

# TRANSPORT SCOTLAND TRUNK ROAD CONDITION MANUAL



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# 1 Introduction

## 1.1 Document Control

This is Version 1 (Amendment 1) dated April, 2014 of Transport Scotland’s Trunk Road Condition Manual. The version control table identifies the current Version Number of the Manual and the date it was last modified.

*Note. This manual is a working document and will be updated on an ad-hoc basis to reflect changes to the network, amend existing assets, or to encompass additional assets where required.*

Version No.	Date	Comment	Initials
1.01 -1	25/10/10 – 22/03/13	Working draft document	Redacted 11/2
1	15/04/13	FIRST ISSUE	
Version 1 (Amendment 1)	10/4/14	Update terminology to reflect IRIS modules and remove reference to 4G, replace with neutral OC contract references.	

## 1.2 Enquiries

This manual is controlled by the Trunk Roads and Bus Operations Directorate, and any queries regarding this manual should be directed to:

Transport Scotland  
 Trunk Roads and Bus Operations Directorate  
 Asset Management Branch  
 Buchanan House, 58 Port Dundas Road, Glasgow

### 1.3 Objectives

Detailed Inspections of assets are required to be carried out in accordance with Schedule 7 Part 1 of the Transport Scotland Operating Company Contract. The Operating Companies are required to log all Category 1 and Category 2 Defects into the Routine Maintenance Management function (RMMf), and prioritise, prepare and submit programmes and Bids for the repair of Category 2 Defects. This will produce short to medium term work programmes.

However, effective asset management planning requires the adoption of a long term strategic assessment through the development of lifecycle plans. This is difficult to achieve using short to medium term programmes derived from Category 2 Defects. Accurate lifecycle plans rely upon a detailed and accurate RMMf inventory (Schedule 4 Part 3 of the Transport Scotland Operating Company Contract and the *Transport Scotland Trunk Road Inventory Manual* provide guidance on inventory collection) as well as knowledge of the condition of all assets.

**Objective: The Transport Scotland Trunk Road Condition Manual is intended to provide guidance in collecting high quality condition data in a consistent manner for the preparation of accurate lifecycle information and long term financial planning.**

It is not intended to supersede the contractual requirements covering the way the Operating Companies identify and manage defects arising from detailed and safety inspections.

This *Trunk Road Condition Manual* documents the method of assessing the condition of selected inventory items<sup>1</sup> to provide information that will:

- Feed key performance indicators with respect to safety, serviceability and sustainability (to be reported in Transport Scotland's Road Asset Management Plan),
- Compare the performance of ancillary assets across the trunk road network,
- Support the need for schemes to be considered for inclusion in maintenance programmes,
- Provide information on deterioration curves to support long-term financial planning.

### 1.4 Contents

The contents of this Trunk Road Condition Manual are as follows:

- Section 2 - sets out the inspections and patrols undertaken by the Operating Company in order to identify defects and provide a long-term condition rating for each asset.
- Section 3 - provides a brief outline of Integrated Road Information System (IRIS) and the Routine Maintenance Management function (RMMf).
- Section 4 - describes the network referencing and survey procedures and sets out the general conventions applicable to the data collection and interpretation of RMMf data.
- Section 5 - describes the condition assessment criteria to be used in order to ensure consistency in the condition records.

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<sup>1</sup> Not all inventory items are covered by this Condition Manual since some will have little impact on long term financial planning. Additionally, carriageway and structures assets already have robust methods in place to measure condition which are suitable for lifecycle planning.

## 2 Inspections and Patrols

### 2.1 General

The Operating Company is required to carry out Safety Inspections, Safety Patrols, night time Safety Patrols, Detailed Inspections and Condition Inspections. All information is recorded in the Routine Maintenance Management function (RMMf) in a systematic format via electronic data capture devices (DCD's), using inspection codes and defect codes.

### 2.2 Safety Inspections

Safety inspections are designed to identify those defects which are likely to create a danger to the public and therefore require immediate or urgent attention (*Category 1 defects*). Safety Inspections are carried out at frequencies not exceeding seven days on all Trunk Roads including slip roads in accordance with the requirements of Schedule 7 Part 1 of the Transport Scotland Operating Company Contract.

### 2.3 Safety Patrols

Safety Patrols are designed to supplement Safety Inspections by providing a structured, more frequent surveillance of the Trunk Road Network to identify Category 1 defects. Safety Patrols are carried out on the Trunk Roads described in Schedule 7 Part 1 of the Transport Scotland Operating Company Contract. Safety Patrols are carried out such that a Safety Inspection or Safety Patrol is carried out at intervals not exceeding four days.

Night time Safety Patrols of illuminated signs, illuminated bollards and lighting points (including road lighting, flood lighting, underpass lighting, architectural lighting, navigational lighting and pedestrian lighting) is carried out in accordance with the requirements of the Design Manual for Roads and Bridges except that they are carried out at intervals not exceeding 14 days from 1 October to 31 March and at intervals not exceeding 28 days from 1 April to 30 September.

### 2.4 Detailed Inspections

Detailed Inspections are generally walking inspections designed to establish programmes of routine maintenance tasks which do not require urgent execution (*Category 2 defects*). The Operating Company is required to carry out Detailed Inspections in accordance with the requirements of Schedule 7 Part 1 of the Transport Scotland Operating Company Contract.

Detailed Inspections are generally undertaken at intervals not exceeding 12 months and are normally carried out from the footway, hardshoulder or grass verge on the nearside lane. Where inventory items are within or adjacent to a central reserve on a motorway or dual carriageway, an additional Detailed Inspection of such items is undertaken every 24 months from the offside lane.

As the Detailed Inspections defined in Schedule 7 Part 1 of the Transport Scotland Operating Company Contract require physical sight of each asset, together with some physical testing, the strategic condition of ancillary assets, as defined in the *Trunk Road Condition Manual*, will be undertaken in conjunction with Detailed

### 2.5 Condition Inspections

Effective asset management planning requires the adoption of a long term strategic assessment through the development of lifecycle plans. This is difficult to achieve using short and medium-term programmes derived from the Category 2 Defects identified from Detailed Inspections. A consequence of this is that there may be no information recorded about the condition and, hence, the change in condition of some aspects of the network.

To overcome this lack of information, the Detailed Inspection requirements for some asset types include a regular assessment and reporting of condition. These assessments are referred to as **Condition Inspections** and involve recording the state of the asset in accordance with this **Transport Scotland Condition Manual**.

The main objective of collating condition data is to provide accurate lifecycle information, and not to supersede the contractual requirements covering the way the Operating Companies manage defects arising from the Detailed and Safety inspections.

The condition inspections are primarily designed to:

- Feed key performance indicators with respect to safety, serviceability and sustainability (to be reported in Transport Scotland's Road Asset Management Plan);
- Compare the performance of ancillary assets across the trunk road network;
- Provide information on deterioration curves to support long-term financial planning.

# 3 IRIS

## 3.1 General

IRIS (Integrated Road Information System) is Transport Scotland’s primary road asset management system and is comprised of a number of interrelated components including the Pavement Management function (PMf) and the Routine Maintenance Management function (RMMf).

