SURFACE WATER DEMARCATION CHAMBER MANHOLE SCHEDULE

Manhole Reference	Easting (m)	Northing (m)	Cover Level (m.A.O.D)	Invert Level (m.A.O.D)	Depth To Invert (m)	Depth To Soffit (m)	Pipe Size Dia (mm)	Flow	Manhole Type	Grade Of Cover	Pipe Length (m)	Pipe Gradient (1:)	Cover & Frame (mm)	Chamber Opening (mm)
S4a	418354.687	417949.145	136.200	134.890	1.310	1.210	100	IN	Type D(450dia)	B125	11.35	100.0	450x450	350x350
				134.840	1.360	1.210	150	OUT						
S4b	418346.682	417944.213	135.990	134.920	1.070	0.920	150	IN	Type D(450dia)	B125	14.40	100.0	450x450	350x350
				134.870	1.120	0.970	150	OUT						
S5a	418341.714	418007.314	137.780	136.380	1.400	1.250	150	IN	Type D(450dia)	B125	4.38	10.0	450x450	350x350
				136.330	1.450	1.300	150	OUT						
S7a	418303.988	418006.282	136.325	135.150	1.175	1.075	100	IN	Type D(450dia)	B125	4.38	49.0	450x450	350x350
				135.100	1.225	1.075	150	OUT						
S5a	418302.440	418025.011	135.530	134.150	1.380	1.280	100	IN	Type D(450dia)	B125	8.20	12.0	450x450	350x350
				134.100	1.430	1.280	150	OUT						
S9a	418283.656	418052.674	133.270	131.200	2.070	1.970	100	IN	Type D(450dia)	B125	6.32	12.0	450x450	350x350
				131.150	2.120	1.970	150	OUT						
S9b	418276.422	418044.297	133.350	131.280	2.070	1.970	100	IN	Type D(450dia)	B125	8.20	10.0	450x450	350x350
				131.230	2.120	1.970	150	OUT						
S10a	418263.170	418074.009	131.670	130.350	1.320	1.220	100	IN	Type D(450dia)	B125	6.23	18.0	450x450	350x350
				130.300	1.370	1.220	150	OUT						
S11a	418226.192	418044.891	129.470	128.000	1.470	1.370	100	IN	Type D(450dia)	B125	6.28	35.0	450x450	350x350
				127.950	1.520	1.370	150	OUT						
S12a	418231.530	418029.846	128.800	127.690	1.110	1.010	100	IN	Type D(450dia)	B125	6.26	10.0	450x450	350x350
				127.640	1.160	1.010	150	OUT						
S13a	418225.928	418005.835	127.130	124.990	2.140	1.990	150	IN	Type D(450dia)	B125	5.79	10.0	450x450	350x350
				124.940	2.190	2.040	150	OUT						
S13b	418242.899	417997.882	126.820	124.790	2.030	1.930	100	IN	Type D(450dia)	B125	4.30	10.0	450x450	350x350
				124.740	2.080	1.930	150	OUT						
S13c	418245.095	417994.232	126.950	124.770	2.180	2.080	100	IN	Type D(450dia)	B125	4.30	10.0	450x450	350x350
				124.720	2.230	2.080	150	OUT						
S14a	418238.329	417985.694	127.000	125.430	1.570	1.420	150	IN	Type D(450dia)	B125	11.31	10.0	450x450	350x350
				125.380	1.620	1.470	150	OUT						
S16a	418275.833	417946.122	128.000	126.030	1.970	1.870	100	IN	Type D(450dia)	B125	6.95	10.0	450x450	350x350
				125.980	2.020	1.870	150	OUT						
S16b	418286.398	417950.649	128.120	125.810	2.310	2.210	100	IN	Type D(450dia)	B125	4.70	10.0	450x450	350x350
				125.760	2.360	2.210	150	OUT						
S16c	418289.320	417926.187	126.850	124.150	2.700	2.600	100	IN	Type D(450dia)	B125	4.45	10.0	450x450	350x350
				124.100	2.750	2.600	150	OUT						
S19a	418276.300	417882.557	123.450	122.002	1.448	1.348	100	IN	Type D(450dia)	B125	6.44	100.0	450x450	350x350
				121.952	1.498	1.348	150	OUT						
S23a	418238.911	417873.028	121.600	119.660	1.940	1.840	100	IN	Type D(450dia)	B125	15.15	30.0	450x450	350x350
				119.610	1.990	1.840	150	OUT						

