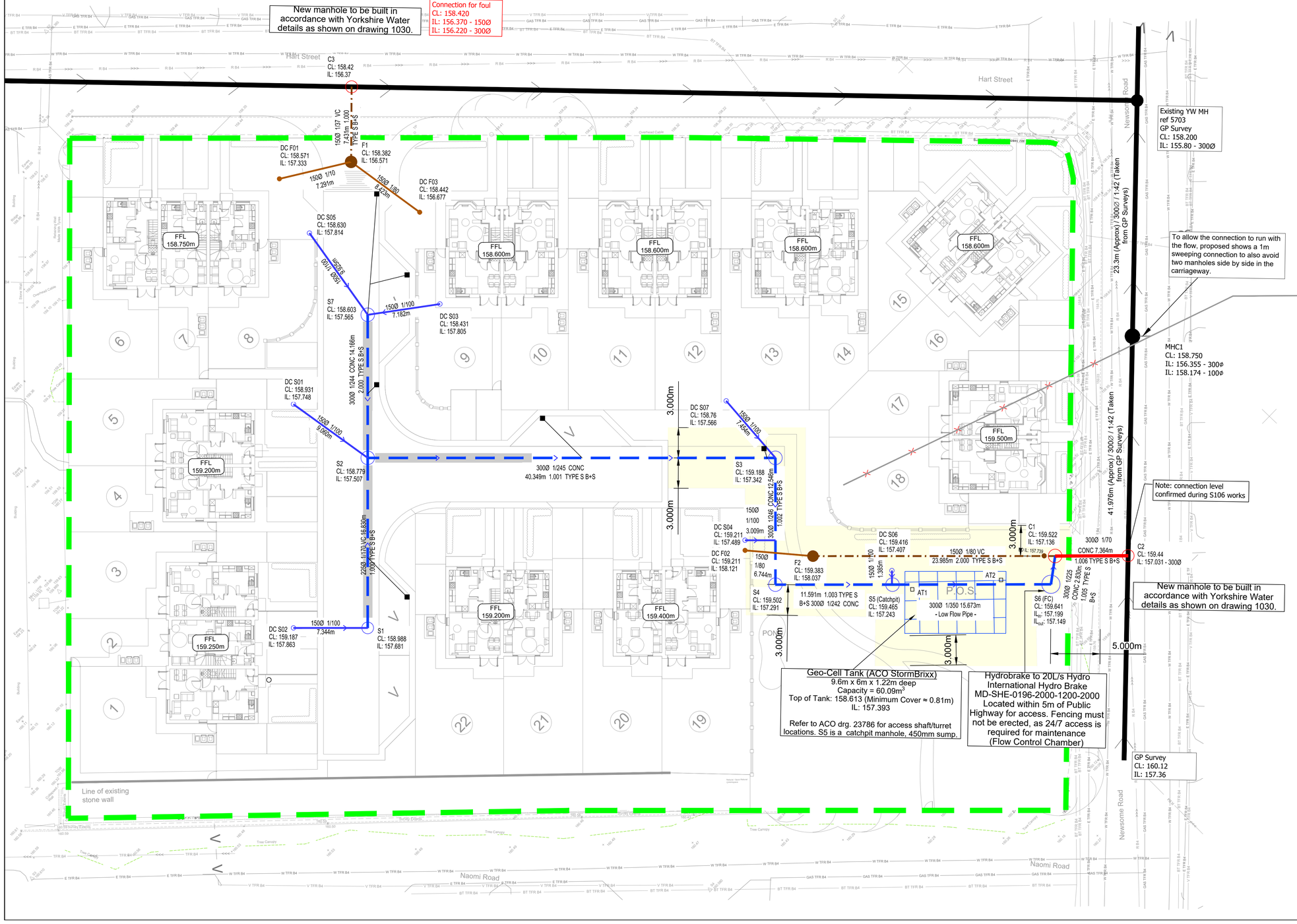
YW REF: H-3-264-822

S104 DEMARCATION												
MH No.	MANHOLE DIAMETER (mm)	MANHOLE TYPE	COVER LEVEL (m)	INVERT LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)	PIPE SIZE (mm)	COVER TYPE & SIZE	PIPE MATERIAL	DEMARC-ATION MATERIAL	DEMARC-ATION MANU-FACTURER
DC S01	450	Type E	158.931	157.748	1.033	414433.849	414820.381	150	D400 450x450	VC	POLY-PROPYLENE	POLYPIPE (Or similar approved)
DC S02	450	Type E	159.187	157.863	1.174	414417.907	414805.023	150	D400 450x450	VC	POLY-PROPYLENE	POLYPIPE (Or similar approved)
DC S03	450	Type E	158.431	157.767	0.494	414451.102	414816.975	150	D400 450x450	VC	POLY-PROPYLENE	POLYPIPE (Or similar approved)
DC S04	450	Type E	159.211	157.489	1.572	414455.161	414778.863	150	D400 450x450	VC	POLY-PROPYLENE	POLYPIPE (Or similar approved)
DC S05	450	Type E	158.63	157.814	0.716	414447.150	414830.995	150	D400 450x450	VC	POLY-PROPYLENE	POLYPIPE (Or similar approved)
DC S06	450	Type E	159.416	157.407	1.859	414463.082	414766.306	150	D400 450x450	VC	POLY-PROPYLENE	POLYPIPE (Or similar approved)
DC S07	450	Type E	158.76	157.566	1.044	414463.804	414789.776	150	D400 450x450	VC	POLY-PROPYLENE	POLYPIPE (Or similar approved)
DC F01	450	Type E	158.571	157.333	1.088	414448.952	414836.875	150	D400 450x450	VC	POLY-PROPYLENE	POLYPIPE (Or similar approved)
DC F02	450	Type E	159.211	158.121	0.940	414454.440	414778.169	150	D400 450x450	VC	POLY-PROPYLENE	POLYPIPE (Or similar approved)
DC F03	450	Type E	158.442	156.677	1.615	414456.203	414824.581	150	D400 450x450	VC	POLY-PROPYLENE	POLYPIPE (Or similar approved)



