



## **Part 2 Specification**

### **Contract Reference**

**TBS1417**

### **Contract Title**

**Carriageway High Friction Surfacing 2018**

## SPECIFICATION

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### Preamble to the Specification

**1** The Specification referred to in the Tender shall be the 'Specification for Highway Works', published by The Stationery 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;
- (ii) Appendix 0/2: Contract-specific minor alterations to existing Clauses, Tables and Figures;
- (iii) The Numbered Appendices listed in Appendix 0/3;
- (iv) Appendix 0/5: Special national alterations of the Overseeing Organisation 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 Overseeing Organisation 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 Overseeing Organisation 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 the suffix 'S' in Appendix 0/5 is an alteration originating from the Overseeing Organisation of Scotland, Wales or Northern Ireland. A 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 Overseeing Organisations are made in the context of the Overseeing Organisation granting statutory or type approvals, the roles and functions of the Overseeing Organisation shall be undertaken  
by.....†.

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

**13** If the Specification is used in conjunction with a Contract under which the Contractor is responsible for the design of any part of the Permanent Works, the delegation of the roles and functions of the Overseeing Organisation as stated in paragraph 12 above shall be amended as follows:

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

(ii) Where the Specification provides for the Overseeing Organisation to require a test, waive the requirement for a test or alter testing frequency, the party to whom the Overseeing Organisation's roles and functions have been ascribed by paragraph 12 above shall exercise such decisions in accordance with the Secretary of State's requirements stated in the Contract. \*\*

† Engineer: Project Manager: Designer etc as drawn from the Conditions of Contract.

\* Employer's Agent: Employer's Representative: Department's Agent etc as drawn from the Conditions of Contract.

\*\* Construction Requirements/Employer's

Requirements. *[Note to compiler: Where applicable the Preamble to the specification and the Schedule of Pages and Relevant Publication Dates should be reproduced unaltered and bound in the Specification with the Numbered Appendices. A revised Schedule of Pages and Relevant Publication Dates will be included in each published national alteration to the Specification for Highway Works.]*

## Specification for Highway Works

### (a) Schedule of Pages and Relevant Publication Dates

Series/Appendix	Page Number	Publication Date
000	1 to 3F	March 1998
100	1 to 13F,W1F,N1 to N5F	May 2001
200	1 to 3F	May 2001
300	1 to 4F	May 2001
400	1 to 12F	May 2001
500	1 to 20F, N1 to N3F	May 2001
600	1 to 57F,S1F,N1 to N3F	May 2001
700	1 to 9F,N1 to N7F	May 2002
800	1 to 5F,S1F,N1 to N2F	May 2001
900	1 to 51F	May 2001
1000	1 to 38F	May 2001
1100	1 to 4F,N1 to N2F	May 2001
1200	1 to 15F,W1F, N1 to N3F	May 2001
1300	1 to 9F, N1F	May 2001
1400	1 to 8F, N1F	March 1998
1500	1 to 16F	May 2001
1600	1 to 49F	March 1998
1700	1 to 23F	May 2001
1800	1 to 8F	May 2001
1900	1 to 15F,S1F	May 2001
2000	1 to 4F	May 2001
2100	1 to 4F	March 1998
2200	1 to 6F	May 2001
2300	1 to 3F	March 1998
2400	1 to 4F	March 1998
2500	1 to 9F	May 2001
2600	1 to 7F	March 1998
Appendix A	1 to 8F	May 2001
Appendix B	1 to 5F	May 2001
Appendix C	1 to 2F	May 2001
Appendix D	1F	May 2001
Appendix D (NI)	1F	May 2001
Appendix E	1F	May 2001
Appendix E (NI)	1F	May 2001
Appendix F	1 to 39F	May 2001
Appendix G	1F	March 1998
Appendix H	1 to 5F	May 2001

March 1998

29F

(b) APPENDIX 0/1: Contract –Specific Additional, substitute and Cancelled Clauses  
**Tables and figures included in the Contract**

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

<b>Clause or Table No. (etc.)</b>	<b>Title and/or written text</b>
109.SR	Control of Noise and Vibration
110.SR	Information Boards
116.5AR & 116.6AR	Privately and Publicly owned Services or Suppliers
117.3AR	Safety Zone at Road Works
117.18SR	Traffic Safety and Management – Traffic Safety & Control Officer
117.20AR	Traffic Safety and Management – Ensuring site is clear of parked cars
117.21AR	Maintain Access to Properties
117.22AR	Temporary Traffic Signs to be Externally Illuminated
119.SR	Routing of Vehicles
126AR	Use of Mains Water
170.4AR	Inclement Weather Delays
174.AR	Materials and Workmanship
175.AR	Roads to be kept clean
180.AR	Damage to Highway
602.5SR	General Requirements – Disposal of Surplus Material
670AR	Tipping of Surplus Material
714AR	Properties of Aggregates

APPENDIX 0/1: Contract –Specific Additional, substitute and Cancelled Clauses Tables and figures included in the Contract	
List of Additional and Substitute Clauses, Tables and Figures	
Clause or Table No. (etc.)	Title and/or written text
(c) (d) R	<p>(f) SERIES 100 – PRELIMINARIES</p> <p><b>Existing Clause 109 is deleted and replaced by the following:</b></p> <p>“109SR Control of Noise and Vibration</p> <ol style="list-style-type: none"> <li>1 The contractor shall employ the best practical means to minimize noise and vibration produced by his operations and shall comply with the recommendation set out in BS 5228 “Code of Practice for Noise Control on Construction and Demolition Sites” together with the specific requirements contained in this clause.</li> <li>2 The Contractor shall, when applicable, obtaining consents under Section 61 of the control of Pollution Act 1974.</li> <li>3 Without prejudice to the generality of the Contractor’s obligation under BS 5228. The Contractor shall comply in particular with the following requirements:- <ul style="list-style-type: none"> <li>(i)All compressors shall be ‘sound reduced’ models fitted with properly lined and sealed acoustic covers which shall be kept closed whenever the machines are in use, and all ancillary pneumatic percussive tools shall be fitted with mufflers or silencers of the type recommended by the manufacturers.</li> <li>(ii)All Machines in intermittent use shall be shut down in the intervening period between work or throttled down to a minimum.</li> </ul> </li> <li>4. Equipment that is required to be run continuously throughout the night shall be required to have additional acoustic screening if so deemed necessary by the Engineer.</li> <li>5. Compliance with any section of this Clause shall not relieve the Contractor of any of his obligations and Liabilities under the Contract or the Control of Pollution Act 1974, the Noise at Work Regulations 1989 or any other statute.”</li> </ol>
(e) SR	<p><b>Existing Clause 110 is deleted and replaced by the following:</b></p> <p>“110SR Information Boards</p> <ol style="list-style-type: none"> <li>1. The Contractor shall provide and erect or collect and erect information boards at the location and to the specification given in appendix 1/21. The information boards shall be erected prior to or at the time of commencement of Works for the duration of the Works unless otherwise stated in Appendix 1/21. The Contractor shall ensure that the information boards are kept clean and maintained in a safe and legible condition and remove or return them on completion of the Works.</li> </ol>

