

Camornia Dearing Natio (ODIN) Values	William thickness (min) or rype read base		
	(Consolidated in accordance with MCHW Volume 1 Clause 801, table 8/1)		
	Without Geogrid underneath	With Geogrid underneath	
Less than 2%	N/A refer to specialist design	N/A refer to specialist design	
2% - 3%	325	225	
3% - 5%	250	150	
5% - 7%	150		
7% -20%	100		

Construction Notes: 1) In all cases overall construction shall be a minimum of 450mm. Where the standard detail is less the sub-base thickness shall be increased as necessary.

Flexible inlets / outlets and / or

bend (maximum 45°) to facilitate

Rodding Eye-Typical Detail

Carriageway or

footpath construction

**Under Carriageway or Footway** 

Pipe Bedding Details

Scale 1:25

(Bedding Class 'S')

Granular material as

used for carriageway

Granular bedding

Granular bedding

well compacted

sub-base construction

material type 'A', to be

for 300mm above pipe

material type 'A', to be

lightly compacted by hand

2 All details are based on a sub-base solution, in accordance with Table 1 (above). If a capping layer is specified then sub-base thickness can be reduced. DMRB Volume 7 Section 2 Part 2 HD 25/95 Foundations Chapter 3 Capping and Sub-base gives guidance on capping and sub base thickness design based on CBR values and with and without a capping layer.

Surface course: 30mm (SMA 10 surf 40 / 60) Stone mastic asphalt to BS EN 13108-5 and PD6691 with aggregate to BS EN 13043 and PD6692-2. Binder course: 60mm (AC 20 dense bin 100/150 des) to BS EN 13108-1 and PD 6691 utilising aggregate to BS EN 13043 and PD Base course: 100mm (AC 32 dense base 100/150 des) to BS EN 13108-1 and PD 6691 utilising aggregate to BS EN 13043 and PD Sub base: See Table 1 - MCHW Volume 1 SHW Clause 803 Type 1 Unbound Mixtures Granular sub-base material Type 1 to table 8/2.

> spots are to be excavated and replaced with sub-base (as defined above), formation to be prepared in accordance with Clause 616.

Tarmac car park construction

Sub grade: Existing acceptable material. Any soft spots or weak

 Pavers: 80mm - Block pavers to BS EN 1338 of Class 2 weathering resistance and Class 3 abrasion, as well as being of low potential for slip (Ref: Table NA.2 of BS EN 1338)(7), laid in a 90° herringbone pattern - Bedding course: 50mm - Course sand to BS 7533-3 category II of Annex D Binder course: 60mm (AC 20 dense bin 100/150 des) to BS EN 13108-1 and PD 6691 utilising aggregate to BS EN 13043 and PD 6682-2. - Sub base: Where CBR is 5% or greater = 150mm, where CBR is less than 5% = Refer to Table 2. MCHW Volume 1 SHW Clause 803 Type 1

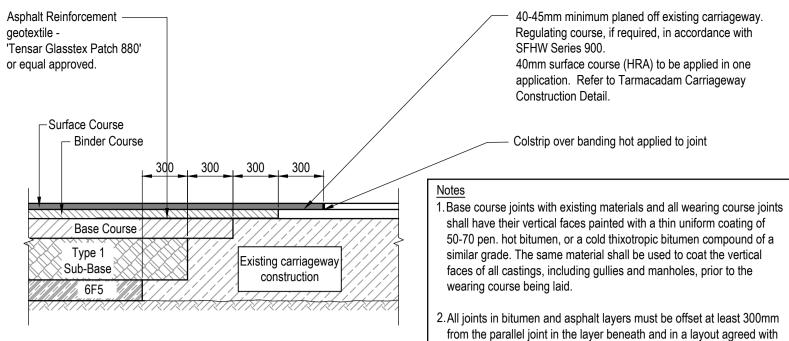
**Block Paved Footway construction** 

to be prepared in accordance with Clause 616.

Unbound Mixtures Granular sub-base material Type 1 to table 8/2.

Sub grade: Existing acceptable material. Any soft spots or weak spots are

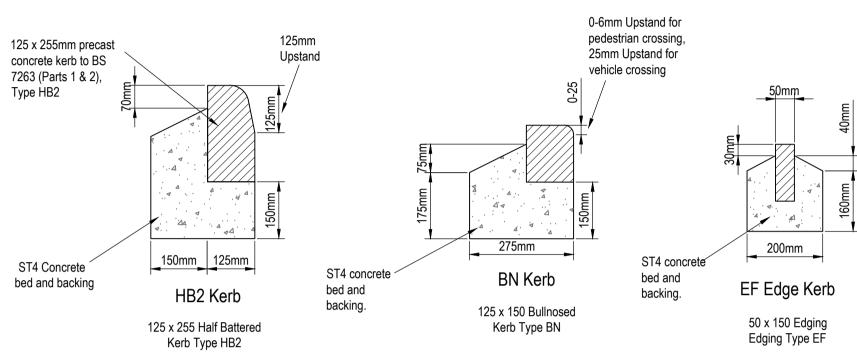
to be excavated and replaced with sub-base (as defined above), formation



