A303 Amesbury to Berwick Down (Stonehenge)

Volume 3 – Specification Appendices

April 2022

Doc Ref: A303-MW-CoD-015-V3-Spec Appendices

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Introduction

Preamble to the Specification Appendices

1 The Specification referred to in the Scope is the 'Specification for Highway Works' (SHW) current 6th April 2020, published by TSO (formerly HMSO) as Volume 1 of the Manual of Contract Documents for Highway Works (MCHW), as modified and extended by the following

(i) Appendix 0/1: Contract-specific Additional, Substitute and Cancelled Clauses, Tables and Figures,

(ii) Appendix 0/2: Contract-specific minor alterations to existing Clauses, Tables and Figures,

(iii) Appendix 0/3: Numbered appendices,

(iv) Appendix 0/4: List of the drawings and

(v) Appendix 0/5: Not used.

2 Any reference in the Contract to a Clause number or Appendix is deemed to refer to the corresponding Substitute Clause number or Appendix listed in Appendix 0/1 or 0/2.

3 Insofar as any of the numbered appendices may conflict or be inconsistent with any provision of the SHW, the numbered appendices always prevail.

4 Any Appendix referred to in the Specification which is not used is deemed not to apply.

5 Where a Clause is altered, any original Table/Figure referred to in the Clause applies unless the Table/ Figure is also altered. Where a Table/Figure is altered any reference in a Clause to the original Table/Figure applies to the altered Table/Figure.

6 Where a Clause in the Specification relates to work goods or materials which are not required for the *works* it is deemed not to apply.

7 Any reference in the Contract to a Clause number or Appendix shall be deemed to refer to the corresponding Substitute Clause number or Appendix listed in Appendix 0/1 or 0/2.

8 Substitute or additional National Clauses shall be used within countries to which they specifically apply, and they are deemed to replace corresponding Clauses in the main text on the Specification as appropriate. The substitute National clauses are located at the end of the relevant Series together with the additional National Clauses of the Overseeing Departments.

9 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 *Project Manager*.

Where the Specification requires the provision of documentation to the Overseeing Organisation for statutory or type approval such documentation shall be provided to the *Project Manager*.

10 For the purposes of the Specification the Contractor is the *Contractor*.

11 If the Specification is used in conjunction with a Contract under which the Contractor is responsible for the design of any part of the permanent works, the delegation of the roles

and functions of the Overseeing Organisation as stated in paragraph 9 above shall be further amended as follows:

(i) If any agreement, consent or approval required to be obtained from the Overseeing Organisation impacts on the health and safety of the public, the environment or any property or equipment not owned or operated by the Contractor, such agreement, consent, approval shall be obtained from the *Project Manager*.

(ii) Where the Specification provides for the Overseeing Organisation to require a test, waive the requirement for a test or alter testing frequency, the party to whom the Overseeing Organisation's roles and functions have been ascribed by paragraph 9 above shall exercise such decisions in accordance with the Secretary of State's requirements stated in the Contract.

APPENDIX 0/1: CONTRACT SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT

Part A: Volume 1 Specification

List of Additional Clauses, Tables and Figures

Clause No. (etc.)	Title
127 AR	Protection from Nuisance due to the *works*

List of Substitute Clauses, Tables and Figures

Clause No.	Title
None	

List of Cancelled Clauses, Tables and Figures

Clause No.	Title
None	

Additional Clauses, Tables and Figures

Clause No.	Title and written text
127AR	**Protection from Nuisance due to the works** Existing roads, footways, rights of way, accesses to adjacent properties, buildings, etc., and any new roads and drains, whether part of the Site or not, which are being used by any of the Contractor's (or their sub-contractors' or suppliers' vehicles or items of plant in connection with the *works*, shall be kept clean and free from all dirt, mud and material dropped from vehicles or tyres and tracks. Suitable wheel washing facilities shall be provided and used at all Contractor's, sub-contractors' and suppliers' points of entry onto the public highway from the Site. No vehicle which is likely to deposit mud or other material on the road surface shall be permitted back onto the public highway. In meeting their obligations under the Conditions of Contract, the Contractor shall provide, maintain and use as necessary suitable equipment, including mechanical/vacuum road sweepers throughout the duration of the *works*. Road sweepers propelled by tractors and with the brush at an angle to the road will not be permitted. If notified by the Overseeing Organisation that cleaning is required, the Contractor shall respond within four (4) hours.

APPENDIX 0/2: CONTRACT SPECIFIC MINOR ALTERATIONS TO EXISTING CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT

Part A: Volume 1 Specification

Clause No.	Alterations to be made
None	

APPENDIX 0/3: LIST OF NUMBERED APPENDICES REFERRED TO IN THE SPECIFICATION AND INCLUDED IN THE CONTRACT

List 'A': List of Numbered Appendices Referred to in the Specification for Highway Works

Volume No.	Completed by	Appendix No.	Title
			INTRODUCTION
	(OO/C)	0/1	Contract-specific Additional, Substitute and Cancelled Clauses, Tables and Figures Included in the Contract
	(OO/C)	0/2	Contract specific Minor Alterations to Existing Clauses, Tables and Figures Included in the Contract
	(OO/C)	0/3	List of Numbered Appendices Referred to in the Specification and Included in the Contract
	(OO/C)	0/4	List of Drawings Included in the Contract
	Not Used	0/5	Special National Alterations of the Overseeing Organisations of Scotland/ Wales/ Northern Ireland
			PRELIMINARIES
	(OO)	1/1	Temporary Accommodation and Equipment for the Overseeing Organisation
	(OO)	1/2	Vehicles for the Overseeing Organisation
	Not Used	1/3	Radio Communication System for the Overseeing Organisation
	(OO/C)	1/4	Working and Fabrication Drawings
	(OO/C)	1/5	Testing to be carried out by the Contractor
	Not Used	1/6	Supply and Delivery of Samples to the Overseeing Organisation
	(OO)	1/7	Site Extent and Limitations on Use
	Not Used	1/8	Operatives for the Overseeing Organisation
	(OO)	1/9	Control of Noise and Vibration
	(OO/C)	1/10	Permanent Works to be Designed by the Contractor
	(OO/C)	1/11	Temporary Works to be Designed by the Contractor
	(OO/C)	1/12	Setting Out and Existing Ground Levels
	(OO)	1/13	Programme of Works
	(OO)	1/14	Payment Applications

	(OO/C)	1/15	Accommodation Works
	(OO/C)	1/16	Privately and Public Owned Services and Supplies
	(OO/C)	1/17	Traffic Safety and Management
	(OO/C)	1/18	Temporary Diversions for Traffic
	(OO/C)	1/19	Routeing of Vehicles
	(C)	1/20	Recovery Vehicles and Operation for Breakdowns
	(OO)	1/21	Information Boards
	(OO)	1/22	Progress Photographs
	(OO/C)	1/23	Risks to Health and Safety from Materials and Substances
	(OO/C)	1/24	Quality Management System
	(OO/C)	1/25	Temporary Closed-Circuit Television (CCTV) System for the Monitoring of Traffic
	Not Used	1/27	Temporary Automatic Speed Camera System for the Enforcement of Mandatory Speed Limits at Road Works (TASCAR)
			SITE CLEARANCE
	(OO\C)	2/1	List of Buildings, etc. to be Demolished or Partially Demolished
	(C)	2/2	Filling of Trenches and Pipes
	(C)	2/3	Retention of Material Arising from Site Clearance
	(OO)	2/4	Explosives and Blasting
	(C)	2/5	Hazardous Materials
			FENCING
	(OO/C)	3/1	Fencing, Gates and Stiles
			ROAD RESTRAINT SYSTEMS
	(C)	4/1	Road Restraint Systems (Vehicle & Pedestrian)
	(C)	4/2	Information Required to Demonstrate Compliance of Road Restraint Systems to BS EN 1317-1, BS EN 1717-3 and DD ENV 1317-4: 2002
			DRAINAGE AND SERVICE DUCTS
	(C)	5/1	Drainage Requirements
	(C)	5/2	Service Duct Requirements
	(C)	5/3	Surface Water Channels and Drainage Channel Blocks
	(C)	5/4	Fin Drains and Narrow Filter Drains
	(C)	5/5	Combined Drainage and Kerb Systems
	(C)	5/6	Linear Drainage Channel Systems
	(C)	5/7	Thermoplastics Structural Wall Pipes

			EARTHWORKS
	(C)	6/1	Requirements for Acceptability and Training etc. of Earthwork Materials
	(C)	6/2	Requirements for Dealing with Class U1B and Class U2 Unacceptable Materials (11/04)
	(C)	6/3	Requirements for Excavation, Deposition, Compaction (Other than Dynamic Compaction)
	(C)	6/4	Requirements for Class 3 Material
	(C)	6/5	Geotextiles Used to Separate Earthworks Materials
	(C)	6/6	Fill to Structures and Fill Above Structural Formations
	(C)	6/7	Sub-Formation and Capping and Preparation and Surface Treatment of Formation
	(C)	6/8	Top soiling
	(C)	6/9	Earthwork Environmental Bunds, Landscape Areas, Strengthened Embankments
	(C)	6/10	Ground Anchorages, Crib Walling and Gabions
	(C)	6/11	Swallow Holes and Other Naturally Occurring Cavities and Disused Mine Workings
	(C)	6/12	Instrumentation and Monitoring
	(C)	6/13	Ground Improvement
	(C)	6/14	Limiting Values for Pollution of Controlled Waters (11/06)
	(C)	6/15	Limiting Values for Harm to Human Health and the Environment (11/04)
			ROAD PAVEMENTS – GENERAL
	Not Used	7/1	Permitted Pavement Options
	(C)	7/2	Excavation, Trimming and Reinstatement of Existing Surfaces
	(C)	7/3	Surface Dressing – Performance Specification
	(C)	7/4	Bond Coats, Tack Coats and Other Bituminous Spray
	(C)	7/5	In Situ Recycling – The Remix and Repave Processes
	(C)	7/6	Breaking Up or Perforation of Existing Pavement
	(C)	7/7	Slurry Surfacing Incorporating Microsurfacing
		7/8	Not Used
	(C)	7/9	Cold-Milling of Bituminous Bound Flexible Pavement
		7/10	Not Used
	(C)	7/11	Overband and Inlaid Crack Sealing Systems
	(C)	7/12	Arrester Beds

	(C)	7/13	Saw-Cut Crack and Seal Bituminous Overlays on Existing Jointed Concrete Pavements
	(C)	7/14	Preparation of Jointed Concrete Pavements Prior to Overlaying and Saw-Cut and Seal of the Bituminous Overlay
	(C)	7/15	Saw-Cut, Crack and Seat Existing Jointed Reinforced Concrete Pavements
	(C)	7/16	Cracking and Seating of Existing Jointed Unreinforced Concrete Pavements
	(C)	7/17	Cracking Planting and Equipment Progress Record
	(C)	7/18	Site Specific Details and Requirements for Cold Recycled Bitumen Bond Material
	(C)	7/19	Site Specific Details and Requirements for Recycled Cement Bound Material
	Not Used	7/20	Not Used
	(C)	7/21	Surface Dressing – Recipe Specification
	(C)	7/22	Repairs to Potholes
			ROAD PAVEMENTS- CONCRETE AND CEMENT BOUND MATERIALS
	Not Used	10/1	Plant and Equipment for the Construction of Exposed Aggregate Concrete Surface
			KERBS, FOOTWAYS AND PAVED AREAS
	(C)	11/1	Kerbs, Footways and Paved Areas
	(C)	11/2	Access Steps
			TRAFFIC SIGNS
	(C)	12/1	Traffic Signs: General
	(C)	12/2	Traffic Signs: Marker Posts
	(C)	12/3	Traffic Signs: Road Markings and Studs
	(C)	12/4	Traffic Signs: Cones, Cylinders, FTDs and Other Traffic Delineators
	(C)	12/5	Traffic Signs: Traffic Signals
	(C)	12/6	Traffic Signs: Special Sign Requirements on Gantries
			ROAD LIGHTING COLUMNS AND BRACKETS, CCTV MASTS AND CANTILEVER MASTS
	(C)	13/1	Information to be Provided When Specifying Lighting Columns and Brackets
	(C)	13/2	(Specification for Highway Works) Typical Lighting Column and Bracket Data Sheets 1 & 2

	(C)	13/3	Instructions for Completion of Lighting Column and Bracket Data Sheets
	(C)	13/4	Information to be Provided When Specifying CCTV Masts
	(C)	13/5	(Specification for Highway Works) Typical CCTV Mast Data Sheet
	(C)	13/6	Instructions for Completion of CCTV Mast Sheets
	(C)	13/7	Information to be Provided When Specifying Cantilever Masts
	(C)	13/8	(Specification for Highway Works) Typical Cantilever Masts Data Sheets 1 and 2
	(C)	13/9	Instructions for Completion of Cantilever Masts Data Sheets
			ELECTRICAL WORK FOR ROAD LIGHTING AND TRAFFIC SIGNS
	(C)	14/1	Site Records
	(C)	14/2	Location of Lighting Units and feeder Pillars
	(C)	14/3	Temporary Lighting
	(C)	14/4	Electrical Equipment for Road Lighting
	(C)	14/5	Electrical Equipment for Traffic Signs
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	(C)	16/2	Precast Reinforced and Pre-stressed Concrete Piles and Precast Reinforced Concrete Segmental Piles
	(C)	16/3	Bored Cast-in Place Piles
	(C)	16/4	Bored Piles Constructed using Continuous Flight Augers and Concrete or Grout Injection through Hollow Auger Stems
	(C)	16/5	Driven Cast-in Place Piles
	(C)	16/6	Steel Bearing Piles
	(C)	16/7	Reduction of Friction on Piles
	(C)	16/8	Non-Destructive Methods for Testing Piles
	(C)	16/9	Static Load Testing of Piles
	(C)	16/10	Diaphragm Walls
	(C)	16/11	Hard/ Hard Secant Pile Walls