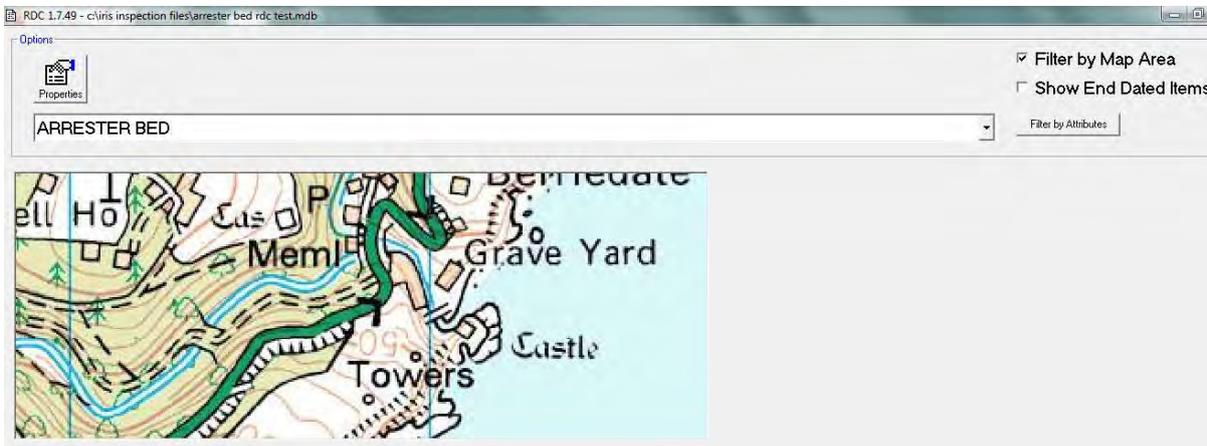


## 3.2 Routine Management Maintenance System

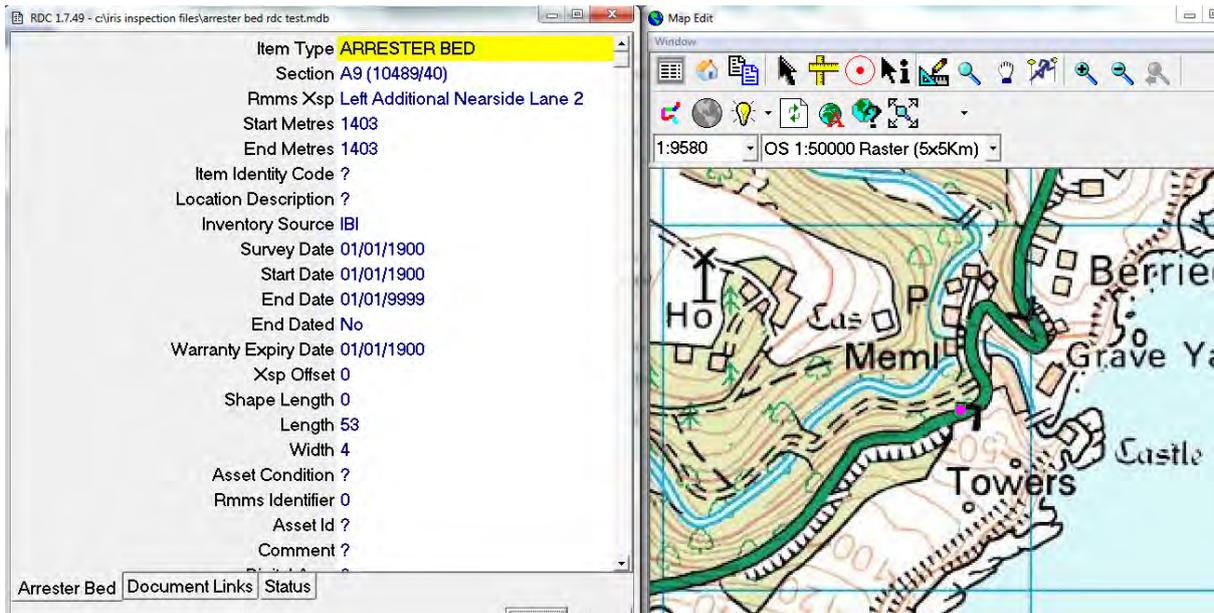
The RMMf implements management procedures for the routine maintenance of the trunk road network. It enables all inspection and other reports, complaints and third party claims to be assessed in conjunction with the inventory, previous maintenance actions and other relevant data.

Assets assessed during the condition surveys are entered into the hand-held data capture devices (DCD’s) and uploaded onto the RMMf database when the inspection has been completed. An overview of the procedure is provided below.

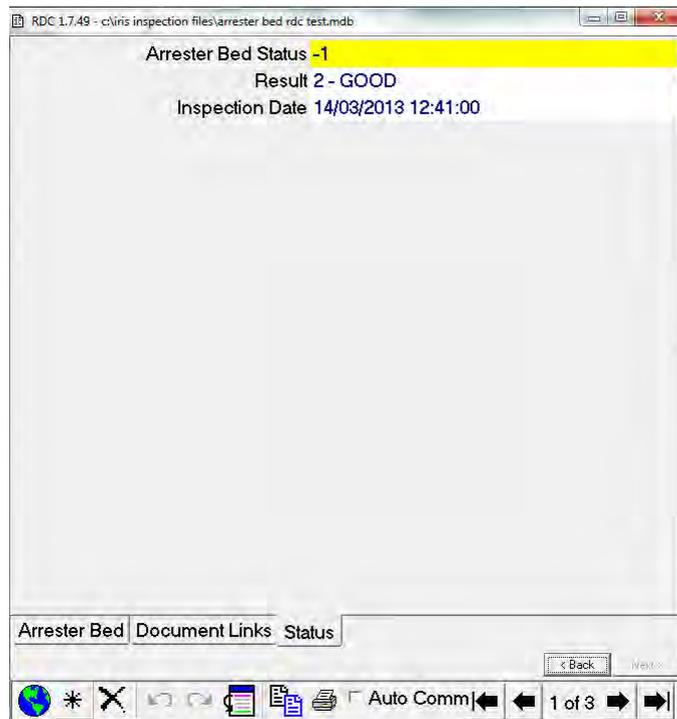
1. Select the Item Type (e.g. Arrester Bed) you intend to edit as well as the map location.



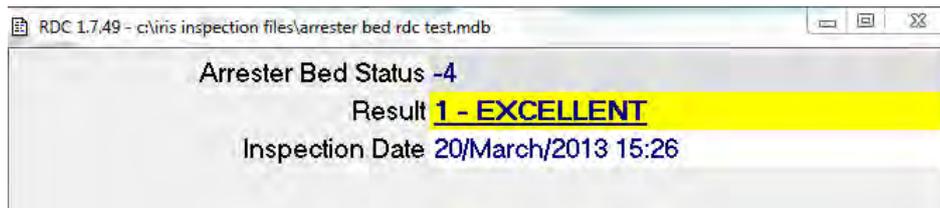
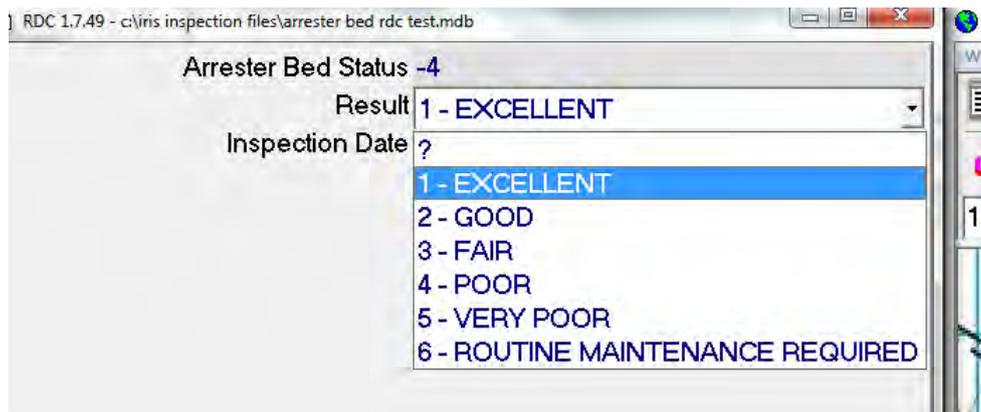
2. Select the individual asset and an editable form appears.



