Design Manual for Roads and Bridges

General Principles and Scheme Governance
Inspection & Assessment

GS 801
Asset delivery asset inspection requirements

Revision 1

Summary
This document contains inspection and assessment requirements for motorways and all-purpose trunk roads.

Application by Overseeing Organisations
Any specific requirements for Overseeing Organisations alternative or supplementary to those given in this document are given in National Application Annexes to this document.

Feedback and Enquiries
Users of this document are encouraged to raise any enquiries and/or provide feedback on the content and usage of this document to the dedicated Highways England team. The email address for all enquiries and feedback is: Standards_Enquiries@highwaysengland.co.uk

This is a controlled document.

Contents

Release notes

Version	Date	Details of amendments
1	Mar 2020	Revision 1 (March 2020) Update to references in England National Application Annex only. Revision 0 (November 2019) GS 801 document created to outline inspection and assessment requirements for motorways and all-purpose trunk roads. This full document has been written to comply with the new Highways England drafting rules.

Foreword

Publishing information

This document is published by Highways England.

Contractual and legal considerations

This document forms part of the works specification. It does not purport to include all the necessary provisions of a contract. Users are responsible for applying all appropriate documents applicable to their contract.

Introduction

Background

This document covers the requirements related to inspection management of motorway and all purpose trunk roads and associated assets, including the planning and delivery of highway inspections, ensuring compliance with statutory and business requirements in this respect.

This includes both safety and condition inspections upon the affected property and all associated management of asset condition data.

Assumptions made in the preparation of this document

The assumptions made in GG 101 [Ref 1.N] apply to this document.

1. Scope

Aspects covered

1.1 The national requirements for inspection and assessment of motorway and all purpose trunk roads and associated assets, detailing the high-level concept and contents of the inspection requirements set out in the National Application Annexes shall be followed.

Implementation

1.2 This document shall be implemented forthwith for asset delivery asset inspection requirements on the Overseeing Organisations' motorway and all-purpose trunk roads according to the implementation requirements of GG 101 [Ref 1.N].

Use of GG 101

1.3 The requirements contained in GG 101 [Ref 1.N] shall be followed in respect of activities covered by this document.

2. Normative references

The following documents, in whole or in part, are normative references for this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Ref 1.N	Highways England. GG 101, 'Introduction to the Design Manual for Roads and Bridges'

General Principles and Scheme Governance
Inspection & Assessment

GS 801
England National Application Annex to GS 801 Asset delivery asset inspection requirements

Revision 1

Summary
This National Application Annex sets out the Highway England asset delivery specific requirements in relation to the carrying out of inspection activities on the affected property.

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Introduction

Background

This National Application Annex (hereinafter referred to as asset delivery asset inspection requirements) sets out the Highway England asset delivery specific requirements in relation to the carrying out of safety and condition inspection activities on the affected property.

Highways England has legal duties with respect to the inspection and assessment of the network. These legal duties are derived from the following enabling legislation;

1) Highways Act 1980 Highways Act 1980 [Ref 11.N];
2) Infrastructure Act 2015 Infrastructure Act 2015 [Ref 13.N].

Inspections are carried out to identify and report on defect(s). The output from the inspections will be used to inform asset management decisions by risk assessing the defect(s) to determine its mitigation. This should take into account the assets life-cycle and be a positive benefit to reduce the progressive deterioration of safety, reliability and quality of highway assets. In turn inspections will prolong asset life, deliver sustained performance and keep assets safe for customers.

Assumptions made in the preparation of this document

The assumptions made in GG 101 [Ref 18.N] apply to this document.

The approach set out in GG 104 [Ref 23.N] applies to this document.

Abbreviations

Abbreviations

Abbreviation	Definition
ADAMr	Asset Delivery Asset Maintenance requirements
ADMM	Asset Data Management Manual
APTR	All-purpose trunk roads
DMRB	Design Manual for Roads and Bridges
ILM	Intelligence-Led Maintenance
MCHW	Manual of Contract Documents for Highways Works
MIDAS	Motorway Incident Detection and Automatic Signalling
MRP	Maintenance Requirement Plan
RCD	Residual Current Device
ROC	Regional Operating Centre
SRN	Strategic road network
TOC	Technology Operations Capability

