Development of Standard Specification and Standard Details for Local Highway Maintenance

Appendix 2 – Standard Details

Version 1 – November 2012
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Images on cover sheet courtesy of HMEP
# REVISION SCHEDULE

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This document is released as an Interim Document to allow its use by local highway authorities as early enablers in the development of their term service contracts, feeding into the ongoing development of the Highways Maintenance Efficiency Programme Standard Term Maintenance Contract and Document Compiler work package.

If you wish to make a comment or contribute to the development of the document, please send an email to

highwaysefficiency@DfT.gsi.gov.uk

with the header ‘Feedback on the Standard Specification and Standard Details’.
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FOREWORD

ABOUT THE HIGHWAYS MAINTENANCE EFFICIENCY PROGRAMME

The Highways Maintenance Efficiency Programme (HMEP) is a sector-led transformation initiative that will maximise returns from investment and deliver efficiencies in highway maintenance services. The Programme started in April 2011 with sponsorship from the Department for Transport and is intended to run until 2018.

The Programme is offering local highway practitioners benefits from different ways of working. The vision is that over time, those involved in highways maintenance delivery, the local authorities as clients and their service providers, be they from the private or public sector will adopt an ambitious and longer-term approach to enable them to:

- Continuously find new and improved ways of delivering services to highway users and managing highways assets.
- Make use of collaborative partnerships to improve processes and outcomes.

Deliver a sustainable balance between meeting the needs of highways users, improving quality and minimising costs.

The overall programme has been developed by the Programme Board through key personnel who support HMEP's development. This will ensure that:

- The Programme is truly being driven by what the whole sector needs and wants ('by the sector for the sector').
- The solutions identified by the sector are relevant, realistic, repeatable, scalable and sustainable.
- HMEP is benefits-led, driving true transformation of the sector with tangible efficiency gains and a lasting legacy.

As a transformation initiative HMEP is targeting the ways local highway authorities conduct their business. It invites the sector to adopt new ways of working to deliver efficiency savings through:

- **Collaboration & Change** - looking at how alliances between authorities, and clients and their providers, can be formed to deliver efficiencies in the delivery of highway maintenance services. Other projects are looking at changing business processes; for instance by applying Lean thinking to the processes behind service delivery and how services or processes can be streamlined to realise efficiencies.
• **Procurement, Contracting and Standardisation** – advising on the routes to procurement enabling authorities to determine how their current service is aligned to current thinking and which is the best procurement option to realise their future service ambitions. It also provides the tools so that efficiencies can arise through the use of, for instance, a standardised form of contract and highway maintenance specification which are better aligned to the activities that local highway authorities undertake.

• **Asset Management** – by providing advice to the sector in the form of updated asset management guidance; for both a simplistic and, where appropriate, more complex lifecycle planning tool to determine whole life asset costs, thus moving away from a reactive to a longer-term approach for maintaining highways assets. To provide training specifically targeted at practitioners to help them move towards an asset management approach and to adopt the new HMEP guidance and tools.

• **Benchmarking & Performance** – collecting, sharing and comparing performance data on Customer/Quality/Cost to help both understanding to show how effective local highway authorities are in delivering Value for Money services and drive targeted efficiencies.

Products and tools are being developed for each of these themes and are being designed to be interdependent, but complementary, so that authorities can maximise their returns from their investments.

**ABOUT THIS TOOLKIT**

The HMEP survey of the sector of October 2011 indicated that 97% of those local highway authorities responding wanted a specification that was more aligned to the maintenance activities that they undertake, as opposed to the current Specification for Highway Works which is aimed at new road construction. In response to this, HMEP has prepared this guidance for the development of a Standard Specification and Standard Details for Local Highway Maintenance.

This is the first release of the document and is aimed at the areas where local highway authorities incur the greatest maintenance expenditure; namely in highway drainage, kerbing and footway works, bituminous surfacing, structural concrete, structural steelwork and winter maintenance activities. The guidance is based on documents returned as part of each authority’s response to the survey. The content of this guidance draws on the good practice within specifications developed for recent tenders and for contracts that are about to be procured, making the content as current as possible.