3. Click the 'Status' tab (Condition) to report a condition (any previous inspections will be visible).



4. Click the asterisk to add a new condition and enter the Condition. The Date will automatically default to today. For continuous items you will may also be required to enter 'chainage from' – 'chainage to' for each 100m section.



## 4 Asset Condition Assessment

### 4.1 Asset Groups

At the strategic planning level, individual assets are typically aggregated into asset groups. These are homogeneous in nature thereby allowing them to be modelled together. The key considerations include whether:

- the rate of deterioration is sufficiently different,
- there are differences in renewal costs,
- there are differences in intervention levels/thresholds, to justify another asset group,
- the differences in the severity of the risk arising from deterioration of different types of electrically energised apparatus e.g. disconnection times, RCD protected etc.

The list of asset groups to be condition assessed, linked to the inventory items are listed in Table 1. Each asset group has been allocated a priority rating for collection (low, medium or high) based upon (i) the consequence of asset failure either in terms of the risk to the road user, or maintenance personnel, (ii) financial impact, and (iii) risk to the operational continuity on the network.

Certain assets have not been included either because their condition is assessed by other means e.g. carriageways and footways, hedges and other landscape features or because their impact of lifecycle planning is considered to be relatively small e.g. grips and electrical sundry items.

### 4.2 Condition Assessment for Non Electrical Ancillary Assets

These are assets which have no electrical parts.

As the Detailed Inspections defined in Schedule 7 Part 1 of the Transport Scotland Operating Company Contract require physical sight of each asset, together with some physical testing, the strategic condition of ancillary assets, as defined in this *Trunk Road Condition Manual*, will be undertaken in conjunction with Detailed Inspections.

The frequency for condition assessment is as defined by the requirements for Detailed Inspections for each asset type but with a minimum interval of 1 year. Point items will be assessed individually and continuous and area items will be assessed in 100m lengths.

This manual details the procedures for categorising ancillary assets by the severity of their defects according to five levels of service or categories as follows:

- A. Excellent**
- B. Good**
- C. Fair**
- D. Poor**
- E. Very Poor**

Condition band A is “as new” and is the base year or reset value for all assets after replacement or refurbishment. Assets in condition band C are in fair condition and will be performing to an acceptable

standard. Assets in condition band E are in very poor condition and will generally be beyond their serviceable life.

Where deemed necessary, a **condition band 'R'** has been developed to indicate that routine maintenance is required prior to the assessment of an asset's condition. The Operating Company must ensure that routine maintenance of the asset is undertaken in a timely manner, particularly if the serviceability of the asset is affected or if there is increased risk to the road user.

### 4.3 Condition Assessment for Electrical Assets

#### a) Electrically Energised Lighting Assets

These are assets such as lighting points and illuminated signs.

The strategic condition of lighting electrically energised ancillary assets as defined in this *Trunk Road Condition Manual* will be assessed in accordance with this manual. The assessment will also include those parameters detailed in the condition surveys requirements defined in ILE 'Technical Report 22 – Managing a Vital asset: Lighting Supports' and Schedule 7 Part 1 of the Transport Scotland Operating Company Contract. This work must also address the requirements of the DMRB standards and TD23 and TD25 together with the IEE Wiring Regulations BS7671.

As Detailed Inspections require physical inspection of each asset, together with Routine and Periodic Inspection and Testing, the strategic condition assessment will be undertaken in conjunction with this work. The frequency for condition assessment is as defined by the Detailed Inspections for each asset type. Point items will be assessed individually and continuous and area items will generally be assessed in 100m lengths.

This *Condition Manual* details the procedures for categorising lighting assets by reference to the ILE TR22 document. In order to ensure consistency across asset types (i.e. electrical and non-electrical), the severity of defects being assessed according to the four condition categories shown in the ILE document has been grouped into the *Condition Manual* categories as shown below. The translation of the five categories into four categories is as follows:

- A.     **Excellent = Good**
- B.     **Good = Good**
- C.     **Fair = Fair**
- D.     **Poor = Poor**
- E.     **Very Poor = Bad**

Condition band A is "as new" and is the base year or reset value for all assets after replacement or refurbishment. Assets in condition band C are in acceptable condition and will be performing to an acceptable standard. Assets in condition band E are in very poor condition and will generally be beyond their serviceable life.

Where deemed necessary, a condition band 'R' has been developed to indicate that routine maintenance is required prior to the assessment of an asset's condition. This will not apply to defects in lighting apparatus.

#### b) Electrically Energised Non-Lighting Assets

These are assets such as electrical pumps and related apparatus.

The strategic condition of the electrical elements of these assets will be assessed as defined above in Section 5.3a: Electrically Energised Lighting assets.

The strategic condition of the non-electrical elements of these assets will be assessed as defined above in Section 5.2: Condition Assessment for Non Electrical Ancillary Assets.

**Table 1 – Asset Groupings for Ancillary Assets**

Asset Group	Items	Inventory Item Codes	Priority	Page No.
Covers, Gratings and Frames	Gully, Catch Pit, Interceptor and Manhole	GY, CP, IN & MH	Medium	11
Drainage	Channel	CH	Low	13
Drainage	Piped Drainage and Piped Grip	PD & PG	High	15
Drainage	Filter Drain and Counterfort Drain	FD & CD	Medium	17
Drainage	Ditches	DI	Low	19
Drainage	Culverts < 0.9m (corrugated) or 1.3m (other) diameter	CV	High	21
Drainage	Balancing Ponds	BP	Medium	23
Drainage Ancillary Items (1)	Aprons, Headwalls and Spillways including Grills and Trash screens	AI	Low	25
Drainage Ancillary Items (2)	Penstocks, Sluices, Tidal flaps and Watergates	AI	Low	27
Drainage Ancillary Items (3)	Pumps, Valves and other specialist equipment	AI	Medium	29
Fences and Barriers	Fences and Barriers and Traffic Control Barriers and Pedestrian Guardrail	FB, CB & PR	Medium	30
Geotechnical	Embankments and Cuttings and Retaining walls < 1.5m	EC & RW	High	32
Kerbs and Edgings	Kerb	KB	High	34
Pedestrian and Cycle Facilities	Footway & Cycle Facility	FW & CT	High	36
Road Lighting (1)	Lighting Point, illuminated signs (including gantry mounted signs), lit inclement weather signs, Variable message signs and vehicle activated signs	LP & SG	High	38
Road Lighting (2)	Illuminated bollards	SB	Medium	40
Road Markings	Road Markings, Hatched, Longitudinal, Transverse & Special and Reference Marker Points (Thermoplastic Cores)	LH, LL, RM & RF	High	42
Road Studs	Road Studs	RS	Low	44
Road Restraint Systems	Safety Fences	SF	High	46
Traffic Signals	Traffic Signals	TS	High	50
Traffic Signs (1)	Traffic Signs	SG	High	52
Traffic Signs (2)	Reference Marker Point & Safety Bollards (non illuminated)	RF & SB	Low	54



## Covers, Gratings and Frames

### Permitted Inventory Items

- Catchpit (CP)
- Gully (GY)
- Interceptor (IN)
- Manhole (MH)

<b>Condition Requirement</b>	Assess and record condition of covers, gratings and frames that are associated with the trunk road drainage system.	
<b>Condition Reporting</b>	Per point item	The condition rating is based on one cover, grating and frame and is determined for each point item.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria
<b>A. Excellent</b>	<p>New or nearly new condition. May show obvious signs of new construction and difference in condition and colour of the gully surround to the main carriageway surface.</p> 
<b>B. Good</b>	<p>No visual defects and with few visible signs of surface deterioration. Very minor signs of weathering.</p> 

C. Fair

Minor rocking and projections. Level difference with carriageway not exceeding 10 mm. Relative movements under load not exceeding 10mm. Minor differential between component levels. Minor corrosion of ironwork. Minor deterioration of the surface around the cover.



