101 QUEENS ROAD
CHEETHAM HILL
M8 8UT

Drainage Strategy

DOCUMENT No:
25072-DSR-001-A

Prepared	Date		Checked	Date
RR	03-12-25		MM	03-12-25

Revisions	Comment	Date
A	Initial Issue	03-12-25

The report is based on the information that has been acquired and / or made available to Advant Engineers via the various searches and consultations undertaken as part of the Drainage Strategy. In some cases, anecdotal information has been relied upon, where documented evidence has been lacking.

The conclusions drawn in the above report are considered correct although any subsequent additional information may allow refinement of the conclusions.

All work carried out in preparing this report has utilised and is based upon Advant Engineers current professional knowledge and understanding of current UK standards and codes, technology and legislation. Changes in this legislation and guidance may occur at any time in the future and cause any conclusions to become inappropriate or incorrect.

This report has been prepared using information contained in maps and documents prepared by others. Advant Engineers can accept no responsibility for the accuracy of such information.

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1. Introduction

1.1. Advant Engineers Ltd has been commissioned by Createit Studios, to undertake a Drainage Strategy in connection with the proposed development at 101 Queens Road in Cheetham Hill. The proposal of a new 13-nedroomed apartment block. (See Appendix A for layout).

1.2. This report should be read in conjunction with drawing 25072-101 and associated architectural and engineering drawings.

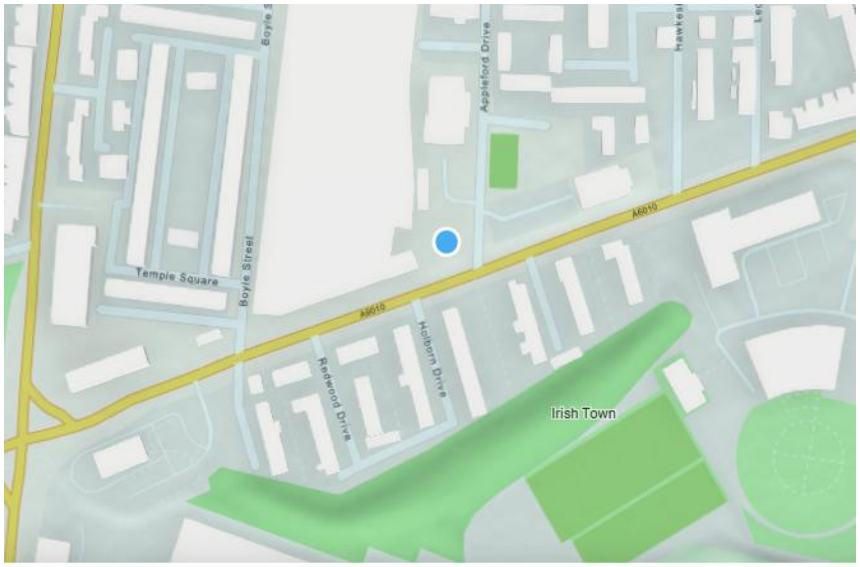
2. Existing Site

2.1. The site currently is a greenfield piece of land with no existing development and located on the junction of Queens Road and Appleford Drive of which the site is accessed, the overall site area is 777m² (0.077ha).

2.2. This site is in Flood Zone 1 and can be located at the following co-ordinates 384660E, 400502N and the nearest postcode is M8 8UT as shown on the below extract.



2.3. At the time of writing the report there had been no site investigation undertaken, we have therefore referred to the BGS website which describes the site as being.



Geology

Bedrock geology

Manchester Marls Formation - Mudstone. Sedimentary bedrock formed between 272.3 and 252.2 million years ago during the Permian period.

More Information

Superficial deposits

Till, Devensian - Diamicton. Sedimentary superficial deposit formed between 116 and 11.8 thousand years ago during the Quaternary period.

More Information

2.4. To the east and south of the site are existing public combined sewer. (See Appendix B for sewer records).

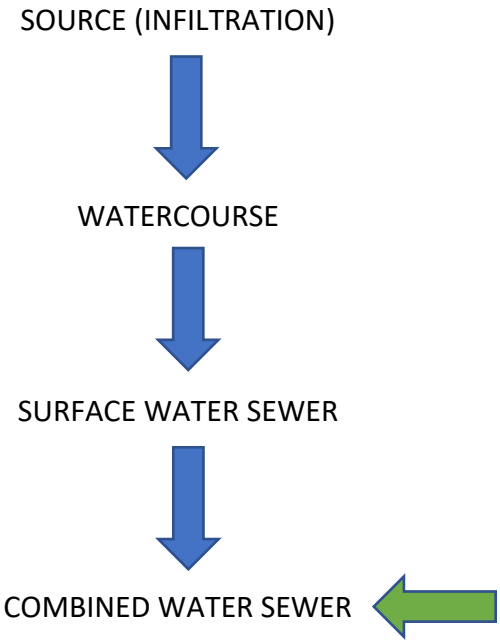
3. Proposed Development

3.1. The proposal consists of a three-storey 13-bedroomed apartment building with provision for on-site parking. (See Appendix A for proposed layout plans).

