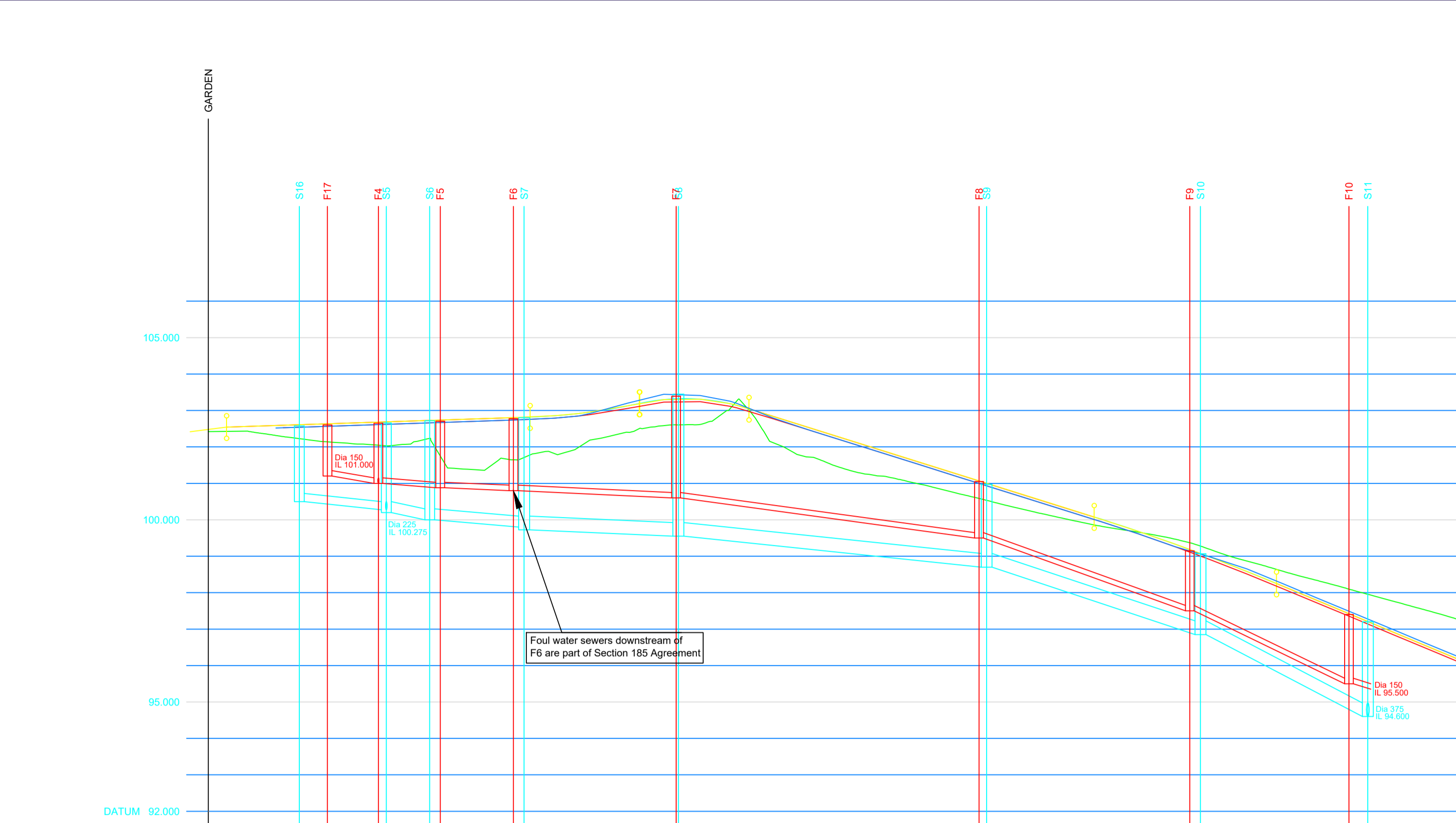
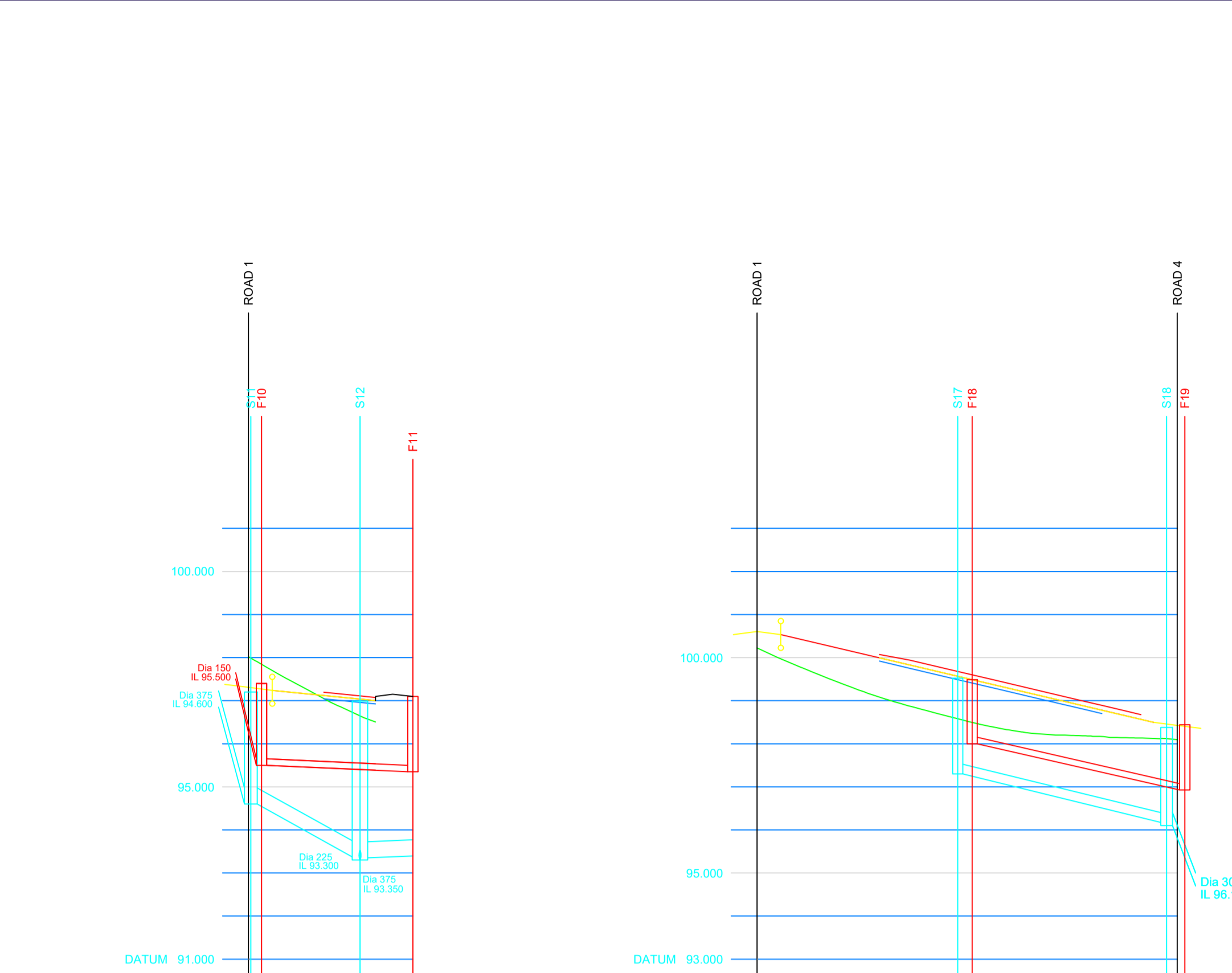