This guidance represents the beginning of a review of the full range of services local highway authorities undertake. A new product is currently in development that will expand on the scope of the guidance to all series of the specification and incorporate outcome specifications. This is programmed for release towards the end of 2013. However, the sector is encouraged to start to move towards a standardised approach by using this document.
A consistent approach will help to align the documents to the range of services that local highway authorities undertake with associated pricing schedules, method of measurement and bill item generation. This product will be presented with the HMEP suite of procurement documents (IfT, OJEU, PQQ and Form of Contract) within a document compiler platform to enable local highway authorities to procure Term Service Contracts as well as individual projects while moving towards an e-tendering solution.

Significant savings are expected through adopting a standard specification across the sector. The many bespoke forms that currently exist will be rationalised to a single common form. The HMEP version will also be maintained centrally and be updated regularly, saving the resource commitment within each authority to update and maintain their own standard forms. There is also the potential for wider savings throughout the supply chain as all become familiar with the new specification and move away from bespoke forms towards a consistent approach. Authorities are therefore encouraged to start using this guidance now to move towards the aims and ambitions of the wider programme for the sector.

Authorities should resist the temptation to bespoke the specification to suit their particular local needs. If you consider that certain aspects need to be included, please relay the information with the rationale for its inclusion back to the Programme for consideration. If deemed appropriate, it will be included within the next update.

ABOUT THIS DOCUMENT

This document forms Appendix 2 to the Guidance for the Development of Standard Specification and Standard Details for Local Highway Maintenance Contracts, and contains the Standard Detail Drawings developed as part of the Highway Maintenance Efficiency Programme.

Users should refer to Appendix 1 for references to the Specification and Notes for Guidance.

COMMENTS AND FEEDBACK

The HMEP Programme Board would welcome any comments and feedback on this document so that the final product may be reviewed, improved and refined to give the sector the best advice possible. If you wish to make a comment, please email them to highwaysefficiency@DfT.gsi.gov.uk with the header ‘Feedback on the HMEP Standard Specification and Standard Details’.
INTRODUCTION

The Guidance for the Development of Standard Specification and Standard Details for local highway maintenance Contracts has been prepared on behalf of the Highway Maintenance Efficiency Programme to provide a series of standard specification items and drawings for Local Highway Authorities maintenance works.

It has been recognised that the Department for Transport published Manual of Contract Documents for Highways Works was originally developed for the specification of new works on the motorway and trunk road systems, and that it has limitations in its use when specifying maintenance materials for Local Highway Authorities.

Many local highway authorities have, either individually or collaboratively, developed their own variations to the Manual of Contract Documents for Highways Works, illustrating the need for specific items to cover the works undertaken on non-motorway or trunk road routes.

The Highway Maintenance Efficiency Programme (HMEP) has collated these variations, drawn the common themes from the information provided by local authorities, and identified examples of good practice. Material specifications have been standardised where possible to enable cost savings and increased confidence in material quality to be achieved through a consolidation or rationalisation of the available information.

DOCUMENT RELEVANCE

During the development of this document it has been recognised that, to bring maximum benefit to users, additional work is required to expand the current HMEP specification to cover all works undertaken by local highway authorities. In addition it is noted that the DfT is in the process of updating the Specification for Highways Works. The nature and extent of this update is not known at present. As a result this document will require updating.

This work will contribute to a new HMEP product comprising a Standard Term Maintenance Contract and Document Compiler. The scope of this package is to provide Term Maintenance Contract, Method of Measurement and Bill of Quantities for highway maintenance services associated with two other HMEP products (the Form of Contract and Specification).

This document is therefore released as an Interim Document to allow its use by local highway authorities as early enablers in the development of their term service contracts, feeding into the ongoing development of the Brief 13 work package.

