

CBR VALUES	MINIMUM THICKNESS (mm) OF SUB-BASE (CONSOLIDATED IN ACCORDANCE WITH MCHW VOLUME 1 CLAUSE 801, TABLE 8/4)
LESS THAN 2%	SUBGRADE REQUIRES IMPROVEMENT (Specialist advice should be sought to improve the subgrade)
2-3%	325
3-5%	250
5-7%	150
7-20%	100

Diagram illustrating the layers of a road pavement structure:

- Surface Course - 30mm SMA 10 surf 40/60 to BS EN 13108-5
- Binder Course - 60mm AC 20 dense bin 100/150 des To BS EN 13108-1
- Base Course - 80mm AC 32 dense base 100/150 des To BS EN 13108-1
- Sub-base - refer to Table 3 - NHBC Chapter 10.2
Contractor to carry out in situ tests to determine the sub grade CBR %.

Diagram illustrating the pavement structure layers:

- SURFACE COURSE** - 30mm of CGM (Close Grade Macadam)
- BINDER COURSE** - 60mm of DBM (Dense Bitumen Macadam)
- BASE** - 110mm of DBM (Dense Bitumen Macadam)
- CAPPING & SUB-BASE** - Refer to Table 34 - LCC Highway Design Guide

Table 34: Carriageway sub-base and capping thickness(a)

		Min 450mm Frost Susceptibility					
		Major Residential Access Road (250mm Bituminous layer)		Residential Access Road Shared Surface Residential Accesses (200mm Bituminous layer)		Industrial Road (300mm Bituminous layer)	
CBR Value		Capping	Sub Base	Capping	Sub Base	Capping	Sub Base
Less than 2%		550	200	500	250	600	150
2%		400	200	350	250	450	150
3%		300	200	250	250	350	150
4%		250	200	200	250	300	150
5 to 15%		200	200	200	250	250	150
More than 15%			200		250		150

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- Diagram illustrating the construction details of a gully installation, showing the gully frame, bedding, and surrounding structure.
- Labels and specifications:
- Angle Gully frame bedded on normal width to BS:EN 124, 1994 on 100mm or 150mm on A/B (residential and Industrial Estates)
 - Class B' engineering brickwork in Class 1 Mortar CL 2402. Min 2<Max 3 courses of brickwork cobbed to fully support frame and cover
 - Grating to be placed 10mm below road surface
 - 150mm Ø connection within 150mm concrete bedding surround
 - 450x900 Pre Cast Concrete Gully
 - 150mm thick Grade ST4 concrete surround (vibrated)

25mm AC dense sur 100/150 des To BS EN 13108-1
 Binder Course - 60mm AC 20 dense bin 100/150 des To BS EN 13108-1
 Sub-base - refer to Table 4 - NHBC Chapter 10.2
 Contractor to carry out in situ tests to determine the sub grade CBR %.

80mm AC 20 dense bin 100/150 des To BS EN 13108-1
 Binder Course - 80mm AC 20 dense bin 100/150 des To BS EN 13108-1
 Sub-base - refer to Table 4 - NHBC Chapter 10.2
 Contractor to carry out in situ tests to determine the sub-grade CBR %

Diagram illustrating the cross-section of a road pavement structure, showing three distinct layers:

- SURFACE COURSE** - 20mm of AC6 dense surf 100/150
- BASE COURSE** - 50mm of AC20 dense bin 160/220 recipe
- SUB-BASE** - 160mm Granular Type 1

The diagram illustrates the construction detail for a new road surface adjacent to an existing one. The layers shown are:

- Surface Course**: Indicated by diagonal hatching.
- Binder Course**: Indicated by horizontal hatching.
- Base**: Indicated by a solid grey fill.
- Sub-base**: Indicated by a stepped profile with diagonal hatching.

