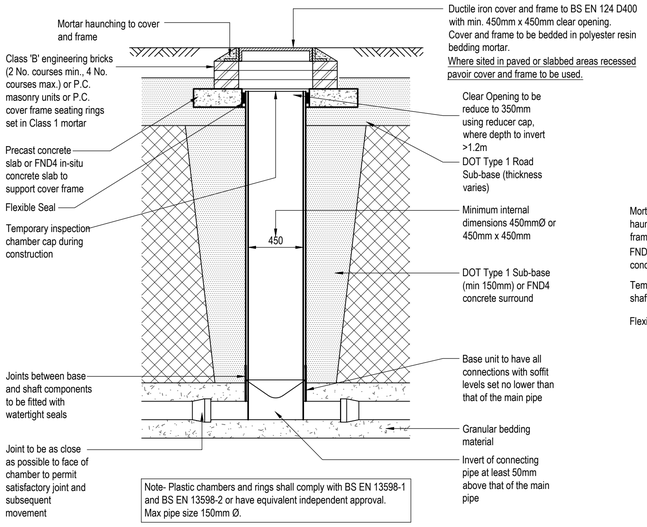
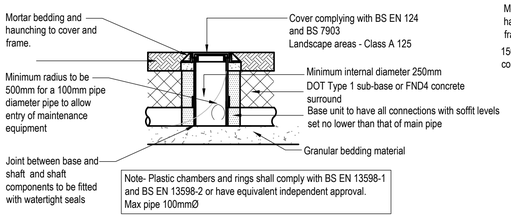
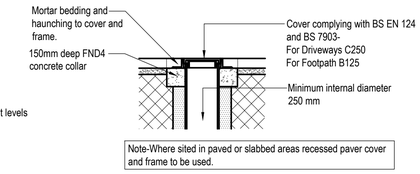


Maximum depth from cover level to invert of pipe in areas subject to vehicular loading 3m, non entry

450mm Dia Inspection Chamber detail (Flexible Material) in areas subject to vehicle loading

Scale 1:25





Cover Detail - Sited in domestic driveways or footways

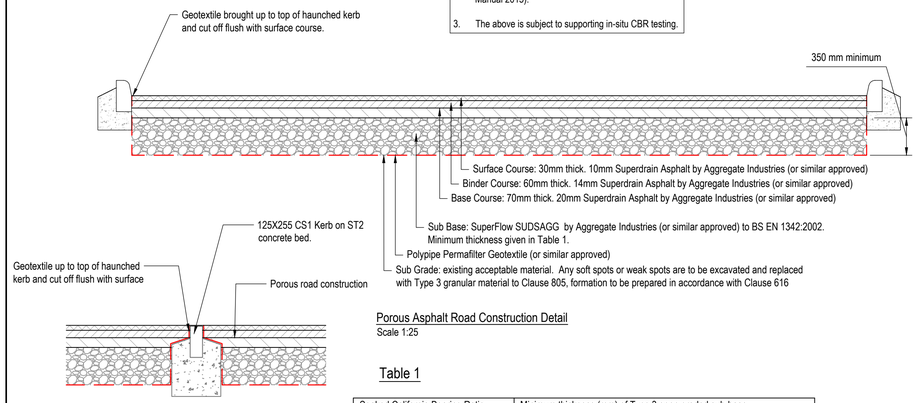
Maximum depth from cover level to invert of pipe 0.6 m, non entry

250mm Dia Inspection Chamber detail (Flexible Material)

Scale 1:25

Design Construction note:

1. Design based on section 20.9 of the CIRIA SuDS Manual 2015.
2. Construction thickness based on Traffic Category 5 'Car parks receiving occasional commercial vehicle traffic' in compliance with Table 20.5 (CIRIA SuDS Manual 2015).
3. The above is subject to supporting in-situ CBR testing.



