# Bridgnorth Town Council

# Bridgnorth Retaining Wall

# Scope 2B

# Specification

| | | |
|---|---|---|
| **Dated May 2025** | | |

# SPECIFICATION

PREAMBLE TO THE SPECIFICATION

1 The Specification referred to in the Tender shall be the 'Specification for Highway Works', published by The Stationary Office (formerly HMSO) as Volume 1 of the Manual of Contract Documents for Highway Works, as modified and extended by the following:

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

(iii) The Numbered Appendices listed in Appendix 0/3;

(iv) Appendix 0/5: Special national alterations of the Overseeing Department of Scotland, Wales or Northern Ireland.

Appendix 0/4 contains a list of the Drawings.

2 The relevant publication date of each page of the Specification for Highway Works is given in the Schedule of Pages and Relevant Publication Dates.

3 An Additional Clause as indicated by a suffix 'A' in Appendix 0/5 is an alteration originating from the *Client* of Scotland, Wales or Northern Ireland. An Additional Clause as indicated by a suffix 'AR' in Appendix 0/1 is a Contract-specific alteration.

4 A Substitute Clause, as indicated by the suffix 'S' in Appendix 0/5 is an alteration originating from the *Client* of Scotland, Wales or Northern Ireland. A Substitute Clause as indicated by a suffix 'SR' in Appendix 0/1 is a Contract-specific alteration.

5 A Cancelled Clause as indicated by a suffix 'C' in Appendix 0/5 is an alteration originating from the *Client* of Scotland, Wales or Northern Ireland. A Cancelled Clause indicated by a suffix 'CR' in Appendix 0/1 is a Contract-specific alteration.

6 Insofar as any of the Numbered Appendices, may conflict or be inconsistent with any provision of the Specification for Highway Works the Numbered Appendices shall always prevail. Additionally, Numbered Appendices 0/1 and 0/2 shall take precedence over Numbered Appendix 0/5.

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, 0/2 or 0/5.

8 Where a Clause is altered any original Table/Figure referred to in the Clause shall apply unless the Table/Figure is also altered. Where a Table/Figure is altered any reference in a Clause to the original Table/Figure shall apply to the altered Table/Figure.

9 Where a Clause in the Specification relates to work goods or materials which are not required for the Works it shall be deemed not to apply.

10 Any Appendix referred to in the Specification which is not used shall be deemed not to apply.

11 Where a Clause in the Specification is prefixed by an # this indicates that this particular Clause has a substitute National Alteration for one or more of the Overseeing Organisations of Scotland, Wales or Northern Ireland. 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 of

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 Organisations.

12 Other than where references to the *Client* are made in the context of the *Client* granting statutory or type approvals, the roles and functions of the *Client* shall be undertaken by the Project Manager as drawn by the Conditions of Contract.

13 Where the Specification requires the provision of documentation to the *Client* for statutory or type approval such documentation shall be provided to the Project Manager as drawn from the Conditions of Contract.

14 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 *Client* as stated in paragraph 12 above shall be amended as follows:

(i) If any agreement, consent or approval required to be obtained from the *Client* impacts on the health and safety of the general 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 as drawn from the Conditions of Contract.

(ii) Where the Specification provides for the *Client* 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 12 above shall exercise such decisions in accordance with the Construction Requirements/Employer's requirements/Works Information stated in the Contract.

## Specification for Highway Works

### TABLE 0/1 SCHEDULE OF PAGES AND RELEVANT PUBLICATION DATES

| Series/ Appendix | Page Number | Publication Date |
|---|---|---|
| 000 | 1 to 3 | May 2014 |
| 000 | 6 to 7F | February 2016 |
| 000 | 4 to 5 | April 2021 |
| 100 | 1 to 2, 4 to 9, 12 to 29F, WF1, N2 to N11F | May 2014 |
| 100 | 3, 10 to 11, N1 | December 2014 |
| 200 | 1 to 3F | February 2016 |
| 300 | 1 | May 2001 |
| 300 | 4 | November 2002 |
| 300 | 2 to 3, 5 to 6F | May 2008 |
| 400 | 1, 9 to 11, 13, 17 to 20, 21, 23F | May 2017 |
| 400 | 2 to 8, 12,14 to 16, 22 | March 2020 |
| 500 | 1 to 2, 4 to 39F, N1 to N2F | February 2020 |
| 500 | 3 | March 2020 |
| 600 | 1 to 68, 70 to 77F, S1 to S4F, W1 to W4F, N1 to N5F | February 2016 |
| 600 | 69 | February 2017 |
| 700 | 1 to 36F, N1 to N6F | February 2016 |
| 800 | 1, 3 to 31 | February 2016 |
| 800 | 2, 32 to 38F | March 2020 |
| 900 | 3, 5 to 7, 21 to 32 | May 2018 |
| 900 | 1 to 2, 4, 8 to 20, 33 to 79F | July 2019 |
| 1000 | 1 to 51F | January 2020 |
| 1100 | 1 to 16F | February 2021 |
| 1200 | 5 | May 2001 |
| 1200 | 2 to 3, W1F | August 2003 |
| 1200 | 1, 14 to 16F | May 2004 |
| 1200 | 4, 9 to 11, 13 | May 2005 |
| 1200 | 12 | November 2006 |
| 1200 | 6 to 7, N1 to N4F | November 2007 |
| 1200 | 8 | May 2008 |
| 1300 | N2F | November 2003 |
| 1300 | 3 to 4 | November 2004 |
| 1300 | 1, 5 to 10, 12F | November 2005 |
| 1300 | 2, 11 and N1 | May 2006 |
| 1400 | 2, N1F | May 2001 |
| 1400 | 1, 3 to 9F | May 2006 |
| 1500 | 1 to 31F | February 2017 |
| 1600 | 1, 4 to 5, 9, 15, 17 to 18, 24 to 26, 29 to 31, 35, 38, 49F | March 1998 |
| 1600 | 2, 6 to 8, 10 to 14, 16, 19, 27 to 28, 32 to 34, 36 to 37, 39 to 42, 44 to 48 | November 2003 |
| 1600 | 3, 20 to 23, 43 | November 2005 |
| 1700 | 2, 4, 6 to 7, 19, 24 to 27, 30 to 34 | December 2014 |
| 1700 | 1, 3, 5, 8 to 18, 20 to 23, 28 to 29, 35 to 39F | March 2020 |
| | | |

| Series/ Appendix | Page Number | Publication Date |
|---|---|---|
| 1800 | 1 to 39F | April 2021 |
| 1900 | 1 to 35F, S1 to S2F | August 2014 |
| 2000 | 1, 3 to 4F | May 2001 |
| 2000 | 2 | November 2004 |
| 2100 | 1 to 2F | February 2016 |
| 2300 | 1 | March 1998 |
| 2300 | 2 to 3F | May 2001 |
| 2400 | 1, 4, 7F | May 2005 |
| 2400 | 2 | May 2006 |
| 2400 | 3, 5 to 6 | May 2008 |
| 2500 | 1 | May 2001 |
| 2500 | 2, 8, 11F | November 2003 |
| 2500 | 10 | November 2004 |
| 2500 | 6 to 7, 9 | May 2005 |
| 2500 | 5 | May 2006 |
| 2500 | 3 to 4 | November 2006 |
| 2600 | 2 to 4 | November 2003 |
| 2600 | 5 | November 2004 |
| 2600 | 6 | May 2005 |
| 2600 | 7 | November 2006 |
| 2600 | 1, 8F | March 2020 |
| 3000 | 4 to 7, 10, 12 to 17, 19, 22 to 27F | May 2001 |
| 3000 | 20 | November 2004 |
| 3000 | 2 to 3 | May 2006 |
| 3000 | 8 to 9, 11, 18, 21 | May 2008 |
| 5000 | 1, 4 to 19F, S1F | May 2005 |
| 5000 | 2 to 3 | November 2008 |
| 5700 | 1 to 30F | February 2020 |
| Appendix A | 1 to 4F | May 2014 |
| Appendix B | 1 to 3F | May 2014 |
| Appendix C | 1 to 2F | May 2014 |
| #Appendix D | 1F | May 2014 |
| Appendix D (NI) | N1F | May 2014 |
| Appendix E | 1F | May 2014 |
| Appendix F | 1 to 60F | April 2021 |
| Appendix G | Not used | |
| Appendix H | 1 | May 2004 |
| Appendix H | 2 | November 2005 |
| Appendix H | 3 | November 2006 |
| Appendix H | 4 to 9F | November 2008 |

## SERIES 000: INTRODUCTION

| APPENDIX 0/1: CONTRACT-SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT. | | |
|---|---|---|
| **List of Additional Clauses, Tables and Figures.** | | |
| **Clause No. (etc.)** | **Title** | **Written On Pages following** |
| 170AR | Cleanliness of Highways | |
| 171AR | Publicity | |
| 172AR | Easements, Licences and Accesses | |
| 174AR | Public Liaison | |
| 182AR | Use of Structures by Construction Traffic | |
| 184AR | Protection of Trees and Shrubs | |
| 1405.3AR | Temporary Lighting | |
| 2670AR | Health and Safety File | |

| APPENDIX 0/1: CONTRACT-SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT. | |
|---|---|
| **List of Substitute Clauses, Tables and Figures.** | |
| **Clause No. (etc.)** | **Title and rewritten text** |
| | |

| APPENDIX 0/1: CONTRACT-SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT. | |
|---|---|
| **List of Cancelled Clauses, Tables and Figures.** | |
| **Clause No. (etc.)** | **Title** |
| | |

| APPENDIX 0/1: CONTRACT-SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT. | |
|---|---|
| **Substitute Clauses, Tables and Figures.** | |
| **Clause No. (etc.)** | **Title** |
| | |