**APPENDIX 0/1: Contract –Specific Additional, substitute and Cancelled Clauses  
Tables and figures included in the Contract**

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

Clause or Table No. (etc.)	Title and/or written text
116.5 AR and 116.6 AR	<p><b>(g) Privately and Publicly Owned Services or Supplies</b></p> <p>If in the executing of works, by reason of any subsidence caused by or any act of neglect or default of the Contractor, any damage to any apparatus or any interruption of or delay to the provision of any service is caused, the Contractor shall bear and pay the cost reasonably incurred by the Authority concerned in making good such damage and shall make full compensation to the Authority for any loss sustained by reason or such interruption or delay.</p>
117.3AR	<p>The Contractor shall, at all times during the progress of the Works, afford facilities to properly accredited agents of any Public or Statutory Authority for access to all or any of their apparatus situated on or under the Site, as may be necessary for inspecting, reporting, maintaining, removing, renewing or altering such apparatus in connection with the construction of the works or for any other purpose whatsoever.</p> <p><b>Add new sub-Clauses 117.3AR as follows:</b></p> <p>(h) “Traffic Safety and Management – Safety Zone At Road Works</p> <p>25(i) the safety zone required by Chapter 8 of the Traffic Signs manual shall be delineated by a continuous barrier consisting of a light conspicuous coloured braided rope, 4mm minimum diameter and in lengths not exceeding 46 metres. The rope shall be no higher than 1.4 metres, and no lower than 1 metre above the carriageway surface at any point along it’s length and shall not sag more than 150mm. It shall be supported by posts set at a maximum spacing of 9 metres and shall be capable of becoming instantly detached from them in the event of entanglement with passing traffic.</p> <p>(ii) The posts shall be conspicuously coloured hollow plastic tubes, 40mm to 500mm diameter, centrally mounted in bases. They shall be a tight push fit and stable.</p> <p>(iii) The bases shall be manufactured from a rubber/plastic compound with a minimum bottom surface area of 0.27 square metres, a maximum transverse dimension of 400mm, approach edges beveled to not exceeding 30 degrees to the horizontal and a minimum weight of 20 kilogrammes. No fixing shall be driven into or fixed onto the surfacing of the carriageway and the base shall provide a non-slip interface with the carriageway.</p> <p>(iv) This zone shall be kept clear of plant, materials, equipment and personnel at all times. Where the work activity or width of carriageway prevents provision of the relevant width safety zone, the Tenderer shall submit details of the proposed alternative guarding arrangements with his tender.</p>

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List of Additional and Substitute Clauses, Tables and Figures	
Clause or Table No. (etc.)	Title and/or written text
117.18SR	<p><b>Existing sub-Clause 117.18 is deleted and replaced by the following:</b></p> <p>(i) “Traffic Safety and management – Traffic Safety and Control Officer</p> <p>18 The Contractor shall appoint a Traffic Safety and Control Officer who shall make all arrangements necessary for traffic safety and control, including the provision and operation of breakdown recovery vehicles. The Traffic Safety and Control Officer shall have one or more nominated deputies. The Contractor shall supply the Engineer with the names of this officer and his deputies and with telephone numbers or details of other means by which they or one of them can be contacted at any time. The Traffic Safety and Control officer or his nominated deputy shall be on Site at all times when work is proceeding and shall be readily available to deal with matters relating to traffic safety and control (including breakdown recovery vehicles).</p>
117.20AR	<p><b>Add new sub-Clause 117.20AR as follows:</b></p> <p>(j) “Traffic Safety and management – Ensuring site is Clear of parked Cars”</p> <p>20. The Contractor will be responsible for ensuring that all sites are free from parked vehicles or other obstacles that may hinder his works. He is to obtain the agreement of the engineer before implementing any system to ensure this.”</p>
117.21AR	<p><b>Add new sub-Clause 117.21AR as follows:</b></p> <p>“Traffic Safety and Management – Maintain Access to properties</p> <p>21. The Contractor is to liaise with occupiers of all properties adjacent to the works to ensure that, where required, adequate access to these properties is maintained.”</p>
117.22AR	<p><b>Add new sub-Clause 117.22AR as follows:</b></p> <p>“Traffic Safety and Management – Temporary Traffic Signs to be Externally Illuminated</p> <p>22. Where sited within 50 metres of a system of street lighting, all temporary traffic signs, so required by the Traffic Sign Regulations and General Directions 1981, shall be externally illuminated during the ours of darkness or in circumstances of poor visibility and fog.”</p>