	(C)	16/12	Hard/ Soft Secant Pile Walls
	(C)	16/13	Contiguous Bored Pile Walls
	(C)	16/14	King Post Walls
	(C)	16/15	Steel Sheet Piles
	(C)	16/16	Integrity Testing of Wall Elements
	(C)	16/17	Instrumentation for Piles and Embedded Walls
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	(C)	17/2	Concrete - Impregnation Schedule
	(C)	17/3	Concrete - Surface Finishes
	(C)	17/4	Concrete - General
	(C)	17/5	Buried Concrete
	(C)	17/6	Grouting and Duct Systems for Post-tensioned Tendons
			STRUCTURAL STEELWORK
	(C)	18/1	Requirements for Structural Steelwork
			PROTECTION OF STEELWORK AGAINST CORROSION
	(C)	19/1	(Specification for Highways Works) Form HA/P1 (Maintenance) Paint System Sheet
	(C)	19/2	Requirements for Other Work
	(C)	19/3	(Specification for Highways Works) Form HA/P2 Paint Data Sheet
	(C)	19/4	(Specification for Highways Works) Form HA/P3 Paint Sample Despatch List
	(C)	19/5	General Requirements
			WATERPROOF FOR CONCRETE STRUCTURES
	(C)	20/1	Waterproofing for Concrete Structures
			BRIDGE BEARINGS
	(C)	21/1	Bridge Bearing Schedule
	(C)	22/1	Not Used
			BRIDGE EXPANSION JOINTS AND SEALING OF GAPS
	(C)	23/1	Bridge Deck Expansion Joints Schedule
	(C)	23/2	Sealing of Gaps Schedule (Other than in Bridge Deck Expansion Joints)
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	(C)	24/1	Brickwork, Blockwork and Stonework
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	(C)	25/1	Requirements for Corrugated Steel Buried Structures
	(C)	25/2	Requirements for Reinforced Soil and Anchored Earth Structures
	(C)	25/3	Requirements for Pocket – Type and Grouted – Cavity Reinforced Brickwork Retaining Wall
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	(C)	26/3	Cored Thermoplastic Node Markers
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	(C)	30/2	Weed Control
	(C)	30/3	Control of Rabbits and Deer
	(C)	30/4	Ground Preparation
	(C)	30/5	Grass Seeding, Wildflower Maintenance
	(C)	30/6	Planting
	(C)	30/7	Grass, Bulbs and Wildflower Maintenance
	(C)	30/8	Watering
	(C)	30/9	Establishment Maintenance for Planting
	(C)	30/10	Maintenance of Established Trees and Shrubs
	(C)	30/11	Management of Water Bodies
	(C)	30/12	Special Ecological Measures
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	(C)	50/1	(Specification for Highways Works) Form HA/P1 (Maintenance) Paint System Sheet
	(C)	50/2	Requirements for Other Work
	(C)	50/3	(Specification for Highways Works) Form HA/P2 Paint Data Sheet
	(C)	50/4	(Specification for Highways Works) Form HA/P3 Paint Sample Despatch List
	(C)	50/5	General Requirements

(OO) – Appendix completed by the Overseeing Organisation.

(OO/C) – Appendix partially completed by the Overseeing Organisation and to be completed by the Contractor.

(C) – Appendix to be completed by the Contractor if required by their design.

APPENDIX 0/4: LIST OF DRAWINGS INCLUDED IN THE CONTRACT

Contract Specific Drawings Supplied to Each Tenderer

Refer to Volume 4 (Contract Drawings) of the contract.

APPENDIX 1/1: TEMPORARY ACCOMMODATION AND EQUIPMENT FOR THE OVERSEEING ORGANISATION

1 Accommodation required

1.1 The Contractor shall establish the main compound at Longbarrow within the area shown on drawing HE551506-AMW-GEN-SW_GN_000_Z-DR-CH-4004 and drawing HE551506-AMW-GEN-SW_GN_000_Z-DR-CH-4005.

1.2 The Contractor shall seek the approval of the Overseeing Organisation for all accommodation provision and layout before erection.

1.3 The accommodation shall satisfy the Workplace Health, Safety and Welfare Regulations 1992. The accommodation shall be lined and equipped to maintain the required working temperature. Floors, walls and ceilings shall be insulated, doors sealed, and windows double glazed and sealed to minimise loss of heating/cooling. Heating / cooling shall be by energy efficient means and shall use energy from renewable sources where reasonably practicable.

1.4 All offices shall comply with the building regulations part L2A. These regulations set the minimum values for insulation, air leakage and more generally energy performance.

1.5 All accommodation provided shall comply with the requirements of the Equality Act 2010 and the related Codes of Practice.

1.6 The accommodation shall be connected to mains electricity, water, telephone service, surface water drainage, and a suitably constructed septic tank(s), accepted by the Local Planning Authority, to form a foul drainage system.

1.7 The accommodation and equipment shall be new.

(i) Temporary initial accommodation

The temporary initial accommodation shall be provided at the Longbarrow construction compound. The minimum requirements for the temporary initial accommodation are detailed in Table A1/1-1 (Minimum temporary initial accommodation requirements for the Overseeing Organisation) unless otherwise agreed with the Overseeing Organisation.

Table A1/1-1 Minimum temporary initial accommodation requirements for the Overseeing Organisation

Description	Dimensions	Quantity
Hot Desk Area	Minimum 4m x 3m per person	For six (6) people
Kitchen, Server Room, Male Toilet, Female Toilet, Disabled Toilet, Store Room,	Appropriate for the number of people	Shared with the contractor

Vehicle Parking Spaces, Disabled Parking Spaces	expected to use the Construction Compounds	
Meeting room	To suit a minimum of eight (8) people.	One (1) no.

(ii) Principal accommodation

The principal accommodation shall be provided at the Longbarrow construction compound.

The minimum requirements for the principal accommodation are detailed in Table A1/1-2 (Minimum principal accommodation requirements for the Overseeing Organisation) unless otherwise agreed with the Overseeing Organisation.

Table A1/1-2 Minimum principal accommodation requirements for the Overseeing Organisation

Description	Dimensions	Quantity
Open plan office	Minimum 4m x 3m per person	For fifty (50) persons
Private offices	Minimum 4m x 3m	Two (2) no.
Hot Desk Area	Minimum 4m x 3m per person	For ten (10) persons.
Archaeology workshop	Minimum 8m x 4m	One (1) no.
Archaeology storage room	Minimum 4m x 3m	One (1) no.
Storage room	Minimum 4m x 3m	One (1) no.
Communication room	Minimum 4m x 3m	One (1) no.
IT Storage & Service room	Minimum 4m x 3m	One (1) no.
Breakout Area	Minimum 4m x 3m	Three (3) no.
Meeting room	To suit a minimum of ten (10) people.	Two (2) no.
Conference room	To suit a minimum of twenty (20) people.	One (1) no.
Training room	To suit a minimum of fifty (50) people	Shared with the Contractor.
First aid room, Kitchen/Utility room, Shower rooms, Changing rooms, Drying room, Laundry room, Reception, Male Toilet, Female Toilet, Disabled Toilet.	Appropriate for the number of people expected to use the Construction Compounds.	Shared with the Contractor.

Archaeology workshop & storage area

The Contractor shall provide a secure dedicated workspace and storage area for archaeological finds to be recorded and stored as given in Table A1/1-2 (Minimum principal accommodation requirements for the Overseeing Organisation).

Access to the workshop shall be controlled by a lock and key or electronic access control.

Communication room

The Contractor shall provide a secure dedicated communication room for the Overseeing Organisation as given in Table A1/1-2 (Minimum principal accommodation requirements for the Overseeing Organisation).

A minimum of one (1) no. full height switching cabinet will be required.

The room should have dedicated power supplies, UPS [Field] systems and dedicated cooling, determined by the quantity and role of the cabinets installed.

The room shall be positively pressurised to manage dust.

Access to the room should be by controlled electronic access control.

Information Technology (IT) equipment storage and testing space

The Contractor shall provide, as a minimum one secure dedicated storage room dedicated to IT.

Access to the room should be by controlled electronic access control.

Conference and meeting facilities

The Contractor shall establish a shared electronic meeting room booking system accessible to all.

The conference and meeting rooms shall be equipped with:

- a projector and screen\surface suitable for projection,
- Bluetooth speaker\microphone device,
- Microsoft Surface Hub 2s units as follows:
  - conference room – minimum screen size of 1.4m x 2.1m. and
  - meeting room – minimum screen size of 1.0m x 1.4m.

Training room

The Contractor shall provide a large open plan room for training, induction and visitor presentation purposes. The training room will be available to both the Overseeing Organisation and Contractor as necessary and booked through the shared booking system described above.

The training room shall be equipped with Microsoft Surface Hub 2s with a minimum screen size of 1.4m x 2.1m..

Reception area

The Contractor shall provide a central reception area within the principal accommodation. This reception shall be used for all visitors to the site.

The Reception Area and entrance shall be branded in accordance with "Highways England branding specifications – Guidance for contractors"[1].

(iii) Laboratory

Not required.

(iv) Satellite compounds accommodation

The Contractor may establish satellite compounds at the western end of the *works* (River Till) and the eastern end of the *works* (Countess) within the areas shown on drawings HE551506-AMW-GEN-SW_GN_000_Z-DR-CH-4003 and HE551506-AMW-GEN-SW_GN_000_Z-DR-CH-4009.

Where satellite compounds are established the Contractor shall provide the minimum accommodation for the Overseeing Organisation as detailed in Table A1/1-3 (Minimum Accommodation Requirements for the Overseeing Organisation at Satellite Compounds).

Table A1/1-3 Minimum Accommodation Requirements for the Overseeing Organisation at Satellite Compounds

Description	Dimensions	Quantity
Open plan office	Minimum 4m x 3m per person	For six (6) persons.
Hot Desk Area	Minimum 4m x 3m per person	For two (2) persons
Breakout Area, First aid room, Kitchen/Utility room, Shower Room, Changing rooms, Drying room, Laundry room, Reception, Male Toilet, Female Toilet, Disabled Toilet.	Appropriate for the number of people expected to use the Construction Compounds	Shared with the Contractor.

(v) Subsidiary portable offices

Not Used.

[1] Refer to the Data Room for the "Highways England branding specifications – Guidance for contractors" document.

(vi) Off Site accommodation

Where off site fabrication\production\lay down takes place, the Contractor will provide a serviced hot desk working space for the Overseeing Organisation to use when attending meetings, undertake inspections and witness testing.

2 Duration of time accommodation is required

Temporary initial accommodation for the Contractor and Overseeing Organisation shall be provided from two (2) weeks after the first *access date* until the principal accommodation at the Longbarrow compound has been established.

The Overseeing Organisation's principal accommodation at the Longbarrow compound, complete with all fittings, equipment, furnishings, etc. with access roads and hard standings shall be ready for occupation no later than twelve (12) weeks after the first *access date.*

The principal accommodation for the Overseeing Organisation with all facilities shall be available for the duration of the Scheme until fifty-two (52) weeks after the Completion of *section* 3A.

All accommodation shall be accessible twenty-four (24) hours a day, seven (7) days a week.

3 Fittings and furnishings for accommodation, and other equipment required

3.1 Flooring

Floor coverings shall be suitable for heavy-duty use.

3.2 Doors

Doors shall be signed as directed by the Overseeing Organisation.

Access to all rooms should be controlled by a lock and key or electronic access control.

3.3 Lighting

Energy efficient lighting shall be provided in all the compound buildings.

Lighting shall meet with the requirements as set out in the Display Screen Equipment Regulations 1992 (as amended in 2002) and any appropriate guidance or Approved Code of Practice.

Lighting for all areas shall be activated by passive infrared sensors activated to minimise wasted energy but provided with override capability in meeting\training rooms.

3.4 Windows

A minimum window area of 20% of the external wall area is required in all rooms excluding toilets and corridors.

Windows shall open to provide adequate ventilation.

All windows to be fitted with blinds.

3.5 Heating

Where practical, the orientation of Site Offices for solar gain and energy efficiency shall comply with the following guidelines:

- the rule of thumb for office buildings is to maximise the area of glazed surfaces on the south facing walls. Such a disposition enables the building to take advantage of the solar gains and lower the need for heating during the mid-seasons and winter and
- such a disposition also increases the risk of overheating during the summer and windows must be equipped with blinds or overhangs to mitigate the solar gains during the hot months.

Heating to the offices shall be capable of maintaining a minimum room temperature of 21°C during working hours.

Office units shall have a minimum standard of thermal insulation to the following levels:

- floor 0.39 W/m^{2}K,
- external Walls 0.43 W/m^{2}K and
- roof 0.45 W/m^{2}K.

3.6 Cleaning

The offices shall be cleaned once daily excluding Sunday, bank holidays and public holidays.

3.7 Consumables

The Contractor shall provide all consumables necessary for office functionality for the Overseeing Organisation e.g. stationery, writing instruments, kitchen and bathroom supplies, as necessary until fifty-two (52) weeks after the Completion of *section* 3A or such earlier date as shall be notified in writing by the Overseeing Organisation.

The Contractor shall promptly replace unsatisfactory, unserviceable or damaged items.

All equipment shall be supplied with plugs or batteries as appropriate.

