FOUL WATER MANHOLE SCHEDULE

Sheet 1 of 2

Manhole Number / Coordinates	Cover Level / Depth To Soffit	Connections	Pipe: Code	Pipe: Inverts	Pipe: Diams	Manhole Size	Types: Manhole	Types: Cover
F1	144.630		1 Lateral	143.500	150	1200	B	D400 600 x 600
E. 420365.214	1.980		0 1.000	142.500	150			
N. 426322.194								
F2	143.543		1 1.000	141.327	150	1200	B	D400 600 x 600
E. 420348.270	2.066		0 1.001	141.327	150			
N. 426314.145								
F3	141.601		1 Lateral	139.115	150	1200	B	D400 600 x 600
E. 420315.778	2.336		2 1.001	139.115	150			
N. 426308.007			0 1.002	139.115	150			
F4	140.610		1 1.002	138.289	150	1200	B	D400 600 x 600
E. 420298.429	2.171		0 1.003	138.289	150			
N. 426307.740								
F5	139.907		1 1.003	137.612	150	1200	B	D400 600 x 600
E. 420285.497	2.145		2 Lateral	137.612	150			
N. 426313.673			0 1.004	137.612	150			
F6	137.905		1 1.004	135.603	150	1200	B	D400 600 x 600
E. 420291.985	2.152		0 1.005	135.603	150			
N. 426345.144								
F7	137.016		1 1.005	134.693	150	1200	B	D400 600 x 600
E. 420287.543	2.173		2 Lateral	134.693	150			
N. 426359.016			0 1.006	134.693	150			
F8	137.020		1 Lateral	135.000	150	1200	B	D400 600 x 600
E. 420259.653	1.870		0 2.000	135.000	150			
N. 426349.804								
F9	136.020		1 Lateral	133.684	150	1200	B	D400 600 x 600
E. 420277.575	2.189		2 1.006	133.684	150			
N. 426371.728			3 2.000	134.684	150			
			0 1.007	133.684	150			
F10	134.167		1 1.007	131.822	150	1200	B	D400 600 x 600
E. 420254.545	2.195		0 1.008	131.822	150			
N. 426390.545								
F11	138.414		1 Lateral	136.800	150	1200	C	D400 Double Twin 600x600 Opening 1220x675
E. 420228.096	1.464		0 3.000	136.800	150			
N. 426292.937								
F12	137.800		1 3.000	135.600	150	1200	B	D400 600 x 600
E. 420210.136	2.050		2 Lateral	135.600	150			
N. 426292.694			0 3.001	135.600	150			

FOUL WATER MANHOLE SCHEDULE

Sheet 2 of 2

Manhole Number / Coordinates	Cover Level / Depth To Soffit	Connections	Pipe: Code	Pipe: Inverts	Pipe: Diams	Manhole Size	Types: Manhole	Types: Cover
F13	133.250		1 Lateral	131.50	150	1200	A	D400 600 x 600
E. 420197.447	2.947		2 3.001	130.153	150			
N. 426351.613			3 Lateral	131.50	150			
			0 3.002	130.153	150			
F14	131.725		1 1.008	128.720	150	1200	B	D400 600 x 600
E. 420193.871	2.855		2 Lateral	129.650	150			
N. 426378.897			3 3.002	128.720	150			
			4 Lateral	130.200	150			
			0 1.009	128.720	150			
F15 Break Chamber	131.40		1 Rising Main	130.050	TBC	1200	C	D400 Double Twin 600x600 Opening 1220x675
E. 420186.013	1.200		0 4.000	130.050	150			
N. 426399.292								
F16	131.050		1 4.000	129.940	150	1200	A	D400 600 x 600
E. 420183.343	3.350		2 1.009	127.550	150			
N. 426395.758			0 1.010	127.550	150			
F17 Inlet	131.000		1 1.010	127.424	150	1200	Special Subject to Manufacturer's Details	D400 600 x 600
E. 420173.317	3.526		0 1.011	127.324	150			
N. 426394.963								
F18 Wet Well	131.000		1 1.011	127.275	150	2100	Special Subject to Manufacturer's Details	D400 600 x 600
E. 420169.75	3.575							
N. 426394.288			0 1.012	TBC	TBC			
F19 Valve Chamber	TBC		1 1.012	TBC	TBC	2400 x 1800	Special Subject to Manufacturer's Details	D400 2400 x 1800
			0 Rising Main	TBC	TBC			
F20 Break Chamber	139.58		1 Rising Main	138.000	TBC	1200	C	D400 Double Twin 600x600 Opening 1220x675
E. 420219.682	1.430		0 F20–F21	138.000	150			
N. 426226.635								
F21	139.39		1 F20–F21	138.00	150			D400 600 x 600
E. 420217.245	2.315		2 Existing	136.85	225			
N. 426221.344			0 Existing	136.85	225			

Cover and Frames

All PCC manholes to have 600 x 600 openings.

