

Private Drainage Notes

1. This drawing is to be read in conjunction with and checked against all other drawings, engineering details, specification and any structural, geotechnical or other specialist documents provided.

2. All lateral connections for house drainage shall be 100mm unless stated otherwise and must extend a minimum of 500mm behind the back of the footpath.

3. All pipes to be vitrified clay or UPVC and shall be 100mmØ laid to a fall of 1:80 unless noted otherwise or indicated by size and invert levels. All connections when laid shall be plugged, protected as necessary and marked with a stake for future use.

4. Building drainage shall comply with BS 6301 1985, BS EN 752 and Building Regulations Part H. Inspection chambers located within garages to have double seal bolt down covers.

5. Gully top and manhole cover specification to be in accordance with BS EN 124 and located in accordance with the intended use and loading classification as described within groups 1-6:

6. This drawing is schematic for clarity only, positions of pipe runs and manholes may vary on site due to site conditions.

7. Cover and invert levels are indicative and may vary on site. In any case the following minimum cover to depth of cover to the crown of pipes without protection shall be as follows:

a. Domestic gardens and pathways without any possibility of vehicular access - 0.35m

b. Domestic driveways, parking areas and yards with height restrictions to prevent entry by vehicles with a gross weight in excess of 7.5 tonnes - 0.5m

c. Domestic driveways, parking areas and narrow streets without footways (e.g Mews developments) with limited access for vehicles with a gross weight in excess of 7.5 tonnes - 0.9m

d. Other highways and parking areas with unrestricted access to vehicles with a gross weight in excess of 7.5 tonnes - 1.2m

Note: any protection required where drainage does not comply with a-e above shall be as follows:-

a) Vitrified clay pipes - provide a 100 mm min. thick concrete bed and surround (instead of class 'S' bedding) and a 13 mm thick compressible filler at each joint.

b) UPVC pipes - provide a concrete bridging (in addition to class 'S' bedding) in accordance with appendix A15, Building Regulations part 'H'.

Note: in-situ concrete used in connection with a) and b) above shall be standard mix GEN3 in accordance with BS 5328.

8. Drainage runs should be laid at a minimum of 5.0 metres from the rear of properties where practicable to allow for future extensions

9. Where pipes pass under buildings, unless beam & block floors are used, they are to be surrounded in concrete.

10. All branch drains, or connections, are to discharge to the collectors obliquely, and in the direction of the main flow.

11. Finished Floor Levels (FFL's), assumed to be typically a minimum of 150mm above finished ground level outside. refer to architects drawing for details.

12. All new private shallow 225mm diameter surface water and foul inspection chambers and rodding eyes shown without cover levels (CL) shall be assumed to be at external ground level, and invert levels (IL) are to be typically between 450 and 600mm below CL, subject to the length of the internal house connections.

13. All low spots on hardstanding areas to have double gullies.

14. Prior to topsoiling of rear gardens, the gardens should be reworked, rotovated or decompacted to a depth of 600mm. Once this is carried **NO PLANT to access these areas**, any further consolidation of subsoil to be reworked as necessary. Before reworking or rotovating the Contractor is to mark all drain runs in the area.

15. Pipe bedding to be Class 'S' Bedding (100mm granular bed and surround).

16. Excavations for manholes, pipe runs etc located within a 45 degree load distribution splay from any adjoining existing foundations, are to be adequately supported for the duration of the works and building drainage protected.

17. Foundations adjacent to pipe runs or manholes are to have their formation level set above the invert level no higher than the equivalent of the horizontal distance between the pipe/excavation trench and the foundation, minus 500 mm.

18. Where excavations for pipe runs are parallel and in close proximity to each other and/or other service trenches, the contractor shall ensure that adequate safety measures, including temporary shoring, are provided in line with current Health & Safety Legislation and good practice. Particular attention is to be paid to adjacent trenches of differing invert levels.

19. All existing drainage found on site during the works shall be investigated, its operational status confirmed, and the following applied:-

a) Inoperative drainage shall be cut back and pipe runs filled with concrete grout.

b) 'Live' drainage shall be temporarily re-routed to allow the new drainage to be constructed.

20. Where existing drainage is to be re-used including road, building and external drainage systems, the contractor shall ensure that all chambers and drainage runs are cleaned, de-silted and made good.

21. Covers to existing chambers to be re-used shall be replaced where necessary to suit proposed development loading class, see note 5. Chamber covers shall also be adjusted to suit final ground levels as necessary.

22. Where necessary, existing chambers shall be re-benched to suit new pipework arrangement.

Surface Water Private Packaged Pump Station

Packaged pump station to be BBA certified or NHBC approved.

Pump parameters:

- CL 144.000
- Incoming IL 141.263
- Downstream MH IL 142.602
- 2nr oscillating pumps (duty & standby)
- Total maximum discharge rate = 3.0 litres/second
- Minimum 1.5m diameter housing

Chamber / housing parameters:

- Packaged treatment plant to withstand loadings D400 class and to be fully odour proof.
- To be installed as manufacturer requirements

Warning systems:

- Audible / visual pump failure warning system to be installed. Location of control kiosk for the pump system to be confirmed by client.

Notes

1. The above should be deemed as minimum requirements. Pump station to be secured by contractor and designed by specialist.