The Contractor shall provide refreshments (tea, coffee, milk, etc.) for all the Overseeing Organisation's personnel and visitors.

The Contractor shall avoid the use of single-use plastics such as individual milk containers, plastic cups etc.

3.8 Furniture

The offices and hot desk areas shall be furnished with single pedestal 1400mm wide x 800mm deep desks with adjustable swivel chairs to suit the occupancy levels stated in:

- Table A1/1-1 (Minimum temporary initial accommodation requirements for the Overseeing Organisation),

- Table A1/1-2 (Minimum principal accommodation requirements for the Overseeing Organisation) and
- Table A1/1-3 (Minimum Accommodation Requirements for the Overseeing Organisation at Satellite Compounds).

The offices shall be furnished with the additional furniture stated in Table A1/1-4 (Additional office furniture).

Table A1/1-4 Additional office furniture

Item	Quantity
Personal lockers	Fifty (50)
Noticeboards	Five (5)
Whiteboards	Five (5)
Drawing hanging frames and hangers	Five (5)

The conference, meeting and training rooms shall be furnished with tables and chairs to suit the occupancy levels stated in:

- Table A1/1-1 (Minimum temporary initial accommodation requirements for the Overseeing Organisation),
- Table A1/1-2 (Minimum principal accommodation requirements for the Overseeing Organisation) and
- Table A1/1-3 (Minimum Accommodation Requirements for the Overseeing Organisation at Satellite Compounds).

The reception area shall be furnished with a 1800mm x 800mm reception desk a fitted with a front privacy panel and countertop. Two (2) no. adjustable swivel chairs shall be provided.

Eight (8) no. soft chairs shall be provided in the reception area.

The Archaeology workshop shall be equipped with racking along one (1) side for the storage of finds, two (2) no. standing height work benches 1400mm wide x 800mm deep, two (2) no. desks 1400mm wide x 800mm deep and two (2) no. adjustable swivel chairs.

The IT storage and testing area shall be equipped with a standing height work bench, 1800mm wide x 800mm deep and shelving suitable for storing equipment.

3.9 Network requirements

The Contractor shall provide a network for the Overseeing Organisation that meets the following requirements:

- internet connectivity capacity – 150Mbps total minimum aggregate wide area network (WAN) bandwidth,
- a synchronous network,
- a software-defined wide area network SD-WAN,
- security – as detailed in Volume 2 Part 5 (Digital Construction) of the contract and
- reliability/resilience as detailed in Volume 2 Part 5 (Digital Construction) of the contract.

This network shall be available at all site compounds and the tunnel portals' areas.

The Contractor shall provide:

- access to the network for all parties,
- seamless secure Wi-Fi networks within all site offices and buildings for staff and guests,
- mobile and/or Wi-Fi connectivity within the boundaries of the site,
- connectivity to home company VPNs,
- secure segregation of Client and Contractor network traffic,
- management of network infrastructure including firewalls, switches, access points etc and
- regular review of network performance with the ISG to ensure user have sufficient speed.

The Contractor shall provide a network connection which:

- provides all users with sufficient speed to work effectively with cloud-based systems and
- provides users with uninterrupted network access when moving between site building and the field.

3.10 IT hardware

Three (3) no. Colour networked multi-function printer/scanner/copier, capable of printing A3 and A4 sheets, min 11ppm black & white, min 7.5ppm colour. Not less than 1200 x 600dpi, USB (or parallel) interface and all necessary software and drivers. Ink cartridges for the printer are to be considered consumable and to be supplied as required.

One (1) no. Colour plotter capable of printing A1 and A0 sheets.

All printers and plotters shall be accessible to the whole project team including the Overseeing Organisation and their representatives.

The print solution shall be a "follow-me" print solution which allows tracking of printing costs.

Each workstation shall be provided with the following equipment installed and tested:

- a Port replicator,
- keyboard and mouse,
- a 24" monitor on an adjustable arm,
- desk mounted 13amp sockets (four (4) no.) and
- all associated cabling.

3.11 Digital signage

Digital signage is required in all site offices to display project wide communications. This is to include:

- one (1) no. wall mounted TV screen (minimum 42") with speakers in all kitchens, breakout areas, changing rooms and reception areas and

- one (1) no. small screen (minimum 10") in each toilet cubical.

The digital signage solution should have the ability to:

- have central content updates that can be "pushed" to signage screens in all site locations, including all individual workstations,
- customise messages for each screen to enable content control suitable for the audience in any given location and
- support simultaneous live video streaming of presentations to all screens, excluding cubical screens.

3.12 Mobile phones

The Contractor shall supply and maintain fifty (50) no. smart mobile phone for the Overseeing Organisation. Each mobile phone shall be of touch screen type complete with connection to a network with 100% coverage across the *boundaries of the site* and diversion routes.

The mobile phones shall be provided from the first *access date* until the end of the Defects Period.

Each mobile telephone shall be provided with a battery charger, car charger and protective case.

The Contractor shall pay all monthly standing charges and work-related call and data charges for the mobile phones provided to the Overseeing Organisation.

3.13 Personnel Protective Equipment (PPE)

The Contractor shall provide the Overseeing Organisation with one hundred and fifty (150) sets of PPE required to undertake site tours, inspections etc.

A set shall consist of:

- hi-visibility jacket,
- hi-visibility vest,
- hi-visibility trousers,
- hard hat,
- eye protection,
- gloves and
- safety footwear.

All PPE shall be branded in accordance with "Highways England branding specifications – Guidance for contractors".

The provided PPE shall be new and any worn or faded PPE shall be replaced.

PPE shall be available in a range of sizes including school parties, as advised by the Overseeing Organisation.

The Contractor shall always have available on site sufficient equipment for use by the Overseeing Organisations staff to meet all requirements of the Health and Safety at Work Act 1974 for situations which may arise during the construction of the *works* (e.g. safety belts and harnesses, breathing apparatus, safety and tinted goggles, face masks, ear protectors, etc...).

3.14 Sustainability

The Contractor shall adopt sustainable technology and techniques while providing accommodation and equipment.

For sustainable waste disposal, a suitable number of waste bins, recycling bins for metal cans, plastic items, cardboard etc. shall be kept in an accessible location.

Only 100% recyclable bottles and containers shall be used.

The Contractor shall arrange for collection and recycling of these items.

Welfare units shall make use of grey water where practicable.

3.15 Car parking & external areas for the Overseeing Organisation

The entrance to the principal accommodation parking area shall be signed in accordance with “Highways England branding specifications – Guidance for contractors”.

A hardstanding and access for a minimum of fifty (50) cars shall be provided for the Overseeing Organisation adjacent to the office together with a segregated walking route to the main entrance of the office.

Five of the parking spaces are to be signed as visitor’s spaces.

An appropriate number of disabled spaces are to be provided.

A drop off area sufficient for three (3) cars shall be provided close to the main entrance of the office.

Covered and secured cycle parking for ten (10) bicycles shall be provided close to the main entrance of the office.

Additional car parking is required for each of the vehicles specified in Appendix 1/2.

The car parking area will include electric car charging points for a minimum of fifteen (15) cars in the Longbarrow compound.

The external areas of the compound shall be lit with all lighting units fitted with passive infrared sensors directed into the compound and focussed at ground level.

All external lighting shall be energy efficient.

Car parking and hardstanding facilities at the principal accommodation for the Overseeing Organisation shall be available from twelve (12) weeks after the first *access date* until fifty-two (52) weeks after the Completion of s*ection* 3A.

APPENDIX 1/2: VEHICLES FOR THE OVERSEEING ORGANISATION

Type	Number Required	Period Required	Cleaning Frequency
A	Four (4)	*From access date* for the whole of the Site until twelve (12) weeks after the first *access date*..	Weekly
B	One (1)		
C	One (1)		
A	Ten (10)	Twelve (12) weeks after the first *access date* until fifty-two (52) weeks after the Completion of *Section* 3A of the *works.*	
B	Two (2)		
C	Two (2)		
D	One (1)		

1 Equipment

Each vehicle shall be fitted with a fire extinguisher, first aid kit, detachable hazard flashing unit with bulbs, spare wheel, fuel filler cap lock, bonnet lock and spare wheel lock, mud flaps, floor mats front and rear, tow rope, warning triangle, towing hooks front and rear, GPS tracking beacons, climate control, reversing camera and full remote controlled central locking system/alarm/immobiliser.

Type “A” and Type “D” vehicles shall be petrol with a minimum engine size of 1.6l. These shall attain a minimum Euro emissions standard of Euro 6.

Type “B” and Type “C” vehicles shall be electric Each vehicle shall attain zero emissions at tailpipe.

All Types of vehicle shall attain a minimum Euro NCAP standard of five (5) stars.

Vehicles are to be capable of accelerating from 0mph to 60mph in less than 10.0 seconds on the level, unladen.

The Contractor shall provide the Overseeing Organisation with copies of vehicle insurance certificates. Vehicles will be taxed and insured for use by all employer’s staff with appropriate driving licences and are for the exclusive use of the Overseeing Organisation’s site staff.

The vehicles will be serviced and maintained by the Contractor in accordance with the manufacturer’s recommendations. The Contractor is also responsible for all fuelling requirements.

All vehicles shall be less than twelve (12) months old and the maximum mileage on delivery of the vehicles shall be 10,000 miles.

2 Type “A” SUV/Off-road vehicle

The vehicle shall be an all-wheel drive vehicle suitable for off-road use and public highway use with a minimum of five (5) seats and five (5) doors. Two (2) of this vehicle type shall have seven (7) seats. The vehicle shall have a minimum ground clearance (unladen) of 210 mm.

3 Type “B” 4-door estate car

The vehicle shall have a minimum of five (5) seats and four (4) doors and shall have a minimum ground clearance (unladen) of 150 mm.

4 Type “C” car

The vehicle shall have a minimum of five (5) seats and four (4) doors and a minimum ground clearance (unladen) of 150mm.

5 Type “D” minibus

The vehicle shall have a minimum of twelve (12) seats and a minimum ground clearance (unladen) of 150 mm.

The vehicle shall have forward facing seats.

6 Markings

The vehicles shall be free from markings identifying any company associated with the Contract or the Contractor.

The vehicles shall have suitable livery for entering the *works*.

APPENDIX 1/4: WORKING AND FABRICATION DRAWINGS

1 General

1.1 The Contractor shall provide working and fabrication drawings for the *works* described in Table A1/4-5 (Working and fabrication drawing requirements).

Table A1/4-5 Working and fabrication drawing requirements

Series	Description of Work	Minimum period for submission of drawings
-	Working drawings shall be supplied by the Contractor for all the elements of the *works* designed by or on behalf of the Contractor	Four (4) weeks prior to any such works commencing

1.2 Detailed working and fabrication drawings shall be supplied in both pdf and CAD model formats.

All design elements shall be produced in a 3D geometrical model format as part of the Project Information Model.

All drawings which represent any element of the Project Information Model, shall be derived directly from the 3D geometrical model component of the Project Information Model.

APPENDIX 1/5: TESTING TO BE CARRIED OUT BY THE CONTRACTOR

1 The Contractor shall prepare a schedule of testing and submit this for the Overseeing Organisation's acceptance.

2 The type of tests and frequency would not be expected to be less than those described in Table NG1\1 of the Notes for Guidance on the Specification. Tests comparable to these would be expected for any equivalent work, goods or materials proposed by the Contractor.

3 Unless otherwise shown in this Appendix, test and test certificates for work, goods or materials scheduled under any one (1) clause are required for all such work, goods or materials in the *works*.

APPENDIX 1/7: SITE EXTENT AND LIMITATIONS ON USE

1 Extent of Site

1.1 The *boundaries of the site* are shown on Drawing No. HE551506-AMW-GEN-SW_GN_000_Z-DR-CH-4000 to HE551506-AMW-GEN-SW_GN_000_Z-DR-CH-4016.

1.2 Notwithstanding the *boundaries of the site*, the Contractor shall be responsible for those locations remote from the site where permanent or temporary traffic signs, cones and road markings may be necessary as required in the Contract or because the signing forms parts of temporary works or diversions of traffic proposed by the Contractor.

1.3 The Contractor shall identify in Contract Data Part 2 those working areas required outside of the *boundaries of the site* to accommodate its traffic management proposals, along with any other Working Areas outside of the *boundaries of the site*.

2 Limitations on the use of the Site

2.1 Land within the *boundaries of the site* shall only be used for that purpose stated in the Book of Reference to the Development Consent Order (DCO).

2.2 The Contractor shall comply with the constraints in the DCO.

2.3 Plant and\or materials may be stored in areas of carriageway which are closed to general traffic. The use of verges, unless within the limits of the traffic management on the day of use, is not permitted without the written consent of the Overseeing Organisation.

2.4 The Contractor shall be aware of the potential requirements for occupation of part of the Site by Others and shall facilitate such occupation as and when required.

2.5 The Contractor shall maintain all roads and Public Rights of Way within the *boundaries of the site* (including temporary surfaces) ice free.

2.6 The Contractor shall where practical, allow for any working areas within the highway boundary to be used by vehicles requiring stopping in an emergency or as directed by the emergency services.

APPENDIX 1/9 CONTROL OF NOISE AND VIBRATION

General

1 The Local Authority with responsibility for the area is:

- Wiltshire Council – Environmental Health Department
- Tel: 0300 456 0107
- Email: customerservices@wiltshire.gov.uk

2 The Contractor shall prepare a Noise and Vibration Management Plan (NVMP) detailing the noise and vibration management and monitoring processes to be introduced across the Site, in consultation with Wiltshire Council and Historic England, in respect of matters relevant to their functions.

