

- All private drainage must comply with the current edition of DTLR Building Regulations approved document H.
- Where drainage is to be adopted it should meet with the requirements of Sewers for Adoption 7th edition.
- 3. Drainage design to be to BS EN 752-3 1996
- 4. Any intended changes to the drainage design must be discussed with the Engineer. If changes are made the Engineer must be supplied with as-constructed information to enable drawings to be suitably updated for the Health & safety file.
- Before works commence the contractor should satisfy themselves that the details of the drainage system to be connected into are correct i.e. cover, invert levels, line, condition and type of sewer.
- Private access chambers are to be appropriate to the depths and loadings as follows:-

Depth to invert Access size Up to 600mm Mini access chamber 300mmØ Up to 1200mm Inspection chamber 475mm Ø (PPIC)

600mmx450mm Brick/P.C.C units 1200 to 1500mm P.C.C ring manhole 1050mmØ 1500 to 3000mm P.C.C. ring manhole 1200mmØ (ring diameter increased if sewer

All manholes shall have a flexible joint within 150mm of the face of the structure and a "rocker pipe" which should not exceed 600mm in length.

greater than 475mmø).

- 8. Pipe materials shall be -Vitrified clayware to BS EN 295 Cast iron to BS EN 545:2010 UPVC - BS EN 1401 PP - BS EN 1852 Structure wall -BS EN 13476
- 9. For private sewers having 900mm or less cover beneath carriageways & hardstanding or 600mm in landscape areas then they shall have concrete surround or slab protection. Slab protection to be 100mm thick C20concrete slab with mesh reinforcement and a bearing of 150mm each side of the trench. Concrete surround to be 150mm C20 with flexible joints.
- 10. Trenches within 1.2m of load bearing walls should be filled with concrete at least to the underside of the foundation. Where the distance is more than 1.2m from the foundations the concrete should be taken at least up to a 45degree line from the bottom of the foundations. Alternatively, the foundations could be taken to a deeper level to avoid undermining by the drainage trench (check with the Engineer where this is required).
- 11. Pipe bed and surround to be granular Type S unless otherwise
- 12. Drains passing through walls or foundations should have either an arched or lintelled opening to give 50mm clearance around the pipe. The opening shall be masked both sides with a rigid non-perishable material, or alternatively a short length of pipe may be built in solid if it is connected within 150mm to rocker pipes (max 600mm long) with flexible joints.
- 13. Drainage under buildings should be bedded and surrounded by at least 100mm of granular material.
- 14. Unless otherwise stated on the drawings or in the schedules then all private drainage shall be 100mmØ.
- 15. All road gully connections to be 150mmØ and surrounded with 150mm C20 concrete surround. 16. Where schemes require soakaways they shall not be positioned closer than 5m from the nearest dwelling or structure. Where
- solution features can occur in the underlying strata such as chalk then this distance will need to be increased to 10m. 17. New connections to existing public sewers should be carried in accordance with appropriate Section 106 (Water Industry Act)
- 'connection consent' and also under the supervision of the Water Authority.

18. Covers shall be to B.S. EN 124:1994 Class A15 - areas where only pedestrians have access. Class B125 - for use in car parks and pedestrian areas where occasional vehicular access is likely.

Class C250 - areas where not extending more than 500mm from kerb face into the carriageway Class D400 - areas where cars and lorries have access including carriageways, hard shoulders.

- Cover and frames to be 150mm deep except residential cul-de-sacs 19. It is recommended that drainage works should be constructed from the outfall particularly where the outfall depth is relatively
- shallow. If it is not possible to commence works from the outfall the contractor should satisfy themselves that the invert, line, position and type of existing outfall are correct. 20. Drainage works should be protected from possible damage by construction traffic loadings during the construction period.
- Protection may be provided by barriers. materials should not be stored over drainage works. 21. Buildings up to 3 storeys shall have a rest bend at the base of the soil stack 450mm min below the invert of the lowest incoming drain. Buildings over 3 storeys must be a minimum of 750mm below the lowest incoming drain. Buildings over 5 storeys

