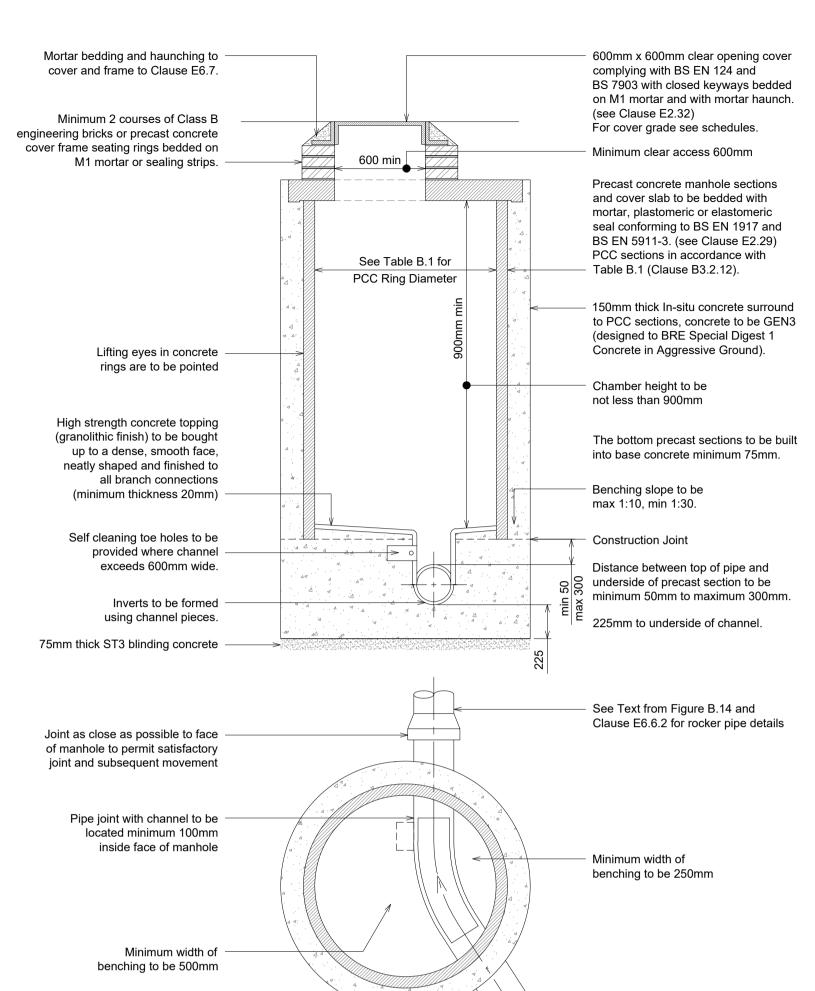
Typical Type 2 Chamber Detail

• Maximum depth from cover level to soffit of pipe 3.0m



Safety chains shall be provided on out-going pipes 900mm diameter and greater.

NOTES:

Table B.1 - Clause B3.2.12 - Manhole Diameters			
Nominal internal diameter of largest pipe in manhole (mm)	Minimum nominal internal dimension of manhole (mm)		
Less than 375	1200		
375 - 450	1350		
500 - 700	1500		
750 - 900	1800		
Greater than 900	Pipe diameter + 000		

Clause numbering refers to 'Sewers for Adoption' 7th Edition

Clause E6.6 - Pipes and Joints Adjacent to Structures Where rigid pipes are used, a flexible joint (rocker pipe) shall be provided as close as is feasible to the outside face of any structure into which a pipe is built, within 150mm for pipe diameters less than 300mm. The design of the joints

2. The recommended length of the next pipe (rocker pipe) away from the structure shall be as shown in Table E.12.

shall be compatible with any subsequent movement.

Clause E6.7 - Setting Manhole Covers and Frames

1. Manhole frames shall be set to level, bedded and haunched externally over the base and sides of the frame in mortar, in accordance with the manufacturers instructions. The frame shall be seated on at least two courses of Class B engineering bricks, on precast masonry units or on precast concrete cover frame seating rings to regulate the distance between the top of the cover and the top rung of the ladder (to be no greater than 675mm). A mortar filler shall be provided where the corners to an opening in a slab are chamfered and the brickwork is not flush with the edges of the opening.

Frames for manhole covers shall be bedded in a polyester resin based mortar in all situations where covers are sited in NRSWA Road Categories I,II or III (i.e. all except residential cul-de-sacs).

Table E.12 Rocker Pipes

Nominal Diameter (mm)	Effective length of Rocker Pipe (mm)
150 to 600	600
600 to 750	1000
Over 750	1250

Clause E2.29 - Precast Concrete Manholes

- Precast concrete manhole units shall comply with the relevant provisions of BS EN 1917 and BS 5911-3. Units which bed into bases shall be manufactured so that imposed vertical loads are transmitted directly via the full wall thickness of the unit. The profiles of joints between units and the underside of slabs, shall be capable of withstanding applied loadings from such slabs and spigot-ended sections shall only be used where the soffit of the slab is recessed to receive them.
- Precast concrete chamber sections for valves and meters shall be interlocking and comply with BS EN 1917 and BS 5911-3.