The NVMP is subject to acceptance by the Overseeing Organisation and approval by the Secretary of State (See the DCO's Outline Environmental Management Plan (OEMP) Ref: MW-NOI3).

3 Except in the case of an emergency, for any work required to be undertaken outside of the normal working hours (set out in Item 5 below), the Contractor shall make an application to Wiltshire Council prior to undertaking the Works under Section 61 of the Control of Pollution Act 1974 (OEMP Ref: MW-NOI2).

In the event that Works for which a Section 61 consent has been applied for have to be rescheduled or modified, e.g. method or working hours, for reasons not envisaged at the time of the Section 61 consent submission, the Contractor shall apply for a dispensation or variation from Wiltshire Council, in advance of the start of those Works.

4 The Contractor shall undertake regular onsite observation, monitoring and checks/audits to ensure that Best Practicable Means (BPM) is being employed at all times (OEMP Ref; MW-NOI6). These will be logged and any remedial actions recorded. Such checks will include:

a) compliance with hours of working,
b) presence of mitigation measures e.g. engine doors closed, airlines not leaking, and site hoarding in place,
c) number and type of plant,
d) compliance with agreed working methods and
e) compliance with any specific requirements of the NVMP.

Proposals for all monitoring locations will be set out in the NVMP. The OEMP commits to vibration monitoring at a number of specific locations, further details are provided in Item 12. The OEMP does not commit to specific noise monitoring locations, however, in consultation with Wiltshire Council it is likely that noise monitoring before and during the Works will be required at a selection of the closest receptors to Countess Junction and Winterbourne Stoke.

Restrictions on working hours

5 Working hours on Site shall be as defined in the OEMP (Refs: MW-G12, MW-G13 and MW-G14) and in Table A1/9-6 (Working hours).

Table A1/9-6 Working hours

	General	Earthworks	Tunnelling and directly associated activities
Core Hours	07:00 – 19:00 Monday to Friday 07:00 – 13:00 Saturday No working on Sundays and Bank Holiday Mondays	Summer[1] 07:00 – 22:00 Monday to Saturday Occasional Sunday working Winter[2] As General	24 hours per day 7 days per week
Site Specific Working Hours (north of Winterbourne Stoke between the B3083 (Ch 3520) and the River Till (Ch 4180) and at Amesbury and Countess Junction (between Ch 11300 and Ch 12400)	07:30 – 18:00 Monday to Friday 07:30 – 13:00 Saturdays No working on Sundays and Bank Holiday Mondays	As General	As General

[1]Summer is defined as British Summer Time - i.e. late March to late October
[2]Winter is defined as outside British Summer Time - i.e. late October to late March

The term “directly associated activities” is limited to:

- the transportation of tunnel spoil to the processing\treatment area within the Longbarrow Compound,
- the processing\treatment of spoil within the Longbarrow Compound,
- the supply of materials from the Longbarrow Compound to the TBM and
- maintenance of the TBM.

“General” working hours includes activities at Parsonage Down.

Additional working hours

The Contractor may undertake work within the existing highway boundaries during night-time, Saturday afternoon, Sunday and/or bank holiday working for reasons of safety or operational necessity and this may involve consecutive nights' work over weekends and may on occasion involve longer durations. Activities outside core working hours that could give rise to disturbance shall be kept to a reasonably practicable minimum.

In the case of Works required in response to an emergency or which if not completed would be unsafe or harmful to the *works*, staff, public or local environment, Wiltshire Council shall be informed as soon as reasonably practicable of the reasons for, and likely duration of, the *works*. This information shall also be made available to the Overseeing Organisation's helpline.

Any variation to core hours and/or additional hours required shall be agreed in writing with Wiltshire Council and the Overseeing Organisation.

An approach to seeking approval for any variations to site specific working hours shall be included within the CEMP in consultation with Wiltshire Council.

Repairs or maintenance of construction equipment that is required to be carried out outside of core working hours shall be carried out on Saturday afternoons or Sundays between 09:00 and 17:00.

Noise

6 The Contractor shall minimise noise and vibration at all times by employing Best Practicable Means (BPM), as defined under Section 72 of the Control of Pollution Act (CoPA) 1974 and Section 79 of the Environmental Protection Act 1990 (OEMP Ref: MW-NOI1). The Contractor shall detail the application of BPM within the NVMP.

BPM shall be included in the following order:

- control of noise and vibration at source - such as use of low noise/vibration equipment, the provision of acoustic enclosures and the use of less intrusive alarms and the screening of equipment,
- should the application of BPM at source not prove effective and noise exposure exceeds the relevant trigger level (as defined in BS 5228-1, Table E.2), the Contractor may offer:
    - noise insulation, or if that is not successful
    - temporary re-housing.

The Contractor shall prepare a NVMP detailing the management and monitoring process to be introduced across the Site (OEMP Ref: MW-NOI3). As a minimum this will include

a) integration of noise control measures into the preparation of all method statements for the *works* including the application of BPM,

b) details and locations of all site hoardings, screens or bunds that will provide acoustic screening during construction,

c) procedures for the installation of noise insulation (if deemed to be required) or provision of temporary re-housing and to ensure such measures are in place as early as reasonably practicable,

d) noise and vibration monitoring protocols including monitoring locations (see OEMP Ref: MW-NOI6), stages during construction at which monitoring will be undertaken, and methods of publishing the results,

e) details of inspection and maintenance schedules to be undertaken,

f) processes to ensure ongoing compliance will all controls and consents for the *works* and

g) process for implementing corrective actions that may be required to avoid or address a potential non-compliance.

7 The Contractor shall have a Noise Insulation and Temporary Rehousing Policy, developed in Consultation with Wiltshire Council, for the *works* (OEMP Ref: MW-NOI4). The policy shall set out all roles, responsibilities and actions required in respect of these measures.

Notwithstanding the measures set out in the OEMP and any agreements with Wiltshire Council, noise insulation or temporary re-housing shall be offered to qualifying parties when

a) noise levels are predicted or measured by the main works contractor to exceed the relevant trigger level (as defined in BS 5228-1, Table E.2) for at least ten (10) days out of any period of fifteen consecutive days or alternatively forty (40) days in any six-month period at affected properties,

b) the property complies with all other requirements of the Noise Insulation Regulations 1975 (as amended),

c) the property is lawfully occupied as a permanent dwelling and

d) noise insulation does not already exist that is of an equivalent standard to that which would be allowed for under the Noise Insulation Regulations 1975 (as amended).

The Contractor shall consider applications for noise insulation or temporary rehousing which satisfy all of the following conditions:

- applications are supported by evidence,
- applications are made by occupiers who may have special circumstances and
- where the noise is a direct result of construction activities.

Special circumstances could include night workers, those working in home occupations, local businesses or buildings that provide community facilities requiring a particularly quiet environment and those with a medical condition which will be seriously aggravated by construction noise and provide noise insulation or temporary re-housing where it is demonstrated that this is necessary.

Vibration

8 The use of explosives is not permitted.

9 The Contractor shall refer to the OEMP MW-NOI5.

Protection of building occupants from disturbance

The Contractor shall refer to BS 5228-2 for guidance levels in terms of Peak Particle Velocity (PPV). If predicted vibration levels exceed 1mms^{-1} component PPV at occupied residential buildings based on the prediction methodology in BS 5228-2, Wiltshire Council and those potentially affected shall be notified as soon as practicably possible in advance of the *works*. The notification shall describe the nature and duration of the *works* and any associated proposals for vibration monitoring in the event that it is required.

Protection of buildings from damage

The Contractor shall use BPM to control vibration levels so that PPV, as measured in accordance with BS 7385-2 Evaluation and measurement for vibration in buildings – Part 2: Guide to damage levels from groundborne vibration, are not exceeded. Note the criteria in Table 1 of BS 7385-2 relate to transient vibration, for continuous vibration the criteria shall be halved. The Contractor shall carry out a scoping vibration appraisal to determine whether the trigger level of 6 mms^{-1} for continuous vibration (Table 9.6, Chapter 9 of the Environmental Statement) is likely to be exceeded. Activities requiring an appraisal could include tunnelling, vibratory compaction, impact or vibratory piling and other driven processes.

The Contractor shall notify and consult Wiltshire Council regarding any *works* predicted to generate a PPV above 6mms^{-1}. Where it is determined that there is no reasonable or practicable means to reduce predicted or measured vibration then the main works contractor shall:

a) agree and consult with Wiltshire Council regarding monitoring for vibration and strain induced in the building during the *works*,

b) consult occupiers of properties about:

   i. the surveys to be carried out and any consequent actions and

   ii. any additional reasonable and practicable mitigation to be provided for occupants and

c) carry out a condition survey before and after the relevant works.

The Contractor shall identify any buildings that may be unusually vulnerable to vibration, that are located within 50m of any activities that may give rise to significant vibration. Where the predicted vibration at the foundations of such buildings exceeds 3mms^{-1} PPV then the Contractor shall undertake an initial structural survey of the building. Based on the survey, the level of vibration above which condition surveys and continuous vibration monitoring are required will be confirmed with the building owner and Wiltshire Council.

Protection of Sensitive Cultural Assets, excluding buildings

The Contractor shall identify any cultural heritage assets (including the Stonehenge Monument and barrows) that may be sensitive to vibration due to their proximity to the tunnelling works. The Contractor shall consult with Historic England, Wiltshire Council and members of the Heritage Monitoring and Advisory Group (HMAG) when identifying assets.

Should any cultural heritage assets be identified, the Contractor shall propose methods to mitigate and control vibration propose methods to control and mitigate impacts (including monitoring). The Contractor shall consult with Historic England, Wiltshire Council and HMAG when developing their proposal and comply with any relevant standards including BS 7385-

2: 1993, BS ISO 4866:2010, and BS 5228: 2009+A1: 2014. The Contractor proposal shall be submitted to the Overseeing Organisation for acceptance.

Any works or exercise of powers under the DCO must comply with the provisions of the Draft Archaeological Mitigation Strategy (DAMS) requiring archaeological mitigation, as per paragraph 5.1.3 of the DAMS.

12 The Contractor shall undertake regular onsite observation monitoring and checks/audits to ensure that BPM is being employed at all times (OEMP Ref; MW-NOI6). These shall be logged, and any remedial actions recorded. Such checks will include:

a) compliance with hours of working,
b) presence of mitigation measures e.g. engines doors closed, airlines not leaking, and site hoarding in place,
c) number and type of plant,
d) compliance with agreed working methods and
e) compliance with any specific requirements of the NVMP.

Proposals for all monitoring locations shall be set out in the NVMP.

13 The Contractor shall undertake and report vibration monitoring as is necessary to ensure and demonstrate compliance with all vibration commitments and the requirements of the NVMP (OEMP Ref: MW-NOI3). Specific vibration monitoring locations committed to in the OEMP are set out in Item 12 below, additional vibration monitoring shall be completed by the Contractor as necessary and may include baseline monitoring before Works begin.

14 Vibration monitoring shall be undertaken at the Stonehenge Monument, when the TBM is within 250 m of the monument, the details of which shall be determined in consultation with English Heritage Trust and set out in the NVMP (OEMP Ref MW-NOI6).

The Contractor shall undertake condition surveys on Stonehenge Cottages pre- and post-tunnelling operations (OEMP Ref:MW-NOI5). Vibration monitoring shall be undertaken at Stonehenge Cottages, when the TBM is within 250 m of the cottages (OEMP Ref MW-NOI6). Communities shall be offered temporary re-housing if the monitoring indicated that PPV levels exceeding $1mms^{-1}$ are likely to be exceeded for a period of 48 hrs of more during each tunnel bore and providing the property is lawfully occupied as a permanent dwelling (OEMP Ref: MW-NOI5).

Vibration monitoring shall be undertaken at Stonehenge Visitor Centre during the construction period, the details of which shall be determined in consultation with English Heritage Trust and set out in the NVMP (MW-NOI6).

15 The Contractor shall control vibration in accordance with the requirements set out in the OEMP (Ref: MW-NOI5) and apply BPM to minimise vibration at source as detailed above for noise in Item 6. The following specific vibration reduction methods have been identified and shall be undertaken by the Contractor:

- No start-up or shut down of vibratory plant e.g. rollers or compactors, with 50m of receptors (OEMP Ref: NOI5).
- Piling at the Countess Junction shall be non-impact piling (OEMP Ref: NOI4). Non-impact pilling shall be used for the construction of both the temporary bridge and the permanent viaduct over the River Till (OEMP Ref: MW-BIO3).

- No pilling works within 8m boundary of the River Avon SAC (OEMP Ref: D-BIO2).

APPENDIX 1/10: PERMANENT WORKS TO BE DESIGNED BY THE CONTRACTOR

1 General

1.1 The Contractor is responsible for the design and checking of all the permanent works.

APPENDIX 1/11: TEMPORARY WORKS DESIGN

1 General

1.1 The Contractor shall be responsible for the design of all temporary works and equipment required to provide the *works*.

1.2 The Contractor's Temporary Works Designer(s) shall be nominated and then submitted for acceptance by the Overseeing Organisation as required under L153 Managing Health and Safety in Construction, The Construction Design and Management Regulations 2015. The Temporary Works Designer(s) shall need to meet all the appropriate designer skills, knowledge and experience requirements set out in the guidance contained in L153.

1.3 The Contractor's attention is drawn to CG 300 'Technical approval of highway structures' in respect of technical approval procedures required for temporary works or erection proposals which affect or potentially affect any highway used by or accessible to the public.