Following completion of the Highway Maintenance Efficiency Programme Standard Term Maintenance Contract and Document Compiler this document will be revised to take into account feedback over the development period.
DOCUMENT LAYOUT

The Guidance for the Development of Standard Specification and Standard Details for Local Highway Maintenance Contracts has been developed in three sections:

Section 1:  Guidance for the Development of Standard Specification and Standard Details for Local Highway Maintenance Contracts

The main document provides information on the background to the HMEP work undertaken to date, and on the development of this product.

Section 2:  Appendix 1 - Specification and Notes For Guidance

The Standard Specification document has been sub-divided to mirror the relevant Specification for Highways Works series. The work has been further divided within each series into:

**Specification** - The HMEP guidance provides two forms of specification clauses. These are numbered as HMEP Cl. Xxx, and may be used as Substitute Clauses, SR, replacing the current Specification for Highways Works Clause, or as an Additional Clause AR to the existing Specification for Highways Works. Where additional Notes for Guidance for the Specification clause have been provided the full specification clause has been supplied.

**Notes for Guidance** – Where applicable notes for guidance for the alternate clause have been produced. These are highlighted in an orange box (shown below) and follow the relevant clause. These are numbered as HMEP NG Cl. Xxx

**Additional Guidance** – Where information has been obtained that can be used to aid decisions on the adoption of specification items, or where additional guidance is available from other sources, additional guidance notes have been included. These are highlighted in an orange box (as above), and are numbered as HMEP AG xxx.xx.

Section 3:  Appendix 2 - Standard Details (This Appendix)

Standard detail drawings have been prepared to supplement those provided in the Manual of Contract Documents for Highways Works Highways Construction Details and to expand on the HMEP Specification above. These provide additional standard details for local highways works on non-motorway or non-trunk road systems. They include additional drainage details for minor roads and footway construction details.

The standard details drawings are numbered HMEP – XXX – YYY, where XXX is the Specification for Highways Works series number, and YYY is the sequential numbering for the drawings. These are available separately from this document for download from
the HMEP website as .pdf and .dwg files. These drawings may be referred to either in their original form in this document, or imported into specific contract documents.

In the event that the drawings are imported into contract documents the drawings should be renumbered as contract specific drawings in Appendix 0/4 of the new contract.
STANDARD DETAIL DRAWINGS

The intention of this document is to provide a set of standard details that can be used as a core document in specifying highway maintenance services for local highway networks, complementing local details and methods of work.

When referring to a HMEP standard detail in your documentation use the following description:

“in accordance with HMEP Standard Detail XXX.YYY”.

This means that the reference in your document will be taken from the HMEP Standard Detail Drawings, which will ensure that it is up to date with any revisions.

Alternatively, consent is given for you to copy the standard detail drawing from this document into your authority’s document. If you wish to copy items within this document this is acceptable, but will mean that your standard detail drawing is only as up to date as the version of the document that you hold. References to the HMEP standard detail number should be removed from the drawing and replaced with your standard detail number taken from Appendix 0/4 in your document.

Where the absence of standard detail drawings in the existing Manual of Contract Documents for Highway Works Volume 3 - Highway Construction Details have been noted (such as footway construction) additional detail drawings have been created from the information provided by the contributing local authorities. These details have been produced to support the standard specification and notes for guidance, and may be brought into the contract documentation of potential users by reference to the entire document or individual drawing numbers in Appendix 0/4 to the Specification.

The Highway Construction Details (HCD) is published as Volume 3 of the Manual of Contract Documents for Highway Works and contains standard drawings for use in the construction, improvement and maintenance of local authority roads and footways.

The DfT numbers, titles and dates of the individual drawings, or parts of drawings, included in the contract should be listed in Appendix 0/4 to the Specification.

The following apply to each drawing unless otherwise stated thereon:


2. HMEP means the Highways Maintenance Efficiency Programme Standardised Specification and Standard Details for Local Highway Authorities

3. Reference to a Clause prefaced by Cl. is a reference to a Clause of the Specification for Highway Works.
4. Reference to a Clause prefaced by HMEP Cl. is a reference to a Clause of the Highways Maintenance Efficiency Programme Standard Specification.