Terms and definitions

Terms

Term	Definition
Affected property	The lengths of all-purpose trunk road and/or motorway (including carriageways, hard shoulders, slip roads, roundabouts and access roads) and the associated premises, infrastructure and other amenities to be maintained and operated.
Asset delivery	Highways England's asset management model contract in which Highways England directly manages maintenance and capital renewal and improvement schemes.
Defect	A defect to the asset is that it: 1) causes an unintended hazard, nuisance or danger to the users of the highway; 2) represents a deterioration from the normal condition; 3) prevents the asset from acting in the intended manner; 4) is damaged; 5) is likely to increase the rate of deterioration of another asset.
Deliverable	An output delivered by the processes that contributes to the achievement of the outcomes.
Intelligence-led maintenance	The use of data and knowledge to design the optimum maintenance intervention for individual assets.
Maintenance requirement	A requirement relating to maintenance service delivery.
Network	Highways England's motorway and all-purpose trunk roads network.
Network safety inspections	Safety patrols and safety inspections that are predominantly focused on ensuring the network is safe and serviceable to deliver a service customers can trust, including lighting operational inspections checking for outages of illuminated signs and lighting; technology operational inspections checking for outages of illuminated electronic signs and signals.
Network condition inspections	Asset condition inspections that look at the longer term condition of all asset items.
Outcome	A result required to be achieved in relation to a specific maintenance requirement.
Principal inspection	As defined in CS 450 [Ref 16.N].
Priority drainage asset	Those assets which, if poorly managed or inadequate, pose a risk to either the safety or journey time reliability of road users, or to adjacent property, or to the water environment (or any combination of these).
Targeted inspections	Targeted inspections are ad-hoc inspections carried out where required to address specific local risks.

E/1. Inspection requirements

Objectives

E/1.1 The requirements of this document shall be applied for asset delivery only.

E/1.2 The asset inspections shall be underpinned by a number of key objectives:

1) improve safety risk for all exposed populations who are either using, working on or affected by motorways and all-purpose trunk roads;
2) improve customer experience;
3) stabilise maintenance and renewal costs through the use of emerging methods;
4) inform delivery of capital improvements to the affected property.

Risk based approach to defect prioritisation

E/1.3 In order to determine the appropriate intervention and timescale to be applied to the rectification of a defect, the risk of the defect shall be determined and a record kept of any decision making.

NOTE *Defects that require prompt attention are those identified because there is an immediate or imminent risk of either one or more of the following occurring:*

1) injury to any party using or repairing the network;
2) failure of an asset to fulfil its intended function where such an asset protects the road user and or facilitates the safe use of the network;
3) failure of an asset necessary to effectively enforce the compliance with a mandatory or prohibitory requirement;
4) liable to leave the Secretary of State in breach of one or more of their statutory duties; and
5) graffiti likely to cause offence.

Asset data sources

E/1.4 All asset data shall be recorded as set out in the Asset Data Management Manual (ADMM).

E/1.5 The asset data shall be utilised throughout the different activities and stages of the asset's life cycle as follows to ensure the asset functions as intended:

1) ensuring maintenance operations are carried out appropriately;
2) defect reporting – recording and responding to asset defects;
3) maintenance management; and
4) supporting the processes, systems and information on the occurrence, effectiveness and costs of various regimes of maintenance applied to the infrastructure assets.

E/1.6 When reviewing asset intelligence, the identification of any asset gaps and mitigation measures, along with the sources of the intelligence shall be used to inform any variance from the baseline maintenance requirements set out in GM 701 [Ref 3.N].

E/1.7 To embed intelligence led maintenance, accurate and reliable asset data shall be used to determine the most effective maintenance regime and to enable the ongoing review and evolution of the maintenance requirements plan (MRP).

NOTE *The ongoing review of asset data over time ensures that the most effective maintenance regime is in place and identifies areas where a scheme is required to reduce maintenance interventions further.*

Inspection requirements

E/1.8 Inspections for network safety and network condition of the affected property shall be utilised to gather data that informs asset management decisions.

E/1.9 All risks shall be controlled so that residual risk exposure for any person or to any asset is tolerable as per GG 104 [Ref 23.N].

E/1.9.1 The processes and procedures for managing and undertaking inspections should provide a robust, auditable assurance of GG 104 [Ref 23.N] compliance.

E/1.10 The inspection regime shall provide an important means by which claims relating to loss or damage caused by defects can be defended and repudiated by proving:

1) acceptable policies and procedures are in place to maintain the highway;
2) the policies and procedures were being performed; and
3) there was no prior knowledge of a defect before the incident date.

Inspection approach

E/1.11 Inspections shall be undertaken to maintain a safe network and to monitor and manage asset condition.

