


## N O T E S

### KEY

- G — Gully
- Storm water manhole
- Foul water manhole
- Rain water pipe
- Foul stack
- Storm water sewer
- Foul water sewer
- CD — Combined sewer / Channel Drain (min B125 grade cover)
- YG — Yard gully

1. For longitudinal sections refer to drawing 1048/77/06.01 & 06.02
2. No services are to be sited directly over, or within 1m of, an adoptable sewer or manhole.
3. Private drainage connections to adoptable sewers to be via 45° junction.
4. Off site manholes already built must have invert levels checked prior to connection to the off site drainage.
5. Any connections to existing sewers/manholes are to be supervised by Yorkshire Water.
6. All connections to proposed public sewers to be minimum 150mmø.
7. 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.

Yorkshire Water General Notes

1. All adoptable sewer works and material to be in accordance with "Sewers for Adoption" 6th Edition, the relevant British/European and Yorkshire Water's Standards/Requirements/Addendum and be 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 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 clayware 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).
    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. 450mmø chamber 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.
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 100ø, 40KN/m for 150ø, 45KN/m for 225ø and 72KN/m for 300ø. 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.

| Rev | By | Date | Revision | Chk |
|---|---|---|---|---|
| A | MI | 02.09.16 | Updated to suit revised gradients | WWW |
| / | MI | 30.08.16 | Issued for comments / tender | |


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TITLE
SECTION 104 LAYOUT

PROJECT
BARNSLEY ROAD, FLOCKTON

CLIENT
BDW YORKSHIRE WEST

| Scale | Date | Drawn |
|---|---|---|
| 1:500 @ A1 | MAY 16 | MI |
| | | Chk. |

Drg. No. 1048/77/03 Rev A

NOTE
Lateral sewers to be Plastidrain (110 & 160 O.D.) in UPVC and manufactured by Hepworth or similar approved by Yorkshire Water. Demarcation chamber to be polypropylene Non–Entry Inspection Chamber up to 2.0m depth manufactured by Wavin or similar approved by Yorkshire Water to BS EN 13598–1:2003.

FLOW CONTROL DATA

| | |
|---|---|
| MANUFACTURER | HYDRO INTERNATIONAL |
| TELEPHONE | 01275 878371 |
| TYPE | HYDROBRAKE OPTIMUM |
| FLOW/HEAD | 3.5 l/s @ 2.15m |
| HYDRO REF | SHE–0075–3500–2150–3500 |

To be installed in accordance with manufacturers specifications and recommendations before the manhole cover slab is installed

SUBJECT TO THE APPROVAL OF ALL RELEVANT AUTHORITIES