D. Poor

Projections greater than specified maximum (20mm). Level difference with carriageway exceeding 10mm. Rocking under load. Worn covers. Major differential in component levels. Moderate corrosion of ironwork. Longitudinal gaps of greater than 20mm that could cause danger to cyclists or pedestrians.



E. Very Poor

Missing, cracked or broken covers. Rocking grating or cover causing intrusive noise in urban areas. Major corrosion of ironwork. Collapse of chamber, gully frame and/or major deterioration of the surface around the cover.



R - Routine Maintenance Required

Acceptable structural condition but requires unblocking.





## Drainage - Channels

### Permitted Inventory Items

- Channels (CH)

<b>Condition Requirement</b>	<b>Assess and record condition of combined kerb/channel and linear channel drainage systems.</b>	
<b>Condition Reporting</b>	Per 100m length	The condition rating is based on an overall assessment of each 100m length.
<b>Inspection Interval</b>	1 year	
<b>Condition Category</b>	<b>Condition Criteria</b>	
<b>A. Excellent</b>	New or nearly new construction. May show obvious signs that the channel is new construction i.e. no discolouration to the surfaces.	
<b>B. Good</b>	No visual defects and with few visible signs of surface deterioration. May have slight discolouration to the channel surface.	

Condition Category	Condition Criteria
C. Fair	<p>Minor cracking/ deformation/ alignment of components. Presence of detritus/refuse/weed growth/roots.</p> 
D. Poor	<p>Moderate cracking/ deformation or poor alignment of channel blocks allowing water ingress. Symptoms of blockage or faults of the piped drainage system that prompt further investigation includes backing up and flooding at the entry points, dry outlets, wet areas on verges, and the presence of lush vegetation. Substantial corrosion of metal grating (if used).</p> 
E. Very Poor	<p>Severe cracking/deformation or alignment of components adversely affecting the structural or hydraulic performance or durability of drainage system components. Severe corrosion of metal grating (if used). Failure or incorrect operation of equipment associated with outfall. Failure of surrounding surface areas.</p> 



## Drainage - Piped Drainage

### Permitted Inventory Items

- Piped Drainage (PD)
- Piped Grip (PG)

<b>Condition Requirement</b>	Assess and record condition of piped drains, offset pipes, and piped grips.	
<b>Condition Reporting</b>	Length between inspection points	The condition rating is based on an overall assessment of each pipe length from an external assessment carried out from each end of each section of each length of drainage system.
<b>Inspection Interval</b>	1 year	External inspection of pipe work only

Condition Category	Condition Criteria	
<b>A. Excellent</b>	<p>New or nearly new condition with no obvious visual defects. Obvious signs of disturbance to the surrounding verge area where construction works have taken place.</p> 	
<b>B. Good</b>	<p>No visual defects or blockages and with few visible signs of deterioration. Areas around the works returned to vegetation.</p> 	
<b>C. Fair</b>	<p>Evidence of initial deterioration, including minor cracking/ deformation/ alignment of piped drainage system Presence of detritus/refuse/weed growth/roots. Minor build up of silt/detritus giving slight disruptions to water flow.</p> 	

Condition Category	Condition Criteria
D. Poor	<p>Symptoms of blockage or faults of the piped drainage system that prompt further investigation including backing up and flooding at the entry points, dry outlets, wet areas on verges, and the presence of lush vegetation. Build up of silt/detritus that impedes the water flow through the system.</p> 
E. Very Poor	<p>Severe cracking/deformation/alignment of piped drainage system adversely affecting the structural or hydraulic performance or durability of system components. Failure or deformation of surrounding surface areas. Severe blockages to drainage run causing standing water onto surrounding carriageway.</p> 



## Drainage - Filter Drains

### Permitted Inventory Items

- Counterfort Drains (CD)
- Filter Drains (FD)

<b>Condition Requirement</b>	Assess and record condition of filter drains including material associated with drains and soakaways which may incorporate a properly formed invert or collection pipe.	
<b>Condition Reporting</b>	Per 100m length	The condition rating is based on an overall assessment of each 100m length.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria
<b>A. Excellent</b>	<p>New or nearly new condition with no obvious visual defects. New, clean chippings with no discolouration. Maybe evidence of loose chippings within the surrounding carriageway area as the surface level still proud of the surrounding areas or signs of disturbance in the surrounding grassed areas indicating recent works.</p> 
<b>B. Good</b>	<p>No visual defects and with few visible signs of deterioration. Maybe slight discolouration to the chippings and the level of the drain would have settled slightly below the surrounding areas. Showing no signs of the original construction works and all surrounding grassed areas returned to vegetation.</p> 

<p><b>C. Fair</b></p>	<p>Evidence of initial deterioration, including minor formation of silt crust on the surface. Minor vegetation growth. Drain still functioning correctly.</p> 
<p><b>D. Poor</b></p>	<p>Extensive vegetation growth, extensive silt crust on the surface. Ponding in surrounding areas.</p> 
<p><b>E. Very Poor</b></p>	<p>Filter material displaced onto the carriageway or hard shoulder resulting in a difference in level from surface to drain &gt;100mm. Filter material requires replacement. Evidence of severe ponding.</p> 



## Drainage - Ditches

### Permitted Inventory Items

- Ditches (DI)

<b>Condition Requirement</b>	Assess and record condition of Ditches.	
<b>Condition Reporting</b>	Per 100m length	The condition rating is based on an overall assessment of each 100m length.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria
<b>A. Excellent</b>	<p>New or nearly new condition with no obvious visual defects. Obvious signs of disturbance to the surrounding verge area where the ditch has been cut or cleared. Evidence of detritus on banks where ditch has been cleared.</p> 
<b>B. Good</b>	<p>No visual defects or blockages and with few visible signs of deterioration. Areas around the ditch returned to vegetation.</p> 
<b>C. Fair</b>	<p>Evidence of initial deterioration, including minor silting/weed growth but not impeding water flow. Minor blockages that do not adversely affect the effective operation of the ditch.</p> 

Condition Category	Condition Criteria
D. Poor	<p>Bank erosion, overgrown vegetation, presence of debris and rubbish. Blockages to pipe links on drainage runs. Minor disruptions to the water flow. Extensive cracking to concrete on lined ditches.</p> 
E. Very Poor	<p>Silted up, debris and rubbish causing blockage, water stagnation, defective ditches causing nuisance to adjacent land users. Collapse of the banks causing complete blockages and flow of water severely impeded. Severe cracking to concrete on lined ditches.</p> 



## Drainage - Culverts

### Permitted Inventory Items

- Culvert (CV)

<b>Condition Requirement</b>	<b>Assess and record condition of a culvert and its associated elements.</b>	
<b>Condition Reporting</b>	Per linear item	The condition rating is determined for each linear item. The condition rating is based on an overall assessment of culvert length from an external assessment carried out from each end of the culvert.
<b>Inspection Interval</b>	1 Year	