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

<b>Clause or Table No. (etc.)</b>	<b>Title and/or written text</b>
119SR	<p><b>Existing Clause 119 is deleted and replaced by the following:</b></p> <p>“119SR Routing of Vehicles</p> <p>1. Existing roads, accesses to adjacent house, buildings, etc., and any new roads, whether part of this work or not and which are being used by construction traffic shall be kept clean and clear of all dirt, mud and material dropped from vehicles for from tyres. The Contractor shall provide, maintain and use, as directed by the Engineer, suitable equipment including mechanical road sweepers solely for this purpose throughout the course of the Works.</p> <p>2. All highway drains, ditches and grips shall be kept clear of any spoil, mud, slurry or material brought onto the road as a result of the carrying out of the Works.</p>
126AR	<p><b>Add new Clause 126AR as follows:</b></p> <p>“126AR use of Mains Water</p> <p>1. The Contractor shall be responsible for making his own arrangements with the Water Authority for obtaining mains water for the Works and he shall comply with all the local conditions regarding the use of water. The Contractor shall agree with the Water Authority the location of all hydrants from which mains water can be abstracted for the Works, together with abstraction methods, receiving apparatus, draw off rates and times, and the Contractor shall provide constant attendance when water is being drawn off any hydrant.</p> <p>2. Water shall not be abstracted from rivers, stream or watercourses, unless the appropriate licence has been obtained by the Contractor from the Environment Agency.”</p>
170.AR	<p><b>(k) Inclement Weather Delays</b></p> <p>The Contractor shall notify the Engineer’s Representative at the end of any day when the Works have been delayed by inclement weather, of the extent of the delay and shall submit to the Engineer’s Representative each week a record of Inclement Weather Delays on a form that shall be provided by the Engineer. Nil returns shall be submitted and in the event of doubt existing as to whether or not delays occurred and the Contractor not having complied with this Clause it shall be deemed that such delays did not occur.</p>
174.AR	<p><b>(l) Materials and Workmanship</b></p> <p>The appropriate British Standard and Code of Practice will be adopted (RSTA – Adept code of Practice for High Friction Surfacing), where applicable, for all materials and workmanship, subject to any variations given in the Specification or indicated in the Contract Drawings. The omission of any such reference will not relieve the Contractor of his obligations to conform to the appropriate Standard or Code of Practice.</p>

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

Clause or Table No. (etc.)	Title and/or written text
175.AR	<p><b>(m) Roads to be kept Clean</b></p> <p>(n) Roads and accesses being used by construction traffic shall at all times be kept clean and clear of all dirt, mud, and material dropped from vehicles or from tyres. The Contractor shall provide, maintain and use suitable equipment for this purpose.</p>
180.AR	<p><b>(o) Damage to the Highway</b></p> <ol style="list-style-type: none"> <li>1. During the undertaking of the works the Contractor shall take all reasonable precautions to avoid damaging any material part or element of the highway. In particular, care should be taken not to damage flagging and all footway and carriageway surfaces, street furniture, turf, trees, shrubs and any other highway fitting and fixture.</li> <li>2. Prior to the commencement of works at a specific location the Contractor shall report any apparent damage to the Engineer. Should any damage be caused as a result of undertaking the works the Contractor shall rectify it as soon as possible at his expense.</li> </ol>

**APPENDIX 0/1: Contract –Specific Additional, substitute and Cancelled Clauses  
Tables and figures included in the Contract**

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

Clause or Table No. (etc.)	Title and/or written text
602.5SR	<p>(p) Existing sub-Clause 602.5 is deleted and replaced by the following:</p> <p>“General Requirements – Disposal of Surplus Material</p> <p>5 (i)Acceptable material (other than Class 5A or any Class 5B material replacing Class 5A material in accordance with sub-Clause 3 of this Clause) surplus to the total requirements of the Permanent Works and all unacceptable material Class U2 and Class U1 not required to be processed shall, unless the Engineer permits otherwise, be run to spoil in tips provided by the Contractor. In the case of unacceptable material Class U2 the Contractor shall comply with any specific requirements for disposal described in appendix 6/2.</p> <p>(ii)Excavated hard material Class H2 to be disposed of, shall be disposed of to a tip provided by the Contractor, unless otherwise described in appendix 2/3 when it will also remain the property of the Employer.</p> <p>(iii)Contractor's tips off site shall have the appropriate Planning Permission for the purpose of tipping and/or landfill and be licenced by the Waste Management Authority for the disposal of the surplus material.”</p>

**APPENDIX 0/1: Contract –Specific Additional, substitute and Cancelled Clauses  
Tables and figures included in the Contract**

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

Clause or Table No. (etc.)	Title and/or written text
670.AR	<p>(q) Tipping of Surplus Material</p> <ol style="list-style-type: none"> <li>1. All materials to be tipped off site shall be removed and disposed of in a manner fully acceptable to the appropriate Planning Authority. The tipping of excavated material and other industrial waste and the tipping of waste classified as household waste shall be carried out in consultation with and to the satisfaction of the Waste Regulation Authority (currently Devon County Council) and any necessary licences under the Control of Pollution Act 1974 or the environmental protection Act 1990 must be obtained.</li> <li>2. The Contractor must check with the County Environment Director that the proposed site for tipping has a current Planning Permission for that use.</li> <li>3. No tipping of such materials will be permitted until the Contractor has demonstrated that all permissions and licences have been obtained. Industrial and domestic waste found on the sites shall, unless the engineer otherwise directs, be removed and disposed of as above.</li> <li>4. All inquiries should be addressed to the appropriate division office listed below:</li> </ol> <p><b>(r) <u>Planning Division, East Area</u></b>  (including Exeter City, East Devon,  Mid Devon and Teignbridge)  Area Development Control Officer (East)  Devon County Council  Civic Centre  EXETER EX1 1JR  Alan Mitchard – Exeter (01392) 383816</p> <p><b>(s) <u>Planning Division, West Area</u></b>  (including South Hams, Torbay,  West Devon and Plymouth city)  Area Development Control Officer (West)  Devon County Council  Treverbyn House  Plympton  PLYMOUTH PL7 4LE  Don Gaskins – Plymouth (01752) 385230</p>

**APPENDIX 0/1: Contract-Specific Additional, substitute and Cancelled Clauses, Tables and figures included in the Contract**

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

Clause or Tables No. (etc.)	Title and/or written text
714AR	<p><b>(t)            <u>Planning Division, North Area</u></b>  (including Torridge and North Devon)  Area Development Control Officer (North)  Devon County Council  Barnstable Civic Centre  BARNSTAPLE EX31 1ED  John Manson – Barnstable (01272) 47045</p> <p><b>(u)            <u>West Regulation Officer</u></b>  (For whole County)  County Waste Regulation Officer  Devon County Council  County Hall  EXETER EX2 4QW  Exeter (01392) 383380</p> <p><b><u>SERIES 700 – ROAD PAVEMENTS – GENERAL</u></b></p> <p><b>(v)            Properties of Aggregates</b>  <b>(w)            Hardness</b></p> <p>Unless otherwise stated in Appendix 7/1, course aggregates for bituminous materials shall have the following properties:</p> <p>(i)            a ten per cent fines value not less than 140kN for natural crushed and uncrushed aggregates tested in a dry condition in accordance with BS 812: part 111;</p> <p>(ii)           an aggregate impact value not greater than 30 per cent for natural crushed and uncrushed aggregates when tested in a dry condition in accordance with BS812: part 112.</p>