Key construction details and dimensions:

- Overlap Dimensions**: Three 300mm intervals are marked for the Surface Course and Binder Course overlap, and one 300mm interval for the Base overlap.
- Vertical Joint**: A vertical joint is shown, sealed with hot poured bitumen.
- Tack Coating**: All horizontal surfaces are to be tack coated (K170).
- Sub-base Detail**: The sub-base is shown as a stepped structure with 150mm intervals.

50mm in Verge
75mm in Footway

125x225 Half Batter Kerb, Bedded on
25mm bed of 1:3 cement sand mortar
with 2mm spacing between kerbs

50 x 50mm Keyway

125

25

25

150

200

375

All kerb foundations and backing to be
shuttered and constructed in FND4
concrete, poker vibrated in widths of:
375x150 in straight alignments &
525x150 in 50m radii or less
FND4 min 30mm slump, concrete
foundation and haunch

75mm in Footway

25mm upstand at vehicular crossings.
3 c6mm at dropped pedestrian crossings.

50 x 50mm Keyway

150

200

375

25

20

**125x150 Bullnosed Kerb, Bedded on 25mm bed of 1:3 cement: sand mortar with 2mm spacing between kerbs

All kerb foundations and backing to be shuttered and constructed in FND4 concrete, poker vibrated in widths of:
 525x150 in straight alignments &
 525x150 in 50m radii or less
 FND4 min 30mm slump, concrete foundation and haunch

NOTE:
125x150 BN Kerb required for singular vehicular access
125x225 BN Kerb required for multiple vehicular access

** Multiple or shared parking bays require 225x125 Bullnosed Kerb

Diagram illustrating the concrete bed and surround for a yard gully. The gully is shown with a concrete bed and surround. The gully is labeled "Yard Gully" and includes the following specifications:

- With Light duty (1 tonne) Grid - code IBP3
- With medium duty (5 tonne) Grid - code IBP4

The diagram also shows the "G.L." (Ground Level) and the "Filter/silt Bucket code IBP3" installed within the gully. The concrete bed and surround are shown as a solid structure.

To be offset min 100mm from back of footway edging kerb where applicable (Drive ways falling towards adoptable highway)

1. Kerbs are to be precast to BS 7263: 1994.
2. Transition kerbs are to be used at all changes of kerb type.
3. Concrete bed and haunching to be in accordance with Specification Clause 2602 (mix FM4).
4. Concrete bed is to rest on or within sub-base layer or on additional concrete, measured separately to allow it to rest on sub-base. Sub-base is to protrude 500mm from face of kerb, behind kerb and to have a minimum thickness of 100mm where sub-base is to be covered by an approved method of drainage provision. (Without an agreement, all existing kerb race to be excavated)
5. Kerbs shall be laid on Class 1 mortar laid on bed in accordance with Clause 2404 and a minimum thickness of 100mm shall be used. Maximum thickness of 40mm. All kerbs to be laid on a concrete bed as per below kerb details.
6. Dowel bars are specified when small element edged is used. They are to be bedded at 500mm centres.
7. If half-battened kerbs are used in conjunction with 'SafeCurb' Type H82 half battened kerbs, kerb face is to be reduced to 100mm to suit.

Additional rocker pipes may be necessary to accommodate transition of pipe gradient to vertical downpipe

See specification
clause 4.6.6.2 for
rocker pipe details

Concrete surround to back
to be cast into
with M.H. surround
Construction joint

C20 concrete with sulphate resistant cement unless otherwise agreed

Splash guard/ pipe stopper
in rodding eye if requested
by the Engineer

Drainage Channel

Back Gardens - Adjacent Patios

A15 Loading Class (Pedestrian Only)

