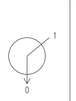
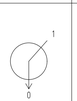
H-?-???-???

| Manhole Number | Cover Level | Connections | Pipe | | | | Manhole Size | Types | |
|---|---|---|---|---|---|---|---|---|---|
| Coordinates | Depth To Soffit | | Code | Inverts | Diams | | | Manhole | Cover |
| F1 | 72.534 |  | 1 Lateral | 71.184 | 150 | | 1200 | C | D400 |
| | 1.200 | | | | | | | | |
| E. 440026.858 | | | 0 1.000 | 71.184 | 150 | | | | |
| N. 402332.878 | | | | | | | | | |
| F2 | 71.666 |  | 1 1.000 | 70.316 | 150 | | 1200 | C | D400 |
| | 1.200 | | | | | | | | |
| E. 440053.677 | | | 0 1.001 | 70.316 | 150 | | | | |
| N. 402351.053 | | | | | | | | | |
| F3 | 71.279 |  | 1 1.001 | 69.929 | 150 | | 1200 | C | D400 |
| | 1.200 | | 2 Lateral | 69.929 | 150 | | | | |
| E. 440067.592 | | | 0 1.002 | 69.929 | 150 | | | | |
| N. 402354.008 | | | | | | | | | |
| F4 | 70.954 |  | 1 1.002 | 69.604 | 150 | | 1200 | C | D400 |
| | 1.200 | | 2 Lateral | 69.604 | 150 | | | | |
| E. 440080.272 | | | 0 1.003 | 69.604 | 150 | | | | |
| N. 402351.396 | | | | | | | | | |
| F5 | 70.578 |  | 1 1.003 | 69.228 | 150 | | 1200 | C | D400 |
| | 1.200 | | 2 Lateral | 69.228 | 150 | | | | |
| E. 440103.243 | | | 0 1.004 | 69.228 | 150 | | | | |
| N. 402339.649 | | | | | | | | | |
| F6 | 71.677 |  | 1 Lateral | 70.327 | 150 | | 1200 | C | D400 |
| | 1.200 | | | | | | | | |
| E. 440061.034 | | | 0 2.000 | 70.327 | 150 | | | | |
| N. 402285.649 | | | | | | | | | |
| F7 | 70.570 |  | 1 2.000 | 68.995 | 150 | | 1200 | C | D400 |
| | 1.425 | | 2 Lateral | 69.995 | 150 | | | | |
| E. 440106.758 | | | 0 2.001 | 68.995 | 150 | | | | |
| N. 402316.969 | | | | | | | | | |
| F8 | 70.204 |  | 1 1.004 | 68.854 | 150 | | 1200 | C | D400 |
| | 1.200 | | 2 2.001 | 68.854 | 150 | | | | |
| E. 440116.056 | | | 0 1.005 | 68.854 | 150 | | | | |
| N. 402323.404 | | | | | | | | | |
| F9 | 69.713 |  | 1 1.005 | 68.363 | 150 | | 1200 | C | D400 |
| | 1.200 | | | | | | | | |
| E. 440134.146 | | | 0 1.006 | 68.363 | 150 | | | | |
| N. 402322.054 | | | | | | | | | |
| F10 | 68.781 |  | 1 1.006 | 67.431 | 150 | | 1500 | C | D400 |
| | 1.200 | | 2 Lateral | 67.431 | 150 | | | | |
| E. 440161.421 | | | 3 Lateral | 67.431 | 150 | | | | |
| N. 402307.988 | | | 0 1.007 | 67.431 | 150 | | | | |

| Manhole Number | Cover Level | Connections | Pipe | | | | Manhole Size | Types | |
|---|---|---|---|---|---|---|---|---|---|
| Coordinates | Depth To Soffit | | Code | Inverts | Diams | | | Manhole | Cover |
| F11 | 68.381 |  | 1 1.007 | 67.031 | 150 | | 1200 | C | D400 |
| | 1.200 | | | | | | | | |
| E. 440179.779 | | | 0 1.008 | 67.031 | 150 | | | | |
| N. 402282.430 | | | | | | | | | |
| F12 | 68.479 |  | 1 1.008 | 66.920 | 150 | | 1500 | C | D400 |
| | 1.409 | | 2 Lateral | 66.920 | 150 | | | | |
| E. 440181.412 | | | 3 Lateral | 66.920 | 150 | | | | |
| N. 402273.663 | | | 0 1.009 | 66.920 | 150 | | | | |
| F13 | 70.473 |  | 1 Lateral | 66.123 | 150 | | 1200 | C | D400 |
| | 1.200 | | 2 Lateral | 66.123 | 150 | | | | |
| E. 440134.166 | | | 0 3.000 | 69.123 | 150 | | | | |
| N. 402257.044 | | | | | | | | | |
| F14 | 68.975 |  | 1 1.009 | 66.453 | 150 | | 1500 | B | D400 |
| | 2.372 | | 2 3.000 | 66.453 | 150 | | | | |
| E. 440164.657 | | | 3 Lateral | 66.453 | 150 | | | | |
| N. 402240.269 | | | 0 1.010 | 66.453 | 150 | | | | |
| F15 | 67.889 |  | 1 1.010 | 65.755 | 150 | | 1200 | B | D400 |
| | 1.984 | | 2 Lateral | 65.755 | 150 | | | | |
| E. 440214.459 | | | 0 1.011 | 65.755 | 150 | | | | |
| N. 402215.096 | | | | | | | | | |
| F16 | 67.695 |  | 1 1.011 | 65.604 | 150 | | 1200 | B | D400 |
| | 1.941 | | | | | | | | |
| E. 440225.750 | | | 0 1.012 | 65.604 | 150 | | | | |
| N. 402219.366 | | | | | | | | | |
| F17 | 67.434 |  | 1 1.012 | 64.503 | 150 | | 1200 | B | D400 |
| | 2.781 | | 2 Lateral | 64.503 | 150 | | | | |
| E. 440233.142 | | | 0 1.013 | 64.503 | 150 | | | | |
| N. 402233.400 | | | | | | | | | |
| F18 | 66.758 |  | 1 1.013 | 64.065 | 150 | | 1200 | B | D400 |
| | 2.543 | | 2 Lateral | 64.065 | 150 | | | | |
| E. 440256.319 | | | 0 1.014 | 64.065 | 150 | | | | |
| N. 402259.699 | | | | | | | | | |
| F19 | 63.861 |  | 1 1.014 | 62.011 | 150 | | 1200 | B | D400 |
| | 1.700 | | 2 Lateral | 62.011 | 150 | | | | |
| E. 440289.757 | | | 0 1.015 | 62.011 | 150 | | | | |
| N. 402295.917 | | | | | | | | | |
| F20 | 61.350 |  | 1 Lateral | 60.000 | 150 | | 1200 | C | D400 |
| | 1.200 | | | | | | | | |
| E. 440295.273 | | | 0 4.000 | 60.000 | 150 | | | | |
| N. 402368.289 | | | | | | | | | |