- YORKSHIRE WATER SEWER NOTES**
- All adoptable sewer works and materials to be in accordance with Design and Construction Guidance. The relevant British/European and Yorkshire Water's Standards/Requirements/Addendum to the Mechanical and Electrical Specification and kitemarked.
  - Manhole covers shall/must have a clear opening of 600mm and shall be Class D400 to BSEN124 with 150mm deep frames in highways.
  - Filled ground must be filled and consolidated under the supervision of and to the satisfaction of Yorkshire Water before any sewer works are carried out.
  - Yorkshire Water is not obliged to accept filter drain/land drainage run-off into the public sewer network or adoptable drainage system (directly or indirectly). An alternative method of disposal of the land drainage run-off with therefore be required and you will have to liaise with the Local Authority, Land Drainage Section with the regard to the disposal of the filter drain/land drain run-off.
  - Cover slabs must carry the BSI Kitemark or will be rejected by 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 600mm 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. As an alternative 600mm x 600mm access cover slabs are now available (must must be kitemarked) and Yorkshire Water would accept without the requirement of the reducing piece.
  - Sulphate resisting cement (C20-DC2) and pre-cast concrete products must be used or a laboratory report provided proving that such precautions are not necessary.
  - The adoptable sewers should be located 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 with Class 'S' Bedding (150mm granular bed and surround). Where depth of cover to top of sewer is less than 1.2m in highways and verges (or less than 900mm in none vehicular areas), then a concrete slab should be provided above the granular bed and surround.
  - Bedding and backfilling material to conform to the requirement of Water Industry Specification 4-06-02 (Table A2).
  - 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.
  - Yorkshire water policy is not to accept Type 'C' brick manholes and 1050mm diameter 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.
  - Adoptable plastic sewer pipes to be BSI Kitemarked (certified to WIS 4-3-01 and BSEN13476). Adoptable plastic sewer pipes to be laid in 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 prefer clayware channels in manholes. We have found that plastic channels are difficult to set in concrete because they float and a satisfactory finish cannot be obtained on the benching.
  - The minimum crushing strength for clay pipes should be as follows:- 100mm dia 40kN/m, 150mm dia 40kN/m, 225mm 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 4-36-01 and BSEN13476.
  - 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.



