

MAYOR OF LONDON



TRANSPORT for LONDON

London Highways Alliance Contract

VOLUME 2

SERVICE INFORMATION (COMMON)

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General Preamble

- 1.1 This specification is based on the “Specification for Highway Works” (SHW) (published by the Stationery Office as Volume 1 of the Manual of Contract Documents for Highway Works (MCHW)) and “Highway Construction Details” (Volume 3 of MCHW). Details are set out below of all Additional, Substitute and Cancelled Clauses (Annex A), all Minor Alterations to Existing Clauses (Annex B), all Appendices (Annex C), all Typical Arrangement Drawings (Annex D) and all Highway Construction Details.

This document details the comprehensive range of services that may be requested by an *Employer* under this contract.

Each *Employer* specific Service Information contains that *Employer’s* selection of the services that they require the *Contractor* to deliver.

The *Employer* may select to adopt the specification as set out in this document for each service that he requires under this contract, or he may elect to deviate from this specification by including an alternative specification in his *Employer* specific Service Information.

2. Services

2.0 Introduction

- 2.0.1 The range of services that an *Employer* can request under this contract are listed in the table below. There are three ways in which the *Employer* may require each service to be provided: cyclic activity, reactive works or as a scheme (although some combinations are not possible and these are marked as “n/a” in the table below). Full descriptions of each service can be found in clauses 2.1 to 2.25.

	Service	Cyclic activity	Reactive works (*)	Schemes
1	Safety Inspections			n/a
2	Service Inspections			n/a
3	Inspection of Highway Structures	n/a		
4	Site Investigations and Surveys	n/a		
5	Design Services	n/a	n/a	
6	Road Pavements (including minor repairs and resurfacing)	n/a		
7	Kerbs, Footways and Paved Areas	n/a		
8	Traffic Signs			
9	Road Markings			

10	Lighting (including electrical work for signs, etc)			
11	Fencing	n/a		
12	Road Restraint Systems (including pedestrian guardrailing)			
13	Drainage (excluding gully cleansing)			
14	Earthworks	n/a		
15	Landscape and Ecology			
16	Street Cleaning (sweeping and litter picking)			n/a
17	Street Cleaning (including gully cleansing; excluding sweeping and litter picking)			n/a
18	Bridges and other Structures			
19	Tunnels			
20	Street Furniture (excluding signs, lighting columns and pedestrian guardrailing)	n/a		
21	Winter Service		n/a	n/a
22	Emergency Call-Out Service	n/a		n/a
23	Civil Engineering Support Works	n/a		
24	3 rd Party Damage	n/a		n/a
25	Updating <i>Employer's</i> Asset Management System for Core Services.		n/a	n/a

* If an *Employer* selects the reactive works option for any service as a Core Service they must also select service 22, Emergency Call-Out Service, to cover response to defects identified as Cat 1 (ECO).

2.0.2 Cyclic – general

2.0.2.1 Cyclic activities are required to be carried out at set frequencies. Such activities shall be evenly spaced unless agreed otherwise with the *Employer*, e.g.

- An activity required to be performed once a day shall be carried out at approximately the same time each day, not at any other time during the day;
- An activity required to be performed weekly/monthly shall be carried out on approximately the same day of the week or month;
- A programme of activities required to be carried out once every three years shall be $\frac{1}{3}$ complete after one year and $\frac{2}{3}$ complete after two years; and
- Seasonal activities shall be undertaken in the applicable season.

2.0.2.2 The *Employer* will whenever possible, provide details of when an activity was last carried out prior to the *starting date* in order that the *Contractor* can calculate when it next needs to be carried out. Where such details are not available, the *Contractor* shall carry out the activity as follows:

<u>For activities of frequency</u>	<u>Initial implementation under this contract</u>
1 week	within 1 week of <i>starting date</i>
2 weeks	within 2 weeks of <i>starting date</i>
1 month	within 2 weeks of <i>starting date</i>
3 months	within 6 weeks of <i>starting date</i>
6 months	within 3 months of <i>starting date</i>
1 year	within 6 months of <i>starting date</i>
more than 1 year	within 1 year of <i>starting date</i>

2.0.2.3 All cyclic activities shall be carried out in accordance with the relevant requirements set out in SHW and Annexes A to D.

2.0.2.4 Any items or components replaced as part of cyclic activities shall be on a like-for-like basis unless otherwise agreed by the *Employer*.

2.0.3 Reactive works - general

2.0.3.1 If selected as a Core Service in an *Employer's* Service Information, reactive works may be ordered as a lump sum – see clause 2.0.3.4. Otherwise, reactive works will be ordered as Tasks.

2.0.3.2 If so selected, the *Contractor* shall undertake reactive works in response to the findings of safety inspections, service inspections, third party damage and faults reported by the *Contractor's* staff, the *Employer*, the Police and members of the public.

2.0.3.3 All reactive works shall be carried out in accordance with the relevant requirements set out in SHW and Annexes A to D.

2.0.3.4 Where reactive works require a response within 7 calendar days or less, and where the estimated cost of an individual permanent repair using the Price List does not exceed £1,000, the *Employer* may opt to reimburse the *Contractor* via a lump sum. Reactive work that does not fall into this category will be instructed as a Task.

2.0.3.5 Permanent repair of third-party assets, e.g. statutory undertakers' apparatus, shall only be undertaken on instruction from the *Employer*.

2.0.3.6 No tree shall be removed without the prior approval of the *Employer*.

2.0.3.7 Any items or components replaced as part of reactive works shall be on a like-for-like basis unless otherwise specified or instructed by the *Employer*.

2.0.3.8 Loss of, or damage to, any highway asset caused by a third party shall be dealt with by the *Contractor* as reactive works in accordance with the procedures set out in clause 2.0.3, above. The *Contractor* shall, at his own cost, prepare and submit any information and reports which may reasonably be requested by the *Employer* or the Police. Clause 2.24 provides more detail on the requirements associated with reactive works arising from 3rd party damage.

2.0.4 Reactive works in response to defects

2.0.4.1 The identification and categorisation of defects is detailed in clause 2.1

2.0.4.2 Defects which are identified as Cat 1(ECO) require the deployment of an emergency response unit. Within the stipulated response time, the *Contractor* shall attend the defect, assess the situation and take appropriate action. Appropriate action shall be the immediate commencement of either: a) a temporary repair; b) a permanent repair; or c) the making safe of the defect. The choice of the most appropriate action will depend on three factors: a) the nature of the defect and whether the emergency response unit attending has the materials necessary to carry out an immediate repair; b) whether specialist advice is needed before deciding on the nature of a repair; and c) an assessment of the overall disruption caused to road users of each of the three options. Further information about Emergency Call Out can be found in Series 3200.

2.0.4.3 The response to defects identified as Cat 1 response requires the defect to be either: a) temporarily repaired within 24 hours; b) permanently repaired within 24 hours; or c) made safe within 24 hours. The choice will depend on two factors: a) the nature of the defect and whether the *Contractor* can source the plant and materials required for completion of a temporary or permanent repair within 24 hours; and b) an assessment of the overall disruption caused to road users of each of the three options.

2.0.4.4 Making safe may include, but not be limited to, displaying warning notices, coning off, fencing off, or using temporary barriers to effectively protect road users from the defect. In deciding the most appropriate measures for making a defect safe, the *Contractor* shall take into account the disruption to road users that would be caused.

2.0.4.5 As part of the Cat 1(ECO) or Cat 1 response, where a permanent repair is not carried out initially, a permanent repair shall be carried out within 28 calendar days, unless agreed otherwise and the *Contractor* shall put in place a special inspection regime to ensure that temporary repairs or measures

taken to make the defect safe remain effective until a permanent repair is made. The cost of temporary repair, making safe and the associated special inspection regime shall be deemed to be covered in the reactive works lump sum for the affected asset, or the item rates for permanent repair if permanent repair is instructed by a Task. If the *Employer* does not instruct permanent repair of the asset, or the defect relates to a 3rd party asset where the 3rd party undertakes the permanent repair, the *Employer* will reimburse the *Contractor* for carrying out a temporary repair, making safe and associated special inspections, in accordance with the contract.

2.0.4.6 Category 2 defects are those which, following an on-site risk assessment, are deemed not to represent an immediate or imminent hazard or risk of short term structural deterioration. The Cat 2H response requires the defect to be permanently repaired within 7 calendar days, and the Cat 2M response requires the defect to be permanently repaired within 28 calendar days. In neither case will a temporary repair be permitted.

2.0.4.7 Where the *Employer* has chosen to reimburse the *Contractor* for reactive works (up to the limit of £1,000) through a lump sum, the response timescales set out in clause 2.1.11 shall be taken to be the time from when the *Contractor* himself discovers a defect requiring repair or the time when he is notified of a defect requiring repair either by the *Employer*, the Police, or members of the public. In all other cases, reactive works are instructed by the *Employer* as a Task and the Task Order will state the required response time.

2.0.5 Reactive works and schemes - general

2.0.5.1 All reactive works and schemes shall be carried out in accordance with the relevant requirements set out in SHW and Annexes A to D and will be instructed under a Task Order.

2.0.5.2 Prior to a Task Order being placed, the *Contractor* may be required to meet with the *Employer* either at his offices or at the Task Site to discuss the proposed Task Order in order to assist with the setting of a realistic Task programme. The *Contractor* will not be reimbursed for this meeting.

2.0.5.3 Within 14 calendar days of physical completion to the Service Manager's satisfaction the *Contractor* shall, where relevant:

- a) Provide as-built drawings confirming the constructed details of the works (see sub-clause 106SR.10);
- b) Update the *Employer's* asset management system;
- c) Provide records of site surveys undertaken; and
- d) Update the Health and Safety File with:
 - (i) Full details of Task undertaken;
 - (ii) The nature and location of significant services;
 - (iii) Details of any residual hazards or risks associated with the works; and

- (iv) Information about anything encountered during the carrying out of the works that may have an impact for maintenance, repairs or future works.

This requirement will be deemed to be worth 10% of the total value of the Task, unless agreed otherwise.

2.0.5.4 Task Completion will only be deemed to have occurred when the *Contractor* has:

- completed the physical works to the Service Manager's satisfaction ("physical completion"); and
- met the requirements of clause 2.0.5.3 above.

When all of the above has been met, a Task Completion certificate will be issued by the Service Manager.

2.0.5.5 The *Contractor* should refer to sub-clause 106SR.11 for further requirements relating to reactive works or schemes designed by him.

2.1 Safety Inspections

2.1.1 If the *Employer* selects service 1 – Safety Inspections – cyclic activity - the *Contractor* is required under this contract to undertake safety inspections of all parts of the Affected Property (except tunnels), to employ a systematic approach to the identification and recording of defects, and a risk-based approach to dealing with them. If the *Employer* selects service 1 – Safety Inspections – reactive works – the *Contractor* will be required to carry out ad hoc safety inspections in response to concerns expressed by the *Contractor's* staff, the *Employer*, the Police or members of the public.

2.1.2 Safety inspections shall identify all defects likely to create danger or serious inconvenience to users of the Affected Property or the wider community. Defects are identified in clause 2.1.5 and the level of response required to rectify defects is detailed in clause 2.1.11. Safety inspections shall be undertaken by suitably trained and accredited staff, typically holding City & Guilds 6033 – Unit 311 and being included in the national Register of Highway Inspectors.

2.1.3 Safety inspections shall be undertaken on foot at frequencies to reflect the characteristics of the particular element of the Affected Property and its use, and at times of day which enable the inspection to be carried out thoroughly and safely. However, on high speed Strategic Routes (50/ 60/ 70 mph), on roads where there is no footway, or roads where the carriageway is too wide to identify defects from the footway, safety inspections shall be carried out by two operatives in a slow-moving vehicle. Safety inspections carried out in this way shall, whenever possible, be carried out during off-peak hours.

2.1.4 If selected as a cyclic activity, the *Contractor* shall carry out safety inspections at the following frequencies:

	Network feature	Frequency
Carriageways	High speed Strategic Route (50/60/70 mph)	1 week
	Other Strategic Route	1 month
	Main Distributor Road	1 month
	Secondary Distributor Road	1 month
	Link Road	3 months
	Local Access Road	6 months
Footways	Prestige Walking Zone	1 week
	Primary Walking Zone	1 month
	Secondary Walking Zone	3 months
	Link Footway	6 months
	Local Access Footway	1 year
Cycling Facilities	Category A: Part of Carriageway	As for road
	Category B: Not Part of Carriageway	1 month
	Category C: Cycle Route through Open Space	1 year

2.1.4.1 Where network features intersect (e.g. at a zebra or a toucan crossing), the feature with the greatest frequency shall be applied.

2.1.4.2 There might be particular locations on the network where more frequent inspections than those set out in the above table are required, such as at accesses to schools, hospitals, etc or on routes which host special events or ceremonies. Any such requirement will be set out in the *Employer's Service Information*.

2.1.5 When carrying out a safety inspection, the following shall be classified as defects:

Carriageway

- A pothole 20mm or deeper over 100sqcm or more within 1.5m of the kerb or within a formally marked cycle lane
- A pothole 30mm or deeper over 100sqcm or more elsewhere
- Spalling of concrete 20mm or deeper over 400sqcm or more
- Crowning of 40mm or more over a 3m length
- A depression of 40mm or more within a 1m length or 25mm or more within a 300mm length
- Rutting of 40mm or more
- A gap or crack 20mm or wider, 40mm or deeper and 500mm or longer
- An oil or diesel spill over 1sqm
- Missing or defective anti-skid surfacing over 1sqm
- Standing water 10mm or deeper over 500mm in width adjacent to the kerb or 20mm or deeper over 1sqm or more elsewhere
- Debris, building materials, abandoned vehicles or other obstruction likely to create a hazard
- Inadequate signing or guarding of works

Pedestrian Crossing

- A trip of 20mm or more

Footway/Shared Path/Cycle Track

- A trip of 20mm or more
- A pothole 20mm or deeper over 100sqcm or more
- A rocking slab or block with 20mm or more movement
- A gap or crack 20mm or wider, 20mm or deeper and 200mm or longer
- Standing water 10mm or deeper over 1sqm or more
- Cellar or other access doors or vents likely to create a hazard
- Damaged, misaligned or defective street furniture likely to create a hazard
- Height clearance less than 2.5m to cycle path or cycle track below signs or overhanging trees or vegetation
- Height clearance less than 2.1m to footway below signs or overhanging trees or vegetation
- A tree base 20mm or more below footway level
- A damaged or defective tree grid likely to create a hazard
- Advertising, scaffolding, hoarding, building materials, vegetation or other obstruction likely to create a hazard
- Inadequate signing or guarding of works

Kerbing

- A unit dislodged by 50mm or more horizontally
- A unit sunk by 20mm or more compared to an adjacent unit
- A unit rocking with 20mm or more of movement
- A missing unit

Ironwork

- A broken or cracked cover likely to create a hazard
- A worn or polished cover likely to create a hazard
- A missing cover
- A rocking cover or frame likely to cause a hazard or noise nuisance
- Ironwork sunk or projecting by 20mm or more
- Fluid discharging and likely to create a health or safety hazard
- A missing gully grate
- A blocked gully likely to create a hazard
- A broken or cracked gully grate likely to create a hazard

Grass verge

- Rutting of 75mm or more
- Inadequate signing or guarding of works

Road Markings

- 30% or more missing, faded or worn over a 1m length

Traffic Signals, Lighting, Signs, Bollards, Street Name Plates

- A damaged, misaligned or defective item likely to create a hazard

- A missing item likely to create a hazard
- Obscured, dirty or faded items likely to create a hazard
- Exposed wiring
- An open or missing door protecting electrical apparatus
- A traffic signal lamp failure

Fencing, Safety Fencing and Barriers

- A damaged, misaligned or defective item likely to create a hazard
- A missing item likely to create a hazard

Trees and Vegetation

- Obstructing visibility of signs or sight lines
- Obstructing passage in use of the highway
- Dead, diseased or infected trees or branches

Highway Structures

- A damaged, misaligned, loose or defective item likely to create a hazard (eg expansion joint)
- Severe cracking or spalling of concrete
- Missing items or any evidence of tampering with security features
- Inadequate signing or guarding of works

Culverts

- An accumulation of rubbish, debris or any other material at the mouth of the culvert likely to create a flooding hazard

Pedestrian Subways

- Lighting damaged or not functioning
- Wall tiles missing or damaged
- A trip of 20mm or more
- A pothole 20mm or deeper over 100sqcm or more
- Damaged stair treads
- A gap or crack in the floor 20mm or wider, 20mm or deeper and 200mm or longer
- Standing water 10mm or deeper over 1sqm or more
- A handrail loose or missing.

2.1.6 In addition to the above, the inspector shall record anything else which is deemed to be creating, or is likely to create, a hazard to users of the Affected Property. The inspector shall also identify and record any requirement for reactive works associated with, for example, graffiti, animal carcasses, fly tipping or street lights burning during the day.

2.1.7 During safety inspections, all observed defects that create a risk to users shall be recorded and the level of response determined on the basis of risk assessment. The degree of deficiency in highway elements will be crucial in determining the nature and speed of response. The inspector shall make an on-site judgement taking into account the particular circumstances. For

example, the degree of risk from a pothole depends upon not merely its depth but also its surface area and location in the carriageway or footway.

2.1.8 All defects identified from the list at clause 2.1.5 above shall be assessed for likely risk. All risks identified through this process shall be evaluated in terms of their significance, which means assessing the likely impact should the risk occur, and the probability of it actually happening.

2.1.9 The impact of a risk occurring shall be quantified on a scale of 1 to 4, assessed as follows:

- 1 little or negligible impact;
- 2 minor or low impact;
- 3 moderate impact;
- 4 major, high or serious impact.

The impact shall be quantified by assessing the extent of damage or injury likely to be caused should the risk become an incident. As the impact is likely to increase with increasing speed, the amount of traffic and type of road are clearly important considerations in the assessment, as is the vulnerability of the road user, e.g. cyclists.

2.1.10 The probability of a risk occurring shall be quantified on a scale of 1 to 5, assessed as follows:

- 1 very low probability;
- 2 low probability;
- 3 medium probability;
- 4 high probability;
- 5 very high probability.

The probability shall be quantified by assessing the likelihood of users, passing by or over the defect, encountering the risk. As the probability is likely to increase with increasing vehicular, cyclist or pedestrian flow, the network hierarchy and defect location are, consequently, important considerations in the assessment.

