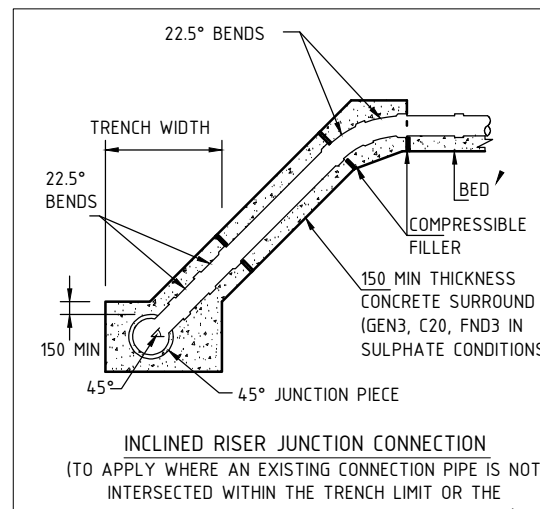
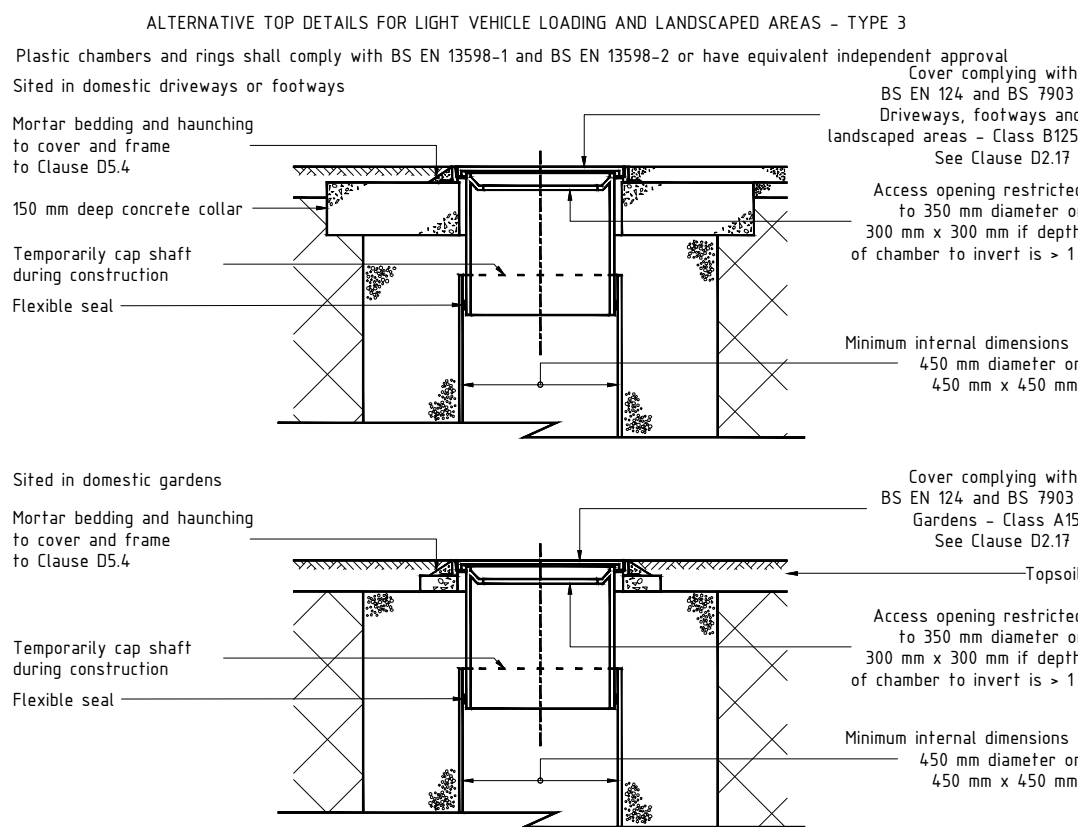
