



Project Title

Report to Discharge Drainage Related Planning Condition

At

**Land off Whitworth Road & Grasmere Street
Syke,
Rochdale,
OL12**

For

Cornerstone Place Ltd

PG Consulting
108 Ack Lane West
Cheadle Hulme
Cheshire
SK8 7ES

Tel: 07710 758971

Mail: Paul@pgcl.co.uk

Paul Graveney Consulting Ltd Trading as PG Consulting
Company Registration 11238546

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Issue	Organisation	Quantity
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1.0 Introduction

- 1.1 In 2022 a planning application was submitted to Rochdale Borough Council for the erection of 3 blocks (1 no. single storey and 2 no. two storey) of 14 no. 1 bedroom apartments (Use Class C3) including associated landscaping on land off Whitworth Road & Grasmere Street, Syke, Rochdale, OL12.
- 1.2 A Drainage Strategy Report prepared by PGC was submitted with the application.
- 1.3 Planning approval, ref 22/00466/FUL was granted on the 21st March 2024 that included a planning condition relating to the drainage of the development.
- 1.4 This report has been prepared to remove this condition; number 3.

2.0 Drainage Strategy

2.1 Existing Drainage

- 2.1.1 The United Utilities sewer records have been reviewed (Figure 1 below) and confirm a number of 225mm diameter combined public sewers adjoining the sites in the adopted highways. A larger 450mm diameter combined sewer flows south in Whitworth Road to the east.
- 2.1.2 Following a site visit, it was determined that a 225mm diameter combined sewer is also located along both the southern and western boundaries of Block A, flowing generally in a southerly direction to Industry Road. No private drainage was identified on the other two blocks.

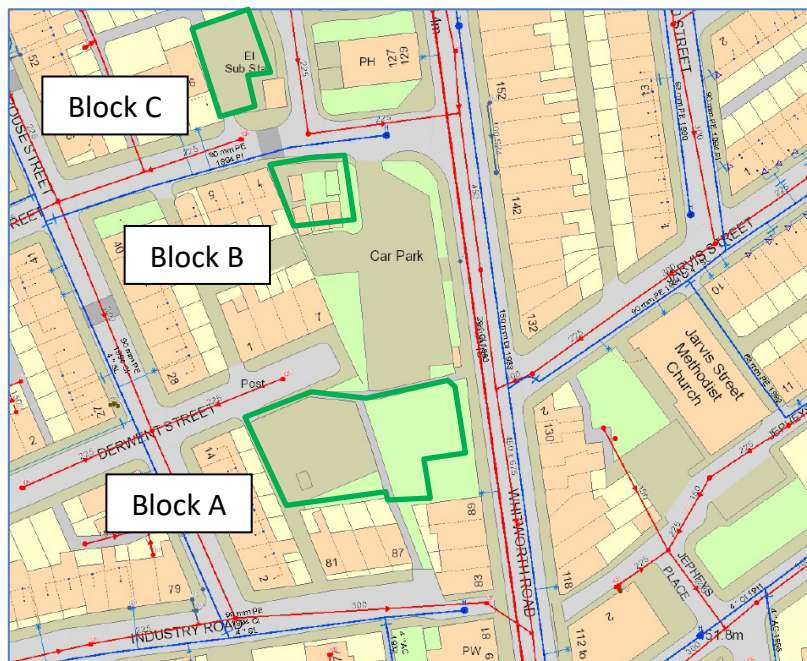


Figure 1: United Utilities Sewer Records

2.2 Existing Runoff

- 2.2.1 Based on the current use of the three sites, they can all be classed as 'Greenfield' with the greenfield runoff rates shown in Figure 2 below:

	Area (ha)	1 year	30 year	100 year
Block A	0.072	0.5 l/s	1.0 l/s	1.2 l/s
Block B	0.020	0.1 l/s	0.3 l/s	0.4 l/s
Block C	0.021	0.1 l/s	0.3 l/s	0.4 l/s

Figure 2: Existing Greenfield Discharge Rates

2.3 Geology

- 2.3.1 A site-specific intrusive Phase 2 Site Investigation has been carried out at the 3 development areas. This has identified the underlying ground to encompass deep made ground (mottled grey sandy gravelly clay) over natural cohesive strata. Based on these findings the specialist SI company has advised that infiltration-based options would not be suitable.

2.4 Hydrological Assessment

- 2.4.1 A review of the topographical survey, OS Maps and Environment Agency maps would indicate the closest surface water feature to be Hey Brook, located some 400m to the east beyond a residential and commercial area.

2.5 SuDS Hierarchal Approach

- 2.5.1 Based on the existing drainage configuration, plus an assessment of the local site conditions, the SuDS hierarchal approach for discharge of surface water at the development site is considered in detail below:

Method	Suitability	Suitability for Development
Infiltration to Ground	No	Intrusive site investigation would indicate that the underlying ground would not be suitable for infiltration-based options.
Connection to Watercourse	No	Watercourse too far from the development boundary.
Connection to Surface Water Sewer	No	No surface water sewers in close proximity to the site boundary.
Connection to a Combined Sewer	Yes	New connections to be made to the adjoining combined water sewers at restricted rates.

Table 1: SuDS Hierarchal Approach

2.6 Surface Water Drainage Strategy

- 2.6.1 The general principal of the surface water drainage strategy is to collect the runoff from the roof area of the each of the three residential units via the rainwater pipes. The networks then outfall to the combined water public sewer via a new connection from each site. Although United Utilities have suggested a peak flow rate of 2l/s from each site, consultation with Rochdale LLFA has advised that this low flow rate poses a high risk of blockage. As such the larger block A should be restricted to 5l/s and the smaller units be unrestricted discharge as the 100yr + 40% CC peak flow rates will still be below 5l/s and reduce for the less intense storms. Due to the flow restriction in Block A, attenuation will take the form of a geocellular crated tank. The pathways adjoining the units will fall into the soft landscaping areas and thus not connect to the drainage network.

- 2.6.2 The proposed private drainage layout for the new development building will be designed in accordance with BS EN 752: 2008 and Building Regulations Part H guidance. This is to indicate no surcharge for the 2-year storm event and no flooding for up to the 30-year storm event.
- 2.6.3 A full hydraulic drainage model has been simulated for each Block based on the restricted discharge rate. Taking into account the reduced discharge rate for Block A and the unrestricted discharge rate for Blocks A and B, the worst-case attenuation volumes are defined in the figures below. Note that as the areas for Blocks B & C are small, no additional attenuation measures are required.

Block	New Impermeable Area	Peak Post Development Peak Discharge Rate	Attenuation Volume for 30-year Event	Attenuation Volume for 100 year + 40% CC Event)
A	0.034 ha	5 l/s	2m ³	5m ³

Figure 3: Attenuation Volumes

2.7 Foul Flows

- 2.7.1 Foul drainage generated from the new development will discharge to the existing combined water public sewers bounding each of the sites.
- 2.7.2 The proposed private drainage layout for the new development site will be designed in accordance with BS EN 752: 2017 and Building Regulations Part H guidance.

3.0 Drainage Related Planning Condition and Responses

3.1 Planning Conditions

- 3.1.1 The detailed planning condition is listed below in *italics* with the PG Consulting response in Blue below.