| **APPENDIX 0/1: CONTRACT-SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT.** | |
|---|---|
| **List of Additional Clauses, Tables and Figures.** | |
| **Clause No. (etc.)** | **Title and rewritten text** |
| **170AR** | **Cleanliness of Highways**<br>1. The *Contractor* shall ensure that mud and any other material adhering to the wheels or tracks of any works vehicles shall be removed before such vehicle enters any highway and that works vehicles are loaded and sheeted in such a way that no loose material can fall onto any highway.<br>2. Suitable wheel washing facilities shall be provided and used at all *Contractor's,* Sub-*Contractor*s' 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 his obligation 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.<br>3. The *Contractor's* proposals for wheel cleaning and sheeting shall be subject to the approval of the *Client* prior to works commencing.<br>4. The *Contractor* shall arrange the frequent inspection of the highway used by his vehicles and those of his sub-*Contractor*s or suppliers and the immediate removal of any mud or other material deposited thereon.<br>5. Sections of existing roads **shall not** be used for storage of materials or plant. |
| **171AR** | **Publicity**<br>1. The *Contractor* shall not give any information concerning the Works for publication in the press or on radio, television or screen or elsewhere without the written approval of the *Client*.<br>2. All advertisements to be erected within the site by the *Contractor* or by any Sub-*Contractor* shall first be approved by the *Client*. None will be allowed in the vicinity of motorway traffic.<br>3. All advertisements within the Site shall be removed within seven days of the date of the Completion Certificate. |
| **172AR** | **Easements, Licences and Accesses**<br>1. Easements, Licences and accesses have been negotiated in specific areas of land for certain purposes as indicated on the Drawings. The *Contractor* is to confine his use of these areas to that directly connected to the purpose stated. The *Contractor* shall reinstate any land used in connection with easements, licences or accesses to its original state, including grass seeding and replacement of all fencing and hedging. Such work shall be carried out expeditiously. |

| **APPENDIX 0/1: CONTRACT-SPECIFIC ADDITIONAL, SUBSTITUTE AND CANCELLED CLAUSES, TABLES AND FIGURES INCLUDED IN THE CONTRACT.** | |
|---|---|
| **List of Additional Clauses, Tables and Figures.** | |
| **Clause No. (etc.)** | **Title and rewritten text** |
| **174AR** | **Public Liaison**<br>The *Contractor* in collaboration with the *Client* shall make all arrangements necessary for public liaison and informing the public about the works.<br>The *Client* will be responsible for informing verbally and in writing the occupants of properties adjacent to the works and within the site extents as required below. The written notices shall be written in English.<br>**Content of written notice**<br>The written notifications shall include the following information as a minimum;<br>- Reason for the works e.g. Structural repairs.<br>- Who the works are being carried out for<br>- Who to contact and how to contact them for further information<br>- When the works are to be done and how long they will take.<br>- What inconveniences may be expected, including any road closures, night time working or other restrictions, with a due apology.<br>**Required Notification**<br>- Two weeks before commencement – Written notification/ letter drop to all residents within the site extents and adjacent to site (the *Contractor* shall allow for a minimum of 100 letters).<br>- 24hrs prior to commencement – Door knock/ verbal notification to all residents within the site extents and adjacent to site.<br>- Additional notification – Verbal or written if the sequencing of operations change, the contract period is extended or additional convenience to the residents is expected. |
| **182AR** | **Use of Structures by Construction Traffic**<br>1. The use of part completed structures by construction traffic will require the written permission of the *Client* and the *Contractor* shall without additional expense to the *Client* provide such protection or temporary strengthening to the permanent works as is considered necessary by the *Client*.<br>2. The use of completed structures by construction traffic will be limited to those vehicles that fall within the loading class for the structures stated on the drawings. Exceptionally other traffic may use a structure with the written permission of the *Client* and the *Contractor* shall with no additional expense to the *Client* provide such protection or temporary strengthening to the permanent works as is considered necessary by the *Client*. |
| **184AR** | **Protection of Trees and Shrubs**<br>Trees, shrubs and hedgerows which are to be preserved shall be protected by 1.2m high temporary cleft chestnut pale fencing to BS 1722-4 extended sufficiently to protect branches and root spread. *Contractor's* materials shall not be stored under spread of trees nor on the high side of trees etc. unless it can be shown that no harmful material can be in contact with soil under trees. |

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

**List of Additional Clauses, Tables and Figures.**

| Clause No. (etc.) | Title and rewritten text |
|---|---|
| **1405.3AR** | **Temporary Lighting**<br>Catenary wiring shall not be utilised to provide power to temporary lighting columns |
| **2670AR** | **HEALTH AND SAFETY FILE**<br>1 General<br>(a) The *Contractor* in his role as Principal *Contractor* shall provide particular information in the specified format(s) and at the timings indicated within this clause to the Principal Designer as appropriate to facilitate the production of the Health and Safety File as required by the CDM Regulations (2015).<br>2 Information Required<br>(a) The Principal *Contractor* shall provide original copies of all drawings that relate to those aspects of the design for which he, or his sub-*Contractor*s and suppliers, have a direct responsibility. Such drawings shall be inclusive of all construction stage amendments introduced via approved changes and may include drawings initially produced by the Principal *Contractor*'s sub-*Contractor*s and suppliers. Responsibility for the as-built version of all such drawings lies with the Principal *Contractor*.<br>(b) The Principal *Contractor* shall provide copies of product data sheets and other technical literature relating to all materials that are approved for incorporation into the Works that have health and safety implications, including maintenance facilities. All such information shall bear the name, address and contact numbers of the manufacturer and/or supplier of these materials.<br>(c) The Principal *Contractor* shall provide as-built information relating to all Statutory Undertaker's equipment that is exposed during, or affected by, the Works. This will exclude such work carried out in advance of the works contract by others (unless subsequently exposed during the works) but will include all existing supplies and services exposed during the works and all main service diversions required by these works whether carried out by others, the Principal *Contractor* or his sub-*Contractor*s.<br>(d) The Principal *Contractor* shall provide copies of all approved Method Statements originated by the Principal *Contractor* or his sub-*Contractor*s that relate to the Works.<br>3 Formats Required<br>(a) All drawings submitted by the Principal *Contractor* shall be provided in Autocad 2015 format, in colour if necessary, and on the appropriate standard sized sheets (A1, A3 and A4).All drawings shall clearly indicate the Project Title, Drawing Title, Drawing Number, date of production, scale and initials of those persons responsible for the production and checking of the drawing. Each drawing shall be clearly marked as-built, and identify the company responsible for the producing this drawing. The As Built drawings should clearly identify any changes that have been made since the construction issue drawings. Revision clouds shall be used and the changes highlighted in the revision box.<br>4 Timing of Submission<br>(a) All information as defined by paragraphs 1, 2 and 3 shall be submitted to the Principal Designer within 4 weeks<br>(b) after the issue of the completion certificate. |

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

**Appendix 0/3 is comprised of two lists, A and B, of Numbered Appendices as follows:**

**List 'A' is a complete list of the Numbered Appendices referred to in the Specification for Highway Works with those not adopted marked 'Not Used'. Those identified by the letters T or C shall be completed by the Tenderer or *Contractor* respectively.**

| Volume No. | Completed by | Appx No. | Title |
|---|---|---|---|
| | | | **INTRODUCTION** |
| | (Co) | 0/1 | Contract-specific Additional, Substitute and Cancelled Clauses and Tables Included in the Contract. |
| | Not used | 0/2 | Contract-specific Minor Alterations to Existing Clauses, Tables and Figures Included in the Contract. |
| | (Co) | 0/3 | List of Numbered Appendices Referred to in the Specification and Included in the Contract. |
| | (Co) | 0/4 | List of Drawings Included in the Contract. |
| | Not used | 0/5 | Special National Alterations of the Overseeing Department of Wales |
| | | | **PRELIMINARIES** |
| | Not used | 1/1 | Temporary Accommodation and Equipment for the Overseeing Organisation |
| | Not used | 1/2 | Vehicles for the Overseeing Organisation |
| | (Co) | 1/3 | Communication System for the Overseeing Organisation |
| | Not used | 1/4 | Working and Fabrication Drawings |
| | Not used | 1/5 | Testing to be Carried out by the *Contractor* |
| | Not used | 1/6 | Supply and Delivery of Samples to the Overseeing Organisation |
| | (Co) | 1/7 | Site Extent and Limitations on Use |
| | Not used | 1/8 | Operatives for the Overseeing Organisation |
| | (Co) | 1/9 | Control of Noise and Vibration |
| | (Co) | 1/10 | Permanent Works to be Designed by the *Contractor* |
| | Not used | 1/11 | Temporary Works Designed by the *Contractor* |
| | (Co) | 1/12 | Setting Out and Existing Ground Levels |
| | (Co) | 1/13 | Programme of Works |
| | (Co) | 1/14 | Payment Applications |
| | Not used | 1/15 | Accommodation Works |
| | (Co) | 1/16 | Privately & Publicly Owned Services & Supplies |
| | (Co) | 1/17 | Traffic Safety & Management |
| | Not used | 1/18 | Temporary Diversions for Traffic |
| | (Co) | 1/19 | Routeing of Vehicles |
| | Not used | 1/20 | Recovery Vehicles for Breakdowns |
| | Not used | 1/21 | Information Boards |

| **Appendix 0/3: List A (Contd.)** | | | |
|---|---|---|---|
| Volume No. | Completed by | Appx No. | Title |
| | (Co) | 1/22 | Progress Photographs |
| | (Co)(C) | 1/23 | Risks to Health and Safety from Materials or Substances |
| | (Co) | 1/24 | Quality Management System |
| | Not used | 1/25 | Temporary Closed Circuit Television (CCTV) System for the Monitoring of Traffic |
| | Not used | 1/26 | Temporary Automatic Speed Camera System for the Enforcement of Mandatory Speed Limits at Roadworks (TASCAR) |
| | Not used | 1/27 | TASCAR – Particular Requirements |
| | Not used | 1/28 | Schedule of Existing Properties to be Surveyed |
| | | | **SITE CLEARANCE** |
| | Not used | 2/1 | List of Buildings, etc. to be Demolished or Partly Demolished |
| | Not used | 2/2 | Filling of Trenches & Pipes |
| | (Co) | 2/3 | Retention of Material Arising from Site Clearance |
| | (Co) | 2/4 | Explosives & Blasting |
| | (Co) | 2/5 | Hazardous Materials |
| | | | **FENCING** |
| | Not used | 3/1 | Fencing, Gates and Stiles |
| | | | **ROAD RESTRAINT SYSTEMS (VEHICLE AND PEDESTRIAN)** |
| | (Co) | 4/1 | Road Restraint Systems (Vehicle and Pedestrian) |
| | Not used | 4/2 | Information Required to Demonstrate Compliance of Road Restraint Systems to BS EN 1317-1, BS EN 1317-2, BS EN 1317-3 and DD ENV 1317-4:2002 |
| | | | **DRAINAGE AND SERVICE DUCTS** |
| | Not used | 5/1 | Drainage Requirements |
| | Not used | 5/2 | Service Duct Requirements |
| | Not used | 5/3 | Surface Water Channels and Drainage Channel Blocks |
| | Not used | 5/4 | Fin Drains and Narrow Filter Drains |
| | Not used | 5/5 | Combined Drainage and Kerb Systems |
| | Not used | 5/6 | Linear Drainage Channel System |
| | Not used | 5/7 | Thermoplastics Structural Wall Pipes and Fittings |
| | Not used | 5/8 | Design Requirements for Chamber Covers, Gratings, Frames and Special Duty Covers for use in Carriageways - BS EN 124: 1994 |
| | | | **EARTHWORKS** |
| | Not used | 6/1 | Requirements for Acceptability and Testing etc. of Earthworks Materials |
| | Not used | 6/2 | Requirements for Dealing with Class U2 Unacceptable Material |
| | Not used | 6/3 | Requirements for Excavation, Deposition, Compaction (other than Dynamic Compaction) |
| | Not used | 6/4 | Requirements for Class 3 Material |
| | Not used | 6/5 | Geotextiles Used to Separate Earthworks Materials |