4. Drainage Strategy

4.1. Surface Water

4.2. The surface water drainage should be designed in accordance with the SUDS hierarchy providing evidence to each step before moving on to the next one, the SUDS hierarchy is as follows:



4.3. Based on the expected ground conditions, proximity to the highway and the likely presence of made ground then the use of infiltration has been discounted.

4.4. The next level on the hierarchy is discharge to a watercourse, as there are no watercourses in the vicinity of the site then this has been discounted as an option.

4.5. Next would be to discharge to a surface water sewer, as there are none in the vicinity then we are proposing to connect into the existing public combined sewer under Appleford Road at a controlled rate with attenuation provided on site.

4.6. Treating the site as greenfield then we should restrict the discharge from site to greenfield rates wherever practically possible, which for this site would be as follows: (See Appendix C for calc).

QBAR = 0.5 l/s
1 in 1 Year = 0.4 l/s
1 in 30 Year = 0.9 l/s
1 in 100 Year =1.1 l/s

4.7. It is considered that the above QBAR rate is too low to be practically achievable as the orifice required would be such as size that it would be at risk of frequent blockages, therefore it is proposed to restrict the flow to **1.0 l/s** which is the equivalent 1 in 100-year event.

4.8. The site is therefore proposed to discharge to the public surface water sewer at a rate of 1.0 l/s with attenuation provided on site in the sub-base of the permeable paving sized to accommodate the 1 in 100 year + 40% climate change rainfall event. (See Appendix D for the drainage layout and Appendix E for drainage calcs.)

4.9. <u>Foul Drainage</u>

The foul drainage is proposed to connect into the public combined sewer located under Appleford Road.

5. SUDS Elements

5.1. All new surface water drainage systems should implement SUDS features where reasonably possible; these features are incorporated to offer benefits in Water Quality, Water Quantity, Amenity and Biodiversity. Below we have considered each SUDS element and determined it use within this development

COMPONENT	SUITABILITY	REASON
Green Roof	X	Roof is a pitched roof and therefore does not suit a green roof
Blue Roof	X	Roof is a pitched roof and therefore does not suit a blue roof
Infiltration Systems	X	Infiltration is not suitable on this site.
Proprietary Treatment Systems	✓	Flow control device to be utilised.
Filter Strips	X	Infiltration is not suitable on this site.
Filter Drains	X	Infiltration is not suitable on this site.
Swales	X	Infiltration is not suitable on this site nor is there sufficient land.
Bioretention Systems	X	Insufficient land available
Trees	X	Insufficient land available
Pervious Pavements	✓	Permeable paving on all parking bays are proposed
Attenuation Storage Tanks	X	Not necessary, the attenuation is provided within the permeable paving.
Detention Basins	X	Insufficient land available.
Ponds and Wetlands	X	Insufficient land available.

6. SUDS Maintenance

6.1. Upon selection of the SUDS elements to be incorporated into the surface water drainage scheme then a maintenance plan needs to be adopted along with responsibility of the maintenance.

6.2. The responsibility can general be with 3 different bodies, it could be 'Private' which means the responsibility remains with the homeowner, it could be 'Public" which means it will be adopted and be the responsibility of the local authority or water authority, or it could be 'Management Company' which means a specialist company could be employed or created for the purpose of maintaining those elements, for the management company there would be an annual charge that the home owners would be expected to pay each year.

6.3. With each element the relevant responsible person(s) / company will need to undertake different tasks on varying frequencies to ensure the peak performance of the SUDS system and remove the risk of flooding or failure, the maintenance regime and regularity for each element are outlined in the tables below.