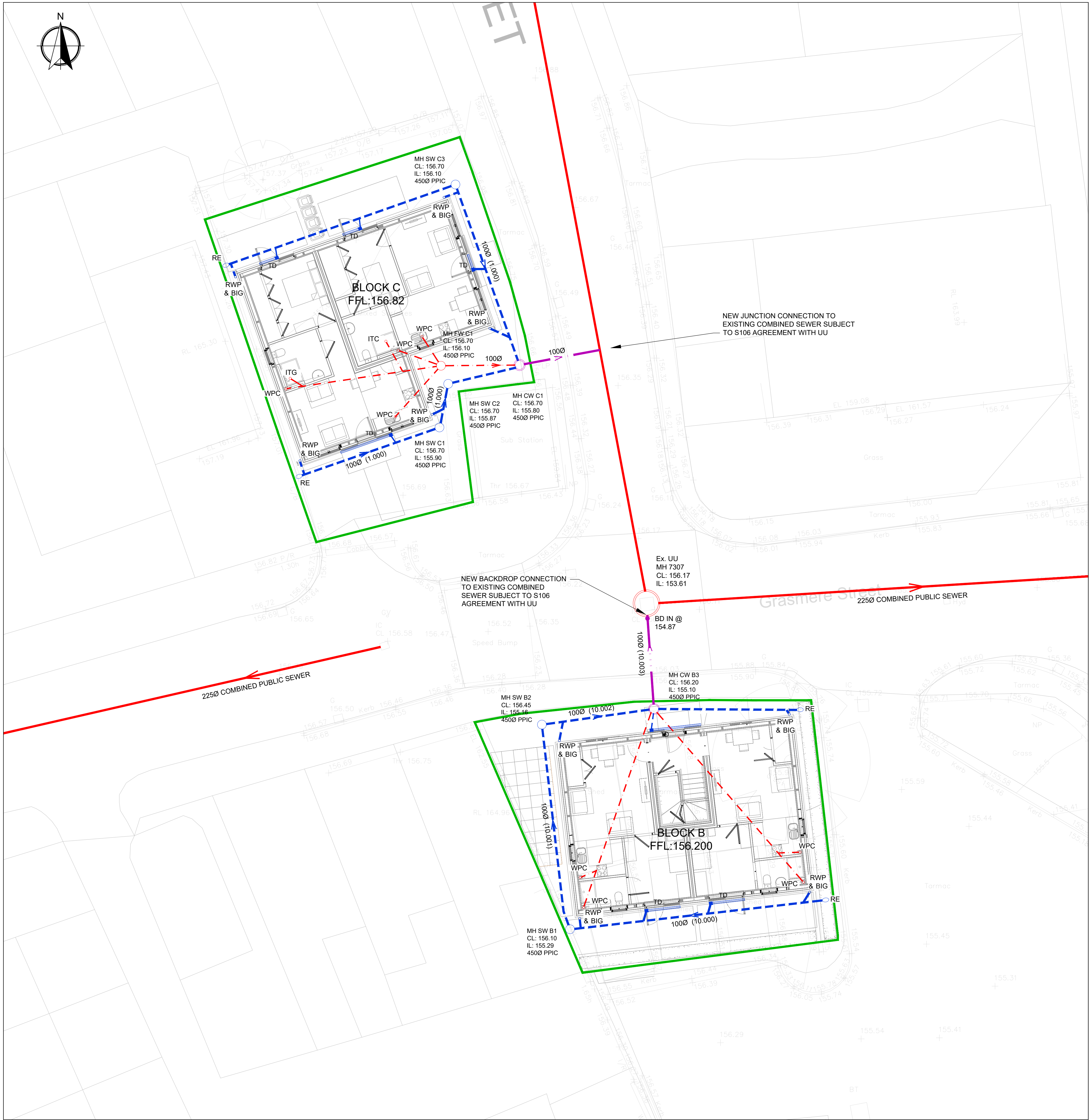
Condition 3

No development shall take place until details of a sustainable surface water drainage scheme and a foul water drainage scheme shall be submitted to and approved in writing by the Local Planning Authority. The drainage scheme shall be in general accordance with the preliminary designs indicated on drawings PGS388-C-100/P2 and PGS388-C-101/P2 (both dated 16.8.2022) and shall include confirmation of United Utilities approval of the 3no. sewer connections to the public sewer:

As discussed in Section 2, the SuDS hierarchal approach has been assessed for the development. Based on the findings of the site investigation that identified contamination and cohesive ground conditions, infiltration as a means of draining the site has been discounted. As such connection will be made to the adjacent combined public sewers. For Block A, a 60mm diameter orifice plate will control the flows to 5l/s. This is considered the minimum rate to prevent blockage. Blocks B and C will not have a control as the impermeable areas and thus peak flow rates are too low. Refer to the Drainage GA in Appendix A and the hydraulic calculations in Appendix B.

3 No. S106 sewer connection applications were submitted to United Utilities, one for each scheme. Approval was granted in May 2024. Refer to Appendix C for details.

Appendix A – PG Consulting Drawings



DRAINAGE NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR THE CONFIRMATION OF ALL POSITIONS AND LEVELS OF EXISTING DRAINS, SEWERS AND MANHOLES PRIOR TO THE COMMENCEMENT OF THE PROPOSED WORKS AND ANY DISCREPANCIES REPORTED IMMEDIATELY TO PGC.
2. ALL PRIVATE DRAINAGE WITHIN THE SITE IS TO COMPLY WITH THE REQUIREMENTS OF BS EN 752 AND BUILDING REGULATIONS PART H.
3. NO DEVIATION FROM THE CONTENT OF THIS DRAWING IS ALLOWED WITHOUT PERMISSION OF PGC.
4. FOR DETAILS OF WORKMANSHIP AND MATERIALS REFER TO THE SPECIFICATION, BUILDING REGULATIONS AND BRITISH STANDARDS CURRENT AT THE TIME OF THE WORK.
5. ADEQUATE PROTECTION IS TO BE PROVIDED TO MAINTAIN INTEGRITY OF THE EXISTING SERVICES AND PROPOSED WORKS DURING CONSTRUCTION.
6. COVER LEVELS ARE PROVISIONAL AND THE FINAL LEVEL SHOULD BE ADJUSTED AND SET TO SUIT THE PROPOSED FINISHED LEVELS AS CONFIRMED BY THE ARCHITECT.
7. CONCRETE SURROUND IS TO BE PROVIDED TO ALL DRAINS WITH A COVER OF LESS THAN 1.2m OF THE FINISHED GROUND LEVEL IN HIGHWAY AREAS OR WITHIN 0.6m IF WITHIN LANDSCAPED AREAS. AN EXPANSION JOINT IS TO BE PROVIDED AT EACH AND EVERY PIPE JOINT.
8. ANY GRADIENTS OF DRAINS INDICATED ARE INDICATIVE ONLY AND THE CONTRACTOR SHALL INSTALL THE DRAINS TO THE SPECIFIED LEVELS SHOWN FOR EACH MANHOLE (U.O.N). CATCHPIT INVERT LEVELS ARE FOR THE OUTGOING PIPE WITH THE SUMP LEVEL SPECIFIED SEPARATELY.
9. ALL PIPEWORK WITHIN MANHOLES ARE TO BE LAID SOFFIT TO SOFFIT (U.O.N). ALL CHAMBER INVERT LEVELS ARE FOR THE OUTGOING PIPE LEVELS. BACKDROP PIPEWORK SHALL BE CONNECTED AT SOFFIT TO SOFFIT WITH THE RODDING ACCESS LEVEL SPECIFIED.
10. ALL INVERT LEVELS PROVIDED FOR 475mm PPIC CHAMBER ARE TO THE LOWEST PIPE WITHIN THE BENCHING ARRANGEMENT.
11. MANHOLE COVERS AND FRAMES ARE TO BE IN ACCORDANCE WITH BS EN 124 AND THE FOLLOWING:
 - VEHICULAR AREAS: CLASS D400 (E600 IN SERVICE YARD LOCATIONS), DOUBLE TRIANGULAR, 150mm DEEP DUCTILE IRON COVER AND FRAME WITH THREE POINT COVER SEATING, (NON-ROCK DESIGN) BADGED FW OR SW FOR FOUL OR SURFACE WATER DRAINAGE.
 - PEDESTRIAN AREAS: CLASS B125, 100mm DEEP, BADGED FW OR SW FOR FOUL OR SURFACE WATER DRAINAGE.
 - IF COVERS ARE REQUIRED TO BE RECESSED A HOWE GREEN 1050 HEAVY DUTY, STAINLESS STEEL EDGE, EXTERNAL USE, 100mm RECESS OR SIMILAR APPROVED SHALL BE USED.
12. REFER TO ARCHITECT'S DRAWING FOR RWPS/WPCS POP UP SIZES. ALL REST BENDS ARE ASSUMED TO BE 100Ø SET 600mm BELOW SSL, UNLESS OTHER SPECIFIED. THE CONTRACTOR SHALL ALLOW FOR SUITABLE VIKING JOHNSON ADAPTORS/COUPLINGS FOR JOINING THE DIFFERENT PIPE MATERIALS/PIPE SIZES.
13. ALL BRICKWORK IN CONNECTION WITH DRAINAGE IS BE SOLID ENGINEERING BRICK CLASS B TO BS 3921.
14. ALL INSITU CONCRETE TO BE GEN3 UNLESS SPECIFIED OTHERWISE.
15. DRAINAGE CHANNELS ARE TO BE ACO MD SYSTEM C/W 'HEELGUARD' GRATES OR 'BRICKSLOT' TO LANDSCAPE ARCHITECT APPROVAL.
16. ALL PRECAST CONCRETE PIPES, CHAMBER PRODUCTS AND ROAD GULLIES SHALL BE TO BS 5911 AND BE KITEMARKED.
17. VITRIFIED CLAY PIPES TO CONFORM TO BS EN 295 MANUFACTURER: HEPWORTH SUPERSLEEVE:
 - 100/150mmØ -40 kN/m
 - 225mmØ -45 kN/m
 - 300mmØ -72 kN/mAND BE SUPPLIED WITH EPDM SEALING RINGS AS STANDARD.
18. PLASTIC PIPEWORK IS ACCEPTABLE AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS
19. UPON COMPLETION OF THE WORKS, ALL THE DRAINS SHALL BE CLEANED BY JETTING, REMOVING ALL DEBRIS FROM SITE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE EXISTING DRAINAGE SYSTEM.
20. UPON COMPLETION OF THE WORKS THE CONTRACTOR SHALL SURVEY THE WORKS AND PROVIDE A SUITABLY 'MARKED-UP' DRAWINGS FOR 'RECORD' PURPOSES'.