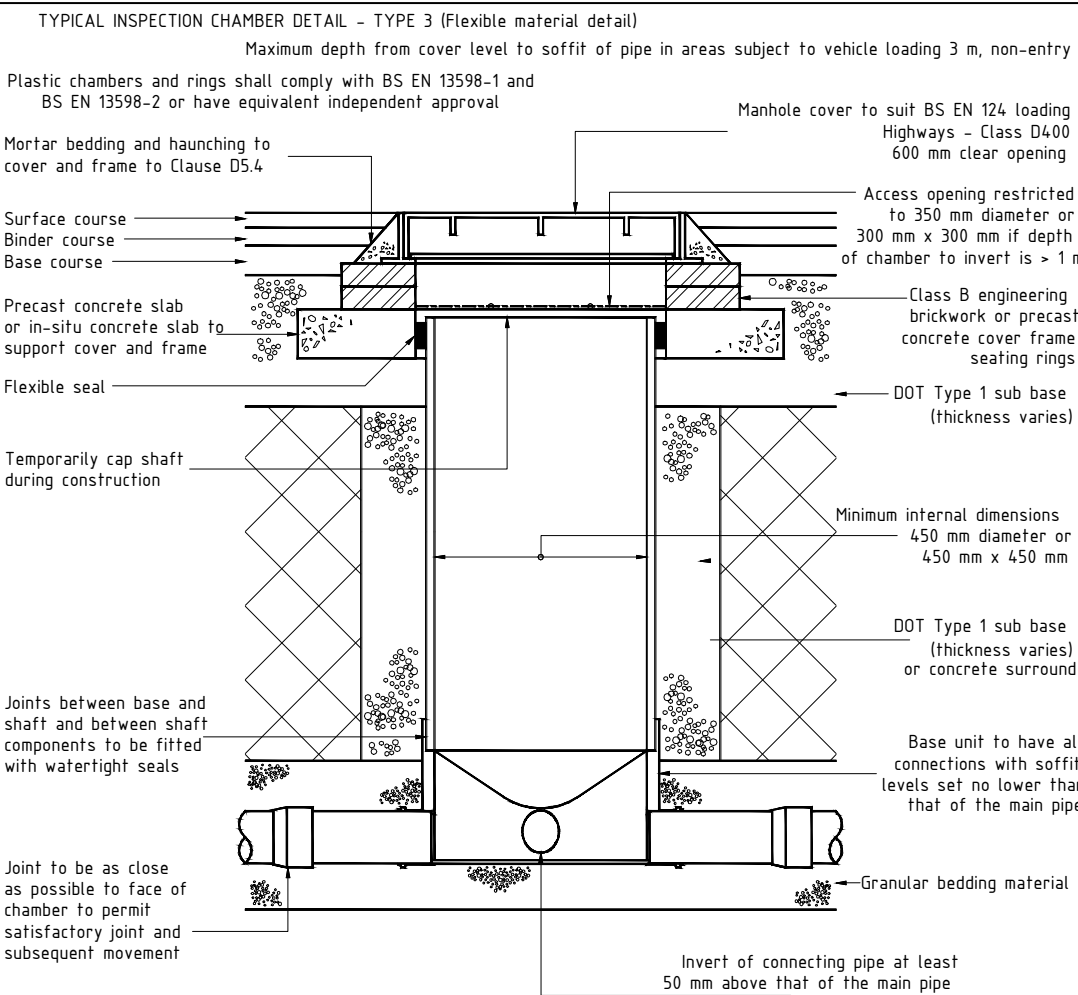
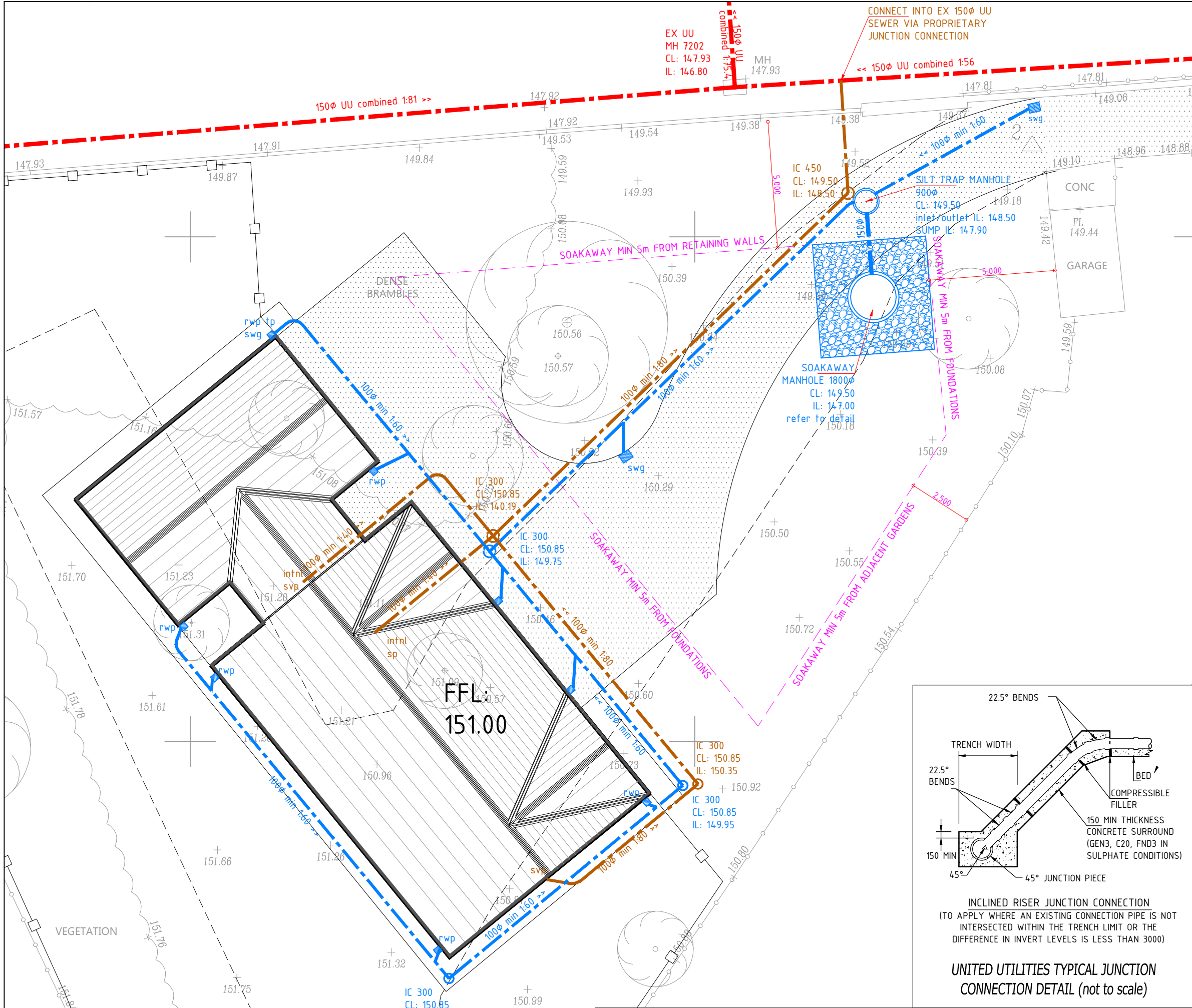