then the ground floor drainage connections should have their

Chamber Type

Polypropylene Mini Access

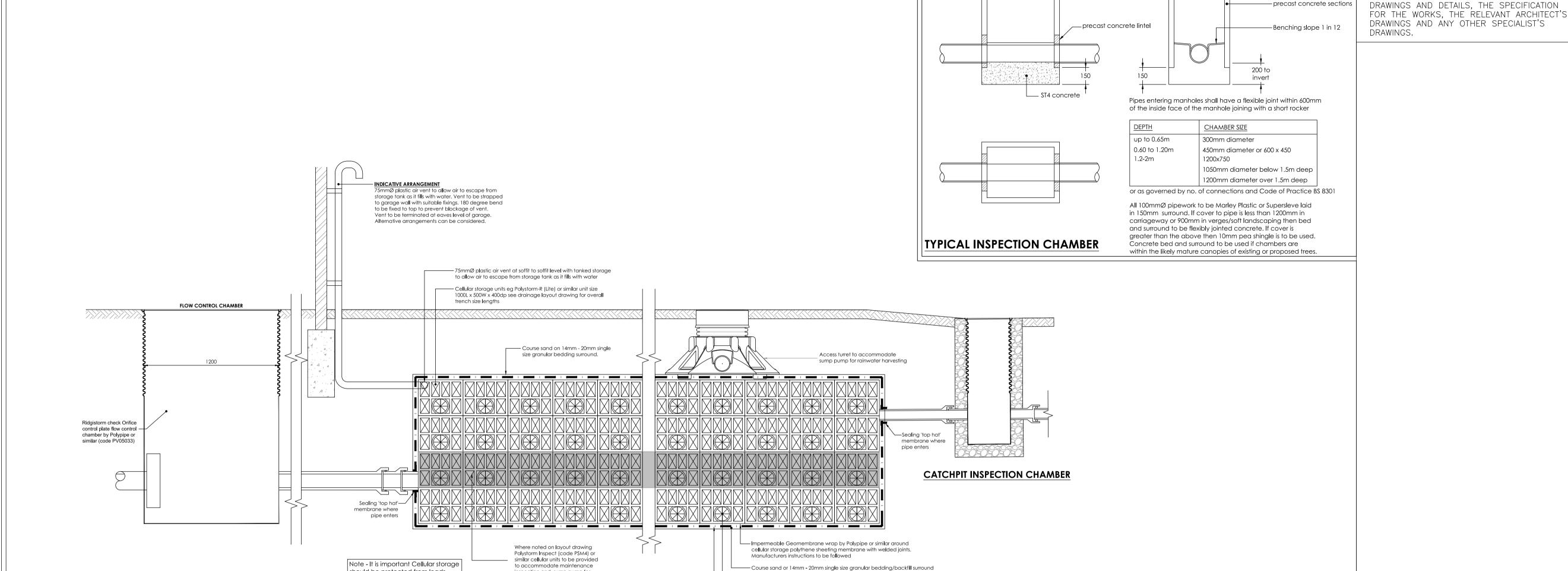
Chamber (mac)

Polypropylene Inspection

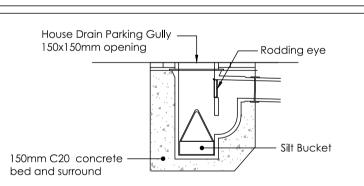
Chamber (PPIC)

22. Where piling works are undertaken the positions of existing sewers must be accurately located before piling takes place.

own connections to the external drain.



TANKED CELLULAR STORAGE



the base of the soil stack should be 450mm

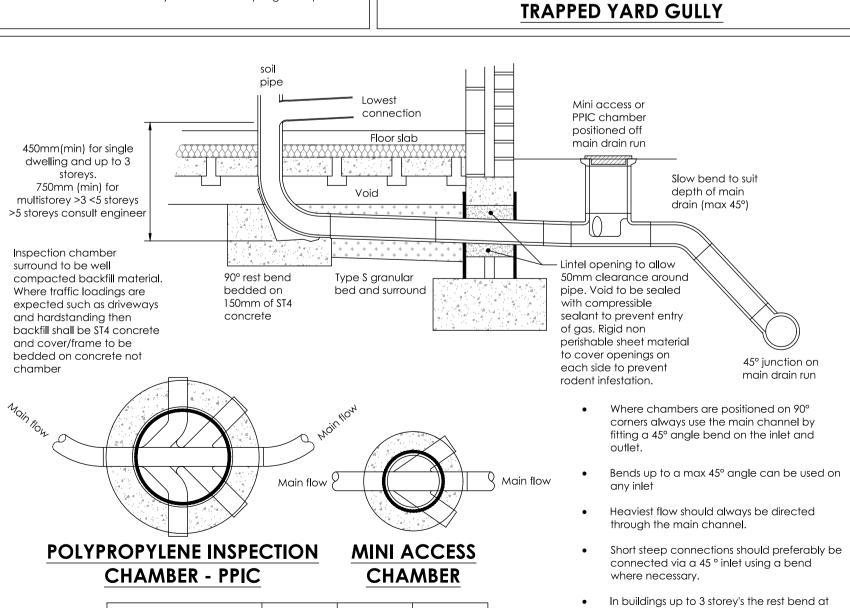
drain.In buildings over 3 storey's this should be

below the invert of the lowest incoming

increased to 750mm.In buildings over 5 storey's the ground floor drainage

connections should have their own

connections to the external drain



Max. No.