2.1.11 The risk factor for a particular risk is the product of the risk impact and the risk probability and is therefore in the range of 1 to 20. It is this factor which shall identify the overall seriousness of the risk and consequently the speed of response to remedy the defect. Accordingly, the category of the defect and the response time for dealing with it shall be determined by correlation with the risk factor, as follows:

Risk factor	Category of defect	Response
16 or 20	Cat 1(ECO*)	Attend and take appropriate action within 1 hour (for defects affecting the Strategic Route Network) or within 2 hours (for all other parts of the Affected Property)

8 to 15	Cat 1	Make safe or complete temporary or permanent repair within 24 hours
6	Cat 2H	Complete permanent repair within 7 calendar days
3 to 5	Cat 2M	Complete permanent repair within 28 calendar days
1 or 2	Cat 2L	No response required
* Emergency Call Out		

2.1.12 If the *Employer* selects service 1 – Safety Inspections – cyclic activity – the *Contractor* shall operate an electronic management system for recording and reporting on all safety inspections carried out, all defects found, and details of all remedial actions taken. Such a system shall also be used to record incidents and defects reported to the *Contractor* from other sources, including the *Employer*, the Police and the public. For further details see clause 162AR – Electronic Management Systems and Series 3200 Emergency Call Out.

2.1.13 In addition to scheduled safety inspections, the *Contractor* shall also exercise a general duty of care when travelling within the Affected Property by recording hazards and taking appropriate action, particularly when a Cat 1(ECO) response is required, as and when they are identified.

2.2 Service Inspections

1.2.1 If the *Employer* selects service 2 – Service Inspections – cyclic activity - the *Contractor* is required under this contract to undertake regular service inspections of particular elements of the Affected Property prescribed in the *Employer's* Service Information in order to check the completeness of the *Employer's* asset inventory and to identify where infrastructure is not operating satisfactorily or where operation is likely to become unsatisfactory before the next service inspection. The *Contractor* shall employ a systematic approach to the identification and reporting of problems and the planning of remedial actions. If the *Employer* selects service 2 – Service Inspections – reactive works - the *Contractor* will be required to carry out ad hoc service inspections in response to concerns expressed by the *Contractor's* staff, the *Employer*, the Police or members of the public.

1.2.2 Subject to the *Employer's* specific requirements for service and works areas under this contract, elements of the highway network requiring service inspections shall be as follows:

- Drainage Systems (Clause 2.2.4 below);
- Street Lighting (Clauses 2.2.5 to 2.2.7 below);
- Traffic Signs (Clause 2.2.8 below);
- Road Markings (Clause 2.2.9 below);
- Road Studs (Clause 2.2.10 below);
- Road Restraint Systems (Clauses 2.2.11 and 2.2.12 below);
- Boundary Fencing (Clause 2.2.13 below); and

- Trees (Clauses 2.2.14 and 2.2.15 below).

2.2.3 Whenever practicable, service inspections which require carriageway or lane closures shall be carried out in conjunction with other works.

2.2.4 Subject to the *Employer* selecting service 13 – Drainage (excluding gully cleansing) – the *Contractor* shall carry out service inspections of all pump stations every 6 months and various testing and servicing at intervals as set out in clause 526AR and Appendix 5/7.

2.2.5 Subject to the *Employer* selecting service 10 – Lighting (including electrical work for signs, etc) – the *Contractor* shall carry out a service inspection during the hours of darkness of all road, subway, footway, navigation and sign lighting units to check for satisfactory illumination. The required frequency is as follows:

Strategic Route Network Prestige Walking Zone Primary Walking Zone	no less than once every 2 weeks during the period from 1 April until 1 November and no less than once every 1 week during the rest of the year
All other parts of the Affected Property	no less than once every 4 weeks during the period from 1 April until 1 November and no less than once every 2 weeks during the rest of the year

2.2.6 Subject to the *Employer* selecting service 10 – Lighting (including electrical work for signs, etc) – the *Contractor* shall ensure that electrical testing of all road lighting and street lighting units, together with associated cabling, feeder pillars, switchgear and other distribution points, is carried out no less than once every 6 years. The method and forms used shall be as specified in the Institution of Lighting Engineers Code of Practice for Electrical Safety in Public Lighting Operations and BS 7671, with the results being compiled in a data format capable of interrogation within the *Employer's* asset management system. The *Employer* will provide the dates of most recent tests.

2.2.7 Subject to the *Employer* selecting service 10 – Lighting (including electrical work for signs, etc) – the *Contractor* shall ensure that the structural and/or mechanical condition of all lighting columns is assessed and recorded no less than once every 6 years. This shall be in accordance with the Institution of Lighting Engineers Technical Report No 22 – Lighting Columns and Sign Posts: Planned Inspection Regime, with the results being compiled in a data format capable of interrogation within the *Employer's* asset management system. The *Employer* will provide the dates of most recent tests. Structural condition of traffic signal mast arms shall be assessed through General and Principal Inspections under Series 2200. Details of mechanical and structural assessment and testing beyond the requirements of ILE Technical Report 22, should it be required under this contract, are set out in Series 3300. Such additional assessment and testing shall not be part of the Service Inspection and will be instructed as a Task.

2.2.8 Subject to the *Employer* selecting service 8 – Traffic Signs – the *Contractor* shall carry out a service inspection of signs to check alignment, visual performance and that they convey the intended message to road users, as follows:

Congestion Charging Zone or Low Emission Zone boundary signs	Every 1 month
<ul style="list-style-type: none"> • Other signs associated with the Congestion Charging Zone or Low Emission Zone • Red Route Regulatory Traffic Signs (see clause 1233AR.1) 	Every 3 months
All other signs on the Strategic Route Network	Every 1 year
Signs on all other roads, footways and cycle routes	Every 2 years

2.2.9 Subject to the *Employer* selecting service 9 – Road Markings – the *Contractor* shall carry out a visual service inspection of carriageway road markings, as follows:

Location	Scope of Inspection	Frequency
Road Markings associated with the Congestion Charging Zone entry points	Damaged, obscured or missing markings	Every 1 month
<ul style="list-style-type: none"> • Other Road Markings associated with the Congestion Charging Zone • TLRN and Red Route Traffic Control Road Markings (see clause 1233AR.1) 	Damaged, obscured or missing markings	Every 3 months
All Road Markings, including the above	Worn or missing markings	Every 1 year

2.2.10 Subject to the *Employer* selecting service 9 – Road Markings – the *Contractor* shall carry out visual service inspections of road studs not less than once every 6 months to check wear, corrosion, damage, loose or missing studs or inserts, reflective conspicuity, loss of or damage to retroreflective lenses, sinkage, settlement, detritus on lenses, integrity and security of casings of embedded stud housings, loss of adhesion or breaking up of surface mounted road studs, and misalignment with road markings. Inspections of the reflective conspicuity of road studs shall be carried out during hours of darkness and from a slow moving vehicle.

2.2.11 Subject to the *Employer* selecting service 12 – Road Restraint Systems (including pedestrian guardrailing) – the *Contractor* shall carry out a visual inspection of steel and wire rope safety fencing every 5 years and report on the following: mounting height, set-back, clearance, post spacing, post stability, bolt tightness, missing bolts, corrosion and damage.

- 2.2.12 Subject to the *Employer* selecting service 12 – Road Restraint Systems (including pedestrian guardrailing) – the *Contractor* shall carry out a visual inspection of pedestrian guardrailing every 2 years and report on the following: bolt tightness, missing bolts, post stability, corrosion, surface protective treatment and damage.
- 2.2.13 Subject to the *Employer* selecting service 11 – Fencing – the *Contractor* shall inspect those boundary fences for which the *Employer* is responsible for structural integrity including, where appropriate, for stock proof integrity not less than once every 2 years. A higher frequency may be necessary in some locations, e.g. in areas with known higher incidence of vandalism as set out in the *Employer's* Service Information.
- 2.2.14 Subject to the *Employer* selecting service 15 - Landscape and Ecology – the *Contractor* shall undertake Tree Defect Surveys in accordance with Appendix 30/13 not less than once every 1 year.
- 2.2.15 Subject to the *Employer* selecting service 15 - Landscape and Ecology – the *Contractor* shall undertake Tree Condition Surveys in accordance with Appendix 30/14 not less than once every 5 years.
- 2.2.16 If the *Employer* selects service 2 – Service Inspections – cyclic activity – the *Contractor* shall operate an electronic management system for recording and reporting on all Service Inspections carried out, all problems found, and details of all remedial actions taken. For further details see clause 162AR – Electronic Management Systems.

2.3 Inspection of Highway Structures

- 2.3.1 Subject to the *Employer* selecting service 3 – Inspection of Highway Structures – schemes - the *Contractor* shall inspect bridges, other structures and tunnels through an annual programme as instructed by the *Employer* as a Task. If the reactive works option is selected, the *Contractor* may be required to carry out ad hoc inspections as a Task. Inspections shall include General Inspections, Principal Inspections (including underwater inspections where required), Acceptance Inspections, Special Inspections and Inspections for Assessment. Inspections shall be carried out in accordance with Series 2200.

2.4 Site Investigations and Surveys

- 2.4.1 Subject to the *Employer* selecting service 4 – Site Investigations and Surveys – schemes - the *Contractor* shall carry out site investigations and surveys as specified by the *Employer* as a Task. If the reactive works option is selected, the *Contractor* may also be required to carry out additional inspections as a Task. Site Investigations and Surveys might include rotary coring of carriageways, structural investigations, trial holes, CCTV surveys of drainage systems, topographical surveys, and structural testing of lighting columns. Site Investigations and Surveys shall be in accordance with Series 3300.

2.5 Design Services

2.5.1 Subject to the *Employer* selecting service 5 – Design Services – the *Contractor* shall provide Design Services, including cost estimates and all engineering drawings, as specified by the *Employer*, when required. Such Design Services might include, but not be limited to, the following:

Road Renewal Schemes
Structural Renewal Schemes
Local Network Improvement/Traffic Engineering Schemes
Detailed Scheme Design
Feasibility Studies
Traffic Surveys and Modelling
Drainage Design
Lighting Design
Structural Design

For further details see clause 106SR

2.6 Road Pavements (including minor repairs and resurfacing)

2.6.1 Subject to the *Employer* selecting service 6 – Road Pavements (including minor repairs and resurfacing) – the *Contractor* shall carry out reactive works and/or schemes to the road pavements within the Affected Property. All reactive works and schemes shall be carried out in accordance with the requirements set out in Series 700, 800, 900 and 1000.

2.7 Kerbs, Footways and Paved Areas

2.7.1 Subject to the *Employer* selecting service 7 – Kerbs, Footways and Paved Areas – the *Contractor* shall carry out reactive works and/or schemes to the kerbs, footways and paved areas within the Affected Property. All reactive works and schemes shall be carried out in accordance with the requirements set out in Series 1100.

2.8 Traffic Signs

2.8.1 If the *Employer* selects service 8 – Traffic Signs – cyclic activity - the *Contractor* shall carry out cyclic maintenance to the traffic signs within the Affected Property.

2.8.2 Cyclic maintenance of traffic signs (both lit and unlit) shall involve cleaning the face of the sign in accordance with clause 1222AR, at the following frequencies:

- All Strategic Routes Every 1 year
- All Other Roads, Footways & Cycle Routes Every 2 years.

2.8.3 Cyclic maintenance of sign lighting units shall be carried out in accordance with clauses 1223AR and 1224AR at the same frequencies as set out in clause 2.8.2 above.

2.8.4 If the *Employer* selects service 8 – Traffic Signs – reactive works and/or schemes - the *Contractor* shall carry out reactive works and/or schemes to the traffic signs within the Affected Property. Other than defects to traffic signs identified as Cat 1 (ECO) or Cat 1 which require a more immediate response, defects to signs associated with the Low Emission Zone and Congestion Charging Zone entry points shall be repaired within 7 calendar days. All other defects to signs shall be repaired within 28 calendar days.

2.8.5 All cyclic activity, reactive work and schemes associated with traffic signs shall be carried out in accordance with the requirements set out in Series 1200, 1300 and 1400.

2.9 Road Markings

2.9.1 If the *Employer* selects service 9 – Road Markings – cyclic activity – the *Contractor* shall replace all road markings (excluding road studs) within the Affected Property as follows:

- Edge of carriageway and parking control markings – within 8 years of initial marking or last renewal. In any case the *Contractor* shall undertake this activity at least once during the *service period*;
- Transverse markings (e.g. stop lines, box junction markings) – within 1 year of initial marking or last renewal and every 1 year thereafter;
- All other road markings (e.g. lane markings, letters, numerals and symbols) – within 2 years of initial marking or last renewal and every 2 years thereafter.

2.9.2 Subject to the *Employer* selecting service 9 – Road Markings – reactive activity or schemes - the *Contractor* shall carry out works to the road markings within the Affected Property. Other than defects to road markings identified as Cat 1 (ECO) or Cat 1 which require a more immediate response, defects to road markings associated with the Low Emission Zone and Congestion Charging Zone entry points shall be repaired within 7 calendar days. All other defects to road markings shall be repaired within 28 calendar days.

2.9.3 All cyclic activity, reactive work and schemes shall be carried out in accordance with the requirements set out in Series 1200.

2.10 Lighting (including electrical work for signs, etc)

2.10.1 If the *Employer* selects service 10 - Lighting (including electrical work for signs, etc) – cyclic activity - the *Contractor* shall undertake cyclic lighting works (including electrical work for signs, etc) within the Affected Property.

2.10.2 All works shall be carried out in accordance with the requirements set out in SHW and Annexes A to D. Particular attention is drawn to Series 1300

(Road Lighting Columns and Brackets) and to Series 1400 (Electrical Work for Road Lighting and Traffic Signs) and to Appendices 13 and 14.

2.10.3 The *Contractor* shall undertake the following cyclic activities:

Bulk change lamps for all road lighting units, including those in pedestrian subways, at the frequencies set out in the table below unless otherwise specified in the *Employer's* Service Information.

Lamp Type	Designation	Bulk Lamp Change and Clean Interval	
Quartz Metal Halide Ceramic Metal Halide (GE) Cosmopolis	HPI	24 months	
	CDM	24 months	
	CDO	24 months	
	CDO Plus	36 months	
	CDO TT Plus	36 months	
	CMH	36 months	
	CPO	48 months	
Low Pressure Sodium	SOX	24 months	
	SOX-E	36 months	
	SOX PSG	36 months	
	SOX PLUS	36 months	
	Master SOX	36 months	
High Pressure Sodium	SDW-T	24 months	
	SON	36 months (up to April 2012)	
	SON PIA Plus	48 months	
	SON APIA Plus	60 months	
		Continuous Operation	Night Operation only
High Pressure Mercury	MBFU	8000 hours	24 months
Fluorescent and Compact Fluorescent	MCFU	8000 hours	24 months
	SL		
	PL		

Bulk change lamps for all lit sign units, including Belisha beacons, at the frequencies set out in the table below unless otherwise specified in the *Employer's* Service Information.

Lamp Type		Bulk Lamp Change and Clean Interval in Burning Hours	Bulk Lamp Change and Clean Interval in Months	
			Continuous Operation	Night (or Belisha beacon) Operation only
Fluorescent	MCFE, SL, PL	8000 hours	12 months	24 months
Pressed Glass Lamps	PAR	2000 hours	3 months	6 months
High Pressure Mercury	MBFU	8000 hours	18 months	36 months

During bulk lamp changes, the *Contractor* shall:

- Indelibly mark the end cap of each lamp with the date of installation.
- Carry out all other activities listed at clause 1315AR.
- Carry out routine maintenance of feeder pillars, intake boxes and cabinets in accordance with clause 1316AR.

2.10.4 If the *Employer* selects service 10 - Lighting (including electrical work for signs, etc) – reactive works - the *Contractor* shall undertake reactive lighting works (including electrical work for signs, etc) within the Affected Property. The *Contractor* shall undertake the following reactive works:

- Rectify outages of road lighting units caused by any defect(s) within the lighting unit or in associated cabling, feeder pillars, switchrooms, switchgear or other distribution points within 3 calendar days (7 calendar days if permit required) unless otherwise specified or agreed by the *Employer*.
- Rectify outages of sign lighting units caused by any defect(s) within the lighting unit or associated electrical supply equipment including cabling within 3 calendar days (7 calendar days if permit required) unless otherwise specified or agreed by the *Employer*. Illuminated signs include, but are not limited to, regulatory or warning signs, bollards, refuge beacons, belisha beacons and school crossing warning lights.

2.10.5 If the *Employer* selects service 10 - Lighting (including electrical work for signs, etc) – schemes - the *Contractor* shall undertake lighting works (including electrical work for signs, etc) within the Affected Property.

2.10.6 The cost of columns, bases, brackets, cantilever masts, luminaires, controllers, lamps and delivery of these are to be excluded from all Series 1300 SoR items, but rates shall be inclusive of all other materials. Such

costs are also to be excluded from lump sum prices for cyclic activities. However, lump sum prices for reactive works shall include for the cost of columns, bases, brackets, cantilever masts, luminaires, controllers, lamps and their delivery.

2.11 Fencing

2.11.1 If the *Employer* selects service 11 – Fencing – reactive works and/or schemes - the *Contractor* shall carry out reactive works and/or schemes to the fencing within the Affected Property. All reactive work and schemes shall be carried out in accordance with the requirements set out in Series 300.

2.12 Road Restraint Systems (including pedestrian guardrailing)

2.12.1 If the *Employer* selects service 12 – Road Restraint Systems (including pedestrian guardrailing) – cyclic activity - the *Contractor* shall carry out cyclic activities to the road restraint systems within the Affected Property.

2.12.2 The *Contractor* shall carry out the following cyclic activities:

- Re-tension safety fences as defined in paragraph 4.14 of BS EN 1317-1:1998, excluding concrete barriers and vehicle parapets, to the correct torque, in accordance with the requirements of clause 422AR for TCB and RHS vehicle restraint systems, and clause 415AR for wire rope vehicle restraint systems, at intervals not exceeding 2 years.

2.12.3 If the *Employer* selects service 12 – Road Restraint Systems (including pedestrian guardrailing) – reactive works and/or schemes - the *Contractor* shall carry out reactive works and/or schemes to the road restraint systems within the Affected Property.

2.12.4 All cyclic activities, reactive works and scheme shall be carried out in accordance with the requirements set out in Series 400.