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KEY

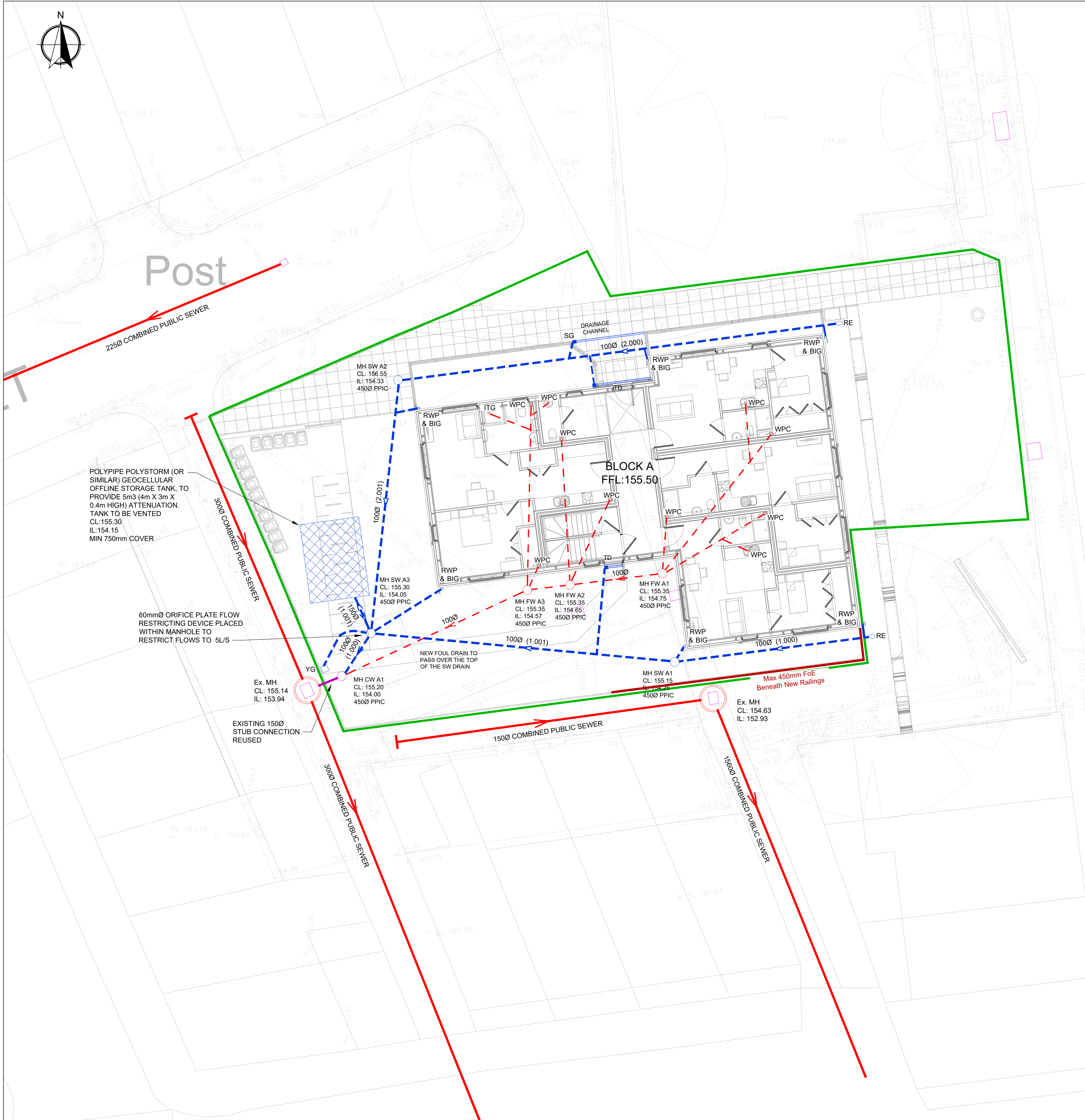
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NOTE ALL RWP AND SVP LOCATIONS TO BE CONFIRMED BY OTHERS

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C2	18.10.23	PG	PG	MINOR CHANGES TO DRAINAGE & FOUNDS
C1	17.04.23	PG	PG	CONSTRUCTION ISSUE
P2	16.08.22	PG	PG	FLOW CONTROLS REMOVED
P1	28.02.22	PG	PG	PRELIMINARY ISSUE
REV	DATE	DRAWN	REV'D ENG	NOTES

CLIENT	CORNERSTONE PLACE		
PROJECT	WHITWORTH ROAD, ROCHDALE		
DRAWING TITLE	DRAINAGE GA (BLOCKS B & C)		
DRAWING STATUS	CONSTRUCTION		
SCALE	1:100	ENGINEER	SHEET
		PG	A1
DRAWING No	PGC388-C-101		REVISION
			C2
PGConsulting Civil & Infrastructure Engineers		108 Ack Lane West, Cheadle Hulme, Cheshire, SK8 7ES Tel: 07710 758971 Email: paul@pgcd.co.uk	