**Appendix 0/3: List A (Contd.)**

| Volume No. | Completed by | Appx No. | Title |
|---|---|---|---|
| | Not used | 6/6 | Fill to Structures & Fill Above Structural Foundations |
| | Not used | 6/7 | Sub-formation and Capping and Preparation Surface Treatment of Formation |
| | Not used | 6/8 | Topsoiling. |
| | Not used | 6/9 | Earthwork Environmental Bunds, Landscape Areas, Strengthened Embankments |
| | (Co) | 6/10 | Ground Anchorages, Crib Walling and Gabions |
| | Not used | 6/11 | Swallow Holes & Other Naturally Occurring Cavities and Disused Mine Workings |
| | Not used | 6/12 | Instrumentation and Monitoring |
| | Not Used | 6/13 | Ground Improvement |
| | Not used | 6/14 | Limiting Values for Pollution of Controlled Waters |
| | Not used | 6/15 | Limiting Values for Harm to Human Health and the Environment |
| | | | **ROAD PAVEMENTS – GENERAL** |
| | Not used | 7/1 | Permitted Pavement Options |
| | Not used | 7/2 | Excavation, Trimming and Reinstatement of Existing Surfaces |
| | Not used | 7/3 | Surface Dressing Performance Specification Sheets 1, 2 and 3 |
| | Not used | 7/4 | Bond Coats, Tack Coats and other Bituminous Sprays Sheets 1 and 2 |
| | Not used | 7/5 | In-Situ Recycling: The Remix and Repave Processes |
| | Not used | 7/6 | Breaking Up or Perforation of Existing Pavement |
| | Not used | 7/7 | Slurry Surfacing Sheets Incorporating Microsurfacing 1, 2 and3 |
| | | 7/8 | Not Used |
| | Not used | 7/9 | Cold Milling (Planing) of Bituminous Bound Flexible Pavement |
| | Not used | 7/10 | Worksheet Pro Forma for Results of Testing for Constituent Materials in Recycled Coarse Aggregate and Recycled Concrete Aggregate |
| | Not used | 7/11 | Overband and Inlaid Crack Sealing Systems |
| | Not used | 7/12 | Arrester Beds |
| | Not used | 7/13 | Saw-cut and Seal Bituminous Overlays on Existing Jointed Concrete Pavements |
| | Not used | 7/14 | Preparation of Jointed Concrete Pavements Prior to Overlaying and Saw-cut and Seal of the Bituminous Overlay |
| | Not used | 7/15 | Saw-cut, Crack and Seat Existing Jointed Reinforced Concrete Pavements |
| | Not used | 7/16 | Cracking and Seating of Existing Jointed Unreinforced Concrete Pavements and CBM Bases |
| | Not used | 7/17 | Cracking Plant and Equipment Progress Record |
| | Not used | 7/18 | Site Specific Details and Requirements for Cold Recycled Bitumen Bound Material |
| | Not used | 7/19 | Back-Analysis Of Falling Weight Deflectometer (FWD) Measurements Made On Concrete Pavements Treated By Fractured Slab Techniques |
| | Not Used | 7/20 | Site Specific Details and Requirements for Inducing Cracks |
| | Not used | 7/21 | Surface Dressing – Recipe Specification Sheet 1 and 2 |
| | Not used | 7/22 | Repairs to Potholes |
| | | | |

**Appendix 0/3: List A (Contd.)**

| Volume No. | Completed by | Appx No. | Title |
|---|---|---|---|
| | | | **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** |
| | Not used | 11/1 | Kerbs, Footways and Paved Areas |
| | Not used | 11/2 | Access Steps |
| | | | **TRAFFIC SIGNS** |
| | Not used | 12/1 | Traffic Signs: General |
| | Not used | 12/2 | Traffic Signs: Marker Posts |
| | Not used | 12/3 | Traffic Signs: Road Markings and Studs |
| | Not used | 12/4 | Traffic Signs: Cones, Cylinders, FTD's and Other Traffic Delineators |
| | Not used | 12/5 | Traffic Signs: Traffic Signals |
| | Not used | 12/6 | Traffic Signs: Special Sign Requirements on Gantries |
| | Not used | 12/7 | Traffic Sign Schedule |
| | | | **ROAD LIGHTING COLUMNS AND BRACKETS, CCTV MASTS AND CANTILEVER MASTS** |
| | Not used | 13/1 | Lighting Columns & Bracket Arms |
| | Not used | 13/2 | Column and Bracket Data Sheets 1 & 2 |
| | Not used | 13/3 | Instruction for Completion of Column and Bracket Data Sheet |
| | Not used | 13/4 | Information to be provided when specifying CCTV Masts |
| | Not used | 13/5 | Typical CCTV Mast Data Sheet |
| | Not used | 13/6 | Instructions for completion of CCTV Mast Sheets |
| | Not used | 13/7 | Information to be provided when specifying cantilever masts |
| | Not used | 13/8 | (Specification for Highway Works) Typical cantilever masts data sheets 1 and 2 |
| | Not used | 13/9 | Instructions for completion of cantilever masts data sheets |
| | | | **ELECTRICAL WORK FOR ROAD LIGHTING AND TRAFFIC SIGNS** |
| | Not used | 14/1 | Site Records |
| | Not used | 14/2 | Location of Lighting Units and Feeder Pillars |
| | Not used | 14/3 | Temporary Lighting |
| | Not used | 14/4 | Electrical Equipment for Road Lighting |
| | Not used | 14/5 | Electrical Equipment for Traffic Signs |
| | | | **MOTORWAY COMMUNICATIONS** |
| | Not used | 15/1 | Motorway Communications |
| | Not used | 15/2 | Cable Ducts Requirements |
| | | | **PILING AND EMBEDDED RETAINING WALLS** |

**Appendix 0/3: List A (Contd.)**

| Volume No. | Completed by | Appx No. | Title |
|---|---|---|---|
| | Not used | 16/1 | General Requirements for Piling and Embedded Retaining Walls |
| | Not used | 16/2 | Precast Reinforced and Prestressed Concrete Piles and Precast Reinforced Concrete Segmental Piles |
| | Not used | 16/3 | Bored Cast-in-Place Piles |
| | Not used | 16/4 | Bored Piles Constructed using Continuous Flight Augers and Concrete or Grout Injection through Hollow Auger System |
| | Not used | 16/5 | Driven Cast-in-Place Piles |
| | Not used | 16/6 | Steel Bearing Piles |
| | Not used | 16/7 | Reduction of Friction on Piles |
| | Not used | 16/8 | Non-Destructive Methods for Testing Piles |
| | Not used | 16/9 | Static Load Testing of Piles |
| | Not used | 16/10 | Diaphragm Walls |
| | Not used | 16/11 | Hard/Hard Secant Pile Walls |
| | Not used | 16/12 | Hard/Soft Secant Pile Walls |
| | Not used | 16/13 | Contiguous Bored Pile Walls |
| | Not used | 16/14 | King Post Walls |
| | Not used | 16/15 | Steel Sheet Piles |
| | Not used | 16/16 | Integrity Testing of Wall Elements |
| | Not used | 16/17 | Instrumentation for Piles and Embedded Walls |
| | Not used | 16/18 | Support Fluid |
| | Not used | 16/19 | Mini Piles and Soil Nailing |
| | | | **STRUCTURAL CONCRETE** |
| | Not used | 17/1 | Schedule for the Specification of Designed Concrete |
| | Not used | 17/2 | Concrete - Impregnation Schedule |
| | Not used | 17/3 | Concrete - Surface Finishes |
| | Not used | 17/4 | Concrete – General |
| | Not used | 17/5 | Buried Concrete |
| | Not used | 17/6 | Grouting and Duct Systems for Post – Tensioned Tendons |
| | | | **STRUCTURAL STEELWORK** |
| | Not used | 18/1 | Requirements for Structural Steelwork |
| | | | **PROTECTION OF STEELWORK AGAINST CORROSION** |
| | Not used | 19/1 | Form HA/P1 (New Works) Paint System Sheet |
| | Not used | 19/2 | Requirements for Other Works |
| | Not used | 19/3 | Form HA/P2 Paint Data Sheet |
| | Not used | 19/4 | Form HA/P3 Paint Sample Despatch List, sheets 1 & 2 |
| | Not used | 19/5 | General Requirements |
| | | | **WATERPROOFING FOR STRUCTURES** |
| | Not used | 20/1 | Waterproofing For Concrete Structures |