FOUL WATER DEMARCATION CHAMBER MANHOLE SCHEDULE

Manhole Reference	Easting (m)	Northing (m)	Cover Level (m.A.O.D)	Invert Level (m.A.O.D)	Depth To Invert (m)	Depth To Soffit (m)	Pipe Size Dia (mm)	Flow	Manhole Type	Grade Of Cover	Pipe Length (m)	Pipe Gradient (1:)	Cover & Frame (mm)	Chamber Opening (mm)
F1a	418354.762	417957.987	136.350	134.650	1.700	1.600	100	IN	Type D(450dia)	B125	8.96	30.0	450x450	350x350
				134.550	1.800	1.650	150	OUT						
F1b	418345.750	417948.531	136.050	134.850	1.200	1.100	100	IN	Type D(450dia)	B125	11.89	20.0	450x450	350x350
				134.800	1.250	1.100	150	OUT						
F2a	418342.184	418007.901	137.850	135.900	1.950	1.850	100	IN	Type D(450dia)	B125	7.84	10.0	450x450	350x350
				135.850	2.000	1.850	150	OUT						
F5a	418304.652	418022.817	135.670	134.350	1.320	1.220	100	IN	Type D(450dia)	B125	7.02	14.0	450x450	350x350
				134.300	1.370	1.220	150	OUT						
F5b	418293.949	418015.642	135.350	134.080	1.270	1.170	100	IN	Type D(450dia)	B125	6.06	25.0	450x450	350x350
				134.030	1.320	1.170	150	OUT						
F6a	418281.789	418054.840	133.120	130.491	2.629	2.529	100	IN	Type D(450dia)	B125	4.04	10.0	450x450	350x350
				130.441	2.679	2.529	150	OUT						
F6b	418274.658	418047.268	133.090	130.250	2.840	2.740	100	IN	Type D(450dia)	B125	6.66	40.0	450x450	350x350
				130.200	2.890	2.740	150	OUT						
F7a	418260.415	418076.979	131.480	130.075	1.405	1.305	100	IN	Type D(450dia)	B125	5.20	10.0	450x450	350x350
				130.025	1.455	1.305	150	OUT						
F8a	418225.375	418043.065	129.350	127.700	1.650	1.550	100	IN	Type D(450dia)	B125	4.30	19.0	450x450	350x350
				127.650	1.700	1.550	150	OUT						
F9a	418231.470	418030.888	128.900	127.330	1.570	1.470	100	IN	Type D(450dia)	B125	7.23	10.0	450x450	350x350
				127.280	1.620	1.470	150	OUT						
F10a	418222.832	418012.292	127.550	125.580	1.970	1.870	100	IN	Type D(450dia)	B125	4.06	10.0	450x450	350x350
				125.530	2.020	1.870	150	OUT						
F10b	418226.368	418004.623	127.050	124.090	2.960	2.860	100	IN	Type D(450dia)	B125	4.94	10.0	450x450	350x350
				124.040	3.010	2.860	150	OUT						
F10c	418243.900	417997.298	126.845	123.945	2.900	2.800	100	IN	Type D(450dia)	B125	6.36	13.0	450x450	350x350
				123.895	2.950	2.800	150	OUT						
F10d	418245.344	417994.901	126.920	124.020	2.900	2.800	100	IN	Type D(450dia)	B125	6.36	11.0	450x450	350x350
				123.970	2.950	2.800	150	OUT						
F11a	418238.613	417984.870	127.040	124.570	2.470	2.370	100	IN	Type D(450dia)	B125	12.13	10.0	450x450	350x350
				124.520	2.520	2.370	150	OUT						
F13a	418275.721	417947.830	127.990	125.000	2.990	2.890	100	IN	Type B(1200dia)	D400	4.79	10.0	675x675	675x675
				124.950	3.040	2.890	150	OUT						
F13b	418285.772	417951.892	128.130	125.120	3.010	2.910	100	IN	Type B(1200dia)	D400	6.15	10.0	675x675	675x675
				125.070	3.060	2.910	150	OUT						
F13c	418289.707	417924.722	126.750	125.862	0.888	0.788	100	IN	Type B(1200dia)	D400	7.04	10.0	675x675	675x675
				123.306	3.444	3.294	150	OUT						
F15a	418278.478	417884.580	123.720	122.400	1.320	1.220	100	IN	Type D(450dia)	B125	5.69	26.0	450x450	350x350
				122.350	1.370	1.220	150	OUT						
F17a	418245.514	417869.613	121.675	119.340	2.335	2.235	100	IN	Type D(450dia)	B125	6.88	10.0	450x450	350x350
				119.290	2.385	2.235	150	OUT						