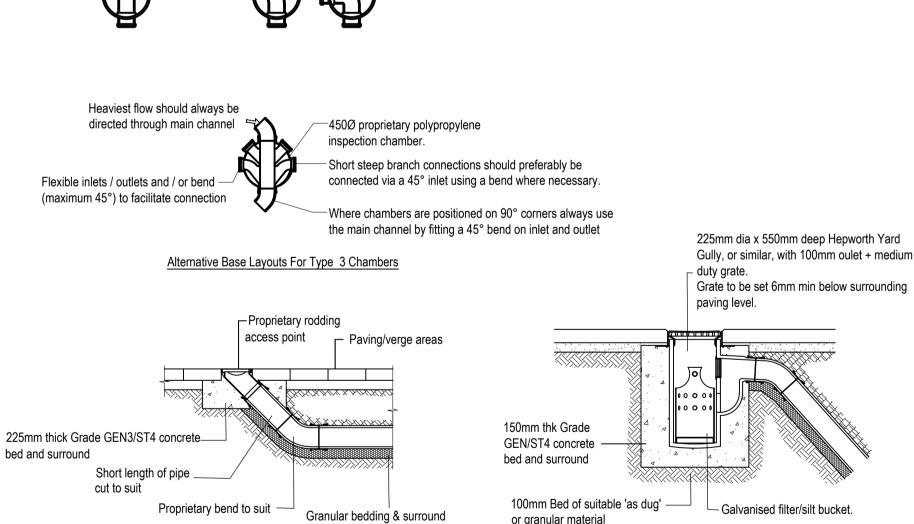
600x600mm clear opening cover

accordance with Gen1

New / Existing Carriageway Tie-In Detail



Kerb and Edging Details (BS EN 1340:2003)



Carriageway or footpath construction As dug material conforming to BS5955: Part 6: 1980 (material should have particles not exceeding 10mm for 110mm pipe and 15mm for 160mm pipe.) Concrete surround (ST2/GEN3) compressible board movement joints provided around the spigot next to the socket either at 5m intervals or at each joint

Typical Section Through Yard Gully

Scale 1:20

Drainage Shallow Pipe Bedding Detail (Bedding Class 'Z')

or granular material

Flexible Seal Temporary manhole cap during construction Joints between base and shaft components to be fitted with watertight seals Joint to be as close as possible to face of chamber to permit satisfactory joint and subsequent movement

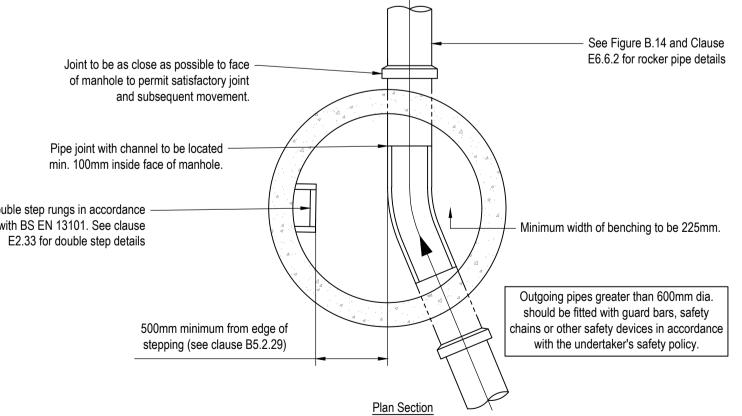
> Note- Plastic chambers and rings shall comply with BS EN 13598-1 and BS EN 13598-2 or have equivalent

## Type 3 Inspection Chamber detail (Flexible Material) in areas subject to vehicle loading

areas subject to vehicular loading 3m, non entry

#### complying withg BS EN 124 and Mortar bedding and haunching to -BS 7903. See clause E2.32 cover and frame to Clause E6.7 Min. 1 course of class B engineering bricks or precast concrete cover frame seating rings Minimum clear access 600mm $\vdash$ Precast concrete manhole sections and 675mm Max. to first step rung from cover level cover slab to be bedded with mortar, platomeric or elastomeric seal conforming to BS EN 1917 and BS 5911-3. See clause E2.29 Lifting eyes in concrete rings to be pointed - 150mm concrete surround DN/ID to Clause B5.2.12 High-strength concrete topping to be The bottom precast manhole ring to be built brought up to a dense, smooth face, into the base concrete minimum 75mm neatly shaped and finished to all branch connections (minimum thickness 20mm) Benching slope to be 1:10 to 1:30. See clause E4.3 and E6.5 Construction joint. Distance between top of pipe and underside of precast section to be minimum 50mm to Self cleaning toe holes to be provided maximum 300mm. Inverts to be formed using channel pipes. 75mm Concrete blinding in