5. Reference to a Numbered Appendix (e.g. Appendix 3/1) is a reference to a Numbered Appendix to the contract Specification.

The relevant publication date of each Clause is to be determined from the Schedule of Pages and Relevant Publication Dates in the Specification.

The relevant publication date of each British Standard (BS) and other reference document referred to in the HCD is to be determined in accordance with Clause 004 of the Specification.
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### Standard Detail Drawings

#### Development of Standard Specification and Standard Details

for Local Highway Maintenance Contracts

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Standard Detail Drawings will be made available separately from this document for download from the HMEP website in the form of .pdf files.
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12. Finish to internal concrete to be F1 on formed surfaces and U2 on unformed surfaces.
13. Ends of pipe shall be neatly built into chamber and finished (flush with Class 1 mortar).
14. The nearest joints to chamber shall not be restricted by concrete.
15. Patent interceptors may be required where soakaways are used.
16. Chambers more than 3m deep must be provided with galvanised ladders to dry F10.
17. Surface level tolerance ±6-15 in paved areas, ±5 min. ±10 max. in verges.
18. All concrete below ground shall have SRPC unless otherwise directed by the Overseeing Organisation.

Notes:
1. ALL DIMENSIONS ARE IN MILLI Metres.
2. Chamber size to be as per requirements of Appendix 5/1.
3. Storage capacity to be based on 100% run-off from surrounding impermeable area.
4. Soakage tests in accordance with BRE Digest 385 are required prior to construction. Soakage rate for the trial to be three times the design rate.
5. No part of the soakway may fall beneath the carriageway or footway.
7. Briquettes to be Engineering Class B to BS EN 771 and BS EN 772 laid in English bond in mortar.
8. Mortar bed shall be in accordance with HMEP CL 507 unless specified otherwise in Appendix 5/1.
10. Perforations to be 44 dia. at 650 centres.
11. Top ring may be unpierced.

SOAKAWAY CHAMBER
(PRECUT CONCRETE CONSTRUCTION)
1. Notice: 1. To achieve maximum structural benefit, anti-slip finishes should be used. 2. Modular paving areas can still be rectified after initial installation with clean dry sand. 3. All dimensions in millimetres unless otherwise stated.
Standard Detail Drawings

Development of Standard Specification and Construction Details for Local Highway Maintenance Contracts
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Excavate full width of footway / verge 450mm below finished levels and reinstated with type 1 sub-base 220mm thick, AC 32 dense base 180mm thick, AC 20 dense bind 65mm thick and SMA 10 surface course 35mm thick. Refer to drawing HMEP/1100/05 for details.

Straight saw cut of existing footway

Crownfall 14.0 min (12 max)

Existing footway / verge

Min. 4 x Bit - 15mm kerb check

Existing footway / verge

Existing HB1

Existing HB2

Footway width varies

Cutting/filling path
LIGHTING STANDARD DETAILS
5, 6 METRE TUBULAR STEEL COLUMN (POST TOP)

Scale 1:20

NOTES:
1. All dimensions in millimetres unless otherwise shown.

KEY
- 16mm/55mm
- 127.7 x 4.0mm thick
- Ground level
- Door opening 550 x 100mm
- Cable entry slot 150 x 75mm

HMEP/1300/01 Rev 1

Drawing Number
Approved
Date

DESIGNED
SA

CHECKED
JRB

Drawing Title

Development of Standard Specification and Construction Details for Local Highway Maintenance Contracts
Appendix 2 – Standard Details - November 2012
LIGHTING STANDARD DETAILS
8 METRE TUBULAR STEEL COLUMN (POST TOP)

Drawing Title

Scale 1:20

N.T.S.

