H-3-264-818

Surface Water Manhole Schedule

Manhole No.	Cover Level (m)	Connected Pipes	Pipe Diameter (m)	Pipe Invert Level (m)	Depth to Invert (m)	Depth to Soffit (m)	Manhole Size (mm)	Manhole Type	Manhole Cover & Frame
SW.02	78.924	PN1.001	0.150	77.578	1.346	1.196	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.000	0.150	77.578	1.346	1.196			
SW.03	78.648	PN1.002	0.150	77.243	1.405	1.255	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.001	0.150	77.243	1.405	1.255			
SW.04	78.274	PN1.003	0.150	76.859	1.415	1.265	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.002	0.150	76.859	1.415	1.265			
SW.05	78.047	PN1.004	0.225	76.535	1.512	1.287	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.003	0.150	76.610	1.437	1.287			
SW.06	76.844	PN1.005	0.225	75.335	1.509	1.284	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.004	0.225	75.335	1.509	1.284			
SW.07	76.625	PN1.006	0.225	75.208	1.417	1.192	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.005	0.225	75.208	1.417	1.192			
SW.08	76.612	PN1.007	0.225	75.104	1.508	1.283	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.006	0.225	75.104	1.508	1.283			
SW.10	76.474	PN2.001	0.225	74.973	1.501	1.276	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN2.000	0.225	74.973	1.501	1.276			
SW.11	76.171	PN1.008	0.300	74.397	1.774	1.474	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.007	0.225	74.472	1.699	1.474			
		PN2.001	0.225	74.472	1.699	1.474			
SW.12	75.607	PN1.009	0.300	73.993	1.614	1.314	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.008	0.300	73.993	1.614	1.314			
SW.13	75.084	PN1.010	0.300	73.083	2.001	1.701	1200Ø	Type B	D400 600 x 600
		PN1.009	0.300	73.083	2.001	1.701			
SW.15	74.564	PN1.011	0.375	72.838	1.726	1.351	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.010	0.300	72.913	1.651	1.351			
		PN3.000	0.225	72.988	1.576	1.351			
SW.17	74.840	PN1.012	0.150	72.426	2.414	2.264	1800Ø	Control manhole see drawing 4120	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.011	0.375	72.476	2.364	1.989			
		PN5.000	0.375	72.476	2.364	1.989			
		PN4.000	0.225	72.626	2.214	1.989			
SW.18	75.900	PN1.013	0.150	72.135	3.765	3.615	1200Ø	Type A	D400 600 x 600
		PN1.012	0.150	72.135	3.765	3.615			
SW.19	75.930	PN1.014	0.150	72.115	3.815	3.665	1200Ø	Type A	D400 600 x 600
		PN1.013	0.150	72.115	3.815	3.665			
SW.20	73.970	PN1.015	0.150	71.707	2.263	2.113	1200Ø	Type B	D400 600 x 600
		PN1.014	0.150	71.707	2.263	2.113			
SW.21	73.804	PN1.016	0.150	71.673	2.131	1.981	1200Ø	Type B	D400 600 x 600
		PN1.015	0.150	71.673	2.131	1.981			
SW.22	73.880	Ex 375Ø SW	0.375	71.030	2.850	2.475	1200Ø	Type B	D400 600 x 600
		BD PN1.016	0.150	71.530	2.350	2.200			

Surface Water Demarcation Chamber Schedule

Manhole No.	Cover Level (m)	Connected Pipes	Pipe Diameter (m)	Pipe Invert Level (m)	Depth to Invert (m)	Depth to Soffit (m)	Manhole Size (mm)	Manhole Type	Manhole Cover & Frame
SW.01	79.000	PN1.000	0.150	77.912	1.088	0.938	450Ø	Type D	450Ø Class B125
SW.09	76.570	PN2.000	0.225	75.125	1.445	1.220	1500Ø	Type C	B125 Clear Opening 1220x675 Double Twin 600 x 600
SW.14	74.390	PN3.000	0.225	73.401	0.989	0.764	1500Ø	Type C	B125 Clear Opening 1220x675 Double Twin 600 x 600
SW.16	74.957	PN4.000	0.225	72.965	1.992	1.767	1200Ø	Type B	D400 600 x 600