APPENDIX 1/12: SETTING OUT AND EXISTING GROUND LEVELS

1 Existing ground level information is contained in the federated model supplied to the Contractor by the Overseeing Organisation and which can be found in Volume 5 (Data Room) of the contract.

2 The Contractor shall be responsible for all setting out and digital control necessary to Provide the Works.

Clearly marked chainage markers at fifty (50) metre maximum intervals shall be provided by the Contractor at suitable locations for the duration of the execution of the *works*.

Permanent ground markers and Secondary markers established by the Contractor to set out parts of the *works* shall be carefully preserved and protected against damage. Where the destruction or disturbance of a permanent marker becomes necessary the Contractor shall notify the Overseeing Organisation of his intention to render the marker unserviceable. Such a marker shall be replaced by a new marker at an agreed adjacent location. The Contractor shall submit to the Overseeing Organisation the co-ordinates and level of the replacement marker for acceptance before the original marker is made unserviceable.

Where the Contractor establishes subsidiary permanent control markers, such markers shall be of a substantial type and construction, to the approval of the Overseeing Organisation.

The Contractor shall set out the *works* by reference to Ordnance Survey Datum (Newlyn), to which all levels in the Contract refer.

Horizontal alignment shall be determined in accordance with Ordnance Survey National Grid Co-ordinates, to which all reference to Northings and Eastings in the Contract refer.

APPENDIX 1/13: PROGRAMME OF WORKS

1 The Contractor shall provide the programme in accordance with the requirements of Volume 2 Part 8 (Integrated Project Controls).

2 Not used.

3 Schedule of constraints

The following is a list of some of the applicable programming constraints. It is not exhaustive, and all work elements should be considered individually for their programming requirements and constraints.

The Contractor shall also consider any constraints imposed by the DCO.

(i) Work to privately and publicly owned services and supplies shall be in accordance with Appendix 1/16.

(ii) Not Used.

(iii) Traffic safety and management shall be in accordance with Appendix 1/17.

(iv) Restrictions arising from particular health and safety requirements shall be in accordance with Appendix 1/23.

(v) Environmental constraints including seasonal restrictions and provision of environmental protection prior to the main construction operations (environmental barriers, etc) as stated in the DCO. Reference shall be made to the OEMP.

(vi) Trials and demonstrations in advance of main construction is required for materials and finishes in, or impacting upon the WHS.

(vii) Compliance with technical approval procedures.
Compliance with design review and certification procedures.

(viii) Timeframes for acceptance, approval or authorisation requirements including authorisation of non-prescribed signs.

(ix) Restrictions with respect to avoidance of pollution due to noise and vibration shall be in accordance with Appendix 1/9.

(x) compliance with consultation procedures in relation to the *works* in accordance with the requirements of the OEMP.

APPENDIX 1/14: PAYMENT APPLICATIONS

1 Payment applications shall be submitted in accordance with the section S820 of Volume 2 Part 1 (General Requirements) of the contract.

APPENDIX 1/15: ACCOMMODATION WORKS

1 Details of accommodation works are scheduled in Volume 2 Part 6 (Accommodation Works) of the contract.

The Contractor shall complete this appendix with any additional accommodation works required because of the Contractor's design \ method of working.

APPENDIX 1/16: PRIVATELY AND PUBLICLY OWNED SERVICES AND SUPPLIES

General

1 This Appendix contains details of services and supplies affected by the *works*, details of preliminary arrangements that have been made with Statutory Undertakers, utility companies and others for the alteration of services and supplies affected by the *works*, and details of any orders already placed.

2 The Contractor shall make arrangements with the Statutory Undertakers, utility companies and others concerned, for the co-ordination of his work with all work which needs to be done by them or their contractors concurrently with the *works*. Compliance with the periods of notice given in this Appendix does not relieve the Contractor of his obligations.

3 Private services to individual properties have not been listed or shown on the Drawings. The Contractor shall make arrangements with the Statutory Undertakers and others concerned for the phasing of all necessary disconnections and diversion of private services affected by the *works*.

4 The names, addresses and contact details of the Statutory Undertakers, utility companies and authorities serving in the locality are listed below:

Name	Address	Contact Details
Statutory Undertakers, Utility Companies		
CenturyLink (Managed by Instalcom)	Instalcom Limited, Borehamwood Ind Park, Rowley Lane, Borehamwood, WD6 5PZ	Gordon Thompson Project Delivery Manager Email: Gordon.Thompson@instalcom.co.uk Tel: 07557 264120
Virgin Media	1 Dove Wynd, Strathclyde Business Park, Bellshil, ML4 3ALT	Daniel Barrier Network Planner 03333434239 Tel: 0800 408 0088/ Fax: 01698 565551
Sky	Sky UK Limited, 70 Buckingham Avenue, Slough, SL1 4PN	Chris Birch Email: Chris.Birch@sky.uk Tel: 07718 511425
SSE	Network Development, Poole Depot, PO Box 2004, Poole, BH12 1YT	**Sean Allen** Email: Sean.Allen@sse.com Website: www.ssen.co.uk
SSET	Telecom Alterations, 1 Forbury Place, 7th Floor 43 Forbury Road Reading, RG1 3JH	Nic Budd Project Manager Email: nic.budd@sse.com Tel: 02392 494869/ Mob: 07469 411059

Wessex Water	Wessex Construction Services, Wessex Water, Claverton Down Road, Claverton Down, Bath BA2 7WW	Water Supply: Steve Robbins Steve.Robbins@wessexwater.co.uk Waste Water: Bruce McAuslane Bruce.McAuslane@wessexwater.co.uk
BT Openreach	Repayments (Alterations) PP 4020 Bournemouth TE 18-20 Bath Road Bournemouth Dorset BH 2NR	Richard Stephens Repayments Project Engineer Openreach richard.j.stephens@openreach.co.uk 0207 322 3109 www.openreach.co.uk
SGN	SGN Network Planning 2 Leesons Hill Orpington Kent, BR5 2TN	Dean Vandepeer Diversions Team Manager Telephone: T: +44 (0)1689881335 M: +44 (0)7583 005421 Dean.vandepeer@sgn.co.uk
Other Authorities		
Esso	UK Midstream Fuels, Esso Petroleum Company Limited, Avonmouth Terminal, St Andrews Road, Avonmouth, Bristol, BS11 9BN	Ian M Fewster Project Engineer – Pipelines Email: ian.m.fewster@exxonmobil.com Mob:07821 439471 Mob: 07932 153507

5 Services affected by the *works*

General Drawing No.	General Details
HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0008 Sheet 1	C4 NRSWA Notices were issued by National Highways in May-July 2019 based on the DCO design and the indicative diversion measures required are shown below. However, the final diversion proposals shall be agreed between the Contractor and the relevant Statutory Undertaker following detailed design by the Contractor. As such the Contractor is expected to re-issue C4 Notices in accordance with SA10/05. In addition to confirming any diversionary works, the following shall also to be established between the Contractor and the relevant utility company as part of the C4 enquiry • notice periods for any works, • material lead-in times, • scope of works by the contractor, • scope of works by the utility company and • any attendance by utility companies.

Statutory Undertaker	Utility Diversion Reference	Description of likely measures	Location	Group*	Drawing No	Details
SSE	SSE001	Diversion of existing UG cable to: (i) avoid mainline cut and (ii) maintain standard depth in area of fill to Parsonage Down	Mainline Ch 2700 and Parsonage Down	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0010 Sheet 3	Diversion of existing UG cable along top of new batter to avoid mainline cut, to cross proposed mainline approx. 620m. Replacement of existing HV UG cable to continue new mainline crossing diversion to a point adjacent to Cherry Lodge Farm all with new XPLE cable relative to new finished level of Parsonage Down (length approx. 780m). Diversion to include provision of three (3) HV straight joints by SSE. To tie into diverted SSE011 – see below. Exact route and level of cable to be confirmed with SSE, pending final levels of Landscaping Recovery of existing cable tbc by Contractor with SSE. All Excavation and joint holes to be undertaken by the Contractor. Contractor undertake all civils works comprising: provision of suitable cable route / duct / backfill / reinstatement / road closures & traffic management. Any new ducted carriageway crossings should be black 150mm diameter Rigiduct or equivalent, with a spare duct adjacent to each ducted cable. 12 weeks' Lead-in Time currently advised by SSE.

SSE	SSE002	Diversion of existing OH cable to follow re-aligned B3083 via new underground route in new verge	Parsonage Down / B3083	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0010 Sheet 3	Diversion of existing HV OH cable running north -south in field adjacent to B3083 with new HV UG cable in west verge of new re-aligned B3083. Extent from new tie into diverted SSE011 (SSE011 diversion expected in Preliminary Works Phase) to a point approx. 300m north of the existing A303 at Winterbourne Stoke; total distance approx. 1100m To include provision of new terminal pole and back stays by SSE. All Excavation and joint holes to be undertaken by the Contractor. SSE to recover exiting OH poles and lines. Exact Route to be confirmed by Contractor with SSE Contractor undertake all civils works comprising: provision of suitable cable route / duct / backfill / reinstatement / road closures & traffic management. New ducted carriageway crossings should be black 150mm diameter Rigiduct or equivalent, with a spare duct adjacent to each ducted cable. 12 weeks' Lead-in Time currently advised by SSE.
SSE	SSE011	Diversion of HV OH cable route to new underground route to follow line of access	Parsonage Down	A	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0010 Sheet 3	Work Expected to be completed as part of Preliminary Works Phase

		to Cherry Lodge Farm				
SSE	SSE004	Diversion of HV UG cable route to new underground route to follow line of new link road	North of Longbarrow Roundabout	A	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0011 Sheet 4	Work Expected to be completed as part of Preliminary Works Phase
Wessex Water (Potable Water mains)	WW001	Diversion works by Contractor Abandon Existing Main Connections by Wessex Water	B3083 Winterbourne Stoke	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0010 Sheet 3	Diversion of existing main under proposed mainline adjacent to new B3083 (west of) realignment and underpass construction. Diversion to comprise approx. 420m of new180 PE100 SDR17 water main plus anchor blocks and to include connection to new Water supply main. All connection work to be undertaken by Wessex Water following advance notification.
	WW002	Diversion works by Contractor Abandon Existing Main Connections by Wessex Water	B3083 Winterbourne Stoke	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0010 Sheet 3	Diversion of existing main under proposed mainline adjacent to new B3083 (west of) realignment and underpass construction. Diversion to comprise approx.170m of new 180 PE100 SDR17 water main plus anchor blocks and to include connection to new Water supply main All connection work to be undertaken by Wessex Water following advance notification.

	WW003	By Wessex Water along Stonehenge Road Abandon Existing Main Connections by Wessex Water	East End of Portal	B	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0012 Sheet 5	Contractor to liaise with Wessex Water to determine most viable route when main works design is sufficiently developed: OR 1. Based on current level of design Wessex Water indicate a diverted route along Stonehenge Road from a point at its junction with road to West Amesbury northwest to the existing main located in the north of the existing A303 over a distance of approx.. 965m with new 125 PE100 SDR17 water main. And Abandon Existing Main All connection work to be undertaken by Wessex Water following advance notification. Note: Diversion may require new supply to eastern portal to be live. Wessex Water indicate 14 months' lead in for SI, and design prior to commencement of diversionary works. Construction duration indicated as approx.. 11 months
	WW004	Diversion works by Contractor. Abandon Existing Main; Connections by Wessex Water	Countess Roundabout (N-S)	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0013 Sheet 6	Diversion of existing main from northbound exit to A345 Countess Rd via new west footway of new western underpass to rejoin existing main to west of northbound Countess Rd entry over approx. 150m. Anchor blocks to be constructed at each end by Wessex Water.

Wessex Water (Foul Rising Main)	WW005	Diversion works by Contractor Abandon Existing Main Connections by Wessex Water	Countess Roundabout (N-S)	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0013 Sheet 6	Based on current level of design Wessex Water indicate the diversion of the existing pumping main located within central island of Countess Roundabout via exiting Countess roundabout western carriageway under new western underpass to rejoin existing pumping main within southern area central island of Countess Roundabout over approx. 100m. via a new twinned main Wessex Water indicate 6 months' lead in for design prior to commencement of diversionary wks. Construction duration indicated as approx. 2 months
BT Openreach	BT001	Diversion to new verge Abandonment/ Recovery	B3083 Winterbourne Stoke	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0010 Sheet 3	Diversion of existing copper & fibre cable with new copper & fibre cable to follow new B3083 realignment over a approx. length of 750m with 1 x 90mm PVC ducting through proposed underpass construction. Termination via 2 x BT JF104 Chambers and work to existing poles adjacent to existing A303 at Winterbourne Stoke. Likely Lead-in Time three (3) months; likely duration six (6) months. Abandonment and/or recovery of existing cabling along existing B3083.
	BT002	Diversion to new verge Abandonment/ Recovery	East Portal to Countess (West)	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0012 & 0013 Sheets 5 & 6	Diversion of existing cable with new cable to follow new A303 south verge realignment over a approx. length of 1030m with 2 x 90mm PVC ducting and associated. Connections to existing cable just west of existing A303 underpass and at west verge of Countess Rd northbound entry to Countess Roundabout. Likely Lead-in Time three (3) months; likely duration six (6) months.