Yorkshire Water Notes

1. All adoptable sewer works and material to be in accordance with Design and Construction Guidance (**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. Yorkshire Water is **not** obliged to accept filter drain/land drainage run-off into the public sewer network or adoptable drainage system (**directly or in-directly**). An alternative method of disposal of the land drainage run-off will therefore be required and you will have to liaise with the Local Authority, Land Drainage Section with regard to the disposal of the filter drain/land drainage run-off.

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 or the width of the canopy at mature height.

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 provide above granular bed and surround.

8. There must be enough clearance at crossovers to accommodate bedding to both pipes, approx. 300mm : if crossover is near the rocker then the clearance needed may be increased".

9. Bedding and backfill material to conform to the requirement of Water Industry Specification 4-08-02 (**Table A2**).

10. Yorkshire Water policy is that Type "C" brick manholes and 1050mm diameter manhole rings are not preferred. Instead, it is preferred that you use a type "B" manhole with 1200mm diameter or 1500mm diameter rings, with the opening sited over the channel where depth of cover to pipe soffit is 1 - 1.5m.

11. Adoptable plastic sewer pipes to be BSI Kitemarked (**certified to WIS 4-35-01 and BS/EN13476**). Adoptable plastic sewer pipes to be laid in maximum 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 claywere channel in manholes.

12. The minimum crushing strength for clay pipes should be as follows : 100mm dia. 40KN/m, 150mm dia. 40KN/m, 225mm dia. 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 4-35-01 and BS EN13476.

13. 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.

Kirklees Highways Notes

All oversize precast concrete manhole circular vertical units and cover slabs including all ancillary concrete products are in full compliance with "**BS EN 1917" & "BS 5911-3+A1"**

Contractor to confirm Design Chemical Class (DC-Class) of concrete in the precast concrete manhole circular vertical units and cover slabs including all ancillary concrete products for an intended working life of 100 years (min).

All precast concrete manhole shaft units, circular cover, reducing, landing and corbel slabs together with all other ancillary concrete units intended for installation in the highway are marked with **"BS EN 1917" & "BS 5911-3" R** to confirm that the products represent a manufacture's declaration that their products meet the requirement of these standards.

Cover slabs are to be installed with a minimum of 300 mm cover to finished levels to comply with National Specifications.

Do Not Scale

DESIGN REVIEW

Design review by:	**	Checked by:	**

Residual hazards:

1. Working in live sewers, risk of leptospirosis
2. Working at depth, risk of trench collapse during excavation
3. Potential buried services

Health, Safety & Environmental Notes

NOTES

This plan No 0161 C1 is the same as the Technically Accepted (Plan No 0161 P12), but the reference number has changed to allow issue to site

Key

- Site Boundary
- Proposed S104 Foul Water Sewer
- Proposed S104 Surface Water Sewer
- Proposed S104 Combine Water Sewer
- Proposed Foul Demarcation Chamber
- Proposed Surface Water Demarcation Chamber
- Proposed Gully Positions
- Yorkshire Water Easement / Protected Strip
- FFL 158.500m — Proposed Finished Floor Levels
- Existing Combined Sewer
- Proposed Culvert Diversion - As detailed on the S106 Backdrop connection DWG 24.21001-ACE-00-XX-DR-C-0165
- Concrete Protection Slab

Date	Description	By	Chk	Rev
05.10.22	Issued for construction	JZG	AL	C1
17.08.22	CLs amended to suit level updates	JZG	AL	P12
11.07.22	Demarcation schedule added to drawing	JZG	AL	P11
19.05.22	Updated to YW comments	JZG	AL	P10
19.05.22	Updated to YW comments, highway notes added	JZG	AL	P9
26.04.22	Design updated to suit connection level confirmed on site	JZG	AL	P8
14.03.22	Updated to client comments	JZG	AL	P7
16.02.22	S1 CL/IL amended. CLs in POS updated to latest external levels. Foul updated.	JZG	AL	P6
11.10.21	Updated drainage layout following site levels update.	LPW	RP	P5
03.09.21	Site Layout updated and levels amended	RP	RP	P4
23.08.21	Overland Flow Paths added	RP	RP	P3
12.08.21	Flow rate amended	RP	RP	P2
08.07.21	Planning	RP	RP	P1

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Project
Newsome Road, Huddersfield

Title
S104 Proposed Drainage Layout

Client
Urban Group

Scale @ A1	Initial author	Initial checker	Approver	Initial Date
1:200	LPW	RP	RP	10.21

Status	Purpose	Adept Ref
A	Construction	24.21001

Project Number	Originator	Volume	Level	Type	Role	Drg. No.	Rev.
24.21001	ACE	00	XX	DR	C	0161	C1