Inlets

Depth

(mm)

600

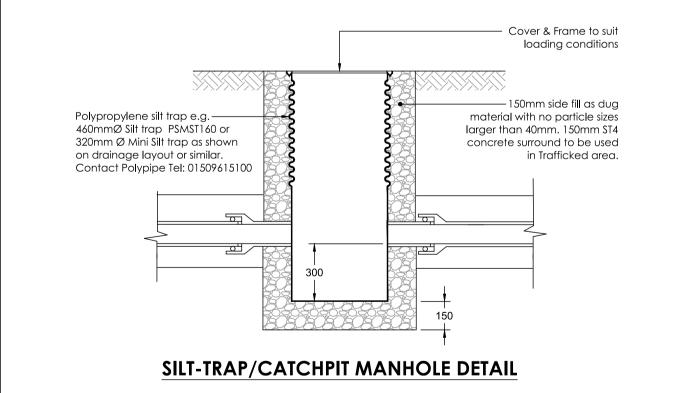
1250

Diameter

(mm)

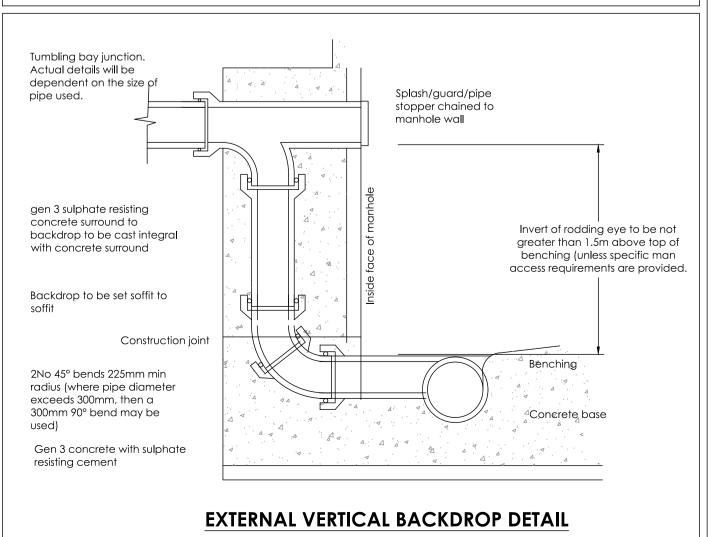
300

475



should be protected from loads

during the construction period.



landscape landscape carriageway carriageway topsoil construction construction Trench excavation backfill Trench excavation material under carriageways suitable or as dug backfill material and loadbearing areas to be backfill material under carriageways Type 1 sub-base cl803 SHW Compacted in and loadbearing layers not greater areas to be Type 1 than 150mm thick sub-base cl803 SHW 150mm ST4 concrete slab 20mm nominal size agaregate. Steel mesh (393) reinforcement 50mm clearance from base of 50mm concrete slab. compressible layer 150 mir beneath slab NOTE:- Slab must span trench Type S granular Type S granular completely bearing on original bed and surround bed and surround ground both sides. Bearing width (150mm min) will vary with pipe size, consult Engineer

— Cover & frame to suit loading conditions and size of chamber (see below)

-Mortar haunching to MH

cover and frame

I.DO NOT SCALE, IF IN DOUBT ASK.

2.THIS DRAWING IS TO BE READ IN CONJUNCTION

WITH ALL RELEVANT STRUCTURAL ENGINEER'S



Inspection tunnel to formed through length of storage using Polystorm

- Permatex 300 protection fleece

Inspect (PSM4) with a Permatex 300 protection fleece outer wrap or similar

and greater than 900mm in non-trafficked areas (ie footpaths, verges, etc) carriageway construction Trench excavation backfill naterial under carriageways and loadbearing areas to be Type 1 sub-base cl803 SHW 150mm C20 concrete bed and surround to Concrete protection to have compressible filler over the full cross section at each pipe joint by shaped compressible filler.

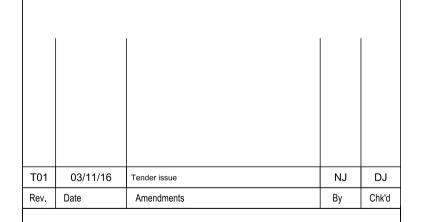
TYPE Z CONCRETE BED AND SURROUND To be used where cover to pipe soffit is less than 1200mm in vehicular areas and 900mm in non-trafficked areas (ie footpaths, verges, etc)

CONCRETE SLAB PROTECTION

To be used where cover to pipe soffit is less than 1200mm in vehicular areas and 900mm in non-trafficked areas (ie footpaths, verges, etc)

Pipe nominal size (DN)	Pipe Bedding Requirement (mm)	
100	10mm nominal shingle size	
over 100-150	10mm or 14mm nominal shingle size or 14mm to 5mm graded	
over 150-300	10, 14 or 20mm nominal shingle size or 14mm to 5mm graded or 20mm to 5mm graded	
over 300-550	14, 20 or 40mm nominal shingle size crushed rock or 14mm to 5mm graded or 20mm to 5mm graded	
over 550	14, 20 or 40mm nominal shingle size crushed rock or 14mm to 5mm graded or 20mm to 5mm graded or 40mm to 5mm graded	

GRANULAR BEDDING AND SIDEFILL MATERIAL GRADINGS



London 0207 407 9575 Oxford 01865 251 206 www.ehrw.co.uk

17 Branch Hill Hampstead

Scale at A1:

Drainage Construction Details

Drawn by:

	1:20	NJ	24/10/2016	DJ
	Project Number:	Drawing Type:	Drawing No:	Revision:
	1281	DR	052	T01

Chk'd by: