacement part for any Unit within Supported Equipment in accordance with Clause 9 of the Contract, the obligations set out in paragraphs 3.5.3 (a) and (b) above will not apply solely in respect of that replacement part.</p>	Mandatory
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3.5.4

Where referenced in the specified parts of **paragraphs 3.5.3 (a) and (b)** of this Schedule 3 the minimum Service Life of Equipment Installed by the Contractor in the performance of Works and Services will be:

Equipment type	under paragraphs 3.5.3 (a) and 3.5.3(b) (i)	under paragraph 3.5.3 (b) (ii)	
		Obsolescence Factor	
		1 and 2	3 and 4
i. Controllers	15 years	15 years	5 years
ii. Equipment exclusively powered with replaceable batteries	15 years	15 years	5 years
iii. Equipment exclusively powered with non-replaceable batteries	7 years	N/A	N/A
iv. other electronics	10 years	10 years	5 years
v. cables	20 years	N/A	N/A

Mandatory

	vi.	Equipment housings and cabinets	15 years	15 years	10 years	
	vii.	poles / columns	25 years	N/A	N/A	
	viii.	sub-surface infrastructure (e.g. ducts, drawpits, foundations, etc)	50 years	N/A	N/A	
	Where an item in the table above is marked N/A the type of Equipment will need to be Installed with the minimum Service Life of a New Unit when replaced.					
3.5.3.	The age of any element of a Site that exceeds a minimum Service Life duration set out above will not limit in any way the obligations of the Contractor to deliver Works and Services as required.					Mandatory
3.5.4.	The Contractor shall ensure that the benefit of any warranty provided by a manufacturer of Equipment is provided to the Authority and any Third Party nominated by the Authority upon request by the Authority.					Mandatory

3.6. Quality Assurance		
3.6.1.	The Contractor will ensure that all Equipment supplied has been subjected to the relevant manufacturer's quality assurance procedures which will be no less rigorous than the requirements of BS EN ISO 9001 including final inspection and certification prior to Installation.	Mandatory
3.6.2.	Where there is not an obligation expressed to do so within the Contract, the Contractor shall make copies of inspection Documentation and certificates in respect of any item of Equipment available to the Authority upon request.	Mandatory
3.6.3.	The Contractor will provide the Authority with a copy of the scope of the BS:EN ISO 9001 approval or its equivalent together with a copy of its current registration certificate in relation to any item of Equipment within 2 (two) Business Days of any request by the Authority.	Mandatory

3.7. Certificates and Documents		
3.7.1.	The Contractor will make available all operational information, data and software in relation to the Equipment that the Contractor is responsible for supplying to the Authority in accordance with Annex E1: Equipment Specifications to this Schedule 3.	For Information Only
3.7.2.	On request by the Authority, the Contractor will provide the Authority or any other contractor within the TTC Framework by no later than 5 (five) Business Days from the time of the request all operational information, data and software relating to the relevant Equipment.	Mandatory

3.8. Third Party installation and Maintenance		
3.8.1.	Subject to the details being confirmed within the Build Brief, the Contractor will provide mechanisms or interfaces which allow other Third Party equipment to interface to or monitor the Supported Equipment with approval from the Authority..	Mandatory
3.8.2.	The Contractor will notify the Authority and seek Authority approval for all proposed modifications to the design of any Supported Equipment that may affect its performance.	Mandatory
3.8.3.	<p>For any modifications to Supported Equipment that do not affect the fit, form or function of any Supported Equipment, it will be sufficient for the Contractor to advise the Authority, on a quarterly basis, of such modifications indicating the Supported Equipment affected, the reason for the change, and the Contractor's recommendations for the implementation of such change.</p> <p>Should this modification subsequently negatively affect the fit, form or function of the Supported Equipment, the Contractor will carry out any required rectification Works at its own cost.</p>	Mandatory
3.8.4.	<p>For any hardware modifications to the Supported Equipment supplied by the Contractor, the Contractor will provide details of the modification including but not limited to and if specifically requested by the Authority, the circuit layout diagrams.</p> <p>Hardware modifications specifically relate to changes introduced as a result of:</p> <ul style="list-style-type: none"> a) design failure b) maintainability c) serviceability d) safety aspects; and / or e) operational enhancements 	Mandatory

3.8.5.	<p>For any software modifications to the Supported Equipment supplied by the Contractor, the Contractor will provide details of the modification including but limited to and if specifically requested by the Authority, software flow diagrams.</p> <p>Software modifications, specifically relate to changes introduced as a result of:</p> <ul style="list-style-type: none"> a) design failure b) safety aspects c) operational enhancements. 	Mandatory
3.8.6.	<p>Where the Contractor undertakes Works out of the Contract Area the Authority reserves the right to specify Equipment to be used in line with paragraph 3.1.9 of this Schedule 3.</p>	For Information Only

3.9. Testing		
3.9.1.	The Contractor will submit Factory Acceptance Test plans for Equipment detailed in Annex E4: Testing to this Schedule 3 to the Authority using the System and / or process to be advised by the Authority within 30 (thirty) Business Days of the Contract Commencement Date for review and acceptance by the Authority.	Mandatory
3.9.2.	The Factory Acceptance Tests will be conducted by the Contractor for each item of proposed Installed Equipment for types specified in Annex E4: Testing to this Schedule 3 prior to installation and witnessed by the Authority at its discretion to demonstrate compliance with the Contract, including but not limited to Annex E1: Equipment Specifications to this Schedule 3.	Mandatory
3.9.3.	The Factory Acceptance Tests will also be conducted by the Contractor as per Annex E4: Testing to this Schedule 3 as specified within the Works Instruction.	Mandatory
3.9.4.	For Traffic Signal Controller Configurations the Contractor will complete the Factory Acceptance Tests for Traffic Signal Configurations defined in Annex E4: Testing to this Schedule 3 for each Controller Configuration which will be witnessed by the Authority at its discretion.	Mandatory
3.9.5.	The Local Acceptance Tests defined in Annex E4: Testing to this Schedule 3 will be conducted by the Contractor for each Installation and witnessed by the Authority at its discretion.	Mandatory
3.9.6.	<p>The Contractor will ensure that prior to the attendance by the Authority to witness any Testing the Contractor has completed as applicable to that attendance:</p> <ul style="list-style-type: none"> a) the applicable Factory Acceptance Tests, as agreed in line with paragraph 3.9.1 above; and/or b) a thorough and successful validation of the Site in line with the Local Acceptance Tests defined in Annex E4: Testing to this Schedule 3. 	Mandatory
3.9.7.	The detailed outcome of any testing, including a completed checklist, will be provided to the Authority via the System within 2 (two) Business Days of completion of the Tests.	Mandatory

3.10. Training		
3.10.1.	The Contractor will provide 15 days' training per year for the Authority's use. Each session will accommodate up to 8 (eight) people excluding online attendance. Any additional training days will be as per Schedule 6 Part B.	Mandatory
3.10.2.	The Contractor will provide for the Authority's review and acceptance, proposals for installation and maintenance training courses on the Equipment which the Contractor will supply to the Authority as part of this Contract. The courses will provide the Authority and any Third Party engineers with sufficient instructions, supported by full documentation, to enable them to become reasonably familiar, as users, with the construction, programming, Installation, Commissioning and Maintenance of the Equipment proposed. The Contractor will provide the Equipment for such courses.	Mandatory
3.10.3.	The Contractor will provide the Authority with a proposal for training on Controller Configuration and simulation software for the Authority's review and acceptance and the Contractor will hold such training courses at the Authority's premises or at a suitable Third Party's premises which may include the premises of another TTC Framework contractor.	Mandatory
3.10.4.	The Contractor will ensure that all courses provided by the Contractor for the Authority and other contractors on the TTC Framework comply with the Highway Electrical Registration Scheme (HERS) or an equal accreditation mutually agreed with the Authority.	Mandatory
3.10.5.	The Contractor will provide training at either the Contractor's or the Authority's premises, online, or a combination of both. The choice of venue shall be proposed by the contractor for authority approval. Online training will be recordable and made available to the authority within 5 (five) Business Days of the end date of the course.	Mandatory

3.11. Obsolescence

3.11.1.	<p>Within 1 (one) week of the Contract Commencement Date, the Authority will issue the Contractor a schedule of Equipment in the Pre-existing Installed Base with details of equipment age and Obsolescence Factor.</p> <p>Within 4 (four) weeks of the Works Commencement Date, the Contractor will, for each Lot, provide the Authority with a proposed Obsolescence List for Authority consideration. The proposed Obsolescence List will:</p> <p>a) detail the current Obsolescence Factor of:</p> <ul style="list-style-type: none">(i) each Whole Unit of Supported Equipment. A Whole Unit shall be given the Obsolescence Factor by applying the lowest Obsolescence Factor for an Assembly or Sub-Assembly within that Whole Unit;(ii) each Assembly within Supported Equipment; and(iii) each Sub-Assembly within Supported Equipment; <p>and</p> <p>b) set out, broken down by Whole Unit (where there is only one Assembly within that Whole Unit), Assembly and Sub-Assembly within Supported Equipment with an Obsolescence Factor of 2 (two), 3 (three) or 4 (four):</p> <ul style="list-style-type: none">(i) quantities of Spares and Free Issue Equipment held by the Contractor for each such Unit of Supported Equipment, providing details of type of Spare, Equipment to which it relates, manufacturer, make, and model as further explained in paragraph 3.11.2 of this Schedule 3; and(ii) the Contractor's recommended replacement item and if that item is not already on the Authority Approved Equipment List their anticipated date for a proposal to be submitted.	Mandatory
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3.11.2.	<p>The Contractor's proposed Obsolescence List will distinguish between Whole Units (where there is only one Assembly within that Whole Unit), Assemblies and Sub-Assemblies held by the Contractor which are:</p> <ul style="list-style-type: none"> a) Spares held by the Contractor in stock at any of its premises and available for use in respect of Equipment; and b) Free Issue Equipment held by the Contractor in line with section 3.12 of this Schedule 3, and the Contractor will ensure that in respect of each item of Free Issue Equipment it holds the list specifies whether each item: <ul style="list-style-type: none"> (i) is known to be fully operational and ready to be Installed; or (ii) is known to have specific failures (details of which the Contractor shall provide); or (iii) has not been tested and it is therefore unknown whether or not such Free Issue Equipment is fully operational or has specific failures. 	Mandatory
3.11.3.	At least every 65 Business Days from the end of the period for submission of the Contractor's first proposed Obsolescence List under paragraph 3.11.1 of this Schedule 3, the Contractor will supply to the Authority an updated proposed Obsolescence List for the Project Manager's consideration.	Mandatory
3.11.4.	The Authority will combine the Obsolescence List with the same submitted by other TTC contractors to create and maintain the Master Obsolescence List.	For Information Only
3.11.5.	The Authority will update the Master Obsolescence List within 20 (twenty) Business Days of a quarter in which it has received any proposed changes to the Obsolescence List from the Contractor or confirm there are no changes to apply. The Authority will issue an updated Master Obsolescence List to all contractors.	For Information Only
3.11.6.	Within 60 (sixty) Business Days of Contract Commencement the Contractor will inform the Authority of their proposed Minimum Spares Threshold for Supported Equipment with an Obsolescence factor of 3 (three) and 4 (four), for Acceptance by the Authority. The Contractor will report stock levels for Supported Equipment with Minimum Spares Thresholds to the Authority every 6 (six) months following acceptance.	Mandatory

3.11.7.	The Contractor will notify the Authority within 5 (five) Business Days of becoming aware when its stock level of any Spare for Supported Equipment falls below the accepted Minimum Spares Threshold.	Mandatory
3.11.8.	Other than as identified in paragraph 3.11.9 of this Schedule 3, the Contractor is responsible for the Maintenance of all Supported Equipment with any Obsolescence Factor and of any age.	Mandatory
3.11.9.	Where a Unit has an Obsolescence Factor of 4 (four) the Contractor will use best endeavours to source suitable Whole Units, Assemblies, Sub-Assemblies and/or fabricated items from other suitable alternative manufacturers or suppliers, other than in respect of the Equipment listed in Annex E5 (Authority's Exempt Equipment List) to this Schedule, as updated from time-to-time by the Authority at the Project Manager's sole discretion.	For Information Only
3.12. Free Issue Equipment and Authority Spares		
3.12.1.	<p>The Authority may establish and maintain a stock of Whole Units, Assemblies and Sub-Assemblies for its own purposes, including, but not limited to, supporting its obsolescence and asset investment strategies, to be provided to the Contractor for its incorporation within the Works as Free Issue Equipment.</p> <p>Where this Equipment is recovered under a Works Instruction or Works Order and subsequently added to the inventory of Free Issue Equipment those items so recovered are defined as Authority Spares.</p> <p>Where the Authority has access to existing recovered equipment at the Works Commencement Date these will be transferred to the Contractor as Authority Spares as agreed during the Mobilisation Period.</p>	For Information Only
3.12.2.	Where Equipment is removed from a Site that is the subject of a Works Instruction or a Works Order the Contractor will separately store such Equipment as Recovered Quarantined Goods as set out in paragraph 3.12.3 of this Schedule 3.	Mandatory

3.12.3.	The Contractor's Recovered Quarantined Goods store(s) will allow the Equipment removed in line with paragraph 3.12.2 of this Schedule 3 to be set down safely and securely and permit its assessment and sorting by the Contractor prior to disposal at the Project Manager's discretion.	Mandatory
3.12.4.	<p>Following the Works Commencement Date, the Contractor will submit via the System by the end of the first week of each Reporting Period a list itemising each Whole Unit, Assembly or Sub-Assembly held as Recovered Quarantined Goods, detailing:</p> <ul style="list-style-type: none"> a) the Site from which it was removed; b) serial number (where available) c) manufacturer, make, and model; d) the Obsolescence Factor in line with the Master Obsolescence List; and e) expected condition as either: <ul style="list-style-type: none"> (i) expected to be fully operational and ready to be Installed; or (ii) expected to have specific failures (details of which the Contractor shall provide). 	Mandatory
3.12.5.	<p>Within 10 Business Days of receipt of the Contractor's list of Recovered Quarantined Goods provided under paragraph 3.12.4 of this Schedule 3, the Authority will review the list and determine and reply to the Contractor details of the items:</p> <ul style="list-style-type: none"> a) to be retained by the Contractor as Authority Spares; and b) to be transferred to the Contractor for disposal of by the Contractor acting in compliance with paragraph 3.1.12 of this Schedule 3 and the requirements of Schedule 25 (Environment). <p>Annex E7 (Authority Spares – indicative volumes) to this Schedule 3 is provided as an indication of the anticipated quantities of Authority Spares of various types to be held for the Lot at any one time.</p>	For Information Only
3.12.6.	The Contractor will ensure that any Equipment retained as Authority Spares in line with paragraph 3.12.5 of this Schedule 3 is cleaned and made fit for purpose for future use.	Mandatory

3.12.7.	In addition to Authority Spares the Authority reserves the right to supply Whole Units, Assemblies and Sub-Assemblies as Free Issue Equipment to the Contractor.	For Information Only
3.12.8.	The Contractor will store any Free Issue Equipment, including Authority Spares, in accordance with the Authority's instructions and, in the absence of such instructions, will store Free Issue Equipment in accordance with Good Industry Practice until such time as the Authority provides instructions. Storage will be secure and protect the integrity and function of the Free Issue Equipment.	Mandatory
3.12.9.	<p>While in storage at the Contractors facility, the Contractor will clearly identify any Free Issue Equipment / Authority Spares / Recovered Quarantined Goods as belonging to and being the property of Transport for London and the same shall be set aside from and be separate from Contractor owned materials.</p> <p>The serial number referring back the list detailed in paragraph 3.12.4 for each item of Equipment / Authority Spares / Recovered Quarantined Goods stored by the Contractor shall be clearly displayed,</p> <p>The Contractor shall be fully responsible for the integrity and maintenance of any labelling / markings ensuring it is fit for its intended purpose.</p> <p>While in storage at the Contractors facility, the Contractor shall be liable for any loss or damage, for whatever reason, to Free Issue Equipment / Authority Spares / Recovered Quarantined.</p> <p>The Authority may, at its discretion, inspect the Contractors storage facility and any Free Issue Equipment / Authority Spares / Recovered Quarantined Goods stored within it.</p>	Mandatory
3.12.10.	When required the Contractor will distribute any Free Issue Equipment in accordance with the Authority's instructions, including but not limited to distribution to the premises or Sites of other TTC contractors, Authority Premises or Third-Party Premises.	Mandatory

3.12.11.	Free Issue Equipment including Authority Spares remain the property of the Authority. The Contractor will not dispose of, use, employ or otherwise consume any item(s) or parts of Free Issue Equipment without the express written permission of the Authority.	Mandatory
3.12.12.	<p>Following the Works Commencement Date, the Contractor will by the end of the first week in each Reporting Period provide the Authority via the System a list identifying the Free Issue Equipment it is storing.</p> <p>The list will identify:</p> <p>a) for each description of Whole Unit, Assembly or Sub-Assembly stored by the Contractor at the close of the preceding Reporting Period:</p> <ul style="list-style-type: none"> (i) the quantity held that are: <ul style="list-style-type: none"> 1) known to be fully operational and ready to be Installed; or 2) known to have specific failures (details of which the Contractor shall provide); or 3) have not been tested and it is therefore unknown whether it is fully operational or has specific failures. (ii) the change, if any, in the quantity held from the preceding list issued <p>b) for each Whole Unit, Assembly or Sub-Assembly that the Contractor has deployed in the preceding Reporting Period as agreed by the Authority in line with paragraph 3.12.11 of this Schedule 3:</p> <ul style="list-style-type: none"> (i) the Site reference number at which <p>and</p> <ul style="list-style-type: none"> (ii) Fault number or Works Order reference against which <p>the Authority Spare was used.</p>	Mandatory

ANNEX E1: EQUIPMENT SPECIFICATIONS

Document ID	Document Title	Version	Date
TES-100	Requirements Pertaining to All Equipment	2	April 2021
TES-101	Traffic Signal Controller for Traffic Signals	2	April 2021
TES-102	Pole Mounted Signs for Traffic Signals	3	April 2021
TES-103	Push Buttons for Traffic Signals	2	April 2021
TES-104	Audible Unit for Traffic Signals	2	April 2021
TES-105	Contact-Closure Detector for Traffic Signals	2	April 2021
TES-106	Cycle Safety Mirror for Traffic Signals	2	April 2021
TES-107	Tactile Unit for Traffic Signals	2	April 2021
TES-108	Adaptive Dynamic Control System for Traffic Signals	2	April 2021
TES-109	Poles for Traffic Signals	2	April 2021
TES-110	IPOTU for Traffic Control Assets	2	April 2021
TES-111	Pedestrian Quantity Detector for Traffic Control Assets	2	April 2021
TES-112	Unmanaged Network Switch for Traffic Control Assets	2	April 2021
TES-113	NGRM for Traffic Control Assets	2	April 2021
TES-114	PJL for Traffic Control Assets	2	April 2021
TES-115	Ethernet Extenders for Traffic Control Assets	1	May 2021
TES-130	Variable Message Sign System	2	April 2021
TES-140	Overheight Vehicle Detection System	2	April 2021

TES-141	Columns for Overheight Vehicle Detection Systems	2	April 2021
TES-160	Wig-Wag Signal Control Equipment	2	April 2021

Documentation included in Schedule 27.

ANNEX E2: AUTHORITY APPROVED EQUIPMENT LIST

Authority Approved Equipment list included within Schedule 27

ANNEX E3: STANDARDS, GUIDANCE & INFORMATION (TES-200S)

Document ID	Document Title	Version	Date
TES-200	Electrical Standard (Design) for Traffic Control Assets	2	April 2021
TES-201	Electrical Standard (Inspection and Testing) for Traffic Control Assets	2	April 2021
TES-202	Electrical Standard (Decommissioning) for Traffic Control Assets	2	April 2021
TES-203	TfL Controller Specification Guidance for Traffic Signals	1	April 2021
TES-204	Service Duct and Chamber Survey for Traffic Control Assets	2	April 2021
TES-205	Cable Survey for Traffic Control Assets	2	April 2021
TES-206	Poles in Temporary Foundations for Traffic Signals	3	April 2021
TES-207	iBus Equipment and Interface for Traffic Signals	2	April 2021

Documentation included in Schedule 27.

ANNEX E4: TESTING

Document ID	Document Title	Version	Date
TES-300	List of Equipment requiring a Factory Acceptance Test	2	April 2021
TES-301	Guidance Document for Factory Acceptance Testing for Traffic Signal Asset Configurations	1	April 2021
TES-302	Factory Acceptance Testing for Traffic Signal Asset Configurations Checklist	1	April 2021
TES-303	Guidance Document for Local Acceptance Testing for Traffic Signal Assets	1	April 2021
TES-304	Local Acceptance Testing for Traffic Signal Assets Checklist	1	April 2021
TES-305	Guidance Document for Local Acceptance Testing for CCTV Out-Station Assets	1	April 2021
TES-306	Local Acceptance Testing for CCTV Out-Station Assets Checklist	1	April 2021
TES-307	Guidance Document for Local Acceptance Testing for VMS Assets	2	April 2021
TES-308	Local Acceptance Testing for VMS Assets Checklist	2	April 2021
TES309	Guidance Document for Local Acceptance Testing for OVD Assets	2	April 2021
TES-310	Local Acceptance Testing for OVD Assets Checklist	2	April 2021

Documentation included in Schedule 27.

ANNEX E5: AUTHORITY'S EXEMPT EQUIPMENT LIST

Peek TSC3 traffic signal controller
Microsense MTC traffic signal controller
Peek Series 1 traffic signal controller
Microsense MPC traffic signal controller
Plessey T200 MK 2 UTC Semi VA Controller
STCL T400 MK 1 UTC Controller with Integral Facilities
Red Lamp Monitoring Unit (Microsense)
Lamp Monitoring Unit (Microsense)
Peek Integral Monitoring Unit (IMU)
Microsense MPC Integral Monitoring Unit (IMU) Pelicans
Microsense MTC Integral Monitoring Unit (TCAM IMU)
Siemens Gemini 2 MOVA Unit
Siemens Gemini 2 OMU
Siemens Gemini 2 OMU (Bus Processor) iBus
Variable message VMS Limited Mk 1 160 Characters
Variable message VMS Limited Mk 1 240 Characters
Variable message VMS Limited Mk 1 240C Characters
Variable message VMS Limited Mk 1 240W Characters
Variable message VMS Limited Mk 1 400 Characters
Variable message VMS Limited Mk 2 100 Characters

Variable message VMS Limited Mk 2 160 Characters
Variable message VMS Limited Mk 2 240 Characters
Variable message VMS Limited Mk 3 240 Characters
Coeval Overheight Vehicle Det. Contr.
Dambach Overheight Vehicle Det. Contr.
Sunken Bench Controller Outer-case (Siemens)

ANNEX E6: OBSOLESCENCE FACTOR TABLE

Obsolescence Factor	Title	Description (which should be on a Whole Unit basis, an Assembly basis and a Sub-Assembly basis)
1 (one)	Current Production	Units (which should be on a Whole Unit basis, an Assembly basis and a Sub-Assembly basis) being manufactured; Spares widely available; Units (which should be on a Whole Unit basis, an Assembly basis and a Sub-Assembly basis) repairable.
2 (two)	Ceased Production (A)	Units (which should be on a Whole Unit basis, an Assembly basis and a Sub-Assembly basis) no longer being manufactured; Spares widely available; Units (which should be on a Whole Unit basis, an Assembly basis and a Sub-Assembly basis) repairable.
3 (three)	Ceased Production (B)	Units (which should be on a Whole Unit basis, an Assembly basis and a Sub-Assembly basis) no longer being manufactured; <u>Either</u> Spares unavailable <u>or</u> Units (which should be on a Whole Unit basis, an Assembly basis and a Sub-Assembly basis) not repairable.
4 (four)	Un-maintainable (Obsolete – Replace)	Units (which should be on a Whole Unit basis, an Assembly basis and a Sub-Assembly basis) no longer being manufactured; <u>Both</u> Spares unavailable <u>and</u> Units (which should be on a Whole Unit basis, an Assembly basis and a Sub-Assembly basis) not repairable and the Contractor has used best endeavours to source or Assemblies, Sub-Assemblies and or fabricated items from other suitable alternative manufacturers or suppliers.

ANNEX E7: AUTHORITY SPARES – INDICATIVE VOLUMES

Type	Indicative quantity
traffic signal controllers (complete)	15
outstation/monitoring units	25
Routers	5
above-ground detector units	30
Secret Signs	5
LV 3-aspect signal heads	15
ELV 3-aspect signal heads	15
LV 2-aspect signal heads	10
ELV 2-aspect signal heads	10
LV 1-aspect signal heads (e.g. green arrow / cycle / PCaTS)	20
ELV 1-aspect signal heads (e.g. green arrow / cycle / PCaTS)	20
low-level cycle signals	6
standard push button units	20
small push button units	10
nearside 2-aspect repeaters	5
nearside 3-aspect demand units (with integrated push button)	5
regulatory sign panels	20

Type	Indicative quantity
push button panels	10
audible units	10
tactile cones and driver units	10
magnetometer access points	10
magnetometer repeater units	10
blind-spot safety mirrors	5
OVD detector pairs	6



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 3 (THREE) – SOUTH

Schedule 3

Statement of Requirements

Part 4 - Maintenance

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SCHEDULE 3

STATEMENT OF REQUIREMENTS PART 4: MAINTENANCE

4. PART 4: MAINTENANCE

This Part 4 of the Statement of Requirements will not be read in isolation but will be read and complied with in conjunction with all other parts of the Statement of Requirements.

This section outlines the Contractor's obligations to provide Maintenance Services within the Lot, including, but not limited to:

- Reactive Maintenance, including attendance at Directions issued by the Authority;
- Emergency Maintenance;
- responsibilities where All-Outs and Switch Outs occur;
- actions required where Third Party Damage occurs;
- responsibilities relating to Vermin, Vandalism and Graffiti; and
- Preventative Maintenance, including but not limited to Periodic Inspections, Condition Inspections, and Electrical Testing Inspections.

Maintenance activities to be carried out by the Contractor under the Fixed Unit Rate will include but not be limited to:

- attendance at all Faults, making the Site Safe and the Rectification of any Faults in accordance with the Service Levels;
- Rectification of all Faults in Traffic Signals, including Rectification of all Third Party Damage, except where Sufficient Evidence is submitted to the Authority in respect of such Third Party Damage to allow Contractor compensation to Rectify damage in accordance with **section 4.9.2** of this Schedule;
- Rectification of Faults affecting Sub-Surface Detection except where:
 - a) the Authority issues a Works Order or Works Instruction in respect of such Faults in accordance with **paragraph 4.22.3** of this Schedule; or
 - b) the Fault does not relate to the part of the Sub-Surface Detection which lies in the carriageway and Sufficient Evidence is submitted to the Authority that such failure was caused by Third Party Damage to allow the Contractor compensation to Rectify damage in accordance with **section 4.9.2** of this Schedule;
- Rectification of all Faults in Non-Traffic Signals at a Site excluding those arising from Third Party Damage;
- in the case of an Emergency Fault, attending the relevant Site and making that Site Safe within the response time set out in **section 0** of this Schedule from the point the Emergency Fault is notified to the Contractor via the System;

- Periodic Inspections, Electrical Testing Inspections, Condition Inspections, and cleaning;
- managing warranty repairs for all Equipment where such Equipment is still covered by the original Manufacturer's Warranty;
- storage of Free Issue Equipment;
- any Civil Engineering Works required to support the maintenance of Equipment;
- Design Services as detailed within Schedule 3 Part 1
- carrying out all Commissioning and Modifications within the Contract Area; and
- miscellaneous activities including, but not limited to:
 - (i) attendance at any Site affected by electricity supply failures;
 - (ii) rectifying Faults in Communication Infrastructure;
 - (iii) abortive call-outs where an erroneous Fault is recorded in the System;
 - (iv) first visit and subsequent reconnection visits to street signs not mounted on Traffic Signals and barrier failures including collaborative rectification;
 - (v) alterations to time switches and controller timings including any changes associated with British Summer Time start and end periods;
 - (vi) attendance to assist the Authority with configuration changes or updates on site (e.g. to rectify faults or bugs);
 - (vii) attendance at any Site where it is necessary for the Contractor to resolve responsibility for Communication Infrastructure Faults; and
 - (viii) attendance on Site following a serious incident to carry out the same Site check as a Periodic Inspection to verify the Site is operating correctly.

4.1. Maintenance – General Requirements		
4.1.1.	The Contractor will use the System as the primary means of conveying Equipment and Fault management information to the Authority.	Mandatory
4.1.2.	<p>The Contractor will ensure any updates to the Supported Equipment on each Site are captured on the System prior to leaving each such Site, either by direct update to the System by the Contractor or by notifying the Authority of each change to the Supported Equipment at the Site.</p> <p>Changes to volatile memory must be recorded at Site in an appropriate form (e.g. RAM sheet) and captured appropriately within the System within 1 (one) Business Day of completion of the Works.</p>	Mandatory
4.1.3.	The Contractor will, at all times whilst carrying out any Maintenance activity, supply and erect appropriate signage (e.g. "Traffic Signal Maintenance" or "Signs under Test") in accordance with the requirements contained in Schedule 16 Permitting, Traffic Management and Lane Rental.	Mandatory
4.1.4.	<p>The Contractor will provide all equipment required for the Contractor to access all elements of the Site and Equipment, including but not limited to:</p> <ul style="list-style-type: none"> • steps; • Mobile Elevated Working Platforms (MEWP); • welfare facilities and stores; • small tools; • vehicles; • cherry pickers; and • Major Traffic Management 	Mandatory
4.1.5.	The Contractor will record details of Equipment requiring for example MEWP, cherry picker, or Major Traffic Management, and other restrictions for access to carry out Maintenance of Equipment on the System as a note against the Site.	Mandatory

4.1.6.	The Contractor will ensure that all timings and time switch settings for Supported Equipment at a Site are in alignment with the timings as held in the System for that Site, and vice-versa, before leaving any Site.	Mandatory
4.1.7.	<p>The Contractor will ensure that where Supported Equipment is connected or disconnected or enabled or disabled, the following actions are taken by the Contractor prior to leaving the Site at any time:</p> <ul style="list-style-type: none"> • properly label all disconnected facilities indicating either a permanent or temporary disconnection; • record all actions in the Log Book; and • record, in plain English, all actions taken via the System. 	Mandatory
4.1.8.	<p>The Contractor will provide Site egress, exit and access and such assistance as is reasonably required by the Authority, including providing any necessary equipment requested by the Authority, to the Authority:</p> <ul style="list-style-type: none"> • when Faults that impact on the performance of the Equipment lie outside the technical boundaries of the Equipment; or • when the Authority reasonably wishes to inspect the standards of Maintenance provided by the Contractor, <p>from time to time, as may be reasonably required by the Authority.</p>	Mandatory

4.1.9.	<p>When carrying out Maintenance activities, the Contractor will, where applicable:</p> <ul style="list-style-type: none"> • ensure appropriate co-operation and coordination with the Principal Contractor or landowner and/or occupier; • conform to the health and safety requirements of the Principal Contractor, landowner and/or occupier; • conform to the security requirements of the Principal Contractor, landowner and/or occupier; and • ensure that any applicable wayleave agreements are adhered to. 	Mandatory
4.1.10.	<p>The Contractor will liaise, where necessary or required by the Authority, with Third Parties to ensure satisfactory completion of Maintenance. This includes, but is not limited to the following:</p> <ul style="list-style-type: none"> • all necessary liaison to ensure access to any applicable control rooms and remote centres which may be required for a particular Site; and • all necessary liaison with Third Parties to ensure access for Contractor Personnel, including any necessary security passes, to restricted sites, private property and those where wayleave agreements are in place. 	Mandatory
4.1.11.	<p>Where any boroughs within the Contract Area have not adopted the London Permit Scheme, the Contractor will apply for, and be responsible for, all New Roads and Street Works Act 1991 ("NRSWA") opening notices required in order to carry out work on the Borough Road Network</p>	Mandatory

4.1.12.	Where any Maintenance has resulted in a permanent change to the Site Layout Drawing or Electrical Design of a Site, the Contractor is responsible for updating the Site Layout Drawing, Electrical Design as per Annex E3, and Tagging Information and will submit to the Authority an updated copy of the revised Site Layout Drawing in AutoCAD format and Tagging Information in Excel format. This updated Site Layout Drawing will be provided to the Authority, via the System, within 7 (seven) Business Day of completion of the Maintenance. The updated Electrical Design and Tagging Information will be provided to the Authority, via the System, within 1 (one) Business Day of completion of Maintenance Works	Mandatory
4.1.13.	Sites are provided with a Hazard Register as a part of the Commissioning process. Where new Hazards are identified in connection with a Site or existing Hazards are eliminated or changed by Works, Contractors will inform the Authority with 24 (Twenty-four) hours of becoming aware of it.	Mandatory

4.2. Works Orders		
4.2.1.	<p>Works that may be instructed as Works Orders by the Authority and provided by the Contractor will be those parts of the Works and Services but not included in the Fixed Unit Rates for Maintenance including:</p> <ul style="list-style-type: none"> • Sub-Surface Detection Faults in accordance with paragraph 4.22.3; • modifications to existing Supported Equipment and Sites that constitute a minor design change; and • other Maintenance Works that may form part of the Services not included within the Fixed Unit Rate for Maintenance. <p>Works instructed as Works Orders are referred to as Ordered Maintenance.</p>	For Information Only
4.2.2..	<p>The Contractor will be prepared to mobilise and commence Ordered Maintenance activities specified in a Works Order at a minimum of 2 (two) hours notice if instructed by the Authority to do so, however the expected lead in time to start of activities will be 10 (ten) days from issue of the Works Order.</p>	For Information Only
4.2.3.	<p>Works Orders will be raised on the System by the Authority and will be carried out by the Contractor in accordance with the requirements supplied by the Authority, details of which may include:</p> <ul style="list-style-type: none"> • supplementary information with written description of requirements including dates and times of activities; • Fault reference number (if work is to Rectify a Fault); • a price for the works; and • Any items listed in paragraph 1.8.4 of part 1 of Schedule 3 	For Information Only

4.2.4.	<p>The Contractor will record at least the following, information on the System within 5 (five) days or any lesser period requested in the Works Order:</p> <ul style="list-style-type: none"> • the planned date(s) for works; • the contact details for the Contractor Personnel; • the conditions to be achieved; • any risks perceived in undertaking such works; • a price for the works based on the Schedule of Rates items in Schedule 6 part B; • the final Prices for the Works; and • any other requirements of the Works Order which may include items listed in paragraphs 1.8.5 and 1.8.6, of part 1 of Schedule 3 <p>along with any other information requested by the Authority from time to time.</p>	Mandatory
4.2.5.	Works Orders are assessed in the same way as Works Instructions.	For Information Only
4.2.6.	The Contractor will record the date the works are completed on the System and provide information to meet the minimum requirements as required by the Works Order and/or as required in paragraphs 4.2.4 and 4.2.9	Mandatory
4.2.7.	The Authority may choose at their own discretion to attend the Commissioning of the works required by a Works Order.	For Information Only
4.2.8.	Where the Authority does not attend the Commissioning, the Contractor will supply photographs of the before and after state of the modified/repaired Equipment as evidence of successfully Delivered Works in addition to updated Documentation detailed in paragraph 4.2.9.	Mandatory

4.2.9.	<p>Where required by the Works Order the Contractor will update the System Site Information upon Delivery of the Works with, at least the following updated Documentation:</p> <ul style="list-style-type: none"> • Site Layout Drawing; • photographs of the modified or repaired Equipment; • Timing Sheet; • Take-over Certificate; • Electrical Design Documentation and Electrical Test Certificate; • Configuration Documentation; and • details of residual hazards or risks associated with the Site, <p>along with any other Documentation requested by the Authority from time to time.</p> <p>Handover of the Installed Equipment into Maintenance including all Documentation and updates to the System will be as set out in section 1.12 of part 1 of Schedule 3.</p>	Mandatory
4.2.10.	The Authority will confirm the Works in the Works Order are complete in accordance with section 1.12 of part 1 of Schedule 3 .	For Information Only
4.2.11.	The Contractor will be entitled to payment in accordance with Schedule 6 for certified completion of a Works Order.	For Information Only
4.2.12.	The Contractor will (unless the Authority has requested purchase only) install the equipment and will carry out such LAT and/or SATs as are necessary (as per Section 2.5, Part 2 of Schedule 3) to ensure that the equipment is functioning correctly in all material respects, and is in accordance with its documentation, this Contract and any applicable parts of the Statement of Requirements.	Mandatory

4.3. Electricity Supply Failure		
4.3.1.	In the event of an electricity supply failure at a Site, the Contractor will, on first attendance at the Site in response to a Fault, confirm to the Authority whether the failure is the responsibility of the Contractor or that of the Electricity Transmission Provider (ETP). Where the failure is the responsibility of the ETP, the Contractor will report the failure to the host ETP and notify the Authority, via the System, with all relevant details, as soon as possible and at the latest prior to leaving the Site. Where the responsibility for the failure is not that of the ETP, the Contractor will manage the Fault in accordance with the process shown in Annex M1: Corrective Maintenance Process .	Mandatory
4.3.2.	Where an electricity supply failure is the responsibility of the ETP, the Contractor will liaise with the ETP no less frequently than every 3 (three) hours in order to resolve the failure in as timely manner as possible.	Mandatory
4.3.3.	In relation to an electricity supply failure that has not been resolved, the Contractor will provide an update to the Authority at least every 5 (five) hours detailing the actions taken in order to resolve the failure. The updates will be sent via the System and will detail the works undertaken by the ETP or the Contractor and estimated time of restoration of power.	Mandatory
4.3.4.	Where the Contractor erroneously reports a failure to an ETP, the Contractor will be liable for abortive charges levied on the Authority by the ETP. The Authority's decision of this is final.	Mandatory

4.4. Fault Management Process		
4.4.1.	The Contractor will manage all Faults in accordance with the process shown in Annex M1 Corrective Maintenance process.	Mandatory
4.4.2.	<p>The Authority will confirm Faults 24 (twenty-four) hours a day (365/366 days a year), via the System, and will include at least the following details:</p> <ul style="list-style-type: none"> • location of the Fault; • description of the Fault; • the time of notification; and • the time the Fault was initially recorded, <p>and any other information required by the Authority from time to time.</p> <p>In the event of System failure, the Authority will reserve the right to confirm only Emergency Faults, Directions, All-Outs, and any other Faults it deems to be of high priority, via email or telephone, to the Contractor.</p>	For Information Only
4.4.3.	The Contractor will attend all reported Faults, undertake the appropriate action as set out in Annex M1 Corrective Maintenance Process of this schedule, and update the Authority of all actions taken to resolve the Fault in the System in a timely manner.	Mandatory
4.4.4.	The Contractor will determine the appropriate action to take in response to any Fault in order to comply with the relevant Performance Measures.	Mandatory

4.4.5.	<p>The Contractor will provide the Authority with the time at which the Contractor will be in attendance at a Fault, via the System, within 30 (thirty) minutes of the Fault being confirmed by the Authority, in the following circumstances, including but not limited to:</p> <ul style="list-style-type: none"> • attendance at an Emergency Fault; • where the Contractor has been requested to attend a Fault by the Authority by means of a Direction; • where a Fault has been confirmed for more than 48 (forty-eight) hours and has remained unattended, when requested by the Authority; • where a Fault is related to Severe or Serious Congestion, when requested by the Authority; • where a Site has been nominated by the Authority as a Site of Strategic Importance; or • from time to time as reasonably requested by the Authority 	Mandatory
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4.5. Directions		
4.5.1.	The Contractor will respond to a Direction within the timeframe specified by the Authority as set out in Part 1 of Schedule 5.	Mandatory
4.5.2.	The Authority reserves the right to direct the Contractor to attend Sites and Faults to take precedence over the Contractor's defined activities – a “ Direction ”. Directions are specific to a Site and/or Fault.	Mandatory

4.5.3.	<p>The Authority will enter Directions into the System with the detail of the Fault to which the Direction relates, including but not limited to, stating the date and time of the Direction and the name of the Authority's representative making the Direction.</p> <p>Such directions will fall into one of two categories:</p> <ul style="list-style-type: none"> a) directions requiring an initial response by the Contractor within 3 (three) hours ("Immediate Direction"); and b) directions requiring an initial response by the Contractor within 8 (eight) hours ("Urgent Direction"). 	For Information Only
4.5.4.	<p>The Contractor shall be entitled to request an Exception in respect of a Fault where attendance at the Fault has been reasonably affected by attendance at an Immediate Direction only. The Contractor shall only be entitled to request one Exception per Immediate Direction issued by the Authority. The Exception will only be valid for a Fault which carries the same availability weighting to the Immediate Direction. The Exception will only remain valid provided the Contractor responds to the Immediate Direction within the timescales as set out in paragraph 4.5.3.</p>	Mandatory
4.5.5.	<p>The Contractor shall not be entitled to request an Exception in respect of a Fault where attendance at the Fault has been reasonably affected by attendance at an Urgent Direction.</p>	Mandatory
4.5.6.	<p>The Contractor will be entitled to payment in respect of Directions as specified in section 5 of Part 1 of Schedule 5, provided that the Contractor responds to the Direction within the specified timeframe set out by the Authority.</p>	Mandatory
4.5.7.	<p>If in the opinion of the Authority, the Contractor has not assigned to a Direction, Contractor Personnel with the appropriate skill set to address the type of failure, then the Contractor will not be entitled to payment in respect of the Direction.</p>	Mandatory

4.6. Sites of Strategic Importance		
4.6.1.	The Authority may nominate Sites as Sites of Strategic Importance, which are locations that have high impact on Authority operations or are high priority for any other reason. These will be identified by the Authority in the System using the Site Type Flag.	For Information Only
4.6.2.	Annex M6 contains the indicative numbers of Sites of Strategic Importance in each Borough.	For Information Only
4.6.3.	The Authority will confirm to the Contractor the Sites of Strategic Importance for Year 1 no more than 6 (six) weeks following Contract Commencement Date and may update the Sites of Strategic Importance annually on the anniversary of the Contract Commencement Date or for any urgent updates, as and when required.	For Information Only
4.6.4.	The Contractor will provide updates to the Authority within 30 (thirty) minutes of confirming a Fault at Sites of Strategic Importance that affect one or more availability category for that Site. Updates will continue to be provided to the Authority at least every 60 (sixty) minutes until the Fault has been resolved or otherwise agreed with the Authority.	Mandatory
4.6.5.	The Contractor will provide a written report when requested by the Authority to the Authority for Sites of Strategic Importance within a Lot that do not meet or exceed the Availability Target measure in a Reporting Period with details of why the target was not achieved and proposed actions to rectify for acceptance by the Authority.	Mandatory

4.7. Emergencies		
4.7.1.	The Contractor will carry out any Emergency Maintenance necessary to make a Site Safe , in priority to all other Faults (which are not Emergency Faults).	Mandatory
4.7.2.	Within 2 (two) hours of discovering or being made aware of the Fault by the Authority, the Contractor will make Safe all Emergency Faults and update the appropriate information within the System including but not limited to photographic evidence of make Safe actions.	Mandatory
4.7.3.	The Contractor will provide the Authority with a means and process of escalation within the Contract Execution Plan, via the Despatch Centre, in the event that the Contractor does not respond to an Emergency Fault in accordance with required timescales as set out above in paragraph 4.7.2. The process of escalation shall be available to the Authority 24 (twenty-four) hours a day (365/366 days a year).	Mandatory
4.7.4.	The Contractor will not be required to obtain prior authorisation from the Authority in order to carry out reasonable Emergency Maintenance necessary to make a Site Safe, but will inform the Authority of the Emergency Maintenance carried out, within 24 (twenty-four) hours, by raising a retrospective Fault on the System, and update the appropriate asset information within the System including, but not limited to, written description of the corrective actions undertaken and photographic evidence of the make Safe actions.	Mandatory
4.7.5.	In carrying out Emergency Maintenance, the Contractor will liaise with any Third Parties necessary to ensure it makes the affected Site Safe.	Mandatory

4.8. All-Out Faults and Switch Outs		
4.8.1.	The Contractor will be responsible for erecting all signage required for primary Traffic Signals at a Site during All-Outs in accordance with the latest applicable regulations and any dynamic risk assessments carried out by the Contractor.	Mandatory
4.8.2.	<p>The Contractor will be responsible for the signage and covering of all Traffic Signals heads, pedestrian signal heads, and right-hand side push buttons as a minimum at a Site during a planned Switch-Out within 30 (thirty) minutes of the specified time and date, as shown in the System, in accordance with the latest applicable regulations, dynamic risk assessments and Annex M5: Switching Off Signals for Routine Purposes. If specifically requested in advance or subsequently requested due to Site conditions, the Contractor will cover all signal heads and pushbuttons.</p> <p>NB Signal heads mounted on Mast Arm outreach are excluded from this requirement unless specifically identified by the Authority to be covered.</p>	Mandatory
4.8.3.	<p>In the event that the Contractor does not comply with the requirement set out in paragraph 4.8.2, the Authority will raise a Fault affecting the following Availability Categories:</p> <ul style="list-style-type: none"> • Lamps • Vehicle • Pedestrian (where applicable) <p>and the Contractor's performance against the Availability Targets will be affected accordingly.</p>	Mandatory
4.8.4.	Signal heads will be covered by the Contractor with opaque orange (unless otherwise specified e.g. within Royal Parks) PVC or canvas bags and secured to the equipment using ties or clips.	Mandatory
4.8.5.	Push buttons will be covered by the Contractor with opaque orange or red PVC covers with 'Pedestrian Crossing Not In Use' written in black or white text, secured using clips or ties.	Mandatory

4.8.6.	The Contractor will ensure that if a Site has to remain in a state of Switch-Out or All-Out whilst the Contractor is working to Rectify the Fault at the Site, the Contractor will at all times, where Portable Signals are deployed, comply with the provisions stated within Chapter 8 of the Traffic Signs Manual (including any updates) and Sites will have Portable Signals with UTC functionality deployed by the Contractor if instructed by the Authority.	Mandatory
4.8.7.	The Contractor will inform the Authority, via the System, of any emergency Traffic Management that may be deployed by the Contractor in the event of an All-Out. Traffic Management will meet the requirements set out in Schedule 16 .	Mandatory
4.8.8.	The Contractor will be responsible for Rectifying all Faults at an All-Out in order not to affect the Contractor's calculated Availability.	Mandatory
4.8.9.	The Contractor will restore full functionality of the Site at the time and date specified by the Authority where a Switch-Out has been completed at Site at the request of the Authority as a Planned Event via the System.	Mandatory
4.8.10.	Where the Contractor is required to attend a Site for a Switch-Out (or restoration following a Switch-Out) and the 3rd Party that requested the attendance to the Site to handover the Site to the Contractor is not in attendance within 30 (thirty) minutes of the agreed time, the Contractor will be entitled, by providing full substantiation of the event, to apply for a charge equivalent to fifty per cent of the schedule or rate Switch-Out fee in Schedule 6 Part B.	For Information Only
4.8.11.	Where the Contractor is required to attend a Site for a Switch-Out it will have sufficient bags to fulfil a safe Switch-Out as set out in paragraphs 4.8.2 and 4.8.4 . If the attending Contractor Personnel does not have sufficient bags the Contractor will reattend and rectify within 2 (two) hours.	Mandatory

4.8.12.	When the Contractor attends a Switch-Out that has been requested by a 3 rd Party and acting reasonably if it is obvious to the Contractor that an incorrect address for the Switch-Out has been requested, the Contractor will acting reasonably attend the correct address for the Switch-Out without the possibility of payment for an abortive visit from the incorrect address.	Mandatory
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4.9. Third Party Damage

4.9.1.	<p>When Third Party Damage occurs or a Fault or Emergency Fault is raised in relation to Third Party Damage, the Contractor shall be responsible for repairing any/all damaged Supported Equipment including pole retention sockets, and the reinstatement of the highway where required, as part of its Maintenance obligations.</p> <p>In the event of any Third Party Damage, the Contractor will:</p> <ul style="list-style-type: none"> • if required, carry out, in accordance with section 4.7 Emergencies to the damaged Supported Equipment to make it safe from all potential electrical hazards; and secure all mechanical parts of the Supported Equipment such that no electrical and mechanical hazards are presented to Contractor Personnel, members of the emergency services and the general public; • inform the Authority in writing of the extent of the damage and any unreported Fault is reported via the System; • inform the Authority of any relevant supplementary information, a description of the work involved to Repair the damage and a quotation for the repair costs as per the Works Order requirements in section 4.2; • use all reasonable endeavours to obtain as much photographic evidence of the damage and of the location in context and submit this to the Authority via the System before leaving the Site; • use all reasonable endeavours to take such action as is practicable at all times in the circumstances to provide evidence which may be considered Sufficient Evidence; and • other than where the Third Party Damage relates to Non-Traffic Signals at a Site or the part of the Sub-Surface Detection in the carriageway which subsequently becomes the subject of a Works Order or Works Instruction in accordance with paragraphs 4.9.11 or 4.22.3 below, undertake any necessary repairs at the Site. 	Mandatory
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Without prejudice to the provisions of this **section 0**, the table below summarises the allocation of responsibility of financial risk between the Contractor and the Authority for the Cost of Rectification of Third Party Damage:

		Financial risk Cost split	
		Cost ≤ £12,500	Cost > £12,500
Sufficient Evidence submitted by Contractor	by	Authority Instructed as a Works Order	Authority Instructed as a Works Order
Sufficient Evidence obtained by the Authority from other source	from	Authority Instructed as a Works Order	Authority Instructed as a Works Order
Vulnerable Supported Equipment regardless of evidence submitted	of	Authority Instructed as a Works Order	Authority Instructed as a Works Order
Third Party Damage to Non-Traffic Signals at a Site regardless of evidence submitted	at	Authority Instructed as a Works Order	Authority Instructed as a Works Order
Insufficient Evidence		Contractor within Services	Authority Instructed as a Works Order and Contractor within Services

Where the Cost of Rectification of Third Party Damage is greater than £12,500 and there is Insufficient Evidence the Contractor will be entitled to recover the Cost of the Rectification of such Third Party Damage from the Authority in accordance with **Schedule 5**, minus the first £3,000.

4.9.2.