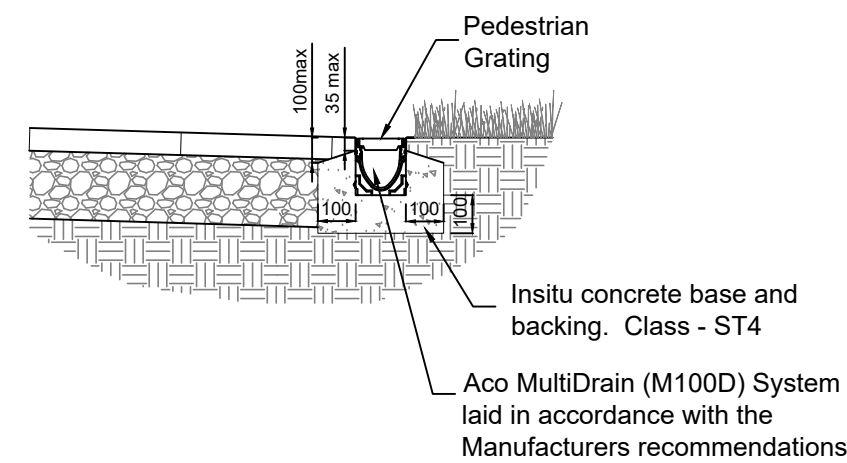
Diagram illustrating the cross-section of a drainage channel for A15 Loading Class (Pedestrian Only). The channel is shown with a depth of 100mm max and a width of 35mm max. The channel is filled with insitu concrete base and backing, Class - ST4. The channel is covered with Aco MultiDrain (M100D) System laid in accordance with the Manufacturers recommendations. The channel is surrounded by a 100mm max depth and 35mm max width of insitu concrete base and backing, Class - ST4. The channel is surrounded by a 100mm max depth and 35mm max width of insitu concrete base and backing, Class - ST4.

Drainage Channel

D400 Loading Class

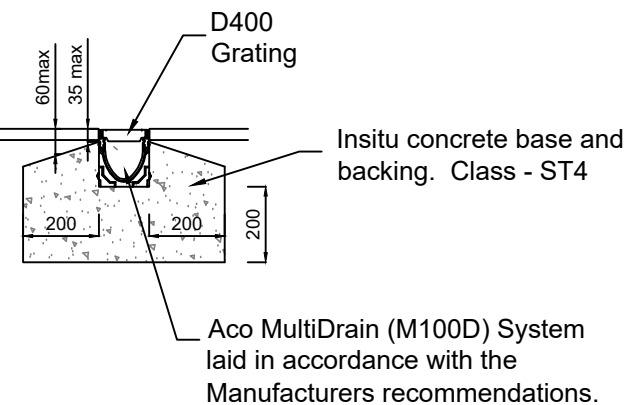
Diagram illustrating the cross-section of a drainage channel for D400 Loading Class. The channel is shown with a depth of 40mm max and a width of 35mm max. The channel is filled with insitu concrete base and backing, Class - ST4. The channel is covered with Aco MultiDrain (M100D) System laid in accordance with the Manufacturers recommendations. The channel is surrounded by a 200mm max depth and 200mm max width of insitu concrete base and backing, Class - ST4. The channel is surrounded by a 200mm max depth and 200mm max width of insitu concrete base and backing, Class - ST4.

Back Gardens - Adjacent Patios
A15 Loading Class (Pedestrian Only)



Drainage Channel

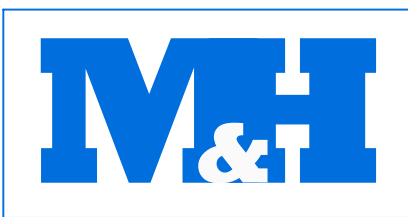
D400 Loading Class



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Drawings must not be scaled. Work to figured dimensions only

D	17.12.2025	PROW Footpath construction detail added	
C	16.12.2025	NHBC details for private drives added.	
B	19.11.2025	Typical drainage channel details added.	
A	21.01.2025	Block paving details added	
REV	DATE	AMENDMENT	



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COMMENT / APPROVAL

CLIENT

Vistry 
Partnerships

PROJECT

Leicester Road,
Earl Shilton

TITLE

Private External Works Construction Details

DATE _____

26.11.24

DRAWN

DRAWING NUMBER
24000-105

REVISION
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