Clause E2.32 - Manhole Covers and Frames

- 1. Manhole covers and frames shall comply with the relevant provisions of BS EN 124, BS 7903 and Highways Agency Guidance Document HA 104/09. They shall be of a non rocking design which does not rely on the use of cushion inserts.
- Manhole covers on foul-only sewers shall be of low leakage types in order to prevent excessive surface water ingress.
- As a minimum, Class D400 covers shall be used in carriageways of roads (including pedestrian streets), hard shoulders and parking areas used by all types of road
- 4. Minimum frame depths for NRSWA road categories I to IV shall be as table E.6.
- Class B125 covers shall be used in footways, pedestrian areas and comparable locations.
- 6. In situations where traffic loading is anticipated to be heavier than would occur on a typical residential estate distributor road (i.e. braking or turning near a junction). higher specification E600 covers shall be used.
- 7. All Manholes shall be the non ventilating type and shall have closed keyways.

Table E.6 Minimum Frame Depths

NRSWA Road Category	Road Description	Minimum Frame Depth (mm)
I	Trunk road and dual carriageways	150
II	All other A roads	150
III	Bus services	150
IV	All other roads except residential cul-de-sacs	150
-	Residential cul-de-sacs	100

Clause E2.32 - Manhole Covers and Frames

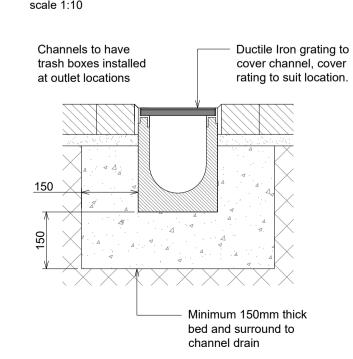
- Manhole covers and frames shall comply with the relevant provisions of BS EN 124, BS 7903 and Highways Agency Guidance Document HA 104/09. They shall be of a non rocking design which does not rely on the use of cushion inserts.
- 2. Manhole covers on foul-only sewers shall be of low leakage types in order to prevent excessive surface water ingress.
- 3. As a minimum, Class D400 covers shall be used in carriageways of roads (including pedestrian streets), hard shoulders and parking areas used by all types of road vehicles.
- 4. Minimum frame depths for NRSWA road categories I to IV shall be as table E.6.
- 5. Class B125 covers shall be used in footways, pedestrian areas and comparable
- 6. In situations where traffic loading is anticipated to be heavier than would occur on a typical residential estate distributor road (i.e. braking or turning near a junction). higher specification E600 covers shall be used.
- 7. All Manholes shall be the non ventilating type and shall have closed keyways.

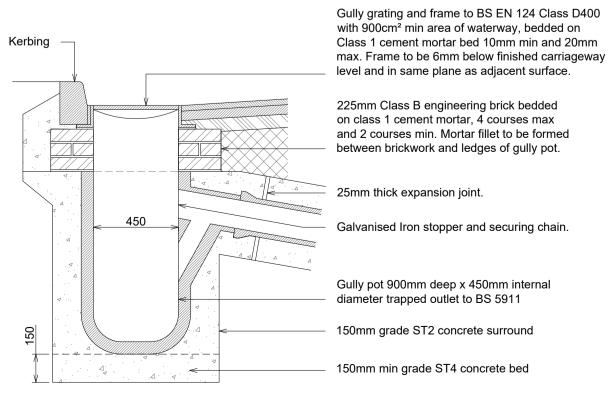
Text taken from Figure B.14

1. Stub pipes into structures shall be of rigid material.

2. No incoming branch is to be less than 90° from the outgoing direction of flow, all pipes entering the bottom of the manhole are to have level soffits.

Driveway Gully Detail Channel Drain Detail

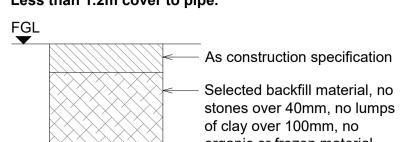


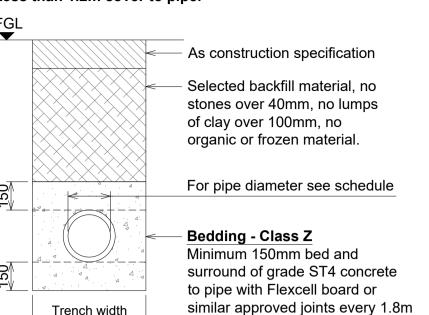


NOTE: Concrete protection to pipe where depth to soffit is less than 1.2m

Pipe Bedding - Class Z

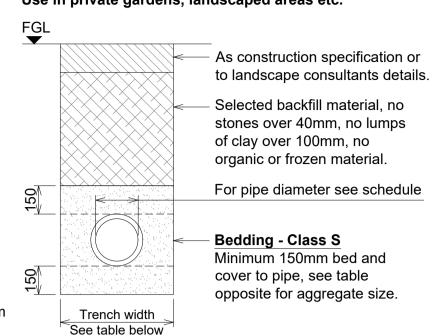
Areas subject to vehicle loadings. Less than 1.2m cover to pipe.





