

- This drawing is to be read in conjunction with all relevant ARP and Architects drawings and project specifications.
- Survey related to topographical survey supplied by Keepmoat Homes.
- Co-ordinates to be checked prior to works commencing. Any discrepancies to be brought to the immediate attention of ARP.

Adoption General Notes

- All adoptable sewer works and materials to be in accordance with Sewerage Sector Guidance (SSG), the relevant British/European and the adopting Water Authority standards/Requirements/Addendum to the Mechanical and Electrical Specification and Kitemarked.
- 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.
- Filled ground must be filled and consolidated under the supervision, and to the satisfaction, of INWL before any sewer works are carried out.
- Cover slabs must carry the BSI Kitemark or may be rejected by INWL 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 INWL specified cover size. Please refer to the Concrete Pipe Systems Association (CPSA), 'Technical Bulletin' issued autumn 2004 for kitemarked cover slab opening sizes.
- The adoptable sewers should be a minimum of 1m and manholes 0.5m from kerb faces and service margins.
- 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).
- Sewers to be laid in Class '3' 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.
- Bedding and backfill material to conform to the requirement of Water Industry Specification 4-08-02 (Table A2)
- Adoptable plastic sewer pipes to be BSI Kitemarked (Certified to WS 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.
- 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 bedding.
- 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.
- INWL's 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.
- If plastic pipes are to be used then the following should apply:-
 - Adoptable sewers to be BSI Kitemarked (certified to WS 4-35-01).
 - Bedding and backfill material to conform to the requirements of Water Industry Specification 4-08-02 (Table A2)
- 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.
- 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.
- Demarcation chambers to be a min. 450mm³ chamber for 100mm³ foul & 150mm³ surface water pipes up to 1.2m deep. For depths greater than 1.2m, restricted access opening to 350mm is required for safety reasons.
- Maximum depth of demarcation chamber to be 3m, where depth exceeds 3m, manhole to be constructed as type B manhole.
- 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.
- INWL is not obliged to accept filter drain/land drainage runoff into the public sewer network or adoptable drainage system (directly or indirectly). 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.
- Sulphate resisting cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
- Strength of vitrified clay pipes (if used) to be 40KN/m for 100³, 40KN/m for 150³, 45KN/m for 225³ and 72KN/m for 300³. All concrete pipes to be Class 120 concrete to EN 1916/BS 5911-1:2002.
- All levels of existing drainage to be confirmed prior to work commencing on site.
- The contractor must allow for any fees required for road and sewer opening permits, sewer connections and make the appropriate applications.
- 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.

F	MI	18.11.25	Minor revisions to cover & invert levels	MI
E	MI	10.10.25	General updates to suit clients comments	MI
D	MI	10.09.25	Updated to suit revised road levels	MI
C	MI	29.08.25	Updated to suit layout 008L	MI
B	MI	30.04.25	Amended to INWL comments and Vistry Design	MI
A	JC	04.04.25	Amended to suit latest design	MI
/	MI	FEB 25	Issued for approval	MI
Rev	By	Date	Revision	Apvd

ARP ARP ASSOCIATES
Chartered Consulting Engineers

Northwest House • 5 & 6 Northwest Business Park • Servia Hill, Leeds • LS6 2QH
0113 245 8498 • 0113 244 3864 • Leeds@arpassociates.co.uk • www.arpassociates.co.uk

ARP Associates is a trading division of ARP Geotechnical Ltd, a company registered in England and Wales with company number 3773831, whose registered office is at 5/6 Northwest Business Park, Servia Hill, Leeds LS6 2QH

