

## Design Manual for Roads and Bridges



General Principles and Scheme Governance  
General information

# GG 000

## Alphanumeric and Volume Contents

(formerly Index January 2020)

Revision February 2020

### Summary

This document contains a current set of Volume Contents Pages and a current Alpha-Numeric Index that supersedes the Design Manual for Roads and Bridges: Volume Contents Pages and Alpha-Numeric Index. Updated lists of Addenda for Northern Ireland, Scotland and Wales, and a list of current Scottish Office Memoranda not included in the DMRB are included with this Index for information.

### 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](mailto:Standards_Enquiries@highwaysengland.co.uk)

**This is a controlled document.**

## Contents

Release Notes .....	2
WITHDRAWN STANDARDS AND ADVICE NOTES SINCE JUNE 2018 .....	3
ISSUED STANDARDS AND ADVICE NOTES SINCE JUNE 2018 .....	15
VOLUME 0 - INTRODUCTION AND GENERAL REQUIREMENTS .....	26
VOLUME 1 - HIGHWAY STRUCTURES: APPROVAL PROCEDURES AND GENERAL DESIGN .....	27
VOLUME 2 - HIGHWAY STRUCTURES: DESIGN (SUBSTRUCTURES AND SPECIAL STRUCTURES) MATERIALS .....	28
VOLUME 3 - HIGHWAY STRUCTURES: INSPECTION AND MAINTENANCE .....	29
VOLUME 4 - GEOTECHNICS AND DRAINAGE .....	31
VOLUME 5 - ASSESSMENT AND PREPARATION OF ROAD SCHEMES .....	32
VOLUME 6 - ROAD GEOMETRY .....	33
VOLUME 7 - PAVEMENT DESIGN AND MAINTENANCE.....	34
VOLUME 8 - TRAFFIC SIGNS AND LIGHTING.....	35
VOLUME 9 - NETWORK – TRAFFIC CONTROL AND COMMUNICATIONS .....	36
VOLUME 10 - ENVIRONMENTAL DESIGN AND MANAGEMENT .....	37
VOLUME 11 - ENVIRONMENTAL ASSESSMENT .....	38
VOLUME 12 - TRAFFIC APPRAISAL OF ROADS SCHEMES .....	39
VOLUME 13 - ECONOMIC ASSESSMENT OF ROAD SCHEMES.....	40
VOLUME 14 - ECONOMIC ASSESSMENT OF ROAD MAINTENANCE .....	41
VOLUME 15 - ECONOMIC ASSESSMENT OF ROAD SCHEMES IN SCOTLAND.....	42
ALPHA-NUMERIC INDEX.....	43
ADVICE NOTES – BRIDGES AND STRUCTURES (BA SERIES) .....	44
STANDARDS – BRIDGES AND STRUCTURES (BD SERIES) .....	45
TECHNICAL MEMORANDA – BRIDGES (BE SERIES) .....	47
STANDARDS – CIVILS.....	48
STANDARDS – GENERAL REQUIREMENTS.....	50
ADVICE NOTES – HIGHWAYS (HA SERIES) .....	51
STANDARDS – HIGHWAYS (HD SERIES) .....	52
STANDARDS –SUSTAINABILITY AND ENVIRONMENT (L SERIES).....	53
SCOTTISH TECHNICAL MEMORANDA – HIGHWAYS (SH SERIES) .....	54
STANDARDS – TECHNOLOGY .....	55
ADVICE NOTES – TRAFFIC ENGINEERING AND CONTROL (TA SERIES) .....	56
STANDARDS – TRAFFIC ENGINEERING AND CONTROL (TD SERIES).....	57
OTHER DOCUMENTS IN THE DMRB.....	58

**Release Notes**

<b>Version</b>	<b>Date</b>	<b>Details of amendments</b>
February 2020	February 2020	Amends and supersedes index dated January 2020