2.13 Drainage (excluding gully cleansing)

2.13.1 If the *Employer* selects service 13 – Drainage (excluding gully cleansing) – cyclic activity - the *Contractor* shall carry out cyclic activities to the drainage systems within the Affected Property.

2.13.3 The *Contractor* shall carry out the following cyclic activities:

- Clean linear drainage channel systems, combined drainage and kerb systems, interceptors, catchpits, chambers and soakaways, in accordance with the requirements of clause 520 and clause 523AR, at intervals not exceeding 12 months. When cleaning the above, the *Contractor* shall verify that linear drainage systems are operating satisfactorily. “Linear drainage systems” means all piped drains up to 300mm in diameter; feeder pipes; kerb or channel offset pipes; channels through chambers; and piped grips. “Piped grips” means short lengths of pipe carrying water from a road channel across the verge direct to a ditch, linear drainage system or chamber.

- Clear ancillary drainage Items of all vegetation, debris, silt and other detritus at six monthly intervals during March to May and September to November each year. During the clearing operations, the *Contractor* shall lubricate any moving parts. “Ancillary drainage items” means, without limitation, trash screens, watergates, grills, sluices, tidal flaps, penstocks and valves.
- Remove all accumulated silt, detritus, vegetation and roots from inverts and banks of ditches at intervals not exceeding 2 years..
- Clean filter drains, loosen the filter material, control weeds and remove detritus in accordance with clause 522AR.1 at intervals not exceeding 3 years.
- Empty out and clean all oil separators and petrol interceptors every 2 years.
- Empty out all lagoons and balancing ponds every 4 years and remove all accumulated silt, detritus, deposited waste materials, vegetation and roots.

2.13.4 If the *Employer* selects service 13 – Drainage (excluding gully cleansing) – reactive works and/or schemes - the *Contractor* shall carry out reactive works and/or schemes to the drainage systems within Affected Property.

2.13.4 All cyclic activities, reactive works and schemes for Drainage (excluding gully cleansing) shall be carried out in accordance with the requirements set out in Series 500.

2.14 Earthworks

2.14.1 Subject to the *Employer* selecting service 14 – Earthworks – reactive works and/or schemes - the *Contractor* shall carry out reactive works and/or schemes to the earthworks within the Affected Property.

2.14.2 All reactive works and schemes shall be carried out in accordance with the requirements set out in Series 600.

2.15 Landscape and Ecology

2.15.1 If the *Employer* selects service 15 – Landscape and Ecology – cyclic activity - the *Contractor* shall carry out cyclic horticultural, arboricultural, landscaping and ecological works within the Affected Property.

2.15.3 The *Contractor* shall carry out the following cyclic activities:

- High Frequency Grass Areas shall be cut 16 times during the growing season with the frequency of cuts adjusted to reflect the weather and growth rate of the vegetation. Where additional cuts are instructed by the *Employer* as a Task, the programme shall be accordingly adjusted. High Frequency Grass Areas shall have edging undertaken 4 times and reforming 2 times a year. Where additional cuts are required, they will be instructed by the *Employer* as a Task.
- Medium Frequency Grass Areas shall be cut 11 times during the growing season with the frequency of cuts adjusted to reflect the weather and

growth rate of the vegetation. Where additional cuts are instructed by the *Employer* as a Task, the programme shall be accordingly adjusted. Medium Frequency Grass Areas shall have edging undertaken 2 times and reforming once a year. Where additional cuts are required, they will be instructed by the *Employer* as a Task

- Low Frequency Grass Areas shall be cut 6 times during the growing season with the frequency of cuts adjusted to reflect the weather and growth rate of the vegetation. Where additional cuts are instructed by the *Employer* as a Task, the programme shall be accordingly adjusted. Where additional cuts are required, they will be instructed by the *Employer* as a Task
- The cutting of Wildflower Grass Areas or areas of nature conservation value shall be undertaken annually by either an Annual Spring/Summer Cut or Annual Summer/Autumn Cut, the timing of which will be dependent upon the species present on site and their optimal maintenance needs. Where additional cuts are required, they will be instructed by the *Employer* as a Task
- High Amenity Shrub Bed Areas shall have 8 weed removal operations evenly distributed through the year. General Shrub Bed Areas shall have 4 weed removal operations programmed through the whole growing season. Weed control through Hedges shall be undertaken twice through the growing season. Where additional weeding is instructed by the *Employer* as a Task, the programme shall be adjusted accordingly.
- High Amenity Shrub Bed Areas and General Shrub Bed Areas shall have pruning undertaken in accordance with the species, location and condition of the plants based on the pruning methods in Series 3000.
- The *Contractor* shall remove basal sucker growths and epicormic growth from tree trunks at ground level up to the base of the tree's natural crown annually in mid-June. Further removal shall be undertaken annually in October where new shoots have grown to 150mm or more in length.
- Hedges shall have maintenance operations undertaken according to the species, condition and location following the frequency of work recorded in the inventory in accordance with Series 3000. Where Hedge laying is required, it will be instructed by the *Employer* via a Task Order.
- Coppicing of shrubs grown for their stem colour shall be typically undertaken once every three years during February and March.

Programmes of grass cutting, weed removal, pruning and all other Cyclic works shall be submitted to the *Employer* for approval.

2.15.2 If the *Employer* selects service 15 – Landscape and Ecology – reactive works - the *Contractor* shall carry out reactive horticultural, arboricultural, landscaping and ecological works within the Affected Property, including the following:

- Control all injurious weeds within the highway boundary in accordance with the requirements of clause 3002. The *Contractor* shall programme weed control measures to ensure that there is a significant reduction in the occurrences and extent of injurious weeds species in each successive year of the *service period*.

- Control weeds in all paved areas, including hardstandings, channels, footways, laybys, structures, kerbs, filter drains and gravel areas in accordance with sub-clause 3002.3.
- Control all trees and shrubs located within the highway boundary, in accordance with clause 3010, to ensure they do not pose a hazard to highway users by:
 - ensuring there is clear visibility of traffic signs and signals; and
 - ensuring there is no obstruction to the safe passage of vehicles, pedestrians and cyclists.
- Prune all trees and shrubs adjacent to all traffic signs and signals so that no vegetation obstructs the visibility of sign or signal faces within the distances shown in the table below relative to the speed limit of the road and measured from the driver's eye height of 1.05m to the top of the sign/signal face and over the full width of the adjacent carriageway, including any hard shoulder.

Road speed limit	Unobstructed clear visibility distance
40mph and less	50 metres
50 mph	75 metres
60 mph	100 metres
70 mph	150 metres

Trees and shrubs shall also be pruned adjacent to enforcement cameras to ensure a 100m unobstructed clear visibility distance for all drivers.

- Prune all trees and shrubs to ensure the following minimum and maximum levels of vertical clearance:

Carriageway	5.5m min	7.0m max
Footway	2.5m min	4.0m max
Off-carriageway cycle facility	3.0m min	4.5m max.

2.15.3.If the *Employer* selects service 15 – Landscape and Ecology – schemes - the *Contractor* shall carry out scheme horticultural, arboricultural, landscaping and ecological works within the Affected Property.

2.15.4 All cyclic activity, reactive work and schemes shall be carried out in accordance with the requirements set out in Series 3000.

2.16 Street Cleaning (sweeping and litter picking)

2.16.1 If the *Employer* selects service 16 – Street Cleaning (sweeping and litter picking) – cyclic activity - the *Contractor* shall carry out cyclic Street Cleaning works within the Affected Property. The *Contractor* shall carry out the following cyclic works:

- Street sweeping in accordance with the requirements of clause 3101AR every six weeks; and
- Litter clearance in accordance with the requirements of clause 3102AR every six weeks.

2.16.2 If the *Employer* selects service 16 – Street Cleaning (sweeping and litter picking) – reactive works - the *Contractor* shall carry out reactive street cleaning works within the Affected Property. The *Contractor* shall carry out reactive works when special requests for street sweeping or clearance of litter or fly-tipped material are made by the *Employer* or the Police. The *Contractor* shall respond within 2 hours of receipt of an instruction from the *Employer* or a request from the Police within normal working hours, and within 4 hours at other times. In undertaking reactive street cleaning works, the *Contractor* shall meet the standards of cleanliness specified for the various types of land defined in the Code of Practice on Litter and Refuse published by the Department of Environment, Food and Rural Affairs.

2.16.3 It should be noted that the item coverage for grass cutting includes for the prior removal of litter, undesirable and deleterious material.

2.16.4 All cyclic activity and reactive works shall be carried out in accordance with the requirements set out in Series 3100.

2.17 Street Cleaning (including gulley cleansing; excluding sweeping and litter picking)

2.17.1 If the *Employer* selects service 17 – Street Cleaning (including gulley cleansing; excluding sweeping and litter picking) – cyclic activity - the *Contractor* shall carry out cyclic street cleaning works within the Affected Property. The *Contractor* shall carry out the following cyclic works:

- Gulley cleansing in accordance with the requirements of clause 3108AR at intervals not exceeding 12 months*;
- Cleaning of subways, in accordance with the requirements of clause 3105AR at intervals not exceeding 12 months; and
- Cleaning of footbridges, in accordance with the requirements of clause 3106AR at intervals not exceeding 12 months.

* Some gullies in critical locations will require more frequent cleansing. Details of these are provided in the *Employer's* Service Information.

2.17.3 If the *Employer* selects service 17 – Street Cleaning (including gulley cleansing; excluding sweeping and litter picking) – reactive works - the *Contractor* shall carry out reactive street cleaning works described in clause 2.17.4 to 2.17.7 below within the Affected Property. The *Contractor* shall meet the standards of cleanliness specified for the various types of land defined in the Code of Practice on Litter and Refuse published by the Department of Environment, Food and Rural Affairs.

2.17.4 The *Contractor* shall remove graffiti, unauthorised signs, illegal advertising, stickers and fly-posters within 28 calendar days of them being noticed by him, or reported to him, unless of a racist, religiously bigoted, inflammatory or sexually explicit or obscene nature, in which case removal shall take place within 24 hours, all in accordance with clause 3103AR.

2.17.5 The *Contractor* shall remove the carcasses of dead cats, dogs, foxes, badgers and other animals of similar or larger size in accordance with clause 3104AR and within 24 hours of it being noticed by the *Contractor* or notified to him. There is no requirement to remove the carcasses of smaller animals.

2.17.6 The *Contractor* shall respond and implement appropriate action to rectify any report of a blockage of a road gully, in accordance with clause 3108AR, or any instruction from the *Employer* or request by the Police for the retrieval of objects from gullies, within 2 hours within normal working hours, and within 4 hours at other times.

2.17.7 The *Contractor* shall, if so indicated in the *Employer's* Service Information, respond to all requests from the *Employer* for dust suppression on the highway. The specification for this activity is at clause 3114AR.

2.17.8 All cyclic activities and reactive works shall be carried out in accordance with the requirements set out in Series 3100.

2.18 Bridges and other Structures

2.18.1 If the *Employer* selects service 18 – Bridges and other Structures – cyclic activity - the *Contractor* shall carry out cyclic activities to the bridges and other structures (other than tunnels) within the Affected Property. The *Contractor* shall carry out cyclic activities in accordance with Series 2900 and 5000 unless the *Employer* provides in his *Employer's* Service Information specific cyclic maintenance schedules for individual structures within the Affected Property. In these circumstances, the *Contractor* shall carry out cyclic activities in accordance with the provided schedules.

2.18.2 If the *Employer* selects service 18 – Bridges and other Structures – reactive works and/or schemes - the *Contractor* shall carry out reactive works and/or schemes to the bridges and other structures (other than tunnels) within the Affected Property. The *Contractor* shall carry out reactive works in accordance with Series 2900 and 5000.

2.19 Tunnels

2.19.1 If the *Employer* selects service 19 – Tunnels – cyclic activity - the *Contractor* shall carry out cyclic activities to the tunnels within the Affected Property. The *Contractor* shall carry out cyclic activities in accordance with Series 3400.

2.19.2 If the *Employer* selects service 19 – Tunnels – reactive works and/or schemes - the *Contractor* shall carry out reactive works and/or schemes to the tunnels within the Affected Property. All reactive works and schemes shall be carried out in accordance with the requirements set out in SHW and Annexes A to D.

2.20 Street Furniture (excluding signs, lighting columns and guardrailing)

2.20.1 Subject to the *Employer* selecting service 20 – Street Furniture – reactive works and/or schemes - the *Contractor* shall carry out reactive works and/or schemes in relation to street furniture within the Affected Property. All reactive works and schemes shall be carried out in accordance with the requirements set out in Series 4000.

2.21 Winter Service

2.21.1 Subject to the *Employer* selecting service 21 – Winter Service – cyclic activity - the *Contractor* is required under this contract to provide a Winter Service within the Affected Property.

2.21.2 Only the provision of the Winter Service will be reimbursed as a lump sum. Each treatment will be ordered as a Task.

2.21.2 Full details of the Winter Service required are set out in Series 2800.

2.22 Emergency Call-Out Service

2.22.1 Subject to the *Employer* selecting service 22 – Emergency Call-Out service – reactive works - the *Contractor* is required under this contract to provide an Emergency Call-Out service within the Affected Property. Reimbursement will be through a lump sum, the scope of which shall cover all the requirements set out in clauses 3201AR to 3209AR with the exception of works referred to in sub-clauses 3203AR.1(m) to (q) for which the *Contractor* will be reimbursed as reactive works (either as a lump sum or via a Task – to be specified in the Employer specific Service Information).

2.22.2 Full details of the Emergency Call-Out service required are set out in Series 3200.

2.23 Civil Engineering Support Works

2.23.1 Subject to the *Employer* selecting service 23 – Civil Engineering Support Works – schemes – the *Contractor* shall carry out Civil Engineering Support schemes to traffic signals and control equipment, as described in the *Employer's* Service Information.

2.23.2 Subject to the *Employer* selecting service 23 – Civil Engineering Support Works – reactive works – the *Contractor* shall carry out reactive Civil Engineering Support works in respect of all equipment, as described in the *Employer's* Service Information.

2.23.3 Full details of the Civil Engineering Support service required are set out in Series 3500.

2.24 3rd Party Damage

- 2.24.1 Subject to the *Employer* selecting service 24 – 3rd Party Damage – reactive works – the *Contractor* shall permanently repair 3rd party damage to *Employer* assets within the Affected Property and be reimbursed through a lump sum where all of the following apply:
- the damage was not the result of a fatal accident;
 - the damage was not caused by the *Employer* or anyone acting directly on his behalf; and
 - the estimated cost of permanent repair is not more than £10,000 based on the contract Price List.
- 2.24.2 Clause 2.24.1 supersedes the value limits placed on reactive activities reimbursed as a lump sum detailed in clause 2.0.3.4.
- 2.24.3 In the above circumstances, the *Contractor* will be expected to supplement payment through the lump sum by recovering costs from the relevant 3rd party for his own benefit.
- 2.24.4 Where a response is required which falls outside of the scope of clause 2.24.1, then within the lump sum the *Contractor* shall provide the *Employer* with such information and photographs as may be required to facilitate recovery of costs by the *Employer* from the relevant 3rd party, their insurer, or the Motorists' Insurance Bureau where the 3rd party was an uninsured driver. Repair of the 3rd party damage may then be instructed by the *Employer* as a Task.
- 2.24.5 3rd party damage includes, but is not limited to: damage caused to street furniture, etc by road users; spillages (including items falling from vehicles); theft and attempted theft; vandalism; fly posting and abandoned vehicles. 3rd party damage does not include normal wear and tear, graffiti or damage to footway paving. Permanent repair may involve clearing, cleaning, repairing or replacement on a like-for-like basis to restore the lifespan or safe performance of the asset.

2.25 Updating of *Employer's* Asset Management System

- 2.25.1 Subject to the *Employer* selecting service 25 – Updating of *Employer's* Asset Management System – the *Contractor* will be reimbursed through a separate lump sum for providing this service in relation to assets affected by cyclic activity or reactive works themselves carried out under a lump sum. The *Contractor* shall allow for all associated costs, including (but not limited to) staff costs and any computer hardware or software costs necessary for accessing the *Employer's* system, details of which are provided in the *Employer's* Service Information.
- 2.25.2 Where reactive activity or schemes are instructed by Task and reimbursed using the Task Price List, the *Contractor's* costs involved in updating the *Employer's* asset management system are deemed to be within the item coverage.

2.25.3 It is envisaged that the *Contractor* will update the *Employer's* asset management system on a cyclic basis (e.g. once per week), the actual frequency to be related to the number of updates required and as agreed with the *Employer*.

3. Preamble to the Specification

- 3.1 This Specification is based on the national “Specification for Highway Works” (published by the Stationary Office as Volume 1 of the Manual of Contract Documents for Highway Works (MCHW)) and “Highway Construction Details” (Volume 3 of MCHW), as modified and extended by the following:
Section 5: Contract Specific Additional, Substitute and Cancelled Clauses;
Section 6: Contract Specific Minor Alterations to Existing Clauses;
Section 7: Contract Specific Numbered Appendices;
Section 8: Typical Arrangement Drawings; and
Section 9: Highway Construction Details relevant to the contract.
- 3.2 The relevant publication date of each page of the national “Specification for Highway Works” is set out in Section 4.
- 3.3 An Additional Clause as indicated by a suffix 'AR' is a contract specific alteration.
- 3.4 A Substitute Clause as indicated by a suffix 'SR' is a contract specific alteration.
- 3.5 A Cancelled Clause as indicated by a suffix 'CR' is a contract specific alteration.
- 3.6 Insofar as any of the Numbered Appendices may conflict, or be inconsistent with, any provision of the “Specification for Highway Works”, the Numbered Appendices shall always prevail.
- 3.7 Any reference in the contract to a clause number shall be deemed to refer to the corresponding Substitute Clause number to be found in Section 5, where this exists.
- 3.8 Where a clause is altered, any original table or figure referred to in the clause shall continue to apply unless the table or figure itself is also altered. Where a table or figure is altered, any reference in a clause to the original table or figure shall apply to the altered table or figure.
- 3.9 Where a clause in the Specification relates to work, goods or materials which are not required for the works it shall be deemed not to apply.
- 3.10 Other than where references to the Overseeing Organisation are made in the context of the Overseeing Organisation granting statutory or type approvals, the roles and functions of the Overseeing Organisation shall be undertaken by the *Employer* to the contract or to such person to whom such roles and

functions may be delegated by the *Employer*. Where the Specification requires the provision of documentation to the Overseeing Organisation for statutory or type approval, such documentation shall be provided to the *Employer* to the contract or to such person to whom such roles and functions may be delegated by the *Employer*.