2. The pump system to be supplied by a supplier approved with BBA certification or NHBC approved and shall be designed to the latest design parameters in full compliance with Part H of the Building Regulations 2010 and BS EN 752: Part 6 Pumping Installations and any subsequent addendums/revisions.

3. The contractor shall check buoyancy of pump chamber for both the temporary and permanent condition and take necessary measures to counteract buoyancy effects. In any instance chamber shall be encased in concrete minimum 150mm thick or manufacturer's recommendations. See to manufacturers installation specification.

4. Design and supply of rising main to be undertaken by contractor.

Important Drainage Notes:

Prior to installation of any new drainage the contractor shall:

1. Confirm line and level of all outfall manholes. Where the depths of these manholes are insufficiently deep for any new connection from the site, the engineer shall be informed immediately.

2. Confirm line and level of existing drainage outfalls. Level of connection subject to confirmation that no clashing occurs with any of the existing sewers or services, contractor to re-level if necessary.

MANHOLE / INSPECTION CHAMBER SCHEDULE :- SURFACE WATER

M.H / I/C NO	M.H / I/C TYPE	COVER LEVEL	INVERT LEVEL	DEPTH (mm)	INTERNAL M.H / I/C SIZE (mm)	COVER CLASS	COVER SIZE (mm)	COMMENTS
S1	Type 3	143.350	142.674	676	Ø450	B125		
S2	Type 3	143.350	142.505	845	Ø450	B125		
S3	Type 4	143.350	142.750	600	Ø225	B125		
S4	Type 3	143.350	142.736	614	Ø450	D400		
S5	Type 3	143.350	142.408	942	Ø450	B125		
S6	Type 4	144.095	143.495	600	Ø225	B125		
S7	Type 3	144.095	143.019	1076	Ø450	B125		
S8	Type 3	144.000	141.931	2069	Ø500	D400	Ø350 reducing piece	SUMP CHAMBER INCOMING PIPE IL 142.381
S9	Type 3	144.095	143.401	694	Ø450	B125		
S10	Type 3	144.095	143.311	784	Ø450	B125		
S11	Type 3	144.000	142.035	1965	Ø500	D400	Ø350 reducing piece	SUMP CHAMBER INCOMING PIPE IL 142.485
S12	Type 3	144.095	142.602	1493	Ø450	B125	Ø350 reducing piece	

MANHOLE / INSPECTION CHAMBER SCHEDULE :- FOUL WATER

M.H / I/C NO	M.H / I/C TYPE	COVER LEVEL	INVERT LEVEL	DEPTH (mm)	INTERNAL M.H / I/C SIZE (mm)	COVER CLASS	COVER SIZE (mm)	COMMENTS
F1	Type 4	143.350	142.750	600	Ø225	B125		
F2	Type 3	143.350	142.486	864	Ø450	D400		
F3	Type 4	143.350	142.750	600	Ø225	B125		
F4	Type 3	143.350	142.357	993	Ø450	B125		
F5	Type 4	143.350	142.750	600	Ø225	B125		
F6	Type 3	143.350	142.255	1095	Ø450	B125		
F7	Type 3	143.350	142.099	1251	TBC	D400	Ø350 reducing piece	PUMP BY OTHERS
F8	Type 4	144.095	143.495	600	Ø225	B125		
F9	Type 3	144.095	143.357	738	Ø450	B125		
F10	Type 3	144.095	143.201	894	Ø450	B125		
F11	Type 3	144.095	142.943	1152	Ø450	B125		
F12	Type 3	144.095	142.715	1380	Ø450	B125	Ø350 reducing piece	
F13	Type 4	143.350	142.750	600	Ø225	B125		
F14	Type 3	143.350	142.151	1199	Ø450	B125		
F15	Type 3	143.350	142.072	1278	TBC	D400		PUMP BY OTHERS
C1	B	144.095	142.420	1675	Ø1200	D400	600x600	
C2	E	143.760	142.298 (TBC)	1462	Ø1200	D400	600x600	

Notes:-

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2. All working dimensions to be checked on site.

3. Do not scale.

4. Any discrepancies between drawings of different scales, and between drawings and specification where appropriate to be notified to The Engineer for decision.

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Health and Safety Note:
The details on this drawing have been prepared on the assumption that a competent contractor will be carrying out the works. If the contractor(s) considers that there is insufficient Health and Safety information on this drawing, this should immediately be brought to the attention of the designer.

HAZARD IDENTIFICATION BOX		
This table is provided to assist the Principal Contractor to fulfil their obligations under the CDM Regulations 2015		
Construction Hazard	Maintenance / Cleaning Hazard	Demolition / Adaption Hazard

A	08.05.19	Foul water pumping chamber notes removed. Foul water to plots 1 & 2 amended to suit drainage layout amendments	NE	BP
Rev.	Date	Amendment	By	Chk.
Status For Approval				


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Client	D&M Middleton Ltd
Job	Land to the Rear of 40 Church Road, Roberttown, WF15 7LR
Title	Proposed Drainage Notes and Manhole Schedules

Scale	N/A	© A1	Date	April 2019	
Drawn by	NE	Checked by	STS/BP	Approved by	STS



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