CHAINAGE	EXISTING GROUND LEVEL	ALIGNMENT LEVEL	VERTICAL ALIGNMENT	HORIZONTAL ALIGNMENT	LEFT HAND CHANNEL	RIGHT HAND CHANNEL	STORMWATER COVER LEVEL	STORMWATER INVERT	STORMWATER DETAILS	STORMWATER LENGTHS	FOULWATER COVER LEVEL	FOULWATER INVERT	FOULWATER DETAILS	FOULWATER LENGTHS
2.501	102.422	102.543	G= 0.667% 1: 150.0	R= 42.250					Pipe 3.000 Dia 225 CLAY 1 in 52 S BED	11.809	102.501	101.200	Pipe 2.000 Dia 150 CLAY 1 in 35 S BED	7.078
4.000	102.427	102.548							Pipe 3.000 Dia 225 CONC 1 in 52 S BED	5.904	102.648	101.000	Pipe 1.003 Dia 150 CLAY 1 in 73 S BED	8.747
6.776	102.526	102.609							Pipe 1.005 Dia 300 CONC 1 in 64 S BED	12.765	102.704	100.880	Pipe 1.004 Dia 150 CLAY 1 in 73 S BED	10.348
7.703	102.540	102.616							Pipe 1.006 Dia 375 CONC 1 in 53 S BED	23.934	102.802	100.800	Pipe 1.005 Dia 150 CLAY 1 in 118 S BED	23.657
8.988	102.540	102.616							Pipe 1.007 Dia 375 CONC 1 in 14 S BED	45.110	102.802	100.600	Pipe 1.006 Dia 150 CLAY 1 in 39 S BED	42.733
10.000	102.540	102.616							Pipe 1.008 Dia 375 CONC 1 in 16 S BED	29.545	102.802	100.600	Pipe 1.007 Dia 150 CLAY 1 in 11 S BED	28.856
13.844	102.609	102.676							Pipe 1.009 Dia 375 CONC 1 in 10 S BED	22.746	102.802	100.600	Pipe 1.008 Dia 150 CLAY 1 in 11 S BED	21.836
16.035	102.609	102.676									101.204	99.500		
20.202	102.609	102.676									100.970	99.500		
21.878	102.609	102.676									100.970	99.500		
27.876	102.609	102.676									100.970	99.500		
30.321	102.609	102.676									100.970	99.500		
30.000	102.609	102.676									100.970	99.500		
39.384	102.609	102.676									100.970	99.500		
40.000	102.609	102.676									100.970	99.500		
42.823	102.609	102.676									100.970	99.500		
43.743	102.609	102.676									100.970	99.500		
45.000	102.609	102.676									100.970	99.500		
48.292	102.609	102.676									100.970	99.500		
50.000	102.609	102.676									100.970	99.500		
55.000	102.609	102.676									100.970	99.500		
55.000	102.609	102.676									100.970	99.500		
55.302	102.609	102.676									100.970	99.500		
59.000	102.609	102.676									100.970	99.500		
61.862	102.609	102.676									100.970	99.500		
62.791	102.609	102.676									100.970	99.500		
65.000	102.609	102.676									100.970	99.500		
67.951	102.609	102.676									100.970	99.500		
68.000	102.609	102.676									100.970	99.500		
68.302	102.609	102.676									100.970	99.500		
71.695	102.609	102.676									100.970	99.500		
80.000	102.526	102.526									100.970	99.500		
110.000	100.645	100.645									100.970	99.500		
110.254	100.645	100.645									100.970	99.500		
118.055	99.823	99.823									99.500	99.500		
120.000	99.823	99.823									99.500	99.500		
125.000	99.823	99.823									99.500	99.500		
130.000	99.476	99.476									99.500	99.500		
132.171	99.476	99.476									99.500	99.500		
133.636	99.476	99.476									99.500	99.500		
138.753	99.973	99.973									99.500	99.500		
138.924	99.973	99.973									99.500	99.500		
140.000	99.583	99.583									99.500	99.500		
144.055	99.292	99.292									99.500	99.500		
150.000	97.757	97.757									97.200	97.200		
154.014	97.757	97.757									97.200	97.200		
156.001	97.770	97.770									97.200	97.200		
160.000	97.770	97.770									97.200	97.200		
169.857	96.102	96.102									96.033	96.033		