**APPENDIX 0/1: Contract –Specific Additional, substitute and Cancelled Clauses  
Tables and figures included in the Contract**

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

Clause or Table No. (etc.)	Title and/or written text
	<p><b>(x) Durability</b></p> <p>When required in Appendix 1/5, the aggregate source shall be tested in accordance with BS 812: Part 121 and shall have a soundness value greater than 75, or such lower value as may be required in Appendix 7/1. Thereafter, for routine testing of such aggregates, the water absorption value of the coarse aggregates shall be determined as in BS 812: Part 2. If the water absorption value of the coarse aggregate is greater than 2% the soundness test shall be carried out on the material delivered to site.</p> <p><b>(y) Cleanness</b></p> <p>Unless otherwise stated in Appendix 7/1, the fraction of material passing 75 micron, for coarse and fine aggregates for bituminous materials, shall not exceed the limits stated in BS594: Part 1 and BS 4987: Part 1, when tested in accordance with the washing and sieving method of BS812: Part 103.”</p>

**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 Tender or Contractor respectively.

List "A" : List of the Numbered Appendices referred to in the Specification for Highway Works.

<b>Volume No.</b>	<b>(z) Completed By</b>	<b>(aa) Appendix No</b>	<b>(bb) Title</b>
		0/1	Contract-specific Additional, Substitute and Cancelled Clauses and Tables included in the Contract
		0/2	Not used
		0/3	List of Numbered Appendices Referred to in the Specification and included in the Contract
		0/4	List of Drawings included in the Contract
		0/5	Not used
			PRELIMINARIES
		1/1 to 1/8	Not used
		1/9	Control of noise and vibration
		1/12 to 1/16	Not used
		1/17	Traffic safety and management
		1/18 to 1/20	Not used
		1/21	Information Boards
		1/22	Not used
		1/23	Not used
		1/70	Environment
			SITE CLEARANCE
		2/1 to 2/5	Not used
			HEDGES, FENCING AND NOISE BARRIERS
		3/1	Not used
		3/2	Not used
			SAFETY FENCES
		4/1	Not used
		4/2	Not used
			DRAINAGE AND SERVICE DUCTS
		5/1 to 5/5	Not used
			EARTHWORKS
		6/1 to 6/13	Not used



**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 Tender or Contractor respectively.

List "A" : List of the Numbered Appendices referred to in the Specification for Highway Works.

<b>Volume No.</b>	<b>(cc) C ompleted By</b>	<b>(dd) Ap pendix No</b>	<b>(ee) Title</b>
		7/1	HIGH FRICTION SURFACES
		11/1	KERBS, FOOTWAYS AND PAVED AREAS Not used
		12/1 to 12/6	TRAFFIC SIGNS Not used
		13/1 to 13/3	ROAD LIGHTING COLUMNS AND BRACKETS Not used
		14/1 to 14/5	ELECTRICAL WORK FOR ROAD LIGHTING AND TRAFFIC SIGNS Not used
		15/1	MOTORWAY COMMUNICATIONS Not used
		16/1	PILING AND DIAPHRAGM WALLING Not used
		17/1 to 17/4	STRUCTURAL CONCRETE Not used
		18/1	STRUCTURAL STEELWORK Not used
		19/1 to 19/9	PROTECTION OF STEEL WORK AGAINST CORROSION Not used
		20/1	WATERPROOFING FOR STRUCTURES Not used
		20/2	Not used
		21/1	BRIDGE BEARINGS Not used
		22/1	PARAPETS Not used
		23/1	BRIDGE EXPANSION JOINTS AND SEALING OF GAPS Not used
		23/2	Not used
		24/1	BRICKWORK, BLOCKWORK AND STONEWORK Not used
		25/1 to 25/3	SPECIAL STRUCTURES Not used
		26/1	MISCELLANEOUS Not used
		26/2	Not used

## APPENDIX 1/9: CONTROL OF NOISE AND VIBRATION

### Noise

When applicable the Contractor shall obtain consents under Section 61 of the Control of Pollution Act 1974.

2(a) The Local Authority has informally agreed that the following measures would be acceptable 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.

) The definition of daytime and night time hours within the Site shall be:

Day time	Weekdays	0700-1900
	Saturdays	0700-1900
Night time	Weekdays	1900-0700
	Saturdays	1900-0700

Work may be carried out at night time only where specifically ordered by the Engineer.

) The noise levels permissible during night time working hours are scheduled below.

) 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 or not exceed by more than 3 dB(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. The maximum sound level at any noise control station shall not exceed the level given in the schedule.

) Exceptionally, the Contractor may be given permission to carry out works which exceed the noise levels in the Schedule, provided that 14 days notice of the date and timing of these works is given to the Engineer 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 14 days of receipt of the notice.

### Schedule Total Noise levels at Control Stations

Period	Hours	Ambient Noise 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 B(A)
Monday to Friday	0700-1900 1900-2000	72 62	Any 1 hour Any 1 hour	85 70
Saturdays	0700-1300 1300-2100	72 62	Any 1 hour Any 1 hour	85 70
Sundays and Public Holidays	0700-0900 0900-1700 1700-2100	47 62 47	Any 1 hour Any 1 hour Any 1 hour	55 70 55
Monday to Sunday	2100-0700	47	Any 1 hour	55
All unattended plant out-side normal working hours		47	Any 1 hour	55

## APPENDIX 1/9: CONTROL OF NOISE AND VIBRATION

### Notes:-

- (i) Noise levels relate to free field conditions. Where noise Control Stations are located 1m from facades 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 a sound level meter which meets the requirements of BS 5969 type 1 to 2 set to SLOW response and frequency weighting A.
- (f) Without prejudice to the generality of the Contractor's obligation under BS 5228 the Contractor shall comply in particular with the following requirements:-
- (i) All compressors shall be "sound reduced" models fitted with properly lined and sealed acoustic covers which shall be kept closed whenever the machines are in use, and all ancillary pneumatic percussive tools shall be fitted with mufflers or silencers of the type recommended by the manufacturers.
  - (ii) All machines in intermittent use shall be shut down in the intervening period between work or throttled down to a minimum.
  - (iii) All vehicles and plant used for the purpose of the works shall be fitted with effective exhaust silencing system which shall be maintained in good working order.
  - (g) Equipment that is required to be run continuously throughout the night shall be required to have additional acoustic screening if so deemed necessary by the Engineer.
  - (h) Blasting shall only be carried out, if permitted by the contract, with the written approval of the Engineer and in any event will be restricted to Monday to Friday between the hours of 0900 and 1600.
  - (i) Where night time working is permitted all noisy operations, such as planing, the use of pneumatic tools and compressors, excavating etc shall not be carried out between 2300 hrs and 0630 hrs.