4. SHW Schedule of Pages and Publication Dates

Series/Appendix	Page Number	Publication Date
000	1	March 1998
000	3F	May 2005
000	2	November 2006
100	2	May 2001
100	12 to 14, 20F	November 2005
100	1, 3 to 7	May 2006
100	8 to 9, 11, 15 to 19	November 2006
100	10	November 2008
200	1, 3F	May 2001
200	2	May 2004
300	1	May 2001
300	4	November 2002
300	2 to 3, 5 to 6F	May 2008
400	1 to 6, 8, 10 to 13F	November 2007
400	7, 9	November 2008
500	23 to 24, 26	November 2004
500	28F	May 2005
500	7	November 2005
500	3, 22	May 2006
500	2, 5, 27	November 2006
500	6, 25	November 2007
500	1, 4, 7 to 21	November 2009
600	33	November 2003
600	2, 27 to 28, 30 to 32, 34 to 36	November 2005
600	25 to 26	November 2006
600	42 to 49, 51 to 68F	November 2007
600	37, 50	November 2008
600	1, 3 to 24, 29, 38 to 41	November 2009
700	2 to 3, 5 to 6	November 2006
700	4	August 2008
700	1, 7 to 32F	November 2009
800	1 to 25F	November 2009
900	2 to 5, 9 to 22, 24 to 26, 28 to 67F	August 2008
900	1, 6 to 8	November 2008
900	23, 27	May 2009
1000	3, 5 to 6	November 2005
1000	1 to 2, 4, 7 to 15, 19 to 33F	May 2006
1000	16 to 18	November 2006

1100	1, 4F	November 2004
1100	2	November 2006
1100	3	August 2008
1200	5	May 2001
1200	2 to 3	August 2003
1200	1, 14 to 16F	May 2004
1200	4, 9 to 11, 13	May 2005
1200	12	November 2006
1200	6 to 7	November 2007
1200	8	May 2008
1300	3 to 4	November 2004
1300	1, 5 to 10, 12F	November 2005
1300	2, 11	May 2006
1400	2	May 2001
1400	1, 3 to 9F	May 2006
1500	Not Used	
1600	1, 4 to 5, 9, 15, 17 to 18, 24 to 26, 29 to 31, 35, 38, 49F	March 1998
1600	2, 6 to 8, 10 to 14, 16, 19, 27 to 28, 32 to 34, 36 to 37, 39 to 42, 44 to 48	November 2003
1600	3, 20 to 23, 43	November 2005
1700	2 to 7, 10 to 15	May 2004
1700	8 to 9	May 2005
1700	1, 16 to 22F	May 2006
1800	1, 4, 6, 8 to 9	May 2004
1800	2 to 3, 5, 7, 10 to 12F	November 2005
1900	17	May 2003
1900	1, 5, 8 to 14, 16, 18 to 30F	May 2005
1900	6 to 7, 15	May 2008
1900	2 to 4	November 2008
2000	1, 3 to 4F	May 2001
2000	2	November 2004
2100	1, 4F	March 1998
2100	2	November 2003
2100	3	November 2005
2300	1	March 1998
2300	2 to 3F	May 2001
2400	1, 4, 7F	May 2005
2400	2	May 2006
2400	3, 5 to 6	May 2008
2500	1	May 2001
2500	2, 8, 11F	November 2003
2500	10	November 2004
2500	6 to 7, 9	May 2005
2500	3 to 4	November 2006
2500	5	May 2006
2600	1	March 1998
2600	2 to 4	November 2003

2600	5	November 2004
2600	6	May 2005
2600	7F	November 2006
3000	1, 4 to 7, 10, 12 to 17, 19, 22 to 27F	May 2001
3000	20	November 2004
3000	2 to 3	May 2006
3000	8 to 9, 11, 18, 21	May 2008
5000	1, 4 to 19F	May 2005
5000	2 to 3	November 2008
Appendix A	1 to 32F	May 2008
Appendix B	1	May 2006
Appendix B	2 to 7F	November 2006
Appendix C	1	May 2005
Appendix C	2F	November 2006
Appendix D	1F	May 2005
Appendix E	1F	May 2005
Appendix F	14	November 2008
Appendix F	1 to 13, 15 to 56F	May 2009
Appendix G	1F	May 2004
Appendix H	1	May 2004
Appendix H	2	November 2005
Appendix H	3	November 2006
Appendix H	4 to 9F	November 2008

5. Additional, Substitute and Cancelled Clauses (ASCC) – Series 0100 to 5000

See Annex A.

6. Minor Alterations to Existing Clauses (MAEC) – Series 0100 to 5000

See Annex B.

7. Numbered Appendices (NA) – Series 0100 to 5000

See Annex C.

8. Typical Arrangement Drawings

See Annex D.

9. List of Highway Construction Details brought into the Contract by reference

Drawing Number	Title
HCD F1	Surface Water Drains – Trench and Bedding Details
HCD F2	Filter Drains – Trench and Bedding Detail
HCD F3	Type 1 Chamber (Brick or Insitu Concrete Manhole)
HCD F5	Type 3 Chamber (Precast Concrete Manhole)
HCD F11	Type 7 Chamber (1050 Catchpit)
HCD F12	Type 8 Chamber (600 Catchpit)
HCD F13	Precast and Insitu Cast Gullies
HCD F18	Edge of Pavement Drains – Fin Drains and Narrow Filter Drains
HCD F19	Edge of Pavement Drains – Installation of Fin Drains
HCD H2	Temporary Fences Types 3 and 4
HCD H13	Strained Wire Fences General Pattern
HCD H18	Steel Half Mesh Single Field Gate
HCD H19	Steel Extra Wide Single Field Gate
HCD H20	Steel Double Field Gate
HCD H21	Timber Single Field Gate
HCD H22	Timber Double Field Gate
HCD H23	Timber Wicket Gate Type 1
HCD H24	Timber Wicket Gate Type 2
HCD H25	Timber Kissing Gate
HCD H34	Timber Style Type 1
HCD H35	Timber Style Type 2
HCD H43	Fencing Tree Guards Types 1, 2 and 3
HCD H44	Urban Area Fencing

10. Generic Preconstruction Information

See Annex E.

11. Special Requirements Relating to Statutory Undertakers & Other Bodies

The following special requirements relate to a number of Statutory Undertakers and Other Bodies. The *Contractor* shall note that this is not an exhaustive set of organisations who will wish to impose special requirements on his work. It is the *Contractor's* responsibility to identify all such organisations and to obtain all permits, consents, licences, agreements, wayleaves and the like that may be necessary. The *Contractor* shall also familiarise himself with any Memoranda of Understanding and the like between Statutory and other bodies and the *Employer*.

11.1 BRITISH PIPELINE AGENCY

- 11.1.1 All work shall be in accordance with the Guidance Booklet “Requirements for Safe Working in Close proximity to High Pressure Pipelines”, published by the British Pipeline Agency.
- 11.1.2 Prior to commencement of all works, a written task risk assessment and method statement will be required. In general a legal consent will be required prior to any works within the pipeline easement. Adequate time shall be allowed for the completion of these consents.
- 11.1.3 No raising or lowering of ground level shall be allowed throughout the easement without written consent from the pipeline operator.
- 11.1.4 Concrete slab protection will be required over the pipeline at permanent road crossings and parking areas. Prior to installation, the promoter shall expose the pipeline under the supervision of a representative of the Pipeline Operator and arrange for the existing protective pipewrapping to be inspected, repaired and then double wrapped at the promoter's expense by a contractor approved by the Pipeline Operator or his Agent.
- 11.1.5 The pipeline easement shall be pegged out and fenced off prior to works commencing. Agreed crossing points across the easement for construction machines shall be protected by tied timber mat, “Bog Mat” or a temporary concrete slab or hardcore.
- 11.1.6 To prevent indiscriminate crossings along the pipeline, service crossings (e.g. drains, cables, pipes, etc), shall be grouped together at a common point. These shall be ducted if possible.
- 11.1.7 Pipeline marker posts shall be installed at the promoter's expense, each side of all road crossings and elsewhere as necessary, to mark the pipeline route.
- 11.1.8 No buildings, structures or caravans shall be sited within the pipeline easement.
- 11.1.9 The pipeline easement shall always be in an open area, as access to the easement and/or the pipeline is required at all times.
- 11.1.10 Attention is drawn to the fact that the pipeline is cathodically protected. This can corrode metal structures in the vicinity and it is the promoter's responsibility to protect his constructions against this.
- 11.1.11 Tree planting is restricted in the easement.
- 11.1.12 No explosives shall be used within 400metres of the pipeline without prior agreement with the Pipeline Operator or his Agent.
- 11.1.13 No pile driving or bore holes shall take place within 30metres of the pipeline without prior agreement with the Pipeline Operator or his Agent.

11.1.14 No 3D seismic survey using the Vibrosis method shall take place within 30 metres of the pipeline without prior agreement.

11.1.15 Directional drilling, thrust boring or other trenchless techniques will be considered as an alternative method of crossing the pipeline subject to certain conditions being fully adhered to.

11.2 BRITISH WATERWAYS

11.2.1 Access to BW land

Leave of access to BW land is granted on agreement on methods of working. If an agreement on methods of working is not in place then there shall be no access and access cannot be made under the pretence of an emergency.

11.2.2 Emergency access and emergency intervention by BW

All incidents and accidents are reportable. These include near misses and identified hazards. For an incident occurring during office hours, phone the nearest BW office. Contact details are available from www.britishwaterways.co.uk/contact-us.

For emergency access out of office hours, over weekends and bank holidays, phone 0800 47 999 47. The call is routed to the on-call duty engineer.

11.2.3 Requirements for working on BW land

Special requirements for works affecting BW shall be agreed with the Works Engineer. BW will undertake an Environmental and Technical Review of the proposed works. The outcome of this Review shall form the basis of the agreement on the methods of working and to allow access to BW land. Leave of access shall require an Indemnity Form countersigned by the BW Works Engineer.

11.2.4 Requirements for works affecting BW and guidance on best practice

Construction works undertaken on BW land by third parties shall be agreed with BW to ensure that the methods of working identify H&S hazards, are safe and do not adversely affect the environment (fauna, flora, people) or the canal heritage. The BW Works Engineer can provide guidance on best practice which should be adopted and made site specific.

All works shall be undertaken in accordance with the prescriptions of the Code of Practice "Works Affecting British Waterways, April 2011" available on request from the BW Works Engineer or obtainable at <http://www.britishwaterways.co.uk/our-work/maintenance-and-improvement/working-safely>.

11.2.5 Engineering Fee

It is the company's policy to charge for engineering time dedicated to the Environmental and Engineering Review of the proposed works. The process and fees are detailed in the Code of Practice (CoP). A cost undertaking shall be provided by the promoter of the works on the standard BW form (Appendix 4 of the CoP). The cost undertaking guarantees that BW will receive payment for time dedicated to the project. The value of the cost undertaking is also a cap on time that can be spent.

11.2.6 Procedure

The first step is to notify BW of the proposed works using the Notification Form (Appendix 1 of the CoP). The form shall be accompanied by an Application Fee as specified in the CoP. An invoice in receipt of payment will be provided to the address given on the Notification Form. Thereafter, the promoter shall:

- provide a description of the method of working based on an assessment of H&S risk, supporting information to include a dimensioned general arrangement plan, elevations and sections in relation to the canal;
- provide a programme of the works or the proposed dates on which the works will be undertaken;
- provide proof of the *Contractor's* public liability insurance;
- provide the signed Indemnity Form signed by the promoter of the works; and
- inform affected utilities companies of the proposed works and provide evidence of these consultations.

11.3 DEFRA

11.3.1 In this special requirement, the term "Defra Representative" means the staff of the Department for Environmental Food and Rural Affairs or its appropriately authorised representatives and agents empowered to act on its behalf.

11.3.2 Before commencing any work over any portion of the site the *Contractor* shall confirm with the Defra Representative details of any restrictions relating to the prevention of the spread of animal, plant and/or poultry diseases which may for the time being be in force relating to the site and any surrounding land and/or access ways to which the *Contractor* or any Subcontractor employed by him may have or seek to gain entry for the purpose of the works.

11.3.3 The *Contractor* shall ensure that his employees or the employees of any Subcontractor employed by him shall avoid all contact with livestock on or adjacent to the site and keep strictly to any route which has been agreed with any owner/occupier of land affected by the works at all times.

11.3.4 Where it is necessary, for the purpose of the works, to enter land on which

- livestock are or may be kept, the *Contractor* shall take all precautions to prevent any livestock penetration from adjacent land onto such land and/or contact between any livestock on that land and other livestock from adjacent land.
- 11.3.5 Where it is necessary, for the purpose of the works, to enter land which is or has recently been occupied by livestock, the *Contractor* shall provide, at each entry or exit to such land, appropriate arrangements for disinfecting all footwear and vehicles upon entry to or exit from such land to the satisfaction of the Defra Representative. He shall ensure that all footwear and vehicles are cleansed of all dirt and mud before disinfecting with a clean disinfectant, regularly replenished at the correct dilution and which carries a valid citation on the label certifying approval by the Department for Environmental Food and Rural Affairs.
- 11.3.6 The *Contractor* shall not enter buildings occupied or used by livestock, for the purpose of the works, without the express written consent of the owner/occupier. When such entry is necessary, rubber boots and protective overgarments of an appropriate type shall be worn at all times which shall be disinfected upon the entry to and exit from such buildings in accordance with the instructions given above.
- 11.3.7 Notwithstanding any other provisions within the contract, the *Contractor* shall take all necessary precautions to ensure that streams, ditches and water troughs are not polluted as a result of the carrying out of the works and that ditches and drainage outfalls are adequately protected from damage, pollution and/or silting to the satisfaction of the Defra Representative .
- 11.3.8 The *Contractor* shall ensure that litter and/or debris resulting from the works is not left or allowed to accumulate on or adjacent to the site in areas accessible to livestock. The *Contractor* shall particularly make every effort to remove discarded foodstuffs remaining from human consumption - these may carry infectious agents harmful to livestock.
- 11.3.9 The *Contractor* shall ensure that all gates are kept closed and appropriately secured and shall make every effort to avoid damage to fences, hedges trees and walls in order to prevent livestock from straying. Where such damage does occur, the *Contractor* shall take immediate action to secure any resulting breach from the penetration and/or escape of livestock and immediately thereafter notify the Defra Representative who shall consult the owner/occupier as appropriate.
- 11.3.10 The *Contractor* shall strictly comply with any restrictions and/or precautions relating to the movement of soil which may be requested by Defra in the interests of restricting the spread of crop diseases, such as Wart Disease (affecting potatoes) or Cyst Nematodes (affecting potatoes/beet).

- 11.3.11 The *Contractor* shall strictly comply with any restrictions and/or precautions relating to the movement of soil which may be requested by the Defra in the interests of preventing the spread of the plant species Japanese Knotweed and Giant Hogweed. In particular, any soil or other such arisings contaminated with, or suspected of being contaminated with, the rhizomes and/or roots of these species SHALL NOT be spread to areas currently free of these plants but shall be disposed of as directed by the Defra Representative.
- 11.3.12 Should an outbreak of any exotic notifiable disease, such as Foot and Mouth Disease, Newcastle Disease (Fowl Pest), Swine Fever, or Swine Vesicular Disease occur in the Area, the *Contractor* and/or any Subcontractor employed by him shall not enter further upon any land and shall immediately inform the Defra Representative and request instructions.
- 11.3.13 Compliance with the above requirements shall not relieve the *Contractor* of any of his obligations under the contract.

11.4 ELECTRICITY GENERATING AND DISTRIBUTION COMPANIES

- 11.4.1 For the purpose of this Special Requirement, the following terms shall have the following meanings assigned to them:
- (a) 'Company' means UK Power Networks or its sub companies, successors and assigns;
 - (b) 'Company Representative' means the Chief Civil Engineer of the said 'Company' defined at (a) of this Special Requirement or other duly Authorised Engineer Representative and/or Agent appointed for the time being to act on behalf of the said 'Company';
 - (c) 'Plant or Equipment' means any plant, equipment, gear, machinery, apparatus or appliance or any part thereof, as defined in the Construction (General Provisions) Regulations 1961 and the Construction (Lifting Operations) Regulations 1961, owned, leased or rented by the said 'Company' defined at (a) of this Special Requirement;
 - (d) 'Electricity Cable(s)' means any cabling including, but not limited to, 'Overhead Electricity Lines' or 'Buried Electricity Cables' owned, leased or rented for the purposes of electricity transmission and supply by the said 'Company' as defined at (a) of this Special Requirement.
- 11.4.2 Before commencing any work or moving heavy plant or equipment over or under any portion of the site owned, occupied, leased or rented by the Company, the *Contractor* shall consult the Company Representative as early as possible, and in any event not less than 28 calendar days before it is proposed to commence work, to ascertain whether any Electricity Cable(s) or Plant or Equipment will be affected by the works and to confirm details of any restrictions or requirements that the Company Representative may consider necessary for the safe carrying out of the works.
- 11.4.3 Where such details show that the works or the movement of plant or

equipment may endanger the equipment of the Company, the *Contractor* shall ensure that the presence of any Electricity Cable(s), Plant or Equipment can be indicated by markers to be supplied by the Company and placed by the *Contractor* under the supervision of the Company Representative. The *Contractor* shall ensure that all Company Electricity Cable(s), Plant or Equipment is adequately protected from damage and such protective measures shall be Approved by the Engineer.