**Appendix 0/3: List A (Contd.)**

| Volume No. | Completed by | Appx No. | Title |
|---|---|---|---|
| | | | **BRIDGE BEARINGS** |
| | Not used | 21/1 | Bridge Bearings Schedule |
| | | | **PARAPETS** |
| | Not used | 22/1 | Not Used |
| | | | **BRIDGE EXPANSION JOINTS AND SEALINGOF GAPS** |
| | Not used | 23/1 | Bridge Deck Expansion Joints Schedule |
| | Not used | 23/2 | Sealing of Gaps Schedule (Other than in Bridge Deck Expansion Joints) |
| | | | **BRICKWORK, BLOCKWORK AND STONEWORK** |
| | Not used | 24/1 | Brickwork, Blockwork and Stonework |
| | Not used | 24/2 | Guide on Preparation and use of Lime Mortars |
| | | | **SPECIAL STRUCTURES** |
| | Not Used | 25/1 | Requirements for Corrugated Steel Buried Structures |
| | Not Used | 25/2 | Requirements for Reinforced Soil and Anchored Earth Structures |
| | Not Used | 25/3 | Requirements for Pocket - Type and Grouted Cavity Reinforced Brickwork Retaining Wall Structures |
| | Not Used | 25/4 | Environmental Barriers |
| | Not Used | 25/5 | Requirements for Buried Rigid Pipes for Drainage Structures |
| | | | **MISCELLANEOUS** |
| | Not used | 26/1 | Ancillary Concrete |
| | Not used | 26/2 | Bedding Mortar |
| | Not Used | 26/3 | Cored Thermoplastic Node Markers |
| | Not used | 26/4 | Street Furniture |
| | | | **LANDSCAPING AND ECOLGY** |
| | Not used | 30/1 | General Sheets 1, 2 and 3 |
| | (Co)(C)(P) | 30/2 | Weed Control |
| | Not Used | 30/3 | Control of Rabbits |
| | Not Used | 30/4 | Ground Preparation |
| | Not used | 30/5 | Grass Seeding, Wildflower Seeding and Turfing |
| | (Co)(C)(P) | 30/6 | Planting Sheets 1 and 2 |
| | Not used | 30/7 | Grass, Bulbs and Wildflower Maintenance |
| | Not Used | 30/8 | Watering |
| | Not Used | 30/9 | Establishment Maintenance for Planting |
| | Not Used | 30/10 | Maintenance of Established Trees and Shrubs |
| | Not Used | 30/11 | Management of Water-bodies |
| | (Co) | 30/12 | Special Ecological Measures |

| **Appendix 0/3: List A (Contd.)** | | | |
|---|---|---|---|
| Volume No. | Completed by | Appx No. | Title |
| | | | **MAINTENANCE PAINTING OF HIGHWAY STRUCTURES** |
| | Not Used | 50/1 | (Spec. for Highway Works) Form HA/P1 (Maintenance) Paint System Sheet |
| | Not Used | 50/2 | Requirements for Other Work |
| | Not Used | 50/3 | (Spec. for Highway Works) Form HP/P2 Paint Data Sheet |
| | Not Used | 50/4# | (Spec. for Highway Works) Form HA/P3 Paint Sample Despatch List: Sheets 1 and 2 |
| | Not Used | 50/5 | General Requirements |

**Symbol**

(Co) Compiler compiles: Identified in the Notes for Guidance examples by the term 'sample' included in their title

(Co/C) Compiler partially compiles and *Contractor* completes and returns to Overseeing Organisation.

(Co/T) Compiler partially compiles and Tenderer completes and returns with Tender.

C *Contractor* completes and returns to Overseeing Organisation

I For *Contractor*'s information only.

P This indicates the Appendix is a national proforma and format must not be altered.

| **APPENDIX 0/4:** | **LIST OF DRAWINGS INCLUDED IN THE CONTRACT** | |
|---|---|---|
| **1** | **Contract-specific Drawings Supplied to Each Tenderer** | |
| Drawing No. | Title | Folio No. |
| 2024_2990_001 | Bridgenorth Slope Site Location Plan | |
| 2024_2990_002 | Bridgenorth Slope Existing Site Details | |
| 2024_2990_003 | Bridgenorth Slope Proposed Works | |
| 2024_2990_004 | Bridgenorth Slope Typical Details | |
| 2024_2990_005 | Bridgnorth Funicular Railway Elevation | |
| 2024_2990_006 | Bridgnorth Slope Scheme Re-Planting Details | |

| APPENDIX 0/4: LIST OF DRAWINGS INCLUDED IN THE CONTRACT | | |
|---|---|---|
| **2 Standard Drawings** | | |
| **2(i) Supplied to Each Tenderer** | | |
| Drawing No. | Title | Folio No. |
| 2024_2990_004 | Bridgenorth Slope Typical Details | |

## SERIES 100: PRELIMINARIES

**Appendix 1/3: Communication System for the Overseeing Organisation**

The *Contractor* must provide the project management software 'CEMAR' to be used on the project for the duration of the contract. The *Contractor* will pay for all costs associated with providing this.

**Appendix 1/7: Site Extent and Limitations on Use**

1. **Extent of Site**

The site extents and limitations of use are shown on drawing **2024_2990_001 Location Plan**.

For the purpose of providing, maintaining and removing the traffic safety and management the Site will temporarily be extended to the traffic lanes coned off for this particular operation and the temporary signs required as advance warning signs for the works and in the case of when road closures are in operation, those roads onto which traffic is temporarily diverted, plus all associated diversion signs.

2. **Limitations on the Use of the Site**

No equipment, plant, materials or other items will be permitted to remain or to be placed on areas which are not part of the Site as defined in this Appendix with the exception of items needed to control traffic which have been placed in positions agreed by the *Project Manager*.

The *Contractor* shall take all due care to avoid damage to the grass verges, footways and the drainage system, providing sleeper or other protection whenever he requires plant or vehicles to cross these features. Any damaged areas of verge shall be reinstated with topsoil and seeded in accordance with the specification. Any damaged or disturbance to drains shall be reinstated by the *Contractor* within 24 hours or such other time as the *Project Manager* may agree in writing, and works to check adjacent lengths of drains possibly damaged by *Contractor's* plant shall be carried out concurrently if the *Project Manager* so directs. Other areas of the Site, including the *Contractor's* accesses shall be reinstated to the original condition on completion of the Works.

Access to the frontages is to be maintained at all times. The *Contractor* is to liaise with frontage occupiers when works interfere with access points. The *Contractor's* attention is drawn to the requirements of Cl 174AR

No materials will be allowed to be stored on areas designated as public highway without the prior consent of the *Project Manager*.

All advertisements, *Contractor*s and sub-*Contractor*s name-boards to be erected within the Site shall be approved by the *Project Manager*. Advertisements and nameboards will not be allowed in the vicinity of traffic lanes where in the opinion of the *Project Manager* such would distract drivers or conflict with statutory traffic signs. All advertisements and nameboards within the site shall be removed within two weeks of the date of the Certificate of Completion of the Works. Nameboards providing directional information erected beyond the Site and within the highway shall only be erected with the consent of the Highway Authority.

The *Contractor* shall take all necessary precautions within the Site, and land temporarily occupied for purposes of the Contract, against the growth of weed injurious to agriculture until the defects date.

3. The *Contractor* shall afford all reasonable facilities and services for any other *Contractor*s employed by the *Client* and their workmen and of any properly authorised authorities or statutory bodies who may be employed in the execution on or near the Site and Working Areas of any work not in the Contract or of any contract which the *Client* may enter into in connection with or ancillary to the Works. In this context services shall include for the setting out of the Works and the checking thereof necessary for the Others to carry out their works compatibly with the Works described in the Contract.

**Working Restrictions**

**Monday – Friday**
08.00 - 17.00pm.

Footway works, pedestrian movements to be maintained.

Temporary crossings to be provided where required.

**Event List**

| | | |
|---|---|---|
| **May 2025** | | |
| 05/05/25 | Bridgnorth Walk and Marathon | Bridgnorth Highstreet and through the Town |
| 08/08/25 | VE Day | Castle Grounds |
| **June 2025** | | |
| 07/06/25 & 08/06/25 | 1940s weekend | Severn Valley Railway |
| 14/06/25 | Bridgnorth Pride | Castle Walk |
| 14/06/25 & 15/06/25 | 1940s Weekend | Severn Valley Railway |
| 22/06/25 | Bridgnorth Carnival | Parade through town and finishes at Severn Park |
| **July 2025** | | |
| 19/07/25 | Day of Dance | Severn Valley Railway |
| 24/07/25 | Teddy Bears Picnic | Castle Grounds |
| **August 2025** | | |
| 02/08/25 | Brick Weekend | Severn Valley Railway |
| 09/08/25 & 10/08/25 | Vintage Transport Extravaganza | Severn Valley Railway |
| 23/08/25 to 25/08/25 | Music & Art Festival | Castle Grounds |
| **September 2025** | | |
| 05/09/25 to 07/09/25 | VE & VJ Day Celebration | Severn Park |
| 07/09/25 | Italian Auto Moto Festival | Bridgnorth Highstreet |
| 18/09/25 to 21/09/25 | Autumn Steam Gala | Severn Valley Railway |
| TBA | Harvest Collection | Town Hall |
| **October 2025** | | |
| 02/10/25 to 05/10/25 | Autumn Diesel Gala | Severn Valley Railway |
| 12/10/25 | Up The Steps Walk | Bridgnorth |
| 19/10/25 | Bridgnorth 10K Run | Bridgnorth Highstreet |
| **November 2025** | | |
| 09/11/25 | Remembrance Sunday Parade | Bridgnorth Highstreet and Castle Grounds |
| 28/11/25 | Christmas Light Switch On | Bridgnorth Highstreet |
| **December 2025** | | |
| TBA | Festive Tractor Run | Bridgnorth Highstreet |

No works are permitted on the event days above and all traffic management needs to be removed off the highway and any excavated areas are to be temporarily reinstated.

**Appendix 1/9: Control of Noise and Vibration**

**Noise**

1. The *Client* has informally agreed that the following measures would be acceptable to it, and these are given as a guide; however it is for the *Contractor* to decide whether to seek the Local Authority's formal consent to his proposed methods of work and to the steps he proposes in order to minimise noise.

2. The normal working hours within the Site shall be Monday to Friday between **08.00 - 17.00pm hours** with no working on weekends or public holidays. Exceptionally, consent for work outside these hours may be given after any necessary consultation. 7 days' notice is required from the *Contractor* when seeking such consent.

3. The noise levels (see Note (i) below) scheduled below for periods outside the normal working hours will only be permitted when consent has been given to exceptional working.

4. The ambient noise level, Leq (see Note (ii) below) from all sources when measured 2.0m above the ground at noise control stations shall either not exceed the appropriate level given in the Schedule (overleaf) or not exceed by more than 3dB(A) the existing ambient noise level, Leq, (see Note (iii) below) at the control station measured over the same period, whichever level is the greater. Exceptionally the *Contractor* may be given permission to carry out works which exceed the noise level in the Schedule, provided that 7 days notice of the date and timing of these works is given to the *Project Manager* and the *Contractor* demonstrates that he intends to take all reasonable measures to mitigate the noise nuisance. After consultations with the Local Authority and any other interested bodies a decision will be given within 4 days of receipt of the notice.