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**WITHDRAWN STANDARDS AND ADVICE NOTES SINCE JUNE 2018**

## STANDARDS AND ADVICE NOTES WITHDRAWN SINCE February 2020

Document Reference	Title	Date of Issue	Decimal Reference	Replaced By
BD 90/05	Design of FRP Bridges and Highway Structures	May 2005	1.3.17	CD 368
CD 193 Revision 1	Driver location signs	Jan 2020	8.2.2	CD 193 Revision 2
GG 000 (Jan-20)	Alphanumeric And Volume Contents	Jan 2020	0.1.2	GG 000 (Feb-20)
HA 39/98	Edge of Pavement Details	Aug 1998	4.2.1	CD 524
HA 83/99	Safety Aspects of Road Edge Drainage Features	Nov 1999	4.2.4	CD 524
HA 104/09	Chamber Tops and Gully Tops for Road Drainage and Services: Installation and Maintenance	Nov 2009	4.2.5	CD 534
HD 217/18	Alternative Filter Media and Surface Stabilisation Techniques for Combined Surface and Sub-Surface Drains	Feb 2018	4.2.4	CD 525
HD 220/18	Vortex Separators For Use with Road Drainage Systems	Feb 2018	4.2.4	CD 528
LA 107 Revision 1	Landscape and visual effects	Jan 2020	11.3.5	LA 107 Revision 2
LA 111	Noise and vibration	Nov 2019	11.3.7	LA 111 Revision 1
LA 117	Landscape design	Oct 2019	10.0.3	LA 117 Revision 1
TD 49/07	Requirements for Lorry Mounted Crash Cushions	Nov 2007	8.4.7	CD 378











































Document Reference	Title	Date of Issue	Decimal Reference	Replacing
TD 101	Traffic signalling systems (design)	Jun 2019	8.0.1	TA 12/07, TA 16/07, TA 56/87, TA 82/99, TA 84/06, TD 07/07, TD 24/97, TD 35/06
TS 101	Traffic signalling systems (inspection and assessment)	Jun 2019	8.0.1	TA 12/07, TA 16/07, TA 56/87, TA 82/99, TA 84/06, TD 07/07, TD 24/97, TD 35/06
TM 101	Traffic signalling systems (maintenance and operation)	Jun 2019	8.0.1	TA 12/07, TA 16/07, TA 56/87, TA 82/99, TA 84/06, TD 07/07, TD 24/97, TD 35/06
TG 511	Electricity supply connections	Jun 2019	9.3.2	IAN 132/11

## STANDARDS AND ADVICE NOTES ISSUED SINCE May 2019

Document Reference	Title	Date of Issue	Decimal Reference	Replacing
GG 000 May 2019	Alphanumeric And Volume Contents	May 2019	0.1.2	GG 000 April 2019
GD 300	Requirements for new and upgraded all-purpose trunk roads (expressways)	May 2019	0.2.5	Nil
CD 239	Footway and cycleway pavement design	May 2019	7.2.5	HD 39/16
CD 357	Bridge expansion joints	May 2019	2.3.6	BA 26/94, BD 33/94, IAN 168/12, IAN 169/12 Revision 1
CD 362	Enclosure of bridges	May 2019	2.2.7	BD 67/96, BA 67/96
CS 459	The assessment of bridge substructures, retaining structures and buried structures	May 2019	3.4.9	BA 55/06
GG 102	Quality management systems for highway works	May 2019	0.2.1	GD 2/16



## STANDARDS AND ADVICE NOTES ISSUED SINCE April 2019

Document Reference	Title	Date of Issue	Decimal Reference	Replacing
GG 000 April 2019	Alphanumeric And Volume Contents	Apr 2019	0.1.2	GG 000 March 2019
CD 527	Sumplless gullies	Apr 2019	4.2.3	HA 105/17
CD 236 revision 3	Surface course materials for construction	Apr 2019	7.5.1	CD 236 revision 2

## STANDARDS AND ADVICE NOTES ISSUED SINCE March 2019

Document Reference	Title	Date of Issue	Decimal Reference	Replacing
GG 000 March 2019	Alphanumeric And Volume Contents	Mar 2019	0.1.2	GG 000 Feb 2019
CD 365	Portal and cantilever signs/signals gantries	Mar 2019	4.2.2	BD 51/14, BE 7/04

## STANDARDS AND ADVICE NOTES ISSUED SINCE February 2019

Document Reference	Title	Date of Issue	Decimal Reference	Replacing
GG 000 Feb 2019	Alphanumeric And Volume Contents	Feb 2019	0.1.2	GG 000 Jan 2019
CG 303	Quality assurance scheme for paints and similar protective coatings	Feb 2019	2.4.1	BD 35/14
CD 236 revision 2	Surface course materials for construction	Feb 2019	7.5.1	CD 236 revision 1

## STANDARDS AND ADVICE NOTES ISSUED SINCE January 2019

Document Reference	Title	Date of Issue	Decimal Reference	Replacing
GG 000 Jan 2019	Alphanumeric And Volume Contents	Jan 2019	0.1.2	GG 000 Dec 2018
GG 119 (Revision 1)	Road safety audit	Jan 2019	5.2.2	GG 119