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P1	02.03.22	PG	PG	PRELIMINARY ISSUE
REV	DATE	DRAWN	REV'D ENG	NOTES
CLIENT CORNERSTONE PLACE				
PROJECT WHITWORTH ROAD, ROCHDALE				
DRAWING TITLE DRAINAGE STRATEGY PLAN (BLOCK A)				
DRAWING STATUS CONSTRUCTION				
SCALE	1:100	DRAWN BY PG	ENGINEER PG	SHEET A1
DRAWING No PGC388-C-100				REVISION C2
		108 Ack Lane West, Cheadle Hulme, Cheshire, SK8 7ES Tel: 07710 758971 Email: paul@gpgcl.co.uk		

Appendix B – Hydraulic Calculations


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Block A - Whitworth Road
SW Network
V2 16.08.22
```



Date 16/08/2022

Designed by paulg

File Whitworth Raod Block A ...

Checked by

Innovyze

Network 2017.1.2

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.002	4.000	0.040	100.0	0.008	0.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.002	50.00	4.75	154.050	0.034	0.0	0.0	0.0	1.00	17.8	4.6

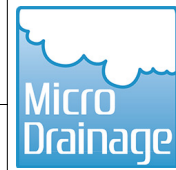
		Page 3																																																																																																																																																																																	
		Block A - Whitworth Road SW Network V2 16.08.22																																																																																																																																																																																	
Date 16/08/2022 File Whitworth Raod Block A ...	Designed by paulg Checked by																																																																																																																																																																																		
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PIPELINE SCHEDULES for Storm Upstream Manhole <table><thead><tr><th>PN</th><th>Hyd Sect</th><th>Diam (mm)</th><th>MH Name</th><th>C.Level (m)</th><th>I.Level (m)</th><th>D.Depth (m)</th><th>MH Connection</th><th>MH DIAM., L*W (mm)</th></tr></thead><tbody><tr><td>1.000</td><td>o</td><td>100</td><td>RE</td><td>154.850</td><td>154.350</td><td>0.400</td><td>Open Manhole</td><td>100</td></tr><tr><td>1.001</td><td>o</td><td>100</td><td>SW A1</td><td>155.150</td><td>154.250</td><td>0.800</td><td>Open Manhole</td><td>450</td></tr><tr><td>2.000</td><td>o</td><td>100</td><td>RE</td><td>155.150</td><td>154.550</td><td>0.500</td><td>Open Manhole</td><td>100</td></tr><tr><td>2.001</td><td>o</td><td>100</td><td>SW A2</td><td>155.550</td><td>154.330</td><td>1.120</td><td>Open Manhole</td><td>450</td></tr><tr><td>3.000</td><td>o</td><td>150</td><td>TANK</td><td>155.300</td><td>154.150</td><td>1.000</td><td>Open Manhole</td><td>1200</td></tr><tr><td>1.002</td><td>o</td><td>150</td><td>SW A3</td><td>155.300</td><td>154.050</td><td>1.100</td><td>Open Manhole</td><td>450</td></tr></tbody></table> Downstream Manhole <table><thead><tr><th>PN</th><th>Length (m)</th><th>Slope (1:X)</th><th>MH Name</th><th>C.Level (m)</th><th>I.Level (m)</th><th>D.Depth (m)</th><th>MH Connection</th><th>MH DIAM., L*W (mm)</th></tr></thead><tbody><tr><td>1.000</td><td>10.000</td><td>100.0</td><td>SW A1</td><td>155.150</td><td>154.250</td><td>0.800</td><td>Open Manhole</td><td>450</td></tr><tr><td>1.001</td><td>15.000</td><td>100.0</td><td>SW A3</td><td>155.300</td><td>154.100</td><td>1.100</td><td>Open Manhole</td><td>450</td></tr><tr><td>2.000</td><td>22.000</td><td>100.0</td><td>SW A2</td><td>155.550</td><td>154.330</td><td>1.120</td><td>Open Manhole</td><td>450</td></tr><tr><td>2.001</td><td>13.000</td><td>56.5</td><td>SW A3</td><td>155.300</td><td>154.100</td><td>1.100</td><td>Open Manhole</td><td>450</td></tr><tr><td>3.000</td><td>3.000</td><td>60.0</td><td>SW A3</td><td>155.300</td><td>154.100</td><td>1.050</td><td>Open Manhole</td><td>450</td></tr><tr><td>1.002</td><td>4.000</td><td>100.0</td><td>sewer</td><td>155.140</td><td>154.010</td><td>0.980</td><td>Open Manhole</td><td>0</td></tr></tbody></table> Free Flowing Outfall Details for Storm <table><thead><tr><th>Outfall Pipe Number</th><th>Outfall Name</th><th>C. 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Level (m)</th><th>D, L (mm)</th><th>W (mm)</th></tr></thead><tbody><tr><td>1.002</td><td>sewer</td><td>155.140</td><td>154.010</td><td>153.940</td><td>0</td><td>0</td></tr></tbody></table> Simulation Criteria for Storm <table><tbody><tr><td>Volumetric Runoff Coeff</td><td>0.750</td><td>Additional Flow - % of Total Flow</td><td>0.000</td></tr><tr><td>Areal Reduction Factor</td><td>1.000</td><td>MADD Factor * 10m³/ha Storage</td><td>2.000</td></tr><tr><td>Hot Start (mins)</td><td>0</td><td>Inlet Coeffiecient</td><td>0.800</td></tr><tr><td>Hot Start Level (mm)</td><td>0</td><td>Flow per Person per Day (l/per/day)</td><td>0.000</td></tr><tr><td>Manhole Headloss Coeff (Global)</td><td>0.500</td><td>Run Time (mins)</td><td>60</td></tr><tr><td>Foul Sewage per hectare (l/s)</td><td>0.000</td><td>Output Interval (mins)</td><td>1</td></tr><tr><td>Number of Input Hydrographs</td><td>0</td><td>Number of Storage Structures</td><td>1</td></tr><tr><td>Number of Online Controls</td><td>1</td><td>Number of Time/Area Diagrams</td><td>0</td></tr><tr><td>Number of Offline Controls</td><td>0</td><td>Number of Real Time Controls</td><td>0</td></tr></tbody></table> Synthetic Rainfall Details ©1982-2017 XP Solutions				PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)	1.000	o	100	RE	154.850	154.350	0.400	Open Manhole	100	1.001	o	100	SW A1	155.150	154.250	0.800	Open Manhole	450	2.000	o	100	RE	155.150	154.550	0.500	Open Manhole	100	2.001	o	100	SW A2	155.550	154.330	1.120	Open Manhole	450	3.000	o	150	TANK	155.300	154.150	1.000	Open Manhole	1200	1.002	o	150	SW A3	155.300	154.050	1.100	Open Manhole	450	PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)	1.000	10.000	100.0	SW A1	155.150	154.250	0.800	Open Manhole	450	1.001	15.000	100.0	SW A3	155.300	154.100	1.100	Open Manhole	450	2.000	22.000	100.0	SW A2	155.550	154.330	1.120	Open Manhole	450	2.001	13.000	56.5	SW A3	155.300	154.100	1.100	Open Manhole	450	3.000	3.000	60.0	SW A3	155.300	154.100	1.050	Open Manhole	450	1.002	4.000	100.0	sewer	155.140	154.010	0.980	Open Manhole	0	Outfall Pipe Number	Outfall Name	C. 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<u>Online Controls for Storm</u> <u>Orifice Manhole: SW A3, DS/PN: 1.002, Volume (m³): 0.5</u> Diameter (m) 0.060 Discharge Coefficient 0.600 Invert Level (m) 154.100		
