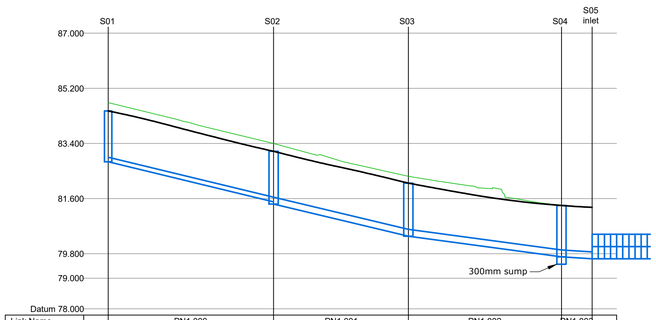


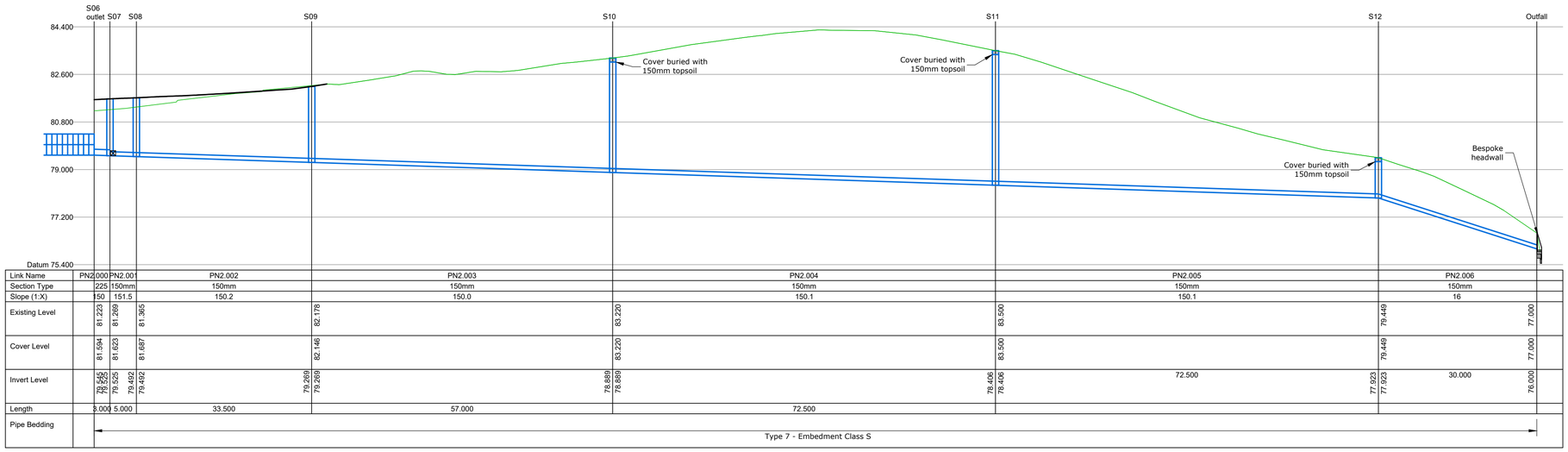
Link Name	PN1.000		PN1.001		PN1.002		PN1.003	
Section Type	150mm		225mm		225mm		225mm	
Slope (1:X)	20.7		21.0		37.2		76.9	
Existing Level	84.734		83.399		82.330		81.380	81.322
Cover Level	84.460		83.144		82.105		81.382	81.316
Invert Level	82.800	81.495	81.420	80.372	80.372	79.700	79.700	79.635
Length	27.000		22.000		25.000		5.000	
Pipe Bedding	Type 7 - Embedment Class S							