Mandatory

	Reimbursement for repairing any Third Party Damage to Sub-Surface Detection where the Third Party Damage relates to the part of the Sub-Surface Detection in the carriageway will be dealt with in accordance with paragraph 4.22.3 below.	
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4.9.3.	<p>For the purposes of paragraph 4.9.1 and the table set out in paragraph 4.9.2, Sufficient Evidence is either "Type 1 Sufficient Evidence" or "Type 2 Sufficient Evidence" which is subsequently confirmed as Sufficient Evidence in writing by the Authority as set out below:</p> <p>"Type 1 Sufficient Evidence" is:</p> <ul style="list-style-type: none"> a) for Third Party Damage arising from road traffic incidents, photographic evidence of the vehicle(s) involved in the incident showing front and back vehicle index plate with sufficient content and context to identify the vehicle(s) as having been involved in the incident which led to the Third Party Damage as situated at the affected Site accompanied by photographic evidence of the damaged Supported Equipment including evidence of the time such photographic evidence was captured; or b) for Third Party Damage not arising from road traffic incidents (including damage caused by Third Party suppliers or other contractors under the TTC Framework), photographic evidence identifying the Third Party responsible at the affected Site such as a courtesy board with details of any Third Party responsible for works at or near the affected Site, evidence of any vehicle(s) associated with the works present at or near the Site showing front and back vehicle index plate with sufficient content and context to identify the vehicle(s) as having been involved in the incident which led to the Third Party Damage as situated at the affected Site; c) for Vandalism or theft, where the Police have given notice of an intent to prosecute and the Contractor is able to provide the relevant crime reference number related to such prosecution. <p>The Authority envisages that any of the above Type 1 Sufficient Evidence provided by the Contractor will be considered to be Sufficient Evidence however the Authority reserves the right to notify the Contractor that any Type 1 Sufficient Evidence provided by the Contractor is not Sufficient Evidence should it determine (acting reasonably) that the evidence is Insufficient Evidence.</p>	For Information Only
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	<p>"Type 2 Sufficient Evidence" is for Third Party Damage arising from road traffic incidents only and may be one of the following:</p> <ul style="list-style-type: none"> a) confirmation of the make, model, colour of vehicle and vehicle index plate number of any vehicle(s) involved (e.g. written) or an indication that a bus operated by or on behalf of the Authority was involved in the incident (including the bus route number and bus operator if possible); b) where the Contractor's access to a Site is restricted by the Police or emergency services preventing the Contractor obtaining evidence of the vehicle(s) responsible, the Contractor obtaining the Police Computer Aided Dispatch reference and providing it to the Authority via the System; or c) where any vehicles(s) involved is not identified at the time the damage is discovered but becomes subsequently available from another source, System or any Third Party and the Authority is satisfied, after making enquiries, of the likely party responsible (in the Authority's opinion), <p>in each case, which is subsequently confirmed as Sufficient Evidence in writing by the Authority.</p>	
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4.9.4.	<p>The Authority, in its sole discretion acting reasonably, will determine if there is Sufficient Evidence.</p> <p>Without prejudice to the Contractor's obligations to obtain and provide Sufficient Evidence pursuant to paragraph 4.9.5, the Authority will itself endeavour to obtain Sufficient Evidence from its own systems and Third Party sources where possible and/or practicable.</p>	Mandatory
4.9.5.	<p>The Contractor will use all reasonable endeavours to obtain and provide to the Authority Type 1 Sufficient Evidence in relation to all Third Party Damage and, if not, to provide Type 2 Sufficient Evidence in the case of Third Party Damage caused by road traffic incidents.</p> <p>Without prejudice to the Contractor being entitled to be paid its reasonable costs for obtaining photographic Type 1 Sufficient Evidence in accordance with paragraph 4.9.6, the Contractor will at its own cost provide all reasonable support to the Authority in any pursuant claim or prosecution reasonably brought against a Third Party or a Third Party's insurer in relation to Third Party Damage by the Authority.</p>	Mandatory
4.9.6.	<p>The Contractor will be entitled to charge the Authority for obtaining photographic Type 1 Sufficient Evidence by including the relevant pricing from Schedule 6 in the Prices Quotation submitted by the Contractor in respect of the relevant Rectification. However, the Contractor will not be entitled to charge for any other time spent in obtaining or seeking to obtain any other types of evidence.</p>	Mandatory

4.9.7.	<p>Where:</p> <p>(a) the Authority has confirmed in writing it has received Sufficient Evidence in respect of an incident of Third Party Damage (other than Third Party Damage to Non-Traffic Signals at a Site or Sub-Surface Detection which becomes the subject of a Works Order or Works Instruction issued by the Authority); or</p> <p>(b) the Contractor can demonstrate to the Authority's satisfaction having notified the Authority in writing that the Cost of Rectification of Third Party Damage where there is Insufficient Evidence has exceeded £12,500 (twelve thousand five hundred pounds);</p> <p>the Contractor shall be entitled to recover the cost of the rectification of such Third Party Damage from the Authority in accordance with Schedule 5</p>	Mandatory
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4.9.8.	<p>Any item of Supported Equipment will be considered by the Authority to be "Vulnerable Supported Equipment" or "Vulnerable" if, in any twelve (12) month rolling period during the Term, the Equipment has been the subject of Third Party Damage caused by a road traffic incident 4 (four) times or more. For the purposes of assessing whether Supported Equipment is Vulnerable, a road traffic incident shall be considered to be any incident involving a vehicle which requires:</p> <ul style="list-style-type: none"> a) the post, cabinet, or housing of Equipment to be excavated and reinstated in order for it to be safe and function properly; b) a post forming part of Equipment to be replaced due to it being in the Contractor's reasonable opinion damaged beyond repair; c) damage to a cabinet forming part of Equipment that in the Contractor's reasonable opinion warrants replacement of either the outer-case or the entire unit; d) one or more of the following items mounted on a post forming part of Equipment is damaged to the extent that in the Contractor's reasonable opinion it requires replacement: <ul style="list-style-type: none"> i. vehicle/pedestrian head; ii. box/secret sign; or iii. pedestrian push button unit. <p>Where the Contractor believes that an item of Supported Equipment has become Vulnerable it will notify the Authority. If the Authority agrees with the Contractor's assessment the Contractor and the Authority will identify measures to reduce the vulnerability of the relevant Vulnerable Equipment. Where measures have been carried out to reduce the vulnerability of any Vulnerable Equipment, that Vulnerable Equipment shall no longer be considered Vulnerable. Where Supported Equipment previously agreed as Vulnerable undergoes a 12-month period without replacement, it will no longer be considered Vulnerable.</p> <p>As at the Contract Commencement Date, no equipment is deemed Vulnerable. The term for determining equipment vulnerability starts after the Contract Commencement Date and any previous history is not considered when assessing vulnerability of Equipment.</p> <p>The Contractor will be entitled to recover in accordance with the procedure set out in paragraph</p>	Mandatory
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	<p>4.9.7 the Cost of Works to replace / Rectify Third Party Damage to Equipment previously agreed by the Authority as being Vulnerable. This applies to replacement of Whole Units only and not initial attendance, minor repairs or realignments.</p>	
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4.9.9.	All Equipment used to Rectify Third Party Damage will be of a New Condition.	Mandatory
4.9.10.	Without prejudice to the Contractor's obligations under paragraphs 4.9.1 and 4.9.5 , if on the Works Commencement Date there are any Faults caused by Third Party Damage which occurred prior to the Works Commencement Date and of which the Authority is aware as at the Works Commencement Date, the Authority will notify the Contractor that the Contractor will be entitled to reimbursement of its costs for the Rectification of such Third Party Damage in accordance with Schedule 5 in the same way as if paragraph 4.9.7(a) applies regardless of whether or not the Contractor is able to provide, or the Authority is able to obtain, Sufficient Evidence.	For Information Only

4.9.11.	<p>Without prejudice to the Contractor's obligations under paragraphs 4.9.1 and 4.9.5 and subject to the Contractor complying with its obligations in this paragraph 4.9.11, in the event of Third Party Damage which causes a Fault to Non-Traffic Signals at a Site the Authority will be responsible for the cost of Rectification of Third Party Damage regardless of whether or not the Authority has obtained Sufficient Evidence in respect of that Third Party Damage.</p> <p>The Contractor will ensure that prior to Rectifying a Fault with Non-Traffic Signals at a Site, sufficient checks are completed to determine the nature of the failure as well as the likely cause of such failure and shall notify the Authority of these checks and results together with any related evidence via the System.</p> <p>The Authority will assess the results of the checks and, subject to any audit or other verification process required by the Authority, will be responsible for selecting the approach to repair or reinstatement of the relevant Non- Traffic Signals at the Site and, where the Authority elects for such repair or reinstatement to be carried out as part of the Services, the Authority will issue a Works Order or Works Instruction for the repair or replacement of the relevant Non-Traffic Signals Equipment.</p> <p>Where the Contractor fails to perform sufficient checks in relation to the Third Party Damage causing a Fault with Non-Traffic Signals at a Site and/or proceeds to Rectify the Fault without having first received a Works Order or Works Instruction from the Authority in accordance with the process set out above, such works will be considered to have been completed under the Fixed Unit Rate and the Contractor will not be entitled to apply for any additional cost reimbursement.</p>	For Information Only
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4.10. Vermin		
4.10.1.	For the purposes of this section 0 Vermin includes, but is not limited to, mice, rats and other rodents, and pigeons.	For Information Only
4.10.2.	Protected species found in the course of Maintaining the Supported Equipment should be managed as set out in Schedule 25 Environment Requirements	Mandatory
4.10.3.	The Contractor will remove any Vermin infestation affecting Supported Equipment in the Contract Area and subsequent cleansing.	Mandatory
4.10.4.	The Contractor will notify the Authority immediately upon becoming aware of a Vermin infestation by raising a Fault on the System advising of the measures taken by the Contractor to deal with the Vermin infestation. If this information is not provided within 7 (seven) days of the Contractor becoming aware of the infestation, any subsequent Fault at that Site will not be eligible for an Exception.	Mandatory
4.10.5.	In relation to any outstanding occurrences of Vermin infestation, the Contractor will provide weekly updates to the Authority, via the System, detailing the actions taken by the Contractor in order to remove the infestation.	Mandatory
4.10.6.	The Contractor will ensure that all ducts for cabling relating to Supported Equipment and Traffic Signals are sealed in ground chambers and controller cabinet roots with a rodent inhibitor and appropriate gas impermeable seal.	Mandatory

4.11. Vandalism		
4.11.1.	<p>The Contractor will notify the Authority of any instance of Third Party Damage resulting from Vandalism, providing all known details to the Authority, by raising the appropriate fault and providing all necessary information in the System, including, where possible, the cause of such Third Party Damage.</p>	Mandatory
4.11.2.	<p>The Contractor Personnel will, on attending the Site and finding that there is Vandalism, take the following actions:</p> <ul style="list-style-type: none"> • assess the safety implications of the damage in context to its location; • put in place or make the necessary arrangements to make the Site Safe; • report the incident to the Police and obtain a Police crime reference number; • report directly onto the System the nature of the damage or Faults to be Repaired and any action taken; • take photographic evidence of the damage and effected location and submit this to the Authority via the System as soon as possible, and in any event, not more than 5 (five) Business Days of attending Site; • take action to identify those responsible for the damage by recording any relevant details in the System, for example, date, time, Police incident reference, vehicle registration numbers, name and address of the Third Party that caused the damage and, where the cause may be attributed to road works, courtesy board details. This will include, where possible, taking photographic evidence of the Third Party suspected to have caused the damage, to the extent permitted by law; and • Rectify the Fault in the same way as any other Third Party Damage 	Mandatory

4.11.3.	If it is necessary for the Contractor to disconnect facilities as a result of Vandalism, these must be properly labelled to show whether this is a permanent or temporary disconnection and record such actions in the System.	Mandatory
4.11.4.	Damaged Equipment will be retained by the Contractor in safe storage for at least 1 (one) month. Where the Contractor wishes to dispose of such Equipment, it will provide the Authority with one month's notice of its disposal and where necessary take additional photographs and evidence to support any insurance claims by the Authority. The Authority reserves the right to inspect any Equipment.	Mandatory
4.11.5.	Contractor will put in place the necessary processes to ensure a full and effective Repair is achieved in timescales that will maximise overall Availability.	Mandatory
4.11.6.	Rectification of Vandalism is to be performed under the Works Order Mechanism and remains subject to the authorisation process set out in section 0.	Mandatory
4.11.7.	The Contractor will include within the Fixed Unit Rate to provide all reasonable support to the Authority in any claim or prosecution brought against the Third Party in relation to Third Party Damage resulting from Vandalism.	Mandatory
4.12. Cosmetic Damage and Graffiti		
4.12.1.	<p>Cosmetic Faults are damage caused by wear and tear which does not prevent the Equipment from functioning but may have the following secondary effects:</p> <ul style="list-style-type: none"> • residual damage which does impair the functioning of Equipment; and • visible damage which could have reputational impact. <p>Examples include, but are not limited to, painted coverings or surface rust.</p>	Mandatory
4.12.2.	Cosmetic Faults will be reported by the Contractor as Faults on the System. Correction of Cosmetic Faults is required through a Service Level Indicators detailed with Schedule 4 .	Mandatory

4.12.3.	Rectification of Cosmetic Damage is included within the Fixed Unit Rates.	Mandatory
4.12.4.	The Contractor will, within 1 (one) Business Day, report to the Authority, by raising the appropriate fault and updating asset information, including but not limited to photographic evidence, in the System, all instances of Graffiti on Supported Equipment in the Contract Area.	Mandatory
4.12.5.	<p>The Contractor will, within 2 (two) hours of discovery, notify the Authority by raising a fault through the System where the Graffiti:</p> <ul style="list-style-type: none"> • is of a racially motivated nature; • is of an abusive nature; • is of an offensive nature; • is of a language other than English; • could eventually prevent the correct operation of Supported Equipment and thereby affect Availability; or • is likely to obstruct quick repair access by the Contractor. 	Mandatory
4.12.6	The Contractor will take photographic evidence of all Graffiti and submit this to the Authority via the System prior to leaving Site.	
4.12.7	The Authority will instruct a Graffiti removal contractor to remove the Graffiti as soon as possible following notification to the Authority by the Contractor of the existence of the Graffiti.	Mandatory
4.12.8	For the avoidance of doubt, damage which appears to be Graffiti but, in fact, impairs the function of the Equipment and affects Availability, is deemed to be Vandalism.	For Information Only

4.13. Vegetation and Tree Overgrowth		
4.13.1.	The Contractor will co-ordinate activities such as pruning, pollarding, or removal of vegetation and tree overgrowth which is identified during Periodic Inspections or recorded on the Site Hazard Register.	Mandatory
4.13.2.	The Contractor will liaise with the Authority and Third Parties, which may include Local Borough highways authorities, to arrange where practical the removal of overgrowth and prune trees in order to restore visibility, Site access or otherwise resolve the problem.	Mandatory

4.14. Theft of Equipment		
4.14.1.	<p>If Equipment has been stolen from a Site or Contractor storage facility, the Contractor will immediately upon becoming aware:</p> <ul style="list-style-type: none"> • assess for any safety implications; • report the theft to the Police and obtain a Police crime incident reference number; • take photographic evidence of the damage and of the location in context and submit this to the Authority via the System as soon as possible, and within 7 (seven) calendar days; • Inform the Authority via the System of the nature of the Theft, any damage or Faults to be Repaired; and • Rectify the Fault in the same way as any other Third Party Damage 	Mandatory
4.14.2.	The Contractor will put in place the necessary processes to ensure a full and effective Repair is achieved in timescales that will maximise overall Availability.	Mandatory
4.14.3.	Rectification of Theft where Sufficient Evidence is submitted to the Authority to allow the Contractor compensation to Rectify damage in accordance with section 4.9.2 (inclusive) of this Schedule is to be performed under the Works Order mechanism and remains subject to the authorisation process set out in 0.	Mandatory
4.14.4.	Where Equipment has been stolen from the Contractor's stores or active Sites the Contractor will meet the cost of repairing or replacing any damaged or stolen Equipment.	Mandatory

4.15. Third-Party Supplier Faults		
4.15.1.	<p>The Contractor will Rectify all Third Party Supplier Faults by carrying out the following actions:</p> <ul style="list-style-type: none"> • record and report accurate information to the relevant Third Party Supplier and any respective agencies; • progress the Fault to restoration of service and function; • record progressing actions and outcomes on the System; • take part in any joint Site meetings that may be required by the Authority; and • supporting Third Parties and their contractors with the repair of Third Party equipment, including arranging or attending joint Site meets in order to facilitate access to the Equipment and any testing required to confirm restoration of service. 	Mandatory
4.15.2.	Where a traffic barrier has an interface with traffic signals, the Contractor is responsible for faults with the cable connecting the controller and the barrier cabinet.	Mandatory
4.15.3.	If the Contractor complies with paragraphs 2.1.2 to 2.1.7 of Annex M4: Relief Events and Excusing Causes in respect of the relevant Third Party Supplier, it will be deemed that the Contractor has made reasonable endeavours to resolve the Third Party Supplier Fault and the relevant Fault will be eligible for an Exception.	Mandatory
4.15.4.	Exceptions will only be awarded by the Authority where the Contractor has demonstrated they have followed the relevant Authority processes to rectify and manage the Fault resolution. Where Exceptions are awarded Availability will be unaffected.	Mandatory

4.15.5.	<p>The Authority will specify acceptable parameters for each Exception available on the System and provide as guidance to both the Contractor and the Response Desk. These typically include:</p> <ul style="list-style-type: none"> • valid Third Party contact details; • Exception lift date within reasonable time frame based on any existing contractual obligations between the Third Party and the Authority; and • recommendations for a periodic review. 	For information Only
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4.16. Inventory Plan and Maintenance of Spares and Vehicle Stock		
4.16.1.	The Contractor will carry out Preventative Maintenance on all Spares and test Equipment and meet or exceed the Minimum Spares Threshold at all times. The Contractor will document, in the System, Free Issue Equipment and Authority Spares sent for Repair and the Site where this Equipment originated.	Mandatory
4.16.2.	It is the responsibility of the Contractor to ensure Spares are available to Contractor Personnel to fulfil the Contractors obligations under the Contract. The Contractor will not be due an Exception for a shortage of supplies unless explicitly agreed by the Authority.	Mandatory
4.16.3.	All replacement Equipment will be required to meet, among other things, Authority technical specifications.	Mandatory

4.17. Consumables

4.17.1.	<p>The Contractor will provide for all Consumables required for undertaking the Maintenance Works within Fixed Unit Rates. Consumable items include, but are not limited to:</p> <ul style="list-style-type: none">• batteries;• fuses;• data storage media;• all Cables (Co-axial, data, mains, Cat5/Cat6 etc)• all cable jointing kits;• grease, adhesives and sealants.• cleaning agents;• cable identifier tags;• cable glands;• terminal blocks;• tape• nuts, bolts and other fixings• rust treatment, prevention and paint• lamps, tubes and other methods of illumination• kopex and glands; and• connectors.	Mandatory
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4.18. Delivery of Equipment to Site		
4.18.1.	The Contractor will deliver all materials, plant, equipment and Equipment to Site during the Term and allowance is made within the Fixed Unit Rates. All Statements of Requirements, including but not limited to Schedule 16 will be met in delivering Equipment to Site.	Mandatory

4.19. Civil Engineering Works		
4.19.1.	Where deemed necessary by the Authority and notified to the Contractor, the Contractor will carry out any Civil Engineering Work associated with Maintenance and a Work Order or Instruction within the timescales instructed by the Authority.	Mandatory
4.19.2.	<p>When Civil Engineering Works are urgently required to make a Site Safe following Third Party Damage, the Contractor will</p> <ul style="list-style-type: none"> • inform the Authority via the System; • undertake such emergency repairs as are necessary to make the Site Safe as soon as possible; • be responsible for all day-to-day Site arrangements necessary whilst carrying out such works; • be responsible for permanent reinstatement of any part of the highway affected by such Rectification of the Fault; and • be responsible for issuing any statutory notices that are required prior to undertaking such Civil Engineering Works. <p>The Authority reserves the right to inspect the reinstatement of the Works and instruct remedial actions where standards are not met, at the Contractor's cost.</p>	Mandatory
4.19.3.	Civil Engineering Works instructed by the Authority that are not to make a Site Safe shall be instructed as a Works Order or Works Instruction.	Mandatory
4.19.4.	Where the Contractor carries out Civil Engineering Works it will be responsible for Permanent Reinstatement of any part of the highway affected by such Civil Engineering Works, including road markings and white lining.	Mandatory

4.19.5.	<p>In respect of Sites which have installations that do not have ducted cables, if there is any faulty cabling the Contractor will:</p> <ul style="list-style-type: none"> • advise the Authority; • raise a Fault within the System. 	Mandatory
4.19.6.	<p>When Civil Engineering Works outside the scope of the Services are required to Rectify a Fault, the Contractor will within 2 (two) Business Days:</p> <ul style="list-style-type: none"> • inform the Authority by requesting an Exception via the System; • detail the Civil Engineering Works required; • take all steps necessary to maximise the number of active Availability Categories in a safe manner; • liaise regularly with the body responsible for overseeing civil engineering on behalf of the Authority; and <p>confirm to the Authority, via the System, that the Civil Engineering Works done are sufficient to enable the Contractor to reinstate the Equipment properly.</p>	Mandatory

4.19.7.	<p>When Civil Engineering Works are required to Rectify a Fault, any Exception request submitted by the Contractor will detail the Civil Engineering Works required and include any related diagrams.</p> <p>Through discussion between the Authority and the Contractor, the length of time necessary for the Civil Engineering Works to be completed will be allocated to the Exception request.</p> <p>During the agreed time to be taken to complete the Civil Engineering Works which are required as set out in the Exception request, the Contractor's Availability measures, related to the Exception, will not be affected.</p> <p>Once the Civil Engineering Works set out in the Exception request are completed to the satisfaction of the Authority and the Authority has advised the Contractor, the affected Fault will no longer be in Exception.</p>	Mandatory
4.19.8.	<p>The Contractor will be responsible for all coordination and tasks for any Civil Engineering Works they undertake, including making day-to-day Site arrangements with the Police, Highway Authorities, Communications Providers and Electricity Transmission Provider(s) and for any rearrangement of dates necessitated by its programme, and may request from the Authority a suitable contact for liaison.</p>	Mandatory
4.20. Sub-Surface Detection		
4.20.1.	<p>The Contractor will, in assessing Faults affecting Sub-Surface Detection (including those caused by Third Party Damage) ensure that prior to Rectifying such Faults sufficient checks and tests are completed to determine the location of the failure in the detection system as well as the likely cause of such failure. Within 5 days of the completion of the Rectification Work, the Contractor will notify the Authority of these tests and results via the System.</p>	Mandatory

4.20.2.	Where the tests carried out by the Contractor pursuant to paragraph 4.22.1 do not indicate the failure lies with the part of the Sub-Surface Detection in the carriageway (e.g. the loop cable or magnetometer stud) the Contractor shall carry out any Rectification in accordance with its Maintenance obligations under this Schedule 3 Part 4 If the failure results from Third Party Damage and the Authority obtains Sufficient Evidence in respect of that Third Party Damage the Contractor will be entitled to compensation for Works completed in accordance with section 4.9.1 .	Mandatory
4.20.3.	Where the tests carried out by the Contractor pursuant to paragraph 4.22.1 demonstrate that the failure lies with the part of the Sub-Surface Detection in the carriageway (e.g. the loop cable or magnetometer stud), the Authority will assess the results of the tests and, subject to any audit or other verification process required by the Authority, will be responsible for selecting the approach to reinstatement and, where the Authority elects for such reinstatement to be carried out as part of the Services. The Authority will issue a Works Order or Work Instruction for the replacement of the failed Sub-Surface Detection.	For Information Only
4.20.4.	The Contractor will confirm before a full Clear is entered on the System that the operation of the affected Sub-Surface Detection has been returned to full operation as detailed in Annex M7 .	Mandatory
4.20.5.	Where the Contractor fails to meet the requirements of paragraph 4.22.1 and/or proceeds to Rectify a Fault with Sub-Surface Detection, the failure of which lies with the part of the Sub-Surface Detection in the carriageway, without having first received a Works Order or Work Instruction from the Authority in accordance with paragraph 4.22.3 above, such Works will be included for within the Fixed Unit Rate.	Mandatory
4.20.6.	The Contractor will, where it intends to carry out Works that require a Permit, be responsible for obtaining the Permit and ensure appropriate Traffic Management information is recorded within the System against the Works Order or Works Instruction	Mandatory

4.20.7.	Where Rectification of a Fault related to any Sub-Surface Detection (whether pursuant to a Works Order or Works Instruction in accordance with paragraph 4.22.3 or as part of the Contractor's Maintenance obligations) is delayed due to road works or poor road surface, the Contractor will visit the relevant Site at intervals not exceeding 10 (ten) Business Days to check the progress of Works and notify the Authority progress made via the System. This requirement will not apply where, in agreement with the Authority, the road works are deemed to be of a long-term nature and recorded as such via the System.	Mandatory
4.20.8.	The process set out in Annex M7 Sub Surface Detection Repairs will be followed by the Contractor in Rectifying Sub Surface Detection Faults.	Mandatory

4.21. Liaison with Third-Parties		
4.21.1.	The Contractor will liaise / coordinate with Third Parties to carry out Maintenance as directed by the Project Manager and / or required to complete the Works and Services.	Mandatory
4.21.2.	<p>The Contractor will maintain liaisons with all relevant Third Parties and will, when appropriate, seek advice from and any necessary approvals and permissions from, but not limited to, the following:</p> <ul style="list-style-type: none"> • the Authority; • London tram operator; • any relevant London borough(s) and the City of London;; • the Network Management Control Centre ("NMCC") • the Authority's Road User Charging ("RUC") section; • the Authority's Road Network Compliance ("RNC") Enforcement section; • the Authority's Asset Operations Area Team(s) and Highway Maintenance Contractor(s);Emergency Services; • Electricity Transmission Provider(s); • Communication Provider(s); • any other statutory undertakers and utility suppliers; • the relevant Highways England area office or Highways England agents; • Tunnel management authority; • Relevant Equipment suppliers; • any other contractors working in the area; • relevant landowners; and • other Third Parties as notified to the Contractor by the Authority from time to time. 	Mandatory

4.21.3.	The Contractor will co-operate / coordinate fully with any and all of the Third Parties to gain permission or agreement to the timescale and manner in which the Services are to be carried out prior to any action being taken.	Mandatory
4.21.4.	The Contractor will organise its provision of the Services such that disruption to any of the Third Parties, traffic and the general public is minimised to the greatest possible extent.	Mandatory
4.21.5.	The Contractor will maintain good working relationships with Third Parties to ensure maximum operational Availability of the Supported Equipment. The Contractor will make every reasonable effort to ensure that these relationships are not compromised in any way.	Mandatory
4.21.6.	<p>Any breakdown in liaison with a Third Party by the Contractor or failure to gain permission or agreement to carry out the Services shall be reported to the Authority via the System as soon as possible and in any event within 3 (three) Business Days.</p> <p>Failure to achieve Third Party agreements . is the Contractor's risk and the Contractor shall not be entitled to any compensation or relief in terms of time or cost in this regard.</p>	Mandatory

4.22. Preventative Maintenance

This section outlines the Contractor's responsibility to carry out Preventative Maintenance, which includes, but is not limited to Periodic Inspections and Electrical Testing and inspections.

The activities to be carried out by the Contractor in undertaking Periodic Inspections include, but are not limited to, the following:

- Cleaning and site clearance;
- functional tests of Supported Equipment;
- safety tests in relation to Supported Equipment;
- visual inspections of Supported Equipment; and
- Supported Equipment condition check.

In undertaking Periodic Inspections the Contractor will also comply with Annex M3, Periodic Inspections Specifications.

In undertaking Electrical Testing and Inspections the Contractor will also comply with TES-201 Electrical Standard (Inspection and Testing) for Traffic Control Assets.

In the event the Contractor fails to comply with Service Level Indicators applicable to Preventative Maintenance, Service Failure Points / Abatements as detailed in Schedule 4 Service Level Agreement will be applied.

4.22.1.	The Contractor will comply with its Preventative Maintenance Plan as set out in Annex M2: Preventative Maintenance Plan throughout the Term.	Mandatory
4.22.2.	The Contractor will implement its Preventative Maintenance Plan with effect from the Works Commencement Date.	Mandatory
4.22.3.	The Contractor will review the Preventative Maintenance Plan throughout the Term and will submit any proposed revision to the Authority for approval. As a minimum, the Contractor will submit an up-to-date version of the Preventative Maintenance Plan on an annual basis.	Mandatory
4.22.4.	The Preventative Maintenance Plan will be kept under review by the Contractor and the Authority and will be revised from time to time by the Contractor to take account of any comments made by the Authority and any Action Plans developed pursuant to Schedule 4 .	Mandatory
4.22.5.	In the event of any change to the Approved Equipment, the Contractor will ensure any such changes are reflected within the Preventative Maintenance Plan at the time the change is made.	Mandatory
4.22.6.	In the event of any change to the Asset Inventory approved by the Authority, the Contractor will ensure any such changes are reflected within the Preventative Maintenance Plan at the time the change is made.	Mandatory

4.22.7.	<p>The Contractor will notify the Authority of all Faults identified during Preventative Maintenance (including Periodic Inspections and Electrical Inspections) via the System. Annex M1 Corrective Maintenance Process will be followed and the Contractor will complete the Inspections records and minimum data requirements as detailed in Annex M3.</p> <p>For any Faults identified during Preventative Maintenance the Authority will exclude such Faults from the Availability calculation provided those Faults are fully Cleared within 2 (two) weeks from the date on which the Fault was confirmed on the System by the Authority.</p> <p>For the avoidance of doubt, this exclusion is applicable to faults reported as a result of planned activities that are part of the Preventative Maintenance Plan only and not any other faults reported by the Contractor.</p>	Mandatory
4.22.8.	<p>The Contractor will be responsible for providing all means of access to the Systems as part of Preventative Maintenance.</p>	Mandatory
4.22.9.	<p>The Contractor Preventative Maintenance Plan is required to ensure that all Aspects and Above Ground Detectors are cleaned at intervals not less than 9 (nine) months nor exceeding 13 (thirteen) months unless otherwise agreed with the Authority on a Site by Site basis. The Contractor will meet the data requirements detailed in Annex M1 and Annex M3 to satisfactorily complete the associated records within the System after the activity.</p> <p>Notwithstanding the above, functionality of a ST System may be deemed unclean by the Authority in such a way as to raise a Fault and affect Availability accordingly.</p>	Mandatory
4.22.10.	<p>If an annual clean of a Site as described in paragraph 4.24.6 above is not completed once within a 13 (thirteen) calendar month period, the Authority will raise a Fault affecting the following Availability Categories for Traffic Signals:</p> <ul style="list-style-type: none"> • Lamps; and • Vehicle. 	Mandatory

4.23. Periodic Inspections		
4.23.1.	The Authority will maintain the schedule of all items identified in the Asset Inventory for routine Periodic Inspections and will make such schedules available to the Contractor through the System.	Mandatory
4.23.2.	<p>The Contractor will conduct the Periodic Inspection in respect of a particular Traffic Signal Site within 3 (three) weeks either side of the week in which the Periodic Inspection is scheduled for completion by the Authority.</p> <p>Failure to complete a Periodic Inspection within the specified time window will result in a late planned inspection Fault being raised.</p> <p>Whilst active, this Fault renders the Site Unavailable and hence inhibits the Available time for each Availability Category associated with the relevant Site (except for Cosmetic Availability).</p>	Mandatory
4.23.3.	<p>The Contractor will carry out Periodic Inspections as specified in the Periodic Inspection Specification, refer to Annex M3 Periodic Inspection Specifications.</p> <p>A Periodic Inspection will not be considered complete until the specified checks have been successfully undertaken and the associated Periodic Inspection report has been completed and updated against the asset/Site within the System.</p>	Mandatory
4.23.4.	The Contractor will, whilst undertaking Periodic Inspections, maintain an accurate record of Supported Equipment on each Site by meeting the requirements to satisfactorily complete an Inspections record within the System	Mandatory
4.23.5.	The Contractor will input the Periodic Inspection reports into the System within forty-eight (48) hours of undertaking each inspection.	Mandatory
4.23.6.	The Authority will conduct quality checks on Periodic Inspections carried out by the Contractor.	Mandatory

4.23.7.	<p>The Authority retains the right to require the Contractor to conduct an additional (immediate if necessary) Periodic Inspection where, having conducted a quality check, the Authority deems that the Periodic Inspection has not been carried out diligently and in compliance with the requirements of the Periodic Inspection Specification. In such circumstances, the Contractor will, at its own cost re-conduct the Periodic Inspection.</p> <p>If an additional Periodic Inspection is required as the result of this requirement, a late planned inspection Fault will be raised until the inspection is complete.</p>	Mandatory
4.23.8.	<p>For any Fault identified during Periodic Inspections (excluding re-attendances due to failed inspections) raised within 48 (forty eight) hours to the Authority via the System, such Fault will be excluded from the Availability calculation provided such Fault is fully Cleared within 2 (two) weeks from the date on which the Fault was confirmed on the System by the Authority.</p> <p>For the avoidance of doubt, this exclusion is applicable to faults reported as a result of planned activities that are part of the Preventative Maintenance Plan only and not any other faults reported by the Contractor.</p>	For Information Only
4.23.9.	<p>The Authority reserves the right to review and amend the Annex M3, Periodic Inspection Specifications as required by the Authority.</p>	For Information Only

4.24. Electrical Testing and Inspections

4.24.1.	<p>The Contractor will perform an Electrical Inspection of each Site at intervals of no less than every 6 (six) years and no more than every 7 (Seven) years, as set out in Annex E3 of Part 3 of Schedule 3.</p> <p>Auxiliary Equipment will be left powered up and all cabinet outer cases will be left secure.</p>	Mandatory
4.24.2.	<p>The Contractor will update the System with an approved Electrical Inspection Condition Report (EICR) promptly or in any event within 48 (forty-eight) hours of undertaking such inspection.</p>	Mandatory
4.24.3.	<p>The Authority will carry out quality checks of the Site Electrical Inspection. Any failed tests or other Faults discovered during the test will be monitored for appropriate response.</p> <p>Any substandard tests will be required to be carried out again by the Contractor at its own cost.</p>	For Information Only
4.24.4.	<p>The Year 1 schedule for testing will be provided to the Contractor by the Authority during Mobilisation and not less than 6 (six) weeks prior to the Works Commencement Date.</p>	Mandatory
4.24.5.	<p>The annual schedule for Electrical Inspection is determined by the previous test date on the System and will be confirmed to the Contractor by the Authority 6 (six) weeks before the anniversary of Works Commencement Date each subsequent Contract year.</p>	Mandatory
4.24.6.	<p>All Traffic Management and all specialist equipment requirements (e.g. Mobile Elevated Work Platform (MEWP) or HIAB) shall be provided as required to complete the Works and Services.</p>	For Information Only

4.24.7.	<p>For any Fault identified during electrical inspections (excluding re-attendances due to failed inspections) that is raised to the Authority via the System within 48 (forty eight) hours of the relevant electrical inspection, such Fault will be excluded from the Availability calculation provided such Fault is fully Cleared within 2 (two) weeks from the date on which the Fault was confirmed on the System by the Authority.</p> <p>For the avoidance of doubt, this exclusion is applicable to faults reported as a result of Annual Preventative Maintenance visit only and not any other faults reported by the Contractor.</p>	For Information Only
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4.25. Recording of Site Activity		
4.25.1.	At the end of each routine Periodic Inspection, Electrical Inspection, condition inspection, cleaning or Maintenance activity, the Contractor Personnel will update the System, detailing the Works undertaken and findings where reasonably practical before the Contractor Personnel leave the Site or within 2 (two) hours of leaving Site.	Mandatory
4.25.2.	The Contractor will make an entry in the Site log book for every visit to a Site and will update the Site log book for Site status and any equipment changes. Accuracy and completeness of such records will be incentivised through a Service Level Indicator set out in Schedule 4 and will be subject to audit by the Authority.	Mandatory
4.25.3.	When undertaking any Site activity that requires the use of the maintenance socket in the Controller, the RCD will be tested by the Contractor Personnel and the result recorded on the System before the Contractor Personnel leave Site or within 2 (two) hours of leaving Site.	Mandatory

ANNEX M1: CORRECTIVE MAINTENANCE PROCESS

Issued separately in Schedule 27 as SQA-2137 Corrective Maintenance Process

ANNEX M2: PREVENTATIVE MAINTENANCE PLAN

Contractors Tender Submission - See Schedule 14 – Q1.3.1

ANNEX M3: PERIODIC INSPECTION SPECIFICATIONS

Periodic Inspections will be undertaken in accordance with the requirements set out below and SQA-1731, SQA-1732 and SQA-1733 included in Schedule 27.

A.1 TEST PERIODS

A.1.1 Periodic Inspections will be scheduled and carried out by the Contractor in accordance with the frequencies listed below:

Traffic Signals (All sites – full inspection)	Annual
Traffic Signals (unmonitored sites – partial inspection)	Quarterly (1 x Full Inspection and 3 x Partial Inspections)
VMS	Six-monthly
OVD	Six-monthly

A.1.2 During the Mobilisation Period, the Contractor will be required to provide a schedule for the Periodic Inspections for the Installed Equipment in the Contract Area and such schedule will be uploaded into, or created within, the System. The Authority will issue the most up-to-date Periodic Inspection schedule to assist the Contractor in this process. The Authority will issue guidance to the Contractor regarding the rules for managing the process for scheduling and rescheduling.

A.1.3 The Contractor will be able to review and amend its Periodic Inspection schedule after the second and fifth years of the Contract, subject to agreement by the Authority. Any proposed amendment must be submitted to the Authority in the agreed format at least four months before the commencement of the relevant Contract Year.

A.1.4 During the Mobilisation Period, the Authority will issue to the Contractor the content of the Periodic Inspection reports required for each System (for example but not limited to Traffic Signals, OVD, & VMS). The content of the Periodic Inspection reports will be based on the specification detailed within this Annex.

A.1.5 For all Installed Equipment, failure to complete a Periodic Inspection and record onto the System within the specified time window will result in a late planned inspection Fault being raised. Whilst active, this Fault will render the affected Site Unavailable and hence inhibit the Available time for each Availability Category associated with the Site (except for Cosmetic Availability).

A.1.6 Some Sites may require advanced planning for Traffic Management in order to undertake the Periodic Inspection. For the avoidance of doubt, the Contractor shall ensure that sufficient time is given for the planning to enable the Periodic Inspection to be completed within the specified time window. Exceptions will not be given for Sites where the Contractor has failed to undertake sufficient planning.

A.2 TRAFFIC SIGNALS – See also SQA-1731 for further details of requirements.

A.3 VARIABLE MESSAGE SIGNS - See also SQA-1733 for further details of requirements.

POWER RURAL, POWER GANTRY AND ELECTRICITY BOARD CABINETS TYPE 609PR, PG, EB

A.3.1 The following activities will be carried out by the Contractor every 6 (six) calendar months:

- Test and record residual current device (RCD) operation times for both negative and positive half cycle operation.

A.3.2 The following activities will be carried out by the Contractor every 12 (twelve) calendar months:

- checking all wiring within housing particularly for conductor condition, integrity of insulation and security of all anchorages, barriers, termination/connections and components. Undertaking any necessary Rectification Work including replacing any damaged short lengths of cables (maximum of 5 (five) metres of cables) within Feeder Pillar. Re-clipping/re-securing any loose cables and components to backboards etc and ensuring wiring is left in a safe and tidy condition;
- inspecting housing to ensure proper security of all earth connections, terminations, and glands. Where existing earth bonding conductors are either damaged or missing, fitting new 6mm² or 10mm² earth bond as applicable earth bond. Fitting new earth bolt or termination where necessary. Replacing earth lugs where existing fail or are missing;
- checking warning labels/circuit identification labels are not missing, damaged, or illegible. Providing and fitting new labels where appropriate and necessary;
- clean out cabinet interior and check for infestation, take remedial action as required;
- check base seal intact;
- check equipotential bonding straps are connected and are in good condition;
- check for rusting, if necessary report problem to the Authority via the System;
- test operation of fireman's switch;
- grease ESP cabinet screws; and
- carry out an earth loop impedance test and record results.

A.4 LONDON OVER-HEIGHT VEHICLE DETECTORS AND WARNING SIGNS - See SQA-1732 for further details of requirements.

ANNEX M4: RELIEF EVENTS AND EXCUSING CAUSES

1 Relief Events and Excusing Causes

1.1.1 For the purposes of this Contract "Relief Events" means:

- A) fire, explosion, lighting, tempest, flood, bursting or overflowing of water tanks, apparatus or pipes, ionising radiation, earthquake, terrorism, riot and civil commotion;
- B) any accidental loss or damage to any roads servicing the Site;
- C) any blockade or embargo; and
- D) any:
 - (i) official or unofficial strike;
 - (ii) lockout; or
 - (iii) other industrial action

generally affecting the traffic control and monitoring system maintenance and installation industry or a significant sector of it,

unless any of the events listed in **paragraphs 1.1.1 (A to c)** above inclusive arises (directly or indirectly) as a result of any wilful default or wilful act of the Contractor or any of its Sub-Contractors. For the avoidance of doubt, adverse weather (with the exception of the specific examples cited above) will not constitute a Relief Event.

1.1.2 For the purposes of this Contract "Excusing Causes" means:

- A) failure by any statutory undertaker, utility company, local authority or other like body to carry out works or provide services subject to reasonable endeavours by the Contractor to resolve the failure;
- B) refusal of a notice request under the New Roads and Street Works Act 1991 or Traffic Management Act 2004 by either the Authority or the Contractor, where the Contractor has met the relevant Street Authority's requirements;
- C) inability to access road network space under the Traffic Management Act 2004;
- D) demonstrations;
- E) planned sporting events;
- F) closure of public highway;
- G) inability to secure access to the Site as a result of any Third Party rights and/or wayleaves where the Contractor has made all reasonable endeavours to obtain the necessary consents;

- H) where the Authority proposes to undertake or procure the undertaking of any Services within or about the public highway and has not provided notice to the Contractor at least 5 (five) Business Days before the agreed commencement date for the Services and, in the Authority's view (acting reasonably), the Services are likely to cause a direct material interference or obstruction with the Contractor's obligations to perform the Services under this Contract;
- I) inability to carry out Services where this is due to a requirement for Civil Engineering Works to first be undertaken on the Site;
- J) faults in the Authority's network. Where Equipment uses the Authority's connections between the Authority's buildings, the Contractor will not be responsible for the Authority's internal network. The Contractor will be responsible for providing the Services to the interface point of the Authority's IT network. For the purposes of the Contract, the Urban Traffic Controller and Remote Monitoring circuits are not classed as part of the Authority's IT network;
- K) any failure of or disruption to power occurring to the electricity distribution system (local area power failure impacting power supply of more than five Sites), belonging to a distribution network operator excluding the low voltage cable directly connected to the Equipment subject to the Contractor using all reasonable endeavours to resolve the failure;

provided that the Contractor has made reasonable endeavours to resolve Third Party Supplier Faults in accordance with **paragraphs 2.1.2 to 2.1.7** (inclusive) of this Annex and has, to the satisfaction of the Authority, made all other reasonable endeavours to perform its obligations under the Contract including its obligations under **paragraph 1.1.4** of this Annex in relation to such Excusing Causes.

1.1.3 If and to the extent that a Relief Event or an Excusing Cause adversely affects the ability of the Contractor to perform any of its obligations under this Contract then to the extent such Relief Event or Excusing Cause also constitutes a Force Majeure Event the Contractor will comply with its Business Continuity Plan. If and to the extent that a Relief Event or an Excusing Cause adversely affects the ability of the Contractor to perform any of its obligations under this Contract or the effect of the Relief Event or Excusing Cause is not mitigated by the Contractor complying with its Business Continuity Plan, the Contractor is entitled to apply for relief from any rights of the Authority arising under **Clause 30** (Suspension of the Services), under **Clauses 32** (Termination) and the right to issue Service Failure Points under **Schedule 4**.

1.1.4 To obtain relief under **paragraph 1.1.3** above, the Contractor must:

- A) As soon as practicable, and in any event within 2 (two) calendar days after it becomes aware that the Relief Event or Excusing Cause (as applicable) has caused or is likely to cause delay and/or to adversely affect the ability of the Contractor to perform its other obligations give to the Authority a notice of its claim for relief from its obligations under the Contract,

including full details of the nature of the Relief Event or Excusing Cause (as applicable), the date of occurrence and its likely duration;

- (i) within 7 (seven) calendar days of receipt by the Authority of the notice referred to in **paragraph 1.1.4 A)** above, give full details of the relief claimed; and
- (ii) demonstrate to the reasonable satisfaction of the Authority that:
 - (a) the Contractor and its Sub-Contractors could not have avoided such occurrence or consequences by steps which they might reasonably be expected to have taken, without incurring material expenditure;
 - (b) the Relief Event or Excusing Cause (as applicable) directly caused the need for relief from the Contractor's obligations under this Contract;
 - (c) the time lost and/or relief from the obligations under the Contract claimed could not reasonably be expected to be mitigated or recovered by the Contractor acting in accordance with Good Industry Practice, without incurring material expenditure;
 - (d) the Contractor is using all reasonable endeavours to perform its obligations under the Contract; and
 - (e) to the extent such Relief Event or Excusing Cause also constitutes a Force Majeure Event, the Contractor has complied with its Business Continuity Plan.

1.1.5 In the event that the Contractor has complied with its obligations under **paragraph 1.1.4** above, then the Authority will not be entitled to exercise its rights to suspend the Services under **Clause 30** (Suspension of the Services) or to terminate the Contract under **Clauses 32** (Termination) or to issue Service Failure Points under **Schedule 4** and, subject to **paragraph 1.1.6** of this Annex, will give such other relief as has been requested by the Contractor.

1.1.6 Nothing in **paragraph 1.1.5** of this Annex will affect any entitlement of the Authority to issue Emergency Fault Abatements or calculate Financial Incentives during the period in which a Relief Event is subsisting and the Contractor's Availability will continue to be affected. Emergency Fault Abatements or Financial Incentives will not be applied during the continuance of an Excusing Cause and the Contractor's Availability will cease to be affected, subject to the Contractor's compliance with **paragraph 2.18** of **Part 2** of **Schedule 5**, **paragraph 1.1.4** above and **section 2** of this Annex (where applicable).

1.1.7 In the event that the information required by **paragraph 1.1.4** of this Annex is provided after the dates referred to in that paragraph, then the Contractor will

not be entitled to any relief during the period for which the information is delayed.

- 1.1.8 The Contractor will notify the Authority, via the System, if at any time it receives or becomes aware of any further information relating to the Relief Event or Excusing Cause (as applicable), giving details of that information to the extent that such information is new or renders information previously submitted materially inaccurate or misleading.
- 1.1.9 If the Parties cannot agree the extent of the relief required, or the Authority disagrees that a Relief Event or Excusing Cause (as applicable) has occurred or that the Contractor is entitled to any relief from its obligations under this Contract, the Parties will resolve the matter in accordance with **Clause 74** (Dispute Resolution).

2 Excusing Causes Rules for Third Party Suppliers

- 2.1.1 If the Contractor complies with the obligations set out in **paragraphs 2.1.2 to 2.1.7** (inclusive) of this Annex in respect of the relevant Third Party Supplier, it will be deemed that the Contractor has made reasonable endeavours to resolve the Third Party Supplier Fault and the relevant Fault will be eligible for an Exception.

Electricity Transmission Providers

- 2.1.2 In order for the Contractor to be able to claim an Excusing Cause as set out in **sub-paragraph (a) of paragraph 1.1.2** of this Annex of that definition in relation to Electricity Transmission Providers, the Contractor shall, as a minimum:
- A) raise any relevant Faults or problems with the appropriate Electricity Transmission Provider and enter the time, date, contact and Reference Number onto the Fault in the System within 30 (thirty) minutes of diagnosis of the Fault; and
 - B) pro-actively monitor and progress chase the appropriate Electricity Transmission Provider. This should be as a minimum an update to the Fault on the System every twelve (12) hours, more frequently at Sites of Strategic Importance or as instructed by the Authority.

- 2.1.3 All such contact with the Electricity Transmission Provider will be recorded by the Contractor onto the Fault in the System, detailing the time, date and contact.

Communication Providers

- 2.1.4 In order for the Contractor to be able to claim an Excusing Cause as set out in **sub-paragraph 2.1.4 A)** of this annex of that definition in relation to Communication Providers, the Contractor shall, as a minimum:
- A) raise relevant Faults to the appropriate Communication Provider and enter the time, date, contact and Reference Number onto the Authority's Fault in the System within 30 (thirty) minutes of diagnosis of the Fault; and
 - B) pro-actively monitor and progress chase the Communication Provider. This should be as a minimum an update to the Fault on the System on a daily basis, more frequently at Sites of Strategic Importance or as instructed by the Authority.

- 2.1.5 All contacts will be recorded onto the Authority's Fault in the System, detailing the time, date and contact.

Excusing Causes Related to Roadspace (Slot Cutting/RTAs)

- 2.1.6 An Excusing Cause will apply if the Contractor cannot gain access to a highway to work on Installed Equipment. The Contractor will as a minimum provide daily updates of attempts to arrange the Services and progress with all concerned giving time, date and contact, recording all such contacts on the Authority's Fault in the System. When a firm date has been arranged for meeting/Services commencement in future, that date will be entered into the Authority's Fault in the System.

Civil Engineering Works by Third Party

- 2.1.7 An Excusing Cause will apply where Civil Engineering Works that are to be carried out by a Third Party prevent the Contractor from working on the Supported Equipment. The Contractor shall, as a minimum, within 2 (two) hours provide notification on the System of the Civil Engineering Works required and will provide a drawing of the works required within 1 (one) Business Day of becoming aware of the Civil Engineering Works.

ANNEX M5: SWITCHING OFF SIGNALS FOR ROUTINE PURPOSES

Issued separately in Schedule 27 as SQA-0251 Switching Off Traffic Signals for Routine Purposes

ANNEX M6: INDICATIVE NUMBERS OF SITES OF STRATEGIC IMPORTANCE PER BOROUGH

Borough	Indicative Number of Sites of Special Interest
City of London	10
Westminster	30
Camden	15
Islington	10
Hackney	5
Tower Hamlets	10
Greenwich	10
Lewisham	5
Southwark	10
Lambeth	10
Wandsworth	10
Hammersmith & Fulham	10
Kensington & Chelsea	10
Waltham Forest	5
Redbridge	5
Havering	5
Barking & Dagenham	5
Newham	10
Bexley	5
Bromley	5
Croydon	20
Sutton	5
Merton	5
Kingston	5

Richmond	5
Hounslow	5
Hillingdon	5
Ealing	5
Brent	5
Harrow	5
Barnet	5
Haringey	5
Enfield	5

ANNEX M7: SUB SURFACE DETECTION REPAIR

Issued separately in Schedule 27 as SQA-0454 Sub Surface Detection Repairs



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 3 (THREE) - SOUTH

Schedule 4

Service Level Agreement

1 Introduction

- 1.1 This Service Level Agreement sets out defined Service Level Indicators and other performance measures including Availability Targets and Response Times for Emergency Faults (all defined below as "**Performance Measures**") which the Contractor is obliged to meet when performing the Services and against which the Contractor's performance will be measured.
- 1.2 Without prejudice to the Contractor's obligations to provide the Services in accordance with the Contract, the SLIs and other Performance Measures have been selected to reflect areas of the Services which are essential in order to deliver an acceptable level of (i) customer service to the Authority; and (ii) operational and technical performance, and to avoid exposing the Authority to significant financial or reputational risk. Service Failure Points have been assigned to each SLI and certain other Performance Measures. These are then converted to Service Failure Abatements in order to seek to reflect the impact on the Authority of the failure by the Contractor to meet the SLIs and/or Performance Measures.
- 1.3 The SLIs, Performance Measures, SFPs and SFAs set out in this **Schedule 4** apply on a per Lot basis such that if the Contractor provides Services in respect of more than one Lot, the Contractor will be measured separately for its performance in each Lot and the Authority will be entitled to exercise all rights and remedies relating thereto, and the Contractor will be entitled to any reliefs, on per Lot basis. If the Contractor fails to achieve SLIs in one Lot, this will not affect the Contractor's performance in respect of another Lot, provided that the Contractor has achieved the relevant SLIs in that other Lot.