Porous Asphalt Road Construction Detail

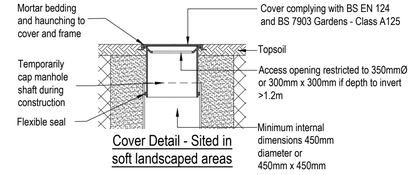
Scale 1:25

Full Height Check Dam Detail

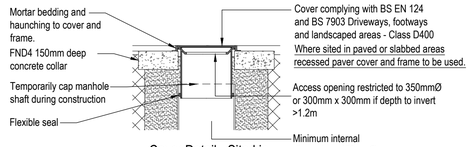
Scale 1:25

Table 1

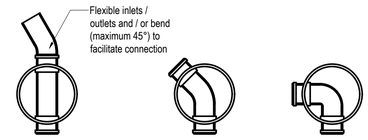
Soaked California Bearing Ratio (CBR) Values	Minimum thickness (mm) of Type 3 open graded sub-base (Consolidated in accordance with MCHW Volume 1 Clause 803, table 8/1)
Less than 2.5%	Subgrade improvement required
2.5% - 3%	450
3% - 4%	375
>4%	350

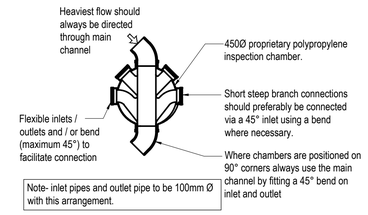


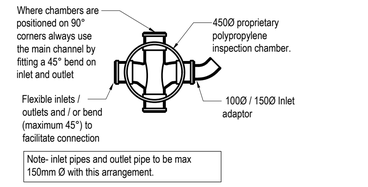
Cover Detail - Sited in soft landscaped areas



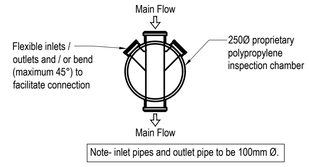
Cover Detail - Sited in domestic driveways or footways



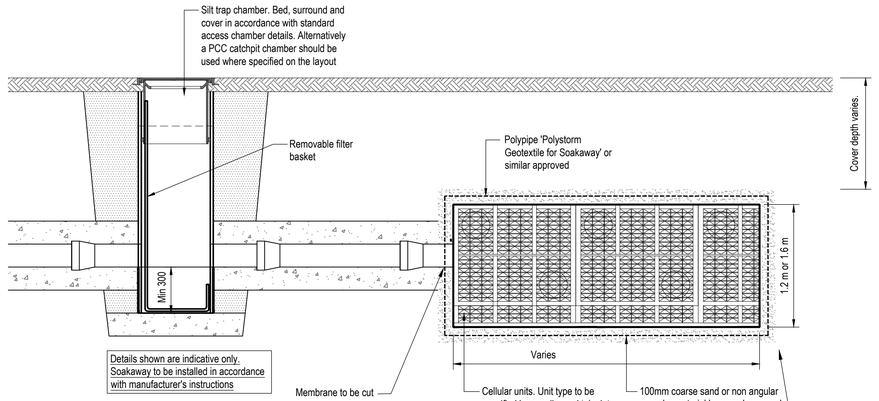




Alternative Base Layouts For 450mm Dia Inspection Chambers



Base Layout for 250mm Dia Inspection Chamber



Typical Section Through Cellular Soakaway

Scale 1:20

Private Drainage Notes

1. This drawing is to be read in conjunction with and checked against all other drawings, engineering details, specification and any structural, geotechnical or other specialist documents provided.

2. All lateral connections for house drainage shall be 100mm unless stated otherwise and must extend a minimum of 500mm behind the back of the footpath.

3. All pipes to be vitrified clay or UPVC and shall be 100mmØ laid to a fall of 1:80 unless noted otherwise or indicated by size and invert levels. All connections when laid shall be plugged, protected as necessary and marked with a stake for future use.

4. Building drainage shall comply with BS 8301 1985, BS EN 752 and Building Regulations Part H. Inspection chambers located within garages to have double seal bolt down covers.

5. Gully top and manhole cover specification to be in accordance with BS EN 124 and located in accordance with the intended use and loading classification as described within groups 1-6.

6. This drawing is schematic for clarity only, positions of pipe runs and manholes may vary on site due to site conditions.

7. Connections to pre-formed inspection chamber bases should ensure the main channel is used in all cases. High velocity discharges (e.g. from SVP's) should use the main channel where practicable.