- 11.4.4 The work shall be carried out in conformity with the Requirements of the Health and Safety Executive Guidance Notes:
- (i) No GS6 'Avoidance of Danger from Overhead Electric Cables'; and
 - (ii) No HSGG47 'Avoiding Danger from Underground Services'; and with
 - (iii) All necessary restrictions required by the Company to comply with health and safety, or its standard practices in connection with live sites, if applicable, such as compliance with the site risk assessment which shall be carried out prior to any preliminary work being undertaken.
- 11.4.5 Except under such restrictions as the Company Representative may impose for the safety of persons and the protection of property, WORKS SHALL NOT BE CARRIED OUT or cranes or other plant erected, operated and/or dismantled or materials stored WITHIN THE 'PROHIBITED SPACE' WHICH IS THAT SPACE WITHIN A RADIUS OF:
- (a) 15.0m OF LIVE OVERHEAD ELECTRICITY LINES WHERE LINES ARE CARRIED ON STEEL TOWERS; or
 - (b) 9.0m OF LIVE OVERHEAD ELECTRICITY LINES WHERE THE LINES ARE CARRIED ON WOODEN POLES TOGETHER WITH ANYWHERE VERTICALLY ABOVE THIS SPACE. These distances shall be maintained at all times between any Overhead Electricity Lines or anything connected to such Overhead Electricity Lines owned, leased or rented by the Company.
- 11.4.6 The *Contractor* and any Subcontractor employed by him shall particularly note, and bring to the attention of their respective employees, the danger of 'Flash-over' where, as a result of the very high voltages being transmitted, potentially lethal shocks can occur in close proximity to live Overhead Electricity Lines WITHOUT ANY CONTACT BEING MADE.
- 11.4.7 Debris produced when trimming or felling trees and/or from demolition MUST NOT fall or be projected into the 'Prohibited Space'. Similarly, excavation spoil shall not be dumped or accumulated so as to cause infringement of the 'Prohibited Space'.
- 11.4.8 Special care shall be taken when using material such as wire rope, measuring tape, and the like.
- 11.4.9 The *Contractor* shall exercise particular care when carrying out work which involves the use of water jets or piped slurry. Liquids, when being carried or used for the purposes of the works shall not be allowed to splash, fall or otherwise be projected into the 'Prohibited Space'.

- 11.4.10 If a crane or other equipment is used, crane stop fencing and warning notices shall be provided by the *Contractor* to ensure that there can be no encroachment on the 'Prohibited Space' by crane, load or other equipment even if the crane, load or equipment slips, fails or overturns.
- 11.4.11 Portable ladders used in the vicinity of the live Overhead Electricity Lines shall be of wood or other non-conducting material and shall not be reinforced by metal attachments running along the stiles of the ladders. Even ladders without reinforcement can lead to serious electrical shocks if allowed to come close to live overhead equipment, and therefore special precautions shall be taken to ensure that the ladder cannot slip and encroach on the 'Prohibited Space'.
- 11.4.12 Any disturbance of ,or attachment to, any Plant or Equipment or Electric Cable(s) of the Company shall only be carried out by the staff of the Company or its authorised contractors and/or agents.
- 11.4.13 Long objects, which shall include, but not be limited to, pipes, scaffold poles, ladders and/or long handled tools, or any object of such length that if carried vertically would infringe on the 'Prohibited Space' SHALL BE CARRIED HORIZONTALLY.
- 11.4.14 Where, for the purposes of completing the works in accordance with the contract, the need arises to operate within the 'Prohibited Space', the *Contractor* shall give the Company representative not less than 28 calendar days' written notice of the dates upon which it is intended to operate plant or equipment or carry out any work. The permission of the Company Representative shall be obtained in writing before any plant or equipment is operated or work of any kind is carried out within the above distances. Such operations or work shall only be carried out in the presence of the Company Representative unless notice shall have been obtained in writing from the Company Representative that such a presence on site is not required.
- 11.4.15 In the event of the Company requiring emergency and/or maintenance work to be executed on the Electricity Cable(s), whether Overhead Electricity Lines or Buried Electricity Cables, during the period of the contract, the *Contractor* shall afford all reasonable facilities and access to the staff of the Company or its authorised contractors and/or agents.
- 11.4.16 Work shall not be carried out in the immediate vicinity of overhead lines during periods of poor visibility. If this is not reasonably practicable, additional precautions shall be taken including, but not limited to, the erection of appropriate barriers to ensure maintenance of the appropriate safety clearances.
- 11.4.17 Compliance with the above requirements shall not relieve the *Contractor* of any of his obligations under the contract or of the responsibility for taking every precaution to avoid risk to persons and/or damage to property.

11.5 LONDON UNDERGROUND LIMITED (LUL)

Overview

- 11.5.1 LUL has many shallow structures just below street level which are highly sensitive to works in the street such as highway works. These structures include shallow tunnels and covered ways, ticket halls, subways and other station structures, bridge decks and abutments and many cable routes and ducts (some of which carry high voltage electricity). Many of these structures are of masonry, cast or wrought iron construction and are in some instances well in excess of 120 years old. These structures range in depth considerably dependent upon location, but some cases are as shallow as 200mm below road level. They are therefore extremely vulnerable to any works carried out in the street involving excavation or highway realignment. LUL therefore seeks to mitigate risks from highway authorities carrying out work on highways above or near LUL infrastructure by working pro-actively with the relevant highway works promoter.
- 11.5.2 Carrying out bridge inspections, strengthening and reconstruction normally requires access to LUL land to carry out these works if the bridge spans over the LUL operational railway. Such access can only be arranged by LUL on behalf of the highway authority or works promoter. In such instances, LUL's associated costs in providing access, protection and advice must be reimbursed by the highway authority or the works promoter. For LUL operational reasons, ready access to this land may not be possible to outside parties or a long lead-in period may be necessary. Early consultation with LUL is therefore necessary when considering any work to bridges over the LUL railway.
- 11.5.3 In addition, any highway works to be carried out immediately outside or adjacent to a LUL station or depot entrance will necessitate consultation with station or depot management and supervisors so that safe access for LUL customers and staff is maintained at all times, particularly during any emergency affecting London Underground.
- 11.5.4 It is therefore expected that there are three categories of work subject to the provisions of this contract which may interface with LUL assets and/or operations as follows. It is also acknowledged that some projects commissioned under this Contract may entail more than one of these categories of work.
- a. Any highway work not requiring access to LUL land but that might put LUL's shallow assets at risk.
 - b. Any bridge work where the bridge in question spans over LUL's operational railway. .
 - c. Any highway work immediately outside or adjacent to a LUL Station or depot entrance.

Highway Maintenance and Reconstruction Works in the Street over Shallow LUL Assets

- 11.5.5 LUL has registered the location of its vulnerable shallow structures with all relevant local highway authorities as 'Streets of Engineering Difficulty' or 'Streets of Interest' (SEDs and SIs) under the New Roads and Street Works Act 1991. This is designed to ensure that any works to be under-taken on these streets in LUL SEDs and SIs are reported to and approved by LUL prior to any works being undertaken. Such consultation is a requirement of the Act. If the highway authority or the works promoter is in any doubt as to the location of LUL SEDs and/or SIs in relation to the proposed works, LUL shall be contacted. The appropriate contact at LUL is the Infrastructure Protection Street Works Team – see below.
- 11.5.6 LUL's engineers can give advice on tunnel/structure location and depth in the locality of any work that may affect LUL infrastructure. Notifying LUL engineers of works also allows them the opportunity to advise on any engineering issues that may arise from the work. In some cases it may be necessary for one of LUL's engineers to attend the works to ensure the safety of the railway and the workforce.
- 11.5.7 Accordingly, any excavations over or adjacent to LUL Shallow Cover Structures shall be carried out in a manner which ensures minimal vibration and avoids any damage. The use of mechanical or hydraulic breakers and excavators is not permitted and hand-breakers or hand dig methods only shall be used.
- 11.5.8 LUL requires a method statement with regard to proposed works over LUL structures to be sent to the LUL Infrastructure Protection Street Works Section prior to the start of works – see contact details below. LUL will also require to monitor all the excavation works, including trial holes, and shall be sent details of the works promoter's Site Manager contact details and the date and time of the proposed works. These details shall be sent preferably 4 weeks in advance, but in any event not less than 48 hours before commencement of work.
- 11.5.9 The Streetworks Team will provide information regarding the location and approximate depth of cover of LUL's structures relative to proposed works. Information supplied by LUL must be passed on to the operatives engaged in excavation work, who shall be made aware of the approximate position of the LUL Shallow Cover Structures within the works area.
- 11.5.10 Where works require excavations in close proximity to, or even exposing, LUL's structures, extra care shall be taken and it is a requirement that trial holes be undertaken by the highway authority/works promoter to prove the exact depth/position of the structure, such trial holes being carried out in the presence of the LUL Street Works Engineer.
- 11.5.11 In the event of any damage occurring to a LUL structure, the Streetworks Team shall be notified immediately so that attendance on site can be arranged to agree on a safe method of repair. All repair work shall be

carried out to LUL's standards at the cost of the works promoter or Contractor.

11.5.12 In the event of an emergency, where serious damage has been caused to an LUL structure likely to disrupt LUL operations, the following team shall be contacted immediately - Network Operations Centre – Freephone 0800 61603.

11.5.13 The LUL Street Works Team's contact details are as follows.

London Underground
Infrastructure Protection Street Works Team
Capital Programmes Directorate
3rd Floor, Albany House
London
SW1H 0BD

Generic email address – [REDACTED] - this is the favoured email address for all initial communications.

Team contact details:

Brian Dobson - Tel No: [REDACTED]

Kevan Newbold - Tel No: [REDACTED]

Bhupinder Bhurji - Tel No: [REDACTED]

Fax No: [REDACTED]

11.5.14 When contacting the LUL Street Works Team, the following information shall be provided:

- Precise details of the location of the proposed highway works; and
- Drawings of the proposed works including plans and sections.

11.5.15 As this type of highway work falls under the requirements of the New Roads and Street Works Act, and as this Act makes no allowance for LUL to recover its associated costs, LUL's input to the project will be free of charge in this instance.

Bridge Inspection, Maintenance, Strengthening and Reconstruction Works

11.5.16 It may be the case that minor bridge maintenance, not likely to put railway operations at risk and not requiring access to LUL land, may be dealt with in line with the requirements set out above. In all other cases, where bridge inspections, major maintenance, strengthening and/or reconstruction works require access to LUL land, the following requirements shall apply if the bridge requiring inspection, maintenance, strengthening and/or reconstruction spans over the LUL operational railway or is in very close proximity thereto.

- 11.5.17 Access to LUL land (the air-space over LUL land is also deemed to be “LUL Land”) can only be arranged by LUL on behalf of the works promoter or highway authority carrying out the work to the bridge. All access to, and activities carried out on, LUL land shall be carried out in a safe manner that will not put LUL operations, assets, customers and staff at risk. In this instance, where the highway authority or works promoter is carrying out work on LUL land, all work shall meet LUL safety standards. The LUL Outside Parties Engineer will provide access, protection and safety advice to the highway authority or works promoter.
- 11.5.18 In such instances where LUL have to be involved in the bridge project in order to mitigate the risks to LUL operations and assets, and to provide access to LUL land, LUL are unable to provide a free service and all LUL’s associated reasonable infrastructure protection costs shall be paid for by the highway authority or works promoter. LUL will supply an estimate of its infrastructure protection costs to the authority or promoter for approval prior to assisting with the project and the authority or promoter shall provide a financial commitment in writing to meet these bona fide infrastructure protection costs prior to the project commencement.
- 11.5.19 Initial meetings between the LUL Outside Parties Engineer and the highway authority/works promoter are necessary so that the LUL Outside Parties Engineer can assess the risks to LUL arising from the bridge project. Such meetings are free of charge and the LUL Outside Parties Engineer will outline the safety regimes necessary for the safe execution of the bridge works.

11.5.20 The LUL Outside Party Team’s contact details are as follows.

London Underground
Infrastructure Protection Outside Party Projects Team
Capital Programmes Directorate
3rd Floor, Albany House
London
SW1H 0BD

Generic email address – [REDACTED] - this is the favoured email address for all initial communications.

Team contact details:

Richard Davies – Tel No: [REDACTED]

Steven Lugg - Tel No: [REDACTED]

John McGrath- Tel No: [REDACTED]

Fax No: [REDACTED]

Highway Works Immediately Outside or Adjacent to a London Underground Station or Depot Entrance

- 11.5.21 Any works carried out immediately outside or adjacent to a London Underground station or depot will affect the access and egress to the station or depot by LUL's customers and staff. Such work is likely to include, but is not necessarily restricted to, paving works, white lining, kerb realignments, traffic signal works, street lighting, etc. It is important therefore to consult with LUL station or depot management and supervisors prior to the works commencing and any site being established so that all associated risks to LUL's customers and staff are mitigated.
- 11.5.22 Access to the station or depot shall be maintained. However, by agreement with the LUL station or depot management and supervisors, restricted access arrangements might be possible provided that the safety of the operational railway during normal operations and in any emergency be maintained at all times. LUL station or depot management and supervisors may require that further consultation with the London Fire Brigade (LFB) be carried out and any resulting LFB recommendations and requirements shall be implemented and observed at all times by the highway authority, their works promoter and *Contractor* whilst carrying out the work and for the duration that the site is established.
- 11.5.23 The LUL Street Works Team will facilitate consultation with LUL station or depot management and supervisors for such highway works on behalf of the highway authority or works promoter. The LUL Street Works Team contact details are as detailed above. There will normally be no charge made by LUL for this service in arranging such consultation with LUL station or depot management and supervisors.

11.6 GAS DISTRIBUTION COMPANIES

- 11.6.1 For the purpose of this Special Requirement, the following terms shall have the meanings assigned to them:
- (a) 'Company' means National Grid Gas;
 - (b) 'Company representative' means the staff of National Grid Gas or its authorised representatives and agents;
 - (c) 'Apparatus' means all surface or sub-surface equipment and plant including any associated gas pipeline(s) owned, leased or rented by National Grid Gas.
- 11.6.2 Before commencing any work or moving heavy plant or equipment over any portion of the site, the *Contractor* shall confirm details of the apparatus, owned, leased or rented by the company, within the site with the Company representative. Where such details show that the work or the movement of plant or equipment on the site may endanger the apparatus of the Company, the *Contractor* shall give the Company representative at least 7 calendar days' written notice of the date from which it is intended to commence such works, or the movement of plant

and equipment, in order that the presence of any sub-surface apparatus can be indicated by markers to be supplied by the Company and placed by the *Contractor* under the supervision of the Company representative. The *Contractor* shall ensure that all Company apparatus is adequately protected from damage and such protective measures shall be to the satisfaction of the Company representative.

- 11.6.3 In the event of a Company marker being disturbed for any reason, it shall not be replaced other than in the exact position and to its former depth unless the repositioning is carried out at the direction and under the supervision of a Company representative.
- 11.6.4 The *Contractor* shall carry out all work in connection with the contract with reference to the requirements of the following publications:
(i) Institute of Gas Engineers & Managers: IGEM/SR/18 Edition 2 - Safe Working for the Integrity of Pipelines & Installations;
(ii) Health and Safety Executive (HSE): HS(G)47 - 'Avoiding danger from underground services';
(iii) National Grid Specification: T/SP/SSW/22 – Safe Working in the Vicinity of National Grid High Pressure Gas Pipelines and Associated Installations - Requirements for Third Parties; and
(iv) National Grid Policy for Corrosion Control of Buried Steel Systems - T/PL/ECP/1.
- 11.6.5 The *Contractor* shall avoid the disturbance of apparatus more than is absolutely necessary for the completion of the works in accordance with the contract. In particular, 'Thrust Blocks' and other such supports shall not be disturbed without the specific written approval of the Company representative.
- 11.6.6 The *Contractor* shall particularly note that large diameter gas pipelines may either be:
(a) Transmission pipelines frequently operating at pressures exceeding 7 bar; or
(b) Low pressure local distribution mains.
For differing reasons, either type poses a considerable hazard to safety if damaged. The *Contractor* shall also note that smaller gas distribution pipes may be of yellow plastic, cast iron, ductile iron, steel or other such material, and that, unless specifically known to the contrary, any such services encountered during the course of the works shall be assumed to be gas pipelines and treated as such in accordance with these special requirements until positively identified otherwise and the engineer so notified in writing.
- 11.6.7 No vehicle, plant or machinery shall cross, stand, operate or travel within 3.0m of any apparatus, particularly gas pipelines, except as approved by the Company representative. The *Contractor* shall agree his methods of working near any apparatus with the Company representative and ensure that any apparatus is adequately protected from damage by the use of wooden sleeper tracks or reinforced concrete rafts at crossing points to

regulate the movement of vehicles, plant and machinery in the vicinity of apparatus. All such protective measures shall be to the satisfaction of the Company representative.

- 11.6.8 Where, for the purposes of completing the works in accordance with the contract, it is necessary to lay a new service across an existing gas pipeline, whether above or below, a minimum clearance of 0.6m shall be left between the outside of the gas pipeline and the new service to be installed. Under no circumstances shall a new service be laid parallel above or below a gas pipeline. Hydraulic or other form of pressure testing of any new services shall not be permitted within 6.0 m of any gas pipeline unless precautions have been taken involving the use of pre-installation tested pipeline having a design factor of 0.3 for a distance of 6.0m either side of the gas pipeline, and/or such additional precautions, including but not limited to, sleeving barriers and the like, as the Company representative may require in consultation with the engineer, have been installed.
- 11.6.9 The *Contractor* shall particularly note that gas pipelines and other apparatus of the Company is usually cathodically protected to Company standard T/PL/ECP/1. The Company will need to carry out interaction tests to determine whether its own system will be adversely affected by any new service and/or its protective measures. Any work requiring the removal, modification and r movement of Company apparatus shall only be carried out by the staff of the Company and/or its authorised contractors and agents. In the event that any cathodic protection posts and/or associated apparatus require to be removed, replaced and/or moved for the purposes of the works the *Contractor* shall give not less than 7 calendar days' written notice of the requirement to the Company.
- 11.6.10 When excavating or backfilling around Company apparatus, the Company representative shall be given not less than 3 calendar days' written notice of the *Contractor's* intentions in order that he may supervise the works. Backfilling shall be in 150mm layers, or as may be otherwise directed, consolidated layer by layer to the satisfaction of the Company representative. Fill shall be free from flints, stones and carbonaceous material. Where slabbing reduces such depth, clean sand filling shall be used.
- 11.6.11 All excavation adjacent to Company apparatus shall be carried out by hand until the exact extent and/or location of Company apparatus is known. The *Contractor* shall note the following:
- (1) Mechanical borers and/or excavators shall not be used within 5.0m of Company apparatus; and
 - (2) Hand-held power assisted tools shall not be used within 1.5m of Company apparatus.
- 11.6.12 To prevent any movement of Company apparatus during excavation, complete shuttering shall be used as directed by the Company representative if:

- (a) Excavation is deeper than the depth of cover of adjacent Company apparatus;
 - (b) Excavation is within 3.0m of Company apparatus in stable soil; or
 - (c) Excavation is within 6.0m of Company apparatus in unstable soil.
- 11.6.13 Where excavation results in the exposing of gas pipelines or other Company apparatus, protective timber cladding shall be applied to the gas pipelines or apparatus to the satisfaction of the Company representative and shall be maintained until such excavation is reinstated and backfilled.
- 11.6.14 If, for the completion of the works, the *Contractor* intends using any of the following:
- (i) Pile driving equipment within 15.0m of Company apparatus (or such greater distance as may be required to ensure that the maximum peak particle velocity as measured at the apparatus does not exceed 25mm per second;
 - (ii) Explosives within:
 - (a) 400m of exposed Apparatus;
 - (b) 100m of buried Apparatus;
 - (iii) Hot works, welding and the like within 15.0m of Company apparatus; or
 - (iv) Hydraulic testing within 6.0m of Company apparatus;
- then the *Contractor* shall advise the Company representative, giving at least 7 calendar days' written notice, in order that any special protective measures for the Company apparatus affected may be arranged. The *Contractor* shall not proceed with the use of any of the above without the written consent of the Company representative.
- 11.6.15 All Company apparatus, manholes and/or other access points and chambers within the site shall be kept clear and unobstructed. Access for vehicles, winches and/or any further equipment required by the Company for the maintenance of its apparatus shall be maintained at all reasonable times and, unless otherwise agreed in writing by the Company representative, a clearance of 6.0m shall be allowed for such access.
- 11.6.16 The covers to Company apparatus, manholes and/or other access points and chambers shall only be lifted under the direct supervision of the Company representative. No employee of the *Contractor*, or of any Subcontractor employed by the *Contractor*, shall enter any chamber and/or apparatus of the Company unless under the supervision of the Company representative and in any case not before a gas check, as specified by the Company representative, has been carried out in the presence of the Company representative and such checks have shown it to be safe to enter the chamber and/or apparatus of the Company. The Company representative shall be given access to all Company apparatus and chambers when reasonably required.
- 11.6.17 In the event of any damage whatsoever, even of a minor nature, to Company apparatus, particularly to gas pipeline coatings and/or test leads, the *Contractor* shall immediately report the occurrence by contacting the

Company representative. The Company representative will arrange for repairs to be carried out.

- 11.6.18 The following actions shall be taken by the *Contractor* in the event of a gas leak in any apparatus:
- (a) Evacuate all personnel from the vicinity of the pipeline damage or leak.
 - (b) So far as is possible, remove and/or extinguish all sources of ignition for a distance of at least 200m in all directions from the location of the leak. This precaution shall include a ban on the use of any electrical equipment falling within this limit.
 - (c) Immediately inform the Company and (if required) the Emergency Services, in that order. The Emergency telephone number of the Company is 0800 111 999.
 - (d) Secure the area from the approach of all employees' traffic and/or the general public.
 - (e) Render every assistance to the Emergency Services and/or the Company as shall be requested for the purposes of mitigating damage arising from the leak and/or for the purposes of securing public safety;
 - (f) DO NOT ATTEMPT TO SEAL ANY LEAK OF GAS AT THE POINT OF DAMAGE.
- 11.6.19 Compliance with the above requirements shall not relieve the *Contractor* of any of his obligations under the contract.

11.7 NETWORK RAIL

General

- 11.7.1 The Railway is a particularly hazardous environment. The danger from train movements, overhead power lines and electrified rails at ground level must not be underestimated. The Industry safety policy and safety management systems require enhancement of some safety legislation, and the following clauses indicate areas where the legislative requirements are strengthened or particularised.
- 11.7.2 The *Contractor's* attention is drawn to the following (and any standards referred to therein):
- a) Railway Safety and Standards Board (RSSB) documentation which is available on line via www.rgsonline.co.uk
 - The Rule Book;
 - Personal Track Safety (PTS) handbook reference RT3170; and
 - Railway Group Standard GE/RT8070: Testing Railway Safety Critical Workers for Drugs and Alcohol.
 - b) The following standards which are available from Network Rail's Asset Protection Project Manager:
 - NR/L2/OHS/019: Safety of People Working On or Near the Line;
 - NR/L2/CIV/003: Engineering Assurance of Building and Civil Engineering Works;

- NR/L2/INI/02009: Engineering Management for Projects;
- NR/L3/INI/CP0044: Work Package Planning;
- NR/L2/OHS/021: Personal Protective Equipment and Work-Wear;
- NR/L2/INI/CP1030: Working Safely in the Vicinity of Buried Services;
- NR/L1/OHS/051: Drugs and Alcohol; and
- NR/L2/INI/CP0043: Management of Third Party Works on Network Rail Infrastructure.

11.7.3 In these Special Requirement, the following terms shall have the meanings assigned to them:

- a) 'Network Rail' means Network Rail Infrastructure Limited which is incorporated as a registered company in England and Wales as No 2904587.
- b) 'Access Permit' means a written authority that access may be made to railway property and the conditions under which such access is made.
- c) 'Competent Person' means a person who has such practical and theoretical knowledge, and actual experience, of the work activity, that he is able to assess the risks and hazards implicit in the work and the consequences of any change in conditions or circumstances.
- d) 'Contractor' means the person or persons, firm or company whose tender has been accepted by the *Employer* and includes the *Contractor's* personal representatives, successors and permitted assigns together with his Subcontractors and their personal representatives and any other persons under the direction and control of the *Contractor* whilst on railway property.
- e) 'Hand-signaller' means a person appointed by Network Rail to control and protect the safety of trains.
- f) 'Look-out man' means a person who has been trained (and certificated by Network Rail) to warn others of the approach of trains, and has experience of working on or about the track. The Look-out man is identified by a white badge or armband with the word 'LOOK OUT'.
- g) 'On or about the railway' means all controlled infrastructure including stations.
- h) 'Personal Protective Equipment' means all equipment or clothing designed to be worn or held to protect against a hazard likely to endanger health or safety, or an addition or accessory designed to meet this objective.
- i) 'Controller of Site Safety (COSS)' means the certified person who is responsible for setting up a Safe System of Work. The COSS is an authorised person and is identified by a blue armband with 'COSS' in white letters.
- j) 'Possession' means planned safety arrangements which control or prevent the normal movement of rail traffic between defined locations and for a predetermined period.
- k) 'Network Rail's Representative' means the Zonal Director of Network Rail or other duly Authorised Representative, Agent and/or Organisation Agent appointed for the time being to act on his behalf by Network Rail.
- l) 'Service' means electricity cables, gas pipes, water pipes (including piped sewage), other pipelines or telecommunication plant, irrespective of owner.

m) 'Site' means the lands and other places on, under, in or through which the works are to be executed and any other lands or places provided by the *Employer* for the purposes of the contract on which the works are carried out.

n) 'Speed Restriction' means a planned restriction on the speed of rail traffic between defined locations.

o) 'The Works' means the Permanent works, together with any Temporary works, and shall particularly refer to those parts to be executed over, upon, Under, in or through railway land or in such close proximity to it that it could in the opinion of Network Rail affect such land or railway traffic, and for these particular purposes shall include the acts of inspecting, examining and walking.

Method of Carrying Out the Works

11.7.4 The Works shall be carried out in a safe manner which avoids risk of harm to railway facilities and traffic and any person entitled to be on railway property, and so as to avoid any interference with any such traffic except as previously agreed and to any such persons. The *Contractor* shall ensure that any rules, regulations or instructions imposed for the protection of rail traffic are strictly observed.

Contractor's Safety Policy

11.7.5 The *Contractor* shall provide Network Rail with a copy of each of the following documents (including any *Contractor's* code of practices, safety instructions or regulations applicable to The Works) for appraisal prior to the commencement of the works:

- The *Contractor's* Health and Safety Case;
- The *Contractor's* organisation and arrangements for Health and Safety, which shall include arrangements for managing Subcontractors;
- The *Contractor's* arrangements for ensuring compliance with all relevant legislation, standards, rules, instructions, etc; and
- The *Contractor's* programme for the works.

Exemptions

11.7.6 Notwithstanding any provisions in statutory health and safety requirements relating to building and construction work that give exemptions to certain work on the operational railway, the *Contractor* shall comply with all such requirements.

Access to the Railway

11.7.7 Before any activity is undertaken on the railway, arrangements for safety provisions shall be in place to address the activity to be undertaken and the particular hazards of the area in which it will be carried out. The safety provisions are set out in Network Rail Standard: NR/L2/OHS/019: Safety of People Working On or Near the Line.

- 11.7.8 Within these provisions, and depending on the nature of the work to be carried out, there may be a requirement for the *Contractor* to undergo a full medical examination and undertake specific training for Personal Track Safety and be certificated as competent.

Site Familiarisation

- 11.7.9 The *Contractor* shall ensure that familiarisation training in the characteristics of the site is given to all his employees and the employees of any Subcontractor employed by him both before commencement of The Works and at agreed intervals during the progress of The Works. The *Contractor* shall ensure that his employees and the employees of any Subcontractor employed by him undergo additional familiarisation training if the site boundary is altered.
- 11.7.10 The *Contractor* shall brief all visitors to the site, including staff of Network Rail, of the particular health and safety hazards of the site. Records of all such briefings shall be kept by the *Contractor* for audit purposes.

Risk Assessments

- 11.7.11 The *Contractor* shall be responsible for arranging suitable and sufficient assessments, to be undertaken by a competent person, of the risks to the health and safety of his personnel and others (including the general public) as a consequence of his work activities. Such risk assessments shall be reviewed or re-assessed when necessary, such as when there is a significant change in work or the environment. Initial and amended copies shall be supplied to Network Rail, as appropriate, before work commences or continues.

Use of Network Rail's Land

- 11.7.12 The *Contractor* shall from time to time be allowed to take possession of so much railway land as may be agreed for the carrying out of The Works (or as laid down in the contract). Where access to the site is required by way of railway land, the route of such access shall be clearly identified in method statements and shall be agreed with Network Rail. Any other railway infrastructure land which is required for temporary use outside that which is essential for the carrying out of The Works shall be the subject of separate negotiations with Network Rail Property.
- 11.7.13 The *Contractor* shall be responsible for ensuring that no person trespasses beyond the agreed limits of the working area or access route and shall, if required so to do, provide and maintain to the satisfaction of Network Rail temporary fencing of an approved type to prevent trespass on the railway or neighbouring land.

Emergency Telephone Numbers

11.7.14 The *Contractor* shall provide, 7 calendar days' prior to the commencement of the work on site, written notification to Network Rail's Representative of the names and telephone numbers of competent personnel capable of organising remedial action in the event of an emergency on the site outside normal working hours or when the *Contractor's* employees and the employees of any Subcontractor employed by him are absent from the site.

Methods of Construction

11.7.15 Prior to the engineering documentation submission, the Contactor shall provide to Network Rail, as directed by Network Rail's Asset Protection Project Manager, the details of the *Contractor's* Engineering Manager, *Contractor's* Responsible Engineer and Designers and Checkers in accordance with NR/L2/INI/02009: Engineering Management for Projects.

11.7.16 Following Network Rail's acceptance of the personnel, the *Contractor* shall provide, for acceptance, a detailed submission as described in NR/L2/CIV/003: Engineering Assurance of Building and Civil Engineering Works including:

- Approval In Principle submission; and
- Detailed Design Submission comprising:
 - Calculations
 - Drawings
 - Details of Temporary works
 - Details of any Demolition
 - Designer's Risk Assessment
 - Design Check Certificates
 - Other supporting documentation as required to satisfy the reasonable concerns of the Network Rail Asset Protection Project Manager in so far that there is no unacceptable risk to Network Rail's infrastructure, operations, personnel or the public as a consequence of the works.

11.7.17 Following acceptance of the above by Network Rail, and normally not less than 25 working days in advance of The Works, the *Contractor* shall provide for review sufficiently detailed method statements. Where The Works are on Network Rail infrastructure, the documents required are Work Package Plans and Task Briefings and these are defined in the Network Rail standard NR/L3/INI/CP0044: Work Package Planning.

11.7.18 If, in the opinion of Network Rail's representative, The Works have a moderate or high degree of engineering complexity and/or risk, these shall be submitted in sufficient time to allow full consideration by him and time allowed for revised proposals to be submitted, if necessary. It is recommended that the *Contractor* engages as early as practicable with Network Rail's regional Asset Protection Project Manager who will advise in this regard. The contact details can be found on: www.networkrail.co.uk/asp/1538.aspx

11.7.19 No works shall commence which may affect Network Rail's infrastructure ,operations, personnel or the public on Network Rail infrastructure unless agreement has been issued by the Asset Protection Project Manager or his authorised representative.

Fencing of Site

11.7.20 All persons not involved with The Works shall be kept well clear of the site, which shall be fenced or barriered off from such persons to the satisfaction of Network Rail. Where necessary, the barriers shall include protection from radiation, including that from welding arc, or fumes and sparks from oxy-gas flames.

Access and Accomodation

11.7.21 Network Rail's Representative shall at all reasonable times have free access to any premises where work is being carried out or materials prepared or manufactured for The Works. Where necessary, serviced accommodation for Network Rail's Representative shall be provided by the *Contractor* to the satisfaction of Network Rail.

Statutory Notification

11.7.22 All statutory notices required to be served under the relevant statutory provisions or regulations of the Health and Safety at Work etc Act 1974, or any statutory re-enactment thereof in respect of work on the operational railway, shall be sent by the *Contractor* to the Health and Safety Executive with copies to Network Rail.

Working Time

11.7.23 The *Contractor* shall comply with Network Rail's policy on working time.

Knowledge and Understanding of English

11.7.24 All site personnel shall have sufficient knowledge of English (both spoken and written) to understand safety information, safety instructions and training (where relevant).

Alcohol and Drugs

11.7.25 The *Contractor* shall comply with Network Rail's policy on alcohol and drugs.

Clothing and Personal Protective Equipment

11.7.26 The *Contractor* shall wear high visibility clothing to a pattern and an approved shade of orange colour where required by Network Rail. The *Contractor* shall ensure that the clothing is worn correctly and kept in a

clean condition. Personal protective equipment shall be used correctly and, where there is a possibility of clothing or personal protective equipment being confused with signals, the colours red or green shall not be worn.

Removal of *Contractor's* Employees

11.7.27 Network Rail shall be at liberty to object to and require the *Contractor* to remove from the site immediately any person employed on his behalf who, in the opinion of Network Rail, is not in a fit condition to carry out his duties, or is liable to endanger his own health and safety or that of others.

Prescribed Registers and Certificates

11.7.28 The *Contractor* shall ensure that all relevant prescribed registers and certificates, including those appertaining to the current Construction Regulations, are available for inspection at all times at a location agreed by Network Rail.

Fire Safety Training

11.7.29 The *Contractor* shall receive specific instructions related to fire safety, and undergo training commensurate with his duties and location, particularly when working in subsurface railway stations.

Fire Precautions

11.7.30 The *Contractor* shall make arrangements for the protection of The Works and any adjacent railway infrastructure from fire and shall take such precautions as Network Rail may reasonably require. The *Contractor* shall comply with all the following Health and Safety Executive publications: Guidance Note CS6 - 'The Storage and Use of LPG on Construction Sites'; Health and Safety Executive Handbook HS (G)3 'Highly Flammable Materials on Construction Sites'; and Health and Safety Executive Leaflet IND (G)56P- 'Flammable Liquids on Construction Sites'.

11.7.31 The use of halons in hand held fire extinguishers, and new fixed fire fighting systems based on halons, shall not be permitted.

Confined Spaces

11.7.32 A considerable number of confined spaces exist on or about the railway. In certain circumstances, this may be a transient state dependent on usage. The *Contractor* shall ensure his staff are suitably trained to recognise a confined space and a safe system of work shall be devised by the *Contractor* which must be identified in method statements before any work is carried out.

Contaminated Land

11.7.33 Railway land, especially in the area of former large sidings or depots, may be contaminated. Appropriate precautions shall be taken when carrying out activities which disturb or alter the existing regime.

Substances Hazardous to Health

11.7.34 The use of asbestos (in all its various forms) has been extensive throughout the railway industry in previous years. Accordingly, the *Contractor* shall take all appropriate precautions.

11.7.35 Railway bridges, structures and some buildings may have protective and decorative coatings containing substantial quantities of lead. Accordingly the *Contractor* shall take all appropriate precautions.

11.7.36 Cadmium may have been used as an anti-corrosion plating on some metal products (nuts, for example) on or about the railway. Accordingly the *Contractor* shall take all appropriate precautions.

11.7.37 There may be a risk of leptospirosis (Weils Disease) when working on the railway as a result of contamination by rats. Accordingly, the *Contractor* shall take all appropriate precautions.

11.7.38 The presence of anthrax spores has been detected on or about the railway. The *Contractor* must be aware of the continuing possibility that anthrax spores may be located on or about the railway and shall take all appropriate precautions.

Temporary Works

11.7.39 The *Contractor* shall ensure that:-

- a) All proposals for Temporary works which may affect the stability of Network Rail's Infrastructure or the public, persons or property on Network Rail's Infrastructure, shall be submitted to Network Rail's Asset Protection representative for review and acceptance a minimum of 25 working days (or other mutually agreed time) prior to The Works. For further details refer to NR/L2/CIV/003: Engineering Assurance of Building and Civil Engineering Works.
- b) Inspections are carried out of all Temporary works and all other temporary supporting structures, and that such operations are carried out and recorded in like manner to that specified in each of the said requirements that relate to scaffolding; and
- c) The superintendence provided wherever rapidly increasing or shock loads are being applied to any Temporary works shall include a person or persons in full view of such Temporary works with knowledge of the

design thereof and able to direct emergency action if this becomes necessary.