2 Overview

- 2.1 The Contractor will provide the Services in accordance with Good Industry Practice and using all reasonable care and skill at all times. Without prejudice to the foregoing, the Contractor will perform the Services in accordance with the following levels of service such that any given time, targets or metrics set out in them are met or exceeded (as applicable):
 - (a) the Service Level Indicators as set out in Table 3 in **Annex A** to this Schedule ("**Table 3**");
 - (b) the Availability Targets as set out in **Schedule 5 (Price and Payment)**; and
 - (c) the Response Time for Emergency Faults (2 hours) as set out in **paragraph 4.7 of Part 4 of Schedule 3 (Statement of Requirements)**,(each and together, being the "**Performance Measures**").
- 2.2 Unless otherwise expressly stated to the contrary, the SLIs and the Availability Targets measure the ST Systems which form part of the Installed Equipment and measure Installed Equipment. Unless otherwise stated, measurements are

taken on a per Lot basis such that if the Contractor is appointed to perform Work and/or Services under a combined Lot (i.e. North and Central), the Contractor will be assessed against the SLIs and the Availability Targets separately for each Lot.

- 2.3 The levels of service, speed of response, SLIs and Availability Targets which the Contractor is required to meet together with the Service Failure Points to be awarded by the Authority if the required levels of service performance, response times, Availability Targets and/or SLIs are not met are set out in this **Schedule 4** below and/or are set out in **Schedule 5**. Service Failure Points for a failure by the Contractor to meet the required levels of service, SLIs, Availability Targets and/or the Response Times for Emergency Faults will be issued pursuant to **paragraph 4** below unless and to the extent that a Relief Event or Excusing Cause applies in accordance with **Schedule 3 (Statement of Requirements), Part 4, Annex M4**.
- 2.4 Table 3 in Annex A of this **Schedule 4**, sets out the SLIs and the SFPs that will be awarded if the required levels of service for the SLIs are not met. **Schedule 5 (Price and Payment)** sets out certain financial consequences of the failure to achieve an Availability Target and/or to fail to respond to an Emergency Fault on time (i.e. within 2 hours). **Paragraph 4** below sets out certain other consequences of failing to respond to an Emergency Fault on time (i.e. within 2 hours).
- 2.5 The Contractor's performance against the Performance Measures will be measured by the Authority at the end of each measurement period (as set out and defined in Table 3 of this Schedule) (a "**Measurement Period**") and SFPs will be notified to the Contractor within 5 (five) Business Days after the end of each Measurement Period in respect of the relevant Measurement Period. SFPs for failure to meet Availability Targets and failure by the Contractor to meet the Response Time for Emergency Faults are calculated automatically at the end of each Reporting Period by the System.

3 Service Level Indicator Reporting

- 3.1 The Authority will provide to the Contractor for each Reporting Period, on or around the end of the relevant Reporting Period (the "**Service Level Indicator Report Date**"), a Service Level Indicator Report in respect of the SLIs set out in Table 3 in **Annex A** of this **Schedule 4**, the Availability Targets, Directions, and the Emergency Fault Response Times.
- 3.2 If the Contractor identifies any errors, omissions or discrepancies in the Service Level Indicator Reports, the Contractor will notify the Authority within 5 (five) Business Days of receipt of the Service Level Indicator Report specifying what it considers to be the correct details together with details of the errors, omissions or discrepancies and the Contractor's rationale for all of this. In the event of any dispute between the Contractor and the Authority in respect of the Service Level Indicator Report, the Authority's decision will be final. If no such notification is received by the Authority within 5 (five) Business Days of the

Contractor receiving the Service Level Indicator Report, the Authority will consider it to be final and accepted by the Contractor.

- 3.3 The Contractor will provide to the Authority any relevant performance reports as outlined within **Schedule 8**.

4 Service Failure Points

- 4.1 Service Failure Points or SFPs will be issued by the Authority for a failure by the Contractor to meet the Performance Measures over a Measurement Period as follows:

- For failure to meet a Service Level Indicator in a Lot, SFPs will be issued as set out in Table 3 in **Annex A** of this **Schedule 4** for each Lot measured;
- For failure to meet a Response Time for an Emergency Fault, 2 (two) SFPs will be issued; and
- For each complete 1.00% where the calculated Availability of any ST System falls below Target Availability, there will be 3 (three) SFPs applied in that Reporting Period.

- 4.2 Service Failure Points will accrue from the Works Commencement Date.

- 4.3 For each Lot, where an event can be recorded against all, or any combination of, (i) SLI 12 Traffic Management, (ii) SLI 15 Civils and/or (iii) SLI 22 Health & Safety, then such event will be recorded against each of the relevant SLIs but will only be counted for the purpose of applying SFPs under the relevant SLI which results in the highest number of SFPs applying.

5 Service Failure Points and Service Failure Abatements

- 5.1 If the Contractor fails to achieve one or more Service Level Indicator performance requirements detailed in the SLI Table 3 in **Annex A** of this **Schedule 4**, Service Failure Points will be applied as indicated in the SLI Table.
- 5.2 Service Failure Abatements (as set out in further detail and given a value in **Schedule 5 (Price and Payment)**) will apply if the total SFPs resulting from SLIs in respect of a Reporting Period exceed the following levels:

Table 1: SFP to SFA Conversion

SFPs per Reporting Period	Number of SFAs
Up to 4	nil
5	1
Every additional 2	1

5.3 Service Failure Points and Service Failure Abatements will be calculated by the Authority on a daily basis in the System and the results will be available to the Contractor in the System provided that the amount of any Service Failure Abatement for each Reporting Period will not exceed 15% of the Charges for Maintenance which have been paid and/or are to be paid (whether or not yet invoiced) in respect of Regular Maintenance performed and/or to be performed and/or which was due to be performed in the relevant Reporting Period in which the claim arose (the "**SFA Cap**"). For the avoidance of doubt, the SFA Cap will be a financial cap on the amount of SFAs payable during a Reporting Period for SFPs during the relevant Reporting Period, provided that in each case of: (i) the event of termination by the Authority (other than for convenience by the Authority) and/or (ii) the exercise by the Authority of its rights to Step-In and/or Re-allocate the Services (or suspend them under **Clause 30** of the Contract), the Authority has a right to seek to and may bring a claim further financial damages for breaches which link to failures which might otherwise have been recompensed for and fall under the SFA Cap and/or for SFPs which are in excess of the SFA Cap. For the avoidance of doubt any and all SFA Caps:

- (a) relate only to SFPs;
- (b) apply on a per Lot basis such that, in the event the Contractor is responsible for more than one Lot, an SFA Cap will apply for each Lot. If the Authority exercises its rights to Step-In and/or Re-allocate the Services (or suspend them under **Clause 30** of the Contract) resulting in the Contractor no longer being responsible for a Lot (whether temporarily or permanently), the SFA Cap will remain applicable to the Lot(s) for which the Contractor remains responsible; and
- (c) are without prejudice to the Authority's other rights and remedies under the Contract

5.4 The final SFP and SFA totals for each Reporting Period will be included in the Service Level Indicator Report. The total Abatement (if any) will be deducted from the Total Regular Maintenance Payment due to the Contractor for the relevant Reporting Period as detailed in **paragraph 2 of Schedule 5 (Price and Payment)**.

5.5 Any SFPs issued for failures within SLI 22 Health & Safety and/or SLI 26 Environmental Compliance will not contribute towards the SFA total.

6 Remedies Available to the Authority

6.1 If the Contractor fails to meet one or more of the Performance Measures for any one Lot in a relevant Measurement Period then, without prejudice to the Authority's other rights and remedies (including the right to receive Emergency Fault Abatements under **Schedule 5 (Price and Payment)**), where the total number of SFPs awarded against the Contractor (measured on a 3 (three) rolling Reporting Period basis) in a Lot meets the thresholds shown in column 3 in Table 2 below (threshold parameter), the Authority will be entitled to the remedies and adjustments set out as follows:

Table 2: Remedies and Adjustments

Remedy Number	Remedy	Threshold parameters – which can be triggered in any rolling 3 (three) Reporting Periods for each Lot it is relevant to	Remedy for Loss of Service	Remedies Potentially Recoverable
1	SFP Accrual and SFA where applicable	1 (one) SFP up to and including 23 (twenty three) SFPs	£2,000 per SFA	None applicable
2	First Warning Notice (First Action Plan)	24 (twenty four) SFPs in the relevant 3 rolling Reporting Periods	Remedy 1 available, plus 5% of the value of invoices due for payment within the relevant Reporting Period retained	5% recoverable in accordance with paragraph 8.5 below.
3	Second Warning Notice (Second Action Plan)	32 (thirty two) SFPs in the relevant 3 rolling Reporting Periods	Remedy 1 and 2 retained plus 5% of the value of invoices due for payment within the relevant Reporting Period retained.	5% recoverable in accordance with paragraph 9.7 below.
4	At Authority's option Re-Allocation of Services or part thereof (including in respect of a Lot) as set out in the Contract	40 (forty) SFPs in the relevant 3 rolling Reporting Periods	Remedy 1, 2 and 3 retained plus, at Authority's option, Re-Allocation of Services or part	Not applicable

	(as the Authority sees fit in accordance with Clause 31 of the Contract) / Full or partial Termination (including in respect of a Lot) (all optional at the discretion of Authority)		thereof as set out in the Contract.	
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- 6.2 For the avoidance of doubt and without prejudice to its other rights and remedies, the Authority will be entitled to exercise any remedy(ies) it so chooses provided the relevant threshold has been met and it is not necessary for the Authority to have applied a lower level remedy before applying a higher level remedy or to have issued any Warning Notices prior to the right to fully terminate the Contract (or part thereof) provided that the threshold for this remedy has been triggered (being 40 or more Service Failure Points in the relevant 3 (three) rolling Reporting Periods as at the date when the Authority exercises any remedy). For the avoidance of doubt, the right to exercise any remedy(ies) will arise once the relevant threshold is reached.
- 6.3 The remedies set out in this **Schedule 4** are without prejudice to the Authority's other rights and remedies, including without limitation the right to require a Rectification Plan under **Clause 15** of the Contract or its rights of termination and/or Step-In and such rights will arise without the need to instigate the Action Plans or other remedies set out in this **Schedule 4**.

7 Withdrawal of Non-Essential Services

- 7.1 Non – Essential Services shall be those Services deemed by the Authority to be non-essential to the operation of the Services that in the direct opinion of the Authority can be removed from the Contractor without affecting the safe running or Availability of the ST Systems which the Contractor is contracted to deliver.
- 7.2 If 24 (twenty four) or more SFPs are accrued in any rolling 3 (three) Reporting Periods in a Lot, the Authority will have the right, without prejudice to the Authority's other rights and remedies, to (at the Authority's option) and by notifying the Contractor in writing to withdraw Non-Essential Services from the Services for the relevant Lot until either:
- (a) the Project Manager has accepted in writing that the Contractor's First Action Plan has been successfully implemented and completed (in the opinion of the Authority); or

- (b) in the event that a First Warning Notice was not issued for any reason, then until the Project Manager has accepted in writing that the Contractor's First Action Plan has been successfully implemented and completed (in the opinion of the Authority).
- 7.3 The Contractor will submit an Action Plan to the Project Manager within 14 days of the Non-Essential Services being removed from the Contractor. This Action Plan will detail how and by when the Contractor will make improvements to the delivery of the Services to demonstrate that the Project Manager can be satisfied that the Contractor can restore the Non-Essential Services in accordance with **paragraph 7.4** below.
- 7.4 The withdrawal of Non-Essential Services will continue until the Contractor has demonstrated to the Authority's satisfaction that the Contractor has improved its ability to carry out Non Essential Services and the Project Manager, at its complete and sole discretion, agrees with the Contractor assessment and actions are sufficient to re-commence the Non - Essential Services. The Contractor will recommence the Non-Essential Services that were ceased from the date set out by the Authority in the written acceptance.

8 First Warning Notice

- 8.1 If 24 (twenty four) or more SFPs are accrued in any rolling 3 (three) Reporting Periods in a Lot, the Authority will have the right, without prejudice to the Authority's other rights and remedies, to serve a written notice on the Contractor ("**First Warning Notice**"), setting out details of the Performance Measures which have been breached giving rise to the notice, stating in the notice that it is a First Warning Notice for the relevant Lot.
- 8.2 The Contractor will within 5 (five) Business Days of receiving such notice present an Action Plan ("**First Action Plan**") to the Authority which will demonstrate its ability to achieve future compliance with the relevant Performance Measure(s) for the written approval of the Authority (such approval not to be unreasonably withheld or delayed) at a meeting at the Authority's premises (or other alternative meeting arrangements proposed by the Authority which may be virtual for example). The proposed First Action Plan must be signed by the Contractor's Contract Manager.
- 8.3 If the Authority notifies the Contractor that it is withholding its approval to the First Action Plan, it will provide a written notice to the Contractor making clear its reasons. The Contractor will within a further 5 (five) Business Days of receiving such notice, provide the Authority with a revised First Action Plan adequately addressing the concerns of the Authority set out in its notice to withhold approval.
- 8.4 Once approved by the Authority's Project Manager in writing, the Contractor will immediately implement the First Action Plan and will submit weekly reports to the Authority until the end of the following Reporting Period evidencing how the

measures identified in the First Action Plan have been successfully implemented.

8.5 Without prejudice to **paragraph 8.7**, if the Authority, in its sole discretion, considers that the Contractor has not been complying with the First Action Plan or has not successfully implemented the measures identified in it, the Authority can extend the requirement for weekly reports beyond the Reporting Period and require further meetings with the Contractor. Furthermore, the Authority may, if it so wishes, at any time arrange a meeting at the Authority's premises (or other alternative meeting arrangements proposed by the Authority), requiring the Contractor to attend within 3 (three) Business Days, with those persons reasonably specified by the Authority, in order to discuss the implementation of the measures identified in the First Action Plan. If the First Action Plan is successfully implemented to the satisfaction of the Authority, then without prejudice to the Authority's other rights and remedies and subject to paragraph 8.6 below, the 5% remedy for loss of Service applied as per Remedy 2 in Table 2 above will be returned to the Contractor as an adjustment at the end of the next Reporting Period.

8.6 If the First Action Plan is not successfully implemented to the satisfaction of the Authority by the end of the next Reporting Period, the 5% adjustment for loss of Service will be retained by the Authority.

8.7 If:

- (a) the Authority withholds its approval to any revised First Action Plan; or
- (b) following written approval by the Authority of a First Action Plan (including any revised First Action Plan), the Contractor fails within 15 (fifteen) calendar days of a written notice being served on it by the Authority specifying material non-compliance with the First Action Plan (including any revised First Action Plan) and requiring it to be remedied, to remedy such non-compliance and to demonstrate in writing it has successfully implemented the First Action Plan such that the relevant Performance Measure(s) will be met or exceeded in the future,

the Authority will have the right to issue a Second Warning Notice in accordance with paragraph 9 below.

9 Second Warning Notice

9.1 If:

- (a) 32 (thirty two) or more SFPs are issued for a Lot in respect of any rolling 3 (three) Reporting Periods; or
- (b) the Contractor fails to comply with a First Action Plan, or the Authority withholds its approval to any revised First Action Plan in accordance with **paragraph 8** above,

then, without prejudice to the Authority's other rights and remedies, the Authority will have the right to serve a second written notice on the Contractor ("**Second Warning Notice**"), setting out details of the Performance Measures which have been breached giving rise to the notice or that the right under **paragraph 8.7(b)** has arisen due to the withholding by the Authority, stating in the notice that it is a Second Warning Notice.

- 9.2 The Contractor will, within 5 (five) Business Days of such notice, present an Action Plan ("**Second Action Plan**") to the Authority which will demonstrate its ability to comply with the relevant Performance Measure(s), for each measure proposed and/or to remedy the non-compliances or failures, for the written approval of the Authority (such approval not to be unreasonably withheld or delayed) at a meeting at the Authority's premises (or other alternative meeting arrangements proposed by the Authority). The Contractor's Second Action Plan must be signed by the Contractor's Managing Director.
- 9.3 Where the Second Warning Notice is in respect of Performance Measures for which the Contractor has previously produced an Action Plan, the Contractor will ensure that the Second Action Plan proposes new measures to improve the Contractor's performance so that the Contractor once again performs in accordance with all the Performance Measures and meets or exceeds such Performance Measures and, where relevant, it remedies the non-compliances or failures. If the Authority reasonably notifies the Contractor that it is withholding its approval to the Second Action Plan, it will provide written notice to the Contractor making clear its reasons.
- 9.4 The Contractor will within a further 5 (five) Business Days of receiving such notice provide the Authority with a revised Second Action Plan adequately addressing the concerns set out in the Authority's notice to withhold approval.
- 9.5 The Contractor will immediately implement the Second Action Plan following approval by the Authority and will submit a report to the Authority at the end of each week until the end of the following Reporting Period evidencing in writing how the measures identified in the Second Action Plan have been implemented.
- 9.6 Without prejudice to **paragraph 9.8**, if the Authority, in its sole discretion, considers that the Contractor has not been complying with the Second Action Plan, it can extend the requirement for weekly reports beyond the Reporting Period and require further meetings with the Contractor. Furthermore, the Authority may, if it so wishes, at any time arrange a meeting at the Authority's premises (or other alternative meeting arrangements proposed by the Authority), requiring the Contractor to attend within 3 (three) Business Days, with those persons reasonably specified by the Authority, in order to discuss the implementation of the measures identified in the Second Action Plan. Additionally, the Authority may require the Contractor to take part in an escalation discussion in accordance with **Clause 74.4** of the Contract.
- 9.7 If the Second Action Plan is successfully implemented to the satisfaction of the Authority, then then without prejudice to the Authority's other rights and remedies and subject to **paragraph 9.8** below, the 5% remedy for loss of

Service applied as per Remedy 3 in Table 2 above will be returned to the Contractor as an adjustment at the end of the next Reporting Period.

- 9.8 If the Second Action Plan is not successfully implemented to the satisfaction of the Authority by the end of the next Reporting Period, the 5% adjustment for loss of Service will be retained by the Authority.

10 Re-Allocation of Services / Full or Partial Termination

10.1 If:

- (a) the Authority withholds its approval to any revised Second Action Plan; or
- (b) following written approval by the Authority of a Second Action Plan (including any revised Second Action Plan), the Contractor fails within 30 (thirty) calendar days of a written notice being served on it by the Authority specifying material non-compliance with the Second Action Plan (including any revised Second Action Plan) and requiring it to be remedied, to remedy such non-compliance and to demonstrate in writing it has successfully implemented the Second Action Plan such that the Performance Measures will be met or exceeded in the future, or
- (c) a total of 40 (forty) or more SFPs are issued in any rolling 3 (three) Reporting Periods in a Lot, then:

without prejudice to the Authority's other rights and remedies, this will be a Re-Allocation Trigger and the Authority will have the right to give a Notice of Re-allocation, in accordance with **Clause 31** of the Contract, and to:

- (i) Re-Allocate any or all of the Services under this Contract in respect of the relevant Lot other than Exit Services (which may be temporary or permanent) and if permanent in respect of part of the Services the Authority may terminate that part as termination for breach in part under **Clause 32** of the Contract; and/or
- (ii) terminate this Contract in respect of the relevant Lot on grounds that the Contractor has committed an irremediable material breach under **Clause 32.1.1** of the Contract with immediate effect or on such longer notice as the Authority wishes to give (up to 18 (eighteen) months) by serving written notice on the Contractor and the provisions of **Clause 32.1.1** and **Clause 33** of the Contract will apply.

- 10.2 In the event the Authority exercises its rights under **paragraph 10.1**, the Performance Measures and SLIs set out in this **Schedule 4** will remain applicable to any Lot (or part Lot) which the Contractor remains responsible for.

11 Changes to Performance Measures and SLIs

- 11.1 The Authority and the Contractor may at any time request a change to the Performance Measures, SLIs and/or to any part or all of the regime for managing and assessing the Performance Measures set out in this **Schedule 4**. Any such amendments to this **Schedule 4** will be implemented in accordance with **Schedule 7 (Change Control Procedure)**.
- 11.2 The Authority may propose changes to 5 (five) SLIs in this **Schedule 4** within any 13 (thirteen) Reporting Periods. Agreement to such changes will not be unreasonably withheld or delayed by the Contractor. Any such amendments to this **Schedule 4** will be implemented in accordance with **Schedule 7 (Change Control Procedure)**.
- 11.3 The Authority may propose an additional 2 (two) SLIs in this **Schedule 4** within any 13 (thirteen) Reporting Periods. Agreement to such changes will not be unreasonably withheld or delayed by the Contractor. Any such amendments to this **Schedule 4** will be implemented in accordance with **Schedule 7 (Change Control Procedure)**.
- 11.4 Without prejudice to paragraphs 11.2 and 11.3, the Authority may propose additional changes to SLIs or other Performance Measures that enable the Authority to align its contracts for Services across the TTC Contracts. Agreement to such changes will not be unreasonably withheld or delayed by the Contractor. Any such amendments to this **Schedule 4** will be implemented in accordance with **Schedule 7 (Change Control Procedure)**.

Annex A: SLI Table

Table 3

For the purposes of the table below “Contract Year 1” will be the period from the Works Commencement Date. “Contract Year” will correspond with the Authority’s financial year being 1 April – 31 March

						Target Number per Lot across a Reporting Period					
SLI number	SLI Title	Service Indicator	Level	Description	Measurement Period	Contract Year 1 Target	Contract Year 2 Target	Contract Year 3 Target	Contract Year 4 Target	Contract Year 5 Target	Contract Year 6 Target, Contract Year 7 and/or Contract Year 8
1	Faults	Number of Faults which remain unresolved after the specified timeframe.		If the number of outstanding Faults, which have been live and not in exception for longer (cumulatively) than 8 (eight) weeks, is above the Target Number, the Contractor will incur 1 or more SFPs as set out to the right.	1 Reporting Period	In each case, the Target Number will be 25 or less Faults and the columns below show the SFPs that will be attracted at certain thresholds of Fault above the Target Number					
						0-25 Faults = zero SFP, 26-50 Faults = 1 SFPs, 51-75 = 2 SFP, 76-100 = 3 SFP, 100+ = 4 SFP	0-25 Faults = zero SFP, 26-50 Faults = 1 SFPs, 51-75 = 2 SFP, 76-100 = 3 SFP, 100+ = 4 SFP	0-25 Faults = zero SFP, 26-50 Faults = 1 SFPs, 51-75 = 2 SFP, 76-100 = 3 SFP, 100+ = 4 SFP	0-25 Faults = zero SFP, 26-50 Faults = 1 SFPs, 51-75 = 2 SFP, 76-100 = 3 SFP, 100+ = 4 SFP	0-25 Faults = zero SFP, 26-50 Faults = 1 SFPs, 51-75 = 2 SFP, 76-100 = 3 SFP, 100+ = 4 SFP	0-25 Faults = zero SFP, 26-50 Faults = 1 SFPs, 51-75 = 2 SFP, 76-100 = 3 SFP, 100+ = 4 SFP
2	Repeat Faults (excluding All Outs)	Number of Sites with multiple repeat Faults (i.e. Faults with the same Site Description in a Reporting Period (excluding All Outs, repeat lamp faults, I5/ I6 faults unless on analysis the Authority determines the failure is the Contractors responsibility).		Where the number of Sites that have 4 (four) or more repeat Faults (excluding All Outs) with the same type of Fault Description in a Reporting Period is above the Target Number, the Contractor will incur 1 SFP.	1 Reporting Period	8 Sites	7 Sites	6 Sites	5 Sites	4 Sites	4 Sites
3	Repeat All Outs	Number of Sites with repeat All Out Faults in a Reporting Period.		If the number of instances within the relevant period where a Site is All Out is higher than the Target Number, 2 SFPs will be applied. I.e. If a Site is	1 Reporting Period	Per Site with 4 or more instances. For this year only, one site failure will be permitted. i.e.	Per Site with 4 or more instances	Per Site with 4 or more instances	Per Site with 4 or more instances	Per Site with 4 or more instances	Per Site with 4 or more instances

			All Out equal to or more than 4 (four) instances in a Reporting Period, 2 SFPs will be applied.		failures will be recorded from the second site onwards.					
4	Controller Configuration A	Time taken to resolve any defect found as a result of a Controller Configuration check carried out by the Authority found to be non-compliant with the specification (e.g. MCH 1827B, TR 2515, TR 2516) or any other relevant DfT and highway authority standards as a result of an error that is not related to Safety Critical Timings.	Resolution time following report of a Controller Configuration check carried out by the Authority where a configuration is found to be non-compliant with the specification (e.g. MCH 1827B forms, TOPAS 2515, TOPAS 2516) or any other relevant DfT and highway authority standards as a result of an error that is not related to Safety Critical Timings. 1 SFPs will be applied each time a defect is not satisfactorily resolved within 4 weeks, 1 SFPs will be applied per instance which exceeds this timescale.	1 Reporting Period	3 instances of non-compliance	3 instances of non-compliance	2 instances of non-compliance	2 instances of non-compliance	2 instances of non-compliance	1 instance of non-compliance
5	Controller Configuration B	Resolution time following report of a Controller Configuration check carried out by the Authority where a configuration is found to be non-compliant with the specification (e.g. MCH 1827B forms TOPAS 2515, TOPAS 2516) or any other relevant DfT and highway authority standards, as a result of an error that is	Where the Controller Configuration is found to be non-compliant as a result of an error that is related to any safety-related issue, 2 SFPs will be applied for each non-compliant configuration for every 48 hours that a defect is not satisfactorily resolved (i.e. 2 SFPs for each complete 48 hour period it remains unresolved).	1 Reporting Period	0 instances of non-compliance	0 instances of non-compliance	0 instances of non-compliance	0 instances of non-compliance	0 instances of non-compliance	0 instances of non-compliance

		related to any Safety-related issue.	For the avoidance of doubt this SLI applies to working days where working days are Monday to Friday, with a cut off at 17:00 Friday until 0800 Monday.							
6	Periodic Inspections	Number of Periodic Inspections not completed within the required time-frame (as per Schedule 3 Part 4 of the Contract 'Maintenance – Periodic Inspections').	If the Contractor fails to complete equal to or more than Target Number of Periodic Inspections within the specified timeframe, 1 SFP will be applied.	1 Reporting Period	5 Periodic Inspections	5 Periodic Inspections	4 Periodic Inspections	4 Periodic Inspections	3 Periodic Inspections	3 Periodic Inspections
7	Electrical Inspections / Asset Condition Data	Percentage of total asset condition data captured (being an "inspection") and Electrical Inspection not completed within the required time-frame (as per Schedule 3 Part 4 of the Contract 'Maintenance – Electrical Inspections').	Inspection(s) to be captured upon request and recorded in the System. 1 SFP will be applied for each 1% below the Target Number. (Nb. SFP's will continue to apply periodically until any failure is rectified).	1 Reporting Year	100% of inspections requested	100% of inspections requested	100% of inspections requested	100% of inspections requested	100% of inspections requested	100% of inspections requested
8	Recording Site Information	Number of instances where the Authority inspects the Site and either: the Site status does not match the information recorded in the System and/or Logbook following work undertaken by the Contractor on Site or in the System, or the documentation on or relating to the Site is found to be missing and/or incorrect.	The Authority will record any instance where The Authority finds that either the Site status does not match the information recorded in the System and/or Logbook following work undertaken by the Contractor on Site, or the documentation on or relating to the Site is found to be missing and/or incomplete. If the number of instances is higher than the Target Number, in any single reporting	1 Reporting Period	1 instance	1 instance	0 instances	0 instances	0 instances	0 instances

			period, 2 SFPs will be applied.							
9	Quotation	Number of times the Contractor fails to meet any of the timescales for the following: (a) Notifying the Authority whether or not it will provide a Quotation within the timescales set out in Clause 7.3.2 of the Contract and (b) then where relevant, providing a Quotation within the timescales set out in Clause 7 of the Contract.	The Authority will record any failure by the Contractor to meet the agreed timescales for notifying the Authority whether or not it will provide a Quotation and then where relevant providing a Quotation. No SFP's will be applied to this measure.	1 Reporting Period	per 10 failures recorded	per 10 failures recorded	per 8 failures recorded	per 8 failures recorded	per 6 failures recorded	per 6 failures recorded
10	Start Date, Commissioning, & Completion Milestones	Percentage of Instructed Capital Works and/or Instructed Ordered Maintenance where the Contractor fails to meet the first permit Start Date &/or Commissioning &/or Completion Date. (This measure does not include switch outs or sub surface detection repairs).	The Authority will record the percentage of Instructed Capital Works and/or Instructed Ordered Maintenance where the Contractor fails to meet either the first permit Start Date &/or Commissioning &/or the Completion Date. If this percentage is higher than the target percentage in any single reporting period, and greater than the number of failures in any single reporting period (together being the "Target Number"), 2 SFPs will be applied.	1 Reporting Period	4% of Instructed Capital Works or Instructed Ordered Maintenance (as applicable) and 4 failures	4% of Instructed Capital Works or Instructed Ordered Maintenance (as applicable) and 4 failures	3% of Instructed Capital Works or Instructed Ordered Maintenance (as applicable) and 3 failures	3% of Instructed Capital Works or Instructed Ordered Maintenance (as applicable) and 3 failure	2% of Instructed Capital Works or Instructed Ordered Maintenance (as applicable) and 2 failures	2% of Instructed Capital Works or Instructed Ordered Maintenance (as applicable) and 2 failures

11	Power and Communications	Power and Communications ordered for a Site within the 2 weeks of acceptance of a Quotation, where infrastructure allows, if applicable.	If the Contractor fails to order power and communications equal to or more than Target Number of instances (on a percentage basis) within the specified timeframe, 2 SFPs will be applied.	1 Reporting Period	95% of orders and 2 or more failures.	95% of orders and 2 or more failures.	95% of orders and 2 or more failures.	95% of orders and 2 or more failures.	95% of orders and 2 or more failures.	95% of orders and 2 or more failures.
12	Traffic Management	Number of Sites inspected by the Authority where any aspect of the Traffic Management is not provided in accordance with the provisions of Schedule 16 (Permitting, Lane Rental and Traffic Management).	If more than the Target Number of Sites are found by the Authority to apply Traffic Management that is not in accordance with the provisions of Schedule 16 (Permitting, Lane Rental and Traffic Management) (in the Authority's discretion), 2 SFPs will be applied.	1 Reporting Period	2 Sites	2 Sites	1 Site	1 Site	0 Sites	0 Sites
13	Documentation	Percentage of Instructed Capital Works and/or Instructed Ordered Maintenance where the Contractor does not meet the agreed timescale for the particular Scheme to which the Documentation relates as set out in this Contract as required by a Works Instruction or Works Order. (Calculated as a percentage of Instructed Capital Works or Instructed Ordered Maintenance (as applicable) for which Documentation is due within the relevant Reporting Period).	The Authority will record the percentage of Instructed Capital Works or Instructed Ordered Maintenance where the Contractor fails to meet the agreed timescales for the submission of Documentation. No SFP's will be applied to this measure.	1 Reporting Period	■ of Instructed Capital Works or Instructed Ordered Maintenance (as applicable) and 6 or more failures.	■ of Instructed Capital Works or Instructed Ordered Maintenance (as applicable) and 5 or more failures.	■ of Instructed Capital Works or Instructed Ordered Maintenance (as applicable) and 4 or more failures.	■ of Instructed Capital Works or Instructed Ordered Maintenance (as applicable) and 4 or more failures.	■ of Instructed Capital Works or Instructed Ordered Maintenance (as applicable) and 4 or more failures.	■ of Instructed Capital Works or Instructed Ordered Maintenance (as applicable) and 4 or more failures.

14	On Site Commissioning Right First Time	Number of Sites inspected by the Authority where on Site Commissioning is correctly completed at first attempt as recorded in Workflow.	To ensure that all on Site Commissioning is completed correctly at first attempt. 1 SFPs will be applied for every 10% of Sites not first time below the target, i.e. 89% of Sites are right first time within a Reporting Period will result in 1 SFPs, 79% of Sites are right first time within a Reporting Period will result in 2 SFPs and so on.	1 Reporting Period	90% right first time and 3 or more failures.	90% right first time and 3 or more failures.	90% right first time and 3 or more failures.	90% right first time and 3 or more failures.	90% right first time and 3 or more failures.	90% right first time and 3 or more failures.
15	Civils	Number of instances within any Sites, stores, Depots and/or logistics centres, which are utilised for the benefit of this contract, where the Contractor is in breach of CDM Regulations and/or any Contractor and/or Authority Civil works policy and/or procedures as set out or referred to in this Contract	If the number of instances are higher than the periodic target 1 SFP will be applied.	1 Reporting Period	0 instances	0 instances	0 instances	0 instances	0 instances	0 instances
16	Rectification / Snagging	Number of times the Contractor fails to complete Rectification works / snagging within 2 weeks of original Commissioning date.	To ensure that all snagging is cleared within a reasonable timeframe. 1 SFP will be applied every time the target number of failures is recorded, i.e. in Year 1, 4 failures within a Reporting Period will result in 1 SFP, 8 failures within a Reporting Period will result in 2 SFPs, 12 failures within a Reporting Period will result in 3 SFPs and so on.	1 Reporting Period	Every 4 site failures	Every 4 site failures	Every 4 site failures	Every 3 site failures	Every 3 site failures	Every 3 site failures

17	Statutory Testing	Number of Statutory Tests to be completed within the required timeframe.	If the Contractor fails to complete any Statutory Tests to the timeframe within the Period, 5 SFPs will apply (maximum of 5 SFPs per period). Nb. SFP's will continue to apply periodically until any failure is rectified.	1 Reporting Period	0 failures to complete	0 failures to complete	0 failures to complete	0 failures to complete	0 failures to complete	0 failures to complete
18	Equipment	Number of instances the Contractor installs Equipment that is not on the Authority's Approved Equipment List.	If the Contractor installs Equipment that is not on the Equipment List, 2 SFPs will be applied. i.e. 2 SFPs will be applied per instance. SFPs will be awarded irrespective of the subsequent removal and replacement of such Equipment as required by requirement 3.4.4 S schedule 3 – Part 3.	1 Reporting Period	0 instances	0 instances	0 instances	0 instances	0 instances	0 instances
19	Electrical Design	Number of times an Electrical Design checked by the Authority is found to be non-compliant with the IET Regulations and the Works Instruction or Works Order.	If, upon a check carried out by the Authority, an Electrical Design is found to be non-compliant with the IET Regulations, the Works Instruction or Works Order, or may be a potential Health & Safety concern or is found to be non-compliant with the Works Instruction or Works Order, a defect will be raised. 2 SFPs will be applied each time a defect is not	1 Reporting Period	0 instances of non-compliance	0 instances of non-compliance	0 instances of non-compliance	0 instances of non-compliance	0 instances of non-compliance	0 instances of non-compliance

			<p>satisfactorily resolved within 2 working days i.e. 2 SFPs will be applied per instance which exceeds this timescale. Plus 1 SFP per each day above 2 working days.</p> <p>For the avoidance of doubt this SLI refers to working days as Monday to Friday, with a cut off at 17:00 Friday.</p>								
20	Detailed Design	Number of times a Detailed Design is accepted by the Authority at first submission ("passed"). Where the proportion of Detailed Designs have not passed, 2 SFPs will be applied.	Detailed Designs should be passed on their first submission. Detailed Designs that are not passed at their first submission, outside of the Target Number, will incur 2 SFPs. For the avoidance of doubt this excludes items covered by SLI 4, SLI 5 and SLI 19.	1 Reporting Period	80% pass	80% pass	80% pass	80% pass	80% pass	80% pass	80% pass
21	Design Rectification	In the event that a Detailed Design is not accepted by the Authority, Design re-submission duration should be less than 2 weeks.	To ensure Detailed Designs are rectified in a timely manner, where the mean average time of re-submission of Detailed Designs is 2 weeks or greater over the period, 2 SFPs will be applied.	1 Reporting Period	Mean of <2 weeks	Mean of <2 weeks	Mean of <2 weeks	Mean of <2 weeks	Mean of <2 weeks	Mean of <2 weeks	Mean of <2 weeks
22	Health & Safety	Number of instances within any Sites, stores, Depots and/or logistics centres, which are utilised for the benefit of this Contract, where the Contractor is in breach of any Contractor and/or Authority Health & Safety policy and/or	If at any time any breach of Health & Safety is incurred by the Contractor, 5 SFPs will be applied. 5 SFPs will be applied for each instance. Where a breach could be considered applicable under this Health & Safety SLI 22 and SLI 23, the Authority will	1 Reporting Period	0 instances	0 instances	0 instances	0 instances	0 instances	0 instances	0 instances

		Health & Safety procedures as set out or referred to in this Contract or health & safety laws (each being a type of "Health & Safety").	determine which is applicable. For the avoidance of doubt, SFPs will not be applied twice for one breach.							
23	Health Safety Incident Reporting	Incident investigation reports accepted by the Authority within 14 days of the incident occurring. Incidents to be reported are RIDDORs, all lost time incidents and utility strikes.	<p>Percentage of incident investigation reports accepted by the Project Manager within 14 days of the incident occurring (or a longer period if agreed with the Project Manager).</p> <p>Data Source: Info Exchange</p> <p>A = Number of incident investigation reports submitted within the Reporting Period which were accepted by the Project Manager within 14 days of the relevant incident.</p> <p>B = Total number of incidents within the Reporting Period.</p> <p>Score = (A / B) x 100.</p>	1 Reporting Period	90%	90%	90%	90%	90%	90%
24	All Accident Frequency Rate (AAFR)	AAFR only applicable for Works undertaken as Principal Contractor.	<p>The AAFR is the total number of Contractor incidents and injuries at Sites within the Working Areas under control and/or supervision of the Contractor per 100,000 hours worked over 13 consecutive Reporting Periods.</p> <p>A = Number of Contractor incidents and injuries over 13</p>	1 Reporting Period	1.15	1.15	1.15	1.15	1.15	1.15

			consecutive Reporting Periods. B = Number of hours worked over 13 consecutive Reporting Periods. Score = (A / B) x 100,000.							
25	Utility strike rate	Utility strike rate which is within the control of the Contractor.	Total number of utility strikes to any Services at Sites within the Working Areas under control and/or supervision of the Contractor per 100,000 hours worked over 13 consecutive Reporting Periods. A = Number of utility strikes over 13 consecutive Reporting Periods. B = Number of hours worked over 13 consecutive Reporting Periods. Score = (A / B) x 100,000.	1 Reporting Period	1.69	1.69	1.69	1.69	1.69	1.69
26	Environmental Compliance	Number of Sites, and any stores, Depots and/or logistics centres, which are utilised for the benefit of this Contract, where the Contractor is in breach of any Contractor and/or Authority Environmental policy and/or procedures as set out or referred to in this Contract or any other applicable Environmental	If at any time any breach of Environmental policy or the relevant provisions in the Contract is incurred by the Contractor, 5 SFPs will be applied. 5 SFPs will be applied for each Site. Where a breach by the Contractor could be considered applicable under this Environmental Compliance SLI 26, and SLI 22, the	1 Reporting Period	0 Sites	0 Sites	0 Sites	0 Sites	0 Sites	0 Sites

		provisions set out in the Contract.	Authority will determine which is applicable. For the avoidance of doubt, SFPs will not be applied twice.							
27	Environmental Compliance – Carbon Footprint	Working in an increasingly environmentally sustainable manner across all of the Services, reducing the overall carbon footprint year on year.	If the Contractor fails to reduce its carbon footprint in line with the annual agreed in the Contractors Carbon Report, 5 SFPs will apply.	1 Reporting Year	Not applicable	As per Carbon Report target	As per Carbon Report target	As per Carbon Report target	As per Carbon Report target	As per Carbon Report target
28	Contract Management and Reporting	Completion of Contract management reporting and tasks as detailed in Contract Management and Reporting Schedule 8.	To ensure that the Contract is managed efficiently, all reports or tasks shall be completed on time. 1 SFP will be applied if the number of instances is breached within any reporting Period.	1 Reporting Period	1 instance	0 instances	0 instances	0 instances	0 instances	0 instances



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 3 (THREE) – SOUTH

Schedule 5

Price and Payment

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SCHEDULE 5

PRICE & PAYMENT

Part 1 – Payment for Maintenance Works

1. Total Maintenance Payment

- 1.1 For each Reporting Period, the Authority will, subject to **Clauses 17** and **53** of the Contract, pay the Contractor for all Maintenance properly carried out in the Reporting Period the sum of:

Total Maintenance Payment = TRM – TEFAb - TSAb + Dir + Adj

where:

TRM means the total payments for Regular Maintenance calculated in accordance with **section 2** of this **Part 1** of **Schedule 5**;

Dir means the total payments for Directions calculated in accordance with **section 5** of this **Part 1** of **Schedule 5**;

TEFAb means the total of the Emergency Fault Abatements (if any) incurred by the Contractor in such Reporting Period calculated in accordance with **section 4** of this **Part 1** of **Schedule 5**;

TSAb means the total Service Failure Abatement rate of £2,000 per Service Failure Abatement incurred by the Contractor in such Reporting Period calculated in accordance with **section 5** of **Schedule 4**;

Adj means any other adjustment required to be made by the Authority within a Reporting Period which for the avoidance of doubt may be positive or negative.

2. Total Payments for Regular Maintenance

- 2.1 For each Reporting Period, the Authority will, subject to **Clauses 17** and **53** of the Contract, pay the Contractor the following sum in respect of total payments for Regular Maintenance (TRM) properly carried out:

$$TRM = \sum_n RM_n + TFI$$

where:

n means the relevant ST System;

RMP means the Regular Maintenance Payment for each relevant ST System calculated in accordance with **paragraph 3** of this **Part 1** of **Schedule 5**; and

TFI means the total of the Financial Incentives (if any) for every ST System calculated in accordance with **paragraph 4** of this **Part 1** of this **Schedule 5** for such Reporting Period, which for the avoidance of doubt may be positive or negative.

3. Regular Maintenance Payments for each ST System

For each Reporting Period, the Authority will pay the Contractor for Regular Maintenance for each ST System (RMP) calculated as follows:

$$RM = \sum_i ((FUR_i \times IA) / N_y) \times N_x \times AV_i$$

where:

i means a relevant Equipment Maintenance Category for the relevant ST System;

FUR means the Fixed Unit Rate for the relevant Equipment Maintenance Category, for the relevant age band and for the relevant financial year as set out in Annex A of this **Schedule 5** (being the period from the Contract Commencement Date until the following 31 March, each successive period starting on 1 April and ending on 31 March during the Term and the period starting on the last 1 April during the Term and ending on the Termination Date or the date on which this Contract expires);

IA means the Indexation Adjustment;

N_y means 365 (or 366 in any leap year);

N_x means the number of calendar days in the relevant Reporting Period; and

AV means the average number of units in the relevant Equipment Maintenance Category that are in service in such Reporting Period. The average number of units will be calculated by a simple mean average utilising the sum of the quantities of units at the commencement of the Reporting Period and the quantities at the end of the Reporting Period as set out in the System divided by 2 (two).

- 3.1 The Fixed Unit Rates are payments which cover all the Regular Maintenance duties and obligations of the Contractor and corresponding activities needed to enable such duties and obligations in respect of Regular Maintenance under this Contract. This includes all equipment and labour used for Preventative Maintenance, Reactive Maintenance, Emergency Maintenance and Third Party Damage (unless the conditions set out in **section 4.9 of Part 4 of Schedule 3** are met in which case those provisions will apply in addition), Minor Civil Engineering Works, Major Traffic Management, Minor Traffic Management, management of Third Party Supplier Faults and special access equipment, Lane Rental, Permitting, all allowances for overtime, night, or weekend working and all other costs, charges, materials and expenses whatsoever including, congestion charge payments, and all taxes (other than VAT).

4. Total Financial Incentives

- 4.1 The total financial incentives (TFI) payable or due for a Reporting Period is the sum of the Financial Incentives for each ST System for the Reporting Period, being:

$$TFI = \sum_n FI_n$$

where:

n means the relevant ST System; and

FI means the Financial Incentives for each relevant ST System calculated in accordance with **paragraph 4.2** of this **Part 1** of **Schedule 5**.

- 4.2 The Financial Incentives payable in respect of each relevant ST System for a Reporting Period will (unless the conditions set out in **paragraph 4.3** of this **Part 1** of **Schedule 5** exist, in which case the Availability for the relevant ST System for the first 3 (three) Reporting Periods of the Term will not be lower than the value set out in column 2 of the table at **paragraph 4.6** of this **Part 1** of **Schedule 5**) be:

$$FI = ((AA - BA)/BA) \times RM \times MF \quad FI = RM \times [(MF \times (AA-BA)/BA) - LSA\% / 100]$$

where:

AA means the lower of:

- 4.2.1 the Contractor Availability for the relevant ST System for the Reporting Period (unless the conditions set out in **paragraph 4.3** of this **Part 1** of **Schedule 5** exist, in which case the Availability for the relevant ST System for the first 3 (three) Reporting Periods of the Term shall not be lower than the Lower Threshold value set out in column 3 (Lower Threshold) of **Table 1** below for the relevant ST System); and
- 4.2.2 the Upper Cap set out in column 2 of the **Table 1** below for the relevant System;

Table 1: Contractor Availability Caps and Thresholds per ST System

System	Upper Cap on AA	Lower Threshold for AA
Traffic Signals	99.70	98.80
OVD	97.50	94.00
VMS	98.00	95.00

BA means the Availability Target for the relevant ST System;

RM means the Regular Maintenance payment for the relevant ST System calculated in accordance with **paragraph 3** of this **Part 1** of **Schedule 5**; and

MF means the multiplying factor applicable to the Contract Availability result as set out in the **Table 2** below, where an Availability Bonus or an Availability Abatement is paid or deducted as follows:

Table 2: Availability Bonus and Abatement Multiplying Factors

TC System	Multiplying Factor when AA is up to and including Upper Cap and greater than Contractor Availability Target (Availability Bonus)	Multiplying Factor when AA is Lower than the Contractor Availability Target (Availability Abatement)
Traffic Signals	21.824	12.400
OVD	4.180	4.750
VMS	5.280	4.800

Note: Multiplying Factors are used to apply the applicable maximum Bonus and Abatement percentage, as described in **Table 3**, equally between the specified limits.

Table 3: Maximum Availability Bonus and Abatement (percentage of RM)

System	Maximum Bonus (% of RM) (Availability Bonus)	Maximum Abatement (% of RM) (Availability Abatement)
Traffic Signals	11.0%	5.0%
OVD	11.0%	5.0%
VMS	11.0%	5.0%

Maximum Bonus applies when AA is equal to or greater than the applicable Upper Cap (**Table 1**).

Maximum Abatement applies if AA is equal to or less than the Lower Threshold (**Table 1**).

LSA means a Lump Sum Abatement which will be applicable as a one-off deduction when, within a Reporting Period, Contractor Availability falls below the Lower Availability Threshold as set out in **Table 1** above.

The LSA is a percentage of the Regular Maintenance Payment for the Reporting Period for the relevant ST System as specified in **Table 4** below.

For the avoidance of doubt, if AA is below the Lower Threshold the Availability and Lump Sum Abatements will both be applied.

Table 4: Lump Sum Abatement Percentages

TC System	LSA % of RM
Traffic Signals	10.0%
OVD	5.0%
VMS	5.0%

- 4.3 Should the Contractor exceed the Upper Availability Cap set out in column 2 of Table 1 above for 6 (six) or more consecutive Reporting Periods, the cap shall be adjusted by the Authority to a figure equal to the average of the Availability achieved for the relevant ST System across the 6 (six) Reporting Periods in which the cap was exceeded.
- 4.4 For the first 3 Reporting Periods following the Works Commencement Date, the Lump Sum Abatement will not be applicable.
- 4.5 For Reporting Periods 4, 5 and 6 following the Works Commencement Date, only 50% of the value of the Lump Sum Abatement will be reflected in the calculation, should it be applicable.

Emergency Fault Abatements

- 4.6 If the Contractor fails to meet the Response Times for Emergency Faults, an Emergency Fault Abatement (*EFAb*) will be due from the Contractor in respect of each such failure, calculated as follows:

$$EFAb = (W \times IA) \times N$$

where:

W means £1,000;

IA means the Indexation Adjustment; and

N means the appropriate multiplier set out in column 2 of **Table 5** below:

Table 5: Emergency Response Failure Multiplier

Hours exceeding appropriate Response Times for Emergency Faults	Multiplier (N)
up to and equal to 1	1
>1 and up to and equal to 2	2
>2 and up to and equal to 3	4

Hours exceeding appropriate Response Times for Emergency Faults	Multiplier (N)
>3 and up to and equal to 4	8
>4	8 and the Authority will be entitled to exercise its rights under Clause 30 (Suspension of the Services)

- 4.7 The total Emergency Fault Abatement (*TEFAb*) for each Reporting Period will be the total of the Emergency Fault Abatements (*EFAb*) (if any) incurred by the Contractor in such Reporting Period, calculated as follows:

$$TEFAb = \sum EFAb$$

- 4.8 Any Emergency Fault Abatement for a failure to meet the Response Times for Emergency Faults will be calculated and reported in the Reporting Period in which the Contractor makes Safe, or (if applicable) fails to make Safe, the Emergency Fault, even if such Emergency Fault spans more than one Reporting Period. The Emergency Fault Abatement will be calculated from the date and time the Fault is sent to the Contractor until the Contractor responds to the Emergency Fault, whether this is in the same Reporting Period or not.

5. **Total Payments for Directions**

5.1 Each Reporting Period, the Authority may direct the Contractor to attend one or more specific Faults (as set out in **section 4.4 of Part 4 of Schedule 3**). Such directions will fall into one of two categories:

5.1.1 directions requiring an initial response by the Contractor within 3 (three) hours ("**Immediate Direction**"); and

5.1.2 directions requiring an initial response by the Contractor within 8 (eight) hours ("**Urgent Direction**").