E/1.12 The inspections shall include a focus on improving customer satisfaction.

NOTE *Aspects to consider include the appearance of the network and the extent of litter in line with the DEFRA code of practice Litter CoP [Ref 6.N].*

E/1.13 Where maintenance activities are the responsibility of a third party, the third party shall be notified of the findings of the inspection and the need for them to carry out work.

NOTE *Duty bodies are responsible for sweeping and cleaning on much of the all purpose trunk road network as identified in the litter strategy HE Litter Strategy [Ref 12.N].*

E/1.14 An assessment detailing knowledge of the condition of the affected property including risks, defects and potential defects shall be completed to ensure there is a thorough and documented understanding of the character of the affected property and the traffic expected to use it.

E/1.14.1 Traffic is not limited to vehicles but should include pedestrians, equestrians, cyclists and other users of the affected property.

E/1.14.2 To support the delivery of the approach to inspections and necessary prioritisation, clear processes and procedures should be developed.

NOTE *The safe and effective identification and control of defects is a key aspect of the inspection requirements.*

Inspection types

E/1.15 The following inspection types shall be implemented;

1) network safety - safety patrols and safety inspections that are predominantly focused on ensuring the network is safe and serviceable to deliver a service customers can trust, including lighting and technology operational inspections; and
2) network condition - inspections that look at the longer term condition of all asset items.

NOTE 1 *Unlike civil infrastructure assets that are measured by their overall condition, roadside technology is measured by its overall availability of the service it provides to users.*

NOTE 2 *Technology operational inspections of a roadside asset are usually undertaken remotely by the Technology Operations Centre (TOC) and any roadside assistance required to repair a technology defect will be identified by the TOC to the Regional Operations Centre (ROC).*

E/1.16 Additional targeted inspections shall be introduced to address specific local risks which can include but not be limited to flooding hotspots immediately before and after severe weather, and high risk structures.

Inspector competency

E/1.17 All personnel undertaking network safety and condition inspections shall be responsible and competent for the task undertaken, have received suitable training and be fully conversant with the relevant inspection requirements, customer service imperative and guidance documents.

Inspection process

E/1.18 Inspections shall be undertaken in accordance with the requirements of this document and all relevant asset-specific DMRB and quality management system processes.

E/1.19 Asset data shall be collected and recorded in accordance with the requirements of the ADMM [Ref 2.N] and health and safety file requirements.

E/2. Inspections for network safety

General

E/2.1 Knowledge of the character of the affected property (including traffic and condition) and the requirements of this document shall be used to establish an inspection regime.

E/2.1.1 Inspection frequencies may vary depending on the type of inspection, asset characteristics and the network characteristics.

E/2.2 The optimum frequencies for safety patrols and safety inspections shall be established to ensure that the network remains safe and serviceable and meets the customers' needs and expectations.

E/2.2.1 Additional targeted inspections may be carried out as required.

E/2.3 The methodology for undertaking inspections shall depend upon the network characteristics, its accessibility and the safety of inspecting.

E/2.3.1 For some locations it may be necessary or appropriate for the inspection to be undertaken on foot.

E/2.4 The appropriate inspection frequencies and the methodology for inspecting shall be set using a risk-based approach with a thorough understanding of the character of the affected property and the traffic expected to use it.

E/2.4.1 A risk category and inspection frequencies should be established for each inspection by undertaking an analysis and risk assessment of asset data and other intelligence.

E/2.5 Inspections shall be carried out in compliance with current legislation, standards, Highways England requirements and guidance and with identified controls in place.

Safety patrols

E/2.6 Safety patrols shall be carried out using a suitable method to ensure the network is safe, serviceable and meets our customers' needs and expectations by ensuring, as far as possible, that defects and imminent defects are identified to be made safe.

Safety inspections

E/2.7 Safety inspections shall be carried out using a suitable method and include all the duties of a safety patrol, and extends to include identification of defects before they become hazardous.

Lighting operational inspections

E/2.8 A lighting operational inspection shall be undertaken to check for outages of illuminated signs and road lighting in accordance with the requirements of TS 501 [Ref 24.N].

Network risk categorisation and inspection frequency

E/2.9 The frequency of safety patrols and safety inspections shall be determined by the risk categorisation of the particular link of the network.

E/2.9.1 The risk categorisation should be assessed in accordance with GG 104 [Ref 23.N] using factors including a combination of traffic flow data, percentage HGVs, accident data, occurrence of significant reactive defects and local knowledge of area specific issues.