Approved

Subs

Date

04/10/12

Drawing Number

HMEP/1300/02

Rev

1

Notes

1. All dimensions in millimetres unless otherwise shown.

Door opening 600 x 195mm

Ground level

0.05m

- Cable entry slot 150 x 75mm

- Ø 164.3 x 5.0mm I/Hack

300mm

270mm

75mm
LIGHTING STANDARD DETAILS
10 METRE TUBULAR STEEL COLUMN (POST TOP)

Door opening 600 x 150mm
Cable entry slot 150 x 75mm

Notes:
1. All dimensions in millimetres unless otherwise shown.
**NOTES:**

1. All dimensions are in millimetres unless otherwise shown indicative layout.
2. Design to comply with BS EN 47 + PD6547.
3. Columns as per manufacturer specification.
NOTES

1. Refer to appendix 13.7.1 for column details.

2. Brackets shall be manufactured from either (a) hot finished circular hollow sections to EN 10219-1 PART 1 EN 10219-3 or to cold formed circular hollow sections without subsequent heat treatment to the dimensional requirements of EN 10219 PART 2 and to the chemical and mechanical properties of EN 10219 PART 1, grade S235 J0 or S235 J0H. The hot finished seamless material shall comply with the yield, tensile and elongation requirements given in BS EN 10219:1993 TABLE 8. All steel tubes shall be powder coated.

3. Size M6 bracket grub screws shall be fitted at works.

4. The bracket shall incorporate an anti-rotation device (10 and 12m columns only).

5. All dimensions are in metres except where shown.

6. The brackets shall be designed to BS EN 444:1993 COLMUNS, welding in accordance with BS EN 287 PART 1, 1992 and BS EN 287 PART 1: 1993.

7. Bracket lengths shall vary up to max size stated.

NOTES

1. Refer to appendix 13/1 for column brackets.

2. Brackets shall be manufactured from either (a) hot finished circular hollow sections to BS EN 10210 part 1 grade S275 J0H, or S355 J0H, or (b) cold formed circular hollow sections without subsequent heat treatment to the dimensional requirements of EN 10219 part 2 and to the chemical and mechanical properties of EN 10219 part 1, grade S275 J0H or S355 J0H. The hot finished feedstock material shall comply with the yield, tensile and elongation requirements given in BS EN 10225:1999 Table 5 (c) all steel tube shall be new stock.

3. Size M8 bracket grub screws shall be fitted an works.

4. The bracket shall incorporate an anti-rotation device as shown (9, 10 and 17m columns only).

5. All dimensions are in millimetres except where shown.

6. The brackets shall be designed to BS EN 449 & PD64547 welding in accordance with BS EN 287 PART 1, 1992 and BS EN 298 PART 1, 1992.

7. Bracket lengths shall vary up to max size stated.

NOTES

1. Refer to appendix 12 A for column details.

2. Adaptors shall be manufactured from either (a) hot finished circular hollow sections to EN 10219-1 grade S275 J0H, or S355 J0H, or (B) cold formed circular hollow sections without subsequent heat treatment to the dimensional requirements of EN 10219 part 2 and to the chemical and mechanical properties of EN 10219 part 1, grade S275 J0H or S355 J0H. The hot finished feetstock material shall comply with the yield, tensile and elongation requirements given in BS EN 10025:1993 table 5. All steel feet shall be new stock.

3. All M8 bracket grub screws shall be fitted at works.

4. All dimensions are in millimetres except where shown.

5. The products shall be designed to BS EN 499, yielding in accordance with BS EN 207 PART 1, 1992 and BS EN 291 part 1:1992.

Fixed to earth terminal in column base compartment

Permanent fixing at this point

Year of production of column and bracket

Name of manufacturer or patented trade mark (See note 2)

Unique code reference relating to bracket projection
relating to the appropriate column and bracket data sheet including revision level

FIG. 1 COLUMN IDENTIFICATION LABEL

1989
10SJE/A

Delivery fixing and contractors installation fixing point

FIG. 2 BRACKET IDENTIFICATION LABEL

1989
d
10S 1W

Unique code reference relating to bracket projection
(see entered on data sheet as ref. No. for bracket projection)

Notes
This detail shows typical arrangements.