## STANDARDS AND ADVICE NOTES ISSUED SINCE December 2018

Document Reference	Title	Date of Issue	Decimal Reference	Replacing
GG 000 Dec 2018	Alphanumeric And Volume Contents	Dec 2018	0.1.1	GG 000 Nov 2018
CD 236 (Revision 1)	Surface Course Materials for Construction	Dec 2018	7.5.1	CD 236

## STANDARDS AND ADVICE NOTES ISSUED SINCE November 2018

Document Reference	Title	Date of Issue	Decimal Reference	Replacing
GG 000 Nov 2018	Alphanumeric And Volume Contents	Nov 2018	0.1.1	GG 000 Oct 2018

## STANDARDS AND ADVICE NOTES ISSUED SINCE October 2018

Document Reference	Title	Date of Issue	Decimal Reference	Replacing
GG 000 Oct 2018	Alphanumeric And Volume Contents	Oct 2018	0.1.1	GG 000 Aug 2018
CD 236	Surface Course Materials for Construction	Nov 2006	7.5.1	HD 36/06
CD 360 (Revision 1)	Use of Compressive Membrane Action in Bridge Decks	Jun 2018	3.4.20	CD 360
CD 526 (Revision 1)	Spacing of Road Gullies	Aug 2018	4.2.3	CD 526
GG 119	Road Safety Audit	May 2017	5.2.2	HD 19/15

## STANDARDS AND ADVICE NOTES ISSUED SINCE August 2018

Document Reference	Title	Date of Issue	Decimal Reference	Replacing
GG 000 Aug 2018	Alphanumeric And Volume Contents	Aug 2018	0.1.1	GG 000 Jun 2018
CD 375	Design of Corrugated Steel Buried Structures	Nov 2001	2.2.6	BD 12/01
CD 526	Spacing of Road Gullies	Nov 2017	4.2.3	HA 102/17

## STANDARDS AND ADVICE NOTES ISSUED SINCE June 2018

Document Reference	Title	Date of Issue	Decimal Reference	Replacing
GG 000 June 2018	Alphanumeric And Volume Contents	Jun 2018	0.1.1	Index May 2018
GG 101	Introduction to the Design Manual for Roads and Bridges	Jun 2018	0.1.2	GD 1/15
GG 104	Requirements for safety risk assessment	Jun 2018	0.2.3	GD 4/12
CD 360	Use of Compressive Membrane Action in Bridge Decks	Jun 2018	3.4.20	BD 81/02
CS 460	Management of Corrugated Steel Buried Structures	Jun 2018	3.3.4	BA 87/04

## **VOLUME 0 - INTRODUCTION AND GENERAL REQUIREMENTS**

### Section 1 Index and Introduction

Part 2	GG 000 (Feb-20)	Alphanumeric And Volume Contents
Part 2	GG 101	Introduction to the Design Manual for Roads and Bridges (DMRB)

### Section 2 General Guidance

Part 1	GG 102	Quality management systems for highway works
Part 2	GG 103	Introduction and general requirements for sustainable development and design
Part 3	GG 104	Standard for Safety Risk Assessment on the Strategic Road Network
Part 3	GG 128	Requirements for reporting incidents, events and undesirable circumstances: health, safety, wellbeing, structural and environmental
Part 3	GG 182	Major schemes: Enabling handover into operation and maintenance
Part 3	GG 184	Specification for the use of Computer Aided Design
Part 4	GAMP	General Asbestos Management Plan
Part 5	GD 300	Requirements for new and upgraded all-purpose trunk roads (expressways)
Part 5	GD 304 Revision 1	Designing health and safety into maintenance
Part 6	GM 701	Asset delivery asset maintenance requirements
Part 7	GS 801	Asset delivery asset inspection requirements

## **VOLUME 1 - HIGHWAY STRUCTURES: APPROVAL PROCEDURES AND GENERAL DESIGN**

### Section 1 Approval Procedures

Part 1      BD 02/12      Technical Approval of Highway Structures

### Section 2 Other Procedural Documents

Part 1      CD 355      Application of whole-life costs for design and maintenance of highway structures  
Part 3      BD 95/07      Treatment of Existing Structures on Highway Widening Schemes