5.2 The total payments for Directions (Dir) payable to the Contractor for a Reporting Period will be calculated as follows:

$$Dir = (ID \times (IDR \times IA)) + (UD \times (UDR \times IA))$$

where:

ID is the number of Immediate Directions instructed by the Authority to the Contractor to which the Contractor has responded in time in the Reporting Period;

IDR is the rate applicable to each Immediate Direction as set out in the table at **paragraph 5.3 of this Part 1 of this Schedule 5**;

IA means the Indexation Adjustment;

UD is the number of Urgent Directions instructed by the Authority to the Contractor to which the Contractor has responded in time in the Reporting Period; and

UDR is the rate applicable to each Urgent Direction as set out in the table at **paragraph 5.3 of this Part 1 of Schedule 5**.

5.3 The rate applicable to each category of Direction is set out in column 2 (two) of **Table 6** below.

Table 6: Direction Rates

Direction Category	Applicable Rate per Direction
Immediate Direction	£ 0 (zero)
Urgent Direction	£ 0 (zero)

5.4 The total payments for Directions covers the additional cost to the Contractor of having to reallocate its resource in line with the Authority's instruction and is not intended to include the cost to the Contractor of rectifying any Faults identified following the initial response to the Direction.

5.5 For the avoidance of doubt any other payments due to the Contractor under this Contract following the initial response to the Direction is calculated and made through payment for Regular Maintenance.

6. Total Payment for Third Party Damage

6.1 Where:

- 6.1.1 the Authority has confirmed in writing it has received Sufficient Evidence in respect of an incident of Third Party Damage (other than Third Party Damage to Non-Traffic Signals or Sub-Surface Detection which becomes the subject of a Works Instruction issued by the Authority); or
- 6.1.2 the Contractor can demonstrate to the Authority's satisfaction that the cost of Rectification of Third Party Damage is greater than £12,500 (twelve thousand five hundred pounds), subject to the Indexation Adjustment set out below, where there is Insufficient Evidence; or
- 6.1.3 the Contractor is required to carry out any Rectification works in respect of any Faults caused by Third Party Damage which occurred prior to the Works Commencement Date and of which the Authority was aware as at the Works Commencement Date and the cost of which the Authority has notified the Contractor is recoverable in accordance with the requirements of **paragraph 4.9.10 of Part 4 of Schedule 3**; or
- 6.1.4 the Contractor is required to carry out any Rectification works in respect of any Third Party Damage to Vulnerable Supported Equipment (subject to the Contractor complying with its obligations in **paragraph 4.9.8 of Part 4 of Schedule 3**),

the Contractor will be entitled to recover the cost of the Rectification of such Third Party Damage from the Authority in accordance with **paragraph 3 of Part 5 of this Schedule 5**.

7. Other Adjustments

Any adjustments due to the Regular Maintenance Payment in accordance with this Contract, including any overpayments made by the Authority to the Contractor, or the subsequent reversal of Financial Incentive Payments, SFAs or EFAs, will be made by the Authority following the end of the Reporting Period and prior to the Contractor invoicing.

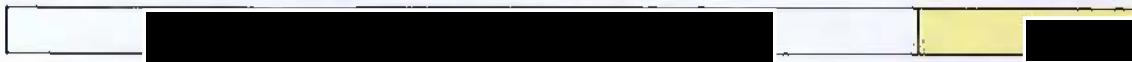
8. Suspension, Re-allocation or Step-In

- 8.1 In the event the Authority exercises its rights under **Clauses 30 and/or 31** of the Contract, the Charges set out in this **Schedule 5** will remain applicable to the relevant Lot(s) or part Lot(s) which the Contractor remains responsible for, such that the Charges for Maintenance set out in this **Part 1** will continue to apply for that Lot or part Lot (as applicable).

9. Changes to Maintenance Charges

- 9.1 Any changes to the Maintenance Charges proposed by the Contractor may be considered by the Authority and, if agreed to, implemented in accordance with **Schedule 7 (Change Control Request Procedure)**.

The image is a complex geometric composition consisting of a grid of colored rectangles and several black rectangular blocks. The background is divided into a grid of colored rectangles: a yellow rectangle at the top left, a white rectangle at the top right, a red rectangle on the left side, a large black rectangle in the center, a large orange rectangle on the right side, and a green rectangle at the bottom. Overlaid on this grid are several black rectangular blocks of varying sizes and positions. A large black block is positioned in the upper left quadrant, partially overlapping the yellow and white rectangles. A smaller black block is located in the upper right quadrant, overlapping the white rectangle. A large black block is positioned in the center of the image, overlapping the red, orange, and green rectangles. A smaller black block is located in the lower left quadrant, overlapping the orange rectangle. A large black block is positioned in the lower right quadrant, overlapping the green rectangle. The overall composition is abstract and geometric, with a focus on color and shape.



Indexation used for all cost components above shall be CPI

ANNEX C – Reporting Periods

Table 7: Reporting Periods

Financial Year	Start of Period 1	Start of Period 2	Start of Period 3	Start of Period 4	Start of Period 5	Start of Period 6	Start of Period 7	Start of Period 8	Start of Period 9	Start of Period 10	Start of Period 11	Start of Period 12	Start of Period 13	End of Period 13
2022-23													05/03/23	31/03/23
2023-24	01/04/23	30/04/23	28/05/23	25/06/23	23/07/23	20/08/23	17/09/23	15/10/23	12/11/23	10/12/23	07/01/24	04/02/24	03/03/24	31/03/24
2024-25	01/04/24	28/04/24	26/05/24	23/06/24	21/07/24	18/08/24	15/09/24	13/10/24	10/11/24	08/12/24	05/01/25	02/02/25	02/03/25	31/03/25
2025-26	01/04/25	27/04/25	25/05/25	22/06/25	20/07/25	17/08/25	14/09/25	12/10/25	09/11/25	07/12/25	04/01/26	01/02/26	01/03/26	31/03/26
2026-27	01/04/26	03/05/26	31/05/26	28/06/26	26/07/26	23/08/26	20/09/26	18/10/26	15/11/26	13/12/26	10/01/27	07/02/27	07/03/27	31/03/27
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2031-32	01/04/31	27/04/31	25/05/31	22/06/31	20/07/31	17/08/31	14/09/31	12/10/31	09/11/31	07/12/31	04/01/32	01/02/32	29/02/32	31/03/32
2032-33	01/04/32	02/05/32	30/05/32	27/06/32	25/07/32	22/08/32	19/09/32	17/10/32	14/11/32	12/12/32	09/01/33	06/02/33	06/03/33	31/03/33
2033-34	01/04/23	30/04/23	28/05/23	25/06/23	23/07/23	20/08/23	17/09/23	15/10/23	12/11/23	10/12/23	07/01/24	04/02/24	03/03/24	31/03/24

SCHEDULE 5

PRICE & PAYMENT

Part 2 – Availability

1. General

- 1.1 The Contractor will ensure that, for each Lot, each ST System is Available throughout the Term and in each Reporting Period for no less than the percentage of time set out in the table below as an Availability Target.

Table 8: Availability Target

ST System	Availability Target (%)
Traffic Signals	99.20
OVD	95.00
VMS	96.00

- 1.2 Availability is calculated automatically by the ST System each day.
- 1.3 For each Reporting Period, Availability during that Reporting Period will be calculated from the Reporting Period end data in the applicable ST System. The Reporting Period end results are recalculated to take account of, for example, "No Fault Found" and agreed corrections (if any) identified after the end of each Reporting Period. This is normally done on or after the third calendar day following the end of each Reporting Period by the Authority.

2. Availability Calculation

- 2.1 Availability will be calculated for each separate Lot (notwithstanding that the Contractor may be responsible for more than one Lot in which case Availability will be measured separately for all Lots for which the Contractor is responsible and the Availability calculation for one Lot will not be influenced or affected by the Availability calculation for another Lot), for each ST System, for each Availability Category and for each Reporting Period in accordance with the following paragraphs.
- 2.2 The Availability of each ST System for each Lot is calculated as follows:

$$Availability = \sum_n (ACA \times WF)_n$$

where:

n is the relevant Availability Category;

ACA is the Availability for each Availability Category calculated in accordance with **paragraph 2.3** of this **Part 2** of **Schedule 5**; and

WF is the weighting factor applicable to each Availability Category for each ST System set out in **paragraph 2.6** of this **Part 2** of **Schedule 5**.

- 2.3 The Availability for each Availability Category (ACA), expressed as a percentage (%) is calculated as follows:

$$ACA = \frac{(\text{Elapsed Time} - \text{Unavailable Time})}{\text{Elapsed Time}} \times 100$$

- 2.4 For each Availability Category, Availability is a function of:
- 2.4.1 the total time in seconds the Installed Equipment applicable to each Availability Category at each Site should be operating ("**Elapsed Time**") in the relevant Reporting Period, which for the avoidance of doubt is normally 2,419,200 seconds for each Availability Category that applies to each particular Site in each Reporting Period; and
 - 2.4.2 the total time during which the Installed Equipment applicable to each Availability Category at each Site is Unavailable (Unavailable Time) calculated in accordance with **paragraph 2.7** of this **Part 2** of **Schedule 5**.
- 2.5 The Availability Categories applicable to each ST System are detailed in **paragraph 3** of this **Part 2** of **Schedule 5**.
- 2.6 For each ST System, other than Traffic Signals, each Availability Category for that ST System is weighted equally. For Traffic Signals, the Availability Categories are weighted as set out in the table below.

Table 9: Availability Category Weightings

Availability Category	Weighting
Lamps	0.177
Vehicle	0.235
Pedestrian	0.235
Urban Traffic Control	0.196
Remote Monitoring	0.157
Total	1.000

- 2.7 The calculation of Unavailable Time, and therefore Availability, will only include the following:
- 2.7.1 Faults confirmed in the System in the relevant Reporting Period; and
 - 2.7.2 Faults that were confirmed before the start of the relevant Reporting Period and not Rectified and Cleared before the end of the previous Reporting Period.
- 2.8 For the avoidance of doubt, only Unavailable Time incurred in the relevant Reporting Period will be included in the Availability calculations for that Reporting Period.

- 2.9 The effect that each Fault has on the Availability Categories is determined by the Fault Definitions and Repair Definitions entered into the System during the life of the Fault provided that the entries are confirmed by the Authority.
- 2.10 Fault Definitions and the Repair Definitions are held in the System. A list of Fault Definitions and Repair Definitions and their effect on the Availability Categories used by the System as the basis for calculating Availability as at the date of this Contract is set out at **Annex A** to this **Part 2** of **Schedule 5**. The effect of Fault Definitions and Repair Definitions on Availability Categories can be modified by the Authority users at the point of data entry.
- 2.11 For the purposes of calculating Availability for each Availability Category pursuant to **paragraph 2.3** of this **Part 2** of **Schedule 5**, the Fault is deemed to start affecting Availability when it is confirmed in the System by the Authority and sent to the Contractor for Rectification and ends when a Repair Definition that Clears the Fault is selected in the System provided that this Repair Definition entry is also confirmed by the Authority. Each confirmed Repair Definition will take effect from the time when it was entered in the System by the Contractor (provided it is later confirmed as correct by the Authority).
- 2.12 It is the Contractor's responsibility to ensure the correct Repair Definitions are entered into the System in a timely manner and that they accurately reflect the actions taken to Rectify each Fault, including requests for Exceptions in respect of Excusing Causes. It is the responsibility of the Authority to ensure all Repair Definitions entered into the System within 2 (two) calendar days of the end of a Reporting Period are confirmed or rejected prior to the calculation of Availability under **paragraph 2.3** of this **Part 2** of **Schedule 5**.
- 2.13 If the Authority rejects the Repair Definition selected by the Contractor because it is incorrect, incomplete or otherwise does not Clear the Fault, the Fault will be deemed to continue to affect Availability for the purposes of calculating Availability pursuant to **paragraph 2.3** of this **Part 2** of **Schedule 5**.
- 2.14 Where confirmed Faults are found to have "No Fault Found", or "Cancelled by FCC" or identified as "Erroneous Site" (as indicated by the relevant Repair Definition being entered and confirmed in the System) then, provided that the Repair Definition is entered in the System within 2 (two) calendar days of the end of the relevant Reporting Period, the Availability Categories affected to which the Fault applies shall not be counted as Unavailable as a result of the Fault. If the Repair Definition is entered into the System later than 2 (two) calendar days following the end of the relevant Reporting Period, the affected Availability Categories will be included up until the end of the Reporting Period and no retrospective calculation will be applied.
- 2.15 If the Authority wishes to propose a change to any of the Fault Definitions and/or Repair Definitions in the System and/or the relationship between descriptions and Availability Categories and/or to propose new descriptions, the following process will be followed (and the Change Control Procedure will not apply):
- 2.15.1 the Authority will notify the Contractor of its proposed changes;

- 2.15.2 the Contractor will have 10 (ten) calendar days from notification of the proposed changes under to raise any queries and, if it has material concerns, to raise any objections regarding the proposed changes; and
- 2.15.3 during the 10 (ten) calendar day period, the Authority will use its reasonable endeavours to try to clarify any queries and address any material concerns in discussions with the Contractor (who will also act reasonably in this regard). If the parties are unable to agree the proposed changes within such 10 (ten) calendar day period, then the Authority will impose any such changes it wishes to unless in its sole discretion the Authority decides there are reasons not to.
- 2.16 The Contractor may propose changes to Fault Definitions and Repair Definitions in the applicable System or to propose new descriptions including the relationship between descriptions and Availability Categories from time to time which the Authority will consider, acting reasonably, but will not be bound to accept them.
- 2.17 Following any agreement of the Parties evidenced in writing of proposed changes pursuant to the processes set out in **paragraphs 2.15 and 2.16** of this **Part 2 of Schedule 5**, the agreed changes will be implemented with immediate effect. Changes to Fault Definitions or Repair Definitions and their relationships with Availability Categories will be implemented in such a way that they have no impact on historical Performance Measures. The Authority will maintain and manage an audit trail for all such changes to the relationships between Fault Definitions, Repair Definitions and Availability Categories used in the System in calculating Availability for the Authority's own purposes.
- 2.18 In order for the Contractor to be able to claim an Excusing Cause for a particular Fault, the Contractor must request an Exception in the System related to the Fault, specifying an expected end date and time ("**Lift**" date and time). Acceptance of the Exception is required from the Authority, signified by confirmation of the requested Exception being entered in the System.
- 2.19 The period of time for which a confirmed Exception applies starts from the time when the Exception is entered and ends:
- 2.19.1 on the date and time a Lift relating to the Fault is manually entered into the System; or
- 2.19.2 when the Lift date, entered as described in **paragraph 2.18** of this **Part 2 of Schedule 5**, is automatically applied by the System.
- 2.20 The period of time for which a confirmed Exception applies will be deducted from the Unavailable Time calculated for the Fault but only in respect of the Availability Categories identified by the Repair Definition entered in the Exception request.
- 2.21 At the end of the Exception, Unavailable Time will once again be calculated in respect of the Availability Categories affected immediately prior to the Exception being entered into the System. It is the responsibility of the Contractor to ensure the Fault is dealt with appropriately after the Exception has been Lifted.

- 2.22 In the event that any Faults affecting a particular Availability Category overlap in time, the overlapping portion will only be counted once for the purposes of calculating Availability. For the avoidance of doubt, if Faults affect two separate Availability Categories then both will contribute to the total Unavailable Time for their respective Availability Categories.
- 2.23 If, at the time of a Switch-Out or Planned Event, Availability Categories are affected by a Fault, Availability for such Availability Categories will continue to be affected adversely until the Fault is rectified or an Exception is raised and confirmed by the Authority in the System.
- 2.24 Faults on Sites with more than one stream are reported in the System against the Site to which the Controller is allocated in the System ("**the Controlling Site**" as identified in the System) and only the Controlling Site is included in the Elapsed Time calculations in **paragraph 2.4** of this **Part 2 of Schedule 5**.
- 2.25 The measure of Cosmetic Availability applies to each relevant ST System in each Lot and is used as a Service Level Indicator. For the avoidance of doubt, the Cosmetic Availability measure is not included in the calculation of Availability above.
- 2.26 Where an item of Equipment is Commissioned or Decommissioned at a Site during a Reporting Period, this may affect the Availability Categories applicable to the Site during that Reporting Period and this may affect the Availability calculations as follows:
- 2.26.1 the Elapsed Time for any Availability Category affected at the applicable Site will start from the time when the Equipment is Commissioned;
- 2.26.2 the Elapsed Time for any Availability affected at the applicable Site will end at the time when the Equipment is Decommissioned; and
- 2.26.3 when calculating the Unavailable Time this will be based on the Availability Categories applicable to the Site at the time the Fault is entered into the System.
- 2.27 If the Contractor identifies any errors, omissions or discrepancies in the Availability calculation, the Contractor will notify the Authority within 5 (five) Business Days of receipt of the Availability calculation specifying in detail the errors, omissions or discrepancies and the Contractor's evidence. In the event of any Dispute between the Contractor and the Authority in respect of the Availability calculation, the Authority will make the final decision. If no such notification is received by the Authority within 5 (five) Business Days of the Contractor receiving the Availability calculation, the Availability calculation will be final.
- 2.28 The Contractor may raise queries regarding Availability records at each Maintenance Meeting provided that these queries relate to unresolved Objections. If the Contractor does not raise any queries relating to Availability records at a Maintenance Performance Meeting, the Contractor will be deemed to have accepted the records for the preceding 6-week period.

3. Availability Categories

3.1 Traffic Signals

There are 5 (five) Availability Categories for Traffic Signals and the requirements set out below shall apply as determined by the Fault Definitions and Repair Definitions selected by the Authority's user in the System.

Availability Category	Requirement
Lamps	Lamps must be correctly and safely illuminated in accordance with the Traffic Signal controller specification set out in Annex C7.
Vehicle	The Traffic Signal Site must receive correct vehicle inputs and provide valid signal timings allowing the safe efficient movement of vehicular traffic, operating in the manner detailed in the Traffic Signal controller specification set out in Annex C7.
Pedestrian	The Traffic Signal controller must receive correct pedestrian detector inputs and operate valid signal timings allowing the safe efficient movement of pedestrian traffic. All visual and non-visual indicators, including tactile and audible indicators must give the correct visual and non-visual indications to pedestrians.
Urban Traffic Controller (UTC)	The Traffic Signal controller must receive correct vehicle detector inputs, be able to receive UTC data (force bits), respond correctly to these data inputs whilst providing the correct responses (reply bits) and allow the safe efficient movement of traffic.
Remote Monitoring (RM)	The Traffic Signal controller must be able to receive remote monitoring commands, respond correctly to these commands whilst allowing the safe efficient movement of traffic and be able to report to the In-Station in a timely manner any Faults detected.

In addition, if the Contractor fails to complete the Periodic Inspections (as set out in **paragraph 4.25 of Part 4 of Schedule 3**), all Availability Categories will be considered Unavailable and a corresponding Fault will be raised in the System.

3.2 VMS

There are 3 (three) Availability Categories for VMS and the requirements set out below will apply as determined by the Fault Definitions and Repair Definitions selected by the Authority's user in the System.

Availability Category	Requirement
Display/Sign	It shall be possible to set safely intelligible messages as part of a plan or individually in response to an incident via the Authority's VMS system.
Control	It shall be possible to set safely intelligible messages as part of a plan or individually in response to an incident via the Authority's VMS system.
Communication	It shall be possible to set safely intelligible messages as part of a plan or individually in response to an incident via the Authority's VMS system.

In addition, if the Contractor fails to complete the Periodic Inspections (as set out in **paragraph 4.25 of Part 4 of Schedule 3**), all Availability Categories will be considered Unavailable and a corresponding Fault will be raised in the System.

3.3 OVD

There are 3 (three) Availability Categories for OVD and the requirements set out below shall apply as determined by the Fault Definitions and Repair Definitions selected by the Authority's user in the System.

Availability Category	Requirement
Display	When triggered, the display correctly show a safely intelligible warning message advising of the potential danger.
Vehicle	Systems shall have no detection Faults (Infrared or inductive loop) and the associated communications facilities to the display shall be fully functioning without Fault.
Remote Monitoring	The OVD controller must be able to receive remote monitoring commands, respond correctly to these commands whilst allowing the safe efficient movement of vehicular traffic and be able to report to the In-Station in a timely manner any Faults detected.

In addition, if the Contractor fails to complete the Periodic Inspections (as set out in **paragraph 4.25 of Part 4 of Schedule 3**), all Availability Categories will be considered Unavailable and a corresponding Fault will be raised in the System.

ANNEX A – List of the System Fault Definitions and the Repair Definitions and their effect on Availability Categories

The Parties confirm that, as at the Contract Commencement Date, the full contents of Annex A of Part 2 of **Schedule 5** are set out in **Schedule 27**.

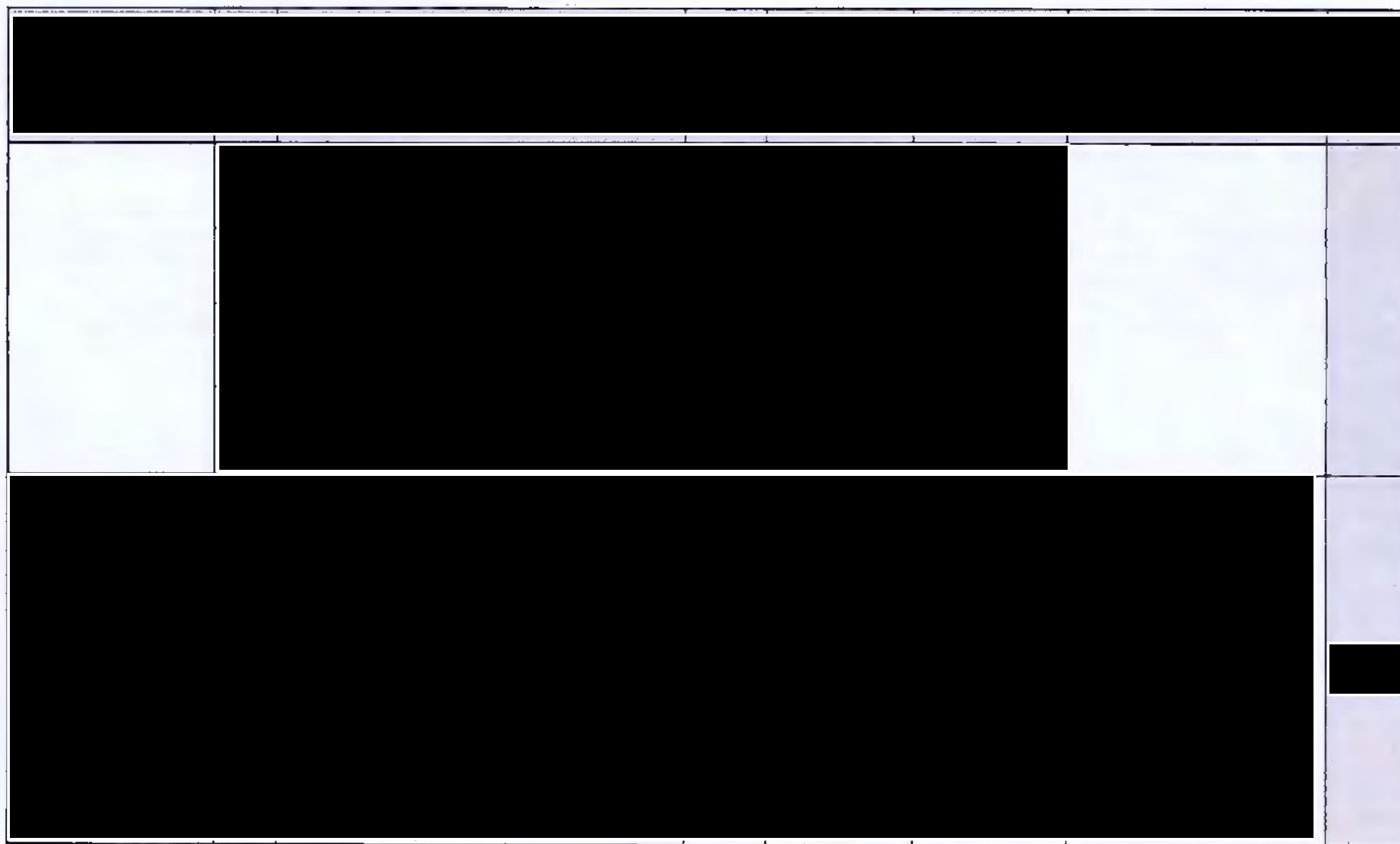
SCHEDULE 5

PRICE & PAYMENT

Part 3 – Mobilisation Payments

[REDACTED]						
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]					[REDACTED]

¹ **Note:** Figures to be inserted in final engrossment version.



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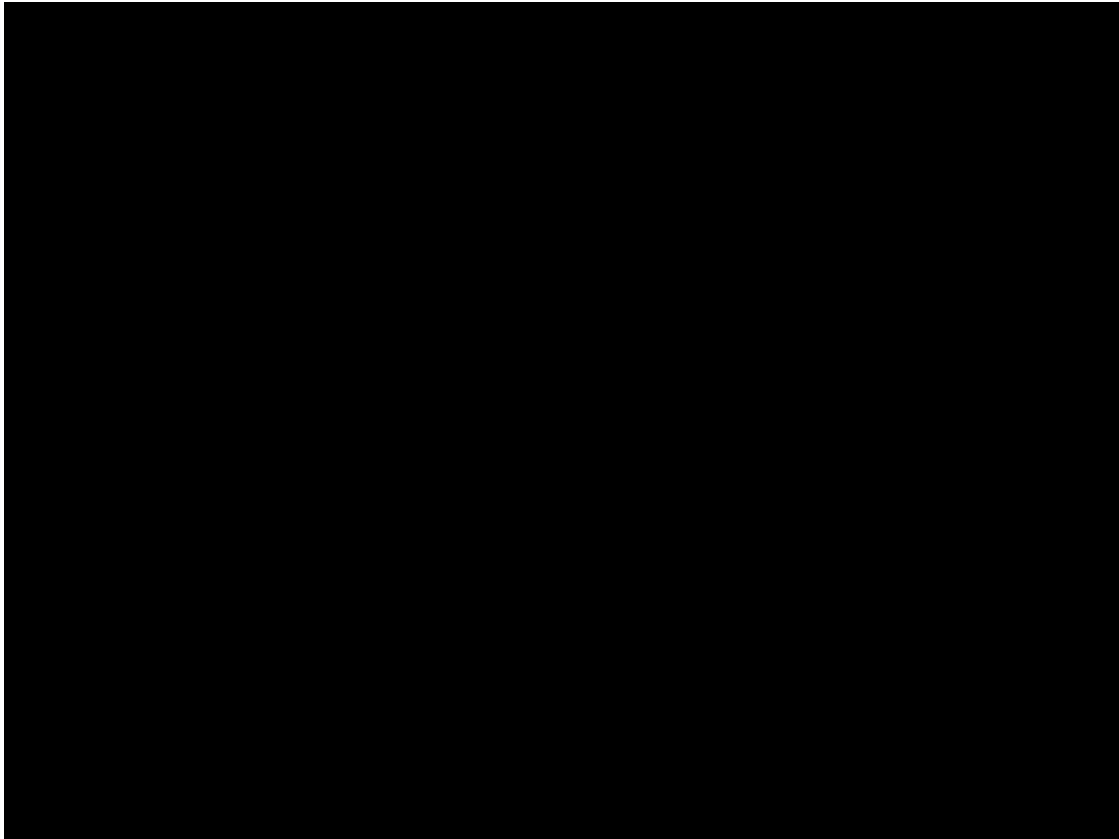
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SCHEDULE 5

PRICE & PAYMENT

Part 4 – Breakage Costs

Subject to Clause 33.9 with duty to mitigate, the Contractor will be paid in line with the table below where the Authority terminates the Contract for convenience in whole in accordance with Clause 32.4.1. For the avoidance of doubt, no payment will be made in relation to termination in accordance with **Schedule 4 (Service Levels)**.



SCHEDULE 5
PRICE & PAYMENT

Part 5 – Invoicing

1. Invoicing for Regular Maintenance

- 1.1 The Authority will notify the Contractor within 5 (five) Business Days of the end of each Reporting Period of the relevant Availability for each ST System, the Total Payments for Regular Maintenance (as defined in **paragraph 2 of Part 1 of this Schedule 5**) due and detailing any Financial Incentives payable or due (as defined in **paragraph 4 of Part 1 of this Schedule 5**), Service Failure Abatements due (as defined in **Schedule 4**), and Emergency Fault Abatements due (as defined in **paragraph 4.7 of Part 1 of this Schedule 5**) for the Reporting Period just ended, including its calculations.
- 1.2 The Contractor will review the Total Payments for Regular Maintenance, Financial Incentives, Service Failure Abatements, and Emergency Fault Abatements calculated by the Authority and will notify the Authority in writing, within 2 (two) Business Days of receiving such calculations, whether it accepts (an “**Acceptance**”) or disputes (an “**Objection**”) the Authority’s calculations, and, in the case of an Objection, stating clearly why it reasonably believes such calculations are incorrect and providing clear evidence in support of such assertion. If the Contractor fails to provide clear explanations or satisfactory supporting evidence in respect of an Objection, the Authority will request the Contractor to provide this. If the Contractor fails to notify the Authority of either Acceptance or Objection within 2 (two) Business Days then the Authority will deem the Contractor as having Accepted the Authority calculation.
- 1.3 If the Contractor notifies the Authority of an Acceptance it will submit an invoice to the Authority for the agreed amount in the required format and in accordance with **paragraph 5.1 of this Part 5 of this Schedule 5**.
- 1.4 If the Contractor submits an Objection to the Authority, the Authority will, within 5 (five) Business Days of receiving such Objection or within 5 (five) Business Days of receiving a clear written explanation with satisfactory supporting evidence notify the Contractor whether:
- 1.4.1 it agrees with the Objection; or
- 1.4.2 it disagrees with the Objection.
- 1.5 On receipt of a notification by the Authority pursuant to **paragraph 1.4 of this Part 5 of Schedule 5**, the Contractor will submit an invoice to the Authority in the required format and in accordance with **paragraph 5.1 of this Part 5 of Schedule 5**. The Contractor’s invoice will specify the sum the Contractor considers to be due at the payment due date and the basis on which that sum is calculated, whether or not that sum is zero.

2. Invoicing for Directions

- 2.1 The Authority will notify the Contractor within 5 (five) Business Days of the end of each Reporting Period of the Total Payments for Directions (as defined in **paragraph 5 of Part 1 of this Schedule 5**) due.
- 2.2 The Contractor will review the Total Payments for Directions calculated by the Authority and will submit to the Authority in writing, within 2 (two) Business Days of receiving such calculations, an Acceptance or an Objection, stating clearly, in respect of an Objection, why it reasonably believes such calculations are incorrect and providing evidence in support of such assertion, to the Authority. If the Contractor fails to provide clear explanations or satisfactory supporting evidence in respect of an Objection, the Authority will request the Contractor to provide this. If the Contractor fails to notify the Authority of either Acceptance or Objection within 2 (two) Business Days then the Authority will deem the Contractor as having Accepted the Authority calculation.
- 2.3 If the Contractor notifies the Authority of an Acceptance it will submit an invoice to the Authority for the agreed amount in the required format and in accordance with **paragraph 5.1 of this Part 5 of Schedule 5**.
- 2.4 If the Contractor submits an Objection to the Authority, the Authority will, within 5 (five) Business Days of receiving such Objection or within 5 (five) Business Days of receiving a clear explanation or satisfactory supporting evidence notify the Contractor whether:
 - 2.4.1 it agrees with the Objection; or
 - 2.4.2 it disagrees with the Objection.
- 2.5 On receipt of a notification by the Authority pursuant to **paragraph 2.4 of this Part 5 of Schedule 5**, the Contractor will submit an invoice to the Authority in the required format and in accordance with **paragraph 5.1 of this Part 5 of Schedule 5**. The Contractor's invoice will specify the sum the Contractor considers to be due at the payment due date and the basis on which that sum is calculated, whether or not that sum is zero.

3. Invoicing for Third Party Damage

- 3.1 In each instance of Third Party Damage where:
 - 3.1.1 the Authority has confirmed in writing that Sufficient Evidence in respect of an incident of Third Party Damage has been received; or
 - 3.1.2 the Contractor can demonstrate to the Authority's satisfaction that the cost of Rectification of Third Party Damage is greater than £12,500 (Twelve thousand five hundred pounds), subject to the Indexation Adjustment, where there is Insufficient Evidence; or
 - 3.1.3 the Contractor is required to carry out any Rectification works in respect of any Faults caused by Third Party Damage which occurred prior to the Maintenance Commencement Date and of which the Authority was aware as at the Maintenance Commencement Date and the cost of which the Authority has notified the Contractor is

recoverable in accordance with the requirements of **paragraph 4.9.10 of Part 4 of Schedule 3**; or

- 3.1.4 the Contractor is required to carry out any Rectification works in respect of any Third Party Damage to Vulnerable Installed Equipment (subject to the Contractor complying with its obligations in **paragraph 4.9.8 of Part 4 of Schedule 3**),

the Contractor will prepare and submit to the Authority for approval for each separate incident of Third Party Damage a quotation in the form of a price list as if it were Capital Works (even though it is not) for the Rectification works detailing the actions taken by the Contractor to rectify the damage and Clear the relevant Fault as recorded on the System using the rates, prices, percentages and allowances stated in the Schedule of Capital Works Rates.

- 3.2 Within 10 (ten) Business Days of receipt of the Contractor's price list in respect of the relevant Rectification, the Authority will notify the Contractor in writing whether it agrees with the price list or disputes it.
- 3.3 On receipt of a notification by the Authority pursuant to **paragraph 3.2 of this Part 5 of Schedule 5**, the Contractor will submit an invoice for each separate incident of Third Party Damage to the Authority in the required format and in accordance with **paragraph 5.1 of this Part 5 of Schedule 5**. The Contractor's invoice will specify the sum the Contractor considers to be due at the payment due date and the basis on which that sum is calculated, whether or not that sum is zero.

4. Incumbent suppliers

- 4.1 If the Authority confirms in writing that:

- 4.1.1 the Contractor is required to replace any tungsten filament, halogen bulb or fluorescent tube which was more than 6 (six) calendar months old as at the Works Commencement Date; or
- 4.1.2 the Contractor is required to Clear a Fault which was not in Exception and was more than 2 (two) calendar months old as at the Works Commencement Date;

the Contractor will prepare and submit to the Authority for written approval for each separate incident of replacement of tungsten filament, halogen bulbs or fluorescent tubes which were more than 6 (six) calendar months old as at the Maintenance Commencement Date or a Fault which was not in Exception and was more than 2 (two) calendar months old as at the Maintenance Commencement Date, a quotation in the form of a price list as if it were Capital Works (even though it is not) for the required works detailing the actions to be taken by the Contractor to replace the relevant tungsten filament, halogen bulb or fluorescent tube or to Clear the relevant Fault as recorded on the System using the rates, prices, percentages and allowances stated in the Schedule of Capital Works Rates.

- 4.2 Within 5 (five) Business Days of receipt of the Contractor's price list in respect of the relevant works required pursuant to **paragraph 4.1 of this Part 3 of**

Schedule 5, the Authority will notify the Contractor in writing whether it agrees with the price list or disputes it.

- 4.3 On receipt of a notification by the Authority pursuant to **paragraph 4.1** of this **Part 3** of **Schedule 5**, the Contractor will submit an invoice for each separate incident to the Authority in the required format and in accordance with **paragraph 5.1** of this **Part 3** of **Schedule 5**. The Contractor's invoice will specify the sum the Contractor considers to be due at the payment due date and the basis on which that sum is calculated, whether or not that sum is zero.

5. **General**

- 5.1 The Contractor will submit its invoices to the address set out in **Schedule 1**. Each such invoice will contain all information required by the Authority as specified in this **Schedule 5** together with this Contract's Reference Number, SAP purchase order number, the Contractor's name and address and a separate calculation of VAT. The Contractor will not make any separate charge for submitting such invoices. If an invoice does not contain the required information or is not in the specified format, the Authority will notify the Contractor and the Contractor will issue a revised invoice.

- 5.2 The due date for payment in respect of each invoice will be calculated from the date on which a proper and correct invoice (complying with the requirements of **paragraph 5.1** of this **Part 3** of **Schedule 5**) is received by the Authority. Invoices submitted prematurely or which do not comply with the requirements of **paragraph 5.1** of this **Part 3** of **Schedule 5** will not be valid and will be resubmitted by the Contractor in the proper form at the proper time.

- 5.3 Subject to **Clauses 17** and **53** of the Contract, the date for payment in respect of each invoice will be 28 (twenty-eight) days from the end of the Reporting Period to which the invoice relates or 15 (fifteen) days from the receipt of the invoice, whichever is later. In the case of Third Party Damage, the final date for payment in respect of each invoice will be 28 (twenty-eight) days from the end of the Reporting Period in which the invoice is received.

- 5.4 Subject to **paragraph 5.1** of this **Part 5** of **Schedule 5** and unless the Authority has served a notice under **paragraph 5.5** of this **Part 3** of **Schedule 5**, the Authority will pay the Contractor the sum referred to in the Contractor's properly submitted invoice (the "**Notified Sum**") on or before the final date for payment of each invoice in accordance with **paragraph 5.3** of this **Part 5** of **Schedule 5**.

- 5.5 The Authority may give the Contractor a notice in writing specifying the Authority's intention to pay less than the Notified Sum (the "**Pay Less Notice**"). The Pay Less Notice will specify:

5.5.1 the sum that the Authority considers to be due on the date the notice is served, whether or not that sum is zero; and

5.5.2 the basis on which that sum is calculated,

and that sum will become the amount payable. The Pay Less Notice must be given no later than 1 (one) day before the final date for payment of the Notified Sum (the "**Prescribed Period**").

- 5.6 In respect of the difference between the Notified Sum and the Pay Less Notice, the Authority and the Contractor will use their reasonable endeavours to try to resolve the Dispute. If resolved the Contractor will invoice the Authority for the agreed amount (complying with the requirements of **paragraph 5.1** of this **Part 5 of Schedule 5**).
- 5.7 If the Dispute is not resolved between the parties within 10 (ten) Business Days then the Dispute will be referred to the Dispute Resolution Procedure.
- 5.8 Notwithstanding **paragraphs 5.4** and **5.5** of this **Part 5 of Schedule 5**, if the Contractor suffers an Insolvency Event after the Prescribed Period, the Authority will not be required to pay the Contractor the Notified Sum.
- 5.9 Payments will be made by bank transfer (Bank Automated Clearance System (BACS)) or such other method as the Authority may choose from time to time.
- 5.10 If the Authority considers that the sum claimed by the Contractor in any invoice has not been calculated correctly and/or if the invoice contains any other error or inadequacy, the Authority will notify the Contractor and the Parties will work together to resolve the error or inadequacy. Upon resolution or determination, the Contractor will submit a revised invoice to the Authority in accordance with **paragraph 5.1** of this **Part 5 of Schedule 5**.
- 5.11 No payment made by the Authority (including any final payment) or act or omission or approval by the Authority or the Project Manager (whether related to payment or otherwise) will:
- 5.11.1 indicate or be taken to indicate the Authority's acceptance or approval of the Services or any part of them or any act or omission of the Contractor, or otherwise prejudice any rights, powers or remedies which the Authority may have against the Contractor, or absolve the Contractor from any obligation or liability imposed on the Contractor under or by virtue of this Contract; or
 - 5.11.2 prevent the Authority from recovering any amount overpaid or wrongfully paid including payments made to the Contractor by mistake of law or fact. Without prejudice to **Clauses 17 and 53** of the Contract, the Authority will be entitled to withhold such amount from any sums due or which may become due to the Contractor or the Authority may recover such amount as a debt.
- 5.12 All amounts exclude any VAT which may be chargeable, which will be payable in addition to the sum in question at the rate and in the manner for the time being prescribed by law on delivery of a valid VAT invoice. The Contractor will, if so requested by the Authority, furnish such information as may reasonably be required by the Authority as to the amount of VAT chargeable on the goods and services supplied in accordance with the Contract and payable by the Authority to the Contractor. Any overpayment by the Authority to the Contractor will be a sum of money recoverable by the Authority from the Contractor.
- 5.13 When the Contractor enters into any Sub-Contract in accordance with **Clause 25** of the Contract, it will incorporate into such contract a term which requires payment to be made to the Sub-Contractor within not more than 28 (twenty-eight) days of receipt of the Sub-Contractor's invoice (or ten (10) days of

receipt of invoice if the Sub-Contractor is an SME (as defined in **Schedule 12**).

- 5.14 Interest will accrue at the rate of two percent (2%) above the base rate of the Bank of England from time to time on all sums due and payable under this Contract from the due date until the date of actual payment (both before and after judgement). All such interest will be calculated on the basis of the actual number of days elapsed, over a three hundred and sixty five (365) day year or three hundred and sixty six (366) day leap year and compounded at monthly intervals. The parties agree that this **paragraph 5.14** is a substantial remedy for late payment of any sum payable under this Contract in accordance with s.8(2) of the Late Payment of Commercial Debts (Interest) Act 1998.
- 5.15 The Authority will have the right to audit the Contractor's compliance with the provisions of this **Schedule 5** at any time in accordance with **Clause 46** of this Contract.

SCHEDULE 5

PRICE & PAYMENT

Part 6 – Inflation

Indexation Adjustment

1.1 In this Schedule 5 the following words and expressions have the following meanings:

- (a) “Index” means the relevant index identified in Table 10 of this Schedule and “Indices” means all of them.
- (b) “Inflation Adjustment Date” means 1st of April each year with the first Inflation Adjustment Date being the 1 April after the Contract Commencement Date.
- (c) “Base Date Index (B)” means the relevant Index for January of the year of the previous Inflation Adjustment Date.
- (d) “Latest Index (L)” is the relevant Index for January of the same year as the relevant Inflation Adjustment Date.
- (e) “Overhead & Profit Applicable” or “OPA” is the value £ of overhead and profit declared by the Contractor for each applicable rate or price included in the applicable Pricing Schedule as at the Contract Commencement Date and as indicated in **Table 10** below.
- (f) “Price Adjustment Factor (PAF)” is, for each element of the Pricing Schedule, calculated as:

- $(L - B)/B$

for the relevant Index applicable as stated in **Table 10** below:

- (g) “Pricing Schedule” means **Schedule 5 (Price and Payment)** and/or the Schedule of Capital Works Rates (as the context requires).

Table 10	
Element of the Pricing Schedule	Applicable Index
Maintenance Schedule of Rates and Prices within in Schedule 5	CPI
Capital Works Schedule of Rates and Prices within Schedule 6b	Part 1 - TTC Non Civils Sections (Indexation used for all cost components shall be CPI) Part 2 - TTC Civils Section (Indexation used for all cost components shall be BCIS)
Directions Rates and Prices within Schedule 5	CPI
Natural Termination Rates and Prices within Schedule 5	CPI
Termination for Convenience Rates and Prices within Schedule 5	CPI
Contract Data (Part B) People Rates and Prices within Schedule 6b and	CPI (for People)
Equipment Rate Cards within Schedule 6b	BCIS (for Plant and Machinery)
Service Failure Abatement (Loss of Service Payment) within Schedule 5	CPI

Price Adjustment Factor

2.1 If an Index is changed after it has been used in calculating a PAF, the calculation is not changed until the next year's Inflation Adjustment Date. For the avoidance of doubt the rates and prices used in any calculation of any compensation event (which has the meaning given to that term in the Capital Works Conditions of Contract) or in connection with the Change Control Procedure set out in **Schedule 7** shall be those rates and prices applicable at the last Inflation Adjustment Date.

Price Adjustment

3.1 On each Inflation Adjustment Date until the end of the Contract Term the rates and prices for the relevant element of each Pricing Schedule are adjusted as follows:

- (a) deduct any OPA from the relevant rates and prices;
- (b) multiply the rate or price (less any OPA as deducted under **paragraph 3.1 (a)**) by $(1 + \text{the PAF for the relevant element of each Pricing Schedule referred to in Table 10})$; and
- (c) add any OPA for the relevant rates or prices deducted under **paragraph 3.1 (a)** above to the rates and prices as adjusted under 3(b) above to derive the adjusted rates and prices.

3.2 No price adjustment is made to any percentage in

3.2.1.1.1 the Pricing Schedules or

3.2.1.1.2 any contract data, Build Brief or Works Instruction, or

3.2.1.1.3 elsewhere in this Contract.

3.3 No price adjustment is made for rates and prices stated outside of Table 10 above unless expressly stated to be subject to adjustment in accordance with this Schedule.

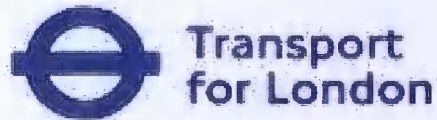
3.4 Rates and prices in the Civil Engineering Contractors Association (CECA) equipment element of the Pricing Schedule are not subject to adjustment in accordance with this Schedule. On each Inflation Adjustment Date until the end of the Contract Term the rates and prices in the Civil Engineering Contractors Association (CECA) are replaced by the latest edition of rates and prices published by the Civil Engineering Contractors Association prior to the relevant Inflation Adjustment Date.

Quotation/Works Instruction

4.1 The Prices for each Quotation and/or Works Instruction are prepared using the rates and prices current at the "*starting date*" identified in the relevant Build Brief or Works Instruction.

4.2 If the rates and prices are adjusted in accordance with this Schedule between the date on which a Quotation for a Works Instruction is submitted in accordance with **Clause 7** of this Contract and the *starting date* for that Works Instruction, the Prices submitted with the Quotation are adjusted in accordance with this Schedule.

4.3 Save as provided in **paragraph 4.2**, the Prices under any Works Instruction are not adjusted under this Schedule.



TRAFFIC TECHNOLOGY CONTRACT (Lot 3)

Schedule 6

PART A

(NEC Engineering & Construction Short Contract

(4th Edition))

Conditions of Contract

These conditions are based on the NEC family of contracts, the copyright of which belongs to the Institution of Civil Engineers.

Contents

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9 Termination and resolving disputes	CC 14
If the United Kingdom Housing Grants, Construction and Regeneration Act 1996 as amended by the Local Democracy, Economic Development and Construction Act 2009 (the Act) applies to the contract, the following additional conditions apply	CC 17

Contract Data

The *Client's* Contract Data

The *Client* is

Name Transport for London a statutory corporation whose principal office is at 5 Endeavour Square, Stratford, London E20 1JN

Address for communications In accordance with clause 57 (Notices and Communications) of the TTC Contract unless stated otherwise in the Build Brief

Address for electronic communications In accordance with clause 57 (Notices and Communications) of the TTC Contract unless stated otherwise in the Build Brief

The *works* are as described in the Build Brief

The *site* is as stated in the Build Brief

The *starting date* is as stated in the Build Brief

The *completion date* is as stated in the Build Brief

The *target commissioning date* is as stated in the Build Brief

The *delay damages* are as stated in the Build Brief per day

If the *Client* has identified work which is set to meet a stated condition by a key date The *key dates* and *conditions* to be met are as set out in the Build Brief

The *period for reply* is 1 week unless otherwise stated in the Build Brief weeks

The *defects date* is 52 weeks after Completion of the relevant works unless otherwise stated in the Build Brief weeks after Completion

The *defect correction period* is 28 days unless stated otherwise in the Build Brief weeks

The *assessment days* ~~are~~ is

unless stated otherwise in the Build Brief,

- the date on which the *works* are Commissioned and
- at Completion of the whole *works*

provided that if either Party gives notice to the other to terminate the *Contractor's* obligation to Provide the *Works assessment days* only occur until the issue of such notice notwithstanding that the *works* may not have been Commissioned or Completion of the whole of the *works* may not have occurred.

Invoices are to be submitted in the following format

as stated in the Build Brief.

The *retention* is

The United Kingdom Housing Grants, Construction and Regeneration Act (1996) ~~does/does not~~ apply?
(delete as applicable)

The *Adjudicator* is

Name

-

~~Address for communications~~

-

~~Address for electronic communications~~

-

Contract Data

The *Client's* Contract Data

The *Client* is

Name Transport for London a statutory corporation whose principal office is at 5 Endeavour Square, Stratford, London E20 1JN

Address for communications In accordance with clause 57 (Notices and Communications) of the TTC Contract unless stated otherwise in the Build Brief

Address for electronic communications In accordance with clause 57 (Notices and Communications) of the TTC Contract unless stated otherwise in the Build Brief

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The *target commissioning date* is as stated in the Build Brief

The *delay damages* are as stated in the Build Brief per day

If the *Client* has identified work which is set to meet a stated condition by a key date The *key dates* and *conditions* to be met are as set out in the Build Brief

The *period for reply* is 1 week unless otherwise stated in the Build Brief weeks

The *defects date* is 52 weeks after Completion of the relevant works unless otherwise stated in the Build Brief weeks after Completion

The *defect correction period* is 28 days unless stated otherwise in the Build Brief weeks

arbitration procedure is

-

The *conditions of contract* are the NEC4 Engineering and Construction Short Contract June 2017 (with amendments January 2019 and October 2020) as amended and supplemented in Schedule 6, Part A of the TTC Contract

Only enter details here if additional conditions are required.

The additional conditions are included in the amended and supplemented NEC4 Engineering and Construction Short Contract June 2017 (with amendments January 2019 and October 2020) set out in Schedule 6, Part A of the TTC Contract

Contract Data

The Contractor's Contract Data

The Contractor is

Name Telent Technology Services Limited (company number 703317) with its registered address at Point 3, Haywood Road, Warwick, CV34 5AH, England

Address for communications

In accordance with clause 57 (Notices and Communications) of the TTC Contract unless stated otherwise in the Build Brief

Address for electronic communications

In accordance with clause 57 (Notices and Communications) of the TTC Contract unless stated otherwise in the Build Brief

The fee percentage is

The offered total of the Prices is proposed in the Quotation and confirmed in the relevant Works Instruction

The people rates are

category of person	unit	rate
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

The published list of Equipment is

The percentage for adjustment for Equipment is

% (state plus

or minus)

~~The Contractor's Offer and Client's Acceptance~~

~~The Contractor offers to Provide the Works in accordance with these conditions of contract for an amount to be determined in accordance with these conditions of contract.~~

The offered total of the Prices is

Enter the total of the Prices from the Price List.

~~Signed on behalf of the Contractor~~

Name

-

Position

-

Signature

-

Date

-

~~The Client accepts the Contractor's Offer to Provide the Works~~

~~Signed on behalf of the Client~~

Name

-

Position

-

Signature

-

Date

-

Price List

The Price List and the total of the Prices is proposed in the Quotation and confirmed in the relevant Works Instruction.

Entries in the first four columns in this Price List are made either by the *Client* or the tenderer.

If the *Contractor* is to be paid an amount for the item which is not adjusted if the quantity of work in the item changes, the tenderer enters the amount in the Price column only; the Unit, Quantity and Rate columns being left blank.

If the *Contractor* is to be paid an amount for the item of work which is the rate for the work multiplied by the quantity completed, the tenderer enters the rate which is then multiplied by the expected quantity to produce the Price, which is also entered.

ITEM NUMBER	DESCRIPTION	UNIT	QUANTITY	RATE	PRICE

The total of the Prices

The method and rules used to compile the Price List are

As set out in clause 7 of the TTC Contract.