						Change-over from/ recovery of existing old fibre and digital copper cabling along existing A303. Demolish existing chambers.
	BT003	Diversion Demolition of exiting BT Manhole Cable Recovery	Countess Roundabout (N-S)	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0013 Sheet 6	250m diversion of existing cables comprising 2 x high grade copper; 5 x high grade fibre and 3 x copper cabling through 4 x 90mm ducting to avoid new bridge structure from a point opposite the entrance to the Travelodge on A345 Countess Rd via new west footway of new western underpass to rejoin existing cabling immediately southwest of roundabout to existing chamber. Diversion to include construction of 1 x JRF10 chamber. Likely Lead-in Time three (3) months; likely duration six (6) months. Demolition of exiting BT Manhole to west of exiting central island and recovery of 6 x high grade copper cables also required.
	BT004	Diversion Cable Recovery	Countess Roundabout (N-S)	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0013 Sheet 6	Diversion of existing cabling comprising 3 x copper distribution and 3 x high grade fibre cabling through 4 x 90mm ducting from a point opposite the entrance to the Travelodge A345 Countess Rd via new east footway of new western underpass to rejoin existing cabling to west of northbound Countess Rd entry over approx. 240m. Diversion to include construction of 1 x JRF10 chamber within central island. Likely Lead-in Time three (3) months; likely duration six (6) months Recovery of redundant cables also required.

SGN	SGN001	Diversion	Countess Roundabout (N-S)	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0013 Sheet 6	Diversion/ replacement of existing 185 mm PE LP 150mm ST LP mains within area of proposed east bridge abutment with 180mm PE LP within new east footway of new eastern underpass to rejoin existing main within existing verge of Countess Road southern exit over approx. 225m. Lead In time sixteen (16) weeks from receipt of order.
		*At time of writing, any diversionary / other measures for CenturyLink / Virginmedia and Sky are subject to survey of Century Link ducting system and chambers. The 'Description of likely measures' is based on Instalcom's C3 response.				
CenturyLink (Managed by Instalcom)	INS001	*Slew	Ch 0 - West of W/ Stoke (Exg A303)	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0009 Sheet 2	Slew of existing 4-way duct system to line of new verge. This duct system is also used by both Sky and Virginmedia. Their apparatus SK001 and VM001 to be slewed simultaneously. If/ where required, Contractor to construct all ducting in preparation for any necessary diversion of cabling by Instalcom, Sky and Virginmedia. SIGNIFICANT RESTRICTIONS ARE IN PLACE FOR OUTAGES (Potentially one (1) per eighteen (18) months) TO THESE APPARATUS AND EARLY PLANNING WITH INSTALCOM IS ESSENTIAL. Instalcom advise: A standard lead time of between twelve (12) and sixteen (16) weeks may apply from the date payment, or part payment, is received if a cable diversion is required.

CenturyLink (Managed by Instalcom)	INS002	*Diversion	Ch 5100-Longbarrow	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0011 Sheet 4	Diversion of existing 4-way duct system to Longbarrow Junction area over approx. 1.4km. This duct system is also used by both Sky and Virginmedia. Their apparatus SK002 and VM002 to be diverted simultaneously. Contractor to construct all new ducting required for diversionary work in preparation for diversion of cabling by Instalcom, Sky and Virginmedia. A diversion route had been agreed in principle with Instalcom to follow the route of the new Longbarrow junction as follows: Along the line of new south west link road at the top of its southern cut slope batter from its tie-in to the existing A303, crossing the south east link road to the top of southern cut slope batter of the new westbound off-slip to tie via original location of Green Bridge 4 to the existing A303 immediately east of the existing Longbarrow roundabout. Further to design development since May '18 a different route has been developed as shown on Dwg. No HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0011. This route has yet to be discussed with Instalcom. Due to the complex nature of this junction the Contractor should also give consideration to his desired construction and TM phasing as part of agreeing any diversion route with Instalcom. SIGNIFICANT RESTRICTIONS ARE IN PLACE FOR OUTAGES (Potentially 1 per 18 months) TO THESE

						APPARATUS AND EARLY PLANNING WITH INSTALCOM IS ESSENTIAL. Instalcom advise: A standard lead time of between 12 and 16 weeks may apply from the date payment, or part payment, is received if a cable diversion is required.
	INS003	*Slew	East Portal to Countess (West)	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0012 & 0013 Sheet 5 & 6	Slew of existing 4-way duct system to line of new verge. This duct system is also used by both Sky and Virginmedia. Their apparatus SK003 and VM003 to be slewed simultaneously. Contractor to construct all ducting in preparation for diversion of cabling by Instalcom, Sky and Virginmedia. Diversion may be necessary if slewing is not deemed feasible due to the presence of utilities other than Sky and Virginmedia. SIGNIFICANT RESTRICTIONS ARE IN PLACE FOR OUTAGES (Potentially one (1) per eighteen (18) months) TO THESE APPARATUS AND EARLY PLANNING WITH INSTALCOM IS ESSENTIAL. Instalcom advise: A standard lead time of between twelve (12) and sixteen (16) weeks may apply from the date payment, or part payment, is received if a cable diversion is required.
	INS004	*Slew	Countess (East) to R Avon	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0013 Sheet 6	Slew of existing 4-way duct system to line of new verge. This duct system is also used by both Sky and Virginmedia. Their apparatus SK004 and VM004 to be slewed simultaneously. Contractor to construct all ducting in preparation for diversion of cabling by Instalcom, Sky and Virginmedia.

						Diversion may be necessary if slewing is not deemed feasible due to the presence of utilities other than Sky and Virginmedia. SIGNIFICANT RESTRICTIONS ARE IN PLACE FOR OUTAGES (Potentially 1 per 18 months) TO THESE APPARATUS AND EARLY PLANNING WITH INSTALCOM IS ESSENTIAL. Instalcom advise: A standard lead time of between twelve (12) and sixteen (16) weeks may apply from the date payment, or part payment, is received if a cable diversion is required.
Virginmedia	VM001	Slew	Ch 0 - West of W/ Stoke (Exg A303)	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0009 Sheet 2	Virginmedia apparatus is contained within CenturyLink ducting managed by Instalcom. Details as INS001.
	VM002	Diversion	Ch 5100- Longbarrow	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0011 Sheet 4	Virginmedia apparatus is contained within CenturyLink ducting managed by Instalcom. Details as INS001.
Virginmedia	VM003	Slew	East Portal to Countess (West)	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0012 & 0013 Sheet 5 & 6	Virginmedia apparatus is contained within CenturyLink ducting managed by Instalcom. Details as INS003.

	VM004	Slew	Countess (East) to R Avon	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0013 Sheet 6	Virginmedia apparatus is contained within CenturyLink ducting managed by Instalcom. Details as INS004.
Sky	Sk001	Slew	Ch 0 - West of W/ Stoke (Exg A303)	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0009 Sheet 2	Sky apparatus is contained within CenturyLink ducting managed by Instalcom. Details as INS001.
	Sk002	Diversion	Ch 5100-Longbarrow	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0011 Sheet 4	Sky apparatus is contained within CenturyLink ducting managed by Instalcom. Details as INS002.
	Sk003	Slew	East Portal to Countess (West)	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0012 & 0013 Sheet 5 & 6	Sky apparatus is contained within CenturyLink ducting managed by Instalcom. Details as INS003.
Sky	Sk004	Slew	Countess (East) to R Avon	C	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0013 Sheet 6	Sky apparatus is contained within CenturyLink ducting managed by Instalcom. Details as INS004.

SSET	SSET001 & 002	None	SSE Tower DD5 adjacent to proposed East Portal to SSE Tower DD51A at Ratfyn via Countess Roundabout	A	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0012 & 0013 Sheets 5 & 6	SSET propose to recover all cabling but leave duct in situ.
Esso	ESS001	None	Ch 3300 Parsonage Down	A	HE551506-AMW-VUT-SW_GN_000_Z-DR-CU-0010 Sheet 3	ESSO to carry out diversion in Preliminary Works Phase. New multifuel pipeline is proposed parallel to existing running southeast-northwest through Parsonage Down. With protection installed to new pipeline under new A303 cross-section.

* Groups are as follows:

A - Work expected to be completed before the commencement of the *works*.

B - Work required after commencement of the *works* which does not require prior work by the Contractor but does require the Contractor to undertake liaison and coordination.

C - Work required after commencement of the *works* which does require prior work by the Contractor.

D - Work expected to be in progress at the commencement of the *works*.

E - Work to be wholly undertaken by the Contractor.

Orders for Diversionary or Other Works for Statutory Undertakers

Work to SSET001 and 002, is now complete and work for ESS001 is due to be completed prior to access to site by Main Works Contractor.

No other orders or arrangements have been made to progress these diversionary works. The necessary orders will need to be raised by the Contractor under this contract during detailed design and procured through National Highways

APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT

1 Submission of traffic safety and management proposals

The Contractor shall comply with the requirements of the MW-TRA1 to MW-TRA12 in Table 3.2b of the OEMP.

The Contractor shall, no later than twelve (12) weeks before the first *access date*, provide the Overseeing Organisation with detailed traffic management plans including the following information as a minimum:

- phasing of the *works* at each location
- drawings showing the traffic management layout including:
  - geometric design,
  - roadwork speed limits (if proposed by the Contractor),
  - position of traffic signals and signs,
  - width of Lanes,
  - safety zones,
  - working areas,
  - access and exit locations for plant,
  - barriers,
  - road markings,
  - temporary lighting,
  - provision for pedestrians,
  - provision for emergency services,
  - crossovers and
  - protection / diversion of services, supplies and the like.
- timing of operations,
- road lighting,
- proposals for preventing mud and dust on public roads and
- modelling assessment of the traffic impacts during critical construction phases stating the changes to journey times on key routes.

The Contractor shall submit drawings showing the proposed traffic safety and management scheme to the Overseeing Organisation, and the Contractor's Designer Safety Auditor, at least fifteen (15) Working Days prior to implementation.

The drawings shall be at a scale not less than 1:500 and show all signs, road markings and other details considered necessary by the Safety Auditor to undertake an audit of the traffic safety and management scheme. Drawings shall be issued in an electronic format.

At least ten (10) Working Days prior to the installation, change or removal of a traffic safety and management scheme, the Contractor shall submit a Method Statement to the Overseeing Organisation. The Method Statement shall detail the procedure the Contractor

intends to follow when installing, changing or removing the traffic safety and management scheme.

The Contractor shall not install, change or remove the traffic safety and management scheme without the consent of or unless directed by the Overseeing Organisation.

The Contractor shall implement the recommendations of any Road Safety Audits on the proposed traffic safety and management scheme.

2 Traffic safety and management requirements and constraints

(i) The Contractor's traffic safety and management proposals shall support good customer service in accordance with the following documents authored by the Overseeing Organisation: Roadworks: A Customer View, and Roadworks: A Customer View Implementation Toolkit.

(ii) Site specific requirements and constraints are as follows:

(a) Restrictions on phasing of the *works*

Refer to Appendix 1/13

(b) Daily and weekly time restrictions

Refer to the Core Working Hours (MW-G12, Table 3.2b, OEMP)

(c) At all times, a minimum of a single lane shall be maintained in both directions along the A303, the A360 and the A345 throughout the length of the roadworks, except at the A303/A345 Countess Junction as noted below.

(d) There is a general expectation to minimise delays at Countess Roundabout. Lane restrictions should be minimised and depending on safety and space restrictions, the following lane requirements at Countess Roundabout shall be provided as a minimum, unless otherwise agreed by the Overseeing Organisation.

Number of Lanes available on the approaches to and exits from Countess Roundabout				
Scenario	**Before Flyover is open**	**One (1) A303 Westbound lane open on the Flyover**	**One (1) A303 Eastbound lane open on the Flyover**	**One (1) lane open on the Flyover in both directions**
A303 Westbound Approach	Two (2) lanes for sixty-five (65) metres on the approach to the roundabout stopline	One (1) lane	Two (2) lanes for sixty-five (65) metres on the approach to the roundabout stopline	One (1) lane

A303 Eastbound Approach	Two (2) lanes for one-hundred and five (105) metres on the approach to the roundabout stopline	Two (2) lanes for one-hundred and five (105) metres on the approach to the roundabout stopline	One (1) lane	One (1) lane
A345 Northbound Approach	As existing	As existing	As existing	As existing
A345 Southbound Approach	As existing	As existing	As existing	As existing
Roundabout Circulatory	Two (2) lanes	Two (2) lanes	Two (2) lanes	Two (2) lanes
A303 Westbound Exit	Two (2) lanes for two hundred (200) metres on the exit from the roundabout	One (1) lane	Two (2) lanes for two hundred (200) metres on the exit from the roundabout	One (1) lane
A303 Eastbound Exit	Two (2) lanes for one-hundred and ten (110) metres on the exit from the roundabout	Two (2) lanes for one-hundred and ten (110) metres on the exit from the roundabout	One (1) lane	One (1) lane
A345 Northbound Exit	As existing	As existing	As existing	As existing
A345 Southbound Exit	As existing	As existing	As existing	As existing

(e) No temporary traffic signals shall be installed during construction without the agreement of the Overseeing Organisation.

(f) Traffic flows will be higher during the following times. The Contractor shall schedule works to minimise reductions in capacity and impacts on the network at these times

- from Friday to Monday, from the 2nd Friday of July to the 2nd Monday of September,
- from Friday to Monday of the May Bank Holiday weekends,
- from Friday to Monday of the weekends of school half-term holidays,
- from the 24th December to the 2nd January,

- from 18:00 the Thursday before Good Friday to 06:00 on the Tuesday after Easter Monday,
- from the 18:00 on the day proceeding the Summer Solstice until 06:00 on the day following the Summer Solstice,
- from the 18:00 on the day proceeding the Winter Solstice until 06:00 on the day following the Winter Solstice,
- from the 18:00 on the day proceeding the Spring Equinox until 06:00 on the day following the Spring Equinox and,
- from the 18:00 on the day proceeding the Autumn Equinox until 06:00 on the day following the Autumn Equinox.