### Section 3 General Design

Part 3      CD 363      Design rules for aerodynamic effects on bridges  
Part 4      BA 40/93      Tack Welding of Reinforcing Bars  
Part 5      BD 60/04      Design of Highway Bridges for Vehicle Collision Loads  
Part 6      CD 356      Design of highway structures for hydraulic action  
Part 7      BD 57/01      Design for Durability  
Part 8      BA 57/01      Design for Durability  
Part 11     BA 41/98      The Design and Appearance of Bridges  
Part 14     BA 09/81      The Use of BS 5400 Part 10: 1980 - Code of Practice for Fatigue  
(Amdt 1)      [Incorporating Amendment No.1 dated November 1983]  
Part 14     BA 19/85      The Use of BS 5400: Part 3: 1982  
Part 14     BD 09/81      Implementation of BS 5400: Part 10: 1980. Code of Practice for Fatigue  
Part 14     BD 13/06      Design of Steel Bridges. Use of BS 5400-3: 2000  
Part 16     BD 84/02      Strengthening of Concrete Bridge Supports Vehicle Impact Using Fibre Reinforced Polymers  
Part 17     CD 368      Design of fibre reinforced polymer bridges and highway structures  
Part 18     BD 85/08      Strengthening Highway Structures Using Externally Bonded Fibre Reinforced Polymer  
Part 19     BD 100/16      The Use of Eurocodes for the Design of Highway Structures  
Part 20     CS 468      Assessment of Freyssinet concrete hinges in highway structures

## **VOLUME 2 - HIGHWAY STRUCTURES: DESIGN (SUBSTRUCTURES AND SPECIAL STRUCTURES) MATERIALS**

### Section 1 Substructures

Not Used

### Section 2 Special Structures

Part 1	CD 354	Design of minor structures
Part 4	CD 365	Portal and cantilever signs/signals gantries
Part 5	BD 65/14	Design Criteria for Collision Protector Beams
Part 6	CD 375	Design of Steel Buried Structures
Part 7	CD 362	Enclosure of bridges
Part 8	BD 29/17	Design Criteria for Footbridges
Part 8	TD 19/06 (Correction 1)	Requirement for Road Restraint Systems Correction No. 1
Part 9	BD 78/99	Design of Road Tunnels
Part 12	BD 31/01	The Design of Buried Concrete Box and Portal Frame Structures
Part 14	BD 91/04	Unreinforced Masonry Arch Bridges

### Section 3 Materials and Components

Part 2	BA 37/92	Priority Ranking of Existing Parapets
Part 4	CD 358	Waterproofing and surfacing of concrete bridge decks
Part 6	CD 357	Bridge expansion joints
Part 7	BA 36/90	The Use of Permanent Formwork
Part 7	BA 82/00	Formation of Continuity Joints in Bridge Decks
Part 8	CD 361	Weathering steel for highway structures
Part 9	BA 92/07	The Use of Recycled Concrete Aggregates in Structural Concrete

### Section 4 Paints and other Protective Coatings

Part 1	CG 303	Quality assurance scheme for paints and similar protective coatings
Part 2	BD 43/03	The Impregnation of Reinforced and Prestressed Concrete Highway Structures using Hydrophobic Pore-Lining Impregnants
Part 3	BA 85/04	Coatings for Concrete Highway Structures and Ancillary Structures

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**VOLUME 3 - HIGHWAY STRUCTURES: INSPECTION AND MAINTENANCE**

## Section 1 Inspection

Part 1	BD 45/93	Identification Marking of Highway Structures
Part 4	BD 63/17	Inspection of Highway Structures
Part 5	BA 93/09	Structural Assessment of Bridges with Deck Hinges
Part 6	BD 53/95	Inspection and Records for Road Tunnels
Part 7	CS 464	Non-destructive testing of highways structures

## Section 2 Maintenance

Part 1	BD 62/07	As Built, Operational and Maintenance Records for Highway Structures
Part 2	CM 431	Maintenance painting of steelwork
Part 3	BA 72/03	Maintenance of Road Tunnels
Part 4	BD 89/03	The Conservation of Highway Structures
Part 5	BD 54/15	Management of Post-tensioned Concrete Bridges

## Section 3 Repair

Part 2	BA 35/90	Inspection and Repair of Concrete Highway Structures
Part 3	CD 370	Cathodic protection for use in reinforced concrete highway structures
Part 4	CS 460	Management of Corrugated Steel Buried Structures
Part 5	CM 432	Maintenance of buried concrete box structures
Part 5	CS 432	Inspection of buried concrete box structures