ELEMENT	RESPONSIBILITY		
	PUBLIC	PRIVATE	MANAGEMENT COMPANY
PERMEABLE PAVING		✓	✓
FLOW CONTROL		✓	✓

6.4. PERMEABLE PAVING

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
Occasional maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphospate applied directly into the weeds by an applicator rather than spraying	As required – once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three-monthly, 48 h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

6.5. Flow Control Device Maintenance

An example of operation and maintenance requirements for a proprietary treatment system		
Maintenance schedule	**Required action**	**Typical frequency**
Routine maintenance	Remove litter and debris and inspect for sediment, oil and grease accumulation	Six monthly
	Change the filter media	As recommended by manufacturer
	Remove sediment, oil, grease and floatables	As necessary – indicated by system inspections or immediately following significant spill
Remedial actions	Replace malfunctioning parts or structures	As required
Monitoring	Inspect for evidence of poor operation	Six monthly
	Inspect filter media and establish appropriate replacement frequencies	Six monthly
	Inspect sediment accumulation rates and establish appropriate removal frequencies	Monthly during first half year of operation, then every six months

7. Flood Exceedance Event

7.1. Although the drainage has been designed to accommodate the 1 in 100 year + 40%cc rainfall event consideration has to be given to the exceedance event to the drainage, this is the event where the surface water system is pushed to such a point that it is forced to flood so that the resultant flow paths can be identified on a plan. (See Appendix F for plan).

8. Conclusion

8.1. Advant Engineers Ltd has been commissioned by Createit Studios, to undertake a Drainage Strategy in connection with the proposed development at Queens Road in Cheetham Hill Manchester. The proposal consists of a three-storey residential building with provision for on-site parking.

8.2. The site is a greenfield site and is 777m² (0.27ha).

8.3. It is proposed to discharge the surface water to the combined public sewer.

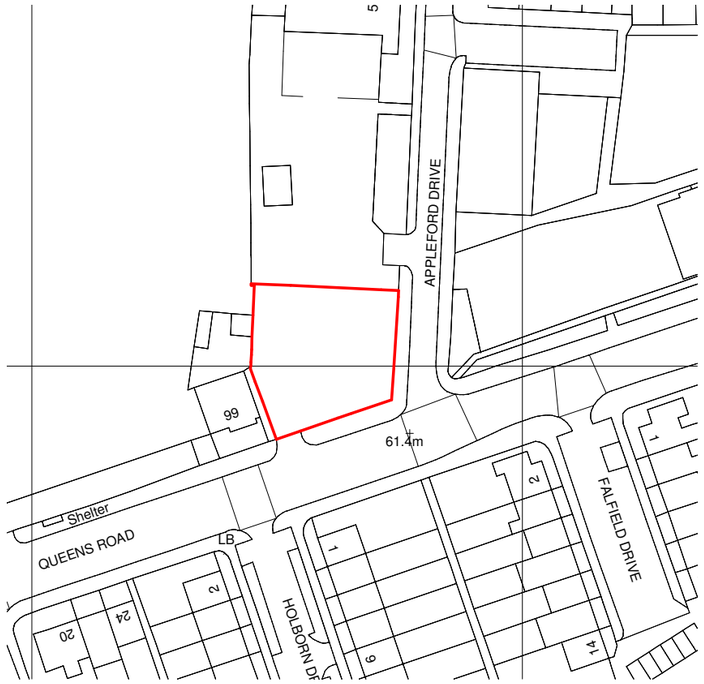
8.4. The site is therefore proposed to discharge to the public combined sewer at a rate of 1.0 l/s with attenuation provided on site in the sub-base of the permeable paving sized to accommodate the 1 in 100 year + 40% climate change rainfall event.