5. The location of noise control stations will be taken as 1.0m from the facade of all habitable buildings.

**Vibration**

6. There are no requirements for the control of vibration other than that due to blasting (See 600 Series)

| Schedule: | | Total Noise Levels at Control Stations | | |
|---|---|---|---|---|
| Period | Hours | Ambient Noise Level Leq measured at Control Station dB(A) | Period of Hours over which Leq is applicable | Maximum Sound Level (see Note (iv) below) measured at Control Station: dB(A) |
| Mondays - Fridays | 0700 - 1900<br>1900 - 2200 | 75<br>60 | 1 hour<br>1 hour | 85<br>65 |
| Saturdays | 0800 - 1400<br>1400 - 1700 | 70<br>60 | 1 hour<br>1 hour | 80<br>65 |
| Sundays (if permitted) | 0830 - 1600 | 60 | 1 hour | 65 |
| All unattended plant outside normal working hours | | 50 | 1 hour | 55<br>or<br>5dB(A) above existing ambient noise levels |
| Notes: | | | | |

| | |
|---|---|
| i | Noise levels relate to free field conditions. Where Noise Control Stations are located 1m from facade of buildings, the permitted noise levels can be increased by 3db(A). |
| ii | The ambient noise Level, Leq, at a Noise Control Station is the total Leq from all the noise sources in the vicinity over the specified period. |
| iii | The existing ambient noise Level, Leq, at a Control Station is the total Leq from all the noise sources in the vicinity over the specified period prior to the commencement of Site Works. |
| iv | Maximum sound level is the highest value indicated on the sound level meter which meets the requirements of BS EN 61672 type 1 or 2 set to SLOW response and frequency weighting A or on an integrating - averaging sound level meter to BS EN 61672. |

**Appendix 1/10:** **Permanent Works to be Designed by the *Contractor***

| Structure | Location | Design Specification |
|---|---|---|
| Slope stability system to comprise of erosion control restraint netting to confirm to the requirements of BS EN 10218-2 & BS EN 10223-3, corrosion protection to be BS EN 10244-2 Class A. Mesh to be BBA certified for a design life of up to 120 years and associated soil nailing | As shown on drawing(s)<br>2024_2990_001<br>2024_2990_003 | As per the requirements of Appendix 6/10 |

**Appendix 1/12: Setting Out and Existing Ground Levels**

## 1 Specific Requirements for Setting Out

(i) The *Contractor*, in accordance with the information included in the Contract, set out, mark and maintain until they are no longer required, all reference lines, templates, bench marks and markers, permanent or temporary, necessary for the setting out and checking of the Works. The *Contractor* shall keep updated schedules and drawings of such information.

(ii) Where setting out markers are likely to be disturbed during the Works, the *Contractor* shall, transfer such markers to an adjacent point.

(iii) The *Contractor* shall not commence either general site clearance or fencing before the established benchmarks and the setting out of the site boundaries have been agreed.

## 2 Markings for Setting Out Purposes

(i) The colour White shall be used for all paint markings for setting out purposes put down by the *Contractor* and all site staff.

(ii) For information purposes the nationally recognised colours use by the Statutory Undertakers' for setting out and temporary reinstatements are:

| Authority | Paint Colour |
|---|---|
| Water | Blue |
| Electricity | Red |
| BT | Silver Grey |
| Gas | Yellow |
| Cable TV | Green |

**Appendix 1/13: Programme of Works**

**General**

The *Contractor* must submit the programme in accordance with the *conditions of contract*.

The programme must show the level of detail required to clearly define the *works* and must account for all constraints and special requirements identified below and elsewhere within the Scope.

The programme must show the activities in the Activity Schedule. All activities will be numbered and annotated with earliest and latest event dates, and the critical path will be clearly highlighted.

At the time of submitting the programme, the *Contractor* must provide both a PDF copy and a copy in the original source format. The *Contractor* will ensure that the programme is produced in a format which is compatible with the software used by the *Project Manager* (Microsoft Project), to the extent that modifications to or simulations involving one model can readily be duplicated on the other. The *Contractor* will request such information from the *Project Manager* as necessary to comply with this requirement.

In order to demonstrate that the *Contractor's* plans are practicable and realistic, the *Contractor* must provide the following supporting information at the time of submitting each programme:

A detailed covering document, including but not limited to detail of:

a) All changes between the programme and the last Accepted Programme.
b) Evidence of actual progress achieved on each operation.
c) Proposals for dealing with any known or foreseeable delays.
d) Proposals for any other changes to the Accepted Programme.
e) A summary of the Time Risk Allowance (TRA) included, detailing the risks considered.

A detailed summary of the resources on the Site, including but not limited to detail of:

a) The site management staff and their time allocated to this contract;
b) The accommodation equipment on site.
c) Site resources, including but not limited to detail of.
d) Gang details, including details of People and Equipment.
e) Sub*Contractor* details, including details of People and Equipment.

A detailed schedule of productivity and output calculations, demonstrating how the durations and TRA for each activity or group of activities on the programme has been developed. This will include but is not limited to detail of:

a) Quantity of work undertaken for an activity (for example, laying 100m of kerb).
b) The *Contractor's* anticipated output for that activity (for example, 10m laid per hour).
c) Any restrictions on working hours for that activity (for example, working only 09:30 – 15:30).
d) Risks associated with that activity considered in the *Contractor's* TRA (for example, poor weather). This will be detailed in time and not percentage allowances.
e) The total duration allowed for that activity, supported by the above in formation.

At the time of the *Contractor* deciding the Completion Date for the whole of the *works*, the *Contractor* must substantiate any Terminal Float allowed, detailing the risks considered and the reasons for the duration.

When submitting the programme, the *Contractor* will also provide a time/chainage diagram and mass-haul diagram showing their intended earthworks movements and the locations and capacities of anticipated plant and other resource input.

**Schedule of Constraints**

The *Contractor* must make provision within their programme for accommodating the constraints below. The following constraints are not exhaustive, and the *Contractor* will review and make provisions for any other constraints identified elsewhere within this Scope:

Procurement of materials with abnormal lead-in times

The *Contractor* must be mindful that if there are materials and design requirements specified in this contract with abnormal lead-in times, and that it is the *Contractor's* responsibility to establish anticipated lead-in times with their suppliers and include adequate allowances within their programme and price. The *Client* will not be held responsible for any delay or additional cost as a result of the *Contractor* failing to establish any lead-in times.

Traffic Safety and Management

The *Contractor* must familiarise themselves with and comply with the requirements of 'Appendix 1/17: Traffic Safety and Management' and 'Appendix 1/18: Temporary Diversion of Traffic'.

Substances hazardous to health

The *Contractor* must make allowances in their programme for dealing with substances hazardous to health in accordance with 'Appendix 1/23: Substances Hazardous to Health'.

The *Contractor* must also make allowance for provision of any required environmental protection prior to the main construction operations (for example, environmental barriers).

Accommodation of public and other special events

The *Contractor* must refer to the details of events that could have a bearing on the works within 'Appendix 1/17: Traffic Safety and Management'.

The *Client* has confirmed that on the day of the listed events all areas (including but not limited to both the footways and carriageways) of the Site must be wholly open to the public without obstruction, with any areas of excavation fully backfilled and made safe, all equipment (plant, materials, traffic management, etc.) removed, and no works ongoing. The *Contractor* will be required to fully comply with this constraint throughout the contract period.

These listed events are not exhaustive, and dates may be subject to change. The *Project Manager* will provide the *Contractor* with as much notice as possible if this is the case.

Allowances for any trials and demonstrations in advance of main construction of those aspects indicated in the contract.

Compliance with any required technical approval procedures in relation to structures designed by the *Contractor*, including awaiting approvals, resubmissions and modifications.

In addition to the above constraints, the *Contractor* will consider the additional constraints shown in the table below. Time and cost allowances should be made for the below within the *Contractor's* tender, if required. The *Contractor* must note that this list is not exhaustive:

| Ref. | Item | Constraint |
|---|---|---|
| | Work affecting frontages and accesses | The *Contractor* must comply with the requirements of the Scope and ensure that access to properties for car parking, refuse collection, etc. is maintained throughout the contract period. |

**Appendix 1/14: Payment Applications**

Assessment and payment shall be made in accordance with the Conditions of Contract.

**Appendix 1/16: Privately and Publicly Owned Services and Supplies**

No known services or supplies are affected by the works. The statutory undertakers C2 returns can be found with the site information.

**Appendix 1/17: Traffic Safety and Management**

**Responsibility for Traffic Safety and Management.**

The *Contractor* shall be responsible for implementing, maintaining and, on completion, removing traffic management measures and associated works approved by the Overseeing Organisation, the Highway Authority and the Police and designed for the safety of public and works traffic and the works operatives as described in Clause 117 and this Appendix.

The *Contractor* shall appoint a member of his staff to be responsible for all Traffic Safety and Control as described in the Contract and provide the name, address and telephone number of this person below. He/she shall be responsible for liaison between the Overseeing Organisation, the Highway Authorities and the Police Authorities concerning, inter alia:

(i) Arranging and agreeing all lane and road closures and diversions;
(ii) Controlling traffic at all times during the Works when traffic restrictions are in operation;
(iii) Ensuring that all traffic control requirements of the authorities are carried out;
(iv) Ensuring that all equipment is inspected and maintained;
(v) Arranging diversions and temporary highway crossings and accesses;
(vi) Arranging duties for watchmen so that the site is patrolled and inspected at all times and equipment attended to and maintained;
(vii) Dealing with traffic in emergencies.

Name: _____
Address: _____
Tel No: _____

Nothing specified in this Appendix shall relieve the *Contractor* of his responsibilities under the General Conditions of Contract.

The *Contractor's* attention is drawn to the need to assess the risks and develop and operate safe working practices when vehicles and plant are reversing on Site, whether or not they are on a part of the highway. Rule 200-203 of The Highway Code 2007 is relevant but the *Contractor*'s practices and procedures should take account of the different conditions, which will occur on Site.

The Traffic Safety and Control Officer or a person deputising for him shall be on call and readily available at all times to deal with matters relating to traffic safety and control (including breakdown vehicles).

While on site the Traffic Safety and Control Officer shall be in radio contact with the base station and at all other times be able to be contacted either by telephone or radio paging device.

The responsibilities of the Traffic Safety and Control Officer shall include liaison with the *Client* concerning the following matters:-

(a) Control of the entry and exit of Site traffic onto the carriageway in general use.

(b) To be responsible for controlling the safe working of plant, machinery and operatives immediately adjacent to the carriageway open to traffic.

(c) To notify the *Contractor*'s Agent and the *Client* of any deterioration of safety precautions, including traffic signs, temporary road markings and the carriageway surface.

The responsibilities of the Traffic Safety and Control Officer and his nominated deputy shall also include the following:

(1) Monitoring, with the assistance of sufficient mobile personnel and or sufficient other suitable and appropriate aids, the flow of traffic within the area and within the period defined for the operation of the vehicle recovery service;

(2) Ensuring that, within 5 minutes of the occurrence of an incident, as defined below, resulting in stationary vehicle(s) on a highway open to the public, the incident is reported to the vehicle recovery service;

(3) Recording and logging all incidents and all movements of recovery vehicles and, when called, all movements of the emergency services. For the purpose of this Appendix, “an incident” is defined as a shed load, vehicle breakdown, vehicle abandonment or traffic accident, whether or not the latter involves personal injury.

