SURFACE WATER MANHOLE SCHEDULE

Sheet 1 of 4

Manhole Number / Coordinates	Cover Level / Depth To Soffit	Connections	Pipe: Code	Pipe: Inverts	Pipe: Diams	Manhole Size	Types: Manhole	Types: Cover
S1	147.687		1 Lateral	146.225	150	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420402.336	1.312		2 Gully	146.225	150			
N. 426399.097			3 Lateral	146.225	150			
			4 Gully	146.225	150			
			0	1.000	146.150	225		
S2	147.478		1 Lateral	145.980	150	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420393.408	1.348		2 Gully	145.980	150			
N. 426377.725			3 Gully	145.980	150			
			0	2.000	145.980	150		
S3	148.213		1	1.000	145.746	225	1200	B	D400 600 x 600
E. 420405.939	2.242		2	2.000	145.821	150			
N. 426380.102			0	1.001	145.671	300			
S4	148.224		1	1.001	145.492	300	1200	B	D400 600 x 600
E. 420409.274	2.432								
N. 426362.521			0	1.002	145.492	300			
S5	147.084		1 Lateral	145.457	150	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420391.896	1.477		2 Lateral	145.307	300			
N. 426356.068			0	1.003	145.307	300		
S6	146.011		1	1.003	144.411	300	1200	C	D400 Double Twin 600x600 Opening 1220x675
E. 420378.545	1.300								
N. 426342.820			0	1.004	144.411	300			
S7	144.637		1 Lateral	144.040	300	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420364.743	1.296		2 Lateral	143.190	150			
N. 426324.036			0	1.005	143.040	300		
S8	143.540		1	1.005	141.916	300	1200	C	D400 Double Twin 600x600 Opening 1220x675
E. 420348.599	1.323								
N. 426316.114			0	1.006	141.916	300			
S9	141.477		1	1.005	139.868	150	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420314.083	1.459		2	1.006	139.718	300			
N. 426309.374			0	1.007	139.643	375			
S10	140.621		1	1.007	138.799	375	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420299.728	1.447								
N. 426309.152			0	1.008	138.799	375			
S11	139.848		1	1.008	138.059	375	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420288.364	1.414		2 Lateral	138.284	150			
N. 426314.554			0	1.009	138.059	375			
S12	137.819		1	1.009	136.166	375	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420293.905	1.278								
N. 426346.251			0	1.010	136.166	375			

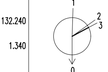
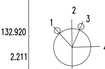
SURFACE WATER MANHOLE SCHEDULE

Sheet 2 of 4

Manhole Number / Coordinates	Cover Level / Depth To Soffit	Connections	Pipe: Code	Pipe: Inverts	Pipe: Diams	Manhole Size	Types: Manhole	Types: Cover
S13	136.810		1 Lateral	135.382	150	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420288.248	1.278		2 1.010	135.157	375			
N. 426362.443			3 Lateral	135.382	150			
			0	1.011	135.157	375		
S14	144.806		1 Gully	143.250	150	1200	C	D400 Double Twin 600x600 Opening 1220x675
E. 420360.196	1.406		2 Lateral	143.250	150			
N. 426341.078			0	3.000	143.250	150		
S15	144.142		1	3.000	142.650	150	1200	C	D400 Double Twin 600x600 Opening 1220x675
E. 420350.879	1.342								
N. 426351.471			0	3.001	142.650	150			
S16	142.840		1 Lateral	141.350	150	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420336.854	1.340		2 Gully	141.350	150			
N. 426365.318			3 Gully	141.350	150			
			0	4.000	141.350	150		
S17	143.333		1	4.000	141.210	150	1200	B	D400 600 x 600
E. 420347.856	1.973		2	3.001	141.210	150			
N. 426367.405			0	3.002	141.135	225			
S18	142.650		1	3.002	140.964	225	1200	C	D400 Double Twin 600x600 Opening 1220x675
E. 420345.310	1.461		2 Lateral	141.039	150			
N. 426380.814			0	3.003	140.964	225		
S19	142.600		1 Lateral	141.000	150	1200	A	D400 600 x 600
E. 420344.531	4.275		2	3.003	140.859	225		
N. 426384.952			0	3.004	138.100	225		
S20	136.700		1	3.004	135.225	225	1200	C	D400 Double Twin 600x600 Opening 1220x675
E. 420291.949	1.250								
N. 426374.982			0	3.005	135.225	225			
S21	136.830		1		Lateral	135.375	150	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420258.05	1.305		2		Gully	135.375	150			
N. 426353.598			3		Lateral	135.375	150			
			0	5.000	135.300	225			
S22	135.743		1	3.005	134.225	225	1500	C	D400 Double Twin 600x600 Opening 1220x675
E. 420276.198	1.293		2	1.011	134.075	375			
N. 426375.783			3	5.000	134.225	225			
			0	1.012	134.000	450			
S23	134.170		1	1.012	132.462	450	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420255.964	1.258								
N. 426392.323			0	1.013	132.462	450			
S24	131.651		1	1.013	129.460	450	1500	B	D400 600 x 600
E. 420202.872	1.741		2 Lateral	129.760	150			
N. 426382.258			0	1.014	129.385	525		