8.5. Foul drainage is to be discharged to the public combined sewer located under Appleford Road.

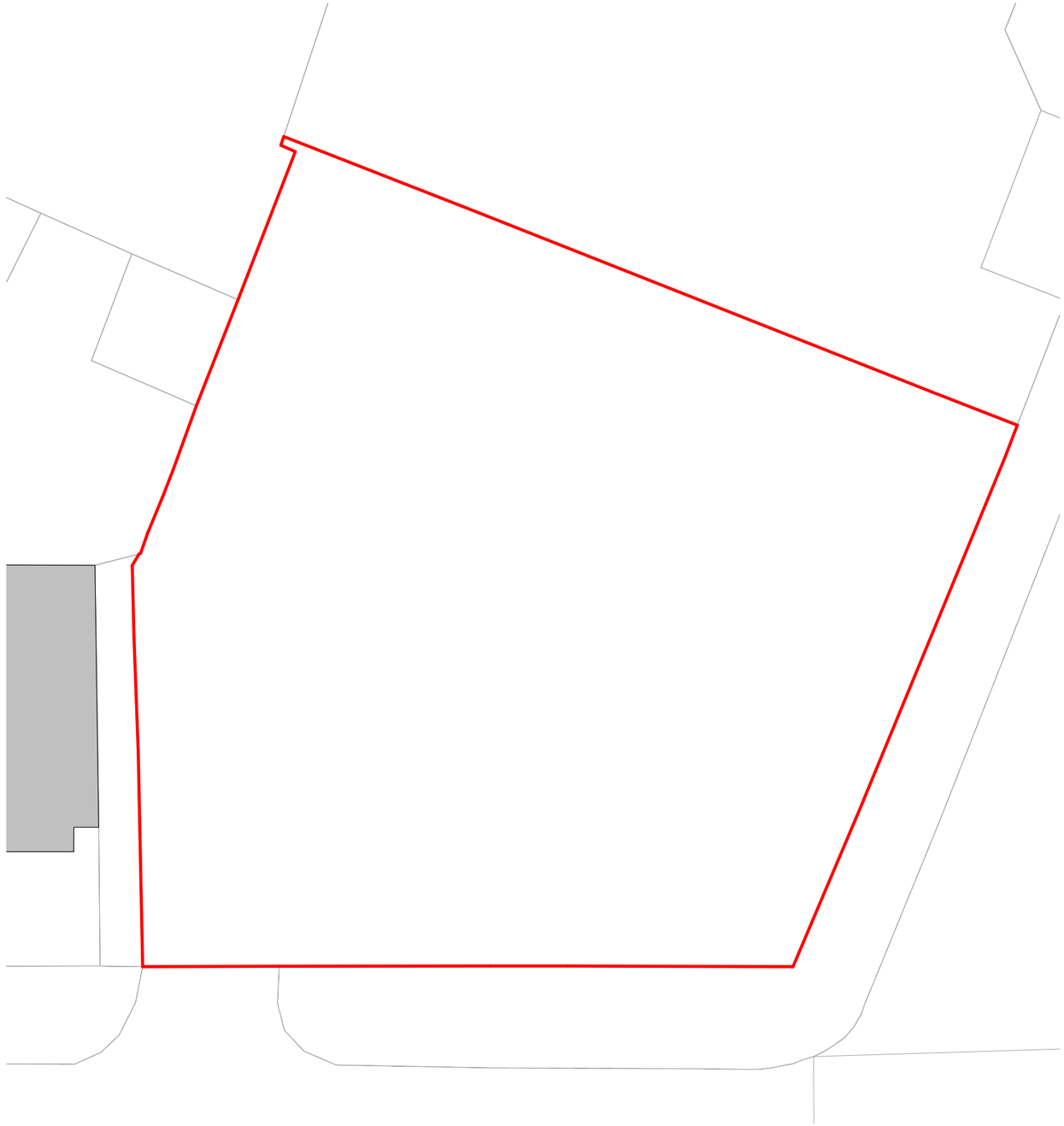
8.6. All public surface water/foul water drainage should be designed in accordance with the Water Authority and Sewers for Adoption.

8.7. All private surface water and surface water/foul water drainage should be designed in accordance with the current Building Regulations Part H.

APPENDIX A
Proposed Layout



1 Location Plan
1 : 1250



2 Existing Site Plan
1 : 200

0 2 4 6 8m
1:200

General Notes

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To be read in conjunction with all other Consultant's drawings.

The Architect to be immediately notified of any discrepancies.

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LEGEND

Site Boundary

No.	Date	Dwn	Chk	App	Revision or reason for issue
P1	06/04/23	AK	SH		Initial Issue

Client
Mohammed Aljohani

createitstudios
... leave an impression

Create It Studios (NW) Ltd
Universal Square
Devonshire Street North
Manchester
M12 6JH