Scope

The Scope is in Schedule 3 (Statement of Requirements) of the TTC Contract as supplemented by any additional information identified in and/or annexed to the Build Brief and which is identified as forming part of the Scope.

The Scope should be a complete and precise statement of the *Client's* requirements. If it is incomplete or imprecise there is a risk that the *Contractor* will interpret it differently from the *Client's* intention.

Information provided by the *Contractor* should be listed in the Scope only if the *Client* is satisfied that it is required, is part of a complete statement of the *Client's* requirements and is consistent with the other parts of the Scope.

1 Description of the works

Give a detailed description of what the *Contractor* is required to do and of any work the *Contractor* is to design.

2 Drawings

List the drawings that apply to the contract.

DRAWING NUMBER	REVISION	TITLE

Scope

3 Specifications

List the specifications which apply to the contract.

TITLE	DATE OR REVISION	TICK IF PUBLICLY AVAILABLE

4 Constraints on how the Contractor Provides the Works

State any constraints on the sequence and timing of work and on the methods and conduct of work including the requirements for any work by the *Client*.

Scope

5 Requirements for the programme

~~State whether a programme is required and, if it is, state what form it is to be in, what information is to be shown on it, when it is to be submitted and when it is to be updated.~~

~~State what the use of the works is intended to be at their Completion as defined in clause 11.2(1).~~

6 Services and other things provided by the Client

~~Describe what the Client will provide, such as services (including water and electricity) and "free issue" Plant and Materials and equipment.~~

ITEM	DATE BY WHICH IT WILL BE PROVIDED

Site Information

Give information about the *site* such as the ground conditions and any other information which is likely to affect the *Contractor's* work such as the position of adjacent structures.

The Site Information is as set out or referred to in Schedule 27 of the TTC Contract as supplemented by any additional information identified in and/or annexed to the Build Brief.

Conditions of Contract

1. GENERAL

Actions

10

- 10.1 The Parties shall act as stated in this contract.
- 10.2 The Parties act in a spirit of mutual trust and co-operation.

Identified and defined terms

11

- 11.1 In these *conditions of contract*, terms identified in the Contract Data are in italics and defined terms have capital initials.
- 11.2 (1) Completion is when the *Contractor* has completed the *works* in accordance with the Scope ~~except for correcting and corrected all notified Defects which do not prevent the Client from using the works or others from doing their work. If the work which the Contractor is to do by the Completion Date is not stated in the Scope, Completion is when the Contractor has done all the work necessary for the Client to use the works and for Others to do their work.~~
- (2) The Completion Date is the *completion date* unless later changed in accordance with the contract.
- (3) ~~A Corrupt Act is~~
- ~~the offering, promising, giving, accepting or soliciting of an advantage as an inducement for an action which is illegal, unethical or a breach of trust or~~
 - ~~abusing any entrusted power for private gain~~
- ~~in connection with this contract or any other contract with the Client. This includes any commission paid as an inducement which was not declared to the Client before the date of the Client's Acceptance. Not used~~
- (4) A Defect is
- a part of the *works* which is not in accordance with the Scope ~~or the Contractor's obligations under this contract or~~
 - ~~a part of the works designed by the Contractor which is not in accordance with Applicable Laws, all applicable licences and approvals or the Contractor's design which the Client has accepted.~~
- (5) The Defects Certificate is either a list of Defects that the *Client* has notified before the *defects date* which the *Contractor* has not corrected or, if there are no such Defects, a statement that there are none.
- (6) Defined Cost is the cost of the ~~following components in the Schedule of Cost Components incurred by the Contractor in Providing the Works.~~
- ~~People employed directly or indirectly by the Contractor on the site, calculated by multiplying each of the People Rates by the total time appropriate to that rate.~~
 - ~~Plant and Materials, the amount paid by the Contractor including, if applicable, delivery to the site.~~
 - ~~Work subcontracted by the Contractor, the amount paid by the Contractor to the Subcontractor.~~
 - ~~Equipment on site, as follows:~~
 - ~~For Equipment in the published list of Equipment calculated by applying the percentage for adjustment for Equipment to the rates in the published list of Equipment and by multiplying the resulting rate by the time for which the Equipment is required.~~
 - ~~For Equipment which is not in the published list of Equipment calculated by~~

~~multiplying open market or competitively tendered rates for that Equipment by the time for which it is required.~~

~~For the transport of Equipment and for Equipment which is consumed, the amount paid by the Contractor, to the extent that the rates do not include transport or consumables.~~

(7) **NEC** Equipment is items provided and used by the *Contractor* to Provide the Works and which the Scope does not require the *Contractor* to include in the works.

(8) The Fee is the amount calculated by applying the *fee percentage* to the amount of Defined Cost.

(9) The Parties are the *Client* (which expression includes its successors in title and permitted assigns) and the *Contractor*.

(10) ~~The People Rates are the people rates unless later changed in accordance with the contract. Not used.~~

(11) Plant and Materials are items intended to be included in the works.

(12) The Price for Work Done to Date is the total of the Price for each lump sum item in the Price List which the *Contractor* has completed. A completed item is one without notified Defects the correction of which will delay following work. and

- where a quantity is stated for an item in the Price List, an amount calculated by multiplying the quantity which the *Contractor* has completed by the rate.

(13) The Prices are the amounts stated in the Price column of the Price List. ~~Where a quantity is stated for an item in the Price List, the Price is calculated by multiplying the quantity by the rate.~~

(14) To Provide the Works means to do the work necessary to complete the works in accordance with the contract and all incidental work, services and actions which the contract requires.

(15) Scope is information which

- specifies and describes the works and/or
- states any constraints on how the *Contractor* Provides the Works

and is either

- in the document called Scope or
- in an instruction given in accordance with the contract.

(16) Site Information is information which describes the *site* and its surroundings and is in the document called Site Information.

(17) **Act** is The Housing Grants, Construction and Regeneration Act 1996 as amended by the Local Democracy, Economic Development and Construction Act 2009.

(18) **Brexit** is the formal withdrawal of the United Kingdom from the European Union following the expiry of the transition period under the Withdrawal Agreement, regardless of which countries comprise the United Kingdom at such date.

(19) **CDM Regulations** are the Construction (Design and Management) Regulations 2015.

(20) **Cessation Plan** means a plan agreed between the Parties or determined by the *Client* pursuant to Clause 94 in the event a Declaration of Ineffectiveness is sought or in order to give effect to any of termination Reasons 12 to 14 (inclusive).

(21) **Client Premises** are any premises owned, leased or under the control of the *Client*.

(22) **Client's Design Information** means any drawings, proposals, specifications, method statements, designs, plans, schemes, layouts, surveys or other documents, or concepts prepared or developed by or on behalf of the *Client* and included or referred to in the Works Instruction.

(23) **Client's Lane Rental Scheme** (comprising Scheme document, Appendix and Borough Lane Rental Map) is the Lane Rental Scheme described in the Scope.

(24) **Commissioned** means completion of commissioning of the works in accordance with the Scope to enable the *Client* to certify that the works are Commissioned, provided

that the *works* can never be certified Commissioned where use of any part of the *works* is unsafe.

(25) Construction Industry Scheme means the provisions of Chapter 3 of Part 3 of the Finance Act 2004 (Construction Industry Scheme) together with any regulations made pursuant to these provisions, including the Income Tax (Construction Industry Scheme) Regulations 2005.

(26) Contract Date is the date of the relevant Works Instruction.

(27) Coronavirus Pandemic means the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) pandemic designated as such by the World Health Organization on 11 March 2020 and which causes the disease known as "COVID-19".

(28) Coronavirus Pandemic Event means any of the events described in clause 60.1(17), 60.1(18) and 60.1(19).

(29) Declaration of Ineffectiveness means a declaration of ineffectiveness in relation to this contract made by a Court of competent jurisdiction pursuant to Regulation 98 of the Public Contracts Regulations 2015 which has any of the consequences described in in regulation 101 of such regulations.

(30) Direction has the meaning given to it in the TTC Contract.

(31) Dispute has the meaning given to it in the TTC Contract.

(32) End User has the meaning given to it in Article 2 of the Value Added Tax (Section 55A) (Specified Services and Excepted Supplies) Order 2019.

(33) A Key Date is the date by which work is to meet the Condition stated. The Key Date is the *key date* stated in the *Client's* Contract Data and the Condition is the *condition* stated in the *Client's* Contract Data unless later changed in accordance with the contract.

(34) Indirect Subcontractor means any subcontractor or subconsultant of whatever tier beneath any Subcontractor appointed in relation to the *works*.

(35) Insolvency Event:

- has the meaning given in the TTC Contract and
- includes if a Party has become insolvent as defined in section 113 of the Act.

(36) Interfacing Others means Others identified or referred to in the Scope with whom the *Contractor* is to interface.

(37) Others are people or organisations who are not the *Client*, the *Contractor* or any employee, Subcontractor or supplier of the *Contractor*.

(38) Pay Less Notice means the notice referred to in clause 51.6.

(39) Prevention Event is an event which

- stops the *Contractor* completing the *works* or
 - stops the *Contractor* completing the *works* by the Completion Date
- and which is not
- a shortage of labour, Plant and Materials or NEC Equipment whether caused by local market fluctuations or otherwise,
 - an Insolvency Event of the *Contractor* or any Subcontractor, Indirect Subcontractor or supplier or
 - an event attributable to any negligence, omission or default of the *Contractor* or any of his employees or agents or any Subcontractor or Indirect Subcontractor or any of their employees or agents

and which

- neither Party could prevent and
- an experienced contractor would have judged, at the Contract Date, to have such a small chance of occurring that it would have been unreasonable to have allowed for it.

		(40) Public Highway means land which is in the ownership or control of Transport for London, the Boroughs, the Royal Parks or the Highways Agency.
		(41) Reverse Charge Order means the Value Added Tax (Section 55A) (Specified Services and Excepted Supplies) Order 2019/892.
		(42) Schedule of Capital Works Rates means the rates, prices and percentages as set out in Schedule 6, Part B of the TTC Contract.
		(43) Schedule of Cost Components means the Schedule of Cost Components at Schedule 6, Part C of the TTC Contract.
		(44) Standard on Electronic Invoicing is the European standard and any of the syntaxes published in Commission Implementing Decision (EU) 2017/1870.
		(45) A Statutory Requirement means Applicable Laws and <ul style="list-style-type: none"> any regulation or bylaw of any local authority or of any Statutory Undertaker which has any jurisdiction with regard to the <i>works</i> or with whose systems the same are or will be connected including any statutory provisions and any decisions of a relevant authority under the statutory provisions which control the right to develop the site on which the <i>works</i> are to be provided (including, without limitation, any planning permission).
		(46) Statutory Undertaker means any governmental or local authority or statutory undertaker <ul style="list-style-type: none"> which has any jurisdiction with regard to the <i>works</i> including without limitation any jurisdiction to control development of the site or any part of it, with whose requirements the <i>Client</i> is required to comply or with whose systems and/or utilities the <i>works</i> will be associated.
		(47) A Subcontractor is a person or organisation including, without limitation any sub-consultant who has a contract with the <i>Contractor</i> to <ul style="list-style-type: none"> construct or install part of the <i>works</i>, design all or part of the <i>works</i>, except the design of Plant and Materials carried out by the supplier or provide a service which is necessary to Provide the Works, except for the <ul style="list-style-type: none"> hire of NEC Equipment or supply of people paid for by the <i>Contractor</i> according to the time they work.
		(48) Target Commissioning Date means the date by which the <i>works</i> should be Commissioned and is the <i>target commissioning date</i> unless changed in accordance with this contract.
		(49) TfL Group means Transport for London ("TfL"), a statutory body set up by the Greater London Authority Act 1999 and all of its subsidiaries and their subsidiaries (as defined in Section 1159 of the Companies Act 2006) from time to time, together with Cross London Rail Links Limited (company number 04212657) and reference to any "member of the TfL Group" refers to TfL or any such subsidiary.
		(50) TTC Contract means the overarching agreement pursuant to which the Works Instruction is issued.
		(51) VATA means the Value Added Tax Act 1994.
		(52) Withdrawal Agreement is the agreement between the United Kingdom and the European Union under Article 50(2) of the Treaty on European Union which sets out the arrangements for the United Kingdom's withdrawal from the European Union (as that agreement is modified from time to time in accordance with any provision of it).

Interpretation and the law

12

- 12.1 In the contract, except where the context shows otherwise, words in the singular also mean in the plural and the other way round.
- 12.2 The contract is governed by the law of England ~~the country where the site is.~~

	12.3	No change to the contract, unless provided for by these <i>conditions of contract</i> , has effect unless it has been agreed, confirmed in writing and signed by the Parties.
	12.4	The contract is the entire agreement between the Parties.
	12.5	A period of time stated in days is a period calculated in accordance with Section 116 of the Act. For the avoidance of doubt, nothing in this sub-clause shall prevent or restrict the <i>Contractor</i> from Providing the Works or correcting Defects on any day.
	12.6	The headings to the sections, clauses and sub-clauses of these <i>conditions of contract</i> are for convenience only and do not affect their construction or interpretation.
	12.7	Notwithstanding the Contract Date, the conditions of this contract cover all work and services carried out by the <i>Contractor</i> from the date when the <i>Contractor</i> first commenced performance of the <i>works</i> and this contract and the warranties and undertakings in this contract are deemed to apply to all work and services performed by the <i>Contractor</i> both before and after the Contract Date.
	12.8	In this contract the words "including", "includes" and "included" are construed without limitation unless inconsistent with the context.
	12.9	Any obligation imposed on either Party in this contract in the present tense is to be construed as an on-going obligation unless that obligation has been fulfilled.
	12.10	In this contract a reference to 'STC' or 'Surface Technology Contract' shall be construed as a reference to 'TTC' or 'Traffic Technology Contract' (as applicable).
Communications	13	
	13.1	Clause 58 of the TTC Contract applies to Each communication (including any notice) which the contract requires has effect when it is received in a form that can be read, copied and recorded at the last address notified by the recipient for receiving communications.
	13.2	If the contract requires the <i>Client</i> or the <i>Contractor</i> to reply to a communication, unless otherwise stated in these <i>conditions of contract</i> , they reply within the <i>period for reply</i> .
The <i>Client's</i> authority and delegation	14	
	14.1	The <i>Contractor</i> obeys an instruction which is in accordance with the contract and is given by the <i>Client</i> .
	14.2	The <i>Client</i> may give an instruction to the <i>Contractor</i> which changes the Scope or a Key Date.
	14.3	The <i>Client</i> gives an instruction to correct a mistake in the Price List which is <ul style="list-style-type: none"> • a departure from the method and rules stated in the Price List and used to compile it or • due to an ambiguity or inconsistency.
	14.4	The <i>Client's</i> acceptance of a communication from the <i>Contractor</i> or acceptance of the work does not change the <i>Contractor's</i> responsibility to Provide the Works or liability for its design. No acceptance, acceptance, approvals, comments, instructions, consents or advice or indication of satisfaction given by or from the <i>Client</i> nor any enquiry or inspection which the <i>Client</i> makes or has carried out for its benefit or on its behalf at any time, operates to reduce, extinguish, exclude, limit or modify the <i>Contractor's</i> duties and obligations under this contract unless it is in writing from the <i>Client</i> , refers to this contract and clearly identifies the duty or obligation and the extent to which such duty or obligation is to be reduced, extinguished, excluded, limited or modified.
	14.5	The <i>Client</i> , after notifying the <i>Contractor</i> , may delegate any of the <i>Client's</i> actions and may cancel any delegation. A reference to an action of the <i>Client</i> in the contract includes an action by its delegate.
Early warning	15	
	15.1	The <i>Contractor</i> and the <i>Client</i> give an early warning by notifying the other as soon as either becomes aware of any matter which could

- increase the total of the Prices,
- delay the Target Commissioning Date,
- delay Completion, or
- delay meeting a Key Date or
- impair the performance of the works in use.

The *Client* or the *Contractor* may give an early warning by notifying the other of any other matter which could increase the *Contractor's* total cost. Early warning of a matter for which a compensation event has previously been notified is not required. In the notification the *Contractor* and the *Client* state whether the early warning must be dealt with immediately or can wait until the next scheduled early warning meeting.

- 15.2 The *Contractor* and the *Client* co-operate in making and considering proposals for how the effect of each matter which has been notified as an early warning can be avoided or reduced and deciding and recording actions to be taken.

Access to the site and provision of services	16	
	16.1	The <i>Client</i> allows access to and use of the site to the <i>Contractor</i> as necessary for the work included in the contract. The <i>Contractor</i> arranges for access to and use of the site which is necessary for work included in this contract.
	16.2	The <i>Client</i> provides services and other things as stated in the Scope.
	16.3	The <i>Contractor</i> acknowledges that the <i>Client</i> does not guarantee uninterrupted or exclusive access to or use of the site and that access is limited in accordance with this contract.
	16.4	The <i>Contractor</i> notifies the <i>Client</i> immediately if he becomes aware that any part of the site is not on a Public Highway (other than those parts of the site which the Scope and/or the Site Information indicates are not on a Public Highway) and the <i>Client</i> instructs the <i>Contractor</i> how to proceed.
Corrupt Acts	17	Not used
	17.1	The <i>Contractor</i> does not do a Corrupt Act.
	17.2	The <i>Contractor</i> takes action to stop a Corrupt Act of a subcontractor or supplier of which it is, or should be, aware.
	17.3	The <i>Contractor</i> includes equivalent provisions to these in subcontracts and contracts for the supply of Plant and Materials and Equipment.
Contractor's proposals	18	
	18.1	The <i>Contractor</i> may propose to the <i>Client</i> that the Scope provided by the <i>Client</i> is changed in order to reduce the amount the <i>Client</i> pays to the <i>Contractor</i> for Providing the Works. The <i>Client</i> consults with the <i>Contractor</i> about the change.
	18.2	Within four weeks of the <i>Contractor</i> making the proposal the <i>Client</i> <ul style="list-style-type: none"> • accepts the <i>Contractor's</i> proposal and issues an instruction changing the Scope, • informs the <i>Contractor</i> that the <i>Client</i> is considering the proposal and instructs the <i>Contractor</i> to submit a quotation for a proposed instruction to change the Scope or • informs the <i>Contractor</i> that the proposal is not accepted. <p>The <i>Client</i> may give any reason for not accepting the proposal.</p>
Requirements for Instructions	19	
	19.1	The <i>Client</i> or the <i>Contractor</i> notifies the other as soon as either becomes aware of an ambiguity or inconsistency in or between the documents which are part of the contract. The <i>Client</i> states how the ambiguity or inconsistency should be resolved. It is not a compensation event, and there is no addition to the Prices, any change to any Key Date

or the Completion Date arising from any such ambiguity or inconsistency, where the *Client* assesses:

- that the ambiguity or inconsistency in question is one for which the *Contractor* is responsible under this contract or
- that a prudent and experienced contractor familiar with works similar to the *works* would have identified such an ambiguity or inconsistency at the Contract Date from the information then available to him.

The *Client* notifies the *Contractor* of this decision.

- 19.2 The *Client* or the *Contractor* notifies the other as soon as either becomes aware that the Scope includes an illegal or impossible requirement. If the Scope does include an illegal or impossible requirement, the *Client* gives an instruction to change the Scope appropriately.

2. THE CONTRACTOR'S MAIN RESPONSIBILITIES

Providing the Works 20

- 20.1 The *Contractor* Provides the Works in accordance with the Scope.
- 20.2 The *Contractor* does not start work which the *Contractor* has designed until the *Client* has accepted that the design complies with the Scope.
- 20.3 Subject to clause 23, as between the *Contractor* and the *Client*, the *Contractor* does not rely upon any survey, report or other document prepared by or on behalf of the *Client* and the *Client* makes no representation or warranty as to the accuracy or completeness of any such survey, report or document.

Subcontracting and people 21

- 21.1 If the *Contractor* subcontracts work,
- it is responsible for Providing the Works as if it had not subcontracted and
 - it shall comply with clause 25 (Subcontracting and Change of Ownership) of the TTC Contract.
- 21.2 The contract applies as if a *Subcontractor's* employees and equipment were the *Contractor's*.
- 21.3 The *Client* may, having stated the reasons, instruct the *Contractor* to remove a person any person under the control of the *Contractor*. The *Contractor* then arranges that, after one day, the person has no further connection with the work included in the contract.

Access for the Client 22

- 22.1 The *Contractor* provides access for the *Client* and *Others* named by the *Client* to work being done for the contract and to stored Plant and Materials.

The Contractor's design 23

- 23.1 The *Contractor* is responsible for the design of all of the works except as stated in clause 23.3 below.
- 23.2 The *Contractor* is deemed to have scrutinized, prior to the Contract Date, the *Client's* Design Information. The *Contractor* is responsible for the design of the works and for the accuracy of such *Client's* Design Information except as stated in clause 23.3 below.
- 23.3 The *Client* is not responsible for any error, inaccuracy or omission of any kind in the *Client's* Design Information and is not deemed to have given any representation of accuracy or completeness of any data or information, except as stated below.
- The *Client* is responsible for the correctness of the following elements of the *Client's* Design Information
- Controller Specification,
 - other information stated in the Works Instruction as being the responsibility of the *Client* (if any),
 - definitions of intended purposes of the works or any part thereof and
 - criteria for the testing and performance of the completed works.
- 23.4 Where there is a mistake, inaccuracy or discrepancy in or omission from the *Client's* Design Information, the *Contractor* informs the *Client* in writing of its proposed amendment to remove the mistake, inaccuracy, discrepancy or omission. Within two weeks, the *Client* either consents to the *Contractor's* proposed amendment or comments in writing on such an amendment provided that the *Client* does not unreasonably withhold its consent to a proposed amendment. The *Contractor* takes account of such comments and resubmits its proposed amendment to the *Client*. Such process is repeated until the *Client* accepts the *Contractor's* proposed amendment.

- 23.5 The following shall not give rise to a compensation event:
- anything which is the *Contractor's* responsibility as set out in this clause 23,
 - any comment, failure to comment or delay in commenting by the *Client* in connection with this clause 23 (which shall also not be treated as an act of prevention or breach of contract by the *Client*) or
 - any discrepancy, mistake, inaccuracy in, or omission from, the *Contractor's* design and/or the *Client's* Design Information.

23.6 Without prejudice to clause 23.1 to 23.5 (inclusive), the *Contractor* submits the particulars of its design as the Scope requires to the *Client* for acceptance. A reason for not accepting the *Contractor's* design is that

- it does not comply with either the Scope, the Applicable Laws or Statutory Requirements,
- it is not integrated and coordinated with the designs of Others where the *Contractor* is required by the Scope or the instructions of the *Client* to integrate and/or coordinate its design with the designs of Others or such integration is necessary for the *Contractor* to Provide the Works, or
- it does not comply with this contract.

Unless otherwise stated in the Scope, the *Contractor* does not proceed with the relevant work until the *Client* has accepted its design.

23.7 The *Contractor* may submit its design for acceptance in parts if the design of each part can be assessed fully.

23.8 (1) Without prejudice to clause 23.8(3), the *Contractor* warrants to the *Client* that insofar as it is responsible for the design of works or services under this contract, it has exercised and exercises in such design all reasonable skill, care and diligence as may be expected of a properly qualified designer of the appropriate discipline(s) for such design, experienced in carrying out works or services of a similar scope, nature, timescale and complexity and on a similar site or at a similar location to the works.

(2) Subject to clause 23.8(3), the *Contractor* warrants to the *Client* that it uses the reasonable skill, care and diligence set out in clause 23.8(1) to see that the works or services provided under this contract comply with any performance specification or requirement included or referred to in the Scope or the *Contractor's* design (including any changes to the Scope) and comply with all Statutory Requirements. The *Contractor* warrants that any works or services designed by the *Contractor* will interface and integrate fully with any designs of the *Client*, Others and in accordance with the Scope and the instructions of the *Client*.

(3) The *Contractor* warrants to the *Client* that

- the works or services provided under this contract comply with any performance specification or requirements included or referred to in the Scope and
- the works will on Completion be fit for their intended purpose set out or referred to in the Scope.

Intellectual Property Rights 24

24.1 Clause 44 (Intellectual Property Rights) of the TTC Contract applies.

Design of NEC Equipment 25

25.1 The *Contractor* submits particulars of the design of an item of NEC Equipment to the *Client* for acceptance if the *Client* instructs the *Contractor* to. A reason for not accepting is that the design of the item will not allow the *Contractor* to Provide the Works in accordance with

- the Scope,

- the contract,
- the *Contractor's* design which the *Client* has accepted or
- Applicable Laws.

Working with Others

26

- 26.1 The *Contractor* co-operates with Others, including in obtaining and providing information which they need in connection their work and with the *works*. The *Contractor* co-operates with Others, co-ordinates his activities with them and shares the *site* with them as stated in the Scope. The *Contractor* permits the carrying out of work by Others and concurrently with the execution of the *works*.
- 26.2 The *Client* and the *Contractor* provide services and other things as stated in the Scope. Any cost incurred by the *Client* as a result of the *Contractor* not providing the services and other things which it is to provide is assessed by the *Client* and paid by the *Contractor*.
- 26.3 If the *Client* decides that the work does not meet the Condition stated for a Key Date by the date stated and, as a result, the *Client* incurs additional cost either
- in carrying out work or
 - by paying an additional amount to Others in carrying out work
- on the same project, the additional cost which the *Client* has paid or will incur is paid by the *Contractor*. The *Client* assesses the additional cost within four weeks of the date when the Condition for the Key Date is met. The *Client's* right to recover the additional cost in these circumstances is without prejudice to any other rights and remedies the *Client* may have arising from the *Contractor's* failure to meet a Key Date.
- 26.4 Unless provided for in the Scope or authorised by written instruction by the *Client*, the *Contractor* Provides the Works and corrects Defects in such a way as not to cause delay or disruption to the *Client* and/or Others.
- 26.5 In the event that the *works* cause delay or disruption to the *Client* and/or Others, the *Contractor* takes all reasonable steps to mitigate and minimise such delay or disruption.
- 26.6 Without prejudice to clause 26.1, the *Contractor* liaises with Interfacing Others and as often as may be required to ensure that any programme produced by the *Contractor* in accordance with clause 31 is developed to ensure that the *works* are co-ordinated and interfaced with the works to be undertaken by Interfacing Others and the *Contractor* Provides the Works in accordance with any such co-ordinated and interfaced programme. If the *Contractor* fails to properly coordinate and interface the *works* with the works to be undertaken by Interfacing Others the *Contractor* is not entitled to: a compensation event pursuant to clause 60.1; a change in the Prices; a change to the Target Commissioning Date, Completion Date; or a change to any Key Date.

Other responsibilities

27

- 27.1 The *Contractor* obtains approval of its design from Others where necessary.
- 27.2 The *Contractor* obtains from and/or gives to Others all licences, consents, notices and approvals necessary or appropriate to enable him to Provide the Works other than those which the Scope states will be obtained or given by the *Client* or Others. The *Contractor* ensures that, prior to Completion and wherever necessary during the course of the *works*, the conditions and requirements of the licences, consents, notices and approvals, whether obtained by the *Contractor* or the *Client*, are complied with and that the same are renewed whenever necessary or appropriate.
- 27.3 Unless it is stated otherwise in the Build Brief the *Contractor* is the *Principal Contractor* and/or the *Principal Designer* and the *Contractor* performs all the functions and duties of and exercises the powers of the "principal contractor" and/or the "principal designer" as defined in the CDM Regulations. Where the *Contractor* is not the *Principal Contractor* and/or the *Principal Designer*, the *Contractor* performs all the functions and duties of a "contractor" and (where the *Contractor* is responsible for design) a "designer" as defined in the CDM Regulations.
- 27.4 Unless otherwise stated in the Scope, the *Contractor* identifies restrictions on his ability to Provide the Works which will be imposed by a Highways Authority in order to control noise arising from the *Contractor* Providing the Works. If such restrictions are more

onerous than those which it would have been reasonable for an experienced contractor to have allowed for at the Contract Date then the *Contractor* notifies the *Client*. The *Contractor* and the *Client* discuss different ways to deal with the restrictions and the *Contractor* takes every practicable step to work with the Highways Authority and Others to find alternative methods of working to avoid any increase to the total of the Prices and any delay to the Target Commissioning Date, a Key Date or the Completion Date.

**Contracts with
Others**

28

- 28.1 The *Contractor* performs the duties ascribed to it under this contract, and undertakes to the *Client* that no act, omission or default of the *Contractor* in relation to the *works* constitutes, causes or contributes to a breach by the *Client* of its obligations under its contracts with Others but only to the extent that copies (or relevant extracts) have been provided by the *Client* to the *Contractor* in connection with any Works Instruction. If copies or relevant extracts of such contracts with Others are provided after the Contract Date it is treated as a compensation event.

**Assignment and
novation**

29

- 29.1 The *Client* may assign the benefit of and its rights under this contract without the consent of the *Contractor* being required. The *Contractor* does not assign the benefit of and its rights under this contract without the prior written consent of the *Client*.
- 29.2 If requested by the *Client*, the *Contractor* enters into a novation agreement within the *period for reply* in the form of the novation agreement attached at Schedule 17 to the TTC Contract, or in such other form as the *Client* may reasonably require, in order to novate the benefit and burden of this contract to a member of the TfL Group or to another person who is or becomes responsible for delivering the whole or part of the *works* ("**New Client**"). The only reason the *Contractor* may decline to effect the novation of this contract to the New Client is if the New Client is unable to provide adequate financial documentation to demonstrate that it can meet its liabilities under the contract if the contract is novated to the New Client.

3. TIME

Starting, and

Completion and Key Dates

- 30 The Contractor does not start work until the *starting date* and does the work so that Completion is on or before the Completion Date and, if earlier, so that the works are Commissioned on or before the Target Commissioning Date.
- 30.1A The Client decides the date on which the works are successfully Commissioned and certifies that the works are Commissioned within one week of the date. Such certificate sets out any Defects to be corrected and further works required to achieve Completion.
- 30.2 The Contractor submits a forecast of
- the date when the works can be certified Commissioned and
 - the date of Completion
- to the Client each week from the *starting date* until Completion.
- 30.2A The Contractor notifies the Client when in his opinion the works
- can be certified Commissioned and
 - will have been completed
- in accordance with this contract, and in each case requests an inspection. The Client and the Contractor undertake such inspection in accordance with the requirements set out in the Scope and the Applicable Laws. Any other person(s) identified by the Client may attend such inspection. Without prejudice to clause 50.6, if the Client does not certify that the works are Commissioned or does not certify Completion (as appropriate) in respect of such inspection, the Contractor pays £5,000 toward the cost of the inspection.
- 30.3 The Client decides the date of Completion and certifies it to the Contractor within one week of the date.
- 30.4 The Client may instruct the Contractor to stop or not to start any work. The Client subsequently gives an instruction to the Contractor to
- re-start or start the work or
 - remove the work from the Scope.
- 30.5 The Contractor does the work so that the Condition stated for each Key Date is met by the Key Date.

The programme

- 31 The Contractor submits programmes to the Client as stated in the Scope.
- 31.1

Take over

- 32 The Client and Others may use any part of the works before Completion has been certified. If he does so, and notwithstanding any certificate confirming that the works are Commissioned in accordance with clause 30.1A, he does not take over the part of the works when he begins to use it and the Contractor remains responsible for the works until the Client issues a certificate in accordance with clause 30.3 unless the Client issues a certificate in accordance with clause 32.2.
- 32.1
- 32.2 If the Client wishes (in its absolute discretion) to take over any part of the works prior to the date of issue of a certificate of Completion pursuant to clause 30.3 then the Client shall certify the date on which the Client has taken over such part of the works and the extent of the works it has taken over.
- 32.3 Notwithstanding any other clause in this contract and in particular the issuing of a certificate confirming that the works are Commissioned, for the avoidance of doubt, the Client shall not be regarded as having taken over the works, or any part of the works, during any period when the works are being used by the Client and/or Others and unless the Client issues a certificate in accordance with clause 32.2.

- 33.1 The *Contractor* and the *Client* may propose to the other an acceleration to achieve Completion before the Completion Date. If the *Client* and *Contractor* are prepared to consider the proposed change, the *Client* instructs the *Contractor* to provide a quotation. The instruction states changes to the Key Dates to be included in the quotation. The *Contractor* provides a quotation within three weeks, or any other time stipulated by the *Client*, of the instruction to do so. The *Client* replies to the quotation within three weeks.

The reply is

- a notification that the quotation is accepted or
 - a notification that the quotation is not accepted and that the Completion Dates and Key Dates are not changed.
- 33.2 A quotation for an acceleration comprises proposed changes to the Prices and a revised programme showing the earlier Completion Date and the changed Key Dates. The *Contractor* submits details of the assessment with each quotation.
- 33.3 When a quotation for an acceleration is accepted, the *Client* changes the Prices, the Completion Date and the Key Dates accordingly and accepts the revised programme.
- 33.4 If the *Contractor* does not submit a quotation within the *period for reply* or if the *Client* decides that the *Contractor* has not assessed the quotation for an acceleration correctly then the *Client* may instruct the *Contractor* to achieve Completion before the Completion Date. If the *Client* instructs the *Contractor* to achieve Completion before the Completion Date the *Client* assesses the change to the Prices, the Completion Date and the Key Dates and informs the *Contractor* of any changes.

4. QUALITY MANAGEMENT

Quality management system	40A	
	40A.1	The <i>Contractor</i> complies with the requirements of clause 5.8 of the TTC Contract.
Tests and inspections	40	
	40.1	The <i>Client</i> and the <i>Contractor</i> carry out tests and inspections required by the Scope. If a test or inspection shows that any work has a Defect, the <i>Contractor</i> corrects the Defect, and the test or inspection is repeated.
Testing and inspection before delivery	41A	
	41A.1	The <i>Contractor</i> does not bring to the <i>site</i> those Plant and Materials which the Scope states are to be tested or inspected before delivery until the <i>Client</i> has notified the <i>Contractor</i> that they have passed the test or inspection.
Searching for and notifying Defects	41	
	41.1	Until the <i>defects date</i> , the <i>Client</i> may instruct the <i>Contractor</i> to search for a Defect.
	41.2	The <i>Client</i> may notify a Defect to the <i>Contractor</i> at any time before the <i>defects date</i> .
	41.3	Following issue of a certificate confirming that the <i>works</i> are Commissioned the <i>Contractor</i> corrects any Defects notified to him and completes the <i>works</i> .
Correcting Defects	42	
	42.1	The <i>Contractor</i> corrects a Defect whether or not the <i>Client</i> has notified it.
	42.2	Before Completion, the <i>Contractor</i> corrects a notified Defect before it would prevent the <i>Client</i> or others from doing their work.
	42.3	After Completion, the <i>Contractor</i> corrects a notified Defect before the end of the <i>defect correction period</i> . This period begins at the later of Completion and when the Defect is notified.
	42.4	The <i>Client</i> issues the Defects Certificate at the <i>defects date</i> if there are no notified Defects, or otherwise at the earlier of <ul style="list-style-type: none"> the end of the last <i>defect correction period</i> and the date when all notified Defects have been corrected.
	42.5	Nothing in this clause 42 limits any of the <i>Contractor's</i> obligations or <i>Client's</i> rights set out in the Scope or in relation to service response times required under the TTC Contract (including in response to any Direction).
	42.6	Should the <i>works</i> fail to achieve Commissioning or Completion due to the presence of a Defect or Defects the <i>Client</i> may at its discretion elect that the Scope will be changed so that the Defect or Defects do not have to be corrected. If the <i>Client</i> makes such an election the <i>Contractor</i> submits a quotation for reduced Prices to the <i>Client</i> for acceptance. If the <i>Client</i> accepts the quotation (in its absolute discretion) the <i>Client</i> gives an instruction to change the Scope and the Prices accordingly.
	42.7	Subject to clause 42.6, if the <i>works</i> fail to achieve Commissioning or Completion because of a Defect, or anything else which is the responsibility of the <i>Contractor</i> (including any delay which is caused by or is the responsibility of the <i>Contractor</i> or the <i>Contractor's</i> lack of preparation prior to Commissioning or Completion) the <i>Contractor</i> repeats the relevant <i>works</i> and activities in order to achieve Commissioning or Completion (as applicable) and, without prejudice to any other right of the <i>Client</i> under this contract (including any right arising under clause 30.2A), the <i>Client</i> assesses the cost incurred by the <i>Client</i> in repeating such <i>works</i> and activities and the <i>Contractor</i> pays the amount assessed. The <i>Contractor</i> shall not be entitled to any addition to the Prices as a consequence of repeating any such <i>works</i> or activities to achieve Commissioning or Completion.
	42.8	For the avoidance of doubt the <i>Contractor</i> corrects any Defect at no cost to the <i>Client</i> ,

except for any rates payable in accordance with Schedule 5 of the TTC Contract associated with compliance with a Direction to correct a Defect.

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- 42.9 For the avoidance of doubt, the *Contractor* continues to be liable for Defects (including Defects listed in the Defects Certificate and latent or inherent Defects) after:
- the issue of the Defects Certificate;
 - the operation of this section; and
 - the termination of this contract for any reason (including breach by the *Client*),
- in accordance with the English law.

Accepting Defects 43

- 43.1 The *Contractor* and the *Client* may each propose to the other that the Scope should be changed so that a Defect does not have to be corrected. If the *Contractor* and the *Client* are prepared to consider the change, the *Contractor* submits a quotation for reduced Prices or an earlier Completion Date or both to the *Client* for acceptance. If the *Client* accepts the quotation, it changes the Scope, the Prices and the Completion Date accordingly.

Uncorrected Defects 44

- 44.1 If the *Contractor* has not corrected a notified Defect within its *defect correction period*, the *Client* assesses the cost of having the Defect corrected by other people and the *Contractor* pays this amount.

5. PAYMENT

Assessing the amount due

50

- 50.1 The *Contractor* assesses the amount due and the *Contractor* applies to the *Client* for payment not less than fourteen days before each relevant assessment day. There is an assessment day in each month from the starting date until the earlier of
- the month after the *Client* issues the Defects Certificate and
 - either Party gives notice to the other to terminate the *Contractor's* obligation to Provide the Works.
- 50.2 The *Contractor's* application for payment includes details of how the amount has been assessed. If an amount will become due at an assessment day, the *Contractor* submits an application for payment to the *Client* in a form approved by the *Client* not less than fourteen days prior to the relevant assessment day. The application states the sum that the *Contractor* considers to be due to him at the payment due date and the basis on which that sum is calculated.
- 50.2A The payment due date is either
- for payments due under clause 50 except under clause 50.10, the later of:
 - the assessment day and
 - fourteen days after the date of receipt by the *Client* of the *Contractor's* application for payment in accordance with clause 50.2
- or
- for the purpose of clause 50.10 only, the date of notification of the *Client's* assessment under clause 50.10.
- The final date for payment is twenty eight days after the date on which payment becomes due.
- 50.3 If the *Contractor* submits an application for payment in accordance with clause 50.2 before the assessment day, the amount due at the payment due date assessment day is
- on certification that the works are Commissioned, 60% of the Price for Work Done to Date,
 - on Completion, 100% of the Price for Work Done to Date,
 - on assessment of an amount due under clauses 50.10 or 92.1 (if applicable), the Price for Work Done to Date,
- in each case
- the Price for Work Done to Date,
 - plus other amounts to be paid to the *Contractor*,
 - less amounts to be paid by or retained from the *Contractor*.
- 50.4 If the *Contractor* does not submit an application for payment before the assessment day, the amount due at the assessment day is the lesser of
- the amount the *Client* assesses as due at the assessment day, assessed as though the *Contractor* had submitted an application before the assessment day, and
 - the amount due at the previous assessment day.
- If the *Client* assesses an amount due it gives details of the how the amount has been calculated.
- If the *Contractor* does not make an application for payment in accordance with clause 50.2 before a payment due date, the notified sum is zero or, if an amount is to be paid to the *Client*, the amount which the *Client* considers is to be paid. The *Client* notifies the *Contractor* of the notified sum.
- 50.5 If the *Contractor* has incorrectly assessed the amount due in an application made before the assessment day, the *Client* corrects the amount due and gives details of how the corrected amount has been calculated before payment. Not used

50.6 The *Contractor* pays *delay damages* for each day from the Completion Date until the earlier of

- Completion and
- the date either Party gives notice to the other to terminate the *Contractor's* obligation to Provide the Works.

If the *Client* takes over a part of the *works* before Completion, the *delay damages* are reduced from the date on which the part is taken over. The *Project Manager* assesses the benefit to the *Client* of taking over the part of the *works* as a proportion of the benefit to the *Client* of taking over the whole of the *works* not previously taken over. The *delay damages* are reduced in this proportion. Notwithstanding any other provision of this contract, the *Client* does not take over a part of the *works* before Completion for the purposes of this clause during any periods when the *works* are being used by the *Client* and/or Others and unless the *Client* issues a certificate in accordance with clause 32.3. A certificate certifying that the *works* are Commissioned is not take over.

50.7 ~~An amount is retained from the *Contractor* in the assessment of each amount due until Completion. This amount is the retention applied to the Price for Work Done to Date. The amount retained is halved in the first assessment made after Completion and remains at this amount until the assessment day after the Defects Certificate is issued. No amount is retained in the assessment made after the Defects Certificate has been issued.~~ Not used

50.8 ~~If the *Client* requires a programme to be submitted, one quarter of the Price for Work Done to Date is retained in assessments of the amount due until the *Contractor* has submitted a first programme to the *Client* showing the information which the Scope requires.~~ Not used

50.9 If the *Contractor's* employment is terminated under clause 90.2 (Reason 1) because the *Contractor* has become insolvent within the meaning of Section 113 of the Act, the *Client* need not pay any sum due to the *Contractor* other than any amount due to him under clause 92 either:

- where the *Contractor* becomes insolvent prior to the prescribed period before the final date for payment, provided that the *Client* issues a Pay Less Notice notifying the *Client's* intention not to pay such sum or
- in any event, if the *Contractor* becomes insolvent after the prescribed period before the final date for payment.

50.10 The *Client* may, in his absolute discretion, assess an amount due before the *works* are certified Commissioned and before Completion. If the *Client* assesses such an amount due it notifies the *Contractor* giving details of the assessment and how the amount has been calculated.

50.11 If a novation agreement is requested under this contract but not executed and delivered to the *Client*, then one quarter of the Price for Work Done to Date is retained in assessments of the amount due and is not payable to the *Contractor* until such document has been delivered.

50.12 The consideration for any supply made pursuant to or in connection with the terms of this contract, and all sums payable under this contract, are exclusive of value added tax ("VAT"). Where, under the terms of this contract, a supply is made that is subject to VAT, the person receiving the supply must pay a sum equal to the amount of VAT which is or becomes chargeable on that supply to the person making the supply in addition to, and at the same time as paying, any other consideration for that supply and a valid VAT invoice must be issued by the person making the supply.

If any VAT invoice delivered by the *Contractor* under this contract is an electronic invoice, the *Client* accepts and processes the electronic invoice submitted by the *Contractor* where the invoice is undisputed and where it complies with the Standard on Electronic Invoicing.

50.13 The Parties acknowledge that the Reverse Charge Order will enter into force on 1 March 2021 and is expected to have effect for supplies made on or after that date.

The *Client* is an End User for the purposes of this contract if stated in the Contract Data.

Where the *Client* is an End User for the purposes of this contract, the Parties acknowledge that:

- services provided by the *Contractor* to the *Client* on or after 1 March 2021 pursuant to this contract are expected to include "specified services" (within the meaning of article 4 of the Reverse Charge Order) and will be "excepted supplies" (within the meaning of article 8 of the Reverse Charge Order) on the basis that the *Client* is an End User in respect of such specified services and
- accordingly the Reverse Charge Order will not apply and the *Client* will not be required to account for VAT to HM Revenue & Customs in respect of such supplies under section 55A of VATA.

Where the *Client* is not an End User for the purposes of this contract:

- the Parties acknowledge that services provided by the *Contractor* to the *Client* on or after 1 March 2021 pursuant to this contract will include "specified services" (within the meaning of article 4 of the Reverse Charge Order) and are expected to be subject to the Reverse Charge Order on the basis that the *Client* is not an End User,
- accordingly, the Parties acknowledge that the *Client* will be required to account for VAT to HM Revenue & Customs in respect of such supplies from the *Contractor* under section 55A of VATA and
- the *Contractor* will deliver an invoice to the *Client* in accordance with clause 51.4 stating that the Reverse Charge Order applies or any other appropriate language as suggested by HM Revenue & Customs in their relevant guidance

In any event the *Contractor* indemnifies the *Client* on a continuing basis against any liability, including any interest, penalties or costs incurred, that is levied, demanded or assessed on the *Client* at any time in respect of the *Contractor's* failure to account for or to pay any VAT relating to payments made to the *Contractor* under this contract. Any amounts due under this clause 50.13 are paid in cleared funds by the *Contractor* to the *Client* not less than five (5) days before the date upon which the tax or other liability is payable by the *Client*.

Where under this contract any amount is calculated by reference to any sum which has been or may be incurred by any person, the amount includes any VAT in respect of that amount only to the extent that such VAT is not recoverable as input tax by that person (or a member of the same VAT group) whether by set off or repayment.

If the Reverse Charge Order is incorrectly applied and the *Client* pays an amount in respect of VAT to the *Contractor* in error, then the *Contractor* will pay to the *Client* on demand an amount equal to such VAT plus any interest, penalties or surcharges charged or imposed on the *Client* by HM Revenue & Customs arising from the late payment of any VAT.

If the *Client's* status as an End User changes during the term of this contract, the *Client* uses its reasonable endeavours to notify the *Contractor* and the *Contractor* applies the Reverse Charge accordingly.

Payment

51

- 51.1 A payment is made by the relevant final date for payment ~~within three weeks after the assessment day~~. The first payment is the amount due. Other payments are the change in the amount due since the previous assessment. A payment is made by the *Contractor* to the *Client* if the amount due is less than the amount due in the previous assessment. Other payments are made by the *Client* to the *Contractor*.
- 51.2 Interest is paid if a payment is late or includes a correction of an earlier payment. Interest is assessed from the date by which the correct payment should have been made until the date when it is paid. Interest is calculated at the rate stated in the Contract Data or, if none is stated, at 0.5% of the delayed amount per complete week of delay.
- 51.3 Any tax which the law requires a Party to pay to the other Party is added to any payment made under the contract. The Parties comply with the provisions of the TTC Contract relating to the Construction Industry Scheme.

- 51.4 The *Client* certifies a payment not later than 5 days after each payment due date. The *Client's* certificate is the *Client's* notice of payment specifying the amount due at the payment due date (the notified sum) and stating the basis on which the amount was calculated. Not later than 5 days after receipt of the *Client's* certificate the *Contractor* delivers to the *Client* a VAT invoice in the amount of the certificate with a copy of the certificate attached. The *Contractor* issues a corrected invoice, where required, within five days of receipt of any Pay Less Notice.
- 51.5 If a certificate is not issued by the *Client* in accordance with clause 51.4, the sum to be paid by the *Client* is, subject to clause 51.6, the sum stated as due in the *Contractor's* application in accordance with clause 50.2 or, for the purpose of clause 50.10 only, the sum stated as due in the notification of the *Client's* assessment under clause 50.10. If a certificate is not issued by the *Client* in accordance with clause 51.4 the *Contractor* delivers to the *Client* a VAT invoice in the amount *Contractor's* application in accordance with clause 50.2 or the *Client's* assessment under clause 50.10 (as applicable).
- 51.6 If either Party intends to pay less than the notified sum, he notifies the other Party not later than five days (the prescribed period) before the final date for payment by stating the amount considered to be due and the basis on which that sum is calculated. A Party does not withhold payment of an amount due under this contract unless he has notified his intention to pay less than the notified sum as required by this contract.
- 51.7 The *Contractor* issues invoices in the manner and format required by the *Client's* Contract Data and/or the Scope.

Defined Cost

52

- 52.1 All the *Contractor's* costs which are not included in the Defined Cost are treated as included in the Fee. Defined Cost includes amounts at open market or competitively tendered prices with deductions for all discounts, rebates and taxes which can be recovered.

The Price List

53

- 53.1 Information in the Price List is not Scope or Site Information. If the activities on the Price List do not relate to the Scope, the *Contractor* corrects the Price List.
- 53.2 If the *Contractor*
- changes a planned method of working at its discretion so that the activities on the Price List do not relate to the operations on the latest programme accepted by the *Client* or
 - corrects the Price List so that the activities on the Price List relate to the Scope
- the *Contractor* submits a revision of the Price List to the *Client* for acceptance.
- 53.3 A reason for not accepting a revision of the Price List is that
- it does not relate to the operations on latest programme accepted by the *Client*,
 - any changed Prices are not reasonably distributed between the activities which are not completed or
 - the total of the Prices is changed.

6. COMPENSATION EVENTS

Compensation events 60

60.1 The following events are compensation events.

(1) The *Client* gives an instruction changing the Scope unless the change is in order to make a Defect acceptable.

(2) ~~The *Client* does not allow access to and use of the site to the Contractor as necessary for the work included in the contract.~~ The *Client* gives an instruction under clause 16.4.

(2A) The *Contractor* cannot gain access to the *site* to Provide the Works as a result of the action of Others, provided that: the *Contractor* has (i) taken all practicable steps to arrange access to and use of the *site* in accordance with the provisions of this contract; and (ii) used all reasonable endeavours to re-allocate the resources.

(2B) The *Contractor* is prevented by the *Client* from gaining access to the *site* to Provide the Works, provided that: the *Contractor* has (i) taken all practicable steps to arrange access to and use of the *site* in accordance with the provisions of this contract; and (ii) used all reasonable endeavours to re-allocate the resources. The *Contractor* is not entitled under this sub-clause 60.1(2B) to any change to the Prices.

(3) The *Client* does not provide something which it is to provide by the date stated in the contract.

(4) The *Client* gives an instruction to stop or not to start any work or to change a Key Date.

(5) The *Client* does not work within the conditions stated in the Scope.

(5A) Statutory Undertakers

- do not work within the times shown on the latest programme accepted by the *Client* or
- do not work within the conditions stated in the Scope,

provided that the *Contractor* is not entitled under this sub-clause 60.1(5A) to any change to the Prices to the extent that the *Contractor* has failed to comply with clause 103.

(6) ~~Not used~~ The *Client* does not reply to a communication from the *Contractor* within the period required by the contract.

(7) The *Client* changes a decision which it has previously communicated to the *Contractor*.

(8) ~~Not used.~~ The *Contractor* encounters physical conditions which

- are within the *site*,
- are not weather conditions and
- an experienced contractor would have judged, at the date of the *Contractor's Offer*, to have such a small chance of occurring that it would have been unreasonable to have allowed for them.

~~Only the difference between the physical conditions encountered and those for which it would have been reasonable to have allowed is taken into account in assessing a compensation event.~~

(9) The *Contractor* is prevented by weather from carrying out all work on the *site* for periods of time, each at least one full working day, which are in total more than one seventh of the total number of days between the *starting date* and the Completion Date. In assessing this event, only the working days which exceed this limit and on which work is prevented by no other cause are taken into account. The *Contractor* is not entitled under this sub-clause 60.1(9) to any change to the Prices.