INSPECTION CHAMBER (300-450 Ø IC) TYPICAL DETAIL (not to scale)

GENERAL NOTES

0.0 THIS DRAWING IS COPYRIGHT & IS SENT TO YOU IN CONFIDENCE IT MUST NOT BE COPIED, USED OR DISCLOSED, IN WHOLE OR IN PART, TO THIRD PARTIES WITHOUT WRITTEN PERMISSION. IT REMAINS THE PROPERTY OF T JBA AND MUST BE RETURNED ON REQUEST.

0.1 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT CONTRACTUAL DOCUMENTS.

0.2 All dims in mm unless o/w stated.

0.3 All levels to SITE DATUM.

0.4 Refer to architects details for SBM.

0.5 Contractor to confirm SOP/SOL's prior to ordering material/ construction.

0.6 Do not scale, the contractor must verify all dims prior to commencing shop drawings or work on site.

0.7 All work to be carried out in accordance with CDM 2015.

1.0 HIGHWAYS/ACCESS ROADS & PRIVATE DRIVES.

1.1 N/A

2.0 DRAINAGE.

2.1 To be read in conjunction with T J Booth Associates drainage calculations. Infiltration rate estimated from trial hole observations of SAND & GRAVEL above SAND, using a conservative average value of 0.1m/hr infiltration rate. FINAL INFILTRATION RATE TO BE CONFIRMED PRIOR TO CONSTRUCTION.

2.2 Manhole cover levels indicative only, to be adjusted to suit final finish site levels.

2.3 Sewers/manholes to be constructed in accordance with the water authorities sewers for adoption (edition as applicable), B. Regs. Approved Doc. H, and BS EN 752-4.