8. Cover and invert levels are indicative and may vary on site. In any case the following minimum cover to depth of cover to the crown of pipes without protection shall be as follows:

a. Domestic gardens and pathways without any possibility of vehicular access - 0.35m

b. Domestic driveways, parking areas and yards with height restrictions to prevent entry by vehicles with a gross weight in excess of 7.5 tonnes - 0.5m

c. Domestic driveways, parking areas and narrow streets without footways (e.g Mews developments) with limited access for vehicles with a gross weight in excess of 7.5 tonnes - 0.9m

d. Agricultural land and public open space - 0.9m

e. Other highways and parking areas with unrestricted access to vehicles with a gross weight in excess of 7.5 tonnes - 1.2m

Note: any protection required where drainage does not comply with a-e above shall be as follows:-

a) Vitrified clay pipes - provide a 100 mm min. thick concrete bed and surround (instead of class 'S' bedding) and a 13 mm thick compressible filler at each joint.

b) UPVC pipes - provide a concrete bridging (in addition to class 'S' bedding) in accordance with appendix A15, Building Regulations part 'H'.

Note: in-situ concrete used in connection with a) and b) above shall be standard mix GEN3 in accordance with BS 5328.

9. Drainage runs should be laid at a minimum of 5m from the rear of properties where practicable to allow for future extensions.

10. Where pipes pass under buildings, unless beam & block floors are used, they are to be surrounded in concrete.

11. All branch drains, or connections, are to discharge to the collectors obliquely, and in the direction of the main flow.

12. Finished floor levels (FFL's), assumed to be typically a minimum of 150mm above finished ground level outside. refer to architects drawing for details.

13. All new private shallow 225mm diameter surface water and foul inspection chambers and rodding eyes shown without cover levels (CL) shall be assumed to be at external ground level, and invert levels (IL) are to be typically between 450 and 600mm below CL, subject to the length of the internal house connections.

14. All low spots on hardstanding areas to have double gullies.

15. Prior to topsoiling of rear gardens, the gardens should be reworked, rotovated or decompacted to a depth of 600mm. Once this is carried out, no plant is to access these areas, any further consolidation of subsoil to be reworked as necessary. Before reworking or rotovating the Contractor is to mark all drain runs in the area.

16. Pipe bedding to be Class 'S' bedding (100mm granular bed and surround).

17. Excavations for manholes, pipe runs etc located within a 45 degree load distribution splay from any adjoining existing foundations, are to be adequately supported for the duration of the works and building drainage protected.

18. Foundations adjacent to pipe runs or manholes are to have their formation level set above the invert level no higher than the equivalent of the horizontal distance between the pipe/excavation trench and the foundation, minus 500 mm.

19. Where excavations for pipe runs are parallel and in close proximity to each other and/or other service trenches, the contractor shall ensure that adequate safety measures, including temporary shoring, are provided in line with current health & safety Legislation and good practice. Particular attention is to be paid to adjacent trenches of differing invert levels.

20. All existing drainage found on site during the works shall be investigated, its operational status confirmed, and the following applied:-

a) Inoperative drainage shall be cut back and pipe runs filled with concrete grout.

b) 'Live' drainage shall be temporarily re-routed to allow the new drainage to be constructed.

21. Where existing drainage is to be re-used including road, building and external drainage systems, the contractor shall ensure that all chambers and drainage runs are cleaned, de-silted and made good.

22. Covers to existing chambers to be re-used shall be replaced where necessary to suit proposed development loading class, see note 5. Chamber covers shall also be adjusted to suit final ground levels as necessary.

23. Where necessary, existing chambers shall be re-benched to suit new pipework arrangement.

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P01	16/04/2025	First Issue.	SH / LC / LC

Suitability: S3 - Suitable for Review & Comment

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Client: Halstead Homes (Yorkshire) Ltd

Job: Marsh Lane, Shepley

Title: Drainage Construction Details (Sheet 2 of 3)

Classification: FI_60_20

Scale @ A1: AS SHOWN

Project - Originator - Volume/System - Level/Location - Type - Discipline - Number: B26074 - JNP-XX-XX- DR -C- 3111

Revision: P01

Document/Drawing Number

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