E/2.10 The network risk category shall be re-assessed if the traffic flows change or the layout is altered significantly.

E/2.11 For each risk categorisation (high, medium, low) the minimum safety patrol and safety inspection frequencies shall be as set out below:

1) high risk links:
    a) safety patrol: daily (but not on days that a safety inspection is undertaken);

b) safety inspection: weekly;

2) medium risk links:

a) safety patrol: weekly (but not on weeks when a safety inspection is undertaken);

b) safety inspection: fortnightly;

3) low risk links:

a) safety patrol: fortnightly (but not on fortnights that a safety inspection is undertaken);

b) safety inspection: four weekly.

E/2.12 All defects, including roadside technology defects, that have the potential for deterioration and could cause a risk to the achievement of the outcomes or cause a danger to the users of motorways and all-purpose trunk roads shall be monitored.

Targeted inspections

E/2.13 Targeted inspections shall be carried out where required, to address specific local risks as determined appropriate by level of risk.

E/2.13.1 Targeted inspections may be incorporated within a safety patrol or safety inspection or carried out as a separate activity.

E/3. Inspections for network condition

General

E/3.1 Data shall be gathered in network condition inspections to build an understanding of the long term performance of the asset.

E/3.2 A condition inspection shall include all the duties and outcomes of a safety inspection.

E/3.3 Any safety defects identified during condition inspections shall be addressed in the same way as they would be if they had been identified during safety patrols or safety inspections.

E/3.4 Unplanned asset condition inspections shall be undertaken as required to address urgent safety needs e.g. following an incident or report of a damaged asset.

E/3.5 Data collated from condition inspections shall be recorded in accordance with the requirements of ADMM [Ref 2.N] and the relevant asset inventory databases.

E/3.6 A detailed condition inspection shall be carried out for the affected property.

E/3.7 The frequency of the condition inspections shall be in accordance with DMRB, unless the frequency has been adjusted in accordance with this document.

E/3.7.1 Traffic management support, or additional specialist support (such as structures or environmental) should be utilised where required.

E/3.8 All planned and dynamic risk assessments shall be completed prior to commencement or re-commencement of an inspection.

E/3.9 Appropriate methods of data collection shall be used.

Asset condition grades

E/3.10 Condition grades shall inform the planning and generation of future renewals schemes.

E/3.11 Where no asset grading system exists in DMRB, the assets shall be assessed against the 5 point condition grading scale set out in Table E/3.12.

E/3.12 The condition shall be visually assessed using the grading definitions and a grade assigned to each asset in Table E/3.12.

Table E/3.12 Grade condition definitions

Grade	Condition
1	As new
2	Superficial damage/deterioration with no loss of performance
3	Some damage/deterioration and performance can be slightly reduced
4	Significant damage/deterioration and performance severely reduced
5	Significant damage/deterioration/missing/failed, no longer fulfils its intended purpose
9	Inspection attempted but not completed (note 1)
0	Assessment not attempted (note 2)

NOTE 1 Where the inspection of an asset has been attempted, but it was not possible to assess the condition (for example due to access problems), a grade of 9 is assigned.

NOTE 2 Where the assessment of the asset's condition has not been attempted, a grade of 0 is assigned. Examples of this can include:

1) the asset record not being produced during a field survey;

2) recording of that asset's condition is irrelevant (e.g. for ghost nodes); and

3) the previously recorded asset could not be found in the field.

NOTE 3 Grade condition for operational status of technology assets are provided by the TOC for each non-passive asset.

Asset type 0300 - Fences, screens and environmental barriers

E/3.13 The inspection regimes to assess and record asset condition and purpose of the fences, walls, screens and environmental barriers asset shall be as per the following frequencies:

1) integrity - 6 months;
2) structural condition and purpose - 2 years.

NOTE For any fence, wall, screen or environmental barrier that is designed / designated as a structure as per CG 300 [Ref 28.N] see Asset type 1700 below.

Procedural requirements

E/3.14 Inspection of barriers shall be carried out to determine if any defects impact on the safety or stability of the fence, screen or environmental barrier.

E/3.15 Where inspections or third parties identify adjacent landowner's fences, screens or environmental barriers as defective, the responsible party shall be informed of their obligation to rectify the defect.

E/3.16 Inspections shall assess that the rectification of defects comply with specifications for the fences, screens and environmental barrier assets as set out in relevant parts of MCHW Volumes 1, 2 and 3 MCHW [Ref 21.N].

Asset type 0400 - Road restraint systems

E/3.17 Inspection regimes to assess and record asset condition of road restraint systems shall be in accordance with BS 7669-3 [Ref 31.N].

Procedural requirements

E/3.18 Inspections shall establish a programme of routine maintenance and are to be undertaken in accordance with BS 7669-3 [Ref 31.N].

E/3.19 Inspections shall examine barrier components in line with manufacturer's recommendations, or, in the absence of manufacturer's recommendations (e.g. on non-proprietary or legacy safety barrier systems), in accordance with BS 7669-3 [Ref 31.N].

E/3.20 Inspections shall assess that rectification of defects in non-proprietary and legacy safety barrier systems is in accordance with BS 7669-3 [Ref 31.N].

E/3.21 Inspections shall assess that rectification of defects in proprietary road restraint systems is in accordance with the manufacturer's recommendations.

Asset type 0500 – Drainage and service ducts

E/3.22 Inspection regimes to assess and record asset condition of drainage assets shall be in accordance with DMRB, with the following frequencies.

1) piped drainage systems and piped grips - 10 years, 10% a year;
2) balancing ponds (structural & service condition), retention tanks - every 2 years;
3) ecological condition of ditches and balancing ponds to be considered as an environmental inspection (see Asset type 3000 Landscape and ecology);
4) wetlands for drainage purposes - 2 times per annum;
5) pumps, valves, check operation / cycle isolation valves, penstocks and other specialised equipment - in line with manufacturer's instructions;

6) soakaways - every 2 years;
7) manholes, catchpits every 10 years, 10% visual inspection a year (non-intrusive inspection);
8) ditches - 5 years, 20% a year;
9) linear drainage systems, grassed surface water channels, grips, gullies, grit traps, cross c/w culverts (less than 900mm), headwalls and tidal flaps, aprons, pump wet wells - annually;
10) interceptors, vegetative treatment systems, sluices and tidal flaps - annually.

Procedural requirements

E/3.23 Asset risk assessments shall be verified and risk status A1, A and B priority drainage assets investigated in accordance with CS 551 [Ref 8.N].

E/3.24 Inspections shall assess compliance with specifications for the drainage asset as set out in relevant parts of MCHW Volumes 1, 2 and 3 MCHW [Ref 21.N].

Asset type 0600 – Geotechnical assets

E/3.25 Inspection regimes to assess and record asset condition of the geotechnical asset shall be in accordance with DMRB, with the following frequencies.

1) routine inspection – frequency based on risk assessment;
2) principal inspection – frequency based on risk assessment.

Procedural requirements

E/3.26 Activities shall be undertaken in accordance with CS 641 [Ref 20.N].

E/3.27 Risks shall be managed in accordance with CD 622 [Ref 19.N].

Asset type 0700 – Paved areas

E/3.28 Inspection regimes to assess and record asset condition of paved areas shall be as per the following frequencies.

1) motorways/rural all-purpose trunk road (APTR) carriageways - 1 year;
2) urban APTR carriageways / footways / cycle tracks - 6 months;
3) rural APTR footways / cycle tracks - 3 years.

Procedural requirements

E/3.29 Identification of defects relating to asphalt or concrete carriageways shall be in accordance with the MCHW [Ref 21.N], or CD 227 [Ref 7.N] respectively and the associated DMRB volume.

NOTE *Note that paved area defects include response to diesel spillages.*

E/3.30 Identification of defects relating to asphalt or concrete footways and cycle tracks shall be in accordance with CD 239 [Ref 9.N] and the associated DMRB volume.

E/3.31 In the event that completed repairs are defective within the guarantee period as defined in 'Specification for the reinstatement of openings in highways (3rd ed.)' SROH [Ref 27.N], the statutory undertaker shall be informed of the defects using the procedure contained in Chapter 4 of the 'Code of practice for inspections (2nd ed.)' NRSWA COP [Ref 5.N].

NOTE *Statutory undertakers or licence holders who are governed by the NRSWA COP [Ref 5.N] to execute minor repairs to paved areas.*

E/3.32 Where immediate risks are posed to the safety of the road user, defects shall be made safe and or rectified and costs recovered from the statutory undertaker.

E/3.33 Implementation of signs, warning of slippery conditions, shall be in accordance with CS 228 [Ref 26.N].

E/3.34 Asset data shall be recorded using the appropriate system defined in ADMM [Ref 2.N].

Asset type 1200 – Road markings and studs

E/3.35 Inspection regimes to assess and record asset condition of road markings and studs shall be in accordance with the requirements of CS 126 [Ref 14.N].