Foul Water Manhole Schedule

Manhole No.	Cover Level (m)	Connected Pipes	Pipe Diameter (m)	Pipe Invert Level (m)	Depth to Invert (m)	Depth to Soffit (m)	Manhole Size (mm)	Manhole Type	Manhole Cover & Frame
FW.03	78.688	PN1.001	0.100	76.843	1.845	1.745	1200Ø	Type B	D400 600x600
		PN1.000	0.100	76.843	1.845	1.745			
		PN2.000	0.100	76.843	1.845	1.745			
FW.04	78.148	PN1.002	0.100	76.500	1.648	1.548	1200Ø	Type B	D400 600x600
		PN1.001	0.100	76.500	1.648	1.548			
FW.05	76.707	PN1.003	0.100	75.107	1.600	1.500	1200Ø	Type B	D400 600x600
		PN1.002	0.100	75.107	1.600	1.500			
FW.06	76.556	PN1.004	0.100	74.886	1.670	1.570	1200Ø	Type B	D400 600x600
		PN1.003	0.100	74.886	1.670	1.570			
FW.08	76.158	PN1.005	0.150	74.410	1.748	1.598	1200Ø	Type B	D400 600x600
		PN1.004	0.100	74.460	1.698	1.598			
		PN3.000 Backdrop	0.100	75.310	0.848	0.748			
FW.09	75.609	PN1.006	0.150	74.141	1.468	1.318	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.005	0.150	74.141	1.468	1.318			
FW.12	75.091	PN1.007	0.150	73.826	1.265	1.115	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.006	0.150	73.826	1.265	1.115			
		PN4.000	0.100	73.876	1.215	1.115			
		PN5.000	0.150	73.826	1.265	1.115			
FW.15	74.561	PN1.008	0.150	73.602	0.959	0.809	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.007	0.150	73.602	0.959	0.809			
		PN6.000	0.100	73.652	0.909	0.809			
FW.16	74.662	PN1.008	0.150	73.568	1.094	0.944	1500Ø	Type C	D400 Clear Opening 1220x675 Double Twin 600 x 600
		PN1.009	0.150	73.568	1.094	0.944			
		PN7.000	0.100	73.618	1.044	0.944			
FW.17	75.900	PN1.010	0.150	73.187	2.713	2.563	1200Ø	Type B	D400 600x600
		PN1.009	0.150	73.187	2.713	2.563			
FW.18	75.930	PN1.011	0.150	73.163	2.767	2.617	1200Ø	Type B	D400 600x600
		PN1.010	0.150	73.163	2.767	2.617			

Foul Water Demarcation Chamber Schedule

Manhole No.	Cover Level (m)	Connected Pipes	Pipe Diameter (m)	Pipe Invert Level (m)	Depth to Invert (m)	Depth to Soffit (m)	Manhole Size (mm)	Manhole Type	Manhole Cover & Frame
FW.01	78.885	PN2.000	0.100	77.613	1.272	1.172	450Ø	Type D	450Ø Class B125
FW.02	78.900	PN1.000	0.100	77.588	1.312	1.212	450Ø	Type E	450Ø Class B125 Restricted Opening
FW.07	76.450	PN3.000	0.100	75.445	1.005	0.905	450Ø	Type D	450Ø Class B125 Restricted Opening
FW.10	75.100	PN5.000	0.150	73.898	1.202	1.052	1500Ø	Type C	B125 Clear Opening 1220x675 Double Twin 600 x 600
FW.11	75.300	PN4.000	0.100	74.265	1.035	0.935	450Ø	Type E	450Ø Class B125
FW.13	74.933	PN7.000	0.100	73.801	1.132	1.032	450Ø	Type E	450Ø Class B125
FW.14	74.410	PN6.000	0.100	73.798	0.612	0.512	450Ø	Type D	450Ø Class B125 Restricted Opening

Tank Turret Schedule

Manhole No.	Cover Level (m)	Invert Level (m)	Depth to Invert (m)	Cover Size (mm)	
Turret S17.1	74.650	72.535	2.115	1220x675 D400 with lockable fall arrest grille. Double twin 610x675	Refer to FLI Precast drg 27818 SAT UK - High Street, Shafton - MSJ - Rev 7 for further details
Turret S17.2	74.450	72.612	1.838	600x600 D400	
Turret S17.3	74.450	72.600	1.850	600x600 D400	
Turret S17.4	75.400	72.646	2.754	600x600 D400	
Turret S17.5	75.500	72.646	2.854	600x600 D400	

Drainage Notes

CDM Regulations - Drainage

1. All design work has been carried out with health & safety aspects given full consideration. Wherever possible risks have been eliminated from the design, however due to the nature of this type of work it is not possible to remove all risk.