All PPIC's to have 450 openings, unless greater than 1.2m deep when the opening shall be reduced to 350mm by using a reducing piece. (this is a small plastic section placed at the top of the chamber, a smaller cover should not be used)

PIPES			
Product Name	Diameter (mm)	Manufacturer	Material
Supersleve	100 & 150 (I.D.)	Hepworth	Vitrified Clay
Superseal	150 & 225 (I.D.)	Hepworth	Vitrified Clay
Densleeve	100, 150 & 225 (I.D.)	Naylor	Vitrified Clay
Denseal	100, 150 & 225 (I.D.)	Naylor	Vitrified Clay
Ultra-Din	110 & 160 (O.D.)	Uponor	Vitrified Clay
Plastidrain	110 & 160 (O.D.)	Hepworth	UPVC
OsmaDrain	110 & 160 (O.D.)	Wavin	UPVC
Osma UltraRib	150 & 225 (I.D.)	Wavin	UPVC
Solid Wall	110 & 160 (O.D.)	Marley	UPVC
Quantum	150 & 225 (I.D.)	Marley	UPVC
Underground Drain	110 & 160 (O.D.)	Polypipe	UPVC
Ridgisewer	150 & 225 (I.D.)	Polypipe	UPVC

DEMARCATION CHAMBER				
Manufacturer	Product Name	Material	Max Depth	Cover Type
Naylor	Plastic Inspection Chamber	Polypropylene	Up to 1200mm	Class B125
Hepworth	PPIC	Polypropylene	Up to 1200mm	Class B125
Uponor	Inspection Chamber (450mm ø)	Polypropylene	Up to 1200mm	Class B125
Marshalls	Inspection Chamber to BS5911 pt2	Precast Concrete	Up to 1200mm	Class B125
Wavin	Osma UltraRib Inspection Chamber	Polypropylene	Up to 1200mm	Class B125
Wavin	OsmaDrain Universal Inspection Chamber	Polypropylene	Up to 1200mm	Class B125
Wavin	Non Entry Inspection Chamber	Polypropylene	Up to 1200mm	Class B125
Marley	Inspection Chamber (450mm ø)	Polypropylene	Up to 1200mm	Class B125
Polypipe	110 Inspection Chamber (460mm ø)	Polypropylene	Up to 1200mm	Class B125
Polypipe	Non man Entry Deep Inspection Chamber System	Polypropylene	Up to 2000mm	Class B125