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Block A - Whitworth Road
SW Network
V2 16.08.22
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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.256
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	19.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

									Water
	US/MH			Return Climate	First (X)	First (Y)	First (Z)	Overflow	Level
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)
1.000	RE	15 Winter		1	+0%	100/15 Summer			154.380
1.001	SW A1	15 Summer		1	+0%	30/15 Summer			154.280
2.000	RE	15 Winter		1	+0%	100/15 Summer			154.579
2.001	SW A2	15 Winter		1	+0%	100/15 Summer			154.364
3.000	TANK	15 Winter		1	+0%	30/15 Winter			154.176
1.002	SW A3	15 Winter		1	+0%	1/15 Summer			154.237

PN	US/MH Name	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Pipe	Status	Level Exceeded
		Depth (m)	Volume (m³)			Flow (l/s)		
1.000	RE	-0.070	0.000	0.20		1.1	OK	
1.001	SW A1	-0.070	0.000	0.19		1.1	OK	
2.000	RE	-0.071	0.000	0.19		1.1	OK	
2.001	SW A2	-0.066	0.000	0.24		1.9	OK	
3.000	TANK	-0.124	0.000	0.04		0.5	OK	
1.002	SW A3	0.037	0.000	0.20		2.5	SURCHARGED	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm								
Simulation Criteria								
Areal Reduction Factor		1.000	Additional Flow - % of Total Flow		0.000			
Hot Start (mins)		0	MADD Factor * 10m³/ha Storage		2.000			
Hot Start Level (mm)		0	Inlet Coeffiecient		0.800			
Manhole Headloss Coeff (Global)		0.500	Flow per Person per Day (l/per/day)		0.000			
Foul Sewage per hectare (l/s)		0.000						
Number of Input Hydrographs		0	Number of Storage Structures		1			
Number of Online Controls		1	Number of Time/Area Diagrams		0			
Number of Offline Controls		0	Number of Real Time Controls		0			
Synthetic Rainfall Details								
Rainfall Model		FSR	Ratio R		0.256			
Region England and Wales Cv (Summer)		0.750						
M5-60 (mm)		19.000	Cv (Winter)		0.840			
Margin for Flood Risk Warning (mm)		300.0						
Analysis Timestep		2.5 Second Increment (Extended)						
DTS Status		OFF						
DVD Status		ON						
Inertia Status		ON						
Profile(s)		Summer and Winter						
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440						
Return Period(s) (years)		1, 30, 100						
Climate Change (%)		0, 0, 40						
Water								
US/MH	Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water	
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Level
							Act.	(m)
1.000	RE 15	Winter	30	+0%	100/15	Summer		154.399
1.001	SW A1 15	Summer	30	+0%	30/15	Summer		154.354
2.000	RE 15	Winter	30	+0%	100/15	Summer		154.597
2.001	SW A2 15	Summer	30	+0%	100/15	Summer		154.424
3.000	TANK 30	Winter	30	+0%	30/15	Winter		154.316
1.002	SW A3 15	Summer	30	+0%	1/15	Summer		154.322
Surcharged Flooded						Pipe		
US/MH	Depth	Volume	Flow /	Overflow	Pipe	Level		
PN	Name	(m)	Cap.	(l/s)	Flow	Status	Exceeded	
1.000	RE	-0.051	0.000	0.48	2.7	OK		
1.001	SW A1	0.004	0.000	0.46	2.6	SURCHARGED		
2.000	RE	-0.053	0.000	0.46	2.7	OK		
2.001	SW A2	-0.006	0.000	0.64	4.9	OK		
3.000	TANK	0.016	0.000	0.15	2.1	SURCHARGED		
1.002	SW A3	0.122	0.000	0.26	3.3	SURCHARGED		
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<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm</u>									
Simulation Criteria									
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000			
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000			
Hot Start Level (mm)		0		Inlet Coeffiecient		0.800			
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000			
Foul Sewage per hectare (l/s)		0.000							
Number of Input Hydrographs		0		Number of Storage Structures		1			
Number of Online Controls		1		Number of Time/Area Diagrams		0			
Number of Offline Controls		0		Number of Real Time Controls		0			
Synthetic Rainfall Details									
Rainfall Model		FSR		Ratio R		0.256			
Region England and Wales Cv (Summer)		0.750							
M5-60 (mm)		19.000		Cv (Winter)		0.840			
Margin for Flood Risk Warning (mm)						300.0			
Analysis Timestep		2.5		Second Increment (Extended)					
DTS Status						OFF			
DVD Status						ON			
Inertia Status						ON			
Profile(s)						Summer and Winter			
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440							
Return Period(s) (years)		1, 30, 100							
Climate Change (%)		0, 0, 40							
Water									
US/MH	Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level		
PN Name Storm Period Change Surge Flood Overflow Act.	(m)								
1.000 RE 30 Winter 100 +40% 100/15 Summer									154.582
1.001 SW A1 30 Winter 100 +40% 30/15 Summer									154.571
2.000 RE 15 Winter 100 +40% 100/15 Summer									154.791
2.001 SW A2 15 Winter 100 +40% 100/15 Summer									154.684
3.000 TANK 60 Winter 100 +40% 30/15 Winter									154.549
1.002 SW A3 30 Winter 100 +40% 1/15 Summer									154.552
Surcharged Flooded									
US/MH	Depth	Volume	Flow /	Overflow	Pipe				
PN Name (m) (m³) Cap. (l/s) (l/s) Status Level Exceeded									
1.000 RE 0.132 0.000 0.63 3.6 FLOOD RISK									
1.001 SW A1 0.221 0.000 0.59 3.4 SURCHARGED									
2.000 RE 0.141 0.000 0.74 4.3 SURCHARGED									
2.001 SW A2 0.254 0.000 1.04 7.9 SURCHARGED									
3.000 TANK 0.249 0.000 0.21 3.0 SURCHARGED									
1.002 SW A3 0.352 0.000 0.39 4.9 SURCHARGED									
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		Page 1
	Block C - Whitworth Road SW Network V2 16.08.22	
Date 16/08/2022 File Whitworth Raod Block C ...	Designed by paulg Checked by	
Innovyze	Network 2017.1.2	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	19.000	Add Flow / Climate Change (%)	0
Ratio R	0.257	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.009	4-8	0.001

Total Area Contributing (ha) = 0.010

Total Pipe Volume (m³) = 0.212

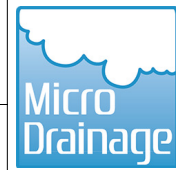
Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
20.000	8.000	0.100	80.0	0.005	4.00	0.0	0.600	o	100	Pipe/Conduit	