info@createitstudios.co.uk

Project Title
101 Queens Road, Cheetham Hill, M8 8UT

Scale / North Point
As indicated

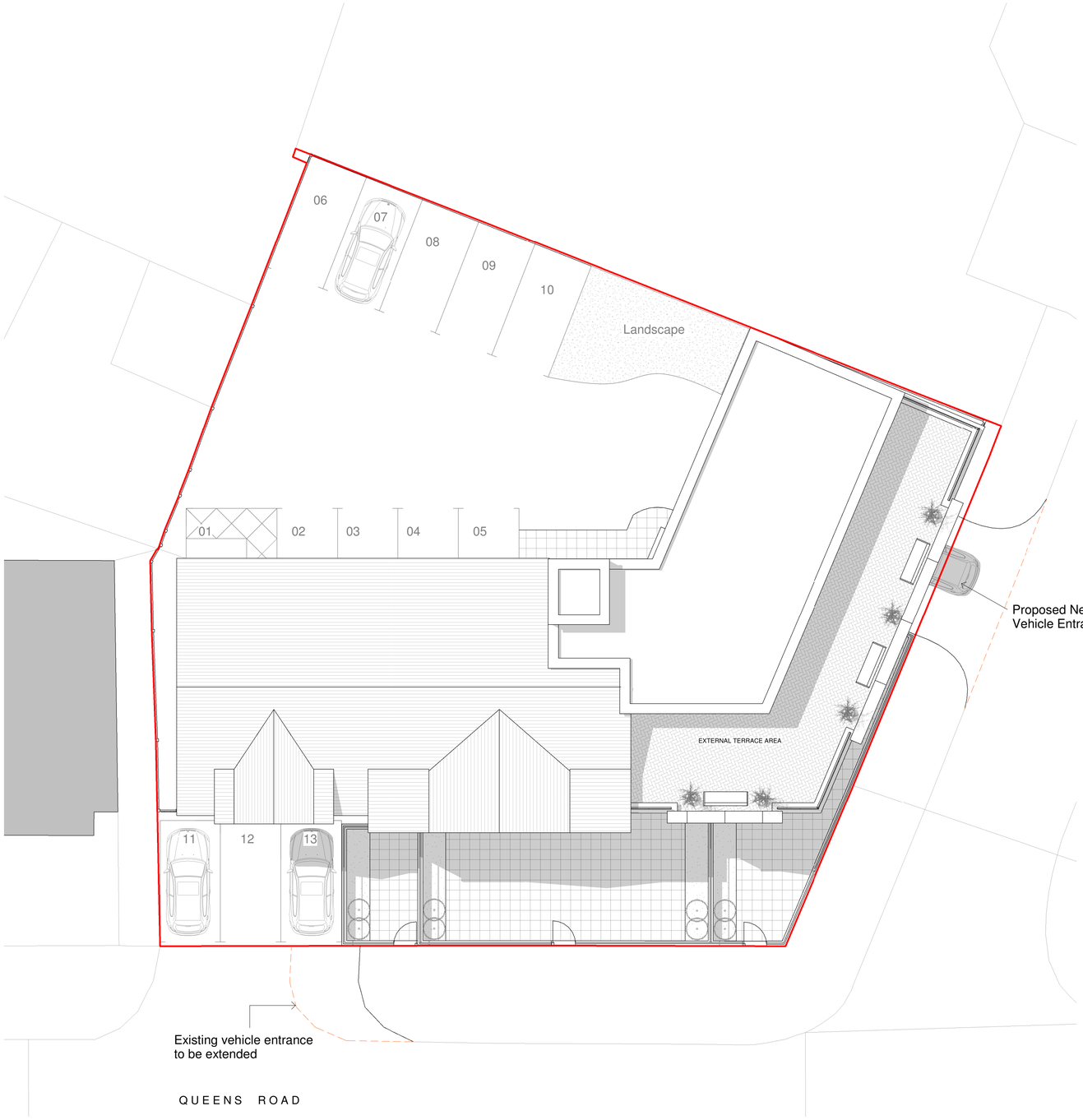
Drawing Title
Location Plan & Existing Site Plan

Drawing Number
A1480(02)AP001

Revision
P1

Drawing Status
Preliminary

General Notes
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1 Prposed Site Plan
1 : 100



2 Proposed Front 3D View



3 Proposed Rear 3D View

Area Schedule (GIA)				
Level	Name	Type	Area (sqm)	Area (sqft)
L00 Ground Floor	Apartment 01	1_Bedroom	52 m²	560 ft²
L00 Ground Floor	Apartment 02	2_Bedroom	68 m²	729 ft²
L00 Ground Floor	Apartment 03	1_Bedroom	41 m²	443 ft²
L01 First Floor	Apartment 04	2_Bedroom	63 m²	680 ft²
L01 First Floor	Apartment 05	1_Bedroom	41 m²	442 ft²
L01 First Floor	Apartment 06	1_Bedroom	47 m²	510 ft²
L01 First Floor	Apartment 07	1_Bedroom	48 m²	511 ft²
L01 First Floor	Apartment 08	2_Bedroom	63 m²	682 ft²
L02 Second Floor	Apartment 09	1_Bedroom	52 m²	560 ft²
L02 Second Floor	Apartment 10	3_Bedroom	75 m²	805 ft²
L02 Second Floor	Apartment 11	1_Bedroom	58 m²	620 ft²
L02 Second Floor	Apartment 12	3_Bedroom	80 m²	860 ft²
L03 Third Floor	Apartment 13	1_Bedroom	55 m²	591 ft²
Grand total: 13			743 m²	7,994 ft²