<b>Condition Category</b>	<b>Condition Criteria</b>	
<b>A. Excellent</b>	<p>New or nearly new condition with no obvious visual defects. Signs that the constructed areas of the structure are new in condition i.e. no discolouration to the surfaces. Signs of disturbance to the surrounding areas, indicating construction works have recently taken place.</p> 	
<b>B. Good</b>	<p>No visual defects and with few visible signs of surface deterioration. Grassed areas around the structure have returned to vegetation.</p> 	

<p>C. Fair</p>	<p>Evidence of initial deterioration, including superficial cracking to the pipes or structure. Minor silting or vegetation growth around the structure. Slight discolouration to the constructed areas of the structure.</p> 
<p>D. Poor</p>	<p>Moderate cracking or deformation of pipes or structure. Some silting and vegetation growth with free flow of water through structure impeded due to minor blockages. Blockages to any fitted grills across the entrances to the culvert.</p> 
<p>E. Very Poor</p>	<p>Requires replacement/rehabilitation, life expired. Severe cracking and or deformation to the pipes or structure. Structure in danger of collapse. Major blockages restricting the free flow of water leading to flooding in surrounding areas.</p> 



## Drainage - Balancing Ponds

### Permitted Inventory Items

- Balancing Pond (BP)

<b>Condition Requirement</b>	<b>Assess and record condition of balancing ponds.</b>	
<b>Condition Reporting</b>	Per point item	The condition rating is determined for each point item. The condition rating is based on an overall assessment of balancing pond from outside the outside of the protective fencing or other safe place.
<b>Inspection Interval</b>	1 year	

<b>Condition Category</b>	<b>Condition Criteria</b>	
<b>A. Excellent</b>	<p>New or nearly new condition with no obvious visual defects. Obvious signs of disturbance to the surrounding verge area where the balancing pond has been cut or cleared. Evidence of detritus on banks where pond has been cleared.</p> 	
<b>B. Good</b>	<p>No visual defects and with few visible signs of deterioration. Grassed areas around the balancing pond have returned to vegetation and minor weathering to constructed elements.</p> 	

<p><b>C. Fair</b></p>	<p>Evidence of initial deterioration, including minor erosion to pond outlet, banks, wall or bunds. (Note: Growth of reed beds is beneficial to water quality and should not be considered a defect).</p> 
<p><b>D. Poor</b></p>	<p>Silting in ponds causing loss of storage capacity. Damage or severe erosion of pond banks, walls or bunds. Blockage of inlet feeder pipe.</p> 
<p><b>E. Very Poor</b></p>	<p>Damage or obstruction to pond outlet, excess water overflowing. Protective fencing at deep water sites damaged.</p> 



## Drainage - Ancillary Items (1)

### Permitted Inventory Items

- Aprons (AI)
- Headwalls (AI)
- Trash screens (AI)
- Grilles (AI)
- Spillways (AI)

<b>Condition Requirement</b>	Assess and record condition of drainage ancillary items.	
<b>Condition Reporting</b>	Per point item	The condition rating is determined for each point item.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria
<b>A. Excellent</b>	<p>New or nearly new condition with no obvious visual defects. May show obvious signs that the construction is new i.e. no discolouration to the surfaces.</p> 
<b>B. Good</b>	<p>No visual defects and with few visible signs of surface deterioration. May have slight discolouration to the surfaces.</p> <div style="display: flex; justify-content: space-around;">   </div>

<p><b>C. Fair</b></p>	<p>Evidence of initial deterioration, including Minor cracking/ deformation/ alignment of components. Presence of detritus/refuse/weed growth/roots.</p> 
<p><b>D. Poor</b></p>	<p>Moderate cracking of headwalls and aprons or deformation/poor alignment of grilles and screens.</p> 
<p><b>E. Very Poor</b></p>	<p>Severe cracking of headwalls and aprons or deformation/alignment of components adversely affecting the structural or hydraulic performance or durability of drainage system components.</p> 



## Drainage - Ancillary Items (2)

### Permitted Inventory Items

- Penstocks (AI)
- Sluices (AI)
- Tidal flaps (AI)
- Water gates (AI)

<b>Condition Requirement</b>	Assess and record condition of drainage ancillary items.	
<b>Condition Reporting</b>	Per point item	The condition rating is determined for each point item.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria
A. Excellent	<p>New or nearly new condition with no obvious visual defects. May show obvious signs that the construction is new i.e. no discolouration to the painted or treated surfaces.</p> <div style="display: flex; justify-content: space-around;">   </div>
B. Good	<p>No visual defects and with few visible signs of surface deterioration. May have slight discolouration to painted or treated surfaces. Correct operation of the equipment.</p> <div style="display: flex; justify-content: space-around;">   </div>

<p>C. Fair</p>	<p>Evidence of initial deterioration, including minor corrosion or misalignment of components. Equipment fully functional but slight accumulation of silt, grit and other detritus.</p> 
<p>D. Poor</p>	<p>Moderate corrosion or misalignment of components. Equipment not functioning correctly and excessive accumulations of silt, grit or detritus.</p> 
<p>E. Very Poor</p>	<p>Severe corrosion or misalignment of components. Equipment nearing the end of serviceable life, including malfunction of the equipment. Excessive accumulations of silt, grit or detritus.</p> 



## Drainage - Ancillary Items (3)

### Permitted Inventory Items

- Pumps (AI)
- Valves (AI)
- Other specialist equipment (AI)

<b>Condition Requirement</b>	Assess and record condition of drainage ancillary items. It may be necessary to refer to specialist inspections undertaken as part the requirements of section 4.12 of Schedule 7 Part 1 of the Term Maintenance Contract to make condition assessment.	
<b>Condition Reporting</b>	Per point item	The condition rating is determined for each point item.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria
<b>A. Excellent</b>	New or nearly new condition with no obvious visual defects. May show obvious signs that the construction is new i.e. no discolouration to the painted or treated surfaces. No picture available
<b>B. Good</b>	No visual defects and with few visible signs of surface deterioration. May have slight discolouration to painted or treated surfaces. Correct operation of the equipment. No picture available
<b>C. Fair</b>	Evidence of initial deterioration, including minor corrosion or misalignment of components. Equipment fully functional but slight accumulation of silt, grit and other detritus. No picture available
<b>D. Poor</b>	Moderate corrosion or misalignment of components. Silt accumulation on retention tanks and pump wet walls. Pumping equipment containing excessive accumulations of silt, grit or detritus. No picture available
<b>E. Very Poor</b>	Pumps and other specialist equipment nearing the end of serviceable life, including malfunction of the equipment. No picture available



## Fences and Barriers

### Permitted Inventory Items

- Fences and Barriers (FB)
- Pedestrian Guardrails (PR)
- Traffic Control Barriers (CB)

<b>Condition Requirement</b>	Assess and record the condition of all types of fencing, walls, snow fences, screens, traffic control barriers and environmental barriers that are not classed as structures. They do not relate to Road Restraint Systems. It does not include the electrical elements of Traffic Control Barriers	
<b>Condition Reporting</b>	Per 100m length	The condition rating is based on an overall assessment of each 100m length.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria
<b>A. Excellent</b>	<p>New or nearly new condition with no obvious visual defects. Surrounding grassed verge areas showing obvious signs disturbance due to construction works. Footway or constructed verge areas around base of posts are in new condition compared with surrounding areas (unless also replaced).</p> 
<b>B. Good</b>	<p>No visual defects and with few visible signs of surface deterioration. Grassed verge areas surrounding posts returned to vegetation. Minimal weathering or pollution from passing traffic.</p> 