1. When trade marks are used they shall also appear at the top of column and bracket data sheets.

2. Identification format shall be year/manufacturer/data sheet No.

3. Inscriptions shall be 7mm high lettering or non-corrosive material on hand stamp.

4. Column identification label to figure 1 shall be provided and fixed at the base compartment of the column.

5. Bracket identification label to figure 2 with detachable fixing shall be fixed to bracket spigot.

6. When a bracket is fixed to a column the bracket identification label shall be permanently attached to column identification label.

Revision Details

By
Date
Rev.

Drawing Title
LIGHTING STANDARD DETAILS
COLUMN AND BRACKET MANUFACTURER IDENTIFICATION LABELS

Scale @ A1
N.T.S.

Designed
S. D. B. 3A

Drawing Number
HMEP/1300/19

Checked
JRB

Approved
R. T. S. 24/10/12

Printed by

Appendix 2 – Standard Details - November 2012
### Abbreviations Used

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<td>Association for Public Service Excellence <a href="http://www.apse.org.uk/">http://www.apse.org.uk/</a></td>
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<tr>
<td>BBA</td>
<td>British Board of Agreement <a href="http://www.bbacerts.co.uk/">http://www.bbacerts.co.uk/</a></td>
</tr>
<tr>
<td>HAPAS</td>
<td>Highway Authorities Product Approval Scheme <a href="http://www.bbacerts.co.uk/product-approval/hapas.aspx">http://www.bbacerts.co.uk/product-approval/hapas.aspx</a></td>
</tr>
<tr>
<td>HTMA</td>
<td>Highways Term Maintenance Association <a href="http://www.htma.co.uk/">http://www.htma.co.uk/</a></td>
</tr>
<tr>
<td>LHAs</td>
<td>Local Highways Authorities</td>
</tr>
<tr>
<td>TfL</td>
<td>Transport for London</td>
</tr>
<tr>
<td>W-mH</td>
<td>Well-maintained Highways UK Roads Liaison Group – Well - Maintained Highways</td>
</tr>
</tbody>
</table>

Unless specifically defined otherwise the definitions of terms used in this document are those in BS 6100, Glossary of Building and Civil Engineering Terms.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAV</td>
<td>Aggregate Abrasion Value</td>
</tr>
<tr>
<td>BBA</td>
<td>British Board of Agrément</td>
</tr>
<tr>
<td>BRE</td>
<td>Building Research Establishment Ltd</td>
</tr>
<tr>
<td>BS</td>
<td>British Standard</td>
</tr>
<tr>
<td>BSI</td>
<td>British Standards Institution</td>
</tr>
<tr>
<td>CBM</td>
<td>Cement Bound Material</td>
</tr>
<tr>
<td>CBR</td>
<td>California Bearing Ratio</td>
</tr>
<tr>
<td>CP</td>
<td>British Standard Code of Practice</td>
</tr>
<tr>
<td>EN</td>
<td>European Standard</td>
</tr>
<tr>
<td>HAPAS</td>
<td>Highway Authorities’ Product Approval Scheme</td>
</tr>
<tr>
<td>HCD</td>
<td>Highway Construction Details</td>
</tr>
<tr>
<td>HMSO/TSO</td>
<td>Her Majesty’s Stationery Office/The Stationery Office</td>
</tr>
<tr>
<td>ISO</td>
<td>International Organization for Standardization</td>
</tr>
<tr>
<td>MDPE</td>
<td>Medium Density Polyethylene</td>
</tr>
<tr>
<td>NG</td>
<td>Notes for Guidance on the Specification for Highway Works</td>
</tr>
<tr>
<td>PC</td>
<td>Portland Cement</td>
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<tr>
<td>PSV</td>
<td>Polished Stone Value</td>
</tr>
<tr>
<td>PVC</td>
<td>Polyvinyl Chloride</td>
</tr>
<tr>
<td>SHW</td>
<td>Specification for Highway Works</td>
</tr>
<tr>
<td>SI</td>
<td>Statutory Instrument</td>
</tr>
<tr>
<td>UKAS</td>
<td>United Kingdom Accreditation Service</td>
</tr>
<tr>
<td>PVC-U</td>
<td>Un-plasticised Polyvinyl Chloride</td>
</tr>
</tbody>
</table>