SURFACE WATER MANHOLE SCHEDULE

Sheet 3 of 4

Manhole Number / Coordinates	Cover Level / Depth To Soffit	Connections	Pipe: Code	Pipe: Inverts	Pipe: Diams	Manhole Size	Types: Manhole	Types: Cover
S25	139.520		1 Gully	138.100	150	1200	C	D400 Double Twin 600x600 Opening 1220x675
E. 420217.277	1.270							
N. 426227.411			0	6.000	138.100	150		
S25a	139.11		1	6.000	137.282	150	1200	C	D400 Double Twin 600x600 Opening 1220x675
E. 420210.22	1.678								
N. 426261.636			0	6.001	137.282	225			
S26	138.513		1 Lateral	136.981	150	1200	C	D400 Double Twin 600x600 Opening 1220x675
E. 420211.470	1.382		2	6.001	136.981	150			
N. 426274.398			0	6.002	136.906	225			
S27	139.716		1 Gully	138.350	150	1200	C	D400 Double Twin 600x600 Opening 1220x675
E. 420252.844	1.216		2 Lateral	138.350	150			
N. 426302.334			0	7.000	138.350	150		
S28	137.620		1	7.000	136.200	150	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420207.775	1.270		2	6.002	136.125	225			
N. 426293.909			3 Lateral		136.200	150			
			0	6.003	136.050	300			
S29	132.240		1 Lateral	130.750	150	1350	C	D400 Double Twin 600x600 Opening 1220x675
E. 420180.585	1.340		2 Gully	130.750	150			
N. 426353.09			3 Gully	130.750	150			
			0	8.000	130.750	150		
S30	132.920		1 Lateral	131.650	150	1500	B	D400 600 x 600
E. 420195.000	2.211		2	6.003	130.409	300		
N. 426356.298			3 Lateral		131.650	150		
			4	8.000	130.559	150		
			0	6.004	130.334	375		
S31	131.747		1	1.014	129.176	525	1500	B	D400 600 x 600
E. 420190.555	2.046		2	6.004	129.326	375			
N. 426379.895			3 Lateral		130.400	150			
			0	1.015	129.176	525			
S32 Flow Control	131.190		1	9.001	128.330	675	2400	See dwg no. 104.019.12	D400 Double Twin 600x600 Opening 1220x675
E. 420182.978	2.685		2	1.015	128.480	525			
N. 426389.53	2.185								
			0	1.016	128.280	225			
S32a	131.40		1 Lateral		128.400	Dry Chanel	1800	Shaft	D400 Double Twin 600x600 Opening 1220x675
	2.120								
			0		128.400	675			
S32b	131.40		0		128.517	1800	1200	Shaft	D400 600 x 600
	0.67								
S32c	131.70		0		128.607	1800	1200	Shaft	D400 600 x 600
	0.67								

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 an 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. 450mmø chambers 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.
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	S29 & S30 Updated.	RB
/	RB	11.05.26	Issued for approval.	WW

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Client KEEPMOAT HOMES WEST YORKSHIRE

Project GOMERSAL

Title SURFACE WATER MANHOLE SCHEDULES SHEET 1 OF 2

Scale	Drawn	Checked	Date
NTS	RB	WW	MAY.26

Drawing Status APPROVAL

Job No.	Drawing No.	Revision
104.019	11.01	B