TITLE **FOUL WATER MANHOLE SCHEDULES SHEET 2 OF 2**

PROJECT **BLACKMOORFOOT ROAD, HUDDERSFIELD**

CLIENT **MILLER HOMES YORKSHIRE**

DRAWING STATUS **PRELIMINARY**

Scale	N/A @ A1	Date	28.02.25	Drawn	JC
				Chk.	MI

Org. No. **0425/92/11.04** Rev **F**

Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types	
			Code	Inverts	Diameters (mm)		Manhole	Cover
NW2-F1	239.526 1.850		1 Lateral 2 Lateral	237.526 237.526	150 150	1200	B	D400
E. 411162.888 N. 414599.751								
NW2-F2	236.904 2.059		1 1.000 2 Lateral	234.695 234.695	150 150	1200	B	D400
E. 411207.755 N. 414626.329								
NW2-F3	237.571 1.953		1 1.000 2 Lateral	235.468 235.468	150 150	1200	B	D400
E. 411189.999 N. 414558.027								
NW2-F4	234.971 2.771		1 1.001 2 2.000 3 Lateral 4 Lateral	232.050 232.050 233.551 232.050	150 150 150 B0 150	1500	B	D400
E. 411233.459 N. 414581.589								
NW2-F5	233.842 2.266		1 1.002 1 Lateral	231.426 231.426	150 150	1200	B	D400
E. 411257.910 N. 414538.115								
NW2-F6	233.008 1.810		1 Lateral 2 Lateral	231.048 231.048	150 150	1200	B	D400
E. 411273.626 N. 414478.353								
NW2-F7	232.825 1.930		1 1.003 2 3.000	230.745 230.745	150 150	1200	B	D400
E. 411286.279 N. 414491.627								
B-FW1			1 1.004	230.532	150			
Designed by others								

Manhole Number	Cover Level	Connections	Pipe			Manhole Size	Types	
			Code	Inverts	Diameters (mm)		Manhole	Cover
NW3-F1	241.640 2.013		1 Lateral	239.477	150	1200	B	D400
E. 411091.453 N. 414690.848								
NW3-F2	240.840 1.726		1 1.000 2 Lateral	238.964 238.964	150 150	1200	B	D400
E. 411106.912 N. 414686.782								
NW3-F3	240.433 1.916		1 1.001 2 Lateral 3 Lateral	238.367 238.367 238.367	150 150 150	1500	B	D400
E. 411130.908 N. 414646.545								
NW3-F4	237.498 2.134		1 1.002 2 Lateral	235.214 235.214	150 150	1200	B	D400
E. 411180.028 N. 414674.286								
NW3-F5	236.789 1.699		1 1.003	234.940	150	1200	B	D400
E. 411169.415 N. 414694.532								
NW3-F6	235.646 1.796		1 1.004	233.700	150	1200	C	D400
E. 411166.317 N. 414715.775								
NW3-F7	239.566 1.810		1 Lateral	237.606	150	1200	B	D400
E. 411104.261 N. 414734.972								
NW3-F8	237.740 3.865		1 2.001	233.725	150	1200	A	D400
E. 411142.982 N. 414735.230								
NW3-F9	234.677 1.777		1 2.001 2 1.005 3 Lateral	232.750 232.750 232.750	150 150 150	1500	B	D400
E. 411169.092 N. 414730.695								
B-FW18			1 1.006	231.485	150			
Designed by others								

- For longitudinal sections refer to drawing 425/92/06
- No services are to be sited directly over, or within 1m of, an adoptable sewer or manhole.
- Private drainage connections to adoptable sewers to be via 45° junction.
- Off site manholes already built must have invert levels checked prior to connection to the off site drainage.
- Any connections to existing sewers/manholes are to be supervised by Yorkshire Water.
- All connections to proposed public sewers to be minimum 150mm³.
- Any land drain or water course on site to be diverted as not to pass under proposed buildings. Diversion to be approved and inspected on site by the Local Authority.

KIRKLEES STRUCTURES P.C.C. MANHOLES
>900mm – <3000mm

- All oversize precast concrete manholes with internal diameter (0.9m< ID ≤ 3.0m) and their components including RC cover slabs intended for installation in the highway shall be designed to BS EN 1917* & "BS 5911-3" and marked as such to confirm that the products represent a manufacturer's declaration that their products meet the requirement of these standards.
- All precast concrete manholes and their components shall be manufactured to Design Chemical Class (DC-4) for an intended design working life of 100 years (min).
- All reinforced concrete cover slabs must be installed with a minimum of 300mm cover to finished levels to comply with National specifications.
- The contractor will need to submit a Construction Compliance Certificate* in compliance with Kirklees council's 'Simplified technical approval for oversize reinforced concrete manholes with circular cover slabs with internal diameter (ID) ≤ 3.0m'.

SUBJECT TO THE APPROVAL OF ALL RELEVANT AUTHORITIES