(g) Works within the western section of the World Heritage Site (WHS) between Ch6000 to Ch7500, will be suspended during the Summer Solstice for twenty-four (24) hours before to twenty-four (24) hours after the Summer Solstice, and at the Winter Solstice for twenty-four (24) hours before to twenty-four (24) hours after the Winter Solstice. The timing of the suspension to be based upon the precise timing of the solstices in that year.

(h) The Contractor's Traffic Safety and Management method statement shall include proposals for an emergency route for emergency services vehicles if they are delayed when using the public trafficked area of the *works*.

(iii) Traffic data required for traffic management design is provided in section 7 (Highways) of Volume 2 Part 2 (Design and Technical Requirements) of the contract.

(iv) The Contractor shall consult with the parties identified in the OEMP (MW-TRA2) as well as public transport operators during the development of the Traffic Management Plan.

(v) Other requirements:

a) The Contractor shall be responsible for the routine maintenance functions in accordance with Volume 2 Part 3 (M&O Requirements during Construction) of the contract.

b) Breakdown Recovery shall be provided in accordance with the requirements of Appendix 1/20.

c) Temporary lighting shall be in accordance with section 12 (Lighting) of Volume 2 Part 2 (Design and Technical Requirements) of the contract.

Undertaking any repairs to local roads caused as a direct result of a signed diversion or significant displaced traffic resulting from the *works*.

3 Traffic Safety and Control Officer (TSCO)

(i) The Contractor shall appoint a suitably qualified Traffic Safety and Control Officer (TSCO) who shall make all arrangements necessary for traffic safety and control including the provision and operation of breakdown recovery vehicles.

(ii) The Traffic Safety and Control Officer (or nominated deputies, who possess requisite qualifications and experience equivalent to the TSCO) shall be available on Site at all times when traffic management is in operation and shall be readily available to deal with matters related to traffic safety and control including breakdown recovery vehicles.

(iii) The TSCO shall, when appropriate, take instructions direct from the Overseeing Organisation, and from the Police in emergencies when they have assumed control.

4 Temporary Traffic Regulation Orders (TTRO) and other Statutory Orders

(i) No orders have been applied for prior to the time of tender.

(ii) The Contractor is required to apply for orders.

(iii) The Contractor shall obtain all Temporary Traffic Regulations Orders (TTRO) from National Highways or an appropriate highway authority necessary to programme and complete the *works*. Prior to submission of the application the Contractor shall obtain approval of any proposed TTRO from the Overseeing Organisation.

(iv) The Contractor shall note that a period of twelve (12) weeks must be allowed for the approval and implementation of Temporary Traffic Regulation Orders. The twelve (12) week period shall commence when completed data is submitted to the Overseeing Organisation in an agreed and acceptable format.

5 Crossovers

Crossover shall be provided to suit the Contractor's proposals

6 Driver information signs

Portable VMS shall be provided throughout the *works* at strategic locations to display the following information to Road Users:

- travel time through the *works*,
- key messages,
- work taking place and
- milestones and progress.

The locations and messages to be displayed on the portable VMSs shall be set out in the Traffic Management Plan.

7 Temporary speed limit cameras

(i) The Contractor shall provide speed detection cameras in accordance with Appendix 1/25.

APPENDIX 1/18: TEMPORARY HIGHWAYS FOR TRAFFIC

1 Temporary highways for traffic specified by the Overseeing Organisation

Not used

2 Temporary highways proposed by the Contractor

All temporary highways for traffic proposed by the Contractor shall be agreed with the respective highway authority and the police prior to submission to the Overseeing Organisation in accordance with Volume 2 Part 9 (Review and Certification) of the contract.

For any temporary highways passing beneath overhead services such as power lines or telephone lines, the Contractor shall consult with the relevant Statutory Undertaker and provide not less than the Statutory Undertaker's minimum required clearance from the overhead cables to the temporary road surface. The Contractor shall also consult with the relevant Statutory Undertaker, where any temporary diversion passes over underground services and provide the minimum clearance and protection required by the Statutory Undertaker.

The standard of construction and lighting on temporary highways shall be suitable in all respects for the class or classes of traffic using the existing highway which is diverted to the temporary highway.

Diversions shall be constructed in advance to minimise interference with existing highways and shall be maintained adequately.

The Contractor shall be responsible for obtaining any necessary Temporary Traffic Regulation Order/(s) (TTRO) prior to stating any work related to temporary highways through the Overseeing Organisation.

The area occupied by and required for the temporary highways construction and operations shall be deemed to form part of the Site.

The Contractor shall submit his proposals for dealing with abnormal loads to the Overseeing Organisation before the commencement of the *works* in relation to temporary highways.

The Contractor shall not alter the layout of any diversion routes without prior consultation and the agreement with the respective highway authority and the police prior to submission to the Overseeing Organisation under the Review Procedure.

APPENDIX 1/19: ROUTEING OF VEHICLES

(i) Permitted access routes to and from the Site

Permitted site access routes for construction traffic are shown on drawing HE551506-AMW-GEN-SW_GN_000_Z-DR-CH-4101 and drawing HE551506-AMW-GEN-SW_GN_000_Z-DR-CH-4102.

Unless otherwise agreed by the Overseeing Organisation and Wiltshire Council, construction traffic deliveries shall avoid the use of local roads and route along the strategic road network, which in this case refers to the:

- A303,
- A34,
- A36 north of the A303 towards Warminster and
- A360 north of the A303 to the Airman's Corner Roundabout (Stonehenge Visitor Centre).

The Contractor shall satisfy the requirements of the Wiltshire Council "Freight Route Network Map[2]" when routing long-distance movements.

Journeys from south of Salisbury shall be routed via the A34 and not via the A36 through Salisbury.

When entering into any subcontract for the execution of the works, including the supply of plant and equipment and materials, the Contractor shall incorporate the requirements of this appendix into his subcontract arrangements.

The Contractor shall maintain access to private and commercial properties at all times during the works. The Contractor shall liaise with all affected third parties to agree access arrangements and any security measures deemed necessary.

Site access and egress points shall be kept clean and in a safe condition at all times. The Contractor shall provide wash down facilities to ensure mud, dirt and dust etc. is not carried onto the public highway during the works. Temporary 'Slippery Road Ahead' warning signs to TSRGD diagram no. 557 shall be erected as necessary.

Prior to the commencement of construction activities, the Contractor shall undertake a preconstruction condition survey of the surrounding highway network. During the survey the Contractor shall be accompanied by the representatives from the Overseeing Organisation.

The survey shall document the existing condition of the highway as well as any nearby buildings, structures or utilities that may be at risk during construction.

[2] Refer to the Freight Route Network Map contained on the "Road Freight" section of Wiltshire Council's Website: https://www.wiltshire.gov.uk/highways-road-freight. [Accessed February 2021].

The Contractor shall supply the Overseeing Organisation with photographic and video records. The Contractor shall be responsible for rectifying damage resulting from the undertaking of construction activities and associated plant movements.

(ii) The use of the permanent works by construction traffic

The finished pavement forming part of the *works* may be used to carry construction traffic.

Any areas of finished pavement damaged during construction operations shall be reinstated to the satisfaction of the Overseeing Organisation. For damage to the new A303 the reinstatement shall be undertaken prior to the Completion of *section* 3 and for local roads the reinstatement shall be undertaken prior to the Completion of *section* 3A

(iii) Movement of machinery and plant across public roads

Labour, plant and materials shall be kept within the *boundaries of the site* and shall not use areas of carriageway within the *boundaries of the site* that are open to the public except in the following circumstances

- labour and plant required for traffic management purposes and
- labour, plant and materials being moved to and from the Working Area by suitable vehicles.

At-grade crossings of the A303 or the A360 are not permitted.

No item of plant or vehicle used by the Contractor or his Sub-Contractors in carrying out the Works shall be operated on carriageway lanes open to the public in such a manner that it would disrupt the normal flow of traffic.

The Contractor shall provide protection to all drains or ducts wherever he wishes to move plant or vehicles across such drains or ducts and shall reinstate at his own expense any such drain or ducting which becomes damaged or disturbed.

The Contractor shall agree with the Overseeing Organisation the timing of the movement of any exceptionally heavy or large items of plant on the public highway.

(iv) Temporary structures for construction traffic spanning areas used by the public

The temporary structures shall be designed in accordance with the requirements of Appendix 1/11.

APPENDIX 1/20: RECOVERY VEHICLES AND OPERATION FOR BREAKDOWNS

Requirements for Recovery Vehicle Operation

Before the installation of any traffic management the Contractor shall inform the Overseeing Organisation of the name, address and telephone number of the recovery firm and supply details of the arrangements that have been made to recover vehicles within the stated time period.

The names and permanent address of recovery operatives shall be submitted to the Overseeing Organisation at the same time.

If the recovery firm proposed by the Contractor cannot fulfil the requirements of this Appendix, the Overseeing Organisation may require the Contractor to terminate the arrangement and make a new arrangement with another recovery firm at no cost to the Overseeing Organisation.

1 Recovery Vehicles to be Provided

1.1 The Contractor shall provide dedicated recovery vehicles to recover broken down, accident damaged or abandoned vehicles (heavy, light and motorcycle) from within the traffic management for the works. The vehicles shall be provided twenty-four (24) hours per day seven (7) days per week.

The recovery service shall respond within twenty (20) minutes of being notified of a breakdown and shall clear the vehicle within sixty (60) minutes of being notified of a breakdown.

The Contractor shall determine the numbers of types of recovery vehicles needed depending upon the location of the vehicles, the areas of traffic management and normal levels of congestion during road works. The numbers of types of recovery vehicles provided shall be agreed with the Overseeing Organisation.

1.2 Heavy recovery vehicles: (capable of recovering forty-four (44) tonne vehicles)

(i) ….no. heavy recovery vehicle(s) shall be provided

1.3 Light Recovery Vehicle:

(i) …no. light recovery vehicles(s) shall be provided.

1.4 Motorcycle recovery facilities:

(i) …no. of light recovery vehicles to be capable of recovering motorcycles.

1.5 Impact Protection Vehicles:

An Impact Protection Vehicle is to be provided at each recovery base to protect recovery operations whenever possible when a traffic or police officer, in uniform, is unable to assist with recovery operation. The numbers of Impact Protection Vehicle provided shall be agreed with the Overseeing Organisation.

Where a base has more than one recovery vehicle, e.g. a heavy and a light vehicle, then in the unlikely event both vehicles are called together the CCTV controller to prioritise the use of the Impact Protection Vehicle.

2 Locations for Recovery Vehicles

The Contractor shall determine and provide the locations for recovery vehicles to suit the location of traffic management to meet the required response time described in this Appendix.

Recovery stations and vehicles shall be clear of the hard shoulder or hard strip on a hard standing. No detritus shall be brought onto the carriageway by the recovery vehicles. On relocation of the recovery stations, and on completion of the works, the hard standings shall be removed, and all areas made good where disturbed.

3 Limits of Service

Where Free Recovery is provided, the Free Recovery Area is defined as the area between 'Free Recovery Area Start' signs and 'Free Recovery End' signs. In general, the free recovery area will be 900m in advance of first cone and 300m past the last cone.

The Contractor may be called upon during working hours to assist when required, in the removal of loads accidentally deposited within the operational traffic lanes.

4 Location(s) for Vehicle Removal

Broken down, accident-damaged or abandoned vehicles shall be removed to a suitable location off the highway, either at the *works* compound or another point as agreed with the Overseeing Organisation and the police. The location shall have provision for drivers to contact their own recovery or the Contractor shall provide such provision. Drivers are to be informed that they must make their own arrangements for further assistance. A prominent notice shall be displayed at all times on each recovery vehicle provided with this Contract to this effect, clearly stating that the service is FREE and that the recovery vehicle cannot complete the tow to any further destination.

Vulnerable motorists are to be taken to a location where they will not be alone or exposed to the risk of crime, and where they can get any support necessary including welfare facilities. Vulnerable motorists include, but are not limited to, lone or obviously pregnant females, lone parents with young children, mobility impaired, elderly or distressed drivers.

Abandoned or accident damaged vehicles are to be recovered to a secure compound where theft or further damage is prevented. Disposal of these vehicles where the owner cannot be contacted shall be arranged with the police and local authority. The Contractor is

to provide the secure compound except for situations where the police advise alternative arrangements.

5 Communication System

A two-way radio communication system shall be provided for the vehicle recovery operations.

The communication system shall be operational at all times that recovery vehicles are required. A secondary 'back up' system shall also be provided for communications with the Police / Regional Operations Centre (ROC). Provision shall also be made for communication between the recovery vehicles and the recovery base station.