No.8	Apartment	1-Bed
No.3	Apartment	2-Bed
No.2	Apartment	3-Bed

No.	Date	Dwn	Chk	App	Revision or reason for issue
P4	09/06/25	AK		SH	Amended Drawings
P3	02/06/25	AK		SH	Amended Drawings
P2	21/04/23	AK		SH	Amended Drawings
P1	06/04/23	AK		SH	Initial Issue

Client
Mohammed Aljohani

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Create It Studios (NW) Ltd
Universal Square
Devonshire Street North
Manchester
M12 6JH
info@createitstudios.co.uk

Project Title
101 Queens Road, Cheetham Hill, M8 8UT

Scale / North Point
1 : 100
0 1 2 3 4m
1:100

Drawing Title
Proposed Site Plan & 3D Views

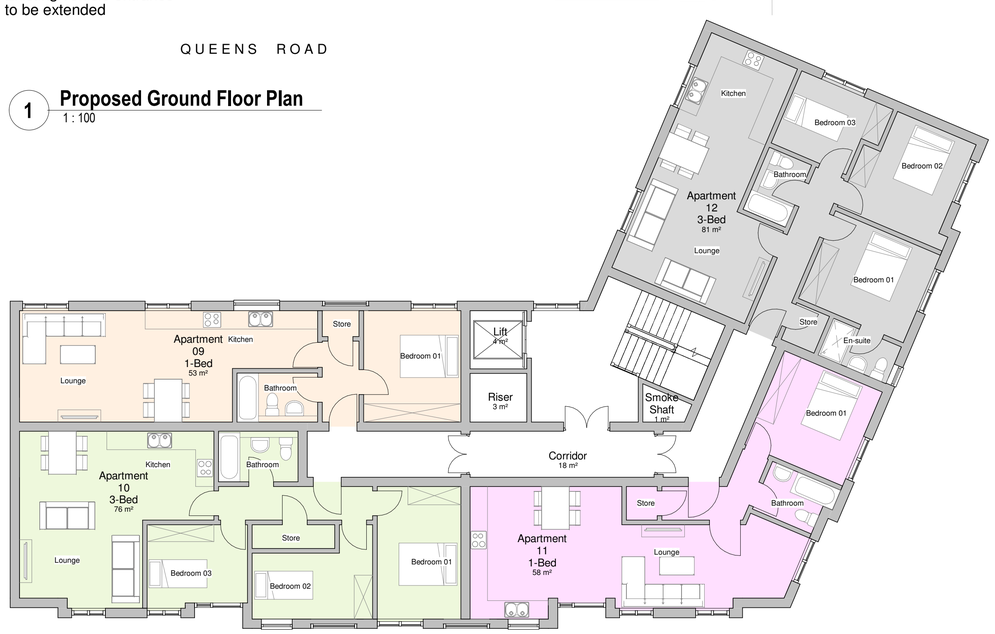
Drawing Number A1480(02)AP002
Revision P4
Drawing Status Preliminary