2.4 Class S granular bed and surround to all new sewers.

2.5 Sewers must have min 150th concrete surround if:

- adoptable assets with less than 1.2m of cover under highways or driveways;
- private assets with less than 300mm of cover under private driveways;

2.6 All conc including pipes and manholes to be sulphate resisting unless otherwise agreed in writing by eng.

2.7 Foul water must be to the following gradients in accordance with bregs and Sewers For Adoption:

- 100ø at gradients not less than 180 where at least 1 WC is connected and not less than 140 where no WC is connected.
- 150ø foul gradients to be not less than 1:150 with at least 5 WCs connected.

2.8 Surface water must be to the following gradients in accordance with Sewers for Adoption:

- 100ø at gradients not less than 1:60.
- 150øAny work on the United Utilities network or to be part of S104 adoption to be in strict accordance with UNITED UTILITIES DEVELOPER OR S106 CONSTRUCTION DETAILS.

3.0 MANHOLES

3.1 Manhole diameters to be in accordance with SFA clause 2.9.3, and according to largest manhole pipe diameter:

Pipe dia	MH dia
<375	1200;
375-700	1500;
750-900	1800.

5.2 Rocker pipes (clause 5.6.6.2) to be the following lengths:

150-600ø	0.6m;
>600-700ø	1.0m;
>750ø	1.25m.

3.2 Inspection chambers/manholes to have min 150granular surround in soft landscaping areas and not less than 150 conc surround to driveways/car parks.

3.3 Manhole covers and frames shall comply with the relevant provisions of bs. en 124 and shall be of non-rocking design which does not rely on the use of cushion inserts.

3.4 Cover sizes to be in strict accordance with adoptive undertakes standard requirements.

3.5 Cover strength (clause 5.7.1.1) comprising minimum strength for location as follows:

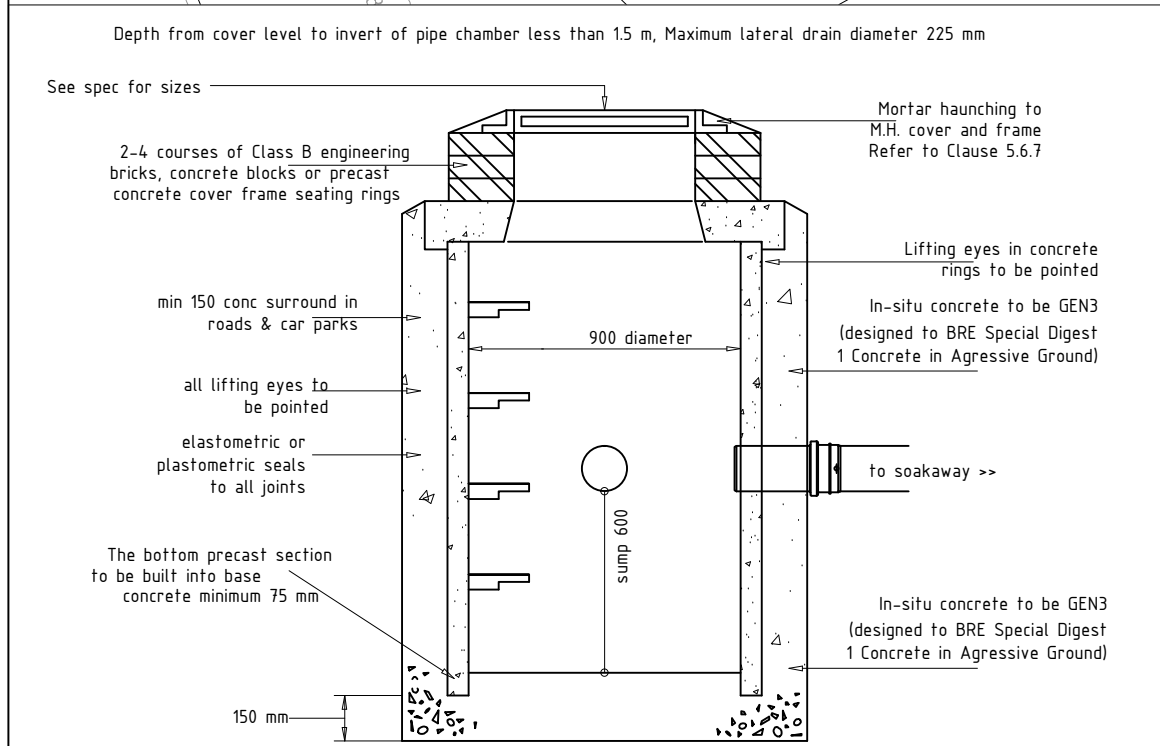
Roads/Highways	D400 Vehicle Impact;
Car Parks	C250 Light Vehicle loading;
Footway/Driveway	B125 Occasional vehicle loading;
Gardens	A15 Pedestrian & cyclist ONLY.