(10) Either Party notifies the other of a correction to an assumption made for the assessment of a compensation event.

(11) An event which is a Prevention Event and is not a breach of contract by the *Contractor* and is not one of the other compensation events stated in this contract provided that the *Contractor* is not entitled under this sub-clause 60.1(11) to any change to the Prices.

- ~~stops the Contractor completing the works or~~
 - ~~stops the Contractor completing the works by the Completion Date~~
- and which
- ~~neither Party could prevent,~~
 - ~~an experienced contractor would have judged, at the date of the Contractor's Offer, to have such a small chance of occurring that it would have been unreasonable to have allowed for it and~~
 - ~~is not one of the other compensation events stated in the contract.~~

(12) The *Client* gives an instruction to correct a mistake in the Price List.

(13) The *Contractor* exercises its right under the Act to suspend performance, whether or not the event has been notified by the *Contractor* within the period specified in clause 61.3.

(14) A breach of contract by or act of prevention on the part of the *Client* (except to the extent that it is caused or contributed to by the *Contractor* any Subcontractor or Indirect Subcontractor or any person for whom those parties are responsible) which is not one of the other compensation events in the contract.

(15) The *Contractor* encounters ducting which

- is within the *site*, and
- is
 - blocked,
 - not in accordance with the relevant PRO drawing for the *site*, and/or
 - is such that it prevents the *Contractor* from physically installing the whole or part of the *works* in accordance with the Works Instruction and
- necessitates works (which are not already within the scope of the *works* or otherwise identified in the Scope) to be carried out by the *Contractor* or by Others, and

is not identified,

- in any duct survey undertaken by the *Contractor* (whether instructed by the *Client* or otherwise) prior to commencing the *works*, or
- as part of a Visual Inspection (where such inspection has been undertaken by the *Contractor* prior to commencing the *works*), or
- in any publicly available information referred to in the Site Information,

provided that the *Contractor* is not entitled under this sub-clause 60.1(15) to any change to the Prices.

(16) Subject to clause 27.5 of the *conditions of contract*, restrictions on the *Contractor's* ability to Provide the Works are imposed by a Highways Authority to control noise which are more onerous than those which it would have been reasonable for an experienced contractor to have allowed for at the Contract Date.

(17) Any of the following events where such event is directly caused by the Coronavirus

Pandemic:

- the implementation of revised methods of working which is mandated by a change in the law of the country in which the *site* is located after the Contract Date or
- the implementation of revised methods of working which is instructed by the *Client* following guidance or a change in the law of the country in which the *site* is located relating to the Coronavirus Pandemic;

but only to the extent that the *Contractor* was not aware and an experienced and prudent *Contractor* would not reasonably have been aware that such law or guidance would come into force after the Contract Date.

(18) Any of the following events where such event is directly caused by the Coronavirus Pandemic:

- the closure of the *site* or cessation of the *works* which is mandated by a change in the law of the country in which the *site* is located after the Contract Date or
- the closure of the *site* or cessation of the *works* which is instructed by the *Client* following guidance or a change in the law of the country in which the *site* is located relating to the Coronavirus Pandemic.

(19) Disruption to the supply of Plant and Materials where such disruption is directly caused by the Coronavirus Pandemic, provided that the *Contractor* is not entitled under this clause 60.1(19) to any change to the Prices.

(20) Disruption to the supply of Plant and Materials where such disruption is directly caused by Brexit, provided that the *Contractor* is not entitled under this clause 60.1(20) to any change to the Prices.

60.2 ~~In judging the physical conditions for the purposes of assessing any compensation event, the *Contractor* is assumed to have taken into account~~

- ~~the Site Information,~~
- ~~publicly available information referred to in the Site Information,~~
- ~~information obtainable from a visual inspection of the site and~~
- ~~other information which an experienced contractor could reasonably be expected to have or to obtain. Not used.~~

Notifying compensation events

61

61.1 The *Client* and the *Contractor* notify the other of an event which has happened or which they expect to happen as a compensation event.

61.2 If the *Client* notifies the compensation event, it also instructs the *Contractor* to submit a quotation for the compensation event **unless**

- the event arises from a fault of the *Contractor* including any error, omission, negligence, default, breach of contract or breach of statutory duty of the *Contractor* or any of its employees or agents or of any Subcontractor, Indirect Subcontractor or supplier or any of their employees or agents or
- the event has no effect upon the cost to the *Contractor*, the Target Commissioning Date, Completion or meeting a Key Date.

The *Contractor* submits the quotation, including sufficient supporting information, within one week of being instructed to do so by the *Client*. If the *Contractor* notifies the compensation event, it submits a quotation with the notification.

61.3 If the *Contractor* does not notify a compensation event within four weeks of ~~becoming~~ when it becomes aware or ought reasonably to have become aware that the event has happened, the Prices, the Target Commissioning Date, a Key Date and Completion Date are not changed unless the event arises from a correction to an assumption stated by the *Client* or the *Client* giving an instruction or changing an earlier decision. The *Client* may, in its absolute discretion, assess a change to the Target Commissioning Date, a Key Date or the Completion Date (but not a change to the Prices) in the absence of a notice

from the *Contractor* in accordance with this sub-clause.

- 61.4 ~~A compensation event is not notified by the *Client* or *Contractor* after the issue of the Defects Certificate.~~

A compensation event is not notified after Completion. No change is made to the Prices, the Target Commissioning Date, the Completion Date nor any Key Date in respect of any compensation event notified after Completion.

Quotations for
compensation
events

62

- 62.1 A quotation for a compensation event comprises proposed changes to the Prices, Target Commissioning Date, Key Dates and Completion Date assessed by the *Contractor*. The *Contractor* submits details of its assessment, including a detailed breakdown of any changes to the Prices and the measures to be taken in respect of Subcontractors and Indirect Subcontractors (where relevant) with regards to the *works* and any planned *works* by Others, with each quotation. If the quotations comprise or include delays, the details of the *Contractor's* assessment include sufficient evidence to demonstrate that the compensation event has caused or (in the case of future delay) will cause delay to the Target Commissioning Date, a Key Date or the Completion Date. If the effects of a compensation event are too uncertain to be forecast reasonably, the *Contractor* states assumptions about the compensation event in the quotation. Assessment of the compensation event is based on these assumptions. If any of them is later found to have been wrong, either Party may notify a correction to the other Party.

- 62.2 The *Client* replies within two weeks of the *Contractor's* submission. If the *Client* decides that an event notified by the *Contractor*

- arises from the fault of the *Contractor*, including, without limitation, any error, omission, negligence, default, breach of contract or breach of statutory duty of the *Contractor* or any of its employees or agents or of any Subcontractor Indirect Subcontractor, or supplier or any of their employees or agents,
- has not happened and is not expected to happen,
- has not been notified within the timescales set out in these *conditions of contract*,
- has no effect upon the Prices, Defined Cost, the Target Commissioning Date, Completion or meeting a Key Date or
- is not one of the compensation events stated in the contract

the *Client* notifies the *Contractor* that the Prices, Defined Cost, the Target Commissioning Date, Key Dates and Completion Date are not to be changed.

If the *Client* decides otherwise, it notifies the *Contractor* accordingly and includes in the notice

- acceptance of the *Contractor's* quotation or
- a statement that it does not agree with the quotation and details of the *Client's* own assessment.

- 62.3 If the *Client* does not reply to a quotation in accordance with the contract and within the time allowed, it is treated as acceptance by the *Client* of the quotation.

- 62.4 If the *Contractor* does not provide a quotation which the contract requires it to submit in the time allowed, the *Client* assesses the compensation event and notifies the *Contractor* of the *Client's* assessment within one week of when it should have received the *Contractor's* quotation.

- 62.5 The *Client* includes details of its assessment of a compensation event when it notifies the *Contractor* of the assessment. If the effects of the compensation event are too uncertain to be forecast reasonably, the *Client* states assumptions about the compensation event in the assessment. Assessment of the compensation event is based on these assumptions. If any of them is later found to have been wrong, either Party may notify a correction to the other Party.

Assessing
compensation
events

63

- 63.1 ~~For a compensation event which only affects the quantities of work shown in the Price List, the change to the Prices is assessed by multiplying the changed quantities of work by the appropriate rates in the Price List.~~

To the extent that a compensation event affects either work done or work not yet done the change to the Prices for a compensation event is assessed

- to the extent that the compensation event only affects the quantities of work shown in the Price List, by multiplying the changed quantities of work by the appropriate rates in the Price List,
- to the extent that a compensation event does not only affect the quantities of work shown in the Price List
 - by using the appropriate rates and lump sums in the Price List,
 - to the extent that there is no appropriate rate or lump sum in the Price List by using other appropriate rates and lump sums in the Schedule of Capital Works Rates,
 - to the extent that there is no appropriate rate or lump sum in the Price List or the Schedule of Capital Works Rates (as applicable),
 - by using the rates or lump sums in the Price List for works of a similar character and executed under similar conditions to the compensation event or
 - to the extent that there is no such rate or lump sum in the Price List, by using the rates or lump sums in the Schedule of Capital Works Rates for works of a similar character and executed under similar conditions to the compensation event,
 - to the extent that there is no rate or lump sum in the Price List or the Schedule of Capital Works Rates (as applicable) for works of a similar character and executed under similar conditions to the compensation event, in accordance with clause 63.2.

63.1A

Notwithstanding any other provision of this contract, the change to the Prices in respect of a compensation event under clause 60.1(18) is assessed in accordance with clause 63.1 as the effect of the compensation event on the Demobilisation Costs and Remobilisation Costs only and there is no change to the Prices other than in respect of the Demobilisation Costs and Remobilisation Costs.

For the purpose of this clause:

"Demobilisation Costs" means the following cost components in respect of demobilisation:

- cost of off-hiring NEC Equipment (including any penalty fees),
- cost of removing Plant and Materials from *site* (if required),
- cost of making the *site* safe (e.g. covering up, signage), including incidental works, and maintaining for the duration of the closure of the *site*,
- cost of making safe third party and stakeholder works (e.g. utilities),
- cost of making the *site* secure (e.g. fencing, CCTV), including incidental works, and maintaining for the duration of the closure of the *site*,
- cost of implementing traffic management and maintaining for the duration of the closure of the *site*,
- cost of site infrastructure which it is not practicable to off-hire or remove for the duration of the closure of the *site* (e.g. site cabins and offices, utility connections, etc.),
- cost of people for planning, managing and delivering demobilisation, and
- cost of people required to maintain a safe and secure *site* for the duration of the closure of the *site* (e.g. security guards, traffic management agents, etc.),

"Remobilisation Costs" means the following cost components in respect of remobilisation:

- cost of mobilising NEC Equipment which was off-hired as part of demobilisation,
- cost of delivering to *site* any Plant and Materials which were removed as part of demobilisation,

- cost of remobilising people and Subcontractors,
- cost of reinstating the *site* to its pre-demobilisation state,
- cost of people for planning, managing and delivering remobilisation.

- 63.1B The *Contractor's* only entitlement to a change in the Prices, the Target Commissioning Date, the Completion Date or any Key Date in respect of a Coronavirus Pandemic Event is under clause 60.1(17), 60.1(18) or 60.1(19) (as applicable), and no other compensation event in this contract applies to events which are Coronavirus Pandemic Events.
- 63.2 ~~For other compensation events~~ Where stated in clause 63.1 to apply, the change to the Prices is assessed as the effect of the compensation event upon
- the actual Defined Cost of the work already done,
 - the forecast Defined Cost of the work not yet done and
 - the resulting Fee.
- 63.2A The following are deducted from the assessment at clause 63.1:
- costs against which this contract required the *Contractor* to insure and
 - other costs paid to the *Contractor* by insurers.
- 63.3 The *Client* and the *Contractor* may agree rates or lump sums to assess the change to the Prices.
- 63.4 ~~The effect of a compensation event upon the Defined Cost is calculated using rates and percentages stated in the Contract Data and other amounts at open market or competitively tendered prices with deductions for all discounts, rebates and taxes which can be recovered.~~ Not used.
- 63.5 ~~If, when assessing a compensation event the People Rates do not include a rate for a category of person required, the *Client* and *Contractor* may agree a new rate. If they do not agree the *Client* assesses the rate based on the People Rates. The agreed or assessed rate becomes the People Rate for that category of person.~~ Not used.
- 63.5A If the effect of a compensation event is to reduce the total cost to the *Contractor* and the event is
- a change to the Scope provided by the *Client*, which the *Contractor* proposed and the *Client* accepted;
 - a Coronavirus Pandemic Event,
 - a change in a decision which the *Client* has previously communicated to the *Contractor*,
 - a correction to an assumption stated by the *Client* for assessing an earlier compensation event or
 - the *Client* gives an instruction to correct a mistake in the Price List including, for the avoidance of doubt, where such mistake is contained in or caused by information provided by the *Contractor*
- the Prices are reduced.
- 63.5B Notwithstanding any other provision of this contract there is no increase to the Prices in respect of a compensation event under clauses 60.1(2B), 60.1(5A), 60.1(9), 60.1(11), 60.1(15), 60.1(19) or 60.1(20).
- 63.5C If the effect of an instruction to correct a mistake in the Price List is to reduce the total of the Prices had the Prices been calculated in accordance with the corrected Price List the Prices are reduced accordingly where such mistake is contained in or caused by information provided by the *Contractor*.
- 63.6 A delay to the Completion Date is assessed as the length of time that, due to the compensation event, Completion is forecast to be delayed.
- 63.6A A delay to a Key Date is assessed as the length of time that, due to the compensation event, the planned date when the Condition stated for a Key Date will be met is forecast to be delayed.

63.6B A delay to the Target Commissioning Date is assessed as the length of time that, due to a compensation event, the planned Target Commissioning Date is forecast to be delayed. Provided always that any delay is only assessed as giving rise to a change in the Target Commissioning Date, Completion Date or a Key Date if and to the extent

- that the compensation event (either on its own or with any other compensation event) is the sole, principal or dominant cause of the delay, and
- there is sufficient evidence to demonstrate that the compensation event has caused or (in the case of future delay) will cause delay to the Target Commissioning Date, Completion Date or a Key Date.

For the avoidance of any doubt, the *Client* may assess and fix an earlier Target Commissioning Date, Completion Date or Key Date if the effect of the compensation event is to reduce the time required for achieving Commissioning, Completion or meeting a Key Date.

63.7 An assessment of the effect of a compensation event made using Defined Cost

- includes reasonable and proportionate risk allowances for cost and time for matters which have a significant chance of occurring and are not compensation events and
- is based upon the assumptions that
 - the *Contractor* reacts competently and promptly to the event and
 - any additional Defined Cost and time due to the event are reasonably incurred.

Where the *Client* decides that the *Contractor* has failed to act in accordance with the assumptions in this clause the failure is taken into account when making the assessment.

63.8 A compensation event which is an instruction to change the Scope in order to resolve an ambiguity or inconsistency which (in accordance with sub-clause 19.1) is a compensation event is assessed as if the Prices, the Target Commissioning Date, and the Completion Date and the Key Dates were for the interpretation most favourable to the *Contractor*.

63.8A If a change to the Scope makes the description of the Condition for a Key Date incorrect, the *Client* corrects the description. This correction is taken into account in assessing the compensation event for the change to the Scope.

63.9 Assessments for changed Prices for compensation events are in the form of changes to the Price List.

63.10 If

- the *Client* has accepted a *Contractor's* quotation,
- a *Contractor's* quotation is treated as accepted or
- the *Client* has notified the *Contractor* of a *Client's* own assessment

for a compensation event, the assessment of that compensation event is not revised except as stated in these *conditions of contract*.

7. TITLE

Objects and materials within the site

70

- 70.1 The *Contractor* has no title to an object of value or of historical or other interest within the *site*. The *Contractor* does not move such an object unless instructed to do so by the *Client*.
- 70.2 The *Contractor* has **no** title to materials from excavation and demolition unless the Scope states otherwise.
- 70.3 No payment is made to the *Contractor* on account of Plant and Materials which are outside the *site* (including where Plant and Materials are located in the *Contractor's* stores or logistics compounds used in the provision of the *works* relating to the relevant Works Instruction) unless
- the *Contractor* has provided a vesting agreement in the form contained in Schedule 33 of the TTC Contract duly executed by the *Contractor* and relevant Subcontractor,
 - (if applicable) the *Contractor* has provided a secondary vesting agreement in the form contained in Schedule 33 of the TTC Contract duly executed by the relevant Subcontractor and relevant Indirect Subcontractor and
 - immediately on payment and without any further act being necessary title passes to the *Client* and the *Contractor* ensures that the Plant and Materials are clearly tagged, identified as the *Client's* and set aside for the *Client*.
- Risk in such Plant and Materials does not pass on payment.
- 70.4 Whatever title the *Contractor* has to Plant and Materials passes to the *Client* if they have been brought within the *site* or the *Contractor's* stores or logistics compounds used in the provision of the *works* relating to the relevant Works Instruction (where such stores or compounds do not form part of the *site*). The title to Plant and Materials passes back to the *Contractor* if they are removed from the *site* with the *Client's* permission.
- 70.5 The *Client* marks NEC Equipment, Plant and Materials which are outside the *site* if
- the contract identifies them for payment,
 - the *Contractor* has prepared them for marking as the Scope requires and
 - a vesting agreement has been provided in accordance with this contract in respect of such NEC Equipment, Plant and Materials.
- 70.6 The *Contractor* removes NEC Equipment from the *site* when it is no longer needed unless the *Client* allows it to be left in the *works*.
- 70.7 Notwithstanding any other provision of this contract, upon title in any Plant and Materials which are outside the *site* (including where Plant and Materials are located in the *Contractor's* stores or logistics compounds used in the provision of the *works* relating to the relevant Works Instruction) passing to the *Client* the *Contractor* will, in respect of such Plant and Materials:
- provide a vesting agreement in the form contained in Schedule 33 of the TTC Contract duly executed by the *Contractor* and relevant Subcontractor,
 - (if applicable) provide a secondary vesting agreement in the form contained in Schedule 33 of the TTC Contract duly executed by the relevant Subcontractor and relevant Indirect Subcontractor.

8. LIABILITIES AND INSURANCE

Client's liabilities

80

80.1 The following are *Client's* liabilities.

- Claims and proceedings from ~~e~~Others and compensation and costs payable to ~~e~~Others which are due to
 - use or occupation of the *site* by the *works* or for the purpose of the *works* which is the unavoidable result of the *works*, or
 - negligence, breach of statutory duty or interference with any legal right by the *Client* or by any person employed by or contracted to it except the *Contractor*.
- A fault of the *Client* or any person employed by or contracted to it, except the *Contractor*.
- A fault in the design of the *works* for which the *Client* is responsible under this contract. ~~contained in~~
 - ~~— the Scope or~~
 - ~~— an instruction from the Client changing the Scope.~~
- Loss of or damage to Plant and Materials supplied to the *Contractor* by the *Client*, or by ~~e~~Others on the *Client's* behalf, until the *Contractor* has received and accepted them.
- Loss of or damage to the *works*, Plant and Materials due to
 - war, civil war, rebellion, revolution, insurrection, military or usurped power,
 - strikes, riots and civil commotion not confined to the *Contractor's* employees or
 - radioactive contamination.
- ~~Loss of or damage to the works after Completion except loss or damage occurring before the issue of the Defects Certificate which is due to~~
 - ~~— a Defect which existed at Completion,~~
 - ~~— an event occurring before Completion which was not itself a Client's liability or~~
 - ~~— the activities of the Contractor on the site after Completion.~~
- Loss of or damage to the *Client's* property, other than the *works*, unless the loss or damage arises from or in connection with the *Contractor* Providing the Works.
- ~~Loss of or wear and damage to the part of the works certified Commissioned, except loss, wear or damage occurring before the issue of the Defects Certificate which is due to~~
 - ~~— a Defect which existed at the date on which the works were certified Commissioned,~~
 - ~~— an event occurring before the date on which the works were certified Commissioned which was not itself a Client's liability or~~
 - ~~— the activities of the Contractor on the site after the date on which the works were certified Commissioned.~~

Contractor's liabilities

81

81.1 The following are *Contractor's* liabilities unless they are stated as being *Client's* liabilities.

- Claims and proceedings from ~~e~~Others and compensation and costs payable to ~~e~~Others which arise from or in connection with the *Contractor* Providing the Works.
- Loss of or damage to the *works*, Plant and Materials and NEC Equipment.
- Loss of or damage to the *Client's* property (including property belonging to the *Client*, Others or for which the *Client* (or a member of the TfL Group or any other Service

Recipient) is responsible), other than the works, which arises from or in connection with the Contractor Providing the Works.

- Death or bodily injury to the employees of the Contractor.

Recovery of costs

82

- 82.1 ~~Any cost which the Client has paid or will pay as a result of an event for which the Contractor is liable is paid by the Contractor.~~ Subject to clause 21 (Liability) in the TTC Contract, the Contractor is responsible for and indemnifies the Client, its employees and agents against all Losses incurred in respect of
- death or injury to any person,
 - loss or damage to property (including property belonging to the Client, Others or for which the Client (or a member of the TfL Group or any other Service Recipient) is responsible),
 - any other loss damage cost or expense including but not limited to that incurred or suffered by the Client due to losses arising under its contracts with Others (but only to the extent that copies (or relevant extracts) have been provided by the Client to the Contractor in connection with any Works Instruction), which arise out of or in the course of or by reason of the Contractor's performance, non-performance or part performance of this contract and
 - any breach of statutory duty
- to the extent that such Losses are due to any negligence, breach of contract, breach of statutory duty, error, act, omission, or default by the Contractor, its employees, Subcontractors, Indirect Subcontractors or agents or due to matters, circumstances or events which are the Contractor's liabilities.
- 82.2 ~~Any cost which the Contractor has paid or will pay as a result of an event for which the Client is liable is paid by the Client.~~ The Contractor's indemnity under sub-clause 82.1 remains in force for the duration of this contract and continues to survive the expiry or termination of the Contractor's appointment under this contract and/or the expiry or termination of this contract. Without prejudice to the survival of any other clauses or schedules, the clauses or schedules of this contract necessary to give effect to the Contractor's indemnity under clause 82.1 also survive expiry or termination of the Contractor's appointment under this contract and/or the expiry or termination of this contract.
- 82.3 ~~The right of a Party to recover these costs is reduced if an event for which it was liable contributed to the costs. The reduction is in proportion to the extent that the event for which that Party is liable contributed, taking into account each Party's responsibilities under the contract. The Contractor is not responsible for and does not indemnify the Client for Losses to the extent that such Losses are caused by the negligence of the Client, its employees or agents.~~
- 82.4 ~~For any one event, the liability of the Contractor to the Client for loss of or damage to the Client's property is limited to the amount stated in the Contract Data. The Contractor is not liable to the Client for the Client's indirect or consequential loss except as provided for in these conditions of contract. Exclusion or limitation of liability applies in contract, tort or delict and otherwise and to the maximum extent permitted in law. Clause 21 (Liability) of the TTC Contract applies.~~

-
- 82.5 Until the works have been Commissioned and unless otherwise instructed by the Client, the Contractor promptly replaces loss of and repairs damage to the works, Plant and Materials and (when required) undertakes the removal and disposal of debris. The Client in its sole and absolute discretion is entitled to decide not to replace and/or repair any loss and/or damage to the works, Plant and Materials.

Without affecting any of the Contractor's obligations in relation to Maintenance of Installed Equipment under the TTC Contract, after the works have been Commissioned the terms of the TTC Contract and Schedule 3 apply to replacing and repairing loss of or damage to the works and Plant and Materials.

Insurance cover

83

- 83.1 ~~The Client provides the insurances which the Client is to provide as stated in the Contract Data.~~ The Parties comply with clause 22 (Insurance) of the TTC Contract.
- 83.2 ~~The Contractor provides the insurances stated in the Insurance Table except any-~~

insurance which the *Client* is to provide as stated in the Contract Data.

- 83.3 The insurances in the Insurance Table are in the joint names of the Parties except the fourth insurance stated. The insurances provide cover for events which are the *Contractor's* liability from the *starting date* until the Defects Certificate has been issued or termination.

INSURANCE TABLE	
INSURANCE AGAINST	MINIMUM AMOUNT OF COVER
Loss of or damage to the <i>works</i> , Plant and Materials	The replacement cost
Loss of or damage to Equipment	The replacement cost
Loss of or damage to property (except the <i>works</i> , Plant and Materials and Equipment) and liability for bodily injury to or death of a person (not an employee of the <i>Contractor</i>) arising from or in connection with the <i>Contractor</i> Providing the Works	The amount stated in the Contract Data for any one event with cross liability so that the insurance applies to the Parties separately
Death of or bodily injury to employees of the <i>Contractor</i> arising out of and in the course of their employment in connection with the contract	The greater of the amount required by the applicable law and the amount stated in the Contract Data for any one event

9. TERMINATION AND RESOLVING DISPUTES

Termination and reasons for termination

90

- 90.1 A Party may terminate the *Contractor's* obligation to Provide the Works for a reason stated in these *conditions of contract* by notifying the other Party and giving details of the reason for terminating. After a notification to terminate has been issued, the *Contractor* does no further work necessary to Provide the Works.
- 90.2 Either Party may terminate if the other Party is subject to an *Insolvency Event* ~~has become insolvent or its equivalent~~ (Reason 1).
- 90.3 The *Client* may terminate if the *Client* has notified the *Contractor* that the *Contractor* has not stopped one of the following defaults within two weeks of the date when the *Client* notified the *Contractor* of the default.
- Substantially failed to comply with the contract (Reason 2).
 - ~~Appointed a Key Subcontractor before the *Client* has accepted the Subcontractor (Reason 2A).~~
 - Substantially hindered the *Client* or *Others*. (Reason 3).
 - Substantially broken a health or safety regulation (Reason 4).
- The *Client* may also terminate if it notifies the *Contractor* that it has defaulted in one of the ways listed at Reason 2 and/or 2A on two occasions within a period of eight (8) weeks whether or not the *Contractor* has remedied the default within two (2) weeks of the second notification by the *Client*.
- 90.4 ~~The *Contractor* may terminate if~~
- Save when the *Client* has complied with clause 51.6, the *Contractor* may terminate if the *Client* has not paid an amount certified by the *Client* within 13 weeks of the date of the relevant certificate and the *Client* does not remedy that non-payment within a further 5 weeks of receipt of a written notice issued by the *Contractor* after expiry of the 13 week period ~~the *Client* has not paid an amount due under the contract within thirteen weeks of the assessment day which followed receipt of the *Contractor's* application for it~~ (Reason 5) or
- 90.4A ~~if the *Client* has instructed the *Contractor* to stop or not to start any substantial work or all work for a reason which is not the *Contractor's* fault and an instruction allowing the work to re-start or start or removing work from the Scope has not been given within eight weeks (Reason 6).~~
- the *Client* may terminate if the instruction was due to a default by the *Contractor* or a reason related to the Coronavirus Pandemic (Reason 6A),
 - providing the *Contractor* has given written notification to the *Client* of an intention to terminate at least twelve (12) weeks prior to such termination and no instruction allowing the works to restart or start or removing the work from the Scope has been given within that period, the *Contractor* may terminate if the instruction was due to a default by the *Client* (Reason 6B) and
 - providing written notification of an intention to terminate is given to the other Party at least twelve (12) weeks prior to such termination and no instruction allowing the works to restart or start or removing the work from the Scope has been given within that period, either Party may terminate if the instruction was due to any other reason other than a reason related to the Coronavirus Pandemic (Reason 6C).
- 90.5 The *Client* may terminate if an event occurs which
- stops the *Contractor* completing the works or
 - stops the *Contractor* completing the works by the Completion Date and is forecast to delay Completion by more than thirteen weeks,
- and which
- neither Party could prevent,
 - an experienced contractor would have judged, at the ~~Contract d~~Date of the ~~*Contractor's* Offer~~, to have such a small chance of occurring that it would have been unreasonable to have allowed for it (Reason 7).

- 90.6 ~~The Client may terminate if the Contractor does a Corrupt Act, unless it was done by a subcontractor or supplier and the Contractor~~
- ~~• was not and should not have been aware of the Corrupt Act or~~
 - ~~• informed the Client of the Corrupt Act and took action to stop it as soon as the Contractor became aware of it (Reason 8). Not used.~~
- 90.7 The Client may terminate for any other reason (Reason 9).
- 90.8 The Client may terminate if
- any circumstances arise which entitle the Client to terminate the TTC Contract, save that the Client is not entitled to terminate the Contractor's obligation to Provide the Works pursuant to this clause by reason of clause 32.4.1 of the TTC Contract but for the avoidance of doubt this proviso does not limit or restrict the Client's right to terminate the Contractor's obligation to Provide the Works for Reason 9 under clause 90.7 (Reason 10) or
 - any cap on the Contractor's liability pursuant to clause 21 (Liability) of the TTC Contract has been or is reasonably likely to be exceeded, unless the Parties have agreed to extend such cap (acting reasonably) (Reason 11).
- 90.9 The Client may terminate if
- this contract has been subject to a substantial modification which would have required a new procurement procedure in accordance with regulation 72 of the Public Contract Regulations 2015 where the modification is due to a default by the Contractor (Reason 12) or where the modification is due to any other reason (Reason 13) or
 - at the Contract Date the Contractor has been in one of the situations referred to in regulation 57(1) of the Public Contract Regulations 2015, including as a result of the application of regulation 57(2) of the Public Contract Regulations 2015, and should therefore have been excluded from the procurement procedure (Reason 14).

Procedures on termination	91	
	91.1	On termination, the Client may complete the works and may use any Plant and Materials to which it has title. The Contractor leaves the site and removes the Equipment. The Contractor makes available to the Client within seven (7) days all information prepared in relation to the works in either electronic or documentary form including all drawings, specifications, reports and any other information held in an agreed format.
	91.1	The Client may instruct the Contractor to assign the benefit of and/or enter into a novation of (in such format as the Client may reasonably require) any subcontract or other contract related to performance of the contract to the Client.
	91.2	The Client may use any NEC Equipment to which the Contractor has title to complete the works. The Contractor promptly removes the NEC Equipment from site when the Client informs the Contractor that the Client no longer requires it to complete the works.
Payment on termination	92	
	92.1	The amount due on termination includes <ul style="list-style-type: none"> • an amount due assessed pursuant to sub-clause 50.3 but excluding any amount for Plant and Materials as for normal payments, • an amount assessed under sub-clause 92.1A for Plant and Materials properly incorporated into the works and to which the Client has title, • the cost of Plant and Materials provided by the Contractor which are on the site or of which the Contractor has to accept delivery and • any amounts retained by the Client.
	92.1A	The amount due on termination for Plant and Materials properly incorporated into the works is assessed

- using the appropriate rates and lump sums in the Price List,
- to the extent that there is no appropriate rate or lump sum in the Price List by using other appropriate rates and lump sums in the Schedule of Capital Works Rates,
- to the extent that there is no appropriate rate or lump sum in the Schedule of Capital Works Rates, by using the rates or lump sums in the Schedule of Capital Works Rates for plant and materials of a similar character to the Plant and Materials,
- to the extent that there is no rate or lump sum in the Schedule of Capital Works Rates for plant and materials of a similar character to the Plant and Materials, using Defined Cost for Plant and Materials.

- 92.2 If the *Client* terminates for Reason 1, 2, 3, 4, ~~or 8~~, 10, 11, 12, ~~or 14~~ the amount due on termination also includes a deduction of the forecast additional cost to the *Client* of completing the works.
- 92.3 ~~If the Contractor terminates for Reason 1, 5 or 6 or if the Client terminates for Reason 9, the amount due on termination also includes 5% of any excess of a forecast of the amount due at Completion had there been no termination over the amount due on termination assessed as for normal payments. Not used~~
- 92.4 Within thirteen weeks of termination, the *Client* assesses the final amount due. The final payment is the amount due on termination less the total of previous payments. The *Client* gives the *Contractor* details of the assessment. Payment is made within three weeks of the *Client's* assessment.

Dispute resolution

93

- 93.1 ~~A dispute arising under or in connection with the contract is referred to and decided by the Adjudicator. A Party does not refer a dispute to the Adjudicator that is the same, or substantially the same, as one that has already been referred to the Adjudicator.~~

The Parties follow the procedure set out in Clause 74 (Dispute Resolution) of the TTC Contract for the avoidance and resolution of any Dispute arising under or in connection with this contract.

The Adjudicator

- 93.2 ~~Not used.~~

- (1) ~~The Parties appoint the Adjudicator under the NEC Dispute Resolution Service Contract current at the starting date. The Adjudicator acts impartially and decides the dispute as an independent adjudicator and not as an arbitrator.~~
- (2) ~~If the Adjudicator is not identified in the Contract Data or if the Adjudicator resigns or is unable to act, the Parties choose a new adjudicator jointly. If the Parties have not chosen an adjudicator, either Party may ask the Adjudicator nominating body to choose one. The Adjudicator nominating body chooses an adjudicator within four days of the request. The chosen adjudicator becomes the Adjudicator.~~
- (3) ~~The Adjudicator and the Adjudicator's employees and agents are not liable to the Parties for any action or failure to take action in an adjudication unless the action or failure to take action was in bad faith.~~

The adjudication

- 93.3 ~~Not used.~~

- (1) ~~A Party may refer a dispute to the Adjudicator if~~
- ~~the Party notified the other Party of the dispute within four weeks of becoming aware of it and~~
 - ~~between two and four further weeks have passed since the notification.~~

~~If a disputed matter is not notified and referred within the times set out in the contract, neither Party may subsequently refer it to the Adjudicator or the tribunal.~~

- (2) ~~The Party referring the dispute to the Adjudicator includes with its referral information to be considered by the Adjudicator. Any more information from a Party to be considered by the Adjudicator is provided within two weeks of the referral. This period may be~~

~~extended if the *Adjudicator* and the Parties agree.~~

~~(3) The *Adjudicator* may~~

- ~~• review and revise any action or inaction of the *Client* related to the dispute and alter a matter which has been treated as accepted or correct;~~
- ~~• take the initiative in ascertaining the facts and the law related to the dispute;~~
- ~~• instruct a Party to provide further information related to the dispute within a stated time and~~
- ~~• instruct a Party to take any other action which is considered necessary for the *Adjudicator* to reach a decision and to do so within a stated time.~~

~~(4) A communication between a Party and the *Adjudicator* is communicated to the other Party at the same time.~~

~~(5) If the *Adjudicator's* decision includes assessment of additional cost or delay caused to the *Contractor*, the assessment is made in the same way as a compensation event is assessed.~~

~~(6) The *Adjudicator* decides the dispute and informs the Parties of the decision and reasons within four weeks of the referral. This period may be extended by up to two weeks with the consent of the referring Party, or by any period agreed by the Parties.~~

~~If the *Adjudicator* does not inform the Parties of the decision within the time allowed, either Party may act as if the *Adjudicator* has resigned.~~

~~(7) Unless and until the *Adjudicator* has informed the Parties of the decision, the Parties proceed as if the matter disputed was not disputed.~~

~~(8) The *Adjudicator's* decision is binding on the Parties unless and until revised by the *tribunal* and is enforceable as a matter of contractual obligation between the Parties and not as an arbitral award. The *Adjudicator's* decision is final and binding if neither Party has notified the other within the times required by the contract that it intends to refer the matter to the *tribunal*.~~

The *tribunal*

93.4 **Not used.**

~~A Party may refer a dispute to the *tribunal* if~~

- ~~• the Party is dissatisfied with the *Adjudicator's* decision or~~
- ~~• the *Adjudicator* did not inform the Parties of a decision within the time allowed and a new *adjudicator* has not been chosen;~~

~~except that neither Party may refer a dispute to the *tribunal* unless they have notified the other Party of their intention to do so not more than four weeks after~~

- ~~• the *Adjudicator* informs the Parties of the decision, or, if the *Adjudicator* did not inform the Parties of the decision within the time allowed,~~

~~the end of the time allowed for the *Adjudicator's* decision.~~

Ineffectiveness and Cessation

94

94.1 In the event that a court makes a Declaration of Ineffectiveness in relation to this contract, the *Client* promptly notifies the *Contractor*. The Parties agree that the provisions of clause 94 apply as from the time when the Declaration of Ineffectiveness is made. Where there is any conflict or discrepancy between the provisions of clauses 90 to 93 and this clause 94 or the Cessation Plan, the provisions of this clause 94 and the Cessation Plan prevail.

94.2 The Declaration of Ineffectiveness does not prejudice or affect any right, liability or remedy which has accrued or accrues to either Party prior to or after such Declaration of Ineffectiveness in respect of the period prior to the Declaration of Ineffectiveness, save as otherwise expressly provided to the contrary in this clause 94.

94.3 During any court proceedings seeking a Declaration of Ineffectiveness in respect of this contract, the *Client* may require the *Contractor* to prepare a Cessation Plan in accordance with this clause 94.3 by issuing a notice in writing. As from the date of receipt by the *Contractor* of the notification from the *Client*, the Parties (acting reasonably and in good faith) agree or, in the absence of such agreement, the *Client* reasonably determines an appropriate Cessation Plan with the object of achieving

-
- an orderly and efficient cessation of the *works* or (at the *Client's* request) a transition of the *works* to the *Client* or such other entity as the *Client* may specify and
 - minimal disruption or inconvenience to the *Client* or to road users, public passenger transport services or facilities, in accordance with the provisions of this clause 94 and to give effect to the terms of the Declaration of Ineffectiveness,
-

in accordance with the provisions of clauses 94.2 to 94.6 (inclusive) and which the *Contractor* and *Client* agree has effect in the event that a Declaration of Ineffectiveness is made in relation to this contract.

94.4 Where there is any conflict or discrepancy between the provisions of clauses 90 to 93 and/or any other provision of this contract and clauses 94.2 to 94.7 (inclusive) or the Cessation Plan, the provisions of these clauses 94.2 to 94.7 (inclusive) and the Cessation Plan prevail.

94.5 The *Contractor* and the *Client* comply with their respective obligations under the Cessation Plan (as agreed by the *Contractor* and the *Client* or, where agreement cannot be reached, as reasonably determined by the *Client*) in the event that a Declaration of Ineffectiveness is made in respect of this contract.

94.6 The *Client* pays the *Contractor's* reasonable costs in assisting the *Client* in preparing, agreeing and complying with the Cessation Plan. Such costs are based on any comparable costs or charges agreed as part of this contract or as otherwise reasonably determined by the *Client*. Provided that the *Client* is not liable to the *Contractor* for any loss of profit, revenue, goodwill or loss of opportunity as a result of the early termination of the *Contractor's* obligation to Provide the Works or this contract pursuant to this clause 94.

94.7 The provisions of this clause 94 (and applicable definitions) survive any termination of this contract following a Declaration of Ineffectiveness.

10. ADDITIONAL CONDITIONS OF CONTRACT

Collateral Warranties

100

100.1 Where it is stated in the Build Brief that this clause 100 applies the *Contractor*, within fourteen (14) days of the *Client's* request, provides to the *Client* collateral warranties executed as deeds in the form attached at Schedule 30 in favour of

- any member of the TfL Group notified to the *Contractor* by the *Client*,
- upon execution of a novation agreement pursuant to clause 29.2, the *Client*,
- any person or institution providing finance in connection with the *works*,
- purchasers or tenants of the whole or any part of the *works*,
- any other person having or acquiring an interest in the whole or any part of the *works* or any property where the *works* are performed.

100.2 The *Contractor* procures that each Key Subcontractor duly executes and delivers to the *Client* deeds of warranty in accordance with clause 25 (Subcontracting and Change of Ownership) of the TTC Contract.

100.3 The *Client* specifies at the appropriate time which form of warranty at Schedule 30 is appropriate for each particular recipient.

Without prejudice to the obligations of the *Contractor* to the *Client* and to the rights of the *Client*,

- in the case of warranties requested under clause 100.1, the *Client* is not obliged to make any payment to the *Contractor* if (and for so long as) the *Contractor* fails within the time limit specified in clause 100.1 above to deliver the requested warranty or warranties duly executed and/or
- in the case of warranties requested under clause 100.2, one hundred per cent (100%) of the amount due relative to the work and/or services carried out and/or goods supplied by the relevant Key Subcontractor is retained in all assessments of the amount due until the *Contractor* has procured execution and delivery such deed(s) of warranty to the *Client*,

provided always that the *Client* notifies the *Contractor* of the identity of the relevant beneficiaries.

Compliance with Policies

102

102.1 The *Contractor* notifies its personnel, Subcontractors and Indirect Subcontractors and the *Client* of any health and safety hazards that exist or that may arise in connection with the provision of the *works* of which the *Contractor* is aware or ought reasonably to be aware.

102.2 The *Contractor* undertakes that all its personnel and those of its Subcontractors and Indirect Subcontractors comply with all of the *Client's* policies and standards that are relevant to the provision of the *works*, including those relating to safety, security, business ethics, responsible procurement, work place harassment, drugs and alcohol and illegal substances and any other on site regulations specified by the *Client* for personnel working at Client Premises or accessing the *Client's* computer systems. The *Client* provides the *Contractor* with copies of such policies on request.

102.3 The *Contractor* shall as it Provides the Works (while taking into account best available techniques not entailing excessive cost and the best practicable means of preventing, or counteracting the effects of any noise or vibration) have appropriate regard (insofar as the *Contractor's* activities may impact on the environment) to the need to

- preserve and protect the environment and to the need to avoid, remedy and mitigate any adverse effects on the environment;
- enhance the environment and have regard to the desirability of achieving sustainable development;
- conserve and safeguard flora, fauna and geological or physiological features of special interest; and
- sustain the potential of natural and physical resources and the need to safeguard the life-supporting capacity of air, water, soil and ecosystems.

**Responsibility for
Statutory
Undertakers and
special
requirements of
statutory and other
bodies**

103

103.1 Without prejudice to the generality of Paragraph 1 of Schedule 20 (the Special Conditions) of the TTC Contract and to the extent of any conflict the following provisions of this clause 103 apply.

103.2 The *Contractor* on behalf of the *Client*

- identifies those measures which need to be taken as a consequence of or in order to facilitate the works with any Statutory Undertaker;
- agrees a specification for the measures which need to be taken and determines by whom those measures are to be taken with the Statutory Undertaker;
- liaises with the *Client* regarding the orders which need to be placed by the *Client* with Statutory Undertakers in connection with those measures which have been identified or any other measures or requirements which become necessary as a consequence of or to facilitate the works;
- manages delivery of any measures to be undertaken by the Statutory Undertakers and co-ordinates with all Statutory Undertakers the taking of those measures and the execution of the works,

and the *Client* as the *Contractor's* principal pays the Statutory Undertaker's allowable costs in respect of these measures.

The Contractor

- is responsible (at no cost to the *Client*) for ensuring the Statutory Undertaker's compliance with any agreement or arrangement entered into under this clause 103;
- indemnifies and keeps indemnified the *Client* against
 - all claims demands actions and proceedings,
 - costs charges and expenses arising therefrom,
 - loss or damage to any property,
 - increased costs of working or

- business interruption

which may be brought or made by any Statutory Undertaker in connection with such an agreement including but not limited to the negligence or default of the *Contractor*.

103.3 The *Contractor* allows in any programme required under this contract, any notice period required by a Statutory Undertaker in relation to any matter which is the subject of clause 103.2 and for all periods required in the taking of measures which are the subject of clause 103.2.

103.4 The *Contractor*

- complies at its own cost with all special requirements of Statutory Undertakers and other bodies as set out in the Scope,
- is not excused from the performance of any its obligations under the contract and is not entitled to any allowance of time or to any additional remuneration or compensation in consequence of the requirement to comply with this clause 103.4,
- acknowledges and agrees that the *Client* does not warrant and has not warranted the accuracy or completeness of any data or information which has been or will be provided to the *Contractor* by the *Client* or Others relating to the location, size, nature or condition of services in, on, over or under the *site* or in the vicinity of the *site* ,
- further acknowledges and agrees that it neither has nor will have any claim of any kind whatsoever against the *Client* founded upon the accuracy or completeness of any such data or information.

Use of Existing Services

104

104.1 The *Client* does not warrant the suitability or availability of installations and services for the *Contractor's* use and the *Contractor* shall take measures to supplement them as necessary.

Considerate Constructor Scheme

105

105.1 If required by the Scope the *Contractor*

- registers the *site* under the Considerate Constructor Scheme, and
- complies with the Considerate Constructor Scheme's Code of Considerate Practice when it Provides the Works.

Modern Slavery Act

106

106.1 For the purposes of this clause unless the context indicates otherwise, the following expressions have the following meanings:

Anti-Slavery Policy means a policy implemented by the *Contractor* which sets out the procedures the *Contractor* has put in place to comply with section 54 of the Modern Slavery Act 2015 and any guidance issued by the Secretary of State under section 54 of that Act.

Certified Ethical Labour Provider means a labour provider who meets the qualifying requirements of a Certified Ethical Labour Scheme and who is verified and/or certified (as the case may be), at or within six months (or such longer period as the *Client* may agree, acting reasonably) of the *starting date* and thereafter as required pursuant to the terms of the relevant Certified Ethical Labour Scheme in order to maintain or renew the validity of the verification and/or certification (as the case may be); by a competent and independent third party as meeting such qualifying requirements.

Certified Ethical Labour Scheme means any of the following

- the BRE Ethical Labour Sourcing standard BES 6002 ("**BRE Standard**"),
- the Clearview Global Labour Provider Certification Scheme ("**Clearview Scheme**"), or
- an alternative standard or scheme which, in the reasonable opinion of the *Client*, is an acceptable substitute to the BRE Standard or Clearview Scheme ("**Alternative Labour Scheme**"),

and references to the BRE Standard, Clearview Scheme and Alternative Labour Scheme are to such standard or schemes as updated from time to time:

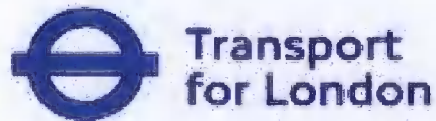
- 106.2 In performing its obligations under this contract, the *Contractor*
- complies with the Anti-Slavery Policy,
 - complies, and procures that its Subcontractors and Indirect Subcontractors comply, with the Modern Slavery Act 2015, and
 - unless otherwise agreed in writing by the *Client* (at the *Client's* sole and absolute discretion), only procures, and ensures that its Subcontractors and Indirect Subcontractors only procure, labour from a Certified Ethical Labour Provider.

Where the *Contractor*, a Subcontractor or Indirect Subcontractor is procuring labour from a Certified Ethical Labour Provider in accordance with the Clearview Scheme (or any Alternative Labour Scheme in respect of which audit reports are prepared), the resulting audit reports shall be made available to the *Client* (at no additional cost) through the Supplier Ethical Data Exchange (Sedex) platform or such other equivalent platform as the *Client* in its sole and absolute discretion may approve.

- 106.3 On each 12 month anniversary of the *starting date*, until the Defects Certificate has been issued, the *Contractor* shall submit a report to the *Client* which confirms that all labour used to Provide the Works has been procured from a Certified Ethical Labour Provider and includes such evidence as the *Client* may reasonably require to evidence compliance.
- 106.4 A failure by the *Contractor* to comply with its obligations under Clause 119.1 to 119.3 constitutes a substantial failure by the *Contractor* to comply with its obligations for the purpose of Clause 91.2 of this contract.
- 106.5 The *Client* may refuse any labourer employed or engaged by the *Contractor*, a Subcontractor or Indirect Subcontractor entry onto any property that is owned, occupied or managed by the *Client* if that labourer has not been procured from a Certified Ethical Labour Provider or if the *Client* has reasonable grounds to suspect that such employee or agent has not been procured from a Certified Ethical Labour Provider. Any losses arising from such refusal of entry shall not constitute a compensation event.