Longitudinal Section along Surface Water PN1.000-PN1.003

Scale 1:500 horizontal 1:100 vertical

Pipeline Schedule: Storm Network 1

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth	DS CL (m)	DS IL (m)	DS Depth	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
PN1.000	27.000	20.7	150	Circular	84.460	82.800	1.510	83.144	81.495	1.499	S01	1200	Manhole	PCC	S02	1500	Manhole	PCC
PN1.001	22.000	21.0	225	Circular	83.144	81.420	1.499	82.105	80.372	1.508	S02	1500	Manhole	PCC	S03	1500	Manhole	PCC
PN1.002	25.000	37.2	225	Circular	82.105	80.372	1.508	81.382	79.700	1.450	S03	1500	Manhole	PCC	S04	1500	Manhole	PCC
PN1.003	5.000	76.9	225	Circular	81.382	79.700	1.450	81.316	79.635	1.456	S04	1500	Manhole	PCC	S05 inlet		Junction	
PN2.000	3.000	150.0	225	Circular	81.594	79.545	1.824	81.623	79.525	1.873	S06 outlet		Junction		S07	1200	Manhole	PCC
PN2.001	5.000	151.5	150	Circular	81.623	79.525	1.948	81.687	79.492	2.045	S07	1200	Manhole	PCC	S08	1200	Manhole	PCC
PN2.002	33.500	150.2	150	Circular	81.687	79.492	2.045	82.146	79.269	2.727	S08	1200	Manhole	PCC	S09	1200	Manhole	PCC
PN2.003	57.000	150.0	150	Circular	82.146	79.269	2.727	83.220	78.889	4.181	S09	1200	Manhole	PCC	S10	1200	Manhole	PCC
PN2.004	72.500	150.1	150	Circular	83.220	78.889	4.181	83.500	78.406	4.944	S10	1200	Manhole	PCC	S11	1200	Manhole	PCC
PN2.005	72.500	150.1	150	Circular	83.500	78.406	4.944	79.449	77.923	1.376	S11	1200	Manhole	PCC	S12	1200	Manhole	PCC
PN2.006	30.932	12.6	150	Circular	79.449	77.923	1.376	77.000	75.461	1.389	S12	1500	Manhole	PCC	Outfall		Junction	



Link Name	PN2.000	PN2.001	PN2.002	PN2.003	PN2.004	PN2.005	PN2.006
Section Type	225	150mm	150mm	150mm	150mm	150mm	150mm
Slope (1:X)	150	151.5	150.2	150.0	150.1	150.1	16
Existing Level	81.223	81.269	81.365	82.178	83.220	83.500	79.449	77.000
Cover Level	81.594	81.623	81.687	82.146	83.220	83.500	79.449	77.000
Invert Level	79.545	79.525	79.492	79.269	78.889	78.406	72.500	77.923	30.000	76.000
Length	3.000	5.000	33.500	57.000	72.500			
Pipe Bedding	Type 7 - Embedment Class S							

Longitudinal Section along Surface Water PN2.000-PN2.006

Scale 1:500 horizontal 1:100 vertical

Manhole Schedule: Storm Network 1

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	Manhole DCG code	Cover slab opening	Cover type
S01	302606.193	514392.392	84.460	1.660	1200	Manhole	PCC	0	0 PN1.000	82.800	150	Circular	Figure B10 Type B	600x750	D400 600x600
S02	302584.273	514376.628	83.144	1.724	1500	Manhole	PCC	1 2 0	1 PN1.000 2 Plot 0 PN1.001	81.495 81.495 81.420	150 150 225	Circular Circular Circular	Figure B10 Type B	600x750	D400 600x600
S03	302563.571	514369.184	82.105	1.733	1500	Manhole	PCC	1 2 0	1 PN1.001 2 Plot 0 PN1.002	80.372 80.447 80.372	225 150 225	Circular Circular Circular	Figure B10 Type B	600x750	D400 600x600
S04 Silt Trap 300mm sump	302546.015	514351.385	81.382	1.682	1500	Manhole	PCC	3 1 4 2 0	1 PN1.002 2 Plot 3 Gully 4 Gully 0 PN1.003	79.700 79.700 79.775 79.775 79.700	225 225 150 150 225	Circular Circular Circular Circular Circular	N/A	600x750	D400 600x600
S05 Tank Inlet	302542.450	514347.879	81.316	1.681		Junction		1	1 PN1.003	79.635	225	Circular			
S06 Tank outlet	302516.795	514322.645	81.594	2.049		Junction		0	0 PN2.000	79.545	225	Circular			
S07 Flow Control	302514.656	514320.541	81.623	2.098	1200	Manhole	PCC	1 0	1 PN2.000 0 PN2.001	79.525 79.525	225 150	Circular Circular	N/A	600x750	D400 600x600
S08 Hydrodynamic Separator	302511.860	514316.396	81.687	2.195	1200	Manhole	PCC	1 0	1 PN2.001 0 PN2.002	79.492 79.492	150 150	Circular Circular	N/A	600x750	D400 600x600
S09	302493.116	514288.640	82.146	2.877	1200	Manhole	PCC	1 0	1 PN2.002 0 PN2.003	79.269 79.269	150 150	Circular Circular	Figure B10 Type B	600x750	D400 600x600
S10	302446.346	514256.059	83.220 (83.07)	4.331	1200	Manhole	PCC	1 0	1 PN2.003 0 PN2.004	78.889 78.889	150 150	Circular Circular	Figure B6 Type A2	600x750	D400 600x600 Buried
S11	302378.986	514229.246	83.500 (83.35)	5.094	1200	Manhole	PCC	1 0	1 PN2.004 0 PN2.005	78.406 78.406	150 150	Circular Circular	Figure B6 Type A2	600x750	D400 600x600 Buried
S12	302311.626	514202.434	79.449 (79.30)	1.526	1200	Manhole	PCC	1 0	1 PN2.005 0 PN2.006	77.923 77.923	150 150	Circular Circular	Figure B15 Type C	600x750	D400 600x600 Buried
Outfall	302305.828	514172.050	77.000	1.539		Junction		1	1 PN2.006	76.000	150	Circular			