Condition Category	Condition Criteria
<p>C. Fair</p>	<p>Evidence of initial deterioration, including minor corrosion, superficial accident damage. Loss of paint, galvanising or other protective system. Minor damage or individual missing rails on fences in rural areas or minor damage to infill panels in pedestrian guardrails.</p> 
<p>D. Poor</p>	<p>Poor structural condition. Corroded metal that affects function or promotes deterioration. Rotten or missing panels/posts. Cracking or spalling of brickwork or concrete that affects the function. Lack of tension in a strained wire fence. Fences non stock proof. Vandalism or minor accident damage that does not affect the safety or workings of the structure.</p> 
<p>E. Very Poor</p>	<p>Accident damage or vandalism that makes the item structurally unsound or makes the item unsafe to road users. Sections of missing fence. Severely corroded so as to make the unit structurally unsafe.</p> 



## Geotechnical Assets

### Permitted Inventory Items

- Embankments and Cuttings (EC)
- Retaining Walls (RW)

<b>Condition Requirement</b>	Assess and record the condition of cuttings and embankments and any associated retaining walls that are not classed as structures (<1.5m high).	
<b>Condition Reporting</b>	Per 100m length	The condition rating is based on an overall assessment of each 100m length of polygon side adjacent to carriageway.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria	
<b>A. Excellent</b>	<p>New or nearly new condition with no obvious visual defects. Obvious signs of construction to banks of embankments, cuttings or retaining walls, with no or minimal vegetation growth. Negligible on HD 41/03 Risk Level.</p> 	
<b>B. Good</b>	<p>No visual defects and with few visible signs of surface deterioration. Banks areas returned to vegetation. Slight weathering to retaining wall structure. Low on HD 41/03 Risk Level.</p> 	

<p><b>C. Fair</b></p>	<p>Evidence of initial deterioration, including minor tension cracks. Dislocated trees. Minor road undulations due to underlying peat. Minor tear in geotextile fabric in a reinforced slope. Minor slippages/falls in areas set back from running lanes. Missing coping, slight tilting or minor cracking to retaining walls. Medium on HD 41/03 Risk Level.</p> 
<p><b>D. Poor</b></p>	<p>Indication of defects such that minor slippages of embankments, cutting slopes or retaining walls may occur. Tension cracks in a soil slope. Inadequate drainage. Minor slides that do not interfere with carriageway or cause danger to users. Presence of slope bulge, severe cracking, or tilting of retaining walls giving indications of possible future failure. Carriageway continuing to receive minor patching repairs. Similar areas of material around current location have already failed. High on HD 41/03 Risk Level.</p> 
<p><b>E. Very Poor</b></p>	<p>Deep seated soil slippage, normally indicated by slip circle. Non-slip related geotechnical defects. Collapse or partial collapse of retaining walls. Settlement causing damage to the carriageway or safety fence. Seepage and contaminated water discharge into the highway drainage. Foundation failures of associated embankment retaining structures. Rock slides resulting in danger to road users or damage to highway condition. Any possible slides causing danger to surrounding public properties. Severe on HD 41/03 Risk Level.</p> 



## Kerbs and Edgings

### Permitted Inventory Items

- Kerb (KB)

<b>Condition Requirement</b>	Assess and record condition of kerbs.	
<b>Condition Reporting</b>	Per 100m length	The condition rating is based on an overall assessment of each 100m length. Where applicable, surveys should coincide with the adjoining footway or cycle track.
	1 year	Category A, B and all other footways and cycle facilities

Condition Category	Condition Criteria
A. Excellent	<p>New or nearly new Kerb, free from defects. May be associated with new footway and/or carriageway works.</p> 
B. Good	<p>No visual defects and few visible signs of kerb deterioration. Slight signs of weathering.</p> 

<p>C. Fair</p>	<p>Evidence of initial deterioration, including minor abrasion/defects minor cracking, and misalignment/projections less than specified maximum (20mm vertical, 50mm horizontal).</p> 
<p>D. Poor</p>	<p>Defects including projections greater than specified maximum (20mm vertical, 50mm horizontal). Loose or rocking items, poor alignment including loss of support for surrounding carriageway/footway. Severe cracking to items leading to water ingress.</p> 
<p>E. Very Poor</p>	<p>Deteriorated kerbs in need of replacement/rehabilitation. Defects including severe disintegration, misalignment and 'significant' number of loose, rocking or missing kerbs.</p> 



## Pedestrian and Cycle Facilities

### Permitted Inventory Items

- Cycle Facility (CT)
- Footway (FW)

<b>Condition Requirement</b>	Assess and record condition of paved areas for pedestrians/ cyclists within the trunk road boundary. Footways include all paved areas on subways and bridges.	
<b>Condition Reporting</b>	Per 100m length	The condition rating is based on an overall assessment of each 100m length.
<b>Inspection Interval</b>	1 year	Category A, B and all other footways and cycle facilities

Condition Category	Condition Criteria
A. Excellent	<p>New or nearly new condition with no obvious visual defects. May have obvious signs of disturbance in the surrounding grassed areas indicating recent works.</p> 
B. Good	<p>An even and comfortable surface, free from defects and with few visible signs of surface deterioration. Showing no signs of the original construction works and all surrounding grassed areas returned to vegetation.</p> 

<p>C. Fair</p>	<p>Free from safety defects but poor visual aesthetics. Evidence of initial deterioration, minor cracking, crazing and fretting. Minor isolated spot defects. Poor quality reinstatements including minor differences in level with original surface. Minor settlement/unevenness or filler loss on block paved areas.</p> 
<p>D. Poor</p>	<p>Extensive cracking, failed patching, potholes, standing water (&gt;10mm deep), small areas of depression (&gt;25mm) or slab trips (&gt;20mm). Extensive missing filler and/or loose blocks. Extensive wearing of screed for cycle facilities.</p> 
<p>E. Very Poor</p>	<p>Requires replacement/rehabilitation, life expired. Effects include extensive and severe surface failure, cracking, distortion or slab trips. Complete loss of screed for cycle facilities.</p> 



## Road Lighting - Lighting Point & Illuminated Signs

### Permitted Inventory Items

- Lighting Point (LP)
- Traffic Signs (SG) Illumination Equipment

<b>Condition Requirement</b>	Assess and record the condition of lighting unit. It is a visual assessment and does not involve electrical testing or access to electrical equipment. Signs faces are assessed under "Traffic Signs 1".	
<b>Condition Reporting</b>	Per point item	The condition rating is based on one column and associated lantern housing and lamp and is determined for each point item.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria
<b>A. Excellent</b>	<p>New or nearly new condition. May show obvious signs that the column is new i.e. no discolouration to the painted or treated surfaces. Obvious signs of disturbance in the surrounding grassed areas. Footway or constructed verge areas around base of posts are in new condition compared with surrounding.</p> 
<b>B. Good</b>	<p>No visual defects and with few visible signs of surface deterioration. Surrounding grassed areas have returned to vegetation. Column may show slight signs of weathering.</p> 

Condition Category	Condition Criteria
<p>C. Fair</p>	<p>Evidence of initial deterioration, including damage to surface coating to either post or luminaire. Fit for purpose.</p> 
<p>D. Poor</p>	<p>Ongoing deterioration. Minor intervention works required imminently and cost to rise substantially if works delayed. Minor corrosion to post. Deterioration to elements of the luminaire.</p> 
<p>E. Very Poor</p>	<p>Physical condition of column and brackets badly deteriorated or nearing end of life. Elements of the luminaire unsafe. Accident or vandalism damage making the unit unsafe.</p> 