| Manhole Number | Cover Level | Connections | Pipe | | | | Manhole Size | Types | |
|---|---|---|---|---|---|---|---|---|---|
| Coordinates | Depth To Soffit | | Code | Inverts | Diams | | | Manhole | Cover |
| F21 | 61.678 |  | 1 4.000 | 58.950 | 150 | | 1200 | B | D400 |
| | 2.578 | | 2 1.015 | 58.950 | 150 | | | | |
| E. 440322.966 | | | 0 1.016 | 58.950 | 150 | | | | |
| N. 402331.583 | | | | | | | | | |
| F22 | 61.516 |  | 1 1.016 | 58.825 | 150 | | 1200 | B | D400 |
| | 2.541 | | 2 Lateral | 58.825 | 150 | | | | |
| E. 440331.231 | | | 0 1.017 | 58.825 | 150 | | | | |
| N. 402325.921 | | | | | | | | | |
| F23 | 61.059 |  | 1 1.017 | 58.457 | 150 | | 1200 | B | D400 |
| | 2.452 | | | | | | | | |
| E. 440357.793 | | | 0 1.018 | 58.457 | 150 | | | | |
| N. 402313.147 | | | | | | | | | |
| F24 | 60.680 |  | 1 1.018 | 58.044 | 150 | | 1200 | B | D400 |
| | 2.486 | | | | | | | | |
| E. 440381.210 | | | 0 1.019 | 58.044 | 150 | | | | |
| N. 402289.805 | | | | | | | | | |
| F25 Existing Manhole | 60.526 |  | 1 1.019 | 57.620 | 150 | | 1200 | Existing | Existing |
| | 2.726 | | | | | | | | |
| E. 440388.181 | | | Existing | Existing | 150 | | | | |
| N. 402285.826 | | | | | | | | | |

## N O T E S

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

Yorkshire Water General Notes

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. Cover slabs must carry the BSI Kitemark 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 loading bearing slab should be fitted above the cover slab to bring the size down to 600x600mm 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.
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 slawarre 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. Yorkshire Water policy is not 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 and BS/EN13476).
    b. Bedding and backfill material to conform to the requirements of Water Industry Specification 4-08-02 (Table A2)
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. 450mm# chamber for 100mm# foul & 150mm# 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. Yorkshire Water 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.
19. Sulphate resisting cement (C20-DC2) and precast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
20. Strength of vitrified clay pipes (if used) to be 40KN/m for 100#, 40KN/m for 150#, 45KN/m for 225# and 72KN/m for 300#. All concrete pipes to be Class 120 concrete to EN 1916/BS 5911-1:2002.
21. All levels of existing drainage to be confirmed prior to work commencing on site.
22. The contractor must allow for any fee's required for road and sewer opening permits, sewer connections and make the appropriate applications.
24. 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.
25. Yorkshire Water 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 be required and liaison with the Land Drainage Authority with regard to the disposal of the filter drain/land drainage runoff if necessary.
26. Do not scale from this drawing.

SUBJECT TO THE APPROVAL OF ALL RELEVANT AUTHORITIES

| Rev | By | Date | Revision | Chk | Apvd |
|---|---|---|---|---|---|
| / | JMG | 27.05.22 | Issued for approval | DJC | MI |


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 3771811, whose registered office is at 5/6 Northwest Business Park, Servia Hill, Leeds LS6 2QH


TITLE
# FOUL WATER MANHOLE SCHEDULE NETWORK 1

PROJECT
GYPSY LANE, WOMBWELL

CLIENT
MILLER HOMES (YORKSHIRE) LTD

DRAWING STATUS
PRELIMINARY

| Scale | Date | Drawn | Chk. |
|---|---|---|---|
| N/A | MAY 22 | JMG | DJG |

Drg. No. 425/61/11.01 Rev /