TO BE READ IN CONJUNCTION WITH DRAWING 2298/03/03

N O T E S

ATTENTION IS DRAWN TO THE REQUIREMENTS OF THE CONSTRUCTION DESIGN AND MANAGEMENT REGULATIONS 2015 AND THE DUTIES AND RESPONSIBILITIES CONTAINED THEREIN

Adoption General Notes

1. All adoptable sewer works and materials to be in accordance with "Design and Construction Guidance (DCG)", Code for Adoption, the relevant British/European and the adopting Water Authority standards/Requirements/Addendum to the Mechanical and Electrical Specification and Kitemarked.
2. 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.
3. Filled ground must be filled and consolidated under the supervision, and to the satisfaction, of the adopting Water Authority before any sewer works are carried out.
4. Cover slabs must carry the BSI Kitemark or may be rejected by the adopting 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 adopting Water Authority specified cover size. Please refer to the Concrete Pipe Systems Association (CPSA), 'Technical Bulletin' issued autumn 2004 for kitemarked cover slab opening sizes.
5. The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
6. Sewers must have 5 metres clearance from trees and hedges, (please also refer to Figure 2.3 on page 33 in "Sewers for Adoption" 6th Edition for restrictions on tree planting adjacent to Sewers).
7. 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.
8. Adoptable plastic sewer pipes to be BSI Kitemarked (Certified to WIS 4-35-01 and BS/EN13476). Adoptable sewer pipes to be laid in maximum 3 metre lengths unless there is a specific operational need to lay longer.
9. 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.
10. The chamber size of manholes with more than one connection in them may need to be increased an increment to accommodate the connections and bends.
11. The adopting Water Authority policy is not generally to accept Type "C" brick manhole and 1050mm dia manhole rings. Instead it is preferred that you use a type "B" manhole with 1200mm dia or 1500mm dia. rings, with the opening sited over the channel where depth of cover to pipe soffit is 1-1.5m.
12. Surface water and foul rising mains to be provided with marker tape above the rising mains.
13. 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).
    b. Bedding and backfill material to conform to the requirements of Water industry Specification 4-08-02 (Table K2)
14. 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.
15. Where plastic pipes are installed into the ground prior to getting full technical approval, the developer must provide a CCTV survey of the prospectively adoptable sewers and a deformation test (Light-Line test) of the plastic pipes.
16. Demarcation chambers to be a min. 450mmØ chamber for 100mmØ foul & 150mmØ surface water pipes up to 1.2m deep. For depths greater than 1.2m, restricted access opening to 350mm is required for safety reasons.
17. Maximum depth of demarcation chamber to be 2m, where depth exceeds 2m, manhole to be constructed as type B manhole.
18. Where a B125 cover and frame has been approved, this must not be coated in plastic and must have lifting eyes suitably sizes to accommodate standard lifting keys. Screw down covers are not acceptable.
19. The adopting 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.
20. Sulphate resisting cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
21. Strength of vitrified clay pipes (if used) to be 40KN/m for 100Ø, 40KN/m for 150Ø, 45KN/m for 225Ø and 72KN/m for 300Ø. All concrete pipes to be Class 120 concrete to EN 1916/BS 5911-1:2002.
22. All levels of existing drainage to be confirmed prior to work commencing on site
23. The contractor must allow for any fee's required for road and sewer opening permits, sewer connections and make the appropriate applications.
24. There should be enough clearance to accommodate the bedding for both pipes, approx 300mm: If crossover is near rocker then the clearance needed may be increased.

SUBJECT TO THE APPROVAL OF ALL RELEVANT AUTHORITIES

Rev	By	Date	Revision	Chk	Apvd
/	IC	14.11.25	Preliminary	MI	MI

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TITLE
DEMARCATION CHAMBER SCHEDULE

PROJECT
COCKLEY HILL, KIRKHEATON

CLIENT
GLEESON HOMES

DRAWING STATUS
FOR APPROVAL

Scale	Date	Drawn
NTS	NOV 25	IC
		Chk. MI

Drg. No. 2298/03/11.03 Rev /