NOTE *Delivering the requirements of CS 126 [Ref 14.N] helps to maintain the effectiveness of all road markings and studs, being clearly visible to road users, both day and night.*

E/3.36 Identification and rectification of defects in road markings and studs shall be in accordance with CS 126 [Ref 14.N].

Procedural requirements

E/3.37 The inspection regimes shall support the proactive management of the deterioration of road markings and road studs such that they give effect to regulatory provision in the TSRGD [Ref 29.N].

E/3.38 Inspection of the road markings and road studs to obtain asset inventory and condition data shall be as defined in CS 126 [Ref 14.N].

E/3.39 Effective inspection shall capture the need to correct or make safe all defects (as defined in CS 126 [Ref 14.N]).

Asset type 1200 - Traffic signs

E/3.40 Inspection regimes to assess and record asset condition of signs shall be as per the following frequencies:

1) electrical testing in accordance with BS 7671 [Ref 22.N];
2) inspections in accordance with CS 125 [Ref 17.N].

NOTE *Consideration of the need to inspect signs on tactical and strategic diversion routes.*

Procedural requirements

E/3.41 Inspections of road traffic signs to obtain asset inventory and condition data shall be in accordance with CS 125 [Ref 17.N].

E/3.42 Manufacturing faults or defects identified within a sign's warranty period shall be enforced in accordance with CS 125 [Ref 17.N].

E/3.43 Signs ceasing to have effect as defined in Regulation 3 of Road Traffic Regulation Act RTRA 1984 [Ref 25.N], and those which are obsolete as defined in CS 125 [Ref 17.N] shall be identified for removal.

E/3.44 Defects shall be identified in accordance with CS 125 [Ref 17.N].

E/3.45 Inspect repair or replacement of signs shall be in accordance with CS 125 [Ref 17.N].

NOTE *Regulatory provision for road traffic signs is given in TSRGD [Ref 29.N], and includes those specially authorised by the secretary of state under Section 64 of the Road RTRA 1984 [Ref 25.N].*

Asset type 1300 - Lighting

E/3.46 Inspection regimes to assess and record asset condition of the lighting asset shall be as per the following frequencies:

1) lighting - following each maintenance intervention and in conjunction with electrical testing;
2) electrical testing in accordance with BS 7671 [Ref 22.N] - 6 years;
3) records contained in feeder pillars, switch rooms and other electrical equipment (including corresponding centrally held records) are up to date and in good condition - following any maintenance intervention;

4) structural testing of lighting columns less than 20m in height from 15 years on-wards after installation - 6 years;
5) feeder pillars to be inspected for structural defects (e.g. bolts, hinges) - 6 years.

Procedural requirements

E/3.47 Inspections of road lighting to obtain asset inventory and condition data shall be in accordance with TS 501 [Ref 24.N].

E/3.48 Defects shall be identified in accordance with TS 501 [Ref 24.N].

E/3.49 The categorisation of column defects shall be in line with ILP GN22 [Ref 4.N].

Asset type 1500 - Roadside technology

E/3.50 Inspection regimes to assess and record asset condition of the technology asset shall be as per the following frequencies:

1) roadside technology – during reactive maintenance visit but within specified frequency defined within MRP or every 2 years if no frequency is defined;
2) traffic signals - 1 year;
3) electrical inspections of cabinets and residual current device (RCD) functional test - 1 year;
4) power distribution records as typically contained in 609EI and 609P cabinets are up to date and in good condition – 1 year;
5) electrical testing to all low voltage technology assets and structural testing of technology columns less than 20M in height - 6 years to BS 7671 [Ref 22.N];
6) optimisation of MIDAS detectors (loops and radar) using remote analytical tools in accordance with MCH 2584 [Ref 10.N] - 1 year.

Procedural requirements

E/3.51 A risk based methodology shall be developed and implemented to govern the frequency of inspection to ensure that;

1) technology electrical testing interval (6 yearly) has been delivered effectively;
2) technology traffic signal inspections are to be undertaken in accordance with TS 101 [Ref 30.N].

NOTE 1 *Roadside technology defects are categorised based upon the risk that the reduced availability of the service to which the asset provides has upon the key objectives. Defect categories set out the restore times which in effect define the prioritisation of the defect.*

NOTE 2 *Defect categories are attributed to each roadside technology asset and sub-asset defect description.*

NOTE 3 *The defect descriptions are intentionally written as high level to provide easy identification of technology asset defects.*

Asset type 1700 - Structures

E/3.52 Inspection regimes to assess and record asset condition of structures through safety inspections, general inspections, principal inspections, special inspections and inspections for assessment shall be executed in accordance with CS 450 [Ref 16.N].