APPENDIX 1/21: INFORMATION BOARDS

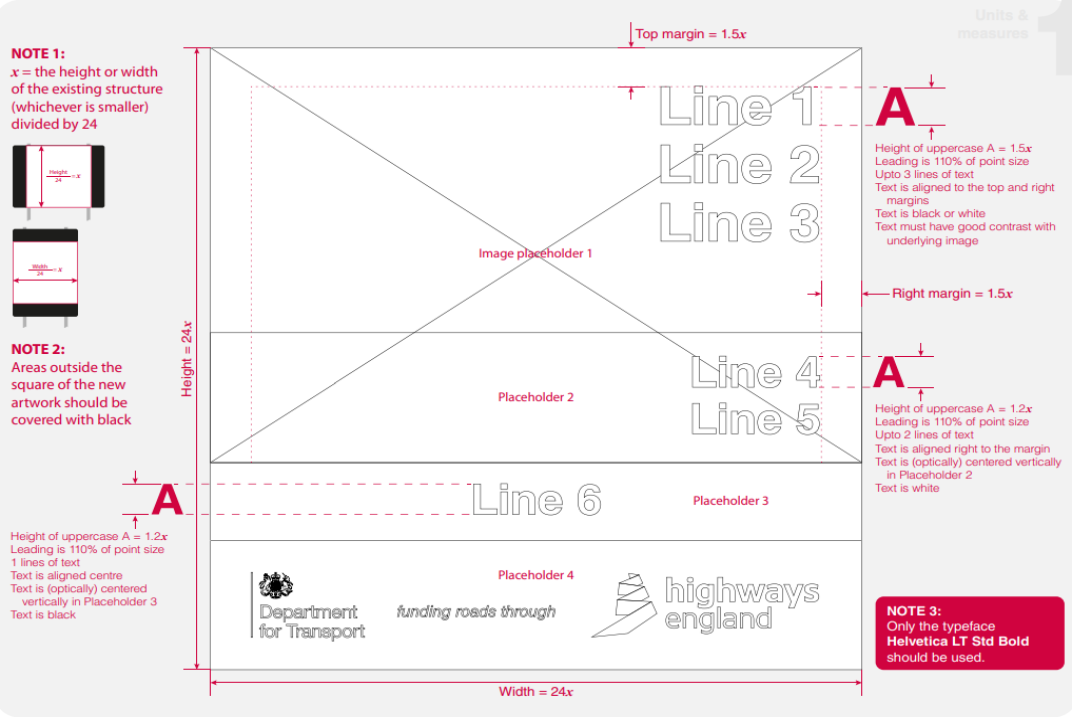
1 General

1.1 Prior to the commencement of the *works*, the Contractor shall erect ten (10) scheme information boards as detailed below.

1.2 The Scheme name is A303 Amesbury to Berwick Down (Stonehenge).

1.3 The layout of the sign face shall be in accordance with the Figure 1 (Sign face layout) below.

Figure 1 Sign face layout



1.4 The *Project Manager* shall confirm the text to be included on the sign.

1.5 Unless otherwise agreed or instructed by the Overseeing Organisation, the Contractor shall remove the scheme information boards no later than one (1) month after the Completion of *section* 3A.

1.6 The location of all signs shall be accepted by the Overseeing Organisation and, in the case of local roads, with the prior agreement of the Local Highway Authority.

1.7 The Contractor or any sub-contractors employed by him shall not erect any advertising sign without the written consent of the Overseeing Organisation.

2 Locations

2.1 The Contractor shall install information boards in the following locations:

(i) A303 west of the site – one (1) board for traffic entering the site,

(ii) A303 east of the site – one (1) board for traffic entering the site,

(iii) A360 north of the site – two (2) boards, one (1) for traffic entering the site and one (1) for traffic exiting the site,

(iv) A360 south of the site – two (2) boards, one (1) for traffic entering the site and one (1) for traffic exiting the site,

(v) A345 north of the site – two (2) boards, one (1) for traffic entering the site and one (1) for traffic exiting the site and

(vi) A345 south of the site – two (2) boards, one (1) for traffic entering the site and one (1) for traffic exiting the site.

APPENDIX 1/22: PROGRESS PHOTOGRAPHS

1 General

1.1 The Contractor shall employ a professional photographer and aerial video company, approved by the Overseeing Organisation, to undertake the progress photographs and video images.

1.2 Prior to the approval of the professional photographer and aerial video company submission of samples of previous work shall be made to the Overseeing Organisation.

1.2 The Contractor shall provide a GIS spatial database into which all progress photographs and videos shall be uploaded. The database shall be a secure web-based system with download functionality.

1.4 The Overseeing Organisation shall be able to access the database remotely.

1.5 The Overseeing Organisation shall retain the rights to all photographic and video images obtained by the Contractor.

1.6 The Contractor may use the images in promotional material, if so approved by the Overseeing Organisation, such approval will not be unreasonably withheld.

2 Ground progress photographs

2.1 A set of ground progress photographs shall be taken prior to commencement of the *works* on site and then at approximately monthly intervals until Completion of *section* 3A.

2.2 A set of ground progress photographs shall comprise not less than three hundred (300) photographs and the interval of the photograph coverage length along the corridor shall be less than one-hundred and fifty (150) metres.

2.3 The resolution of the photographs shall be minimum twelve (12) Megapixels and their location shall be agreed with the Overseeing Organisation.

3 Aerial videos

3.1 A high definition aerial video shall be taken at the first *access date* and further videos shall be taken at monthly intervals until Completion of *section* 3A.

A final video shall be taken immediately following the Completion of *section* 3A.

3.2 The videos shall be a minimum 4K resolution (3840 x 2160 pixels) and thirty (30) frames per second.

3.3 Videos shall be taken from approximately the same height, direction and viewpoint at each monthly interval.

3.4 Viewpoints, heights and directions shall be determined and detailed on an Ordnance Survey map prior to photographs and videos being taken and agreed with the Overseeing Organisation.

3.5 The Contractor shall be required to obtain all licences required to fly a drone within the *boundaries of the site*.

4 Time-lapse photography

4.1 The Contractor shall produce a high-quality visual record of the construction of the *works*.

4.2 The Contractor shall arrange for time-lapse photographs to be taken throughout the construction period at a minimum of six key locations. The Contractor shall propose the precise locations and number of cameras to be used for approval of the Overseeing Organisation within one (1) month of the first *access date.*

4.3 Cameras shall be set to obtain an image every ten (10) minutes.

4.4 The Contractor shall propose the most suitable make and type of camera for each location for the approval of the Overseeing Organisation. Cameras, lenses and sensors shall be of a professional grade and from a reputable supplier.

4.5 The camera resolution shall be high enough to allow the final film to be rendered as 4K with a minimum resolution of 3840 x 2160 pixels.

4.6 The optical parameters of the proposed system shall be capable of adjustment from a remote location.

4.7 The image interval shall be capable of being adjusted remotely to obtain additional detail during specific activities.

4.8 The cameras shall be mounted on a stable structure that prevents movement of the camera by external influences such as wind or vibration.

4.9 Cameras shall be capable of working at night without significant grain or noise (0.002 lux).

4.10 Each camera location shall have a suitable power and telecoms supply and a backup system shall be available to ensure that there is no loss of data.

4.11 At each camera location, suitable security measures shall be taken to prevent theft of the equipment.

4.12 Each camera shall be capable of being remotely monitored to ensure that it is working correctly.

4.13 The system should be set to automatically restart after a power failure to ensure there is minimal loss of data.

4.14 All recorded images shall be relayed in real time to the central GIS spatial database. to avoid loss of data.

4.15 Each camera shall be at least IP65 weather protected.

4.16 All cameras, computer control systems and backup systems shall be regularly maintained throughout the *works*.

4.17 All images shall be time stamped and catalogued in a calendar format for retrieval by the Overseeing Organisation.

APPENDIX 1/23: RISKS TO HEALTH AND SAFETY

1 Known specific or extraordinary hazards or risks

The following is a non-exhaustive list of known specific or extraordinary hazards and risks and all work elements should be considered individually for their own hazards or risks.

Phosphatic Chalk

Phosphatic chalk will be encountered during the tunnelling operation. This is a unique material which emits radon gas as it decomposes.

Groundwater levels

The groundwater aquifer responds quickly to rainfall events. Operations within the groundwater aquifer can therefore be significantly impacted by rapid changes in groundwater levels.

2 Required actions or precautions

In the event of contaminated land being encountered, the Contractor shall follow the provisions of Requirement 7 of the DCO. (MW-GEO2).

3 Notifications

The Contractor shall inform the Overseeing Organisation at all stages of his proposed actions in respect of dealing with hazardous substances. The Contractor shall provide the Overseeing Organisation with copies of his assessments undertaken in accordance with COSHH and other relevant regulations, together with written details of his proposals for implementing the requirements of this Appendix.

4 Monitoring requirements & submission of records

The Contractor shall prepare and maintain a register of all substance hazardous to health, which are brought to Site. The Contractor shall operate a documented system to control the issue and use of any such material in connection with the *works*.

The Contractor shall undertake monitoring of groundwater quality and submit records to the Overseeing Organisation.

APPENDIX 1/24: QUALITY MANAGEMENT SYSTEM

General

1 The Quality Management system shall be in accordance with the requirements of section S605 of Volume 2 Part 1 (General Requirements) of the contract.

APPENDIX 1/25: TEMPORARY CLOSED-CIRCUIT TELEVISION (CCTV) SYSTEM FOR THE MONITORING OF TRAFFIC

1 Requirements for temporary Closed-Circuit Television (CCTV) system

(i) The Contractor shall supply, install, maintain, and subsequently remove a temporary closed-circuit television (CCTV) system for the entire period that static traffic management is required.

The CCTV system shall be in operation five (5) Working Days prior to traffic management being implemented and shall be in continuous operation until all traffic management has been removed.

The CCTV system shall operate twenty-four (24) hours per day.

(ii) The system shall be designed to cover:

- the whole of the A303 within the Site and
- diversionary routes.

There shall be sufficient overlap between the areas covered by adjacent cameras such that there are no blind spots.

(iii) The Contractor shall interface the temporary CCTV system with any permanent CCTV system and ensure that it does not cause any interference to or interruption of effective operation and functionality of any other element of the existing or permanent CCTV system or highway communications equipment and network. The interface required with the existing CCTV system shall be as agreed with the Regional Operations Centre (ROC).

(iv) Not required

(v) The Contractor shall establish a temporary CCTV control centre in the Longbarrow compound.

The temporary CCTV control centre shall be manned twenty-four (24) hours per day, seven (7) days per week.

The Contractor shall provide regular updates of delays to the media and as agreed with the *Project Manager*.

The Contractor shall be able to remotely activate an integrated VMS system to provide information to road users.

The Contractor shall provide, install, and maintain a dedicated communication link to the ROC.

APPENDIX 2/1: LIST OF BUILDINGS TO BE DEMOLISHED OR PARTIALLY DEMOLISHED

Address	Description	Drawing No.	Ref No.	Requirements
Cattle Underpass, Vespasian's Camp	Partial demoltion of existing underpass	HE551506-AMW-SMW-Z3_GN_000_Z-DR-CB-2013	Structure No. A303/107.90 Structure ID STR_6205	Extent of demolition to be determined by the Contractor.
Subway (Pedestrian Underpass) at Countess Roundabout	Partial demoltion of existing subway	-	Structure No. A303/108.90 Structure ID STR_6203	Extent of demolition to be determined by the Contractor. Areas of structure to be removed shall be demolished to 1m below ground level

APPENDIX 2/4: EXPLOSIVES AND BLASTING

1 The Contractor's attention is drawn to the measures for the control of noise and vibration which are included in contract specific Appendix 1/9.

2 Explosives shall not be used.

APPENDIX 3/1: FENCING, GATES AND STILES

1 Temporary fencing

(i) The Contractor shall comply with the requirements of sub-Clause 302.1 and 303.1 of the MCHW.

Temporary fences shall be of post and wire construction and comply with HCD H1 Type (i) or Type (ii). Types (iii) and (iv) (HCD H2) shall not be permitted.

Temporary gates in or impacting on the WHS shall be timber (HCD drawing H21-H23).

(ii) The Contractor shall comply with the requirements of sub-Clause 302.2.

(iii) The Contractor shall comply with the requirement of sub-Clause 303.3.

2 Timber quality

(i) The Contractor shall comply with the requirements of Clause 304 of the Specification.

3 Fittings

(i) The Contractor shall comply with the requirements of sub-Clause 305.1.

4 Permanent fencing: wooden fencing, gates and stiles including planting works fencing

(i) Flowing alignment and trimming ground to regular level on fence line.

[Location. Only included when necessary.]

(ii) The Contractor shall comply with the requirements for joining permanent fencing to existing hedges, fences and to other structures provided in sub-Clause 306.1.

(iii) Details of additional stockproofing required.

[Location and details]

(iv) Details of painting required.

[Only included when the compiler wishes to specify painting specifically.]

(v) Concrete surround to base of posts.

The use of concrete surround to base of posts within the WHS is not permitted.

(vi) Details of type of Planting Works Fencing shall be provided in Appendix 30/6 by the Contractor.

(vii) Details of security treatment below access gates in fencing that incorporates wildlife mesh.
[Location and details]

5 Permanent fencing: wire dropper fencing

(i) Flowing alignment and trimming ground to regular level on fence line.

[Location. Only included when necessary.]

(ii) Requirements for joining permanent fencing to existing hedges, fences and to other structures if different from the requirements of sub-Clause 306.1.

(iii) Details of additional stockproofing required.
[Location and details]

(iv) Requirements for painting with plastic paint in accordance with sub-Clause 306.3.

(v) Zinc coated wire only
[Only included when departing from standard zinc and plastic coating]

(vi) Details of fittings required.
[Preference is for hidden ratchet and wire vice and droppers and other fittings painted with plastic paint.]

(vii) Spacing of posts and requirement for turning posts.
[Location.]

6 Wire mesh to permanent or existing fencing

(i) Details of wire mesh attachments to fencing including the appropriate side of an existing fence to which the mesh is fixed.
[Location and details]

(ii) Treatment of turned out portion of netting.
[Location and details]

7 Badger gates

(i) Details of requirements for badger gates including whether two-way gates are required.
[Location and details]

8 Fenced tree guards

(i) Details of requirements for fenced tree guards.
[Location and details]

9 Preservation of timber

(i) The Contractor shall comply with the requirements of Clause 311 of the Specification.

10 Other

(i) Colour of plastic coating to high tensile wire. [2605.3]