### Vibration

#### 1. Locations where vibration limits are to be complied with

Not required

#### 2. Limits of vibrational amplitude and resultant peak particle velocity

Not applicable

#### 3. Requirements for instrumentation and monitoring

None

#### 4. Engineer's arrangements for Contractor to monitor vibration in property off site

## APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT

### 1. **Responsibility for Traffic Management**

The Contractor shall be responsible for the traffic safety and management and associated work as described in Clause 117.

### 2. **Highways, Private Roads and Other Ways Affected by the Works**

Note (a) Manual traffic control may be either manually operated signals or STOP/GO boards.

### 3. **Road Closures - Diverted Traffic**

Any work in connection with road closures will be signed by the Contractor as instructed by the Engineer. The Contractor will have to give the Engineer 21 days notice before the road closures can be implemented.

Note: any cost in connection with Road Closures or Diversion Routes are to be allowed for in the Bill item for "Traffic safety and management."

### 4. **Single Lane Traffic Operation**

Single line traffic operation will be required when the undivided clear width of carriageway available is less than 5.5 metres. The length of single line operation - at any one time shall not exceed 200 metres \ 1300 metres on lightly trafficked roads at the discretion of the Engineer). When single line traffic operation is required the Contractor shall provide a width of at least 3 metres, or wider as necessary at curves and junctions unless otherwise agreed with the Engineer."

## APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT

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## APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT

Traffic Category	Description		
	<u>Route Type</u>	<u>Speed Limit</u>	<u>Maintenance Category</u>
1	Motorway	Unrestricted	1
2	All purpose dual carriageway	Greater than 40mph	2, 3, 4
3	All purpose dual carriageway	40 mph or less	4,5
4A	All purpose single carriageway	Greater than 40 mph	2 to 5
4B	All purpose single carriageway	Greater than 40 mph	6 to 12
5A	All purpose single carriageway	40 mph or less	2 to 5
5B	All purpose single carriageway	40 mph or less	6 to 12

Maintenance Category	Definition on Devon Road Network	Designation on Devon Road Network	
1	Motorway	Wide Blue	Major Road Network
2	Primary Route (Trunk)	Wide Green	
3	Primary Route	Wide Green	
4	(County)	Red with Black Dash	
5	Primary County Secondary County	Red with Black Dot	
6	Local Distributor	Blue	Minor Road Network
7	Collector Road	Brown	
8	Collector Road Minor	Orange	
9	Service Road	Yellow	
10	Service Road Minor	Yellow Dotted	
11	Minor Lane	Green	
12	Track	Green Crossed	

## **APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT**

### **SECTION A**

#### **GENERAL REQUIREMENTS APPLICABLE TO ALL TRAFFIC CATEGORIES**

##### **A.1 TRAFFIC MANAGEMENT MEASURES**

A.1.1 The Contractor will be responsible for traffic management and safety and associated work as described in this Appendix, Clause 117 and the following:-

- (1) Chapter 8 of the Traffic Signs manual and amended by any subsequent Department of transport Standards and Advice Notes or any other Highway Authority general or site specific instructions.

A1.2 In implementing any temporary traffic management arrangements the Contractor shall comply with the recommendations for safe working procedures and practices and practices contained in the Notes For Guidance On Safety At Roadworks: Third Edition 1994 published by the County Surveyor's Society and The Department of Transport.

A1.3 Access shall be maintained at all times to locally affected properties. The Contractor is to liaise with the occupiers of all such properties in advance of the work to discuss any difficulties on an individual basis. The Contractor shall at the instruction of the Engineers representative in the relevant works centre also distribute to all affected properties a notice, the wording of which is to be agreed with the engineers representative, informing of the proposed work or carry out some other agreed method of informing the public of the proposed works.

A1.4 The Contractor will be responsible for ensuring that all sites are free from vehicles, other than those connected with the works, or any other obstruction that may hinder the works. The prior agreement of the Engineers representative in the relevant works centre is to be obtained to any system proposed to effect compliance with this requirement.

A1.5 Single line traffic operation will be required when the undivided clear width of available carriageway is less than 5.5m or when directed by the Engineers representative in the relevant works centre. The width of any single lane shall be 3m minimum. The length of single line operation at any one time shall not exceed 200m, however 300m may be permitted on lightly traffic roads with the prior approval of the Engineers representative in the relevant works centre.

A1.6 All traffic control for single lane operation shall be carried out using one of the following methods:

- (i) Manually operated Stop/Go boards (Diagrams. 7023 and 7024)  
Where more than one Stop/Go board is required at a location and the operators are not in visual contact then a two-way radio system must be operated.

## APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT

### (ii) Portable Traffic Signals

All temporary traffic signals must be operated in the vehicle-actuated mode. Fixed time operations will not be permitted. Manual operation may be permitted in special circumstances with the prior approval of the Engineers representative in the relevant works centre. The operation of temporary traffic signals shall be in accordance with the Devon County Council Traffic Policy Note CP/1 Rev A.

### (iii) Speed Control Vehicle

See section A4.3

A1.7 Where the Contractor must provide temporary diversions and particular phasing of the construction operations in order to maintain all required vehicular and pedestrian routes, full details of his proposals must be provided, which should include:-

- (a) alterations to signs
- (b) alterations to lighting
- (c) widths of lanes
- (d) working area
- (e) traffic signals

A1.8 The Contractor must provide the Highway Authority with details of his code of Practice for both day and night-time traffic management working practices.

A1.9 During and following surface dressing operations all reasonable precautions shall be taken to control the speed and movement of traffic in order to avoid damage to the new dressing and to obviate the danger to road users.

A1.10 Any temporary diversion which is brought into use by the Contractor shall be maintained to the standard specified in Appendix 1/18.

## A.2 SIGNING

A2.1 All traffic signs shall conform to BS 873 and be in accordance with the Traffic Signs Regulations and general Directions 1994 and any amendments thereof. They shall be reflectorised by the application of Class (Table 1: BS873: part 6: 1983), Class 1A (Table 1A: TD 19/81) or Class 2 (Table 2: BS873: Part 6: 1983) retroreflective material, be stable, set vertically and suitably positioned.