20.001	2.000	0.025	80.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
20.002	4.000	0.080	50.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	
21.000	9.000	0.205	43.9	0.005	4.00	0.0	0.600	o	100	Pipe/Conduit	
20.003	4.000	1.000	4.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
20.000	50.00	4.15	156.000	0.005	0.0	0.0	0.0	0.86	6.8	0.7
20.001	50.00	4.19	155.900	0.005	0.0	0.0	0.0	0.86	6.8	0.7
20.002	50.00	4.25	155.875	0.005	0.0	0.0	0.0	1.09	8.6	0.7
21.000	50.00	4.13	156.000	0.005	0.0	0.0	0.0	1.17	9.2	0.7
20.003	50.00	4.27	155.795	0.010	0.0	0.0	0.0	3.89	30.6	1.4


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Block C - Whitworth Road
SW Network
V2 16.08.22
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Date 16/08/2022

Designed by paulg

File Whitworth Raod Block C ...

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Network 2017.1.2

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.257
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	19.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

PN	US/MH		Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water
	Name									Level (m)
20.000	RE	15	Winter	1	+0%					156.021
20.001	SW	C1	15 Summer	1	+0%					155.925
20.002	SW	C2	15 Summer	1	+0%					155.895
21.000	RE	15	Winter	1	+0%					156.018
20.003	CW	C3	15 Winter	1	+0%					155.809

PN	US/MH Name	Surcharged		Flooded	Pipe		
		Depth (m)	Volume (m ³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)	Level Status Exceeded
20.000	RE	-0.079	0.000	0.10		0.6	OK
20.001	SW C1	-0.075	0.000	0.14		0.6	OK
20.002	SW C2	-0.080	0.000	0.08		0.6	OK
21.000	RE	-0.082	0.000	0.07		0.6	OK
20.003	CW C3	-0.086	0.000	0.05		1.2	OK

		Block C - Whitworth Road SW Network V2 16.08.22		Page 4	
Date 16/08/2022		Designed by paulg			
File Whitworth Raod Block C ...		Checked by			
Innovyze		Network 2017.1.2			
30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm					
Simulation Criteria					
Areal Reduction Factor		1.000	Additional Flow - % of Total Flow		0.000
Hot Start (mins)		0	MADD Factor * 10m³/ha Storage		2.000
Hot Start Level (mm)		0	Inlet Coeffiecient		0.800
Manhole Headloss Coeff (Global)		0.500	Flow per Person per Day (l/per/day)		0.000
Foul Sewage per hectare (l/s)		0.000			
Number of Input Hydrographs		0	Number of Storage Structures		0
Number of Online Controls		0	Number of Time/Area Diagrams		0
Number of Offline Controls		0	Number of Real Time Controls		0
Synthetic Rainfall Details					
Rainfall Model		FSR	Ratio R		0.257
Region England and Wales Cv (Summer)		M5-60 (mm)		0.750	
		19.000	Cv (Winter)		0.840
Margin for Flood Risk Warning (mm)		300.0			
Analysis Timestep		2.5 Second Increment (Extended)			
DTS Status		OFF			
DVD Status		ON			
Inertia Status		ON			
Profile(s)		Summer and Winter			
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440			
Return Period(s) (years)		1, 30, 100			
Climate Change (%)		0, 0, 40			
Water					
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) First (Y) First (Z) Overflow Level Surcharge Flood Overflow Act. (m)
20.000	RE 15	Winter	30	+0%	156.033
20.001	SW C1 15	Summer	30	+0%	155.940
20.002	SW C2 15	Summer	30	+0%	155.906
21.000	RE 15	Winter	30	+0%	156.028
20.003	CW C3 15	Summer	30	+0%	155.818
Surcharged Flooded					
PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Cap.	Pipe Overflow Flow Level (l/s) Status Exceeded
20.000	RE	-0.067	0.000	0.24	1.5 OK
20.001	SW C1	-0.060	0.000	0.34	1.5 OK
20.002	SW C2	-0.069	0.000	0.21	1.5 OK
21.000	RE	-0.072	0.000	0.18	1.5 OK
20.003	CW C3	-0.077	0.000	0.11	3.0 OK
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		Page 1
	Block B - Whitworth Road SW Network V2 16.08.22	
Date 16/08/2022 File Whitworth Raod Block B ...	Designed by paulg Checked by	
Innovyze	Network 2017.1.2	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	19.000	Add Flow / Climate Change (%)	0
Ratio R	0.258	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.008	4-8	0.001

Total Area Contributing (ha) = 0.009

Total Pipe Volume (m³) = 0.259

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		Page 2
Block B - Whitworth Road SW Network V2 16.08.22		
Date 16/08/2022 File Whitworth Raod Block B ...	Designed by paulg Checked by	
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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
10.000	o	100	RE	156.100	155.450	0.550	Open Manhole	100
10.001	o	100	SW B1	156.100	155.288	0.713	Open Manhole	450
10.002	o	100	SW B2	156.450	155.163	1.187	Open Manhole	450
10.003	o	100	SW B3	156.200	155.100	1.000	Open Manhole	450

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
10.000	13.000	80.0	SW B1	156.100	155.288	0.713	Open Manhole	450
10.001	10.000	80.0	SW B2	156.450	155.163	1.187	Open Manhole	450
10.002	5.000	80.0	SW B3	156.200	155.100	1.000	Open Manhole	450
10.003	5.000	62.5	EX SEWER	156.170	155.020	1.050	Open Manhole	0

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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10.003	EX SEWER	156.170	155.020	153.600	0	0
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Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

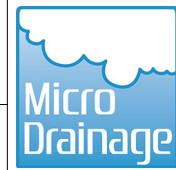
Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.000	Storm Duration (mins)	30
Ratio R	0.258		

		Block B - Whitworth Road SW Network V2 16.08.22		Page 3	
Date 16/08/2022		Designed by paulg			
File Whitworth Raod Block B ...		Checked by			
Innovyze		Network 2017.1.2			
<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for Storm</u>					
Simulation Criteria					
Areal Reduction Factor 1.000		Additional Flow - % of Total Flow 0.000			
Hot Start (mins) 0		MADD Factor * 10m³/ha Storage 2.000			
Hot Start Level (mm) 0		Inlet Coeffiecient 0.800			
Manhole Headloss Coeff (Global) 0.500		Flow per Person per Day (l/per/day) 0.000			
Foul Sewage per hectare (l/s) 0.000					
Number of Input Hydrographs 0		Number of Storage Structures 0			
Number of Online Controls 0		Number of Time/Area Diagrams 0			
Number of Offline Controls 0		Number of Real Time Controls 0			
Synthetic Rainfall Details					
Rainfall Model		FSR		Ratio R 0.258	