IF THE UNITED KINGDOM HOUSING GRANTS, CONSTRUCTION AND REGENERATION ACT 1996 AS AMENDED BY THE LOCAL DEMOCRACY, ECONOMIC DEVELOPMENT AND CONSTRUCTION ACT 2009 (THE ACT) APPLIES TO THE CONTRACT, THE FOLLOWING ADDITIONAL CONDITIONS APPLY. NOT USED

Definitions	<p>1.1 (1) In this clause, time periods stated in days exclude Christmas Day, Good Friday and bank holidays.</p> <p>(2) Each assessment day is a payment due date. If there is a termination, the payment due date is thirteen weeks after the notice of termination.</p> <p>(3) The final date for payment is three weeks after the payment due date.</p>
Assessing the amount due	<p>1.2 If the Contractor makes an application for payment before a payment due date, the application is the notice of payment specifying the sum that the Contractor considers to be due at the payment due date (the notified sum). The Contractor's application states the basis on which the amount is calculated and includes details of the calculation.</p> <p>1.3 If the Contractor does not make an application for payment before a payment due date, the notified sum is zero or, if an amount is to be paid to the Client, the amount which the Client considers is to be paid. The Client notifies the Contractor of the notified sum.</p> <p>1.4 The following replaces clause 50.5</p> <p>If a Party intends to pay less than the notified sum, it notifies the other Party of its assessment of the amount due not later than seven days (the prescribed period) before the final date for payment. The notification states the basis on which the amount due is calculated and includes details of the calculation. A Party pays the notified sum unless it has notified its intention to pay less than the notified sum.</p>
Compensation event	<p>1.5 If the Contractor exercises its right under the Act to suspend performance, it is a compensation event.</p>
The adjudication	<p>1.6 The following replaces clause 93.3(1).</p> <p>A Party may issue to the other Party a notice of its intention to refer a dispute to adjudication at any time. The Party refers the dispute to the Adjudicator within seven days of the notice.</p> <p>1.7 The Adjudicator may in the decision allocate the Adjudicator's fees and expenses between the Parties.</p> <p>1.8 The Adjudicator may, within five days of giving the decision to the Parties, correct the decision to remove a clerical or typographical error arising by accident or omission.</p> <p>1.9 If the Adjudicator's decision changes an amount notified as due, payment of the sum decided by the Adjudicator is due not later than seven days from the date of the decision or the final date for payment of the notified amount, whichever is the later.</p>



TRAFFIC TECHNOLOGY CONTRACT (TTC)

LOT 3 (THREE) – SOUTH

Schedule 6B

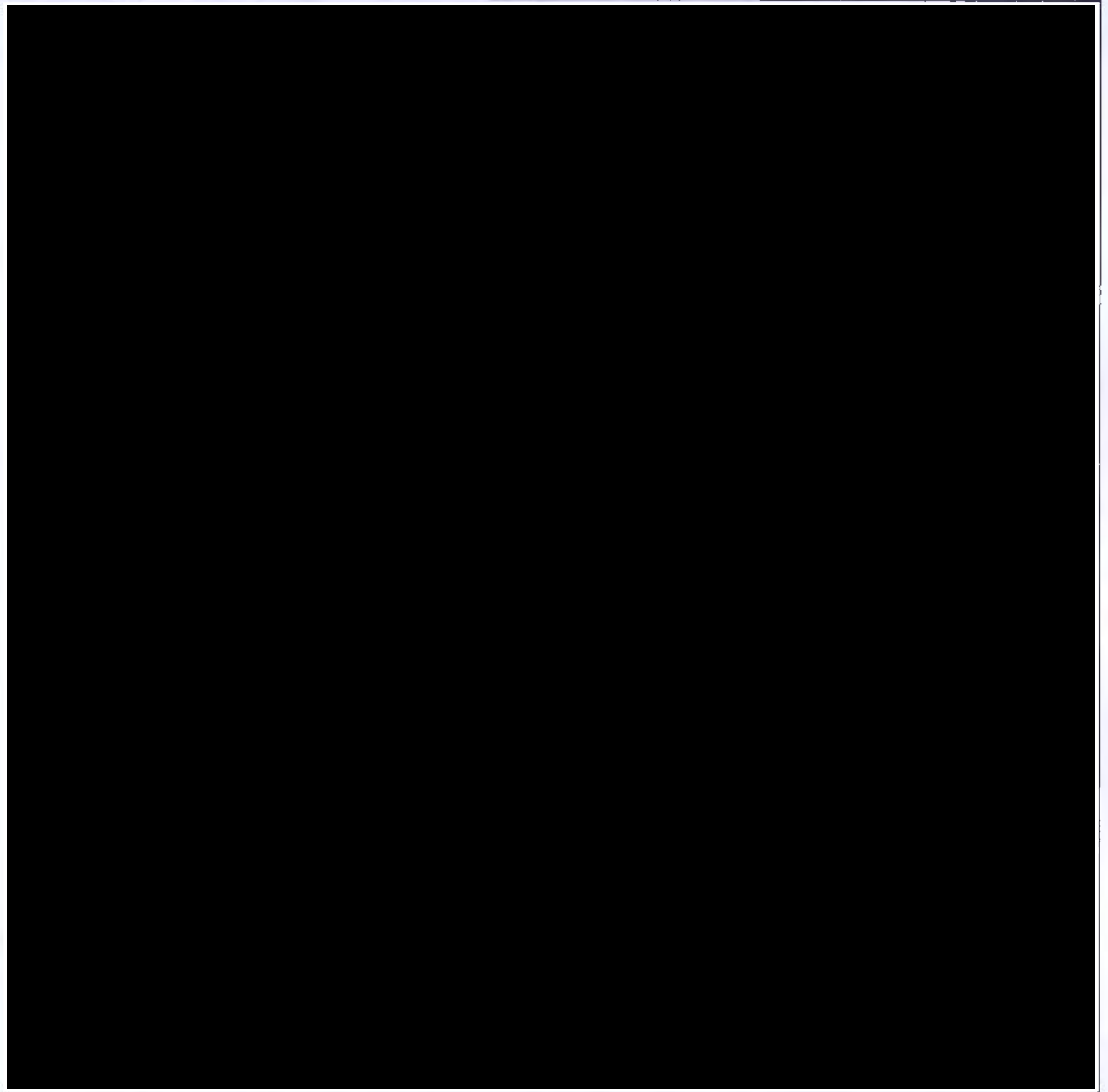
Schedule of Capital Works Rates

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Schedule 6, Part B – Schedule of Capital Works Rates - Preamble

ADDITIONAL INFORMATION



SECTION 1, PART 1 - NON-CIVIL ENGINEERING SECTION	
SoR HEADINGS	DESCRIPTION OF WORKS INCLUDED
Supply & Install	<p>The supply and Installation of Equipment as listed in Section 1 of the SoR, shall include but not be limited to any setup required for the Equipment to perform its function as per the requirements of the Contract. This is inclusive of any setup, FAT, LAT, SAT or any other Commissioning activities required.</p> <p><u>Please note civil engineering items to facilitate the supply and Installation of PART 1 item shall be charged using the corresponding PART 2 unit rates items 195 - 208.</u></p>
Remove & Re-install	<p>Unit rates to 'Remove and Re-install' Equipment itemised in Section 1 of the SoR shall include but not be limited to any setup required for the Equipment to perform its function as per the requirements of the Contract. This is inclusive of any setup, FAT, LAT, SAT or any other Commissioning activities required.</p> <p><u>Please note civil engineering items to facilitate the supply and Installation of PART 1 item shall be charged using the corresponding PART 2 unit rates items 187 - 194.</u></p>
Remove Only	<p>Removal of the Equipment itemised in Section 1 of the SoR. Unless otherwise stated in the Authority Works Instruction, Equipment shall be Authority Spares. This is inclusive of any setup, FAT, LAT, SAT or any other Commissioning activities required.</p> <p><u>Please note either the PART 1 I or PART 2 Remove unit rates can be charged but not both. If the Contractor is the Principal Contractor, then the PART 2 Remove unit rate will be used. If the Contractor is not the Principal Contractor, then the PART 1 Remove unit rate will be used.</u></p>
SoR ITEM NUMBER	DESCRIPTION OF WORKS INCLUDED
1	<p>Supply of / Installation of / removal of a pole mounted signal aspect onto any traffic signal pole, mast arm or shared lamp column.</p> <p>(i) any signal head.</p> <p>(ii) tram signal head unit.</p> <p>Signal heads include red, amber, green, red pedal cycle, amber pedal cycle, green pedal cycle, far-side red pedestrian figure, far-side green pedestrian figure, far-side red equestrian figure, far-side green equestrian figure, far-side green pedal cycle and green arrow.</p>

	<p>Power type of LV.</p> <p>This also includes any hoods, visors and cowls as requested in the Works Instruction.</p>
2	<p>Supply of / Installation of / removal of a pedestrian countdown sign onto any traffic signal pole, mast arm or shared lamp column.</p> <p>Power type of LV</p>
3	<p>Supply of / Installation of / removal of a cycle safety mirror onto any traffic signal pole, mast arm or shared lamp column.</p>
4	<p>Supply of / Installation of / removal of a regulatory box sign onto any traffic signal pole, mast arm or shared lamp column.</p> <p>Power Type of LV</p>
5	<p>Supply of / Installation of / removal of bespoke box sign onto any traffic signal pole, mast arm or shared lamp column.</p> <p>Power type of LV</p>
6	<p>Supply of / Installation of / removal of a secret sign onto any traffic signal pole, mast arm or shared lamp column.</p> <p>Power Type of LV</p>
7	<p>Supply of / Installation of / removal of a bespoke secret sign onto any traffic signal pole, mast arm or shared lamp column.</p> <p>Power type of LV</p>
8	<p>Supply of / Installation of / removal of a pole mounted signal aspect onto any traffic signal pole, mast arm or shared lamp column.</p> <p>(i) any signal head.</p> <p>(ii) tram signal head unit.</p> <p>Signal heads include red, amber, green, red pedal cycle, amber pedal cycle, green pedal cycle, far-side red pedestrian figure, far-side green pedestrian figure, far-side red equestrian figure, far-side green equestrian figure, far-side green pedal cycle and green arrow.</p> <p>Power type of ELV.</p> <p>This also includes any hoods, visors and cowls as requested in the Works Instruction.</p>

9	Supply of / Installation of / removal of pedestrian countdown sign onto any traffic signal pole, mast arm or shared lamp column. Power Type of ELV
10	Supply of / Installation of / removal of a box sign onto any traffic signal pole, mast arm or shared lamp column. Power type of ELV
11	Supply of / Installation of / removal of a bespoke box signs onto any traffic signal pole, mast arm or shared lamp column. Power type of ELV
12	Supply of / Installation of / removal of a secret sign onto any traffic signal pole, mast arm or shared lamp column. Power type of ELV
13	Supply of / Installation of / removal of a bespoke secret sign onto any traffic signal pole, mast arm or shared lamp column. Power type of ELV
14	Supply of / Installation of / removal of a low-level 3- aspect signal head onto any traffic signal pole, mast arm or shared lamp column. This includes red pedal cycle, amber pedal cycle and green pedal cycle. Power type of ELV
15	Supply of / Installation of / removal of a low-level 3 aspect signal head with box sign onto any traffic signal pole, mast arm or shared lamp column. Power type of ELV
16	Supply of / Installation of / removal of a full-sized push button (plate) onto any traffic signal pole, mast arm or shared lamp column. This includes full sized push button (2 figure plate), full sized push button (2 figure equestrian plate) and full-sized push button (blank plate).

	If any additional Equipment is required to transform LV power to ELV power for the Installation of this Equipment, this shall be provided as part of this rate.
17	<p>Supply of / Installation of / removal of a nearside push button and light signals onto any traffic signal pole, mast arm or shared lamp column.</p> <p>This includes nearside push button (2-figure), nearside push button (2-equestrian) and nearside push button (2-figure and 2-cycle).</p> <p>If any additional Equipment is required to transform LV power to ELV power for the Installation of this Equipment, this shall be provided as part of this rate.</p>
18	<p>Supply of / Installation of / removal of Equipment of a small push button onto any traffic signal pole, mast arm or shared lamp column.</p> <p>If any additional Equipment is required to transform LV power to ELV power for the Installation of this Equipment, this shall be provided as part of this rate.</p>
19	<p>Supply of / Installation of / removal of a repeater unit onto any traffic signal pole, mast arm or shared lamp column.</p> <p>Power Type of ELV</p>
20	Supply of / Installation of / removal of a 'D' bracket for Works Instructions where previously installed pole mounted signs (Traffic Signals) need to be re-arranged, requiring an additional 'D' Bracket.
21	<p>Supply of / Installation of / removal of any hood or louvre for use with Equipment in Item 1 or Item 8.</p> <p>Item 1 & 8 include hoods as part of the rate so when it comes to hoods Item 21 should only be charged when a change is needed on site post install (i.e. changing a cut away hood to a tunnel hood as it's more suited to site conditions)</p> <p>Louvres are not included as part of Items 1 or 8 so whenever louvres are needed Item 21 can be used in any circumstance.</p>
22	<p>Supply of / Installation of / removal of traffic signal poles</p> <p>This includes:</p> <p>(i) Up to 4.0m</p>

	<p>(ii) 4.01m – 4.75m (iii) Greater than 4.75m</p> <p>Installed into retention sockets as per Works Instruction.</p> <p>This is inclusive of required design activities, such as Foundation Design, which is carried out by the Contractor.</p>
23	<p>Supply of / installation of / removal of traffic signal poles</p> <p>This includes:</p> <p>(i) Up to 4.0m (ii) 4.01m – 4.75m (iii) Greater than 4.75m</p> <p>Installed direct into the ground as per Works Instruction.</p> <p>This is inclusive of required design activities, such as Foundation Design, which is carried out by the Contractor.</p>
24	<p>Price for working at a height above 4.75m (per pole for duration of project). The item price is inclusive of any equipment required to allow safe working at height (e.g. Mobile Elevated Work Platform (MEWP)).</p>
25	<p>Undertake a poles in temporary foundation activity for a pole, where the temporary foundation is supplied by a Third Party.</p> <p>Where there is a Principal Contractor who has the pole in temporary foundation within the Site and therefore undertakes periodic checks of the pole as part of their CDM duties, only rate (i) shall be used.</p> <p>If the above does not apply, in addition to the poles in temporary foundation activity, periodic and electrical testing is required of the Contractor. Therefore, rate (i) and the requisite number of instances of (ii) and (iii) shall be used.</p> <p>(i) undertaking the poles in temporary foundation activity (ii) a visual check of the pole in temporary foundation (to occur every 28 days when the pole is in the temporary foundation). (iii) electrical testing of the pole in temporary foundation (to occur every 3 months when the pole is in the temporary foundation) and the recording of the results in the asset management system</p> <p>This rate shall include the provision of Traffic Management Drawing Plans</p>

	<p>This rate does not include provision of a traffic signal pole if the traffic signal pole in the ground is deemed unsuitable for putting in a temporary foundation.</p> <p>This rate does not include provision of any equipment on the pole that requires replacement as it is deemed unsuitable for putting in a temporary foundation.</p> <p>This rate does not include the equipment which is to be re-installed into the ground at the end of the activity.</p> <p>This rate does encompass any removal and re-installation of any existing equipment during the activity. Therefore, removal rates against items <u>1</u> to <u>21</u> should not be used.</p> <p>If this item does not form part of either Modernisation or Modification Works, then this item can be used in conjunction with Item <u>59</u> to ensure the SLD is kept up to date throughout. If this item is part of a wider project, then the SLD rate shall be encompassed within the project rates</p>
26	<p>Undertake a poles in temporary foundation activity as per where the temporary foundation is supplied by the Contractor.</p> <p>Where there is a Principal Contractor who has the pole in temporary foundation within the Site and therefore undertakes periodic checks of the pole as part of their CDM duties, only rate (i) shall be used.</p> <p>If there is the above does not apply, then in addition to the poles in temporary foundation activity, periodic and electrical testing is required of the Contractor. Therefore, rate (i) and the requisite number of instances of (ii) and (iii) shall be used.</p> <ul style="list-style-type: none"> (i) undertaking the poles in temporary foundation activity (ii) a visual check of the pole in temporary foundation (to occur every 28 days when the pole is in the temporary foundation). (iii) electrical testing of the pole in temporary foundation (to occur every 3 months when the pole is in the temporary foundation) and the recording of the results in the asset management system <p>This rate shall include the provision of Traffic Management Drawing Plans</p> <p>This rate does not include provision of a traffic signal pole if the traffic signal pole in the ground is deemed unsuitable for putting in a temporary foundation.</p>

	<p>This rate does not include provision of any equipment on the pole that requires replacement as it is deemed unsuitable for putting in a temporary foundation.</p> <p>This rate does not include the equipment which is to be re-installed into the ground at the end of the activity.</p> <p>This rate does encompass any removal and re-installation of any existing equipment during the activity. Therefore, removal rates against items <u>1</u> to <u>21</u> should not be used.</p> <p>If this item does not form part of Modernisation or Modification Works, then this item can be used in conjunction with Item <u>59</u> to ensure the SLD is kept up to date throughout. If this item is part of a wider project then the SLD rate shall be encompassed within the project rates.</p>
27	Supply of / Installation of / removal of all electrical termination Equipment to allow Traffic Signals to be Installed on a shared lamp column. This rate is inclusive of, but not limited to, tagging, glanding termination and any special long leads required to fit bespoke columns.
28	Uplift for activities on a shared lamp column which include drilling holes.
29	<p>Supply and Installation of all cables from a traffic signal Controller to Equipment on traffic signal poles.</p> <p>(i) 1 – 8 poles (ii) 9 – 16 poles (iii) More than 16 poles</p> <p>The three price bands are based on the total number of poles on the site and the number of poles which require new cable e.g. A 12-pole site with 4 poles requiring new cable will be priced as 29ii x 4.</p> <p>Inclusive of termination of cabling, including Electrical Design, electrical testing and return of Electrical Test Certificates to the Authority. If the Works Instruction is at a pre-installed traffic control asset, this rate is inclusive of any resealing required. Can be used in conjunction with item <u>54</u></p>
30	<p>Supply of / Installation of / removal of above ground detection in any of the categories listed below onto any traffic signal pole, mast arm or shared lamp column:</p> <p>(i) above ground pedestrian kerbside presence detector; (ii) above ground pedestrian kerbside presence detector (wide);</p>

	<ul style="list-style-type: none"> (iii) above ground pedestrian on-crossing presence detector; (iv) above ground bi-directional dynamic multiple lane detector; (v) above ground bi-directional dynamic single lane detector; (vi) above ground selectable direction dynamic multiple lane detector; (vii) above ground selectable direction dynamic single lane detector; (viii) above ground static detector; or (ix) above ground static detector (extra depth). (x) above ground static multiple lane detector (xi) above ground static multiple lane detector (extra depth) (xii) above ground detector for SCOOT (vehicles). (xiii) above ground detector for SCOOT (pedal cycles) (xiv) above ground detector for adaptive dynamic control system (vehicles) <p>This rate encompasses the completion of a laminated paper detector card.</p>
31	Supply of / Installation of / removal of a pedestrian quantity detector onto any traffic signal pole, mast arm or shared lamp column.
32	<p>Supply of / Installation of / removal below ground detection for the Equipment <u>housed in the traffic signal Controller cabinet</u> in the categories:</p> <ul style="list-style-type: none"> (i) below ground detector for SCOOT (vehicles). (ii) below ground detector for SCOOT (pedal cycles); (iii) below ground detector for adaptive dynamic control system; (iv) below ground detector for speed assessment; or (v) below ground detector for traffic. <p>This shall be a solution <u>which includes wires</u> from the traffic signal Controller to the detection zone.</p> <p>This rate encompasses the completion of a laminated paper detector card and the production of any configuration screenshots.</p>
33	<p>Supply of / Installation of / removal of below ground detection for the Equipment <u>forming the link between the Equipment in the traffic signal Controller cabinet and the Equipment at the detection zone</u> in the categories:</p> <ul style="list-style-type: none"> (i) below ground detector for SCOOT (vehicles). (ii) below ground detector for SCOOT (pedal cycles); (iii) below ground detector for Adaptive dynamic control system; (iv) below ground detector for speed assessment; or (v) below ground detector for traffic.

	<p>This shall be a solution <u>which includes wires</u> from the traffic signal Controller to the detection zone.</p> <p>This rate is per metre.</p> <p>This rate encompasses the completion of a laminated paper detector card and the production of any configuration screenshots.</p> <p>Note: for Maintenance replacement of slot cut cable, use item <u>85</u> instead</p>
34	<p>Supply of / Installation of / removal of below ground detection for the equipment <u>at the detection zone</u> in the categories:</p> <ul style="list-style-type: none"> (i) below ground detector for SCOOT (vehicles). (ii) below ground detector for SCOOT (pedal cycles); (iii) below ground detector for Adaptive dynamic control system; (iv) below ground detector for speed assessment; or (v) below ground detector for traffic. <p>This shall be a solution <u>which includes wires</u> from the traffic signal Controller to the detection zone.</p> <p>This rate encompasses the completion of a laminated paper detector card and the production of any configuration screenshots.</p>
35	<p>Supply of / Installation of / removal of below ground detection for the Equipment <u>housed in the traffic signal Controller cabinet</u> in the categories:</p> <ul style="list-style-type: none"> (i) below ground detector for SCOOT (vehicles). (ii) below ground detector for SCOOT (pedal cycles); (iii) below ground detector for adaptive dynamic control system; (iv) below ground detector for speed assessment; or (v) below ground detector for traffic. <p>This shall be a solution <u>which does not include wires</u> from the traffic signal pole to the detection zone.</p> <p>This rate encompasses the completion of a laminated paper detector card and the production of any configuration screenshots.</p>
36	<p>Supply of / Installation of / removal of below ground detection for the Equipment <u>housed on the traffic signal pole</u> in the categories:</p> <ul style="list-style-type: none"> (i) below ground detector for SCOOT (vehicles). (ii) below ground detector for SCOOT (pedal cycles); (iii) below ground detector for Adaptive dynamic control system; (iv) below ground detector for speed assessment; or

	<p>(v) below ground detector for traffic.</p> <p>This shall be a solution <u>which does not include wires</u> from the traffic signal pole to the detection zone.</p> <p>This rate encompasses the completion of a laminated paper detector card and the production of any configuration screenshots. . This rate encompasses any cabling not covered by Item 29 (such as Cat5e ethernet cable).</p>
37	<p>Supply of / Installation of / removal of below ground detection for the Equipment <u>forming the link between the equipment from the traffic signal pole and the equipment at the detection zone</u> in the categories:</p> <p>Band A - below ground detector for SCOOT (vehicles). Band B - below ground detector for SCOOT (pedal cycles); Band C - below ground detector for adaptive dynamic control system; Band D - below ground detector for speed assessment; or Band E - below ground detector for traffic.</p> <p>This shall be a solution <u>which does not include wires</u> from the traffic signal pole to the detection zone. This shall be a magnetometer technology based solution and so the link is formed by repeaters.</p> <p>This rate is by unit. The unit is per repeater.</p> <p>This rate encompasses the completion of a laminated paper detector card and the production of any configuration screenshots:</p>
38	<p>Supply of / Installation of / removal of below ground detection for the equipment <u>at the detection zone</u> in the categories:</p> <p>(i) below ground detector for SCOOT (vehicles). (ii) below ground detector for SCOOT (pedal cycles); (iii) below ground detector for adaptive dynamic control system; (iv) below ground detector for speed assessment; or (v) below ground detector for traffic.</p> <p>This shall be a solution <u>which does not include wires</u> from the traffic signal pole to the detection zone.</p>

	This rate encompasses the completion of a laminated paper detector card and the production of any configuration screenshots.
39	Supply of / Installation of / Removal of Ethernet Extenders, per pair
40	<p>Supply of / Installation of / Removal of Equipment in a previously installed traffic signal Controller required to allow an expansion in the number of box signs and/or secret signs to be supported. This encompasses all equipment required to provide support in software, hardware and firmware.</p> <p>This rate is only used if the traffic signal Controller cannot in its current state support the additional box signs and/or secret signs and requires additional equipment to provide this support.</p> <p>The rate shall be based on how many additional box signs and secret signs are requested in the banding:</p> <ul style="list-style-type: none"> (i) up to 4 additional box signs / secret signs (ii) up to 8 additional box signs / secret signs (iii) up to 12 additional box signs / secret signs (iv) up to 16 additional box signs / secret signs (v) >16 additional box signs / secret signs
41	<p>Supply of / Installation of / Removal of Equipment in a previously installed traffic signal Controller required to allow an expansion in the number of phases to be supported. This encompasses all equipment required to provide support in software, hardware and firmware.</p> <p>This rate is only used if the traffic signal Controller cannot in its current state support the additional phases and requires additional equipment to provide this support.</p> <p>The rate shall be based on how many additional phases are requested in the banding:</p> <ul style="list-style-type: none"> (i) 8 phases (ii) 16 phases (iii) 24 phases

	<p>(iv) 32 phases</p> <p>(v) >32 phases</p>
42	<p>Supply and Installation of Equipment in a previously installed traffic signal Controller required to allow an expansion in the number of inputs and/or outputs to be supported. This encompasses all Equipment required to provide support in software, hardware and firmware.</p> <p>This rate is only used if the traffic signal Controller cannot in its current state support the additional inputs and/or outputs and requires additional Equipment to provide this support.</p> <p>The rate shall be based on how many additional inputs and/or outputs are requested in the banding:</p> <p>(i) 8 inputs and outputs (combined)</p> <p>(ii) 16 inputs and outputs (combined)</p> <p>(iii) 24 inputs and outputs (combined)</p> <p>(iv) 32 inputs and outputs (combined)</p> <p>(v) more than 32 inputs and outputs (combined).</p>
43	<p>Expansion of an auxiliary supply (in a previously installed traffic signal Controller) inclusive of all Equipment required to provide support in software, hardware & firmware.</p>
44	<p>Installation of / Removal of iBus Equipment. This includes loading of an iBUS configuration as supplied by the Authority.</p> <p>This shall include the provision of a single category 5e (Cat5e) ethernet patch cable of suitable length (to IEC 11801 class D)</p>
45	<p>Supply and Installation of a link cable between two traffic control assets (e.g. between two traffic signal Controllers). Inclusive of termination of cabling, including all electrical testing and return of Electrical Test Certificates to the Authority.</p> <p>If the Works Instruction is at a previously installed traffic control asset, this rate is inclusive of any resealing required.</p> <p>This rate is per metre (m) between the two connected traffic control assets.</p>
46	<p>Supply of / Installation of / Removal of a Post Jointing Large (PJL) including all required civils, communications cable from the PJL to the Controller, termination of cable, connections, fixings and sealing.</p>
47	<p>Supply of / Removal of a primary Feeder Pillar or secondary isolation Feeder Pillar. Inclusive of civils, termination of cabling to traffic control asset, including all electrical testing and return of Electrical Test Certificates to the Authority. Inclusive of sealing.</p>

	<p>If removal, then this rate is inclusive of Disconnection of any Distribution Network Operator (DNO) supply.</p> <p>Exclusive of DNO connection (whether moved or new connection). If new DNO connection needed, this rate shall be in addition to item <u>48</u>. If moved DNO connection needed, this rate shall be in addition to item <u>49</u>.</p> <p>Exclusive of new earth rod. If earth rod required, this rate shall be in addition to item <u>50</u>.</p> <p>(i) type 1 – 750height (h) x 300width (w) x 170depth (d) (all mm) (ii) type 2 – 750h x 520w x 230d (all mm) (iii) type 3 – 1200h x 650w x 300d (all mm) (iv) type 4 – 1500h x 1500w x 450d (all mm)</p>
48	<p>Supply of all required Works to provide a new DNO supply to a primary Feeder Pillar. Inclusive of termination of cabling, including all electrical testing and return of Electrical Test Certificates to the Authority. Inclusive of sealing.</p> <p>Exclusive of new Feeder Pillar. If new Feeder Pillar required, this rate shall be in addition to item <u>47</u>.</p> <p>Exclusive of new earth rod. If earth rod required, this rate shall be in addition to item <u>50</u>.</p>
49	<p>Supply of all required Works to move a DNO supply to another primary Feeder Pillar within a 2metre distance. Inclusive of termination of cabling, including all electrical testing and return of Electrical Test Certificates to the Authority. Inclusive of sealing.</p> <p>Exclusive of new Feeder Pillar. If new Feeder Pillar required, this rate shall be in addition to item <u>47</u>.</p> <p>Exclusive of new earth rod. If earth rod required, this rate shall be in addition to item <u>50</u>.</p>
50	<p>Supply of / Removal of all earth arrangements for either a primary Feeder Pillar or a secondary isolation Feeder Pillar (e.g. earth rod or earth mat). Inclusive of termination of cabling, including all electrical testing and return of Electrical Test Certificates the Authority. Inclusive of sealing.</p> <p>Exclusive of new Feeder Pillar. If new Feeder Pillar required, this rate shall be in addition to item <u>47</u>.</p>

	Exclusive of DNO connection (whether moved or new connection). If new DNO connection needed, this rate shall be in addition to item <u>48</u> . If moved DNO connection needed, this rate shall be in addition to item <u>49</u> .
51	Supply of / Installation of / Removal of an audible unit
52	Supply of / Installation of / Removal of a tactile unit
53	Removal of a traffic signal Controller for re-installation in new location. (i) from the ground; (ii) from a ducted cabinet base To be used in conjunction with items <u>54 - 56</u>
54	Re-installation of a traffic signal Controller in a new location using more than 50% new cables. (i) into new foundation into the ground (ii) into a new ducted cabinet base This is used in conjunction with item <u>29</u> .
55	Re-Installation of a traffic signal Controller in a new location to the same Electrical Design using more than 50% the same cables. (i) into new foundation into the ground (ii) into a new ducted cabinet base This is used in conjunction with item <u>56</u>
56	Re-cabling existing cables for a relocated traffic signal Controller. The three price bands are based on the total number of poles on the site: (i) 1 - 8 poles (ii) 9 - 16 poles (iii) more than 16 poles Inclusive of termination of cabling, including all electrical testing and return of Electrical Test Certificates to the Authority. This is used in conjunction with item <u>55</u>
57	Supply of / Installation of / removal of a junction traffic signal Controller of the build required to fulfil the Works Instruction.

	<p>Price bands are based on the total number of real phases in the Works Instruction</p> <p>(i) 8 phases (ii) 16 phases (iii) 24 phases (iv) 32 phases (v) more than 32 phases</p> <p>Inclusive of termination of cabling, including all electrical testing and return of Electrical Test Certificates and Configuration Documentation to the Authority.</p> <p>Inclusive of a logbook and document wallet.</p>
58	<p>Supply of / Installation of / removal of a pedestrian traffic signal Controller of the build required to fulfil the Works Instruction.</p> <p>Price bands are based on whether the Works Instruction is for a standalone pedestrian crossing or dual pedestrian crossing arrangement.</p> <p>(i) standalone pedestrian crossing (ii) dual pedestrian crossing</p> <p>Inclusive of termination of cabling, including all electrical testing and return of Electrical Test Certificates to the Authority.</p> <p>Inclusive of a logbook and document wallet.</p>
59	<p>Creation of and delivery of Site Layout Drawing (SLD) to a Site. Contractor responsible for site visit to collect the information required to make the SLD.</p> <p>This rate is not to be used as part of a project, where SLD creation and delivery to site is part of Commissioning rate. This rate is for a directed request to create an SLD and deliver to site or as a result of a survey as per items <u>75 - 76</u></p>
60	<p>Supply and Installation of an adaptive dynamic control system facility</p>
61	<p>Supply of / Installation of / Removal of an Internet Protocol Outstation Transmission Unit (IPOTU) facility. Price bands are based on whether the facility is provided by Equipment (discrete) or the facility is provided by the traffic signal Controller itself (integral).</p> <p>(i) discrete (ii) integral</p> <p>Inclusive of any termination of cabling.</p>

62	<p>Supply of / Installation of / Removal of a Next Generation Remote Monitoring (NGRM) facility. Price bands are based on whether the facility is provided by Equipment (discrete) or the facility is provided by the traffic signal Controller itself (integral).</p> <p>(i) discrete (ii) integral</p> <p>Inclusive of any termination of cabling.</p>
63	<p>Supply of / Installation of / Removal of an Overheight Vehicle Detection (OVD) sign and support pole only.</p> <p>Inclusive of foundation, termination of cabling, including all electrical testing and return of Electrical Test Certificates to the Authority.</p> <p>(i) size A – 100mm character height (ii) size B - 160mm character height (iii) size C - 240mm character height (iv) size D - 320mm character height (v) size E - 400mm character height</p> <p>Exclusive of OVD height detector. If OVD height detector is needed this rate should be supplemented with item <u>64</u></p> <p>Exclusive of OVD presence detector. If OVD presence detector is needed this rate should be supplemented with item <u>65</u></p> <p>Exclusive of support pole for OVD height / presence detector. If OVD height/presence detector support pole is needed this rate should be supplemented with item <u>66</u></p> <p>Exclusive of OVD Controller. If OVD Controller is needed this rate should be supplemented with item <u>67</u></p>
64	<p>Supply of / Installation of / removal of an OVD height detector only.</p> <p>Exclusive of OVD sign and support pole. If OVD sign and support pole is needed this rate should be supplemented with item <u>63</u></p> <p>Exclusive of OVD presence detector. If OVD presence detector is needed this rate should be supplemented with item <u>65</u></p> <p>Exclusive of support pole for OVD height / presence detector. If OVD height/presence detector support pole is needed this rate should be supplemented with item <u>66</u></p> <p>Exclusive of OVD Controller. If OVD Controller is needed this rate should be supplemented with item <u>67</u></p>

65	<p>Supply of / Installation of / removal of an OVD presence detector only.</p> <p>Exclusive of OVD sign and support pole. If OVD sign and support pole is needed this rate should be supplemented with item <u>63</u></p> <p>Exclusive of OVD height detector. If OVD height detector is needed this rate should be supplemented with item <u>64</u></p> <p>Exclusive of support pole for OVD height / presence detector. If OVD height/presence detector support pole is needed this rate should be supplemented with item <u>66</u></p> <p>Exclusive of OVD Controller. If OVD Controller is needed this rate should be supplemented with item <u>67</u></p>
66	<p>Supply of / Installation of / removal of an OVD height/presence detector support pole only.</p> <p>Exclusive of OVD sign and support pole. If OVD sign and support pole is needed this rate should be supplemented with item <u>63</u></p> <p>Exclusive of OVD height detector. If OVD height detector is needed this rate should be supplemented with item <u>64</u></p> <p>Exclusive of OVD presence detector. If OVD presence detector is needed this rate should be supplemented with item <u>65</u></p> <p>Exclusive of OVD Controller. If OVD Controller is needed this rate should be supplemented with item <u>67</u></p>
67	<p>Supply of / installation of / removal of an OVD Controller only.</p> <p>Exclusive of OVD sign and support pole. If OVD sign and support pole is needed this rate should be supplemented with item <u>63</u></p> <p>Exclusive of OVD height detector. If OVD height detector is needed this rate should be supplemented with item <u>64</u></p> <p>Exclusive of OVD presence detector. If OVD presence detector is needed this rate should be supplemented with item <u>65</u></p> <p>Exclusive of support pole for OVD height / presence detector. If OVD height/presence detector support pole is needed this rate should be supplemented with item <u>66</u></p>
68	<p>Undertake OVD system Foundation Design including production of all documentation, including production of and return of documentation to the Authority.</p>

69	<p>Supply of / Installation of / removal of Wig Wag Controller only.</p> <p>Exclusive of Wig Wag vehicle traffic signal. If Wig Wag traffic signal is needed this rate should be supplemented with item <u>70</u></p> <p>Exclusive of Wig Wag control panel. If Wig Wag control panel is needed this rate should be supplemented with item <u>71</u></p> <p>Exclusive of Wig Wag mimic signal. If Wig Wag mimic signal is needed this rate should be supplemented with item <u>72</u></p>
70	<p>Supply of / Installation of / removal of Wig Wag vehicle traffic signal only.</p> <p>Exclusive of Wig Wag Controller. If Wig Wag traffic controller is needed this rate should be supplemented with item <u>69</u></p> <p>Exclusive of Wig Wag control panel. If Wig Wag control panel is needed this rate should be supplemented with item <u>71</u></p> <p>Exclusive of Wig Wag mimic signal. If Wig Wag mimic signal is needed this rate should be supplemented with item <u>72</u></p>
71	<p>Supply of / Installation of / removal of Wig Wag control panel only.</p> <p>Exclusive of Wig Wag controller. If Wig Wag traffic Controller is needed this rate should be supplemented with item <u>69</u></p> <p>Exclusive of Wig Wag vehicle traffic signal. If Wig Wag traffic signal is needed this rate should be supplemented with item <u>70</u></p> <p>Exclusive of Wig Wag mimic signal. If Wig Wag mimic signal is needed this rate should be supplemented with item <u>72</u></p>
72	<p>Supply of / Installation of / removal of Wig Wag mimic signal only.</p> <p>Exclusive of Wig wag controller. If Wig Wag traffic Controller is needed this rate should be supplemented with item <u>69</u></p> <p>Exclusive of Wig wag vehicle traffic signal. If Wig Wag traffic signal is needed this rate should be supplemented with item <u>70</u></p> <p>Exclusive of Wig wag control panel. If Wig Wag control panel is needed this rate should be supplemented with item <u>71</u></p>
73	<p>Undertake a cable survey</p> <p>Type of survey:</p> <p>(i) investigate and report back; (ii) correction of identification and electrical Documents; and (iii) electrical testing.</p> <p>Rate is per pole.</p>

	<p>Includes production of and return of Documentation to the Authority.</p> <p>Can be used in conjunction with item <u>59</u> where an SLD update is required</p>
74	<p>Undertake a service duct and chamber survey</p> <p>Rate is per number of poles or as per type of traffic control asset:</p> <p>(i) Traffic Signals - up to 6 poles (ii) Traffic Signals - 7 – 12 poles (iii) Traffic Signals – more than 12 poles (v) all cables at an OVD Site</p> <p>Includes production of and return of Documentation to the Authority.</p> <p>This rate excludes any pumping of water out of the chambers</p> <p>Can be used in conjunction with item <u>59</u> where an SLD update is required</p>
75	<p>Rate for additional days training as a supplement to <u>schedule 3 – Part 3 3.10.1.</u></p> <p>Rate <u>88</u> shall not be used in combination with this rate. This rate encompasses all Contractor staff costs.</p>
76	<p>Production of an Electrical Design Package (EDP) where item <u>29</u> is not used.</p> <p>This rate shall be used if either:</p> <p>(a) an Electrical Design Package has been produced by an initial Works Instruction, but an updated Works Instruction issued by the Authority requires a change to the Electrical Design Package; or</p> <p>(b) an Electrical Design Package is required to be updated to fulfil a Works Instruction and no new cabling is required.</p> <p>For avoidance of doubt for criteria (a), if work on the Electrical Design Package has not begun before the updated Works Instruction is issued, then this rate shall not apply.</p> <p>Inclusive of termination of cabling, including all electrical testing and return of Electrical Test Certificates to the Authority.</p> <p>Rate is per real phase for Traffic Signals or per type of traffic control asset:</p> <p>(i) up to 8 phases; (ii) up to 16 phases; (iii) up to 24 phases; (iv) up to 32 phases; (v) greater than 32 phases.</p>

	<p>(vii) OVD; (viii) Wig-Wag.</p>
77	<p>Production of a Configuration File where item <u>57</u> or <u>58</u> are not used</p> <p>This rate shall be used if either:</p> <p>(a) a Configuration File has been produced by an initial Works Instruction, but an updated Works Instruction issued by the Authority requires a change to the Configuration File; or (b) a Configuration File is required to fulfil a Works Instruction and no new traffic signal Controller is to be provided.</p> <p>For avoidance of doubt for criteria (a), if work on the Configuration File has not begun before the updated Works Instruction is issued, then this rate shall not apply.</p> <p>Inclusive of configuration FAT, return of all configuration documentation to the Authority and Commissioning. Rate is per real phase for Traffic Signals:</p> <p>(i) up to 8 phases (ii) up to 16 phases (iii) up to 24 phases (iv) up to 32 phases (v) >32 phases</p>
78	<p>Switch out and restore Traffic Signals. Time and date of switch out / restore to be decided by the Authority. Item to include bagging of all signal heads and push buttons / un-bagging of all traffic signal heads and push button units.</p> <p>(i) Traffic signal junction (ii) Traffic signal crossing (single or dual) (iii)</p>
79	<p>Temporary Lights – Supply (delivery & collection), set up (offload & protection), maintain and decommission a system of non-permanent, portable Traffic Signals to form part of a Traffic Management solution for the duration of hire.</p> <p>Tactile cones and audible units shall be implemented providing that the principal contractor/ designer responsible for the design of the Traffic Management believes they are appropriate and safe</p> <p>Item to be charged for first 7-calendar day hire</p> <p>Band A – A system of non-permanent, portable traffic signals providing functionality equivalent to permanent traffic signals for use with the Authority's Urban Traffic Control (UTC) System.</p> <p>(i) UTC enabled Controller / cabling (ii) Traffic signal / pedestrian heads (iii) Push buttons</p>

	<p>(iv) Additional Aspects (indicative/filter arrow, box signs, cycle aspect)</p> <p>(v) Detectors</p> <p>Band B – A system of non-permanent, portable traffic signals providing functionality not equivalent to permanent traffic signals but enough for the traffic management use, to be used with the Authority's Urban Traffic Control (UTC) System.</p> <p>(i) 2 stages</p> <p>(ii) 3 stages</p> <p>(iii) 4 stages</p> <p>(iv) more than 4 stages</p> <p>(i) Band C – A system of non-permanent, battery/ solar portable traffic signals.</p> <p>(ii) 2 stages</p> <p>(iii) 3 stages</p> <p>(iv) 4 stages</p> <p>(v) more than 4 stages</p> <p>(vi)</p>
80	<p>Additional hire period per week over and above 7 calendar day hire (or pro rata if less, up to the nearest full day) - only to be used as an extension to item <u>79</u>.</p> <p>Tactile cones and audible units shall be implemented providing that the principal contractor/ designer responsible for the design of the Traffic Management believes they are appropriate and safe</p> <p>Band A – A system of non-permanent, portable traffic signals providing functionality equivalent to permanent traffic signals for use with the Authority's Urban Traffic Control (UTC) System.</p> <p>(i) UTC enabled Controller / cabling</p> <p>(ii) Traffic signal / pedestrian heads</p> <p>(iii) Push buttons</p> <p>(iv) Additional Aspects (indicative/filter arrow, box signs, cycle aspect)</p> <p>(v) Detectors</p> <p>Band B – A system of non-permanent, portable traffic signals providing functionality not equivalent to permanent Traffic Signals but enough for the Traffic Management use, to be used with the Authority's Urban Traffic Control (UTC) System.</p> <p>(i) 2 stages</p> <p>(ii) 3 stages</p> <p>(iii) 4 stages</p> <p>(iv) more than 4 stages</p> <p>Band C – A system of non-permanent, battery/ solar portable Traffic Signals.</p> <p>(i) 2 stages</p>

	(ii) 3 stages (iii) 4 stages (iv) more than 4 stages
81	<p>Provision of Major Traffic Management and ongoing Maintenance thereof. This will be deemed to be required if the following criteria apply :</p> <ol style="list-style-type: none"> 1. the speed limit of the road is greater than 30 mph; 2. a carriageway incursion is required. <p>Item to include production of all associated Traffic Management Drawing Plans.</p> <p>Only applicable when the Contractor is the Principal Contractor</p> <p>Item rate and respective (i) rates relate to the time and duration of the traffic management required</p> <ul style="list-style-type: none"> (i) Provision of Traffic Management for 4hrs (half day) (ii) Provision of Traffic Management for 8hrs (All day between the hours of 08:00 – 18:00) (iii) Provision of Traffic Management for 8hrs (All day between the hours of 18:00 – 08:00) (iv) Provision of Traffic Management for 24hrs (All day & night)
82	<p>Provision and maintenance of welfare facilities</p> <p>hire period per week based on 7 calendar day hire (or pro rata if less, up to nearest full day)</p>
83	<p>The Contractor shall be entitled to charge the Authority for obtaining clear photographic Type 1 sufficient evidence (by example this would be clear images of damaged Equipment, any involved Third Party as well as a photo of the location showing local landmarks/ shops/ road names) by including the relevant Schedule of Rates item in the activity schedule submitted by the Contractor in respect of the relevant rectification. However, the Contractor shall not be entitled to charge for any other time spent in obtaining or seeking to obtain any other types of evidence.</p>
84	<p>Replacement of slot-cut loop feeder or multi core linking cable in the carriageway where distance from underkerb to loop is greater than 15m. Rate is per metre (cost includes cutting and cable). This rate is only to be used under Maintenance for recutting of existing sub-surface detection loops (in conjunction with item 38).</p>

85	<p>Temporary lights – Supply (delivery and collection), set up (offload & protection), Maintain and decommission a system of non-permanent, portable Traffic Signals to form part of a Traffic Management solution for the duration of hire.</p> <p>Item to be charged as a day rate (Bands A and B do not apply to this rate as they are only charged weekly) and is intended for short duration Maintenance activities</p> <p>Band C: A system of non-permanent, battery/ solar portable Traffic Signals (same banding as items 79 & 80)</p> <ul style="list-style-type: none"> (i) 2 stages (ii) 3 stages (iii) 4 stages (iv) More than 4 stages
86	<p>Rate for senior Traffic Maintenance Engineer (to work either at home, on site or in Authority office)</p> <ul style="list-style-type: none"> (i) 8 hrs. (ii) 4 hrs. (iii) 1 hr.
87	<p>Uplift for rapid mobilisation to Site. Works instructed under Ordered Maintenance where attendance on Site is required 2 to 48 hours (Inclusive) from issue of Works Instruction. This will be for Maintenance work only and there will be no requirement for power or communications. This cannot be used in conjunction with switch outs (item 78)</p>
88	<p>Uplift for rapid mobilisation to Site. Works instructed under a Capital Works Type B scheme where attendance on site is required 48 hours to 9 days (inclusive) from issue of Works Instruction. This will be for low value Capital Works, no greater than £5,000.00 and there will be no requirement for power or communications.</p>

Section 1 - PART 2 – CIVIL ENGINEERING SECTION	
SoR HEADINGS	DESCRIPTION OF WORKS INCLUDED
Supply & Install/ Install only	<p>The supply and Installation or Installation only of Equipment/ goods as listed in the unit rate.</p> <p><u>Please note PART 2 unit rates referred to below can be used in conjunction with corresponding PART 1 unit rates where required.</u></p>
Remove/ Demolish & Re-Install/ Re-Lay/ Re-build	<p>Remove / demolish and re-Installation / re-lay/ re-build of Equipment as listed in the unit rate.</p> <p><u>Please note PART 2 unit rates referred to below can be used in conjunction with corresponding PART 1 unit rates where required.</u></p>
Remove/ Break Out & Dispose of	<p>Removal / break out and disposal of the Equipment / goods as per item rate. Unless otherwise stated in the Works Instruction the Equipment shall become Authority Spares for future use as appropriate.</p> <p><u>Please note either the PART 1 or PART 2 Remove unit rates can be charged but not both. If the Contractor is the Principal Contractor then the PART 2 Remove unit rate will be used. If the Contractor is not the Principal Contractor then the PART 1 Remove unit rate will be used.</u></p>
ITEM NUMBERS	DESCRIPTION OF WORKS INCLUDED
89 - 108	<p>Service duct in carriageway, footway, verge or central reserve</p> <p>The quantity of service ducts in carriageway, footway, verge or central reserve is the summation of the individual lengths required by the Works Information along the centre lines of the pipes between the internal faces of chambers;</p> <p>Unit rates for service duct in carriageway, footway, verge or central reserve include for</p> <ul style="list-style-type: none"> (a) excavation in any material (b) disposal of any material (c) access shafts to headings and their subsequent reinstatement; (d) thrust pits and thrust blocks for pipe jacking and their removal on completion; (e) articulated pipes and fittings; (f) cutting, laying, jointing and bedding; (g) building in pipes to headwalls and outfall works;

	<ul style="list-style-type: none"> (h) hangers, stools and discrete supports; (i) bedding, haunching and surrounding; (j) formwork (k) backfilling and compaction; (l) confined space working; (m) movement joints to beds, surrounds and the like; (n) reinstatement and line marking to existing; (o) checking and cleaning; (p) recording, staking and labelling; (q) fixing draw ropes, removable stoppers, marker blocks and posts; (r) pipe schedules; (s) lubricants, packing, grouting and caulking; (t) surveys and recordings; (u) protective system;
109 - 112	<p>Renovation of existing duct in carriageway, footway, verge or central reserve</p> <p>The quantity of renovation of existing duct in carriageway, footway, verge or central reserve is the summation of the individual lengths required by the Works Information along the centre lines of the pipes;</p> <p>Unit rates for renovation of existing duct in carriageway, footway, verge or central reserve include for</p> <ul style="list-style-type: none"> (a) excavation of any material; (b) reinstatement; (c) disposal of material; (d) locating defective sections of duct; (e) cutting out defective section of duct; (f) replacing defective section of duct and jointing; (g) bedding and surround; (h) backfilling;
113 - 114	<p>Connections to existing chamber or draw pit (any construction)</p> <p>Connections to existing chambers or draw pits are the number required by the Works Information. Connections are only separately included in the Works Information for connections to existing chambers.</p> <p>The rates and prices for connections to existing chamber or draw pits include for</p>

	<p>Unit rates for connection to existing drains, existing piped culverts, existing chambers, permanently severed land or mole drains include for</p> <ul style="list-style-type: none"> (a) excavation in any material; (b) disposal of any material; (c) locating and making entry; (d) backfilling and compaction; (e) confined space working; (f) making entry into chambers, concrete benching and channels, and making good the benching, channels and walls; (g) locating severed ends; (h) pipes, fittings and saddles; (i) bedding, haunching and surrounding, and filter material; (j) formwork; (k) sealing off disused ends; (l) re-laying existing pipes disturbed.
115 - 136	<p>Draw pit chambers in carriageway, footway, verge or central reserve</p> <p>The quantity is of the complete number of draw pits required by the Works Information</p> <p>Unit rates for draw pits include for</p> <ul style="list-style-type: none"> (a) excavation in any material; (b) disposal of any material; (c) locating existing ducts; (d) breaking into existing ducts; (e) connecting and re-connecting existing ducts; (f) construction of bases, walls, roof and cover slabs and shafts, surrounds and corbelling for cover; (g) channels, fittings, benchings, building in pipes and fin drain connections; (h) cleaning; (i) steps, safety chains, ladders, handholds and the like; (j) lifting keys; (k) concrete; (l) formwork; (m) reinforcement; (n) backfilling and compaction;

	<ul style="list-style-type: none"> (o) installing modular parts; (p) filling; (q) notices; (r) sealants; (s) brickwork; (t) re-laying existing pipes disturbed; (u) pipework and fittings; (v) reinstatement and line marking to existing.
137 - 142	<p>Renovation of existing draw pits</p> <p>The quantity of renovation of draw pits is the number required by the Works Information</p> <p>Unit rates for renovation of draw pits include for:</p> <ul style="list-style-type: none"> (a) excavation of any material; (b) reinstatement; (c) disposal of material; (d) locating defective sections of draw pits; (e) jointing, re-pointing, trimming, filling, clearing, cleaning; (f) replacing defective sections of draw pits; (g) bedding and surround; (h) backfilling;
143 - 178	<p>Supply and install new covers and frames</p> <p>The quantity of covers and frames is for the number required by the Works Information</p> <p>Unit rates for covers and frames include for:</p> <ul style="list-style-type: none"> (a) cleaning and repairing surfaces in preparation for new bedding; (b) new cover, grating and frame of required class; (c) slabs, surrounds, aprons, seatings, liners and bedding; (d) loading, transporting and handling; (e) unloading and positioning for installation; (f) replacing things damaged during the foregoing operations; (g) infill to recessed covers to match adjacent surfaces.
179 - 194	<p>Remove and dispose of or remove and re-Installation</p> <p>The quantity of remove and dispose of or remove and re-Installation of the items listed is the amount required by the Works Information</p>

	<p>Unit rates for remove and dispose of or remove and re-Installation include for</p> <ul style="list-style-type: none"> (a) excavation of any materials; (b) treatment of hazardous materials; (c) multiple handling of materials; (d) de-tensioning, dismantling and extracting posts; (e) cleaning, stacking, protecting and labelling; (f) transport and handling; (g) disconnecting, removing, disposing of and sealing of services and supplies; (h) sand and warning tape to cables where one or more are to remain in a shared trench; (i) backfilling and compaction; (j) making good to severed ends of existing walls, hedges, and fencing; (k) disposal of any material; (l) reinstatement and making good; (m) storage facilities; (n) replacing rates and prices damaged during the foregoing operations; (o) credit value of materials.
195 - 208	<p>Installation</p> <p>Installation quantity is the number required by the Works Information</p> <p>Unit rates for installation includes for:</p> <ul style="list-style-type: none"> (a) design; (b) certificates; (c) provision of data and drawings; (d) resubmissions and modifications; (e) amendments to the items to be installed; (f) obtaining aesthetic approval; (g) excavation in any material; (h) fixing to structures and foundations, including attachment systems; (i) notices, recording and preparation and supply of record drawings; (j) rivets, nuts, bolts, shims, washers, welds, clamps and the like; (k) blinding concrete and paving slab; (l) in situ concrete;

	<ul style="list-style-type: none"> (m) formwork; (n) reinforcement; (o) drilling or forming holes and pockets in structures or foundations, and casting in bolts, sockets, base plates and anchorage assemblies; (p) bedding, grouting and filling; (q) backfilling and compaction; (r) protective system; (s) marking and lettering; (t) electrical equipment, wiring and making connections, excluding supply and control cabling; (u) disposal of material; (v) reinstatement of surfaces; (w) plugging cable entry slots; (x) doors, locks and keys; (y) ducts in bases; (z) conduit including screwed and threaded connections, bends, tees and the like and draw wires; (aa) threading cable through ducts, sleeves, conduit and the like; (bb) backboards, fixings, protective caps, sealing, grommets, spacers, mounting plates and strips; (cc) complying with wiring regulations and earthing (other than earth electrodes); (dd) protective treatment
209 - 221	<p>Footway works</p> <p>The quantity of footway works is the length or area required by the Works Information</p> <p>Unit rates for footway works include for:</p> <ul style="list-style-type: none"> (a) trial mixes; (b) making good after sampling and testing; (c) excavation of any material; (d) for kerbs, reinstatement of surfaces; (f) disposal of any material; (g) concrete; (h) formwork; (i) reinforcement;