Noise

- 11.7.40 When noisy operations are to be carried out, the *Contractor* shall take such measures as may be required by Network Rail to ensure the hazard and nuisance is minimised. It is Network Rail policy on Noise Management and Hearing Conservation that, where daily personal noise exposure (LEP,d) is likely to exceed 85 dB(A), suitable ear protection shall be provided. In addition to the requirements of the Noise at Work regulations 1989, the *Contractor* shall ensure, so far as is practicable, that all persons on site are provided with suitable personal ear protection where daily noise exposure (LEP,d) is likely to exceed 85 dB(A). Such ear protection, when properly worn, shall reasonably be expected to keep the risk of damage to such person's hearing below that arising from exposure to 'the first action level' or 'the peak action level', both as defined in the Regulations.
- 11.7.41 In addition to and notwithstanding any maximum noise levels specified in the contract, the *Contractor* shall be responsible for keeping noise to a level acceptable to the Local Authority and for preventing a noise nuisance arising. The *Contractor* shall discuss noise levels and methods of working with such Authority and in such an event shall inform Network Rail of the Local Authority's requirement. The *Contractor* shall not apply for a Consent without the approval of Network Rail in writing.
- 11.7.42 When noisy operations are to be carried out at night or on Sunday, the *Contractor* shall suitably warn all persons likely to be affected by such operations. The *Contractor* shall comply with the general principles laid down in BS 5228 standard Noise Control of Construction and Open Sites or equivalent EC/ISO Standard.
- 11.7.43 If any approach is made to the *Contractor* by a Local Authority or Magistrate's Court in respect of noise emission from the site (whether or not such approach comprises the serving upon the *Contractor* of a Notice made pursuant to Section 60 of the Control of Pollution Act 1974 or an Order made pursuant to Section 59 of that Act or an Order made pursuant to Section 80 or 82 of the Environmental Protection Act 1990 or any subsequent re-enactment thereof), except to the extent that any immediate action is necessary to comply with such a Notice or Order prior to the receipt of appropriate instructions by Network Rail, the *Contractor* shall not change or give any undertaking to change such programme or methods of construction without consulting Network Rail.

Screens, Hoardings and Lights

- 11.7.44 The *Contractor* shall provide all necessary appropriate temporary screens, hoardings guard rails, barriers, fans, protective sheeting, fencing, and

lighting to ensure the safety and protection of his employees and others and The Works at all times throughout the duration of the contract. The location of any such screen or hoarding shall not affect signal sighting nor obscure places of safety, and must not be erected without the prior consent of Network Rail. All lights shall be so placed or screened so as not to interfere with any signal lights, Driver Only Operation platform monitoring devices, or in any other way affect the vision of train drivers.

Buried Pipes, Ducts and Cables, etc

11.7.45 The *Contractor's* attention is drawn to the possibility of buried pipes, ducts and cables, including high voltage electrical power cables. The *Contractor* shall take all reasonable precautions to establish the position, existence and location of any buried pipes, ducts and cables which may be present before any excavation or the driving of objects into the ground, and shall take all reasonable precautions to avoid damaging buried pipes, ducts and cables when excavating and driving objects into the ground. Any equipment (Cable Avoiding Tools (CATs) for example) utilised to establish the position of buried pipes, ducts and cables shall be authorised before use by Network Rail. For further details, refer to NR/L2/INI/CP1030: Working Safely in the Vicinity of Buried Services.

Explosives

11.7.46 Explosives (which term does not include detonators which are used in emergencies by an authorised person to warn train drivers of a blocked line) shall not be used on or about the railway without the written agreement of Network Rail.

Lasers

11.7.47 Equipment incorporating lasers shall not be used by the *Contractor* without the prior written consent of Network Rail, and if such consent is given the *Contractor* shall comply with any Code of Practice on the lasers produced by Network Rail and relevant British and European Standards published from time to time. Before any laser may be used on the site the *Contractor* shall provide a copy of his general safety instructions and specific safety regulations to Network Rail for approval, and no items of work using lasers shall commence without Network Rail's prior written consent.

Welfare and Sanitary Facilities

11.7.48 The *Contractor* shall make arrangements, as necessary, for the welfare and sanitary needs of his personnel. The use of existing railway facilities, including waiting rooms, mess rooms or sanitary facilities will not be permitted unless agreement has been reached by Network Rail and other users as appropriate.

Electrically Conductive Survey Equipment

- 11.7.49 Electrically conductive survey equipment shall not be used within 2.75 metres of any overhead line equipment, nor shall it be used within 2.0 metres of any rail. Non-conductive measuring equipment shall be used in all other locations wherever practicable.

Crossing the Railway Track

- 11.7.50 The *Contractor* shall not cross or convey constructional plant and/or materials across or along any railway track unless special arrangements have been made, and specific written approval has been given, by Network Rail. Where public rights of way exist over occupation and/or accommodation level crossings and/or bridges, the *Contractor* shall only use such crossings in the way that they are intended to be used by the public, unless specific written approval has been given by Network Rail.
- 11.7.51 Only in exceptional circumstances will the provision of a temporary level crossing be permitted over any operational railway track. If Network Rail is prepared to accept the provision of a level crossing required for constructional traffic over any railway track, time must be allowed to enable the approval of HM Railway Inspectorate to be obtained in addition to the period of notice required by Network Rail for making the necessary arrangements and carrying out the work.

Safety Personnel

- 11.7.52 The Railway industry has an established regime of safety supervision when work is undertaken on or about the tracks which may involve Look-outs, Hand-signallers and a CoSS (Controller of Site Safety) amongst others. Only competent and certificated personnel may undertake these duties. Network Rail may require these and other safety personnel to be appointed for the control of trains, the protection of the *Contractor's* personnel, and to ensure the safety of the rail traffic, other staff, property and others during the progress of the works.

Emergency Action

- 11.7.53 The *Contractor* shall prepare an emergency procedure which must include the method of stopping trains in the event of an incident that could affect the safety of trains and/or persons and, in the case of an electrified line, how to arrange to have the current switched off in the event of an emergency. This procedure shall be accepted in writing by Network Rail before work starts.
- 11.7.54 The *Contractor* shall ensure that his personnel are fully conversant with this Procedure, and understand it. Auditable checks shall be undertaken at intervals agreed with the Network Rail to monitor this understanding.

Timing of Work On or About Railway Tracks

11.7.55 Work shall only commence on or about the tracks when agreed to and authorised in writing by Network Rail. Any work which, in the opinion of Network Rail, requires a possession, isolation and/or speed restriction shall be carried out on dates and at times agreed in writing by Network Rail. Such speed restrictions, possessions and isolations are regulated to minimise delays to railway traffic and may, therefore, require working outside the *Contractor's* normal working hours.

Confirmation of Possession, etc of the Railway Lines

11.7.56 If the *Contractor's* programme for The Works has been accepted by Network Rail, and consent has been given to the proposed method of carrying out The Works, the *Contractor* shall, in all cases, submit written notice to Network Rail confirming any speed restrictions, possessions or isolation requirements prior to the period of notice laid down in the contract in advance of the proposed commencement of Work on or near the railway lines.

Rail Traffic During a Possession or Isolation

11.7.57 During a possession and/or isolation, the *Contractor* shall allow for engineers, trains and/or on-track machines to be passed through the work site by prior arrangement. This will necessitate the temporary clearance of the railway track and cessation of those activities that could affect their passage or the safety of personnel on or about the tracks.

Cancellation of Speed Restriction, Possession and/or Isolation

11.7.58 Network Rail may need to cancel or alter dates and times of any agreed speed restrictions, possessions and/or isolation at short notice if this proves necessary because of any emergency situation, but in such an event alternative arrangements will be made as soon as the situation permits.

Working Methods Near Railway Track

11.7.59 Unless agreed in writing by Network Rail, no construction plant of any kind shall be used, and/or materials placed, stacked and/or handled in such a manner that, in the event of mishandling and/or failure, such plant and/or materials could fall foul of a vertical plane 3.0 metres from the nearest edge of the nearest rail on which trains may run or on a station platform within 3.0 metres of the platform edge (subject to provisions when working near overhead line equipment). The *Contractor* shall submit details (including drawings) of the proposed method of using Constructional Plant and the stacking and/or handling of materials on or about the track when required. In this event, such Work shall not begin until any required safety measures have been carried out to the satisfaction of Network Rail.

Notification of Toxic Substances on Site

11.7.60 Toxic substances, as defined in the Health and Safety Executive Guidance Note EH40, shall not be brought on or about the railway without the prior written consent of Network Rail. If any unforeseen toxic substance is encountered or discovered on site during the progress of the work, the *Contractor* shall firstly secure the working area where these are discovered and then immediately submit the proposed method of operation and the precautions to be taken, including handling, disposal and/or re-use, to Network Rail before continuing any work affected by the discovery.

Notifications of Accidents to Network Rail

11.7.61 Notwithstanding the statutory requirements of the Health and Safety at Work etc Act 1974, the *Contractor* shall immediately report to Network Rail all accidents and occurrences causing damage to property or potentially affecting the safe working of the railway, and all injuries (other than of a trivial nature), reportable diseases and work-linked injuries, and any dangerous occurrences as defined in the 'Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1985' and, as applicable, those accidents cited in the 'Railways (Notices of Accidents) Order 1986' when these occur on the operational railway. Details of all such occurrences shall be recorded on the appropriate form and a copy sent to Network Rail within 24 hours of any such occurrence. All injuries to the *Contractor's* personnel (including minor injuries which the Department of Health and/or the Department of Social Security may specify) shall be reported when working on the non-operational railway and a copy of the report sent to Network Rail. Network Rail will advise the *Contractor* as to those parts of the site which are operational and those which are non-operational.

11.7.62 Network Rail may require *Contractor's* personnel to undergo a medical examination before returning to work after a prolonged illness, serious injury or accident to establish their fitness for work.

Advertisements

11.7.63 The *Contractor* shall not permit any advertisements to be displayed on or above railway property without the prior consent of Network Rail.

Services

11.7.64 The degree of protection provided to Services on or about the railway can vary. The *Contractor* shall not interfere with any Services unless authorised by Network Rail, except where shown on the contract drawings to be altered by the *Contractor*. Should any unknown or unexpected Service be uncovered on railway property during the work, the *Contractor* shall establish ownership, inform Network Rail and the owner of the service, and take appropriate precautions for protection. The *Contractor* shall uphold, maintain and keep in working order in its existing location any Service not diverted.

Arrangements to Provide Protection to Railway Equipment

11.7.65 The *Contractor* shall provide, maintain and remove on completion of The Works all necessary protection to prevent damage to the tracks, track ballast, signal and telecommunication equipment, and all other railway equipment during the execution of The Works.

Electrified Railways

11.7.66 The *Contractor's* attention is drawn to the presence in some areas of electric traction equipment which may be either overhead line equipment above the track and/or third or fourth conductor rail at track level. Either system carries a potentially lethal electric current and proximity to this equipment can cause death or severe injury. The *Contractor* shall obtain warning notices to Network Rail's specification and shall erect these in prominent positions approved by Network Rail. The *Contractor* shall ensure that his personnel observe such warnings, together with any other instructions as may be included in the current Track Safety Handbook GO/RT 3170 or any later replacement thereof. A poster explaining methods of resuscitation shall be erected and maintained in a prominent position at the place of work. The *Contractor* shall fully comply with any requirements of Network Rail as to the earthing and bonding (or electrical segregation) of metal work and foil covered sheet materials.

11.7.67 Overhead line equipment is charged at high voltage and shall be considered live at all times, and the *Contractor* shall observe the following precautions:

- Work shall not be carried out, cranes or other plant erected, operated and/or dismantled, or materials stored within the prohibited space, which is that space within a radius of 2.75 metres of the live overhead equipment together with anywhere vertically above this space. The figure of 2.75 metres used in determining the prohibited space shall be increased by the length of any tool, equipment and/or material being handled. However, work on the railway track, platforms, walkways and the like below the overhead equipment is permitted without special precautions provided that tools, equipment and/or materials are not at any times raised above head height.
- Portable ladders used in the vicinity of the live overhead equipment shall be wood or other non-conducting material and shall not be metal reinforced nor contain any metal or other electrically conductive material. Even ladders without reinforcement can lead to serious electrical shocks if allowed to come close to live overhead equipment, and therefore special precautions shall be taken by the *Contractor* to ensure that the ladder cannot slip and encroach into the prohibited space.
- Any disturbance of, or attachment to, any equipment forming part of the electric traction system shall only be carried out by Network Rail or on their behalf.

- Provision of Protective Screening and/or Platforms between the Work Area and the Live Overhead Line Equipment. Erection and removal of screening and/or platforms shall be carried out under the protection of isolation arrangements. Where such screening and platforms are erected, Network Rail may agree to work being carried out without isolation arrangements.
- Isolation and Earthing of the Overhead Line Equipment. The Overhead Line Equipment will not be made 'live' whilst the isolation arrangements are in being. No work shall begin or personnel be allowed in the prohibited space unless or until isolation arrangements have been made.

11.7.68 A third or fourth conductor rail and associated electrical equipment shall be considered live at all times. Work in the vicinity may involve the provision of special protection or alterations to the equipment. All these shall be provided or carried out by or on behalf of Network Rail. Alternatively, Network Rail may isolate a length of third or fourth conductor rail and such other electrical equipment as considered necessary and implement isolation arrangements. No work shall commence or personnel allowed to be exposed to risk from the third or fourth conductor rail or associated electrical equipment until isolation arrangements have been made.

Stability of Track

11.7.69 Excavations near any railway track and/or structure shall not commence until all measures required to maintain the stability of the track and/or structure have been completed and Network Rail have indicated that there is no further objection to the *Contractor* proceeding with the excavation work. Refer to the section above titled 'Temporary Works' for further guidance.

Interference with Drains and Watercourses

11.7.70 Any springs, water courses or drains which may be interfered with or cut through shall be preserved and pipes and other means be provided so as not to stop or diminish their present flow. Should any drain or spring appear and/or be uncovered, adequate measures shall be provided to convey the water and soil therefrom to a suitable outlet, and every reasonable precaution taken to protect the railway infrastructure from harm as a consequence of the work. The *Contractor* shall not, without the prior written approval of Network Rail, make temporary or permanent connections to any mains, drains, pipes, watercourses or other services. The *Contractor* shall not discharge any pollutant into any spring, water course, drain or other pipe, but if such discharge occurs he shall inform Network Rail and the appropriate authorities by the quickest practical means.

Flooding or Pollution

11.7.71 The *Contractor* shall take all necessary precautions, to the satisfaction of Network Rail, to prevent water, mud or other substances flooding or polluting the property or equipment of the railway.

Environmental Policy

11.7.72 The *Contractor* shall comply with those specific provisions of the Network Rail Environmental Policy and Management System that have been drawn to his attention.

Clearance of Railway Infrastructure, Land and Property

11.7.73 The *Contractor* shall not leave his rubbish on railway infrastructure, land and property and shall, subject to the approval of Network Rail, clear away and remove all *Contractor's* equipment, surplus materials and temporary works as and when, in the opinion of Network Rail, these cease to be required for the works.

Damage to Railway Infrastructure, Land and Property

11.7.74 All damage or defects or disturbance caused to railway infrastructure land and property as a result of the works (whether occurring during the works themselves or during the Maintenance Period) shall be made good by the *Contractor* as soon as possible to the satisfaction of Network Rail.

Contractor Not Relieved of Obligations

11.7.75 Compliance with the above requirements shall not relieve the *Contractor* of any of his obligations under the contract.

Additional Requirements

11.7.76 The *Contractor* shall be responsible for agreeing all methods of working with Network Rail and for complying with any Network Rail requirements, whether specified in this document or not. The *Contractor* shall be responsible for meeting all Network Rail's costs in connection with The Works.

11.8 VIRGIN MEDIA

11.8.1 In these Special Requirements, the following terms have the meanings assigned to them:

'Company' means Virgin Media.

'Company Representative' means the staff of Virgin Media or its Authorised Representatives and Agents.

'Apparatus' means all surface or sub-surface equipment and plant, including any associated cabling and/or ducting and associated access chambers owned, leased or rented by Virgin Media.

'Promoting Authority' means the principal who has the power to undertake the proposed works and who has exchanged notices with the Company.

'Engineer' means the representative of the Promoting Authority who has the right to agree changes in design and/or costs that the Company may require.

'Contractor' means the company engaged in executing the works on behalf of the Promoting Authority.

- 11.8.2 These Special Requirements only apply to works where the following conditions have been met:
- a) The scheme comprises 'Major Highway Works' within the meaning of section 8 (3) of The New Roads and Street Works Act 1991.
 - b) The Promoting Authority has agreed with the Company in relation to the necessary diversionary works:
A detailed specification;
A detailed estimate;
Time slots and notice periods; and
A provisional programme for the works.
 - c) The Promoting Authority has given the Company formal notice of their intention to execute the works.
 - d) The Promoting Authority has appointed an Engineer.
- 11.8.3 Before commencing any work, or moving heavy plant or equipment over any portion of the site, the *Contractor* shall confirm details of the Apparatus, owned, leased or rented by the Company, within the site with the Company Representative, who can be contacted at the following point:
Address: National Plant Enquiries Team
Unit1/1A Courtauld Rd
Basildon, Essex
SS13 1ND
- 
- 11.8.4 Where such details show the works or the movement of plant or equipment may endanger the Apparatus, the *Contractor* shall give the Company Representative at least 14 calendar days written notice of the date on which it is intended to commence such work or the movement of plant and equipment. In these cases, the presence of any sub-surface Apparatus shall be indicated by suitable markers to be supplied and placed by the *Contractor* under the supervision of a Company Representative. The *Contractor* shall ensure that all Apparatus, particularly surface running cabling, is adequately protected from damage and such protective measures shall be approved by the Company Representative and the Engineer.
- 11.8.5 In the event of a marker being disturbed for any reason, it shall not be placed other than in the exact position and to its former depth unless the repositioning is carried out at the direction and under the supervision of a Company Representative.
- 11.8.6 The *Contractor* shall take particular care in relation to the protection of all Apparatus, where such Apparatus includes the presence within the site of

optical fibre and/or co-axial cabling. The *Contractor* shall particularly note that damage to such Apparatus is extremely disruptive to the Company network and costly to reinstate.