Vertical Section



## Typical Manhole Detail - Type 2 Depth from cover to soffit of pipe 1.5m - 3m

Rigid material construction with concrete surround

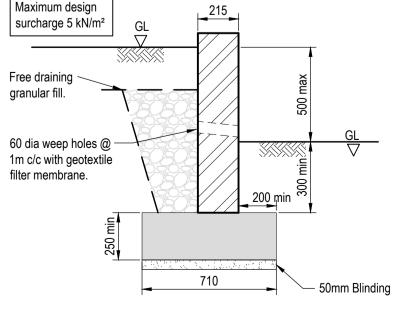
Scale 1:25

### Pipe Bedding Material Details

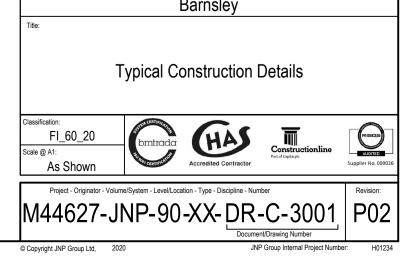
(1) Material designated type 'A' shall consist of angular gravel or crushed rock graded

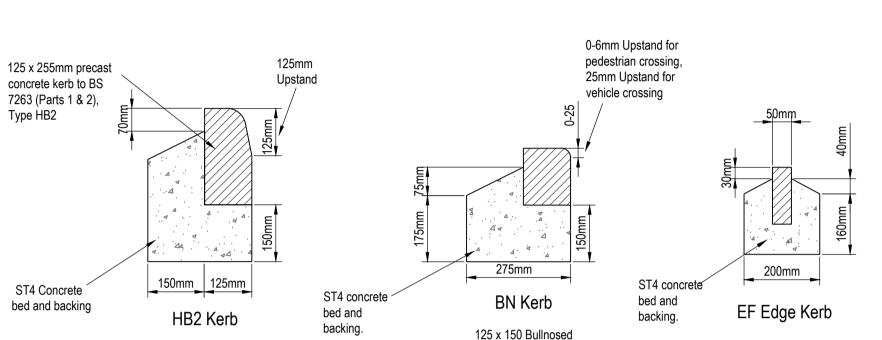
Nominal Size of Pipes (mm)	Maximum Particle Size (mm)	Imported Granular Materials
100	10	10mm nominal single-size
Over 100 to 150	15	10 or 14mm nominal single-size or 14mm to 5mm graded

At each flexible pipe joint a joint filler (e.g. fibreboard or polystyrene) shall be used (see table below), and shall extend through the full thickness of any concrete in contact with the pipe. The concrete bed shall be cut away at each joint to give a clearance of at least 50mm, so that the joint does not bear on the bed.



Type A Upto 500mm Masonry Wall (Allowance for Driveway loading)





1. All linear dimensions are in millimetres unless

The kerb base shall sit directly on sub-base at

4. The minimum thickness of sub-base below kerb base shall be 110mm or 150mm where no lower sub-base is specified.

All vertical faces on kerb base and backing shall be formed with shuttering. Kerbs shall be backed up while the kerb base

remains plastic (max. 6hrs after batching). designation (i).

1340:2003.

curved kerbs shall be used. be used.

Invert of connecting pipe at least 50mm above that of the main pipe

Double step rungs in accordance with BS EN 13101. See clause E2.33 for double step details

S4 - Suitable for Stage Approval

P02 05/06/2024 Retaining wall detail added

P01 | 30/05/2024 | First Issue

AG / AMc / AMc

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Notes for kerbs stated otherwise.

either its design level or lower. The minimum depth of kerb base shall be

150mm. The minimum depth of edging base shall

Mortar shall comply with SHW Clause 2404 Kerb reference numbers are defined in BS EN

9. For kerbline radii not exceeding 12m, appropriate 10. For kerbline radii exceeding 12m but not exceeding 20m, 610mm long straight kerbs shall

11. Bond coat to Clause 920 shall be applied to the carriageway surface in accordance with BS 434: Part 2 prior to the laying of extruded asphalt

Mortar bedding and Cover to suit BS EN 124 Loading haunching to Highways - Grade D400, 600mm cover and frame to clear opening clause E6.7 Surface course Access opening restricted to 350mmØ or Binder course 300mm x 300mm if depth of chamber >1m Class B engineering brickwork or Precast concrete slab or in-situ precast concrete cover frame concrete slab to support cover seating rings DOT Type 1 Sub-base (thickness varies) Minimum internal dimensions 450mmØ or 450mm x 450mm DOT Type 1 Sub-base (thickness Base unit to have all connections with soffit levels set no lower than that of the main pipe Granular bedding material

Maximum depth from cover level to soffit of pipe in

# independent approval

in accordance with BS 882, or air cooled blast furnace slag to BS 1047, or sintered pulverised fuel ash to BS 3797, selected according to pipe size as follows:-

Nominal Size of Pipes (mm)	Maximum Particle Size (mm)	Imported Granular Materials
100	10	10mm nominal single-size
Over 100 to 150	15	10 or 14mm nominal single-size or 14mm to 5mm graded