Procedural requirements

E/3.53 Inspector competency shall be in accordance with CS 450 [Ref 16.N].

Asset type 2200 - Tunnels

E/3.54 Inspection regimes to assess and record asset condition of tunnels through safety inspections, general inspections, principal inspections, special inspections and inspections for assessment shall be executed in accordance with CS 452 [Ref 15.N].

Procedural requirements

E/3.55 Inspector competency shall be in accordance with CS 452 [Ref 15.N].

Asset type 3000 – Landscape and ecology

E/3.56 The soft estate and ecological and biodiverse habitats shall be managed so as to achieve, maintain and promote the environmental functions(s) assigned to individual landscape elements, whilst at the same time ensuring vegetation does not compromise the function of the affected property nor the safety of road users and road workers.

NOTE 1 *For the purposes of condition inspection the soft estate includes the natural or any vegetated part of the highways estate. This comprises of vegetation that is captured by the landscape element inventory within Highways England databases (as directed by DMRB and ADMM [Ref 2.N]) and the swathe width and visibility splay plots required for operational safety / accessibility purposes.*

NOTE 2 *Environmental function codes are used to designate the purpose of landscape elements and what they are intended to achieve, in environmental terms, towards attaining the government's environmental objectives.*

E/3.57 Inspection regimes shall be developed using a risk based approach and will be based on tiers of environmental sensitivity.

NOTE *A focused inspection regime facilitates greater use of the general inspection team, with the risk based approach focusing specialist environmental inspections on those assets requiring the appropriate specialist knowledge, training and expertise to undertake to comply with statutory duties.*

E/3.58 Condition inspection shall involve assessment of the physical properties of a landscape element and whether these are impacting on its ability to meet its intended purpose.

E/3.59 Inspection regimes to assess and record asset condition of the ecological and biodiverse habitats and soft estate landscaping shall be in accordance with DMRB, with the following frequencies;

1) tiered inspection regimes will be carried out as set out below:
   a) assess and record condition of trees within the affected property and those within falling distance of the highway boundary - identified on a risk based approach, with at least 20% of trees inspected annually, ensuring a maximum frequency of 5 years (all assets to be inspected at least once every 5 years or greater depending on the asset condition);
   b) tier 3 – general asset condition, including visibility splays;
   c) tier 2 – general soft estate types that require more specific management 33% annually (all asset to be inspected at least once every 3 years;
   d) tier 1 – environmentally sensitive sites.

Procedural requirements

E/3.60 Inspection regimes to support the management of the soft estate shall be in accordance with DMRB requirements.

Asset type 4000 - Sweeping and cleaning

E/3.61 Inspections to assess and record the cleanliness of paved and non-paved areas on the affected property shall be carried out annually.

Procedural requirements

E/3.62 The inspection process shall support the management of sweeping and cleaning to comply with the standards of cleanliness in the code of practice on litter and refuse (DEFRA, 2006) Litter CoP [Ref 6.N].

E/3.63 Inspections shall assess and record the affected property's grade of cleanliness as described in the Code of practice on litter and refuse Litter CoP [Ref 6.N].

E/3.64 Inspections shall support customer insight and the identification of specific areas where reactive repair, sweeping and cleaning is required.

NOTE *The reactive repair, sweeping and cleaning, incorporate all sweeping, cleaning or litter picking required to restore the area to A grade cleanliness for paved areas, and B grade cleanliness for all other parts of the affected property (as described in the Code of practice on litter and refuse Litter CoP [Ref 6.N].*

Miscellaneous

Asbestos management

E/3.65 The inspection regimes to assess and record the asset condition of assets that contain or potentially contain asbestos shall be in accordance with GG 105 [Ref 1.N].

Procedural requirements

E/3.66 Inspection regimes shall be in accordance with GG 105 [Ref 1.N].