A2.2 Traffic cones and cylinders shall conform to BS 873: Part 8: 1985 and be Category A: Designation 1 or 2.

A2.3 Where a sign is sited on a road within 50m of a system of street lighting it shall, if required by the Traffic Signs Regulations and General Directions 1994 and any amendments thereof, be externally illuminated during the hours of darkness or in circumstances of poor visibility and fog.

A2.4 The Contractor shall introduce measures to ensure that any message/direction given by temporary signing is not in conflict with the information provided by the permanent signing



- A2.5 Where as a result of the works longitudinal lane and centre of carriageway road markings are removed or covered a sign (Diagram 7012) with the legend “NO ROAD MARKINGS FOR x MILES” (distance as appropriate) shall be erected and maintained in position until the permanent road markings are reinstated.
- A2.6 Where as a result of the works all or part of the road markings at junctions are removed a sign (Diagram 7012) with the legend “NO GIVE WAY MARKINGS” or “NO STOP MARKING”, as appropriate, shall be placed in the side road 5m – 10m back from the main carriageway and shall be maintained in position until the permanent road markings are reinstated. On newly surfaced work junctions identified by the Engineers representative in the relevant works centre as having a higher than normal accident risk temporary road markings shall be provided in approved materials.
- A2.8 If required, the Contractor must provide and erect additional temporary signing within 4 hours of the request by the Engineers representative in the relevant works centre.
- A2.9 Driver information signs are to be provided at all sites to inform the public of the nature of the work being undertaken. Details of the requirements are shown on Drawing number TMS/10A.
- A2.10 Should a road closure be required for any reason then signs giving details of the restrictions the dates and the times must be provided and erected on the affected lengths of road a minimum of 7 days prior to the closure.

The commencement signing to indicate any diversion route must not be displayed until immediately (30 minutes max.) prior to the closure being implemented. Continuity signing may however, with the approval of the Engineers representative in the relevant works centre, be erected and displayed up to 48 hours previous.

### **A3 DRAWINGS**

- A3.1 Where required by the works order the Contractor must submit drawings detailing the proposed traffic management arrangements to the Engineers representative in the relevant works centre for approval not less than 7 days prior to implementation. The same time scale is to apply to any subsequent amendments proposed by the Contractor.
- A3.2 All traffic management arrangements to be agreed with the Engineers representative in the relevant works centre prior to implementation and before any changes are made to such arrangements.
- A3.3 Where the Contractor wishes to significantly modify the agreed traffic management layout for short periods during a phase to suit his method of working, details must be submitted to the Engineers representative in the relevant works centre for approval not less than 48 hours before implementation.

## APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT

- A3.4 The traffic management drawings shall contain, where appropriate, proposals for the signing of advisory diversion routes for cyclists. Such diversions shall, however possible, direct cyclists away from the works area. Details of typical signs to be used are shown on drawing Number TMS/12. This requirement will not apply to works on motorways.

### A4 SAFETY ZONES AND BARRIERS

- A4.1 Safety zones must be provided at all locations where works are being undertaken adjacent to traffic lanes occupied by vehicles. Details of the requirements are shown on drawing number TMS/2.
- A4.2 Where the work activity or width of carriageway prevents provision of the relevant width of safety zone the Contractor shall submit details of the proposed guarding arrangements.
- A4.3 Where no safety zone is possible then in order to reduce the speed of passing traffic to 10mph or less a speed control vehicle (e.g. quad bike) will be used.

The vehicle should have a working speedometer, wing mirror and head, rear and stop lights. It should be taxed as a minimum as a works vehicle. It should be capable of turning in one movement at each end of the traffic control section and be fitted with a sign at the rear with the legend "SPEED CONTROL VEHICLE" together with one or more amber flashing warning beacons mounted above the sign position. Irrespective of the above the vehicle must comply with all current Act and Regulations.

- A4.4 The edges of all excavations closer than 1.2m to the running edge of any trafficked lane shall be delineated as follows:

Depth of Excavation	Safeguard
Less than 150mm	Traffic cones placed on the carriageway immediately adjacent to the edge step at 3m spacings
150mm to 450mm	Flat traffic delineators, 750mm size, bases touching, placed on the carriageway immediately adjacent to the edge step. Adjacent bases are not recommended to be clipped together. Every base shall be marked with a 100mm wide white reflectorised line so that when the bases are placed together a continuous line is present to indicate the edge of the hazard.

## APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT

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Greater than 450mm	<p>Portable temporary barrier capable of preventing traffic from entering the work area. The barrier shall consist of interlocking sections coloured alternate red and white. Each section must be a minimum of 450mm wide by 800mm high and weigh at least 280kg per metre. It must be capable of incorporating road danger lamps to permit delineation during the hours of darkness. It shall be laid parallel to the line of the live traffic lanes and include a lead and exit taper.</p> <p>In situations where the speed limit to be observed on the length of road past the barrier is greater than 40mph then 750mm traffic cones must also be placed at 9m spacings immediately adjacent to the barrier.</p>
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### A5 NOTICE REQUIREMENTS

A5.1 Traffic Orders – Where as a result of proposed works Notices or temporary traffic orders are required, e.g. to permit a road closure, these will be obtained by the Engineers representative in the relevant works centre. A minimum notice of 5 weeks will be required to organise additional, or amend existing, traffic regulation orders.  
NB costs £90/5 day notice, £445 temp traffic order > 5 days, not including signing Contractor pays.

A5.2 Non-Prescribed Signs – A minimum notice of 2 weeks will be required to arrange for authorisation of non-prescribed signs.

A5.3 Temporary Traffic Signals – A minimum notice of 3 weeks will be required to arrange for authorisation of temporary traffic signals, including plant crossings.

### A.9 VEHICLES

A9.1 Where the Contractor's vehicle occupies a live traffic lane during the setting up, maintenance, alteration and removal of traffic management systems, it shall be a conspicuous colour and be equipped with one or more flashing amber lights which shall be clearly visible from all angles and shall display at the rear in a conspicuous position a keep left/right sign (dia 610) of minimum size 750mm diameter.

A9.2 All works vehicles must have one or more roof mounted amber flashing lights in accordance with the current Road Vehicles Lighting Regulations. Hazard warning lights shall not be considered as an acceptable alternative to a roof mounted amber flashing light.