General

1. This drawing should not be scaled - use figured dimensions only. If in doubt, ask.
2. All dimensions are in millimetres unless stated otherwise.
3. This drawing is to be read in conjunction with all relevant Architects drawings as well as all other drawings by RG Parkins (refer to RG Parkins drawing register).
4. The Contractor is responsible for verifying all dimensions on site prior to commencing works.
5. Any specified proprietary products are to be installed in strict accordance with manufacturers guidelines. No specified product should be substituted without gaining approval from RG Parkins.

Drainage

1) All drainage construction is to be in accordance with the following:
   a. Sewer Sector Guidance Appendix C - Design and Construction Guidance (DCG) for foul and surface water sewers offered for adoption under the Code for adoption agreement for water and sewerage companies operating wholly or mainly in England ("the Code")
   b. United Utilities Standard Details
   c. Civil Engineering Specification for the Water Industry (CESWI) 7th Edition
   d. Building Regulations Approved Document Part H 2010
2) Invert levels shown on all incoming and outgoing pipes for manholes indicate the invert levels at the intersection of the pipes within the manhole.
3) CONCRETE BENCHING AND PIPE SURROUND
   Concrete shall be placed in a single continuous operation from top of base slab to top of benching and pipe surround.
4) CONNECTION INTO MANHOLES
   Connections into manholes shall be constructed with the soffits at the same level unless detailed differently on the contract drawings.
5) CONCRETE SURROUND TO MANHOLES
   All manholes to Rigid material construction with 150mm surround of at least 20N/mm2 (GEN3) concrete shall be provided. Any joints should be staggered with pre-cast concrete joints.
6) CUT ENDS OF REINFORCED CONCRETE PIPES
   Shall be treated with epoxy resin paint/mortar.
7) MANHOLE ACCESSES
   For manhole access options and details refer to UU Standard Detail STND/01/013.
   Double steps shall be plastic encapsulated carbon steel to BS EN 1247-2 manhole steps.
   Double steps shall not be used where cover-to-soffit dimension is >3.0m.
8) COVER AND FRAME FOR TYPE A AND TYPE B ACCESS
   150mm deep double triangular covers are to be used in all adopted highways. Frame to be set as per manufacturers specification.

   Manhole cover and frame to be in accordance with BS EN 124 Class D400, class M1 mortar bed and haunch, with minimum clear opening of 600x600 unless noted otherwise.
9) ROCKER PIPES
   Start of rocker pipe to be as close to face of manhole as possible and not greater than 750mm. Rocker pipes to be used until the pipe outside diameter exceeds the effective length of the rocker pipe.
   Rocker pipe effective length shall be as follows:
   600mm for pipes up to 600mm
10) BENCHING WIDTH
   Minimum benching widths shall be as follows:
   For depth to soffit < 1.5m
   225mm min for all pipe sizes
   For depth to soffit ≥ 1.5m
   600mm min for 150mm ø to 375m ø pipes
11) CHANNEL FITTINGS
   Proprietary channel fittings are to be used up to and including 300mm ø pipes, above which granolithic in-situ channels can be used. Incoming and outgoing 'T' junctions, square junctions and 90º bends are not acceptable especially on foul systems, to be replaced by 'Y' junctions, oblique junctions and 2 No. 45º bends respectively.
12) All proposed connections from plot drainage that do not enter a new manhole are to be connected via the installation of an oblique pre-formed junction
13) SEWER PIPES
   Pipes used on main PCC sewer lengths must comply with Sewers for Adoption specification.
   Vitrified clay pipes should comply with requirements BS EN 295 for Foul pipes and BS 65 for surface water pipes.
   Thermoplastic structural walled pipes must comply with Water Industry Standard 4-35-01 and achieve Class 8KN/m^2 nominal short term stiffness.

Rev	Description	Date	Revised by	Checked by	Approved

Issue Purpose: Approval

Do not scale from this drawing

R G PARKINS
Kendal | 01539 729393 Lancaster | 01524 32548

Scale @ A1: 1:500	First Issue: 06/07/23	Office of Origin: Kendal	
Drawn by: SR	Checked by: TM	Approved: TM	
Client: Mr & Mrs A. Casson			
Project: Trumpet Road, Cleator Moor	Project No: K39288	Drawing No: 12	Rev:
Drawing Title: Surface Water Drainage Longitudinal Sections and Manhole Schedules	BIM No:		