	(j)	mixing materials and extruding kerbs;
	(k)	bedding, bonding, jointing, including movement joints, filling and sealing of joints;
	(l)	keying of surfaces and tack coats;
	(m)	surface finishing, curing and protecting;
	(n)	gratings, frames, bedding and seatings;
	(o)	tie bars;
	(p)	drainage holes or pipes through concrete;
	(q)	quadrants, dropper kerbs and other special kerb units;
	(r)	edge support;
	(s)	preservation of timber;
	(t)	cutting;
	(u)	drainage layer;
	(v)	additional pavement material below channels;
	(w)	backfilling and compaction;
	(x)	special units and fittings;
	(y)	connections to chambers;
	(z)	sub-base;
	(aa)	edge support;
	(bb)	void formers;
	(cc)	reinforcement;
	(dd)	joint filler and sealant;
	(ee)	trial mixes;
	(ff)	laying to levels and falls;
	(gg)	bedding, jointing and pointing;
	(hh)	straight, circular and radial cutting and fitting;
	(ii)	rough and fair cutting and fitting;
	(jj)	base, lower base, upper base, binder course, surface course and concrete slab;
	(kk)	compacting;
	(ll)	membrane;

ANNEX A to Part B - SCHEDULE OF CAPITAL WORKS RATES

1. Section 1 - Capital Schedule of Rates

Part 1 - Non-Civils ATS, VMS & OVD

Capital Schedule of Rates					Lot 3 (South) - Y/E 31/03/2023					
No.	Description		Unit		Supply & Install	Remove & Re-Install	Remove Only			
TTC Non Civils Section ATS, VMS & OVD Lot 3 (Indexation used for all cost components below shall be CPI)										
LV Aspects										
1	Signal aspect inclusive of all fixings, brackets (not 'D' brackets or louvres), hoods, visors, cowls & backing boards (when requested)	i	Any signal head	Per Aspect						
		ii	Tram signal head	Per Unit						
2	Countdown aspect inclusive of all fixings and brackets			Per Aspect						
3	Cycle safety mirror inclusive of all fixings and brackets			Per Mirror						
4	Regulatory box sign aspect inclusive of all fixings and brackets			Per Aspect						
5	Bespoke box sign aspect inclusive of all fixings and brackets			Per Aspect						
6	Secret box sign inclusive of all fixings and brackets			Per Aspect						
7	Bespoke secret box sign aspect inclusive of all fixings and brackets			Per Aspect						
ELV Aspects										
8	Signal aspect inclusive of all fixings, brackets (not 'D' brackets or louvres), hoods, visors, cowls & backing boards (when requested)	i	Any signal head	Per Aspect						
		ii	Tram signal head	Per Unit						
9	Countdown aspect inclusive of all fixings and brackets			Per Aspect						
10	Regulatory box sign aspect inclusive of all fixings and brackets			Per Aspect						
11	Bespoke box sign aspect inclusive of all fixings and brackets			Per Aspect						

Capital Schedule of Rates

Lot 3 (South) - Y/E 31/03/2023

No.	Description	Unit	Supply & Install	Remove & Re-Install	Remove Only
12	Secret box sign inclusive of all fixings and brackets	Per Aspect			
13	Bespoke secret box sign aspect inclusive of all fixings and brackets	Per Aspect			
14	Low level signal, 3 aspects, inclusive of all fixings and brackets	Per Unit			
15	Low level cycle signal, 3 aspects and box sign, inclusive of all fixings and brackets	Per Unit			
Pedestrian Push Buttons/ Repeater					
16	Full size push button unit	Per Unit			
17	Nearside pedestrian push button unit	Per Unit			
18	Small push button unit	Per Unit			
19	Nearside pedestrian repeater signal unit	Per Unit			
D' Brackets/ Louvres/ Hoods					
20	D' bracket	Per Unit			
21	Louvre (to be used with item 1 or 8 where required) or hoods that need amending post install	Per Unit			
Poles					
22	Signal pole into a retention socket including termination of cables, ELI Test, tagging and glanding.	i	up to 4m	Per Pole	
		ii	4.01 - 4.75m	Per Pole	
		iii	>4.75m	Per Pole	
23	Signal pole into the ground including termination of cables, ELI Test, tagging and glanding	i	up to 4m	Per Pole	
		ii	4.01 - 4.75m	Per Pole	
		iii	>4.75m	Per Pole	
24	Uplift for working at a height over 4.75m on any street furniture for the duration of the project	Per Pole			
25	Signal pole in temporary foundation block inclusive of all signal heads, detectors, push buttons etc. on the pole	i	Undertaking the poles in block activity	Per Pole	

Capital Schedule of Rates					Lot 3 (South) - Y/E 31/03/2023		
No.	Description			Unit	Supply & Install	Remove & Re-Install	Remove Only
	(provided they are all in a suitable condition) - block supplied by third party	ii	A visual check of the pole in block (to occur every 28 days when the pole is in the block).	Per Pole			
	This rate generally does encompass any removal and re-installation of any existing equipment during the activity. Therefore, removal rates against items 1 to 21 should not be used.	iii	Electrical testing of the pole in block (to occur every 3 months when the pole is in the block)	Per Pole			
26	Signal pole in temporary foundation block inclusive of all signal heads, detectors, push buttons etc. on the pole (provided they are all in a suitable condition) - block supplied by TTC contractor	i	Undertaking the poles in block activity	Per Pole			
		ii	A visual check of the pole in block (to occur every 28 days when the pole is in the block).	Per Pole			
	This rate generally does encompass any removal and re-installation of any existing equipment during the activity. Therefore, removal rates against items 1 to 21 should not be used.	iii	Electrical testing of the pole in block (to occur every 3 months when the pole is in the block)	Per Pole			
27	Termination plate in a shared lamp column with termination including tagging, glanding & earthing			Per Unit			
28	Uplift for activities when they are on a shared lamp column (to include drilling holes)			Per Pole			
Cabling							
29	Supply and install orange cable. (includes cable testing & completion of paperwork) - can also be used in conjunction with item 54	i	1-8 Pole site	Per Pole			
		ii	9-16 Pole site	Per Pole			
		iii	>16 Pole site	Per Pole			
Above Ground Detectors							
30	Above ground detector	i	Pedestrian kerbside presence detector	Per Unit			

Capital Schedule of Rates

Lot 3 (South) - Y/E 31/03/2023

No.	Description	Unit	Supply & Install	Remove & Re-Install	Remove Only
	<div> <div>ii</div> <div>Pedestrian kerbside presence detector (wide)</div> <div>Per Unit</div> </div> <div> <div>iii</div> <div>Pedestrian on-crossing presence detector</div> <div>Per Unit</div> </div> <div> <div>iv</div> <div>Bi-directional dynamic multiple lane detector</div> <div>Per Unit</div> </div> <div> <div>v</div> <div>Bi-directional dynamic single lane detector</div> <div>Per Unit</div> </div> <div> <div>vi</div> <div>Selectable direction dynamic multiple lane detector</div> <div>Per Unit</div> </div> <div> <div>vii</div> <div>Selectable direction dynamic single lane detector</div> <div>Per Unit</div> </div> <div> <div>viii</div> <div>Static detector</div> <div>Per Unit</div> </div> <div> <div>ix</div> <div>Static detector (extra depth)</div> <div>Per Unit</div> </div> <div> <div>x</div> <div>Static multiple lane detector</div> <div>Per Unit</div> </div> <div> <div>xi</div> <div>Static multiple lane detector (extra depth)</div> <div>Per Unit</div> </div> <div> <div>xii</div> <div>SCOOT (vehicles)</div> <div>Per Unit</div> </div> <div> <div>xiii</div> <div>SCOOT (pedal cycles)</div> <div>Per Unit</div> </div> <div> <div>xiv</div> <div>Adaptive dynamic control system (vehicles)</div> <div>Per Unit</div> </div>				
31	Pedestrian quantity detector	Per Unit			
Below Ground Detectors (with wires to the detection zone)					
32	Part of the below ground detection system only the equipment within the traffic signal controller.	c	SCOOT (vehicles)	Per Unit	
		ii	SCOOT (pedal cycles)	Per Unit	
		iii	Adaptive dynamic control system	Per Unit	

Capital Schedule of Rates					Lot 3 (South) - Y/E 31/03/2023					
No.	Description			Unit	Supply & Install	Remove & Re-Install	Remove Only			
		iv	Speed assessment	Per Unit						
		v	Traffic	Per Unit						
33	Part of the below ground detection system only the equipment linking the equipment in the traffic signal controller to the equipment at the detection zone.	i	SCOOT (vehicles)	Per m						
		ii	SCOOT (pedal cycles)	Per m						
		iii	Adaptive dynamic control system	Per m						
		iv	Speed assessment	Per m						
		v	Traffic	Per m						
34	Part of the below ground detection system only the equipment at the detection zone.	i	SCOOT (vehicles)	Per Unit						
		ii	SCOOT (pedal cycles)	Per Unit						
		iii	Adaptive dynamic control system	Per Unit						
		iv	Speed assessment	Per Unit						
		v	Traffic	Per Unit						
Below Ground Detectors (without wires to the detection zone at ground level)										
35	Part of the below ground detection system only the equipment within the traffic signal controller.	a	SCOOT (vehicles)	Per Unit						
		b	SCOOT (pedal cycles)	Per Unit						
		c	Adaptive dynamic control system	Per Unit						
		d	Speed assessment	Per Unit						
		e	Traffic	Per Unit						
36	Part of the below ground detection system only the equipment on the traffic signal pole.	a	SCOOT (vehicles)	Per Unit						
		b	SCOOT (pedal cycles)	Per Unit						
		c	Adaptive dynamic control system	Per Unit						
		d	Speed assessment	Per Unit						

Capital Schedule of Rates

Lot 3 (South) - Y/E 31/03/2023

No.	Description	Unit	Supply & Install	Remove & Re-Install	Remove Only
37	Part of the below ground detection system only the equipment linking the equipment from the traffic signal pole and the equipment at the detection zone (per repeater)	e Traffic	Per Unit		
		a SCOOT (vehicles)	Per Unit		
		b SCOOT (pedal cycles)	Per Unit		
		c Adaptive dynamic control system	Per Unit		
		d Speed assessment	Per Unit		
38	Part of the below ground detection system only the equipment at the detection zone.	e Traffic	Per Unit		
		a SCOOT (vehicles)	Per Unit		
		b SCOOT (pedal cycles)	Per Unit		
		c Adaptive dynamic control system	Per Unit		
		d Speed assessment	Per Unit		
		e Traffic	Per Unit		
		a SCOOT (vehicles)	Per Unit		
		b SCOOT (pedal cycles)	Per Unit		
		c Adaptive dynamic control system	Per Unit		
		d Speed assessment	Per Unit		
39	Ethernet extenders	Per Pair			
Controller expansion items					
40	Expansion of box sign/ secret sign monitoring kit (in a previously installed traffic signal controller) inclusive of all equipment required to provide support in software, hardware & firmware.	i up to 4 additional box signs/ secret signs	Per Unit		
		ii up to 8 additional box signs/ secret signs	Per Unit		
		iii up to 12 additional box signs/ secret signs	Per Unit		
		iv up to 16 additional box signs/ secret signs	Per Unit		
		v >16 additional box signs/ secret signs	Per Unit		
41		i up to 8 additional phases	Per Unit		
		ii up to 16 additional phases	Per Unit		

Capital Schedule of Rates

Lot 3 (South) - Y/E 31/03/2023

No.	Description	Unit	Supply & Install	Remove & Re-Install	Remove Only
	Expansion of phases (in a previously installed traffic signal controller) inclusive of all equipment required to provide support in software, hardware & firmware.	<div>iii up to 24 additional phases Per Unit</div> <div>iv up to 32 additional phases Per Unit</div> <div>v >32 additional phases Per Unit</div>			
42	Expansion of inputs & outputs (in a previously installed traffic signal controller) inclusive of all equipment required to provide support in software, hardware & firmware.	<div>i up to 8 additional inputs & outputs (combined) Per Unit</div> <div>ii up to 16 additional inputs & outputs (combined) Per Unit</div> <div>iii up to 24 additional inputs & outputs (combined) Per Unit</div> <div>iv up to 32 additional inputs & outputs (combined) Per Unit</div> <div>v >32 additional inputs & outputs (combined) Per Unit</div>			
43	Expansion of an auxiliary supply (in a previously installed traffic signal controller) inclusive of all equipment required to provide support in software, hardware & firmware.	Per Unit			
44	Install (not supply) iBus System, inclusive of fixings, Cat5e cable, terminations, soft wiring, loading of configuration and commissioning	Per System			
Mast arms/ link cables and PJL's					
45	Provide link cable and terminate at both ends, including tagging, glands, sealing and commissioning	Per m			
46	Post jointing large, inclusive of all cable, connections, required base seal and associated civils.	Per Unit			
ESP related					
47	Primary feeder pillar/ secondary isolation feeder pillar. Inclusive of termination of cabling, including all electrical testing and return of electrical test certificates to the Authority. Inclusive of sealing and any associated civils.	<div>i Type 1 - 750mm (h) x 300mm (w) x 170mm (d) Per Unit</div> <div>ii Type 2 - 750mm (h) x 520mm (w) x 230mm (d) Per Unit</div>			

Capital Schedule of Rates					Lot 3 (South) - Y/E 31/03/2023		
No.	Description			Unit	Supply & Install	Remove & Re-Install	Remove Only
		iii	Type 3 - 1200mm (h) x 650mm (w) x 300mm (d)	Per Unit			
	To be used in conjunction with items 48 - 50 where necessary	iv	Type 4 - 1500mm (h) x 1500mm (w) x 450mm (d)	Per Unit			
48	New DNO supply to a primary feeder pillar			Per Site			
49	Transfer of a DNO supply to another primary feeder pillar within 2m			Per Site			
50	Earth arrangements for a primary feeder pillar/ secondary isolation feeder pillar (e.g. earth rod/ earth mat)			Per Site			
Audibles and Tactiles							
51	Audible device in a pedestrian push button inclusive of any drive unit and fixings (if applicable)			Per Unit			
52	Tactile device in a pedestrian push button unit and its power unit in a signal head (if applicable), inclusive of all fixings.			Per Unit			
Controllers and additional facilities within them							
53	Removal of a traffic signal controller for re-installation	i	From the ground	Per Unit			
	In conjunction with items 54 - 56	ii	From a ducted cabinet base	Per Unit			
54	Re-installation of a traffic signal controller in a new location using >50% new cables.	i	Into new foundation into the ground	Per Unit			
	This is used in conjunction with item 29	ii	Into a new ducted cabinet base	Per Unit			
55	Re-installation of a traffic signal controller in a new location to the same electrical design using >50% the same cables	i	Into new foundation into the ground	Per Unit			
	This is used in conjunction with item 56	ii	Into a new ducted cabinet base	Per Unit			
56		i	1-8 Pole site	Per Pole			

Capital Schedule of Rates

Lot 3 (South) - Y/E 31/03/2023

No.	Description		Unit	Supply & Install	Remove & Re-Install	Remove Only
	Re-cabling existing cables for a relocated traffic signal controller. Inclusive of termination of cabling, including all electrical testing and return of electrical test certificates to the Authority	ii	9-16 Pole site	Per Pole		
	This is used in conjunction with item 55	iii	>16 Pole site	Per Pole		
57	Traffic signal controller (junction)	i	up to 8 phases	Per Unit		
		ii	up to 16 phases	Per Unit		
		iii	up to 24 phases	Per Unit		
		iv	up to 32 phases	Per Unit		
		v	>32 phases	Per Unit		
58	Traffic signal controller (pedestrian)	i	For a single crossing	Per Unit		
		ii	For a dual crossing	Per Unit		
59	Creation of and delivery of SLD to a site (not to be used as part of a project where SLD creation and delivery to site is part of the commissioning rate). This rate is for a directed request to create an SLD and deliver to site or as a result of a survey as per items 73 - 74			Per SLD		
60	Provision of adaptive dynamic control system facility			Per Unit		
61	Provision of IPOTU facility (inclusive of any terminations of cabling)	i	Discrete	Per Unit		
		ii	Integral	Per Unit		
62	Provision of NGRM facility (inclusive of any terminations of cabling)	i	Discrete	Per Unit		
		ii	Integral	Per Unit		
VMS/ OVD/ Wig Wag/ Reports						
63	OVD sign and support pole	i	Size Range A - 100mm character height	Per Unit		
	Item rate should be used in conjunction with items 64 - 67 where required	ii	Size Range B - 160mm character height	Per Unit		

Capital Schedule of Rates

Lot 3 (South) - Y/E 31/03/2023

No.	Description	Unit	Supply & Install	Remove & Re-Install	Remove Only
	iii	Size Range C - 240mm character height	Per Unit		
	iv	Size Range D - 320mm character height	Per Unit		
	v	Size Range E - 400mm character height	Per Unit		
64	OVD height detector	Per Unit			
65	OVD presence detector	Per Unit			
66	OVD height/ presence detector support pole	Per Pole			
67	OVD controller	Per Unit			
68	Undertake OVD system foundation design	-	OVD system	Per Report/ Design	
69	Wig Wag controller. Item rate should be used in conjunction with items 70 - 72 where required	Per Unit			
70	Wig Wag traffic signal	Per Unit			
71	Wig Wag control panel	Per Unit			
72	Wig Wag mimic signal	Per Unit			
Cable/ Duct Survey					
73	Undertake a cable survey	i	Investigate and report back	Per Pole	
		ii	Correction of identification & electrical documents	Per Pole	
	Can be used in conjunction with item 59 where an SLD update is required	iii	Electrical testing	Per Pole	
74	Carry out a duct survey on a site & supply drawings and report	i	up to 6 poles	Per Site	
		ii	7 to 12 poles	Per Site	
	Can be used in conjunction with item 59 where an SLD update is required	iii	>12 poles	Per Site	

Capital Schedule of Rates					Lot 3 (South) - Y/E 31/03/2023		
No.	Description			Unit	Supply & Install	Remove & Re-Install	Remove Only
		iv	OVD site	Per Site			
Training							
75	Additional days training as a supplement to Schedule 3 - Part 3 (Equipment) - 3.10.1 Item rate 88 shall not be used in combination with this rate. This rate encompasses all contractor staff costs.			Day Rate			
Additional Electrical Design							
76	Production of an electrical design package where item 29 is not used. This rate shall be either: Band A - an electrical design package has been produced by an initial works instruction but an updated works instruction issued by the authority requires a change to the electrical design package Band B - an electrical design package is required to be updated to fulfil a works instruction and no new cabling is required For avoidance of doubt for Band A, if work on the electrical design package has not begun before the updated works instruction is issued, then this rate shall not apply. Rate is per real phase for traffic signals or per type of traffic control asset.	ai	up to 8 phases	Per Site			
		aii	up to 16 phases	Per Site			
		aiii	up to 24 phases	Per Site			
		aiv	up to 32 phases	Per Site			
		av	>32 phases	Per Site			
		avi	OVD Site	Per Site			
		avii	Wig Wag Site	Per Site			
		aviii	up to 8 phases	Per Site			
		bi	up to 16 phases	Per Site			
		bii	up to 24 phases	Per Site			
		biii	up to 32 phases	Per Site			
		biv	>32 phases	Per Site			
		bvi	OVD Site	Per Site			

Capital Schedule of Rates

Lot 3 (South) - Y/E 31/03/2023

No.	Description			Unit	Supply & Install	Remove & Re-Install	Remove Only
		bvii	Wig Wag Site	Per Site			
Additional Configuration Design							
77	Production of a configuration file where item 57 or 58 are not used. This rate shall be either: Band A - a configuration file has been produced by an initial works instruction but an updated works instruction issued by the authority requires a change to the configuration file Band B - a configuration file is required to be updated to fulfil a works instruction and no new traffic signal controller is to be provided For avoidance of doubt for Band A, if work on the configuration file has not begun before the updated works instruction is issued, then this rate shall not apply. Rate is per real phase for traffic signals	ai	up to 8 phases	Per Site			
		aii	up to 16 phases	Per Site			
		aiii	up to 24 phases	Per Site			
		aiv	up to 32 phases	Per Site			
		av	>32 phases	Per Site			
		bi	up to 8 phases	Per Site			
		bii	up to 16 phases	Per Site			
		bihi	up to 24 phases	Per Site			
		biv	up to 32 phases	Per Site			
		bv	>32 phases	Per Site			
Switch Outs							
78	Switch out and restore a traffic signals. Time and date of switch out/ restore to be decided by the authority. Item to include bagging of all signal heads and push buttons/ un-bagging of all traffic signal heads and push button units.	i	Traffic signal junction	Per Junction			
		ii	Traffic signal pedestrian crossing	Per Crossing			
Temporary Lights							
79	Temporary lights - supply (delivery & collection), set up (offload & protection), maintain and decommission a system of non-permanent, portable traffic signals to form part of a traffic management solution for the duration of	ai	UTC enabled controller / cabling	Per Site/ Per Week			
		aii	Traffic signal / pedestrian heads	Per Site/ Per Week			

Capital Schedule of Rates

Lot 3 (South) - Y/E 31/03/2023

No.	Description	Unit	Supply & Install	Remove & Re-Install	Remove Only
	the hire.	a iii	Push buttons	Per Site/ Per Week	
	Item to be charged for first 7 calendar day hire	a iv	Additional aspects (indicative / filter arrow, box signs)	Per Site/ Per Week	
	Band A - a system of non-permanent, portable traffic signals providing functionality equivalent to permanent traffic signals for use with the authority's Urban Traffic System (UTC) System.	av	Detectors	Per Site/ Per Week	
		bi	2 stages	Per Site/ Per Week	
		bii	3 stages	Per Site/ Per Week	
	Band B - a system of non-permanent, portable traffic signals providing functionality not equivalent to permanent traffic signals but enough for the traffic management use, to be used with the authority's Urban Traffic System (UTC) System.	biii	4 stages	Per Site/ Per Week	
		biv	>4 stages	Per Site/ Per Week	
		ci	2 stages	Per Site/ Per Week	
	Band C - a system of non-permanent, battery/ solar portable traffic signals	cii	3 stages	Per Site/ Per Week	
		ciii	4 stages	Per Site/ Per Week	
		civ	>4 stages	Per Site/ Per Week	
80	Temporary lights - additional hire period per period per week over and above 7 calendar day hire (or pro rata if less, up to nearest full day) - only to be used as an extension to item 79.	ai	UTC enabled controller / cabling	Per Site/ Per Week	
		a ii	Traffic signal / pedestrian heads	Per Site/ Per Week	
	Band A - a system of non-permanent, portable traffic signals providing functionality equivalent to permanent	a iii	Push buttons	Per Site/ Per Week	

Capital Schedule of Rates


Lot 3 (South) - Y/E 31/03/2023

No.	Description		Unit	Supply & Install	Remove & Re-Install	Remove Only
	traffic signals for use with the authority's Urban Traffic System (UTC) System.	aiv	Additional aspects (indicative / filter arrow, box signs)	Per Site/ Per Week		
	Band B - a system of non-permanent, portable traffic signals providing functionality not equivalent to permanent traffic signals but enough for the traffic management use, to be used with the authority's Urban Traffic System (UTC) System.	av	Detectors	Per Site/ Per Week		
		bi	2 stages	Per Site/ Per Week		
		bii	3 stages	Per Site/ Per Week		
	Band C - a system of non-permanent, battery/ solar portable traffic signals	biii	4 stages	Per Site/ Per Week		
	If 16 phase temporary lights (Band A) were on site for 10 days it would be 1x Item 79 aii and 0.43 Item 80 aii.	biv	>4 stages	Per Site/ Per Week		
		ci	2 stages	Per Site/ Per Week		
		cii	3 stages	Per Site/ Per Week		
		ciii	4 stages	Per Site/ Per Week		
		civ	>4 stages	Per Site/ Per Week		
Major TM						
81	Provision of major traffic management and ongoing maintenance thereof in accordance with Schedule 16.	i	Provision of traffic management for 4hrs (half day)	1/2 Day		
	This will be deemed to be required if the maximum speed of the road is 40 mph or greater. Item to include production of all associated traffic management drawings.	ii	Provision of traffic management for 8hrs (All day, between the hours of 08:00 - 18:00)	Per Full Day		

Capital Schedule of Rates					Lot 3 (South) - Y/E 31/03/2023		
No.	Description			Unit	Supply & Install	Remove & Re-Install	Remove Only
		iii	Provision of traffic management for 8hrs (All night, between the hours of 18:00 - 08:00)	Overnight			
		iv	Provision of traffic management for 24hrs (All day & night)	Per 24 Hours			
Welfare - New Item							
82	Provision and maintenance of welfare facilities hire period per week based on 7 calendar day hire (or pro rata if less, up to nearest full day)	i	Static facilities	Per Site / Per Week			
		ii	Mobile facilities	Per Site / Per Week			
Maintenance specific							
83	Provision of comprehensive photographic evidence for damage assessment			£ Per Submission			
84	Replacement of slot-cut loop feeder or multicore linking cable in carriageway (price to include cut and cable)			Per m			
85	Temporary lights - Supply (delivery & collection), set up (offload & protection), maintain and decommission a system of non-permanent, portable traffic signals to form part of a traffic management solution for the duration of the hire. Item to be charged as a day rate (Band A & B don't apply for this rate as they are only charged weekly) Band C - a system of non-permanent, battery/ solar portable traffic signals (same banding as items 79 & 80)	ci	2 stages	Per Site/ Per Day			
		cii	3 stages	Per Site/ Per Day			
		ciii	4 stages	Per Site/ Per Day			
		civ	>4 stages	Per Site/ Per Day			
86		i	8 hrs	Day Rate			

Capital Schedule of Rates					Lot 3 (South) - Y/E 31/03/2023			
No.	Description			Unit	Supply & Install	Remove & Re-Install	Remove Only	
	Senior traffic maintenance engineer (to work either at home, on site or in a TfL office)	ii	4 hrs	1/2 Day Rate				
		iii	1 hr	Hourly Rate				
Short duration uplift for ordered maintenance schemes (maintenance only)								
87	Uplift for rapid mobilisation to site within 2 - 48hrs (not to be used in conjunction with item 78)			Per Site				
Short duration uplift for Capital works Type B schemes								
88	Uplift for rapid mobilisation to site within 48hrs - 9 days			Per Site				
Declared overhead and profit in above items (%)								

Part 2 -Civils ATS, VMS & OVD

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description			Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of
Part 2 - TTC Civils Section ATS, VMS & OVD Lot 3 (Indexation used for all cost components below shall be BCIS)							
Ducting							
Service Duct in Carriageway							
100mm UPVC / Polyethylene							
89	1 way 100mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
90	2 way 100mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
91	3 way 100mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
92	4 way 100mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
93	6 way 100mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
50mm UPVC / Polyethylene							
94		i	< 10	Per m	£241.52		

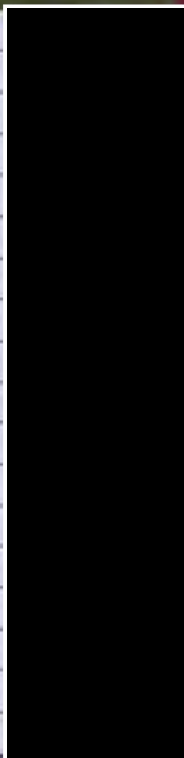

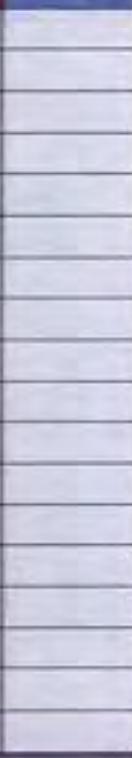
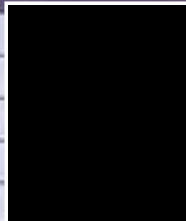
Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description			Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of
	1 way 50mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	ii	10 - 50	Per m			
		iii	> 50	Per m			
95	2 way 50mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
96	3 way 50mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
97	4 way 50mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
98	6 way 50mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
Service Duct in footway, verge or central reserve							
100mm UPVC / Polyethylene							
99	1 way 100mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
100	2 way 100mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
101		i	< 10	Per m			
		ii	10 - 50	Per m			

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description			Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of
	3 way 100mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	iii	> 50	Per m			
102	4 way 100mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
103	6 way 100mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
50mm UPVC / Polyethylene							
104	1 way 50mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
105	2 way 50mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
106	3 way 50mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
107	4 way 50mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			
		iii	> 50	Per m			
108	6 way 50mm upvc/polyethylene service duct in trench depth to invert not exceeding 2 metres with a minimum cover of 600mm	i	< 10	Per m			
		ii	10 - 50	Per m			

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description			Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of
		iii	> 50	Per m			
Renovation work to existing ducts in C/way (Repairing blocked ducts)							
109	50mm duct for repair in excavation			Per m			
110	100mm duct for repair in excavation			Per m			
Renovation work to existing ducts in F/way or Verge (Repairing blocked ducts)							
111	50mm duct for repair in excavation			Per m			
112	100mm duct for repair in excavation			Per m			
Connections to existing chamber or draw pit							
113	Connection of 50 mm internal diameter pipe or duct, depth to invert not exceeding 2 metres.	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
114	Connection of 100 mm internal diameter pipe or duct, depth to invert not exceeding 2 metres.	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
Draw Pits							
Draw pit chambers in carriageway							
Brick built							
115	450 x 450 mm brick built draw pit chamber in carriageway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
116	600 x 450 mm brick built draw pit chamber in carriageway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			

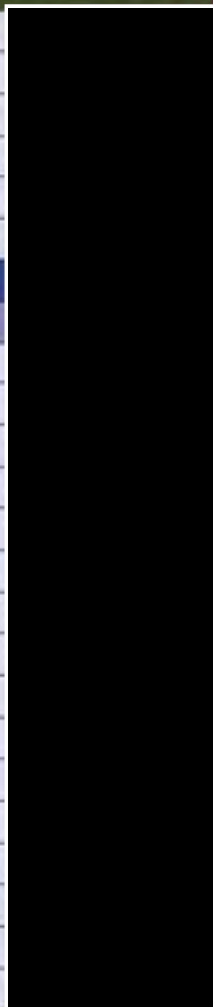
Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description			Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of
117	600 x 600 mm brick built draw pit chamber in carriageway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
118	900 x 600 mm brick built draw pit chamber in carriageway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
119	1200 x 600 mm brick built draw pit chamber in carriageway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
Modular thermoplastic							
120	300 x 300 mm modular twin walled thermoplastic draw pit chamber in carriageway depth not exceeding 0.5m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
121	450 x 450 mm modular twin walled thermoplastic draw pit chamber in carriageway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
122	600 x 450 mm modular twin walled thermoplastic draw pit chamber in carriageway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
123	600 x 600 mm modular twin walled thermoplastic draw pit chamber in carriageway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
124		i	1	No.			

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description			Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of
	900 x 600 mm modular twin walled thermoplastic draw pit chamber in carriageway depth not exceeding 1.0m	ii	2 - 10	No.			
		iii	> 10	No.			
125	1200 x 600 mm modular twin walled thermoplastic draw pit chamber in carriageway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
Draw pit chambers in footway, verge or central reserve							
Brick built							
126	450 x 450 mm brick built draw pit chamber in footway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
127	600 x 450 mm brick built draw pit chamber in footway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
128	600 x 600 mm brick built draw pit chamber in footway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
129	900 x 600 mm brick built draw pit chamber in footway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
130	1200 x 600 mm brick built draw pit chamber in footway depth not exceeding 1.0m	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
Modular thermoplastic							

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023					
No	Description		Unit		Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of			
131	300 x 300 mm modular twin walled thermoplastic draw pit chamber in footway depth not exceeding 0.5m	i	1	No.						
		ii	2 - 10	No.						
		iii	> 10	No.						
132	450 x 450 mm modular twin walled thermoplastic draw pit chamber in footway depth not exceeding 1.0m	i	1	No.						
		ii	2 - 10	No.						
		iii	> 10	No.						
133	600 x 450 mm modular twin walled thermoplastic draw pit chamber in footway depth not exceeding 1.0m	i	1	No.						
		ii	2 - 10	No.						
		iii	> 10	No.						
134	600 x 600 mm modular twin walled thermoplastic draw pit chamber in footway depth not exceeding 1.0m	i	1	No.						
		ii	2 - 10	No.						
		iii	> 10	No.						
135	900 x 600 mm modular twin walled thermoplastic draw pit chamber in footway depth not exceeding 1.0m	i	1	No.						
		ii	2 - 10	No.						
		iii	> 10	No.						
136	1200 x 600 mm modular twin walled thermoplastic draw pit chamber in footway depth not exceeding 1.0m	i	1	No.						
		ii	2 - 10	No.						
		iii	> 10	No.						
Renovation of existing draw pits										
137	300 x 300 mm draw pit	i	1	No.						
		ii	2 - 10	No.						
		iii	> 10	No.						
138	450 x 450 mm draw pit	i	1	No.						
		ii	2 - 10	No.						


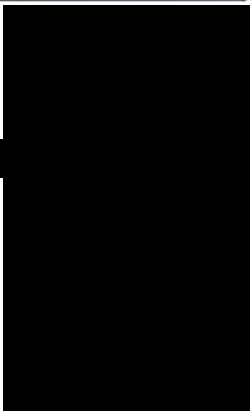

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description			Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of
		iii	> 10	No.			
139	600 x 450 mm draw pit	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
140	600 x 600 mm draw pit	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
141	900 x 600 mm draw pit	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
142	1200 x 600 mm draw pit	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
Supply and install new covers and frames							
Class B125							
Solid top cover							
143	Class B125 single seal solid top cover and frame to suit clear opening 300mm x 300mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
144	Class B125 single seal solid top cover and frame to suit clear opening 450mm x 450mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
145		i	1	No.			

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description		Unit		Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of
	Class B125 single seal solid top cover and frame to suit clear opening 600mm x 450mm	ii	2 - 10	No.			
		iii	> 10	No.			
146	Class B125 single seal solid top cover and frame to suit clear opening 600mm x 600mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
147	Class B125 single seal solid top cover and frame to suit clear opening 900mm x 600mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
148	Class B125 single seal solid top cover and frame to suit clear opening 1220mm x 600mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
Recessed top cover							
149	Class B125 single seal recessed top cover and frame to suit clear opening 300mm x 300mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
150	Class B125 single seal recessed top cover and frame to suit clear opening 450mm x 450mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
151	Class B125 single seal recessed top cover and frame to suit clear opening 600mm x 450mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
152	Class B125 single seal recessed top cover and frame to suit clear opening 600mm x 600mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023			
No	Description			Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of	
153	Class B125 single seal recessed top cover and frame to suit clear opening 900mm x 600mm	i	1	No.				
		ii	2 - 10	No.				
		iii	> 10	No.				
154	Class B125 single seal recessed top cover and frame to suit clear opening 1220mm x 600mm	i	1	No.				
		ii	2 - 10	No.				
		iii	> 10	No.				
Class C250								
Solid top cover								
155	Class C250 single seal solid top cover and frame to suit clear opening 300mm x 300mm	i	1	No.				
		ii	2 - 10	No.				
		iii	> 10	No.				
156	Class C250 single seal solid top cover and frame to suit clear opening 450mm x 450mm	i	1	No.				
		ii	2 - 10	No.				
		iii	> 10	No.				
157	Class C250 single seal solid top cover and frame to suit clear opening 600mm x 450mm	i	1	No.				
		ii	2 - 10	No.				
		iii	> 10	No.				
158	Class C250 single seal solid top cover and frame to suit clear opening 600mm x 600mm	i	1	No.				
		ii	2 - 10	No.				
		iii	> 10	No.				
159	Class C250 single seal solid top cover and frame to suit clear opening 900mm x 600mm	i	1	No.				
		ii	2 - 10	No.				
		iii	> 10	No.				
160		i	1	No.				

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description			Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of
	Class C250 single seal solid top cover and frame to suit clear opening 1220mm x 600mm	ii	2 - 10	No.			
		iii	> 10	No.			
Recessed top cover							
161	Class C250 single seal recessed top cover and frame to suit clear opening 300mm x 300mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
162	Class C250 single seal recessed top cover and frame to suit clear opening 450mm x 450mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
163	Class C250 single seal recessed top cover and frame to suit clear opening 600mm x 450mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
164	Class C250 single seal recessed top cover and frame to suit clear opening 600mm x 600mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
165	Class C250 single seal recessed top cover and frame to suit clear opening 900mm x 600mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
166	Class C250 single seal recessed top cover and frame to suit clear opening 1220mm x 600mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
Class D400							
167	Class D400 non-rock double triangular cover and frame to suit clear opening 300mm x 300mm	i	1	No.			
		ii	2 - 10	No.			

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description			Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of
		iii	> 10	No.			
168	Class D400 non-rock double triangular cover and frame to suit clear opening 450mm x 450mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
169	Class D400 non-rock double triangular cover and frame to suit clear opening 600mm x 450mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
170	Class D400 non-rock double triangular cover and frame to suit clear opening 600mm x 600mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
171	Class D400 non-rock double triangular cover and frame to suit clear opening 900mm x 600mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
172	Class D400 non-rock double triangular cover and frame to suit clear opening 1220mm x 600mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
Class E600							
173	Class E600 non-rock double triangular cover and frame to suit clear opening 300mm x 300mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
174	Class E600 non-rock double triangular cover and frame to suit clear opening 450mm x 450mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
175		i	1	No.			

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description			Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of
	Class E600 non-rock double triangular cover and frame to suit clear opening 600mm x 450mm	ii	2 - 10	No.			
		iii	> 10	No.			
176	Class E600 non-rock double triangular cover and frame to suit clear opening 600mm x 600mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
177	Class E600 non-rock double triangular cover and frame to suit clear opening 900mm x 600mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
178	Class E600 non-rock double triangular cover and frame to suit clear opening 1220mm x 600mm	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
Remove and dispose of - Only use when TTC contractor is the principal contractor and when below rates are used remove rates in TTC Non - Civil section are not applicable							
179	Remove and dispose of any chamber cover and frame	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
181	Remove and dispose of traffic signal controller directly in ground			No.			
182	Remove and dispose of OVD support pole for the sign directly in ground			No.			
183	Remove and dispose of OVD height/ presence detector support pole directly in ground			No.			

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023			
No	Description	Unit			Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of	
184	Remove and dispose of OVD controller directly in ground	No.						
185	Remove and dispose of Wig-Wag traffic signal directly in ground	No.						
186	Remove and dispose of Wig-Wag controller directly in ground	No.						
Remove and re-install - Only covers civil element of requirement and can be used in conjunction with non - civil TTC items where applicable								
187	Remove and re-install any chamber cover and frame	i	1	No.				
		ii	2 - 10	No.				
		iii	> 10	No.				
188	Remove and re-install traffic signal pole directly in ground	i	1	No.				
		ii	2 - 10	No.				
		iii	> 10	No.				
189	Remove and re-install signal controller directly in ground	No.						
190	Remove and re-install OVD support pole for the sign directly in ground	No.						
191	Remove and re-install OVD height/ presence detector support pole directly in ground	No.						
192	Remove and re-install OVD controller directly in ground	No.						
193	Remove and re-install Wig-Wag traffic signal directly in ground	No.						
194	Remove and re-install Wig-Wag controller directly in ground	No.						
Install - Only covers civil element of requirement and can be used in conjunction with non - civil TTC items where applicable								
Install only								
195	Install only traffic signal pole directly in ground	i	1	No.				
		ii	2 - 10	No.				
		iii	> 10	No.				

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description	Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of		
196	Install only traffic signal controller directly in ground	No.					
197	Install only OVD support pole directly in ground	No.					
198	Install only OVD height/ presence detector support pole directly in ground	No.					
199	Install only OVD controller directly in ground	No.					
200	Install only Wig-Wag traffic signal directly in ground	No.					
201	Install only Wig-Wag controller directly in ground	No.					
Supply & Install - Retention sockets/ ducted cabinet bases							
202	Supply and install retention sockets for traffic signal poles	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
203	Supply and install retention sockets for bridge deck applications or shallow mounting conditions for traffic signal poles	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
204	Supply and install ducted cabinet base for junction	No.					
205	Supply and install ducted cabinet base for pedestrian crossing	No.					
206	Supply and install retention socket for OVD height/ presence support pole	No.					
207	Supply and install retention socket for Wig-Wag traffic signal	No.					
208	Supply and install ducted cabinet base for Wig-Wag controller	No.					
Footway works							
Kerbs - kerb works to be a maximum of 2m per crossing point side							
Supply & Install							
209	Supply and install pre-cast concrete kerb, any type	i	< 2	Per m			
		ii	2 - 10	Per m			

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description			Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of
		iii	> 10	Per m			
210	Supply and install natural stone kerb, any type	i	< 2	Per m			
		ii	2 - 10	Per m			
		iii	> 10	Per m			
Remove & Re-Lay							
211	Remove & re-lay kerb, any type	i	< 2	Per m			
		ii	2 - 10	Per m			
		iii	> 10	Per m			
Remove & Dispose of							
212	Remove & dispose of kerb, any type	i	< 2	Per m			
		ii	2 - 10	Per m			
		iii	> 10	Per m			
Paving (including tactile)/ Asphalt/ Concrete							
Supply & Install							
213	Supply and install natural stone paving any type, any type	i	< 2	m ²			
		ii	2 - 10	m ²			
		iii	> 10	m ²			
214	Supply and install pre-cast concrete tactile paving, any type	i	< 2	m ²			
		ii	2 - 10	m ²			
		iii	> 10	m ²			
215	Supply and install pre-cast concrete ladder and tramline paving, any type	i	< 2	m ²			
		ii	2 - 10	m ²			
		iii	> 10	m ²			

Capital Schedule of Rates - Civils					Lot 3 (South) - Y/E 31/03/2023		
No	Description			Unit	Supply & Install/ Install only	Remove/ Demolish & Re-Install/ Re-Lay/ Re- build	Remove/ Break Out & Dispose of
216	Supply and install asphalt paving up to 100mm thick	i	< 2	m ²			
		ii	2 - 10	m ²			
		iii	> 10	m ²			
217	Supply and install pre-cast concrete paving, any type except tactile paving	i	< 2	m ²			
		ii	2 - 10	m ²			
		iii	> 10	m ²			
Remove/ Break Out & dispose of							
218	Remove & dispose paving slabs, any type	i	< 2	m ²			
		ii	2 - 10	m ²			
		iii	> 10	m ²			
219	Remove & re-lay paving, any type	i	< 2	Per m			
		ii	2 - 10	Per m			
		iii	> 10	Per m			
220	Break out existing asphalt or concrete footway up to 100mm thick	i	< 2	m ²			
		ii	2 - 10	m ²			
		iii	> 10	m ²			
Loop Box							
221	Supply and install loop boxes	i	1	No.			
		ii	2 - 10	No.			
		iii	> 10	No.			
Declared overhead and profit in above items (%)							

Part 3 - Capital Works Scheme Price Uplift (as per Schedule 3, Part 1)

Scheme Request Type	% Uplift on Real prices
Scheme Request A (Base)	
Scheme Request B	
Scheme Request C	
Scheme Request D	
Scheme Request E (Base)	

2. Section 2 - Contract Data B

Daily rates for defined Costs of design working outside contract area

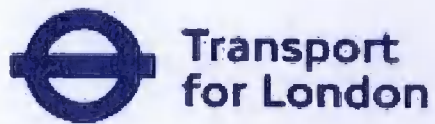
Lot 3 (People)	Price per Day
Contractors ATS Senior Engineer	
Contractors ATS Engineer	
Contractors ATS Installer (qualified)	
Contractors Senior Project Manager	
Contractors Project Manager	
Contractors Contract Director	
Contractors Bid Manager / Lead	
Contractors Estimating Manager / Lead	
Contractors Mobilisation Manager	
Contractors Capital Works Project Manager	
Contractors Civil Engineering Manager	
Contractors Civil Engineer	
Contractors Lead Maintenance Manager	
Contractors Commercial Manager	
Contractors Senior Design Manager	
Contractors Design Manager	
Contractors Risk Manager	
Contractors Health and Safety and Environment Mgr	
Contractors Planning (Scheduling) Manager	
Contractors Quality Manager	
Contractors BIM Manager	
Contractors Site Supervisor	
Contractors Chief Engineer	

Lot 3 (Plant and Equipment)	Price per Day
Mobile access platform - Cherry Picker - 6 meter reach	
Mobile access platform - Scissor lift with flat platform, 3 meter reach	
Hydraulic Road breaker and power pack	
Air Compressor (150 litre)	
Air Compressor (90 litre)	
110v Petrol Generator	
1 kVA Generator	
3 kVA Generator	
Underground cable avoidance locator	
7.5 Tonne flatbed truck	
7.5 Tonne flatbed + HIAB / Crane vehicle	
Mechanical Post Hole Digger	
Vibrating wacker plate compactor	
Mechanical trench earth rammer / tamper	
Crew van Traffic Management Signage	
Crew van barriers	
Crew van hand tools	
Crew van welfare unit	
Steps / Ladders 3 meter reach	
Mini Digger / Excavator - tracked	
Mini Digger / Excavator - wheeled	
For any items of Plant and Equipment not listed above, the following published list of Equipment shall be used: Civil Engineering Contractors Association	
Percentage Adjustment (positive or negative) for Equipment:	

Contractors Commissioning Manager	
Contractors Electrical Engineer	
Contractors HR Manager	
Contractors Stores and Logistics Manager	

3. Section 3 – Fee Percentage

Fee (%)	
Lot 3	



TRAFFIC TECHNOLOGY CONTRACT (Lot 3)

Schedule 6

PART C Schedule of Cost Components

SCHEDULE OF COST COMPONENTS

An amount is included

- only in one cost component and
- only if it is incurred in order to Provide the Works.

If such component is partially incurred in relation to the other matters or is a head office or overhead the cost of such amount is not included.

People	1	<p>The following components of</p> <ul style="list-style-type: none"> • the cost of people who are directly employed by the <i>Contractor</i> and whose normal place of working is within the <i>site</i> and • the cost of people who are directly employed by the <i>Contractor</i> and whose normal place of working is not within the <i>site</i> but who are working in the <i>site</i>, proportionate to the time they spend working in the <i>site</i>. <p>11 Wages, salaries and amounts paid by the <i>Contractor</i> for people paid according to the time worked on the contract.</p> <p>12 Payments related to work on the contract and made to people for</p> <ul style="list-style-type: none"> (a) bonuses and incentives (b) overtime (c) working in special circumstances (d) special allowances (e) absence due to sickness and holidays (f) severance. <p>13 Payments made in relation to people in accordance with their employment contract for</p> <ul style="list-style-type: none"> (a) travel (b) subsistence and lodging (c) relocation (d) medical examinations (e) passports and visas (f) travel insurance (g) items (a) to (f) for dependants (h) protective clothing (i) contributions, levies or taxes imposed by law (j) pensions and life assurance (k) death benefit (l) occupational accident benefits (m) medical aid and health insurance (n) a vehicle (o) safety training (p) small mechanical and/or hand tools. <p>14 The following components of the cost of people who are not directly employed by the <i>Contractor</i> but are paid for by the <i>Contractor</i> according to the time worked while they are within the <i>site</i>.</p> <p>Amounts paid by the <i>Contractor</i>.</p>
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NEC Equipment	2	The following components of the cost of NEC Equipment which is used within the <i>site</i> .
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- 21 Amounts for NEC Equipment which is neither in the Price List or the Schedule of Capital Works Rates, at competitively tendered or open market rates, multiplied by the time for which the NEC Equipment is required.
- 22 Unless included in the hire or rental rates, payments for the purchase price of NEC Equipment which is consumed.
- 23 Unless included in the hire or rental rates, payments for
- transporting NEC Equipment to and from the *site* other than for repair and maintenance,
 - erecting and dismantling NEC Equipment and
 - constructing, fabricating or modifying NEC Equipment as a result of a compensation event.
- 24 Unless included in the hire rates, the cost of operatives is included in the cost of people.

Plant and Materials

- 3 The following components of the cost of Plant and Materials.
- 31 Payments for
- purchasing Plant and Materials,
 - delivery to and removal from the *site*,
 - providing and removing packaging and
 - samples and tests.
- 32 Cost is credited with payments received for disposal of Plant and Materials unless the cost is disallowed.

Subcontractor

- 4 The following components of the cost of Subcontractors.
- 41 Payments to Subcontractors for work which is subcontracted without taking into account any amounts paid to or retained from the Subcontractor by the *Contractor*, which would result in the *Client* paying or retaining the amount twice.

Charges

- 5 The following components of the cost of charges paid or received by the *Contractor*.
- 51 Payments made and received by the *Contractor* for the removal from *site* and disposal or sale of materials from excavation and demolition.

Manufacture and fabrication

- 6 The following components of the cost of manufacture and fabrication of Plant and Materials by the *Contractor* which are
- wholly or partly designed specifically for the *works* and
 - manufactured or fabricated outside the *site*.
- 61 Payments at open market competitively tendered rates for purchase of materials used to manufacture and fabricate the Plant and Materials.
- 62 Payments for
- delivery to and removal from the *site*,
 - providing packaging and
 - tests.

-
- 63 The following components of the cost of people who are directly employed by the *Contractor*

Wages, salaries and amounts paid by the *Contractor* for people paid according to the time worked on the manufacture and fabrication of the Plant and Materials.

Payments related to work on the manufacture and fabrication of the Plant and Materials and made to people for

- (a) bonuses and incentives
- (b) overtime
- (c) working in special circumstances
- (d) special allowances

Payments made in relation to people working on the manufacture and fabrication of the Plant and Materials solely in relation to the *works* (and for no other reason) in accordance with their employment contract for

- (a) travel
- (b) subsistence and lodging
- (c) medical examinations

Design	7	The following components of the cost of design of the <i>works</i> and NEC Equipment done outside the <i>site</i> .
	71	The following components of the cost of people who are directly employed by the <i>Contractor</i>

Wages, salaries and amounts paid by the *Contractor* for people paid according to the time worked on the design of the *works* and NEC Equipment.

Payments related to work on the design of the *works* and NEC Equipment and made to people for

- (a) bonuses and incentives
- (b) overtime
- (c) working in special circumstances
- (d) special allowances
- (e) absence due to sickness and holidays
- (f) severance.

Payments made in relation to people working on the design of the *works* and NEC Equipment solely in relation to the *works* (and for no other reason) in accordance with their employment contract for

- (a) travel
- (b) subsistence and lodging
- (c) medical examinations

Insurance	8	The following are deducted from cost <ul style="list-style-type: none">• the cost of events for which the contract requires the <i>Contractor</i> to insure and• other costs paid to the <i>Contractor</i> by insurers.
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