A9.3 All vehicles used by the Contractor shall display at the rear in a conspicuous position signs with the legend "HIGHWAY MAINTENANCE" (Dia 7404). Such signs shall be 150mm x – ht when used on HGV's and 75mm x-ht when used on vans/cars.

## APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT

### SECTION B

#### ADDITIONAL REQUIREMENTS APPLICABLE TO TRAFFIC CATEGORY 1 – MOTORWAYS

##### B.1 TRAFFIC MANAGEMENT MEASURES

B1.1 The Contractor will be responsible for traffic management and safety and associated work as described in TD 14/83 – Signing for Traffic Management at Certain Major Roadwork's Sites. Amendments 1 & 2.

B1.2 A continuous and unobstructed 2.75m wide (minimum) emergency route through the works is to be provided and must be available at all times in situations where only one lane passes the works area.

B1.3 In situations where only one lane passes the area, the Contractor must arrange his method of working so that, in the following circumstances, there is no interruption of traffic flow past the works such that:

- (a) queuing vehicles on slip roads would extend onto the main carriageway or approach roads
- (b) queuing vehicles on main carriageways would reduce approach visibility below the following:

85%ile Speed	Visibility
70mph	215m
60mph	180m
50mph	110m
40mph	80m
30mph	50m

- (c) queuing vehicles on main carriageways would extend beyond the single lane.

B1.4 Any central reserve crossover or temporary diversion which is brought into use by the Contractor shall be maintained to the standard specified in Appendix 1/18.

##### B2 SIGNING

B2.1 All traffic signs shall be of reflective material Class 1 or 1A only.

B2.2 Whenever a lane(s) closure is introduced additional signs "MAX SPEED 50" (Diagram 7275) shall be integrated into the chapter 8 approach signing. They shall be positioned on both sides of the carriageway at 100m and 500m prior to the start of the taper.

B2.3 During the hours of darkness a road danger lamp showing an amber light must be placed in every other space between cones adjacent to live carriageways. On tapers where cones are closed spaced lamps must be placed at 9m intervals. This requirements replaces that a Note 3, Tables C of Chapter 8.

## APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT

B2.4 In addition to the signs in use to implement the traffic management measures, further signs must be available for immediate use at all times in the event of an emergency. Details of the requirements are shown on Drawing Number TMS/4.

### B2.5 SPEED RESTRICTITONS

A mandatory 50mph speed restriction will be required whenever:

- (a) a contraflow is implemented
- (b) the available space for traffic past any lane closure is reduced to a single trafficked lane, except where (1) the length of the lane closure measured from the start of the taper to the final "end" sign is less than 800m, or (2) the closure is programmed to be in position for less than 7 days and there is no traffic regulation order covering the works permitting the implementation of mandatory restriction.

Signs to Dia 7290 must be provided in advance of all mandatory 50mph speed restrictions. They are to be located 0.75 miles in advance of the commencement of the restrictions and be placed on both sides of the carriageway.

Advisory "MAX SPEED 50" signs (Dia 7275) must be provided in lieu of the mandatory signs for the exceptions in (b) above.

The 50mph speed restriction shall commence 300m prior to the start of the lane closure taper. The signs (Dia 670) shall be 150mm diameter and be provided on both sides of the carriageway. Reapter signs, 90mm diameter, shall be provided 100m prior to the taper and then thereafter at 300m spacings throughout. Restriction signs (Dia 671), 1500mm diameter, shall be provided on both sides of the carriageway 50m in advance of the road works "end" signs.

All slip roads within the affected length shall have 50mph/deretraction signs provided as necessary.

### B9 VEHICLES

B9.1 Where the Contractor's vehicle occupies a live traffic lane during he setting up, maintenance, alteration and removal of traffic management systems it shall be of a minimum gross weight of 7.5 tonnes, be a conspicuous colour and be equipped with one or more flashing amber lights which shall be clearly visible from all angles. In addition the vehicle shall be equipped at its rear with signs and flashing lights complying with those shown on vehicle B in Layout 36 of Chapter 8. The keep left/right sign (Dia 610) shall be of a minimum size 1500mm diameter.

Advance warning must be provided indicating which lane is occupied.

B9.2 Whenever the operations referred to above are carried out on traffic category 1 roads (motorways) the vehicle shall be equipped with a rear crash cushion.

## APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT

### SECTION C

#### ADDITIONAL REQUIREMENTS APPLICABLE TO TRAFFIC CATEGORY 2 – DUAL CARRIAGEWAYS GREATER THAN 40MPH

##### C.1 TRAFFIC MANAGEMENT MEASURES

- C.1.1 The Contractor will be responsible for traffic management and safety and associated work as described in TD 14/83 – Signing for Traffic Management at Certain Major Roadwork's Sites. Amendments 1 & 2.
- C.1.2 Any lay-bys which lie within a contraflow system or adjacent to an offside lane closure on a dual two-lane section shall be closed and the signing covered.
- C.1.3 In situations where only lane passes the works area, the Contractor must arrange his method of working so that, in the following circumstances, there is no interruption to traffic flow past the works such that:
- (a) queuing vehicles on slip roads would extend onto the main carriageway or approach roads
  - (b) queuing vehicles on main carriageways would reduce approach visibility below the following:

<u>85%ile Speed</u>	<u>Visibility</u>
70mph	215m
60mph	180m
50mph	110m
40mph	80m
30mph	50m
  - (c) queuing vehicles on main carriageways would extend beyond the single lane.
- C.1.4 Any central reserve crossover or temporary diversion which is brought into use by the Contractor shall be maintained to the standard specified in Appendix 1/18.

##### C2 SIGNING

- C2.1 All traffic signs shall be of reflective material Class 1 or 1A only.
- C2.2 Whenever a lane(s) closure is introduced signs "MAX SPEED 50" (Dia 7275) shall be integrated into the Chapter 8 approach signing. They shall be positioned on both sides of the carriageway at 100m and 500m prior to the start of the taper.
- C2.3 During the hours of darkness a road danger lamp showing an amber light must be placed in every other space between cones adjacent to lane closures on dual carriageways. On tapers where cones are closed spaced lamps must be placed 9m intervals. This requirement replaces that at Note 3, Table C of Chapter 8.

## APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT

C2.4 In addition to the signs in use to implement the traffic management measures, further signs must be available for immediate use at all times in the event of an emergency. Details of the requirements are shown on Drawing Number TMS/4.