## Section 4 Assessment

Part 3	CS 454	Assessment of highway bridges and structures
Part 5	BA 38/93	Assessment of the Fatigue Life of Corroded or Damaged Reinforcing Bars
Part 6	BA 39/93	Assessment of Reinforced Concrete Half-joints
Part 7	BD 48/93	The Assessment and Strengthening of Highway Bridge Supports
Part 8	CS 463	Load testing for bridge assessment
Part 9	CS 459	The assessment of bridge substructures, retaining structures and buried structures
Part 10	BA 52/94	The Assessment of Concrete Highway Structures Affected by Alkali Silica Reaction
Part 11	BD 56/10	The Assessment of Steel Highway Bridges and Structures
Part 13	BA 51/95	The Assessment of Concrete Structures Affected by Steel Corrosion
Part 14	BD 44/15 (Amdt 1)	The Assessment of Concrete Highway Bridges and Structures Incorporating Amendment August 2016
Part 16	CS 457	The assessment of composite highway bridges and structures
Part 18	BD 79/13	The Management of Sub-standard Highway Structures
Part 19	BD 86/11	The Assessment of Highway Bridges and Structures For The Effects of Special Types General Order(STGO) and Special Order (SO) Vehicles
Part 20	CD 360 Revision 1	Use of Compressive Membrane Action in Bridge Decks

Part 21	BD 97/12	The Assessment of Scour and Other Hydraulic Actions at Highway Structures
Part 22	BD 101/11	Structural Review and Assessment of Highway Structures

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## VOLUME 4 - GEOTECHNICS AND DRAINAGE

### Section 1 Earthworks

Part 2	CD 622	Managing geotechnical risk
Part 3	HD 41/15	Maintenance of Highway Geotechnical Assets
Part 7	SH 4/89 (Amdt 1)	Geotechnical Certification Procedures: Trunk Road Ground Investigations Amendment No. 1

### Section 2 Drainage

Part 1	CD 524	Edge of pavement details
Part 1	CG 502	The certification of drainage design
Part 1	HA 103/06	Vegetative Treatment Systems for Highway Runoff
Part 1	HA 106/04	Drainage of Runoff from Natural Catchments
Part 3	CD 526	Spacing of road gullies
	Revision 3	
Part 3	CD 527	Sumpless gullies
Part 3	CG 501	Design of highway drainage systems
	Revision 1	
Part 4	CD 521	Hydraulic design of road edge surface water channels and outlets
Part 4	CD 523	Determination of pipe roughness and assessment of sediment deposition to aid pipeline design
Part 4	CD 525	Design of combined surface and sub-surface drains and management of stone scatter
Part 4	CD 528	Vortex separators for use with road drainage systems
Part 4	CD 535	Drainage asset data and risk management
	Revision 1	
Part 4	HA 41/17	A Permeameter for Road Drainage Layers
Part 4	HD 221/18	Reservoir Pavements for Drainage Attenuation
Part 5	CD 533	Determination of pipe and bedding combinations for drainage works
Part 5	CD 534	Chamber tops and gully tops for road drainage and services
Part 7	CD 529	Design of outfall and culvert details
Part 8	CD 530	Design of soakaways
Part 10	CS 551	Drainage surveys



## **VOLUME 5 - ASSESSMENT AND PREPARATION OF ROAD SCHEMES**

### Section 1 Assessment of Road Schemes

Part 2	TD 37/93	Scheme Assessment Reporting
Part 3	TA 46/97	Traffic Flows Ranges for Use in the Assessment of New Rural Roads
Part 3	TA 79/99 (Amdt 1)	Traffic Capacity of Urban Roads Amendment No. 1
Part 4	CA 185	Vehicle speed measurement

### Section 2 Preparation and Implementation

Part 2	GG 119 Revision 2	Road safety audit
Part 5	GG 142	Walking, cycling and horse-riding assessment and review

### Section 3 The Quality Control Reporting System

Not Used

## **VOLUME 6 - ROAD GEOMETRY**

### Section 1 Links

Part 1	CD 109	Highway link design
Part 2	CD 127	Cross-sections and headrooms
Part 3	TA 85/01	Guidance on Minor Improvements to Existing Roads

### Section 2 Junctions

Part 1	CD 122 Revision 1	Geometric design of grade separated junctions
Part 3	CD 116	Geometric design of roundabouts
Part 6	CD 123 Revision 1	Geometric design of at-grade priority and signal-controlled junctions
Part 8	TA 86/03'	Layout of Large Signal Controlled Junctions

### Section 3 Highway Features

Part 1	CD 195	Designing for cycle traffic
Part 3	CD 169	The design of lay-bys, maintenance hardstandings, rest areas, service areas and observation platforms
Part 3	TA 57/87	Roadside Features
Part 4	TA 81/16	Coloured Surfacing in Road Layout (Excluding Traffic Calming)
Part 5	CD 143 Revision 1	Designing for walking, cycling and horse-riding
Part 5	TA 87/04	Trunk Road Traffic Calming
Part 6	TA 98/08	The Layout of Toll Plazas

























































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