The contractor shall provide satisfactory responses via suitable method statements as to the manner in which they propose to carry out the work and deal with any highlighted risk, in particular the following :-

· All trench excavations, regardless of depth.
· Guarding to edges of excavations to prevent injury.
· Guarding of the works outside normal working hours.
· Undermining of adjacent roads or structures.
· Confined spaces operations.
· Dealing with existing services.
· Traffic management on existing highways.
· Procedures to be followed in the event of an emergency.
· Methods of working where ground contamination may be present. ·
Dealing with existing sewer flows.

The above list is by no means exhaustive, but does highlight operations that present a risk to both contractors and the general public.

1. All adoptable sewer works and material to be in accordance with "Code for Adoption". The Relevant British/European and Yorkshire Water's 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 Yorkshire Water before any sewer works are carried out.

4. Yorkshire Water is **not** obliged to accept filter drain/land drainage run-off into the public sewer network or adoptable drainage system (**directly or in-directly**). An alternative method of disposal of the land drainage run-off will therefore be required and you will have to liaise with the Local Authority, Land Drainage Section regarding the disposal of the filter drain/land drainage run-off.

5. Cover slabs must carry the BSI kite mark or will be rejected by the Yorkshire Water Inspector. Where the clear opening of the Kitemarked product is different to that of the cover and frame, a load bearing slab should be fitted above the cover slab to bring the size down to 600 x 600mm for the Yorkshire Water specified cover size. Please refer to the Concrete Pipe Systems Association (CPSA), "Technical Bulletin" issued autumn 2004 for Kitemarked cover slab opening sizes.

6. The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.

7. Sulphate resistant cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.

8. Sewers must have 5 metres clearance from trees and hedges or the width of the canopy at mature height.

9. 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 nonvehicular access areas**) then a concrete slab should be provided above granular bed and surround.

10. Bedding and backfill material to conform to the requirement of Water Industry Specification 4-08-02 (**Table A2**).

11. Yorkshire Water policy is that Type "C" brick manholes and 1050mm diameter manhole rings are not preferred. Instead, it is preferred that you use a type "B" manhole with 1200mm diameter or 1500mm diameter rings, with the opening sited over the channel where depth of cover to pipe soffit is 1 - 1.5m.

12. 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 lengths. Plastic channel sections in manholes are not acceptable and Yorkshire Water would require clay ware channel in manholes.

13. All levels related to Met Geo-environmental P20-00984. Using the OS GPS Network and applying OSGM15 National Geoid Model to obtain local area corrections.

14. 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.

15. There must be enough clearance at crossovers to accommodate bedding to both pipes, approx. 300mm : if crossover is near the rocker then the clearance needed may need to be increased".

16. 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.

Note:

No work is to be carried out until the appropriate techincal approvals are in place and relevant planning conditions are discharged. Any work carried out on site before technical approval is obtained and planning conditions are discharged is entirely at the contractors risk.

Rev	Revision	By	Chk	Date
P10	Manholes SW18-22 and FW 17&18 altered	LW	MH	13.11.23
P9	Tank turret schedule added	LW	MH	26.09.23
P8	Updated to suit layout change from pumping to gravity on drg 4002. Existing manhole information added, backdrop locations altered	LW	MH	10.08.23
P7	Note 16 added onto YW drainage notes	LW		22.12.22
P6	Type C manholes 1500mm and greater updated to twin 600x600	LW	MH	12.12.22
P5	All levels updated to suit latest road level changes	LW	MH	16.09.22
P4	Altered to accommodate dual rising main	LW	MH	08/08/2022
P3	Altered to suit pump station	LW	MH	10/06/2022
P2	Updated to suit layout changes	LW	MH	04/03/2022
P1	Initial Issue	LW	MH	28/01/2022

SCALE @ A1	ISSUING OFFICE	MSJ PROJECT NUMBER
NTS	Leeds	219112

STATUS	PURPOSE OF ISSUE
S4	FOR APPROVAL

MSJ
Melia Smith & Jones
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PROJECT

High Street, Shafton

TITLE

Adoptable Manhole Schedules

CLIENT

Vistry Partnerships

DRAWING NUMBER	REV
219112-MSJ-ZZ-XX-DR-D-4007	P10