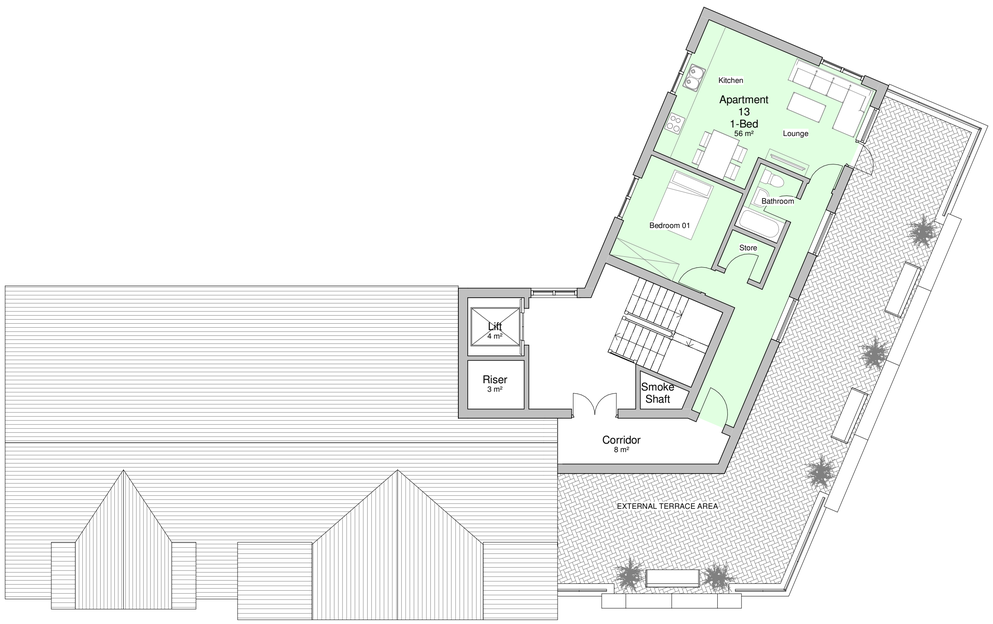
1 Proposed Ground Floor Plan
1 : 100



2 Proposed First Floor Plan
1 : 100



3 Proposed Second Floor Plan
1 : 100



4 Proposed Third Floor Plan
1 : 100

General Notes

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LEGEND

- Site Boundary
- Apartment 01
- Apartment 02
- Apartment 03
- Apartment 04
- Apartment 05
- Apartment 06
- Apartment 07
- Apartment 08
- Apartment 09
- Apartment 10
- Apartment 11
- Apartment 12
- Apartment 13

No.	Date	Dwn	Chk	App	Revision or reason for issue
P6	09/06/25	AK	SH		Amended Drawings
P5	02/06/25	AK	SH		Amended Drawings
P4	27/06/23	AK	SH		Amended Drawings
P3	27/06/23	AK	SH		Amended Drawings
P2	21/04/23	AK	SH		Amended Drawings
P1	06/04/23	AK	SH		Initial Issue

Client
Mohammed Aljohani

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Create It Studios (NW) Ltd
Universal Square
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M12 6JH
info@createitstudios.co.uk