Pipe Bedding - Class S

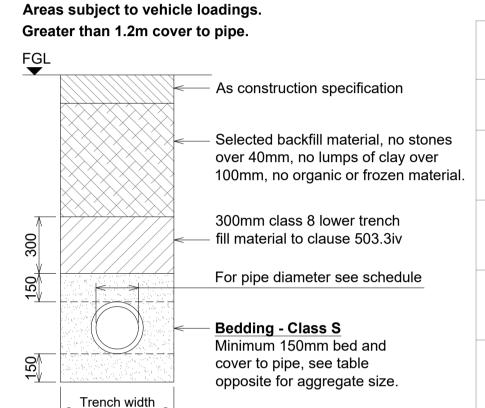
Areas not subject to vehicle loadings. Use in private gardens, landscaped areas etc.

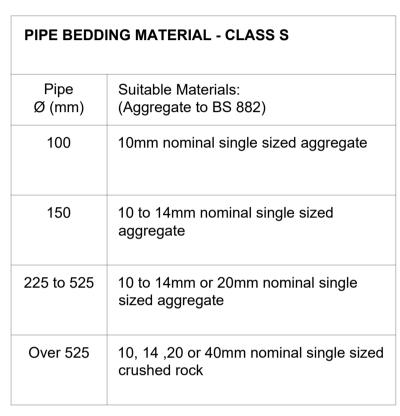


Pipe Bedding - Class S

Trench width

See table below





TRENCH WIDTH		
Pipe Ø (mm)	Trench Width (mm)	
100	450	
150	450	
225	600	
300	600	
375	750	
450	750	
525	900	
600	900	
750	1200	
900	1350	
1050	1500	

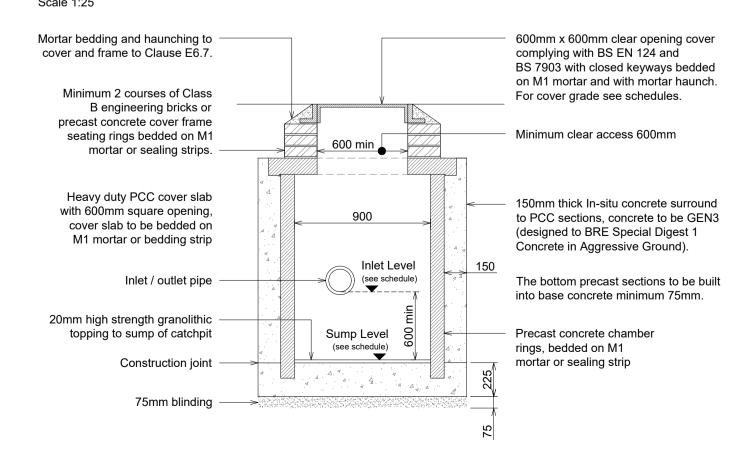
See table below

Pipe surround material shall where required, be placed and compacted over the full width of the trench in layers not exceeding 150mm before compaction, to a finished thickness of 300mm above the crown of the pipe.

Where excavations have been supported and the supports are removed they shall be withdrawn progressively as backfilling proceeds in a manner that minimises the danger of collapse, all voids formed behind the supports are to be carefully filled and

Pipe jointing surfaces and components shall be kept clean and free from extraneous matter until the joints have been made or assembled, care should be taken to ensure that there is no ingress of grout or other material into the joint after the joint has been

Pipes should be cut in accordance with the manufacturers recommendations to provide a clean square profile without splitting or fracturing the pipe wall and to ensure minimal damage to any protective coatings, where necessary, the cut ends of pipes shall be formed to the tapers and chamfers suitable for the type of joint to be used.

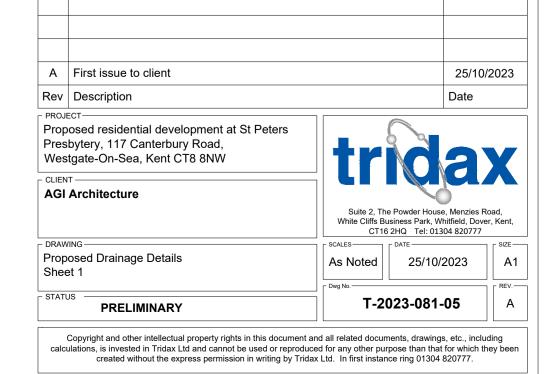


DRAINAGE NOTES

- The location of any existing drains and sewers are to be accurately located and reported prior to any work commencing on site.
- All materials, workmanship and construction to be in accordance with the requirements of 'Sewers for Adoption - 7th Edition' and published addendum and corrigendum. Channel drains shown are only to collect surface water run-off from hard paved areas and
- door thresholds and are not intended to collect groundwater or run-off from gardens and • All abandoned pipework to be completely removed or grout filled unless stated otherwise.

NOTES

- The Contractor should check all dimensions on site.
- It is the Contractors responsibility to ensure compliance with building regulations and current
- · Drawings cannot take into account any drains or underground works not locatable by visual survey of the site.
- · Commencement of any building works prior to full building regulation approval is entirely at the clients risk.



Typical Type 2 Catch Pit Detail