E/4. Normative references

The following documents, in whole or in part, are normative references for this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Ref 1.N	Highways England. GG 105, 'Asbestos management'
Ref 2.N	Highways England. ADMM, 'Asset Data Management Manual'
Ref 3.N	Highways England. GM 701, 'Asset delivery asset maintenance requirements'
Ref 4.N	Institute of Lighting Professionals. ILP GN22, 'Asset Management Toolkit: Minor Structures AToMS'
Ref 5.N	DfT. NRSWA COP, 'Code of Practice for Inspections'
Ref 6.N	Defra. Litter CoP, 'Code of Practice on Litter and Refuse'
Ref 7.N	Highways England. CD 227, 'Design for pavement maintenance'
Ref 8.N	Highways England. CS 551, 'Drainage surveys'
Ref 9.N	Highways England. CD 239, 'Footway and cycleway pavement design'
Ref 10.N	Highways England. MCH 2584, 'Guidance for the calibration and optimisation of Smart Motorway systems'
Ref 11.N	The National Archives. legislation.gov.uk. Highways Act 1980, 'Highways Act 1980'
Ref 12.N	Stationary Office. Highways England. HE Litter Strategy, 'Highways England Litter Strategy'
Ref 13.N	The National Archives. legislation.gov.uk. Infrastructure Act 2015, 'Infrastructure Act 2015 Chapter 7'
Ref 14.N	Highways England. CS 126, 'Inspection and assessment of road markings and road studs'
Ref 15.N	Highways England. CS 452, 'Inspection and records for road tunnel systems'
Ref 16.N	Highways England. CS 450, 'Inspection of highway structures'
Ref 17.N	Highways England. CS 125, 'Inspection of traffic signs'
Ref 18.N	Highways England. GG 101, 'Introduction to the Design Manual for Roads and Bridges'
Ref 19.N	Highways England. CD 622, 'Managing geotechnical risk'
Ref 20.N	Highways England. CS 641, 'Managing the maintenance of highway geotechnical assets'
Ref 21.N	Highways England. MCHW, 'Manual of Contract Documents for Highway Works'
Ref 22.N	BSI. BS 7671, 'Requirements for Electrical Installations, IET Regulations'
Ref 23.N	Highways England. GG 104, 'Requirements for safety risk assessment'
Ref 24.N	Highways England. TS 501, 'Road lighting inspection'
Ref 25.N	RTRA 1984, 'Road Traffic Regulation Act 1984'
Ref 26.N	Highways England. CS 228, 'Skidding resistance'
Ref 27.N	HAUC. SROH, 'Specification for the Reinstatement of Openings in Highways.'
Ref 28.N	Highways England. CG 300, 'Technical approval of highway structures'

Ref 29.N	The Stationery Office. TSRGD, 'The Traffic Signs Regulations and General Directions 2016'
Ref 30.N	Highways England. TS 101, 'Traffic signalling systems (inspection and assessment)'
Ref 31.N	BS 7669-3, 'Vehicle restraint systems. Guide to the installation, inspection and repair of safety fences'

Department for Infrastructure
An Roinn Bonneagair

General Principles and Scheme Governance
Inspection & Assessment

GS 801
Northern Ireland National Application Annex to GS 801 Asset delivery asset inspection requirements

Revision 0

Summary
There are no specific requirements for Department for Infrastructure Northern Ireland supplementary or alternative to those given in GS 801.

Feedback and Enquiries
Users of this document are encouraged to raise any enquiries and/or provide feedback on the content and usage of this document to the dedicated team in the Department for Infrastructure, Northern Ireland. The email address for all enquiries and feedback is: dcu@infrastructure-ni.gov.uk

This is a controlled document.

Contents

Release notes

Version	Date	Details of amendments
0	Nov 2019	Department for Infrastructure Northern Ireland National Application Annex to GS 801.

General Principles and Scheme Governance
Inspection & Assessment

GS 801
Scotland National Application Annex to GS 801 Asset delivery asset inspection requirements

Revision 0

Summary
There are no specific requirements for Transport Scotland supplementary or alternative to those given in GS 801.

Feedback and Enquiries
Users of this document are encouraged to raise any enquiries and/or provide feedback on the content and usage of this document to the dedicated Transport Scotland team. The email address for all enquiries and feedback is: TSStandardsBranch@transport.gov.scot

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0	Nov 2019	Transport Scotland National Application Annex to GS 801.

Llywodraeth Cymru
Welsh Government

General Principles and Scheme Governance
Inspection & Assessment

GS 801
Wales National Application Annex to GS 801 Asset delivery asset inspection requirements

Revision 0

Summary
There are no specific requirements for Welsh Government supplementary or alternative to those given in GS 801.

Feedback and Enquiries
Users of this document are encouraged to raise any enquiries and/or provide feedback on the content and usage of this document to the dedicated Welsh Government team. The email address for all enquiries and feedback is: Standards_Feedback_and_Enquiries@gov.wales

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