3.6 All manhole covers shall be the non-venting type (unless indicated otherwise) and shall have closed keyways.

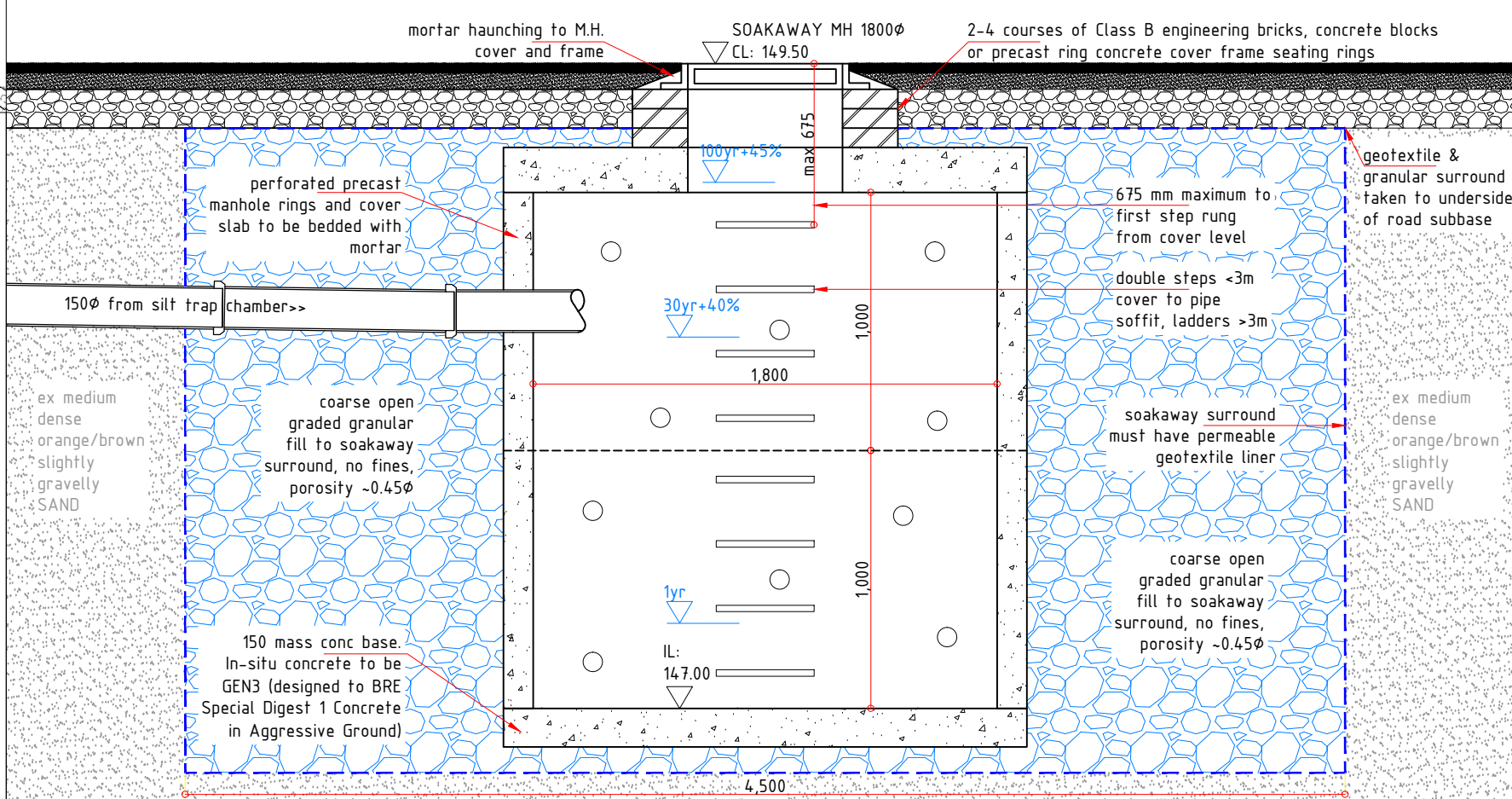
3.7 Manhole frames (clause 5.6.7) to be set to level, bedded and haunched externally over the base and sides of the frame in mortar, in accordance with the manufacturers instructions. The frame shall be seated on not less than 2 courses of class B engineering brick, on precast concrete masonry units or on precast concrete cover frame seating rings to regulate the distance between the top of the cover and the top rung to no greater than 675mm. A mortar fillet 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.