- 11.8.7 The Company has a statutory duty to supply telephony services to its customers, including the emergency '999' telephone service. Each time the *Contractor* damages the Company's Apparatus and interrupts supply, the Company's customers are seriously inconvenienced and left without the emergency '999' service. The Company will seek to recover all costs incurred in effecting repairs to apparatus damaged by the *Contractor*.
- 11.8.8 The *Contractor* shall make every effort to avoid the disturbance of Apparatus more than is absolutely necessary for the completion of the works in accordance with the contract.
- 11.8.9 When excavating around, moving or backfilling around Apparatus, the Company Representative shall be given adequate notice, which shall not be less than 3 calendar days, of the *Contractor's* intentions in order that the Company Representative may supervise the works. The *Contractor* shall note that the guideline depth of cover for Apparatus and ducts is as follows:
- a) In carriageways: 450mm or 600mm; or
 - b) In footways: 250mm or 350mm.
- 11.8.10 The *Contractor* shall be aware that depth of cover can vary due to specific site conditions and safe digging practice shall always be observed. All excavation adjacent to Apparatus shall be carried out by hand until the exact extent and/or location of Apparatus is known. Mechanical borers and/or excavation shall not be used within 1.00 metres of Apparatus without the supervisory presence of a Company Representative. To prevent any movement of Apparatus during excavation, complete shuttering shall be used as directed by the Engineer if:
- a) Excavation is deeper than the depth of cover of adjacent Apparatus;
 - b) Excavation is within 1.0m of Apparatus in stable soil;
 - c) Excavation is within 5.0m of Apparatus in unstable soil; or
 - d) If, for the completion of the works, the *Contractor* intends using any of the following:
 - (i) Pile driving equipment within 100 metres of Apparatus;
 - (ii) Explosives within 200metres of Apparatus; or
 - (iii) Laser equipment within 10.0 metres of Apparatus.
- 11.8.11 The *Contractor* shall advise the Company Representative, giving at least 14 calendar days written notice, in order than any special protective measures for the Apparatus affected may be arranged.
- 11.8.12 Where the standard depth of cover cannot be maintained, the *Contractor* shall carry out the instructions of the Engineer for the protection of Apparatus and such actions that follow from the Engineers instruction shall be supervised by a Company Representative.

- 11.8.13 All Company manholes, joint boxes and/or other access points and chambers within and/or adjacent to the site shall be kept clear and unobstructed. Access for vehicles, winches, cable, drums and/or any further equipment required by the Company for the maintenance of its Apparatus shall be maintained at all reasonable times. The *Contractor* shall particularly note that footway chambers are not specified to withstand carriageway loadings. Where such chambers are likely to be placed at risk, either temporarily or permanently, from the movement of plant and/or equipment on the site, they shall be adequately protected and/or demolished and rebuilt under the supervision of a Company Representative.
- 11.8.14 Covers to chambers and/or Apparatus shall only be lifted by means of appropriate keys and under the direct supervision of the Company Representative. No employee of the *Contractor* or any Subcontractor employed by the *Contractor* shall enter any chamber and/or Apparatus unless under supervision of the Company Representative. In any case covers shall not be lifted before the Company required mandatory gas check has been carried out in the presence of the Company Representative, and such check has show it to be safe to enter the chamber and/or Apparatus.
- 11.8.15 In the event of any damage whatsoever to Apparatus, the *Contractor* shall immediately inform the Engineer and report the occurrence to the Company on telephone number [REDACTED] – option 2.
- 11.8.16 The above requirements shall not relieve the *Contractor* of any of his obligations under the contract.
- 11.9 TRANSPORT FOR LONDON TRAFFIC DIRECTORATE (TD)
- 11.9.1 The *Contractor* shall report any suspected faults with Automatic Traffic Signals (ATS), including the attached box signs, immediately to TfL Performance & Maintenance Fault Control Centre (FCC) or the out of hours fault control centre in the London Streets Traffic Control Centre (LSTCC). The faults would include out of alignment signal heads, lamps out, etc. Where signals are all out, the fault shall be reported to FCC and LSTCC. The LSTCC will make a decision to implement traffic management to reduce danger for the road or footway user. If a fault is a result of a road traffic incident, every attempt shall be made to obtain the details of the party/parties involved in the incident and provide these details to FCC or the out of hours control centre.
- 11.9.2 Where damage to any other TD equipment, including CCTV equipment, over-height vehicle detection (OVD), safety cameras and variable message signs is observed or identified, the *Contractor* shall report the incident to the Police and provide details to FCC or the out of hours control centre.

- 11.9.3 Where emergency traffic management is required following an ATS failure (all out or where signal poles are damaged and causing a danger to the public), it shall be provided by the *Contractor* at the request of the LSTCC.
- 11.9.4 Where third-party damage is caused to detector loops in the road surface, and/or cables are observed to be damaged, it shall be reported to FCC with details of the party responsible if they are available.
- 11.9.5 When the *Contractor* is undertaking Tasks, he shall provide TD with an absolute minimum of three working days' notice of a request to arrange the switching out of ATS for works, except in the case of Emergency works. Where minor modifications are required to traffic signals to accommodate scheme works, the notice required will depend on the scope of works. As such, early contact with TD to discuss the scope shall be considered to avoid delay in delivery. The *Contractor* will incur the costs for abortive visits by traffic signal engineers to carry out any such works described above.
- 11.9.6 Footway renewal schemes and works on kerbs carried out by the *Contractor* shall take account of existing under-kerb ducting that has been fitted to allow the connection of inductive loop vehicle detectors, and slot-cuts to the ATS controller, safety cameras, traffic management cameras and OVD equipment. Where these are removed in error by the *Contractor*, he shall replace them within 7 calendar days to allow resumption of service for the detection loop.
- 11.9.7 The re-instatement of any loop detection destroyed as part of highway resurfacing, footway renewal or kerb works carried out by the *Contractor* or his Subcontractor shall be organised and paid for by the *Contractor* to current TD standards. Where the re-cut loop does not pass the testing and inspection requirements of TD's standard, it shall be the responsibility of the *Contractor* to ensure, within 24 hours, that the standards are complied with.
- 11.9.8 Where poles-in-barrels have been deployed, the *Contractor* shall only move the signal equipment within the prescribed distances identified on the poles-in-barrels authorisation letter, and ideally after first agreeing the move with a member of TD. Any requirement to move the poles-in-barrels beyond those prescribed distances shall be approved by TD. During poles-in-barrels work, all signals and signal cables shall be signed and guarded in accordance with the Code of Practice for Safety at Street Works and Road Works for streetworks and the Traffic Signs Manual Chapter 8.
- 11.9.9 Works programmes for highway resurfacing shall be made available to the appointed TD staff member as soon as possible. TD shall be included as a stakeholder in all initial consultations at the planning stage of all projects. This is with a view to ensure that services provided by TD are disconnected correctly and to ensure the correct reinstatement of any detection loops or

other traffic management equipment that may be damaged by resurfacing works.

11.10 THAMES WATER

11.10.1 In these Special Requirements the following terms shall have the meanings assigned to them:

(a) 'Company' means Thames Water Utilities Ltd or its successors and assigns.

(b) 'Company Representative' means the Chief Civil Engineer of the said 'Company' defined at 1(a) of this Special Requirement or other duly Authorised Engineer Representative and/or Agent appointed for the time being to act on behalf of the said 'Company'.

(c) 'Mains and Sewers' means any surface or sub-surface pipeline or construction together with any associated apparatus, appliance, access covers, manholes, shafts and/or chambers thereto owned, leased or rented by the said 'Company' defined at 1 (a) of this Special Requirement.

11.10.2 Before commencing any work or moving heavy plant or equipment over any portion of the site, the *Contractor* shall confirm the details and location of any Mains and Sewers with the Company Representative, who can be contacted at the following point:

Thames Water Utilities Ltd
Asset Data Enquiries (Utilities),
Blake House,
Manor Farm Road,
Reading,
RG2 0JN

[REDACTED]

Contacts: [REDACTED]

11.10.3 Where such details show that the works or the movement of plant or equipment may endanger any Mains and Sewers, the *Contractor* shall give the Company Representative at least 7 calendar days written notice of the date on which it is intended to commence such works or the movement of plant and equipment in order that the position of any Mains and Sewers (to be ascertained by hand dug trial holes) can be indicated by markers to be supplied by the Company and placed by the *Contractor* under the supervision of the Company Representative. The *Contractor* shall ensure that all Mains and Sewers, are adequately protected from damage to the satisfaction of the Company Representative.

11.10.4 In the event of a Company marker being disturbed for any reason, it shall not be replaced other than in the exact position and to its former depth unless the repositioning is carried out at the direction and under the supervision of the Company Representative.

- 11.10.5 All excavation adjacent to Mains and Sewers shall be carried out by hand until the exact extent and/or location of Mains and Sewers is known. Mechanical borers and/or excavators shall not be used within 3.0m of Mains and Sewers without the presence of the Company Representative. To prevent any movement of Mains and Sewers during excavation, complete shuttering shall be used as directed by the Overseeing Organisation if:-
- (a) Excavation is deeper than the depth of cover of adjacent Mains and Sewers.
 - (b) Excavation is within 3.0m of Mains and Sewers in stable soil.
 - (c) Excavation is within 6.0m of Mains and Sewers in unstable soil.
- 11.10.6 If, for the completion of the works, the *Contractor* intends using any of the following:-
- (i) Pile driving equipment within 15.0m of Mains and Sewers;
 - (ii) Explosives within 200m of Mains and Sewers; or
 - (iii) Any hot work such as welding and the like within 6.0m of any Mains and Sewers
- then the *Contractor* shall advise the Company Representative, giving at least 7 calendar days written notice, in order that any special protective measures for the Mains and Sewers affected may be arranged.
- 11.10.7 Material of any kind whatsoever comprising part of Mains and Sewers, manholes, shafts, thrust blocks or any other construction shall not be cut away without the prior written approval of the Company Representative.
- 11.10.8 Any temporary roads or access routes within 5.0m of Mains and Sewers shall be provided with a load bearing surface to the satisfaction of the Company Representative.
- 11.10.9 The *Contractor* or any Subcontractor employed by him shall not stack, pile and/or store materials of any kind or erect temporary structures and/or notice boards of any sort within 5.0m of any Mains and Sewers.
- 11.10.10 All Mains and Sewers, especially manholes, shafts and access points and/or chambers within the site, shall be kept clear and unobstructed. A minimum 3.0m access sufficient for heavy vehicles and/or any further plant and equipment required by the Company for the maintenance of its Mains and Sewers, shall be maintained to and around the centre of any Company manholes shafts chambers and or other access points and the Company Representative shall be given access to all Mains and Sewers when required at all reasonable times.
- 11.10.11 The covers to Mains and Sewers, particularly manholes, shafts and access points and/or chambers shall only be lifted under the direct supervision of the Company Representative. Employees of the *Contractor* or of any Subcontractor employed by the *Contractor* shall NOT enter any Mains and Sewers, manholes, shafts, access points and/or chambers unless under the supervision of the Company Representative and in any

case not before any safety checks required by the Company Representative have been carried out and such checks have shown it to be safe to enter the Mains and Sewers.

- 11.10.12 In the event of any damage whatsoever to Mains and Sewers, the *Contractor* shall immediately inform the *Employer* and report the occurrence immediately by contacting the Company Representative.
- 11.10.13 The *Contractor* and/or any Subcontractor employed by the *Contractor* shall take all necessary precautions to ensure that any Mains and Sewers are fully protected from any accidental falls or flows of liquids and/or materials, which by themselves or in combination with any existing materials and/or liquids could cause or aggravate pollution, create poisonous substances and/or toxic fumes, or react with sewer contents to cause toxic substances or fumes and/or could cause harm to persons or property and/or impede any operations of the Company.
- 11.10.14 The *Contractor* and/or any Subcontractor employed by the *Contractor* shall not discharge, nor cause to be discharged, any water or other liquid or tip any condemned or surplus material or waste of any kind whatsoever into Mains and Sewers nor abstract, extract and/or draw water from any Mains and Sewers without the written permission of the Company Representative.
- 11.10.15 The *Contractor* shall particularly note that the Sewer system can be liable to 'surcharge' in certain circumstances, and under these conditions is liable to bursting. Stringent safety precautions as directed by the Company Representative shall be applied in such conditions.

Emergency Action

- 11.10.16 The following actions shall be taken by the *Contractor* in the event of a burst to any of the Mains and Sewers:-
- (a) IMMEDIATELY inform the Company, the *Employer* and (if required) the Emergency services in that order.
 - (b) Secure the area from the approach of traffic and/or the general public.
 - (c) Render every assistance to the Emergency Services and/or the Company as shall be requested for the purposes of mitigating damage arising from the leak and/or for the purposes of securing public safety.
 - (d) With regard to landslope and any apparent flow direction of any leaking sewerage or water, construct, if possible and as necessary, dams and/or bunds with earth and/or board to prevent flows inundating any adjacent properties, ditches, streams ,drains, manholes or other such water courses and ducts.
- 11.10.17 Compliance with the above requirements shall not relieve the *Contractor* of any of his obligations under the contract.

11.11 BT OPENREACH

11.11.1 In these Special Requirements the following terms shall have the meanings assigned to them:

(a) 'Company' means British Telecommunications PLC.

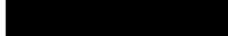
(b) 'Company Representative' means the staff of British Telecommunications PLC or its Authorised Representatives and Agents.

(c) 'Apparatus' means all surface or sub-surface equipment and plant including any associated cabling and/or ducting owned, leased or rented by British Telecommunications PLC.

11.11.2 Before commencing any work or moving heavy plant or equipment over any portion of the site, the *Contractor* shall confirm details of the Apparatus within the site with the Company Representative, who can be contacted at the following point:

Address: British Telecommunications plc,
207 Old Street,
PP 1148,
London EC1V 9NR

Telephone: 

Fax: 

11.11.3 Where such details show that the works or the movement of plant or equipment may endanger any Apparatus, the *Contractor* shall give the Company Representative at least 7 calendar days written notice of the date on which it is intended to commence such works or the movement of plant and equipment in order that the presence of any sub-surface Apparatus can be indicated by markers to be supplied by the Company and placed by the *Contractor* under the supervision of a Company Representative. The *Contractor* shall ensure that all Apparatus, particularly surface running cabling, is adequately protected from damage and such protective measures shall be approved by a Company Representative.

11.11.4 In the event of a Company marker being disturbed for any reason, it shall not be replaced other than in the exact position and to its former depth unless the repositioning is carried out at the direction and under the supervision of a Company Representative.

11.11.5 The *Contractor* shall take particular care in relation to the protection of Apparatus, where such Apparatus includes the presence within the site of optical fibre and/or co-axial cabling. The *Contractor* shall particularly note that damage to such Apparatus is extremely disruptive to the Company network and costly to reinstate. The *Contractor* shall make every effort to avoid the disturbance of Apparatus more than is absolutely necessary for the completion of the works in accordance with the contract.

11.11.6 When excavating around, moving or backfilling around Apparatus, the Company Representative shall be given adequate notice, which shall not be less than 3 calendar days, of the *Contractor's* intentions in order that he

- may supervise the works. The *Contractor* shall note that the normal depth of cover for Apparatus and ducts is as follows:-
- (a) In carriageways - 600mm, which is to be maintained.
 - (b) In footways - 450mm, which is to be maintained.
- 11.11.7 Where the 600/450mm depth of cover cannot be maintained, the *Contractor* shall carry out the instructions of the *Employer* for the protection of Apparatus and such actions that follow from the *Employer's* instruction shall be supervised by a Company Representative. Where the required depth of cover cannot be maintained over cabling, such cables as are affected shall be enclosed and protected in UPVC duct to be supplied by the Company as directed by the Company Representative.
- 11.11.8 With regard to excavation in the vicinity of Apparatus and ducts, the *Contractor* shall have particular regard to the possibility of reduced cover and the encountering of Apparatus and ducts at depths of cover less than that given at a) and b) above.
- 11.11.9 All excavation adjacent to Apparatus shall be carried out by hand until the exact extent and/or location of Apparatus is known. Mechanical borers and/or excavators shall not be used within 1.0m of Apparatus without the supervisory presence of a Company Representative. To prevent any movement of Apparatus during excavation, complete shuttering shall be used as directed by the *Employer* if:-
- (a) Excavation is deeper than the depth of cover of adjacent Apparatus.
 - (b) Excavation is within 1.0m of Apparatus in stable soil.
 - (c) Excavation is within 5.0m of Apparatus in unstable soil.
- 11.11.10 If, for the completion of the works, the *Contractor* intends using any of the following:-
- (i) Pile driving equipment within 10.0m of Apparatus;
 - (ii) Explosives within 20.0m of Apparatus; or
 - (iii) Laser equipment within 10.0m of Apparatus
- then the *Contractor* shall advise the Company Representative, giving at least 7 calendar days written notice, in order that any special protective measures for the Apparatus affected may be arranged.
- 11.11.11 All Company manholes, joint boxes and/or other access points and chambers within the site shall be kept clear and unobstructed. Access for vehicles, winches, cable drums and/or any further equipment required by the Company for the maintenance of its Apparatus, shall be maintained at all reasonable times. The *Contractor* shall particularly note that footway type jointing chambers are not specified for carriageway loadings and will need to be adequately protected and/or demolished and rebuilt under the supervision of a Company Representative where such chambers are likely to be placed at risk, either temporarily or permanently, from the movement of plant and/or equipment on the site.
- 11.11.12 The covers to Company chambers and/or Apparatus shall only be lifted by means of appropriate keys obtained from the Company Representative and under the direct supervision of the Company Representative. No

employee of the *Contractor* or of any Subcontractor employed by the *Contractor* shall enter any chamber and/or Apparatus of the Company unless under the supervision of the Company Representative and in any case not before the mandatory gas check has been carried out in the presence of the Company Representative and such checks have shown it to be safe to enter the Chamber and/or Apparatus. The Company Representative shall be given reasonable access to all Apparatus and chambers when required.

11.11.13 In the event of any damage whatsoever to any Apparatus, the *Contractor* shall immediately inform the *Employer* and report the occurrence by contacting the Company as follows:-

Telephone: **DIAL 100 and ask operator for 'FREEPHONE Dial before you Dig'.**

11.11.14 Compliance with the above requirements shall not relieve the *Contractor* of any of his obligations under the contract.

11.12 ENVIRONMENT AGENCY

11.12.1 The *Contractor* shall obtain all consents and permits for works regulated by the Environment Agency (EA) in respect of environmental protection, including managing the risk of flooding, preventing pollution, managing waste, contaminated land and water quality. The *Contractor* shall observe and comply with the conditions which apply to consents and permits and with guidance issued by the EA.

11.12.2 The *Contractor* shall report any pollution incidents to the EA by telephoning 0800 807060. This is a 24/7 hotline.

11.12.3 The *Contractor* shall comply with any Memoranda of Understanding between the *Employer* and the EA in respect of works on the relevant *Employer* network.

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