**The Traffic Safety Control Officer shall also ensure that**:

(a) No employee of the *Contractor* shall walk on any part of the carriageway which is not properly signed and coned off; and all employees must be individually and specifically warned not to step into any part of the carriageway outside the cones which is open to traffic.

(b) All employees and representatives of the *Contractor* or Sub-*Contractor* **MUST WEAR AT ALL TIMES APPROVED CLASS 3 REFLECTIVE JACKETS WITH RETRO-REFLECTIVE STRIPS** in addition to the *Contractor*s minimum PPE requirements. Any person found not complying may be sent off the carriageway for any length of time determined by the *Client* or the Police.

**Traffic Safety and Management Requirements**

The works may necessitate the closure of sections of the carriageway. These closures shall be effected by the *Contractor's* provision, erection, maintenance and eventual removal of traffic signs, traffic signals, cones, lamps, cylinders and carriageway markings.

The *Contractor* shall submit drawings for approval by the *Client* showing the traffic management layout he intends to utilise and these should contain sufficient detail for the *Client* to consider his proposals.

The use of temporary pedestrian barriers or cones to protect the public from active work areas is not acceptable. The *Contractor* must ensure that all work areas are fully protected by the following:

a. Anti-climb fencing to a minimum height of 2m to be provided to all working areas.

**Traffic management requirements must conform to Chapter 8 of the Traffic Signs manual or the Code of Practice “Safety at Streetworks and Roadworks”, issued by the Secretary for State for Transport.**

The *Contractor*s' proposals shall contain at least the degree of detail shown on the layouts and diagrams in Chapter 8 of the Traffic Signs Manual and in addition scale drawings (1:1250 or larger) shall be provided to show in detail merging /diverging at all junctions.

Specifically these drawings should contain details of the following:

(a) Position of any proposed temporary traffic signals.

The *Contractor* should note that where temporary traffic signals are installed during the course of the Works, then he shall arrange for them to be manually controlled on Mondays to Fridays inclusive between 07.00 and 09.00 and also 16.00 and 18.00 hours unless otherwise directed by the *Client*.

Manually operated "Stop-Go" signs will be permitted only if agreed by the *Client*, or as required in the event of an emergency.

The *Contractor* should note that when a Bank Holiday falls within the Contract Period, road traffic shall have full use of the carriageways from 12 noon Friday until 9.30 a.m. Tuesday on the return to work. Over Easter, traffic shall have full use of the carriageway from 12 noon Thursday until 9.30 a.m. Tuesday.

(b) Width of all running lanes (see Table 1/1, Appendix 1/18).

(c) Details of temporary signing to be used.

Traffic signs shall comply with the current edition of BS 8442 and BS EN 12966 and road danger lamps with BS EN 12352, except that the flashing rate for flashing lamps shall be within the range 120-150 flashes per minute. The minimum luminous intensity of the lamps shall be 0.5 candela for steady lamps, 1.0 candela for ripple lamps at their peaks and 1.5 candela for flashing lamps at their peak.

All traffic signs shall be illuminated by temporary gas lighting, temporary electric lighting or, where practicable and approved by the *Client*, by electric power supply. All sign faces shall be CLASS 1 reflective.

The *Contractor* shall comply with the requirements of the Police in all situations involving public and traffic safety.

The *Contractor* shall not erect, dismantle or alter signs, cones, cylinders, markings, or other traffic safety and control apparatus without the consent of the *Client* and the Police.

All vehicles and plant operating within the site between sunset and sunrise and during periods of poor visibility or fog or when directed by the *Client* shall have mandatory side lights and rear lights illuminated. In addition they shall display rotating amber flashers and / or hazard warning lights and travel only in the normal direction of traffic flow.

The *Client* may cancel, delay or curtail any agreed closure or restriction in the event of exceptional weather or traffic conditions rendering such closure or restriction hazardous in the opinion of the *Client*. The *Contractor* shall so arrange his work as to ensure that, if instructed by the *Client*, all obstructions can be removed from the carriageway so that one traffic lane in each direction can be operated within 30 minutes of an instruction being issued.

Stationary vehicles, equipment, huts, heaps of material, etc., shall not be placed in such positions that the vision of plant operatives or the travelling public is impeded.

The *Contractor* shall take all necessary steps to prevent the spread of dust or stones to trafficked areas of the highway.

**Emergency Arrangements/Traffic Safety Officer**

The *Contractor* shall for the duration of the contract maintain arrangements whereby he can quickly call out labour outside normal working hours to do any work needed for safety or to maintain the passage of traffic. Such work shall be put into effect immediately when instructed by the *Client* or when any occurrence on the works requiring immediate action comes to the attention of the *Contractor*. Clear and approved instructions for calling the local Fire Brigade in the event of a fire shall be prominently displayed on the site in positions to be approved by the *Client*.

In order that all matters of traffic safety and control in relation to traffic and the works are dealt with effectively the *Contractor* shall appoint a Traffic Safety Officer. He shall be responsible for all matters relating to traffic control including liaising with the *Client* and the police, inspection and maintenance of all equipment described, arranging duties for watchmen so that the site is patrolled and inspected at all times and equipment attended to as required and for dealing with traffic in emergencies as specified, including notifying the police immediately of any accidents, emergencies etc. The Traffic Safety Officer shall also be available at all times for contact by the Police for arranging the safe passage of abnormal loads through the site. The *Contractor* shall supply to the *Client* and the Police the name and telephone number of the Traffic Safety Officer who shall be available at all times of emergency.

**Traffic Liaison Meetings**

Traffic liaison meetings attended by the *Contractor's* Traffic Safety Officer, the *Client* and the *Project Manager* shall be held approximately 7 days prior to commencement of the Works at a venue to be arranged between the *Client* and *Contractor*.

**Minimum Widths of Traffic Lanes and Safety Zones and Abnormal Loads**

The minimum lane width to be maintained for Heavy Goods Vehicles and Caravans shall be 3000mm. The minimum width of buffer/safety zones for the various phases of the works shall conform to Chapter 8 of the Traffic Signs Manual. The *Contractor* shall so arrange his work as to ensure that, if instructed by the *Client*, all obstructions can be removed from the carriageway so that abnormal loads can pass through the works. The *Contractor* will be responsible for liaison with the police to establish procedures to deal with abnormal loads.

**Abnormal Loads**

The *Contractor's* attention is drawn to the fact that abnormally wide, heavy or high loads, or combinations of these loads use this particular route and provision shall be made for the passage of these loads through the works or on diversion routes to be agreed with the *Client*. Abnormally wide loads generally require a minimum width of 4.500m. Abnormally wide and/or heavy loads require prior notification to the appropriate authorities under present legislation and wide loads usually receive Police escort. When required, abnormal loads shall be requested to stop and wait for an escort through the traffic management system or to be given a diversion route if they are too wide to pass through the traffic management system. The sites chosen for vehicles to stop and wait for instructions from the Police are indicated on the Drawings. The *Contractor* shall provide and install all signing associated with the abnormal loads as indicated on the Drawings.

**Traffic Orders**

**Notice Requirements**

Notice required by the *Client* for them to arrange for:

(i) Amending or Making Traffic Orders - Minimum 6 weeks.

(ii) Authorising of non-prescribed signs - Minimum 3 months.

(iii) Authorising temporary traffic signals - Minimum 6 weeks (the *Client* will also require 1 week notice prior to the actual date of installation of the temporary traffic signs).

(iv) Where traffic signal control is to be used at a site which contains a junction written approval from the Highway Authority is required.

(v) Moving signs to be compatible with the state of the work as described in sub-Clause 117.11 - Minimum 2 weeks.

**Details of Events That Could Have a Bearing on the Works**

Please refer to appendix 1/7

**Appendix 1/19: Routeing of Vehicles**

1. Permitted Access Routes To and From the Site

1. Except for direct access to and from quarries, tips or suppliers, all site traffic shall be routed via the M, A or B Class highway network unless written approval is first obtained.

2. The *Contractor* shall take measures to prevent vehicular damage to Highways during disposal of materials operations. It may be necessary to determine routes different for access to and return from a licensed tipping site and to construct maintain and remove and reinstate on completion of the Works any temporary works to the access routes as required by and to the satisfaction of the Highway Authority.

3. Dump trucks, tracked machines and the like will not be allowed to traverse the existing road network under any circumstances. These types of machines will only be allowed within the site and will only use crossing points agreed in advance with the *Client* where public and private rights of way required to be kept open are to be crossed. Where Site traffic joins the existing road network, wheel washes shall be provided to keep the road network clean and safe for other road users.

(ii) The Use of the Permanent Works by Construction Traffic

1. If the *Contractor* intends to use any part or section of the permanent works prior to those times detailed in any other Clause or Appendix or intends to use machinery or plant that is heavier than the designed loads for the carriageway and structures, then the *Contractor* will submit details of his proposals to prevent any damage being incurred to the carriageway and structures. Site Traffic shall use the designated site access roads and exit points agreed with the *Client*.

2. Before commencing any work which necessitates machinery and plant crossing public roads, the *Contractor* shall submit to the *Client* for their approval details of proposal for traffic management in the vicinity of the crossing. The *Contractor* shall give the *Client* 7 days notice of his intention to commence working in any location where incorporation of these proposals will be required.

(iii) Movement of Machinery and Plant Across Public Roads

Any point where traffic and plant associated with the Contract enters or crosses a public highway shall be controlled by manually operated traffic signals of the three aspect type or other arrangements approved by the *Client*. These shall be sited on the nearside of the carriageways and haul roads in positions which are conspicuous to on-coming drivers. The siting and operation of such equipment shall be to the approval of the *Client*.

Traffic lights shall be accompanied by appropriate advance warning signs which shall be maintained in a clean condition and placed in conspicuous positions.

The maximum red phase presented to the traffic on the highway shall not exceed 45 seconds with a cycle time of not less than 130 seconds.

Except during periods when the *Contractor's* plant is crossing or using the highway the traffic signals or other approved method shall be set to show green to the highway. During nights, at weekends and other extended periods when the *Contractor's* plant is not using any particular crossing the traffic signals, etc. shall be turned away from the highway and advanced warning signs obscured.

The traffic control signals at haul road crossings, where permitted, shall be type approved equipment to Specification MCE 0137.

**Appendix 1/22: Progress Photographs**

Progress photographs shall be taken throughout the duration of the works daily, when important work items are being carried out and when unforeseen circumstances arise which may result in a dispute at a later date.

The photographs are to be in digital format and to a sufficient resolution as to allow interrogation for reasonably fine detail.