INPPF HIERARCHY OF SURFACE WATER DISCHARGE OPTIONS		
DISCHARGE TYPE	METHOD ADOPTED	REASONING
1. into the ground (infiltration)	YES	Site investigation confirmed SAND above SAND & GRAVEL which are suitable as an infiltration medium. Full Site surface water to be discharged via soakaway. Minor paths around property to drain to associated soft landscaping.
2. to a surface water body	NO	Not required or identified locally.
3. to a SW sewer, highway drain, or another drainage system	NO	Not required or available.
4. to a combined sewer	NO	Combined sewers available in the local vicinity for FW only.

IMPLEMENTATION SCHEDULE FOR DRAINAGE & ATTENUATION STORAGE TANKS AND SOAKAWAYS		
DRAINAGE SYSTEM	IMPLEMENTATION COMPLETION	REASON
General SITE drainage pipes & manholes installed but gullies either covered or connections capped to isolate from construction SW flows.	Construction phase	To ensure connections are available for plot drainage when finished & to ensure construction debris does not enter the system.
General PLOT drainage pipes, manholes & gullies to completed parts of the site only & not subject to further construction flows & debris.	Pre-habitation Phase	To ensure adequate drainage of finished parts of the Site.
Site attenuation tanks, soakaway chambers, control chamber & Hydrobrake, and pretreatment silt traps.	Post Construction Phase ONLY	To ensure protection of the attenuation tank/hydrobrake or soakways, and to ensure they are not subject to SW flow overloaded with silt/debris which could damage or reduce long term storage capacity.



SILT TRAP TYPICAL DETAIL (not to scale)



SOAKAWAY MANHOLE GENERAL ARRANGEMENT DETAIL 1:25

DRAINAGE KEY	
EXISTING FOUL SEWER	---
EXISTING COMBINED SEWER	---
EXISTING SURFACE WATER SEWER	---
PROPOSED FOUL SEWER	---
PROPOSED COMBINED SEWER	---
PROPOSED SURFACE WATER SEWER	---
MANHOLE	MH
INSPECTION CHAMBER	IC
COVER LEVEL	CL
INVERT LEVEL	IL
SEWER BACKDROP	BD
SOIL & VENT PIPE	SVP
SOIL PIPE	SP
RAIN WATER PIPE	RWP
SURFACE WATER GULLY	SWG
FOUL GULLY	FWG

PLANNING ONLY			
AMENDMENTS/ ISSUES			
0	original for planning discharge	dec 2023	ds
REVISION	REASON/ CHANGE	DATE	BY

CIRIA C753 TABLE 13.1 OPERATION & MAINTENANCE REQUIREMENTS FOR SOAKAWAYS		
MAINTENANCE SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
Regular maintenance	Inspect for sediment and debris in pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings	Annually
	Cleaning of gutters and any filters on downpipes	Annually (or as required based on inspections)
	Trimming any roots that may be causing blockages	Annually (or as required)
Occasional maintenance	Remove sediment and debris from pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole rings	As required, based on inspections
Remedial actions	Reconstruct soakaway and/or replace or clean void fill, if performance deteriorates or failure occurs	As required
	Replacement of clogged geotextile (will require reconstruction of soakaway)	As required
Monitoring	Inspect silt traps and note rate of sediment accumulation	Monthly in the first year and then annually
	Check soakaway to ensure emptying is occurring	Annually

T J BOOTH ASSOCIATES
CONSULTING CIVIL & GEOTECHNICAL ENGINEERS
20A Eastgate Street
Rochdale
Lancashire
OL16 1DH
Tel:01706 868288

khan / kings road, rochdale
DRAINAGE PLAN & DETAILS