MANUFACTURERS LIST

N O T E S

SUBJECT TO THE APPROVAL OF ALL RELEVANT AUTHORITIES

DO NOT SCALE | ORIGINAL DRAWING SIZE A1

Water Authority's General Notes

1. This drawing is to be read in conjunction with all relevant OEC Consulting Engineers and Architects drawings and project specifications.
2. All adoptable sewer works and material to be in accordance with Sewerage Sector Guidance Design and Construction Guidance [Code for Adoption]. The Relevant British/European and the Water Authority's Standards/Requirements/Local Practice for the Adoption of Small Submersible Foul and Surface Water Pumping Stations and must be Kitemarked.
3. The location, size and depth of all existing drains/sewers and services shall be established by the contractor prior to commencement of works on site. Any discrepancies from the information indicated on these drawings shall immediately be brought to the attention of the engineers.
4. All levels and dimensions shall be verified on site prior to commencement of any works. Any discrepancies shall immediately be brought to the attention of the engineers.
5. Sewers must have 5 metres clearance from trees and hedges or the width of the canopy at mature height. (please also refer to Figure 2.3 on page 33 in "Sewers for Adoption" 6th Edition for restrictions on tree planting adjacent to Sewers).
6. The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
7. All connections to public sewers to be a minimum of 150mm ø via a 45° junction.
8. Sewers to be laid in Class "S" bedding (150mm granular bed and surround). Where depth of cover to top of the sewer is less than 1.2m in highways and verges (or less than 900mm in none vehicular access areas) then a concrete slab should be provided above the granular bed and surround.
9. The Water Authority's policy is that brick manhole and 1050mm dia manhole rings are not preferred. Instead it is preferred that you use a type "B" manhole with 1200mm dia, 1350mm dia or 1500mm dia rings, with the opening sited over the channel where depth of cover to pipe soffit is 1–1.5m.
10. The chamber size of manholes with more than one connection in them may need to be increased on increment to accommodate the connections and bends.
11. Manhole covers shall/must have a clear opening of 600mm and shall be Class D400 to BS EN 124 with 150mm deep frames in highways. Where a B125 cover and frame has been approved, this must not be coated in plastic and must have lifting eyes suitably sized to accommodate standard lifting keys. Screw down covers are not acceptable.
12. Cover slabs must carry the BSI Kitemark or will be rejected by the Water Authority inspector. Where the clear opening of the Kitemarked product is different to that of the cover and frame, a loading bearing slab should be fitted above the cover slab to bring the size down to 600x600mm for the Water Authority's specified cover size. Please refer to the Concrete Pipe Systems Association (CPSA), 'Technical Bulletin' issued autumn 2004 for kitemarked cover slab opening sizes.
13. Plastic channel sections in manholes are not acceptable and clayware is preferable. Plastic channels are difficult to set in concrete and a satisfactory finish cannot be obtained on the benching.
14. Maximum depth of demarcation chamber to be 2m, where depth exceeds 2m, manhole to be constructed as type B manhole.
15. Demarcation chambers to be a min. 450mm ø chambers for 100mm ø foul & 150mm ø surface water pipes up to 1.2m deep. For depths greater than 1.2m, restricted access opening to 350mm is required for safety reasons.
16. Where plastic pipes are proposed for adoptable sewers, structural calculations for the plastic pipes and a site investigation report to prove that the ground condition is suitable for the plastic pipes are to be produced.
17. There should be enough clearance to accommodate the bedding for both pipes, approx 300mm. If the crossover is near the rocker then the clearance needed may be increased.
18. If plastic pipes are to be used then the following should apply:–

    a) All adoptable sewers to be BSI Kitemark (certified to WIS 4–35–01 and BS EN13476)

    b) Bedding and backfill material to conform to the requirements of the Water Industry Specification 4–08–02 (Table A1)

19. Adoptable plastic sewer pipes to be BSI Kitemarked (Certified to WIS 4–35–01 and BS/EN13476). Adoptable plastic sewer pipes to be laid in maximum 3 metre lengths unless there is a specific operational need to lay longer.
20. Filled ground or soft spots must be excavated, backfilled and consolidated under the supervision, and to the satisfaction, of the Water Authority before any sewer works are carried out.
21. Sulphate resisting cement (C20–DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
22. The minimum crushing strength for clay pipes should be as follows : 100mm dia. 40KN/m, 150mm dia. 40KN/m, 225mm dia. 45KN/m and 300mm dia. 72KN/m. The minimum crushing strength for concrete pipes should be – (Class 120 to EN 1916/BS5911–1 2002). Plastic pipes should conform to WIS 4–35–01 and BS EN13476.
23. Surface water and foul rising mains to be provided with marker tape above the rising mains.
24. The Water Authority is not obliged to accept filter drain/land drainage runoff into the public sewer network or adoptable drainage system (directly or in–directly). An alternative method of disposal of the land drainage runoff will therefore be required and you will have to liaise with the Land Drainage Authority/Land Drainage Section with regard to the disposal of the filter drain/land drainage runoff is required.
25. All excavations in areas of high water tables and granular materials with high sand/silt contents shall be wrapped with a suitable geotextile filter membrane to prevent migration of sands/silts. Full height clay stanks across trenches and/or at manhole locations at 25m intervals to restrict water movement along the excavation shall be provided.
26. All works within the public highway to be reinstated to the highway authority requirements. All drainage connections onto adoptable drainage systems shall be carried out to the water authority's approval.
27. The contractor must allow for any fee's required for road and sewer opening permits, sewer connections and make the appropriate applications.
28. Where there are double road gullies, the gully leads shall be connected onto separate pipe lengths.

Rev	By	Date	Description	Chk
B	RB	27.08.26	Updated to latest drainage layout.	RB
A	RB	19.06.26	F13 Updated	RB
/	RB	11.05.26	Issued for approval.	WW

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Client KEEPMOAT HOMES WEST YORKSHIRE

Project GOMERSAL

Title FOUL WATER MANHOLE SCHEDULES

Scale	Drawn	Checked	Date
NTS	RB	WW	MAY.26

Drawing Status APPROVAL

Job No.	Drawing No.	Revision
104.019	11.02	B