## Road Lighting - Illuminated Bollards

### Permitted Inventory Items

- Safety Bollard (SB) (illuminated)

<b>Condition Requirement</b>	Assess and record the condition of road lighting. This is a visual assessment and does not involve electrical testing or access to electrical equipment.	
<b>Condition Reporting</b>	Per point item	The condition rating is based on one bollard associated housing. Non-illuminated bollards are not assessed.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria
A. Excellent	<p>New or nearly new condition. May show obvious signs that the bollard is new i.e. no discolouration of the surfaces.</p> 
B. Good	<p>No visual defects and with few visible signs of deterioration. Bollard may show slight signs of weathering.</p> 

<p><b>C. Fair</b></p>	<p>Evidence of initial deterioration, including minor visible deterioration. Minor damage to the bollard housing.</p> 
<p><b>D. Poor</b></p>	<p>Missing sign face or reflectors. Bent or misshapen bollard. Corrosion of the metal. Damage to the bollard housing.</p> 
<p><b>E. Very Poor</b></p>	<p>Vandalism or Accident damage. Missing or broken bollards.</p> 
<p><b>R. Routine Maintenance Required</b></p>	<p>Acceptable structural condition but requires cleaning.</p> 



## Road Markings

### Permitted Inventory Items

- Road Markings Hatched (LH)
- Road Markings Longitudinal (LL)
- Road Markings Transverse and Special (RM)
- Reference Marker Point (RF) (thermoplastic cores)

<b>Condition Requirement</b>	Assess and record the condition of road markings in paint or thermoplastic materials of all types and colours.	
<b>Condition Reporting</b>	Per 100m length	For Hatched (LH) and Longitudinal (LL) road markings the condition rating is based on an overall assessment of each 100m length.
	Per point item	For Transverse and Special (RM), Pedestrian Crossing (PX) and Reference Marker Point (RF) the condition is assessed for each point item.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria <sup>1</sup>
<b>A. Excellent</b>	<p>New or nearly new condition. Score of 5/5 on the visual assessment of 'Wear' (TD26/07).</p> <div style="display: flex; justify-content: space-around;">   </div>
<b>B. Good</b>	<p>No visual defects and with few visible signs of deterioration. Good night time conspicuity and very little wear, score of 4/5 on the visual assessment of 'Wear' (TD26/07). &gt;100mcd/m<sup>2</sup>/lux retroreflectivity.</p> <div style="display: flex; justify-content: space-around;">   </div>

Condition Category	Condition Criteria <sup>1</sup>
C. Fair	<p>Some initial visible wear and/or fair night time conspicuity characteristics score of 3/5 on the visual assessment of 'Wear' (TD26/07). 80-100 mcd/m<sup>2</sup>/lux retroreflectivity.</p> <div style="display: flex; justify-content: space-around;">   </div>
D. Poor	<p>Visible but has bare spots and poor night time conspicuity, score of 2/5 on the visual assessment of 'Wear' (TD26/07). &lt;80 mcd/m<sup>2</sup>/lux retroreflectivity. Skidding resistance results close to threshold.</p> <div style="display: flex; justify-content: space-around;">   </div>
E. Very Poor	<p>Barely visible, score 0 or 1/5 on the visual assessment of 'Wear' (TD26/07). Below any threshold levels on critical road areas (e.g. Give Way or Stop lines). Below threshold skidding resistance levels detailed in BS EN 1436. &lt;80 mcd/m<sup>2</sup>/lux retroreflectivity on unlit single carriageway. Life expired asset.</p> <div style="text-align: center;">  </div>

<sup>1</sup> Condition Criteria - Categories have been linked to defects in DMRB, TD 26/07.

## Road Studs



### Permitted Inventory Items

- Road Studs (RS)

<b>Condition Requirement</b>	Assess and record condition of retro-reflective and non-reflective road studs of all types and colours.	
<b>Condition Reporting</b>	Per 100m length	The condition rating is based on an overall assessment of each 100m length.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria <sup>2</sup>
A. Excellent	<p>New or nearly new condition. No missing or defective studs.</p> 
B. Good	<p>Few defects or visible signs of deterioration during either during night or day. Up to 5 % defective studs (e.g. showing wear/corrosion/missing/sinkage).</p> 
C. Fair	<p>Evidence of initial deterioration. Between 5% - 10% defective studs (e.g. showing wear/corrosion/missing/sinkage).</p> 

Condition Category	Condition Criteria <sup>2</sup>
D. Poor	<p>Day inspection - Between 10% -25% defective studs (e.g. showing wear/corrosion/missing/sinkage). Night inspection – Between 10% -25% of studs with poor reflective qualities.</p> 
E. Very Poor	<p>Day inspection - more than 25% defective studs (e.g. showing wear/corrosion/missing/sinkage). Night inspection – more than 25% of studs with poor reflective qualities. Any single missing studs in double white lines (legal requirement areas) or loose/displaced studs or loose casings on carriageway irrespective of total % defective.</p> 

<sup>2</sup> Condition Criteria have been linked to defects in DMRB, TD 26/07.



## Road Restraint Systems

### Permitted Inventory Items

- Safety Fence (SF)

<b>Condition Requirement</b>	Assess and record the condition of road restraint systems, including both vehicle restraint systems and pedestrian restraint systems.	
<b>Condition Reporting</b>	Per 100m length	The condition rating is based on an overall assessment of each 100m length.
<b>Inspection Interval</b>	2 yearly	Vehicle road restraint systems

### Metal Road Restraint Systems

Condition Category	Condition Criteria
<b>A. Excellent</b>	<p>New or nearly new condition with no obvious visual defects. May have obvious signs of disturbance in the surrounding grassed areas indicating recent works. Footway or constructed verge areas around base of posts may be in new condition compared with surrounding areas.</p> 
<b>B. Good</b>	<p>No visual defects and with few visible signs of surface deterioration. Grassed verge areas surrounding posts returned to vegetation. Minimal weathering or pollution from passing traffic.</p> 

Condition Category	Condition Criteria
<p>C. Fair</p>	<p>Evidence of initial deterioration including minor corrosion, superficial visual deterioration or superficial accident damage.</p> 
<p>D. Poor</p>	<p>Poor structural condition. Corroded metal that affects function or promotes deterioration. Minor accident damage that does not affect function of barrier. Missing bolts.</p> 
<p>E. Very Poor</p>	<p>Accident damage that affects barrier function. Broken, deformed, missing, loose or cracked components that affect function. Structurally unsound. Missing 'tension' bolts. Road Restraint Risk Assessment Process (RRRAP) failures: Wooden posts, presence of P Terminals or 'Fishtails'.</p> 

## Concrete Road Restraint Systems

Condition Category	Condition Criteria
<p><b>A. Excellent</b></p>	<p>New or nearly new condition with no obvious visual defects. Little discolouration or signs of weathering.</p> 
<p><b>B. Good</b></p>	<p>No visual defects and with few visible signs of surface deterioration. May show slight signs of weathering or pollution from passing traffic.</p> 
<p><b>C. Fair</b></p>	<p>Evidence of initial deterioration including minor staining or superficial accident damage.</p> 
<p><b>D. Poor</b></p>	<p>Cracking, spalling or reinforcement corrosion that is likely to affect the function or promotes deterioration.</p> 

Condition Category	Condition Criteria
E. Very Poor	<p>Severe accident damage that affects function of the barrier. Structurally unsound.</p> 