Region England and Wales Cv (Summer) 0.750					
M5-60 (mm)		19.000 Cv (Winter) 0.840			
Margin for Flood Risk Warning (mm)				300.0	
Analysis Timestep 2.5 Second Increment (Extended)					
DTS Status				OFF	
DVD Status				ON	
Inertia Status				ON	
Profile(s)				Summer and Winter	
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440			
Return Period(s) (years)				1, 30, 100	
Climate Change (%)				0, 0, 40	
Water					
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) First (Y) First (Z) Overflow Level
					Surcharge Flood Overflow Act. (m)
10.000	RE	15 Winter	1	+0%	155.472
10.001	SW B1	15 Winter	1	+0%	155.314
10.002	SW B2	15 Winter	1	+0%	155.190
10.003	SW B3	15 Winter	1	+0%	155.126
Surcharged Flooded					
PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Cap.	Pipe Overflow Flow Level
					(l/s) (l/s) Status Exceeded
10.000	RE	-0.078	0.000	0.11	0.7 OK
10.001	SW B1	-0.073	0.000	0.16	1.0 OK
10.002	SW B2	-0.072	0.000	0.17	1.0 OK
10.003	SW B3	-0.074	0.000	0.15	1.0 OK
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Block B - Whitworth Road
SW Network
V2 16.08.22
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Date	16/08/2022
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Network 2017.1.2

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.258
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	19.000	Cv (Winter)	0.840

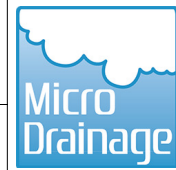
Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

									Water	
	US/MH			Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.		(m)
10.000	RE 15	Winter	30	+0%						155.486
10.001	SW B1 15	Summer	30	+0%						155.333
10.002	SW B2 15	Summer	30	+0%						155.210
10.003	SW B3 15	Summer	30	+0%						155.144

PN	US/MH Name	Surcharged	Flooded	Pipe			Level Exceeded
		Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)	
10.000	RE	-0.064	0.000	0.28		1.8	OK
10.001	SW B1	-0.054	0.000	0.43		2.7	OK
10.002	SW B2	-0.052	0.000	0.46		2.7	OK
10.003	SW B3	-0.056	0.000	0.40		2.7	OK

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Block B - Whitworth Road
SW Network
V2 16.08.22
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Date 16/08/2022

Designed by paulg

File Whitworth Raod Block B ...

Checked by

Innovyze

Network 2017.1.2

100 year Return Period Summary of Critical Results by Maximum Level (Rank
1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.258
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	19.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

									Water	
	US/MH			Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.		(m)
10.000	RE 15	Winter	100	+40%						155.500
10.001	SW B1 15	Summer	100	+40%						155.354
10.002	SW B2 15	Summer	100	+40%						155.233
10.003	SW B3 15	Summer	100	+40%						155.164

PN	US/MH Name	Surcharged	Flooded	Pipe			Level Exceeded
		Depth	Volume	Flow /	Overflow	Flow	
		(m)	(m³)	Cap.	(l/s)	(l/s)	
10.000	RE	-0.050	0.000	0.51		3.2	OK
10.001	SW B1	-0.034	0.000	0.77		4.9	OK
10.002	SW B2	-0.030	0.000	0.82		4.9	OK
10.003	SW B3	-0.036	0.000	0.72		4.9	OK

Appendix C – UU Sewer Connection Approval

S106 Part 1 'Application to connect to a public sewer' Approval Notice



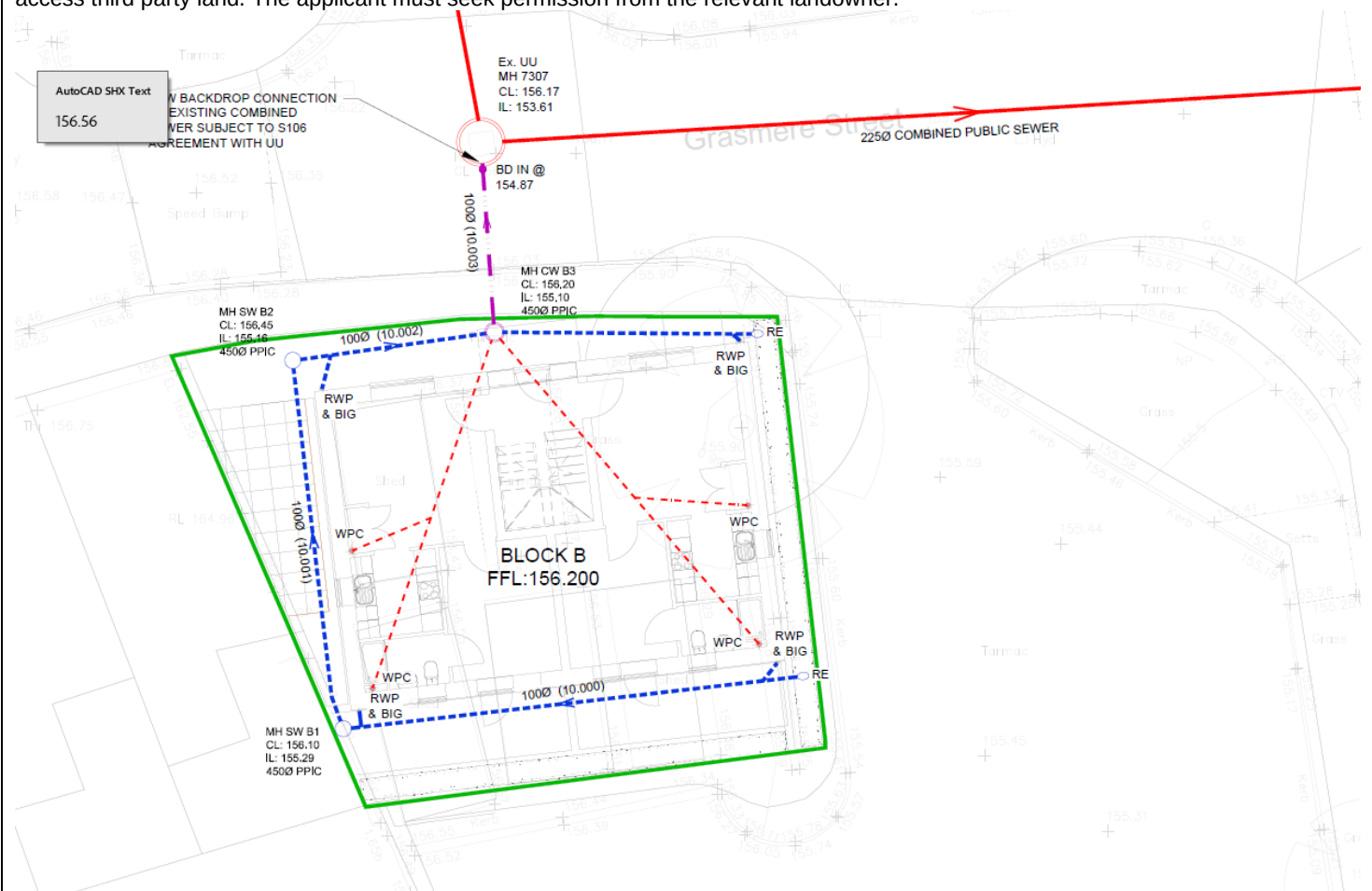
United Utilities Reference Number:		03725143				
Applicant details						
Applicant name	Paul Graveney					
Applicant address (including postcode)	Paul Graveney Consulting Ltd 108 Ack Lane West Cheadle Hulme Cheshire SK8 7ES					
Applicant email	paul@pgcl.co.uk					
Site details: The site / property which is proposed for connection to the public sewer						
Site address (including postcode)	Land off Derwent Street, Rochdale, OL12 0RP – BLOCK A					
APPROVED Your application for connection to the public sewer has been approved, to be made via a new connection:						
To a private drain	☒	You may appoint your contractor and advise your appointed building control body (who should inspect the work). United Utilities should be advised when this work is complete.				
Direct to the public sewer	☐	<u>Further action required.</u> You may now appoint an appropriately qualified contractor. Your appointed contractor is responsible for obtaining authorisation to work on a public sewer. (The S106 Part 2 application form ' Request for permission to work on a public sewer ' is available on our website; Sewer connections - United Utilities).				
Mode of connection approved	Other - please see comments box					
Sewer connection type	Foul	☐	Surface water	☐	Combined	☒
This approval is valid for 12 months from the date below. This approval does not grant access to third party land, permission should be sought if required between applicant and land owner. If the new connection renders access unsafe or is otherwise detrimental to the manhole or sewer, a new/upgraded manhole will be requested.						
Comments						
Approval granted for a 150mm combined connection via an existing private drain which communicates to the unchartered 300mm combined sewer to the west of the site. Surface water flows restricted to 5 l/s. For low-lying sites, (where the ground level of the site or the level of a basement is below the ground level at the point where the drainage connects to the public sewer), care should be taken to ensure that the property is not at increased risk of flooding. If these circumstances exist it could affect the detailed design of your site and result in the need to incorporate appropriate mitigating measures in your drainage scheme. Please note, if you are proposing to connect to an existing, unchartered drain or sewer then it is the developer's responsibility to confirm that it communicates with the Public Sewer Connections may be made to private lateral drains or to existing neighbouring drain. A part 1 approval does not give permission to access third party land. The applicant must seek permission from the relevant landowner.						

S106 Part 1 'Application to connect to a public sewer' Approval Notice



United Utilities Reference Number:		03725424					
Applicant details							
Applicant name		Paul Graveney					
Applicant address (including postcode)		Paul Graveney Consulting Ltd 108 Ack Lane West Cheadle Hulme Cheshire SK8 7ES					