The photographs shall be collated, filed in chronological order.

Access to the photographs shall be provided to the *Project Manager* without prejudice.

**Appendix 1/23: Substances Hazardous to Health**

1. The Hazard Data Sheets as included in SA 8/94 (Substances Hazardous to Health in Highway Construction [Incorporating Amendment No. 1 dated October 1994 published by the Department of Transport) give a list of certain materials for which risks exist and the *Contractor* shall take all measures necessary to ensure that no risk is presented to members of the public from those substances or any other substance hazardous to health.

2. The *Contractor* shall also ensure that all Site staff are aware of the potential Health risks associated with all substances listed in the Annexes and any other substances which may be employed in the execution of the Contract.

3. During operations involving the spraying of waterproof membranes silane for the impregnation of concrete, coatings of pain or the like, and anti graffiti protection systems, the spraying of any other hazardous material or an operation which generates dust, the following measures shall be undertaken:

   (i) Air quality monitoring in accordance with published Health and Safety Executive guidance shall be undertaken during the operation involving the substance hazardous to health in any location that the general public has access to during the operation. The exposure limits shall be as follows, and measured over both the 8-hour Time Weighted Average (TWA) and 10 minute reference periods, except that where no limit is given for one of the reference periods then the *Contractor* shall not be required to monitor the air quality over the period:

      (a) where there is exposure to a substance for which a Maximum Exposure Limit (MEL) is specified in schedule 1 of the COSHH Regulations, then the level of exposure shall not be greater than one hundredth of the exposure limit.
      (b) where there is exposure to a substance for which an Occupational Exposure Standard (OES) has been approved then the level of exposure shall not be greater than one fortieth of the Occupational Exposure Standard given for the substance listed in EH40/2002 (occupational Exposure Limits 2002) & 2003 supplement published by the Health and Safety Executive.
      (c) Where there is likely to be exposure to mixed substances hazardous to health then the combined levels shall be assessed in accordance with EH40/2002 & 2003 supplement. The protection factors specified for individual compounds used should ensure that mixed exposures are unlikely to cause any adverse effect.

   (ii) The *Contractor* shall assess whether the following hazard abatement and control procedures are required to reduce the exposure of the general public so that the limits specified above are satisfied.

      (a) the operation involving the hazardous substance shall be controlled to reduce the dispersion of the substances (e.g. Wetting of dust producing operations, or adjusting of spraying equipment);
      (b) areas of access to the general public shall be controlled using signed diversions, footpath closures, carriageway lane closures, etc. Adequate barriers shall be provided to ensure that unauthorised access cannot be made into the restricted buffer zone. Any measures taken shall be in accordance with the requirements for traffic and pedestrians etc set out elsewhere in the Contract;
      (c) the provision of barriers or enclosures to control or prevent the dispersion of substances hazardous to health.

   (iii) Notwithstanding the exposure limits above, none of the operations involving 'high risk' hazardous substances listed in this Appendix shall be undertaken if the wind speed is grater than 20 mph. In addition, if the speed of the traffic, which is within 10m of the operation, shall fall below 20 mph for a period of 5 minutes, or more, then the operation shall be suspended.

The following list is not exhaustive is intended to assist the *Contractor* in making an evaluation of the risks to his workforce and the public in deciding the need for limitations, mitigatory controls and working practice.

**'Low Risk' Substances**

Sand, natural aggregates, treated timber, dust from cutting softwoods, macadams and asphalts, water based admixtures.

**'Moderate Risk' Substances**

Coated road stone, line marking paints, bitumen joint sealing compounds, cement, cementitious mortars and grouts, concrete, bitumen sprays, dust from cement, silica dust, herbicides, curing agents.

**'High Risk' Substances**

Protective paintwork systems, polysulphide sealants, epoxy adhesives and mortars, bituminous primers and coatings, 'silane' waterproofing agent, welding and cutting fumes.

**Risks To Health And Safety**

**1** All known Residual Risks are identified on the Contract Drawings by notation of the Health and Safety Symbols.
**2** The STATS drawings for services below and above ground shall be sourced and read in conjunction with these drawings throughout the demolition, construction and maintenance (where applicable) of this scheme.
**3** Clearances from overhead lines (OHL) shall be considered in accordance with the latest HSE guidance, which at the time of writing is guidance note GS6 (fourth edition) and following consultation with the energy distributor in relation to the OHL locations and specification of the lines.
**4** Safe working procedures and method statements are the responsibility of the *Contractor* for the works.

**Appendix 1/24: Quality Management System**

1. The *Contractor* shall institute and operate a quality management system complying with BS EN ISO 9001 and Clause 104. The quality management system shall be described in a Quality Plan that shall be submitted to the *Client* for his acceptance.

   The Quality Plan shall cover the following items:

   (i) *Contractor*'s organisation and management
   (ii) *Contractor*'s method statements and construction procedures
   (iii) *Contractor*'s construction quality control
   (iv) Suppliers' Quality Plans
   (for each of the quality management schemes listed at Appendix A)

2. Quality Plans shall conform with the requirements tabulated in this Appendix, as follows:

   (i) Definition of the Contract and its documentation.
   (ii) The organisation of the Contract, including the line of command and communication links between parties involved in the Contract.
   (iii) Names, roles, responsibilities and authority of principals and key personnel.
   (iv) Control of liaison and meetings with third parties.
   (v) Identification of the *Contractor*'s own staff responsible for overseeing each major activity.
   (vi) The main *Contractor*'s control of sub-contracts.
   (vii) Document control.
   (viii) Programme for submission of method statements and Suppliers Quality Plans.

The Quality Plan shall identify procedures (which may be a part of the *Contractor*'s general procedures) that cover the topics listed below. Copies of these procedures shall be made available to the *Client* on request.

   (ix) The quality plans for sub-*Contractor*s and suppliers of work, goods and materials which are the subject of quality management schemes.
   (x) Procedure for the preparation, review and adjustment of programmes for the effective progression of the Works and the recording of this.
   (xi) Control and approval of purchases of materials.
   (xii) Control of off-site activities (where appropriate).
   (xiii) Procedures for the regular review and recording by the *Contractor* of the quality of the Works.
   (xiv) Control of personnel selection, based on care, skill and experience.
   (xv) Management review/audits to monitor and exercise adequate control over the implementation of the quality plan.
   (xvi) Any other relevant item.

3. Items 1(i) and 1(iii) of the Quality Plan shall be submitted to the *Client* for his acceptance not later than 21 days after award of the Contract.

The *Contractor* shall submit other parts of the Quality Plan prior to commencement of any related work or activity and to a timetable included in item 1(i).

4. Method statements are required for the works listed below:

   (i) demolition and site clearance
   (ii) safety road restraint system - probably subject to an Organization’s QP
   (iii) drainage
   (iv) earthworks - subdivided as appropriate
   (v) pavement construction
   (vi) each structure - by its main elements
   (vii) lighting and communications cabling
   (viii) each traffic management operation
   (ix) sensitive/complex accommodation works

(x) major service diversions
(xi) special activities, e.g. treatment of contaminated land, major temporary works, items of public interest/concern.

SERIES 200: SITE CLEARANCE

**Appendix 2/3: Retention of Material Arising from Site Clearance**

The *Contractor* is to ensure that special measures are to be undertaken when Japanese Knotweed is encountered. The *Project Manager* shall be informed immediately and prior to any removal operations.

**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 Appendix 1/9.

**2** Explosives are not permitted to be used.

## Appendix 2/5: Hazardous Materials

The *Contractor* shall comply with all current legislation and regulations when working with hazardous materials.

The same requirements as those detailed in Appendix 6/2 for dealing with Class U2 unacceptable materials shall apply to the handling and disposal of similar hazardous materials found in the site clearance. Hazardous materials include Japanese Knotweed.

The Local Authority has informally agreed that the following measures would be acceptable for the handling and disposal of hazardous materials found in site clearance, and these are given here as a guide.

**Pertinent Legislation**

The Health and Safety at Work Act 1972 imposes general duties on employers and self-employed people to ensure the health and safety of employees and other persons who may be affected by the Works, in so far as it reasonably practical to do so. These duties extend to the risks arising out of asbestos removal activities.

The Control of Asbestos Regulations 2012 (CAR) apply to all work activities where people are exposed to asbestos dust arising out of, or in connection with, any work with asbestos or with any product containing asbestos.

The Regulations place duties upon employers and self-employed people to ensure the health and safety of their own employees and others who may be affected by the work activity (e.g., members of the public, employees/self-employed persons working with other *Contractor*s).

Regulation 6 of CAR requires the preparation of an adequate 'assessment' of exposure to asbestos before work commences. This should normally be in writing and should include the type of asbestos, or an assumption that it is amosite or crocidolite, the nature and degree of exposure, which will occur, and the steps to be taken to prevent or minimise exposure. This latter aspect will of course involve selecting the most appropriate asbestos stripping technique.

Regulation 11 of CAR requires employers and self-employed people to prevent, or where this is not reasonably practicable, reduce so far as is reasonably practicable, the exposure of persons to asbestos other than by the provision of respiratory protective equipment. Systems of work should, where appropriate, minimise the levels of asbestos dust generated during stripping operations.

Regulation 16 of CAR requires employees/Self Employed persons to prevent, or where this is not reasonably practicable, to reduce to the lowest level reasonably practicable, the spread of asbestos from any place where work with asbestos is carried out.

Regulation 24 of CAR requires that both raw asbestos and asbestos waste is labelled correctly.

The Asbestos (Licensing) (Amendment) Regulations 1998 only allow asbestos waste removal where this is carried out by *Contractor*s or persons licensed by the Health and Safety Executive.

The Environmental Health Authority and/or the Health and Safety Executive have given/agreed the following specific requirements for dealing with the hazardous materials identified in Appendix 2/1:

**1** Redundant items of electric and electronic equipment shall be disposed of in accordance with The Waste Electrical and Electronic Equipment Regulations 2013 (WEEE Regulations).

SERIES 400: ROAD RESTRAINT SYSTEMS (VEHICLE AND PEDESTRIAN)

**Appendix 4/1: Vehicle Restraint Systems (Vehicle and Pedestrian)**

## 1 Temporary Safety Barriers

The *Contractor* shall assess the need for Temporary Safety Barriers by means of a suitable risk assessment. Temporary barriers are required in the following circumstances unless the *Contractor* determines otherwise by means of suitable risk assessment.

i) In excavation areas, within 5 metres of a trafficked lane, where the excavation depth is 200mm or greater.
ii) Where a contraflow is proposed
iii) Where exiting VRS has been temporarily taken down.
iv) At other locations proposed by the *Contractor*

The use of temporary pedestrian barriers or cones to protect the public from active work areas is not acceptable. The *Contractor* must ensure that all work areas are fully protected by the following:

a) Anti-climb fencing to a minimum height of 2m to be provided to all working areas.