PIPE STRENGTHS 100mm Clay = 40kN/m; 150mm Clay = 40kN/m; 300mm Conc. = 36kN/m; 375mm Conc. = 45kN/m.



CHAINAGE	EXISTING GROUND LEVEL	ALIGNMENT LEVEL	VERTICAL ALIGNMENT	HORIZONTAL ALIGNMENT	LEFT HAND CHANNEL	RIGHT HAND CHANNEL	STORMWATER COVER LEVEL	STORMWATER INVERT	STORMWATER DETAILS	STORMWATER LENGTHS	FOULWATER COVER LEVEL	FOULWATER INVERT	FOULWATER DETAILS	FOULWATER LENGTHS
-2.750	98.022	97.240	G= -2.002% 1: -50.0						Pipe 1.010 Dia 375 Circular CONC 1 in 10 S BED	12.674	97.400	96.500	Pipe 1.009 Dia 150 Circular CLAY 1 in 17 S BED	17.576
-2.750	98.022	97.240									97.400	96.500		
-0.000	97.703	97.703									97.400	96.500		
0.000	97.703	97.703									97.400	96.500		
5.000	97.040	97.040									97.400	96.500		
10.000	96.667	96.667									97.400	96.500		
12.006	96.556	96.556									97.400	96.500		
20.000	98.610	98.610									98.400	98.000		
20.538	98.610	98.610									98.400	98.000		
22.232	98.610	98.610									98.400	98.000		
30.000	98.122	98.122									98.400	98.000		
30.000	98.122	98.122									98.400	98.000		
37.297	98.051	98.051									98.400	98.000		
40.000	98.141	98.141									98.400	98.000		
41.841	98.405	98.405									98.400	98.000		
44.816	98.096	98.096									98.400	98.000		
46.037	98.096	98.096									98.400	98.000		

PIPE STRENGTHS 100mm Clay = 40kN/m; 150mm Clay = 40kN/m; 300mm Conc. = 36kN/m; 375mm Conc. = 45kN/m.

PIPE STRENGTHS 100mm Clay = 40kN/m; 150mm Clay = 40kN/m; 300mm Conc. = 36kN/m; 375mm Conc. = 45kN/m.

1	For 104 Agreement appraisal.	23/01/23	
Checked	Rev #	Description	Date

Client  
**BIG CITY CO. MD**

Job Title  
**GARDEN HOUSE CLOSE  
MONK BRETTON  
BARNSELY**

**BRIGHT** The Media Centre, 7 Northumberland Street, Huddersfield, HD1 1RL  
**YOUNG** Email: info@brightyoung.co.uk Web: www.brightyoung.co.uk  
Consulting Limited Tel: 01484 487950 Fax: 01484 603519

Drawing Title  
**HIGHWAYS AND DRAINAGE**  
  
**ROAD AND SEWER  
LONG SECTIONS  
(1 OF 3)**

Scale	Date	Drawn	Checked
1:500H/100V@A1	JAN 2023	HM	JB

Drg No. **4019/105** Rev **1**