### C2.5 SPEED RESTRICTIONS

A mandatory 50mph speed restriction will be required whenever:

- (a) a contraflow is implemented
- (b) the available space for traffic past any lane closure is reduced to a single trafficked lane, except where (1) the length of the lane closure measured from the start of the taper to the final “end” sign is less than 800m, or (2) the closure is programmed to be in position for less than 7 days and there is no traffic regulation order covering the works permitting the implementation of a mandatory restriction.

Signs to Dia 7290 must be provided in advance of all mandatory 50mph speed restrictions. They are to be located 0.75 miles in advance of the commencement of the restriction and be placed on both sides of the carriageway.

Advisory “MAX SPEED 50” signs (Dia 7275) must be provided in lieu of the mandatory signs for the exception in (b) above.

The 50mph speed restriction shall commence 300m prior to the start of the lane closure and taper. The signs (Dia 670) shall be 1500mm diameter and be provided on both sides of the carriageway. Repeater signs, 900mm diameter, shall be provided 100m prior to the taper and then thereafter at 300 spacings throughout. De-restriction signs (Dia 671), 1500mm diameter, shall be provided on both sides of the carriageway 50m in advance of the road works “end” signs.

All slip roads within the affected length shall have 50mph/deretraction signs provided as necessary.

### C.9 VEHICLES

C9.1 Where the Contractor’s vehicle occupies a live traffic lane during the setting up, maintenance, alteration and removal of traffic management systems, it shall be a minimum gross weight of 7.5 tonnes, be a conspicuous colour and be equipped with one or more flashing amber lights which shall be clearly visible from all angles. In addition the vehicle shall be equipped at its rear with signs and flashing lights complying with those shown on vehicle B in Layout 36 of Chapter 8. The keep left/right sign (Dia 610) shall be of a minimum size 1500mm diameter.

Advance warning must be provided indicating which lane is occupied.

## **APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT**

C9.2 Whenever the operations referred to above are carried out on traffic category 2 roads (dual carriageways greater than 40mph) the vehicle shall also be equipped with a rear crash cushion.

### **SECTION D**

#### **ADDITIONAL REQUIREMENTS APPLICABLE TO TRAFFIC CATEGORY 3 DUAL CARRIAGEWAYS 40MPH OR LESS**

##### **D.9 VEHICLES**

D9.1 Where the Contractor's vehicle occupies a live traffic lane during the setting up, maintenance, alteration and removal of traffic management systems, it shall be conspicuous colour and be equipped with one or more flashing amber lights which shall be clearly visible from all angles and shall display at the rear in a conspicuous position a keep left/right sign (9Dia 610) of minimum size 900mm diameter. Advance warning must be indicating which lane is occupied.

### **SECTION E**

#### **ADDITIONAL REQUIREMENTS APPLICABLE TO TRAFFIC CATEGORY 4A SINGLE CARRIAGEWAYS GREATER THAN 40MPH, MAINTENANCE CATEGORIES 2 TO 5**

##### **E.9 VEHICLES**

E9.1 Maintenance Category 2: Where the Contractor's vehicle occupies a live traffic lane during the setting up, maintenance, alteration and removal of traffic management systems, it shall be of a minimum gross weight of 7.5 tonnes, be a conspicuous colour and be equipped with one or more flashing amber lights which shall be clearly visible from all angles. In addition the vehicle shall be equipped at its rear with signs and flashing lights complying with those shown on vehicle B in Layout 36 of Chapter 8.

E9.2 Maintenance Categories 3 to 5: Where the Contractor's vehicle occupies a live traffic lane during the setting up, maintenance, alteration and removal of traffic management systems, it shall be of a minimum gross weight of 7.5 tonnes, be a conspicuous colour and be equipped with one or more flashing lights which shall be clearly visible from all angles and shall display at the rear in a conspicuous position a keep left/right sign (Dia 610) of minimum size 900mm diameter.

### **SECTION F**

#### **ADDITIONAL REQUIREMENTS APPLICABLE TO TRAFFIC CATEGORY 4B SINGLE CARRIAGEWAYS GREATER THAN 40MPH, MAINTENANCE CATEGORIES 6 TO 12**

No additional requirements



<b>APPENDIX 1/17: TRAFFIC SAFETY AND MANAGEMENT</b>
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**SECTION G**

**ADDITIONAL REQUIREMENTS APPLICABLE TO TRAFFIC CATEGORY 5A SINGLE CARRIAGEWAYS 40MPH OR LESS, MAINTENANCE CATEGORIES 2 TO 5**

No additional requirements

**SECTION H**

**ADDITIONAL REQUIREMENTS APPLICABLE TO TRAFFIC CATEGORY 5B SINGLE CARRIAGEWAYS 40MPH OR LESS, MAINTENANCE CATEGORIES 6 TO 12**

No additional requirements

## APPENDIX 1/21: INFORMATION BOARDS

### 1 Prior Warning Signs

The Contractor will be required to provide and maintain “Prior Warning” signs for a period of 7 days prior to commencement of work at each site. Signs to be approved by Engineer.

### 2 Information Signs

The Contractor will be required to provide and maintain these signs at each site while works are being carried out. Signs to be approved by Engineer. Typical sign illustrated below, which can be obtained from Harmony Signs, Fisher Street, Paignton.



## **APPENDIX 1/70: ENVIRONMENT**

1. The Contractor's attention is drawn to the following Environmental Acts:
  - a) Wildlife and Countryside Act 1991
  - b) The Badgers Act 1991
  - c) The Protection of Badgers Act 1992
2. Within 2 weeks of the commencement of the Contract the contractor shall notify the Engineer's representative in writing of the name of a responsible person to act as the Environmental officer for the contract whose principal duty is to ensure implementation of measures to comply with Environmental Statutes.
3. The Contractor should cease all work at any site where roosting bats are discovered and immediately contact the Engineer and English Nature (the latter being a legal requirement) and await further instructions.

## **APPENDIX 7/1: HIGH FRICTION SURFACES**

1. Aggregate used in high friction surfacing systems shall have a minimum polished stone value of 70.
2. The colour of the high friction surfacing system to be as directed by the Engineer.
3. The High Friction Surfacing System shall be classified 'Epoxy Type 1' or methyl methacrylate (MMA) in accordance with BBA Guidelines Document for the Assessment and Certification of High Friction Surfaces for Highways.