SERIES 600: EARTHWORKS

**Appendix 6/10: Ground Anchorages, Crib Walling and Gabions**

**SPECIFICATION FOR SOIL NAILING WORKS**
PART 1: SOIL NAILING
MATERIALS

| | |
|---|---|
| Soil nails | (1) Soil nail bars shall be of high yield hollow thread bars and comply with EN10083-1. Nuts shall be of Grade 4 steel and comply with BS4190:2001. Connectors shall comply with BS4449:2005. Bearing plates shall be of Grade 43A steel plate and comply with BS4360. Holes in steel plates for soil nail heads shall be drilled perpendicular to the face of the steel plate and the centre of the hole shall be at a position of within 2 mm from the centre of the plate. The clearance between the steel bar and the hole of the steel plate shall not be more than 2mm. All steel components for soil nails shall be hot-dip galvanized to BS EN ISO 1461:1999.<br>(2) Soil nails shall have non-corrodible centralizers capable of ensuring an even annulus of grout around the steel bar. The nominal diameter of the centralizers shall not differ from the specified diameter of the drillhole by more than 10 mm. Wires and ties for fixing and anchoring packers, and centralizers, shall be made of non-corrodible materials. The spacing of the centralizers and the suitability of the method of fixing the centralizers shall be determined by carrying out trials on site until no damage, deformation and displacement of the centralizers are observed on completion of assembling all components, during inserting and withdrawing the soil nails. Once approval is given, no change to the type, method and arrangement of fixing of the centralizers, shall be made without the prior consent of the Engineer.<br>(3) Any rust on the threads of reinforcement bars and connectors shall be thoroughly cleaned before being connected together. |
| Grout for soil nails | (1) Grout for soil nails shall comply with the following requirements.<br>Minimum compressive strength at 7 days: Minimum 25 MPa<br>Water cement ratio: Not exceeding 0.45<br>Consistency: Free from lumps and undispersed cement<br>Bleeding: Not to exceed 4% of the initial volume. All bleed water shall be reabsorbed after 24 hours<br>Volume change after 24 hours: within the range 0% to +5%<br>Documented evidence that the proposed grout mix complies with the specified requirements shall be submitted at least 7 days prior to grouting operations commencing.<br>Grout samples will be recovered to provide cube strength testing at a frequency of one per ten nails. |
| Soil Nails | (1) The following particulars of materials and methods of construction for soil nails shall be submitted to the Engineer:<br>(a) details of and assembled component samples comprising of soil nail bars, coupling sleeves, nuts, washers, plates, connectors, centralizers.<br>(b) details of corrosion protection for the threaded portion of the steel bar at soil nail head,<br>(c) details of working platform,<br>(d) details of temporary support to drillholes,<br>(e) details of permanent casing,<br>(f) method of storing materials,<br>(g) method of drilling and details of drilling equipment,<br>(h) method of assembling soil nail bars,<br>(i) method of installing soil nail bars into drillholes,<br>(j) method of grouting and details of grouting equipment,<br>(k) details of equipment for measuring the volume of grout injected into each drillhole together with the accuracy and method of calibrating the equipment, |

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| | (l) details of equipment for testing soil nails, including test and calibration certificates,<br>(m) details of testing assembly including details of datum for deformation measurement and bearing pad, and<br>(n) method of constructing soil nail heads.<br><br>(2) The particulars shall be submitted to the Engineer for approval at least 7 days before pull out trials start. |
| Drilling for soil nails | (1) Drilling for soil nails shall comply with the standard requirements for the installation of hollow self- drilling bars, together with the manufacturers' instructions, as appropriate. The set up of drilling plant and ancillary equipment shall be in such a manner that water, dust, fume and noise generated in the course of drilling operation shall be sufficiently diverted, controlled, suppressed and muffled.<br>(2) Where instructed by the Engineer, drilling records including reference numbers of soil nails, date and time of drilling, penetration rate, description of strata of materials penetrated and any special observations during drilling such as underground voids encountered, collapse of hole, groundwater encountered, appropriate depth to ground water and shall be submitted to the Engineer within 2 working days after completion of drilling in a format agreed by the Engineer.<br>(3) The dimensions of soil nail heads and the orientation of soil nails shall be constructed in accordance with the Drawings or instructions given by the Engineer.<br>(4) The permitted deviation of drillholes shall be plus or minus 2 degrees to the specified vertical and horizontal alignments. The diameter of the soil nails and drillholes shall be the minimum diameter as specified. |
| Installation and grouting | (1) Soil nails shall be installed using a self drilling system with simultaneous drilling and grouting. For soil nail bars with threaded type connectors, each length of the steel bars shall be tightened by means of an appropriately sized wrench.<br>(2) The set up of grouting plant and ancillary equipment shall be in such a manner that water, spillage of grout, dust, fume and noise generated in the course of grouting operation shall be sufficiently diverted, controlled, suppressed and muffled.<br>(3) The Contractor shall record the volume of grout used during the installation of each nail. A copy of the records shall be submitted to the Engineer within 3 days after each grouting operation.<br>(4) In case of excessive grout loss, the Contractor shall report to the Engineer immediately. The Contractor shall submit proposals to the Engineer for completing the installation for that nail for approval as soon as possible. |
| Pull-out test | Soil nails for pull-out tests shall be sacrificial and installed and tested prior to the installation of permanent soil nails as directed by the Engineer. The number of pull-out tests shall be as shown on the Bill of Quantities as instructed by the Engineer. Soil nails subjected to pull-out tests shall not form part of the permanent works.<br>The Contractor shall submit the details of the testing arrangement including the set-up and support for the testing apparatus to the Engineer for approval. The apparatus for measuring loads and deformations shall have an accuracy of 5kN and 0.05 mm respectively. The apparatus for measuring deformation shall be capable of measuring a displacement of up to 50 mm. The apparatus shall be tested and calibrated by approved laboratories not more than 6 months prior to the date of carrying out the tests. Test and calibration certificates shall be submitted to the Engineer at least one week before the test. Drilling records of holes selected for pull-out tests shall be provided to the Engineer within 24 hours after drilling. The following procedure shall be adopted :- |

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| | (a) The loading apparatus shall be set up in such a way that no loading, other than the pull-out load, acts on the steel bar at the nail head. The reaction of the pull-out load from the loading apparatus shall act on a sufficiently sized rigid bearing plate placed against a temporary cut face at normal to the alignment of the steel bar to ensure adequate load spreading and to avoid eccentric loading. Monitoring instruments should be carefully positioned and independently supported to pick up the extension of the soil nail steel bar and any movement of the steel bearing plate.<br>(b) Each test for the self- drilling soil nails will include two nails, with testing on a fully bonded nail installed to the required length/ depth, and testing on a short nail installed through the active wedge zone only. The Load generated from the active wedge zone during the test on the short nail must be discounted from the overall (long) nail load test. The pull-out tests shall not be carried out until the grout has reached a cube strength of 20MPa.<br>(c) The maximum test load shall be either 90% of the yield load of the steel bar of the test nail (Tp) or the ultimate soil/grout bond load (Tult).<br>(d) The test nail shall be loaded in stages: from the initial load (Ta) via two intermediate test loads (TDL1 and TDL2) to the maximum test load. TDL1 and TDL2 are the loads that result in the bonded zone tested to the design working bond strength and 2 times the working bond strength respectively. Ta shall not be greater than TDL1 or 5% of Tp. All loadings including Ta, TDL1, TDL2 and Tp shall be specified in the Drawings or as directed by the Engineer.<br>(e) During the first two loading cycles, the intermediate loads, TDL1 and TDL2, shall be maintained for 60 minutes for deformation measurement. After the measurement has been completed, the load shall be reduced to Ta and the residual deformation shall be recorded. In the last cycle, the test load shall be increased gradually from Ta straight to maximum test load and then maintained for deformation measurement. The measurement at each of the cycles shall be taken at time intervals of 1, 3, 6, 10, 20, 30, 40, 50 and 60 minutes. The test nail is considered to be able to sustain the test load if the difference of nail movements at 6 and 60 minutes does not exceed 2mm or 0.1 % of the grouted length of the test nail. In this case, the test shall proceed to the next loading cycle or be terminated if the test nail is subject to TP.<br>(f) If the nail fails to sustain the test load TDL1, TDL2 or Tp, the test shall be terminated and the nail movement against residual load with time shall be recorded. The measurements shall be taken at time intervals of 1, 3, 6, 10 and every 10 minutes thereafter over a period for at least two hours. Where required the measurements shall be taken longer as directed by the Engineer.<br>(g) Throughout the test, the soil nail movement versus the applied load shall be measured, plotted on a graph and recorded along with all other relevant information. All the results shall be submitted to the Engineer within 3 days of completion of the test.<br>(h) Where required, the whole soil nail shall be pulled out from the drillhole for the Engineer's inspection. Where the steel bar remains in-situ after the pull-out test, the bar shall be cut-off flush with the finished ground and the remaining part of the drillhole grouted. |
| Soil nail head | (1) Soil nail heads shall be constructed in accordance with the details as shown on relevant project Drawings as specified by the Engineer. The Contractor shall submit for the Engineer's agreement a method statement for the construction of soil nail heads.<br><br>(2) The threads at the top end of soil nail bars shall be thoroughly cleaned. |

**SPECIFICATION FOR RESTRAINT NETTING**

Erosion control netting to confirm to the requirements of BS EN 10218-2 & BS EN 10223-3, corrosion protection to be BS EN 10244-2 Class A. Mesh to be BBA certified for a design life of up to 120 years.

# SERIES 3000: LANDSCAPE AND ECOLOGY

**Appendix 30/2: Weed Control**

1. Refer to drawing 2024_2990_006_Bridgnorth Slope_Scheme Re-Planting Details

**Appendix 30/6: Planting**

1. Refer to drawing 2024_2990_006_Bridgnorth Slope_Scheme Re-Planting Details

**Appendix 30/12: Special Ecological Measures**

***1*** Any special seasonal requirements for carrying out special ecological measures *[3012.2].*

The following chart provides an overview for mitigation works affecting the UK protected species commonly encountered during development and should be treated as guidance only. Site specific mitigation measures and/or Method Statements should be advised by a suitably qualified ecologist, following appropriate species surveys. Works affecting species marked with an * may require a licence from the appropriate government body.

# MITIGATION SURVEY CALENDAR