Applicant email		paul@pgcl.co.uk					
Site details: The site / property which is proposed for connection to the public sewer							
Site address (including postcode)		Land off Grasmere Street, Rochdale, OL12 0RP – BLOCK B					
APPROVED Your application for connection to the public sewer has been approved, to be made via a new connection:							
To a private drain		☐	You may appoint your contractor and advise your appointed building control body (who should inspect the work). United Utilities should be advised when this work is complete.				
Direct to the public sewer		☒	<u>Further action required.</u> You may now appoint an appropriately qualified contractor. Your appointed contractor is responsible for obtaining authorisation to work on a public sewer. (The S106 Part 2 application form 'Request for permission to work on a public sewer' is available on our website; Sewer connections - United Utilities).				
Mode of connection approved		Connection into existing manhole					
Sewer connection type		Foul	☐	Surface water	☐	Combined	☒
This approval is valid for 12 months from the date below. This approval does not grant access to third party land, permission should be sought if required between applicant and land owner. If the new connection renders access unsafe or is otherwise detrimental to the manhole or sewer, a new/upgraded manhole will be requested.							
Comments							
Approval granted for a 150mm combined connection via a new connection into the existing manhole (UUMH7307) on the 225mm combined sewer located within Grasmere Street. Any connection to an existing manhole should be made soffit to soffit, with a swept bend in the direction of flow. The connection must not be made in the landing area. The exact condition, location and depth of the existing manhole and surrounding services should be established as early as possible to avoid site delays. If the existing manhole is in poor condition but otherwise the connection would be acceptable, the applicant should be aware they may have to rebuild/renew the manhole if it deteriorates as a result of your contractor working on or near it. For low-lying sites, (where the ground level of the site or the level of a basement is below the ground level at the point where the drainage connects to the public sewer), care should be taken to ensure that the property is not at increased risk of flooding. If these circumstances exist it could affect the detailed design of your site and result in the need to incorporate appropriate mitigating measures in your drainage scheme. Please note, if you are proposing to connect to an existing, unchartered drain or sewer then it is the developer's responsibility to confirm that it communicates with the Public Sewer							

Connections may be made to private lateral drains or to existing neighbouring drain. A part 1 approval does not give permission to access third party land. The applicant must seek permission from the relevant landowner.

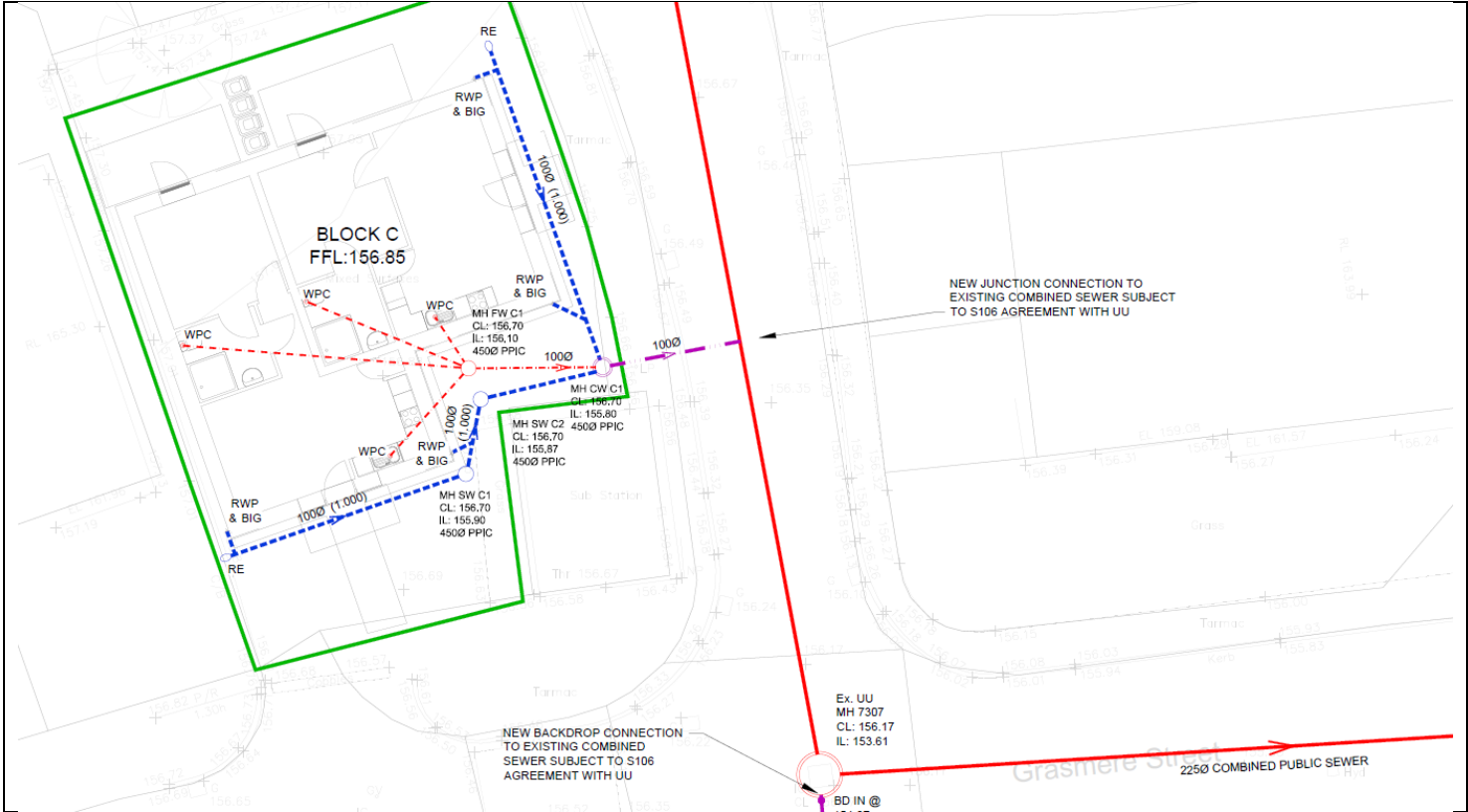


Developer Services Inspector	Shelley McNamara
Contact number	07825 358095
Date	03/05/2024

S106 Part 1 'Application to connect to a public sewer' Approval Notice



United Utilities Reference Number:		03725693				
Applicant details						
Applicant name	Paul Graveney					
Applicant address (including postcode)	Paul Graveney Consulting Ltd 108 Ack Lane West Cheadle Hulme Cheshire SK8 7ES					
Applicant email	paul@pgcl.co.uk					
Site details: The site / property which is proposed for connection to the public sewer						
Site address (including postcode)	Land off Noon Sun Street, Rochdale, OL12 0RP – BLOCK C					
APPROVED Your application for connection to the public sewer has been approved, to be made via a new connection:						
To a private drain	☐	You may appoint your contractor and advise your appointed building control body (who should inspect the work). United Utilities should be advised when this work is complete.				
Direct to the public sewer	☒	Further action required. You may now appoint an appropriately qualified contractor. Your appointed contractor is responsible for obtaining authorisation to work on a public sewer. (The S106 Part 2 application form 'Request for permission to work on a public sewer' is available on our website; Sewer connections - United Utilities).				
Mode of connection approved	Junction					
Sewer connection type	Foul	☐	Surface water	☐	Combined	☒
This approval is valid for 12 months from the date below. This approval does not grant access to third party land, permission should be sought if required between applicant and land owner. If the new connection renders access unsafe or is otherwise detrimental to the manhole or sewer, a new/upgraded manhole will be requested.						
Comments						
Approval granted for a 100mm combined connection via a preformed 'Y' type junction on the 225mm combined sewer located within Noon Sun Street. The preformed junction should be a 'Y' type laid in the direction of flow. 'T' type junctions are not acceptable. Please see details included in the Sewer Connection Pack. For low-lying sites, (where the ground level of the site or the level of a basement is below the ground level at the point where the drainage connects to the public sewer), care should be taken to ensure that the property is not at increased risk of flooding. If these circumstances exist it could affect the detailed design of your site and result in the need to incorporate appropriate mitigating measures in your drainage scheme. Please note, if you are proposing to connect to an existing, unchartered drain or sewer then it is the developer's responsibility to confirm that it communicates with the Public Sewer Connections may be made to private lateral drains or to existing neighbouring drain. A part 1 approval does not give permission to access third party land. The applicant must seek permission from the relevant landowner.						



Developer Services Inspector	Shelley McNamara
Contact number	07825 358095
Date	03/05/2024