## Traffic Signals

### Permitted Inventory Items

- Traffic Signals (TS)

<b>Condition Requirement</b>	Assess and record the condition of permanent road traffic signals sited at junctions, outside emergency vehicle stations, at level crossings or at controlled pedestrian crossings. This is a visual assessment and does not involve electrical testing or access to electrical equipment.	
<b>Condition Reporting</b>	Per point item	The condition rating is based on one signal head, controller, column, cabling, push button unit and feeder pillar and is determined for each point item.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria
<b>A. Excellent</b>	<p>New or nearly new condition. May show obvious signs that the signals are new i.e. no discolouration of the surfaces finishes. Obvious signs of disturbance in the surrounding grassed areas. Footway or constructed verge areas around base of posts are in new condition compared with surrounding areas.</p> 
<b>B. Good</b>	<p>No visual defects and with few visible signs of surface deterioration. Surface finishes may show signs of weathering.</p> 
<b>C. Fair</b>	<p>Evidence of initial deterioration including minor visible deterioration, signal element still functioning, still fit for purpose.</p>

Condition Category	Condition Criteria
	
<p>D. Poor</p>	<p>Ongoing deterioration. Works likely to be required imminently. Minor intervention required and cost to rise substantially if works delayed. Misalignment to the road user.</p> 
<p>E. Very Poor</p>	<p>Damage due to vandalism or road traffic accident. Equipment nearing end of serviceable life/signal failure. Inadequate light phasing.</p> 
<p>R. Routine Maintenance Required</p>	<p>Acceptable structural condition but requires urgent cleaning or pruning of vegetation.</p> 



## Traffic Signs (1)

### Permitted Inventory Items

- Traffic Signs (SG)

<b>Condition Requirement</b>	Assess and record the visual condition of permanent road traffic signs, including illuminated signs. It covers loss of sign face, obscuration by dirt/graffiti/foliage and correct orientation to road users. Information relating to reflectivity should be taken from the detailed inspections undertaken in accordance with Schedule 7 part 1 of Term Contract. Electrical equipment is assessed under "Road Lighting".	
<b>Condition Reporting</b>	Per point item	The condition rating is determined for each point item.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria
<b>A. Excellent</b>	<p>New or nearly new condition. May show obvious signs that the sign is new i.e. no discolouration of the surface finish. Obvious signs of disturbance in the surrounding grassed areas. Footway or constructed verge areas around base of posts are in new condition compared with surrounding areas.</p> <div style="display: flex; justify-content: space-around;">   </div>
<b>B. Good</b>	<p>No visual defects and with few visible signs of surface deterioration. Surface finish may show signs of weathering.</p> <div style="display: flex; justify-content: space-around;">   </div>

Condition Category	Condition Criteria
<p>C. Fair</p>	<p>Evidence of initial deterioration including minor colour fade but otherwise in good overall condition. Coefficient of retroreflectivity (CofR) close to required minimum levels.</p> 
<p>D. Poor</p>	<p>CofR below 144 cd/lx/m<sup>2</sup> for Class 1 or below 40 cd/lx/m<sup>2</sup> for Class 2. Misalignment or major obscuration to the road user. Poor condition of associated post and fixings.</p> 
<p>E. Very Poor</p>	<p>Defects represent immediate or imminent failure, i.e. life expired. Structural failure of the sign or fixings. Missing sign. Warning/regulatory sign damaged defective or displaced. Update of the TSRGD making the sign obsolete.</p>  
<p>R. Routine Maintenance Required</p>	<p>Acceptable structural condition but obstructed by vegetation or requires urgent cleaning.</p>  



## Traffic Signs (2)

### Permitted Inventory Items

- Reference Marker Point (RF)
- Bollards/Safety Bollards (SB) (non illuminated)

<b>Condition Requirement</b>	Assess and record the visual condition of bollards and marker points. It covers loss of sign face, obscuration by dirt/graffiti/foilage and correct orientation to road users. Information relating to reflectivity should be taken from the detailed inspections undertaken in accordance with Schedule 7 part 1 of Term Contract. Electrical equipment is assessed under "Road Lighting".	
<b>Condition Reporting</b>	Per point item	The condition rating is determined for each point item.
<b>Inspection Interval</b>	1 year	

Condition Category	Condition Criteria
A. Excellent	<p>New or nearly new condition. May show obvious signs that the marker or bollard is new i.e. no discolouration of the surface finish. Footway or verge areas around base of bollard are in new condition compared with surrounding areas.</p> 
B. Good	<p>No visual defects and with few visible signs of surface deterioration. Surface finish may show signs of weathering. Areas around the bollard returned to vegetation.</p> 

<p>C. Fair</p>	<p>Evidence of initial deterioration including minor discolouration and damage to the surface but otherwise in good overall condition.</p> 
<p>D. Poor</p>	<p>Misalignment or damage to the marker or bollard.</p> 
<p>E. Very Poor</p>	<p>Vandalism or accident damage. Missing or broken bollards.</p> 

# Appendix

## A.1 Footway Categories

Category	Description
A	Footway, steps and the like
B	Urban shopping areas and the like
C	Other areas of high pedestrian concentration e.g. in the vicinity of major hospitals and factories with large numbers of workers who walk to work
D	Steep hills in housing developments and in the vicinity of Old People's Homes
E	Other footways/footpaths

## A.2 Visual Assessment Scoring System (as per TD26/07 Inspection and Maintenance of Road markings and Road Studs on Motorways and All-Purpose Trunk Roads)

Score	Description
0	Non-existent
1	Barely visible
2	Visible, but has bare spots and low night time conspicuity characteristics
3	Marginal, some visible wear and/or fair night time conspicuity characteristics
4	Good night time conspicuity and very little wear
5	Good night time conspicuity and no wear

## A.3 Acronyms

Acronym	Description
RRRAP	Road Restraint Risk Assessment Process
IRIS	Integrated Road Information System
RMMF	Routine Maintenance Management System
PMS	Pavement Management System
DCD	Data Capture Device
CofR	Coefficient of retroreflectivity
XSP	Cross Sectional Position
SRTDb	Scottish Roads Traffic Database

## A.4 Supporting Documents

- Transport Scotland Contract for Management and Maintenance of the Scottish Trunk Road Network, Transport Scotland.
- Transport Scotland Trunk Road Inventory Manual.
- Transport Scotland Trunk Road Inspection Manual.
- HD41/03 Maintenance of Highway Geotechnical Assets, Design Manual for Roads and Bridges, Volume 4, Section 1, Chapter 3 Risk Assessment of Geotechnical Features.
- TD26/07 Inspection and Maintenance of Road Markings and Road Studs on Motorways and All-Purpose Trunk Roads, Design Manual for Roads and Bridges, Volume 8, Section 2, Part 2.
- TD19/06 Requirement for Road Restraint Systems, Design Manual for Roads and Bridges, Volume 2, Section 2, Part 8.
- TD23/99 Trunk Roads and Trunk Road Motorways Inspection and Maintenance of Road Lighting, Design Manual for Roads and Bridges, Volume 8, Section 3.
- TD25/01 Inspection and Maintenance of Traffic Signs on Motorway and All- Purpose Roads, Design Manual for Roads and Bridges, Volume 8 Section 2.
- Institute of Lighting Engineers Technical Report 22, 2002.
- BS EN 1436: 1998: Road marking materials – Road marking performance for road users.
- BS 7671: 2008: Requirements for electrical installations, IEE Wiring Regulations.
- Institute of Lighting Engineers Technical Report 22, Third Edition. Reference TD24 & TD25.