Project Title
101 Queens Road, Cheetham
Hill, M8 8UT

Scale / North Point
1 : 100
0 1 2 3 4m
1:100

Drawing Title
Proposed Floor plans

Drawing Number
A1480(02)AP003

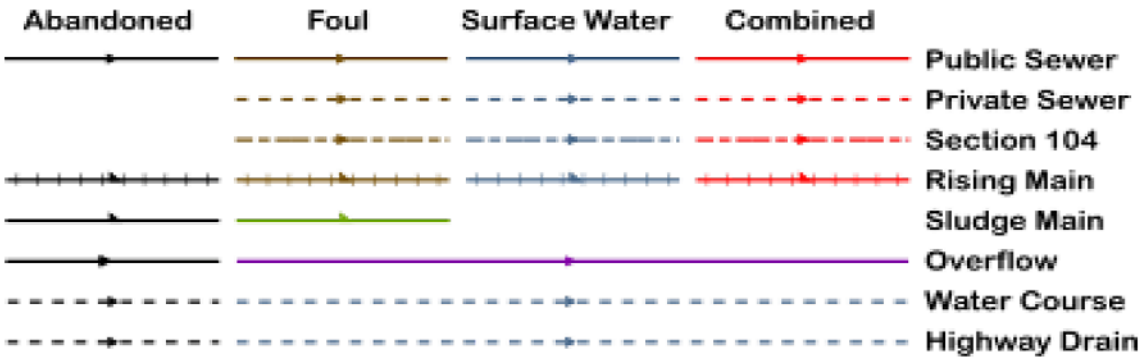
Revision
P6

Drawing Status
Preliminary

APPENDIX B
SEWER RECORDS

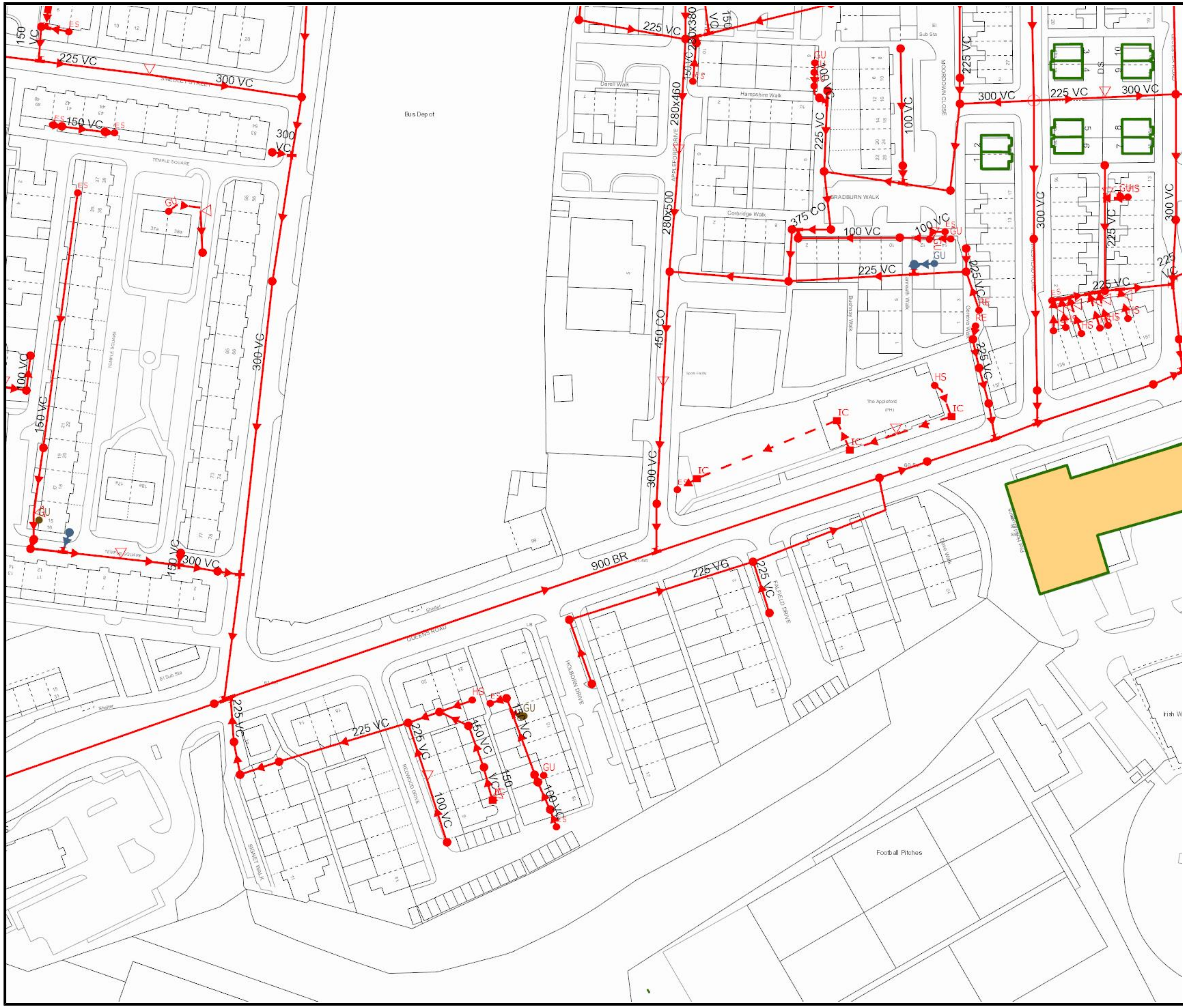
United Utilities
Water for the North West

Wastewater Symbology



All point assets follow the standard colour convention: red – combined, brown - foul, blue – surface water, purple - overflow

- Manhole
- HS Head of System
- ES Extent of Survey
- RE Rodding Eye
- IN Inlet
- DP Discharge Point
- HY Vortex
- PE Penstock
- WO Washout Chamber
- VA Valve
- AV Air Valve
- NRV Non Return Valve
- SO Soakaway
- GU Gully
- CA Cascade
- FM Flow Meter
- HA Hatch Box
- OI Oil Interceptor
- SM Summit
- DS Drop Shaft
- OP Orifice Plate
- Side Entry Manhole
- Outfall
- Screen Chamber
- IC Inspection Chamber
- Bifurcation Chamber
- LH Lamp Hole
- T Junction / Saddle
- CA Catchpit
- VC Valve Chamber
- Vent Column
- Vortex Chamber
- Penstock Chamber
- T Network Storage Tank
- V Sewer Overflow
- WwTW Ww Treatment Works
- Ww Pumping Station
- Septic Tank
- CK Control Kiosk
- DNM Network Monitoring Point
- Change of Characteristic



United Utilities
Water for the North West

SEWER RECORDS

Address or Site Reference

GO NORTHWEST LTD QUEENS ROAD DEPOT QUEENS ROAD, MANCHESTER, M8 8UT

Scale: 1:1250
Date: 24/11/2025

Printed by: Property Searches

The position of the underground apparatus shown on this plan is approximate only and is given in accordance with the best information currently available. United Utilities Water will not accept liability for any loss or damage caused by the actual position being different from those shown.

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APPENDIX C
Greenfield Calc

Greenfield runoff rate estimation tool

www.uksuds.com | Greenfield runoff rate estimation tool (https://www.uksuds.com/)

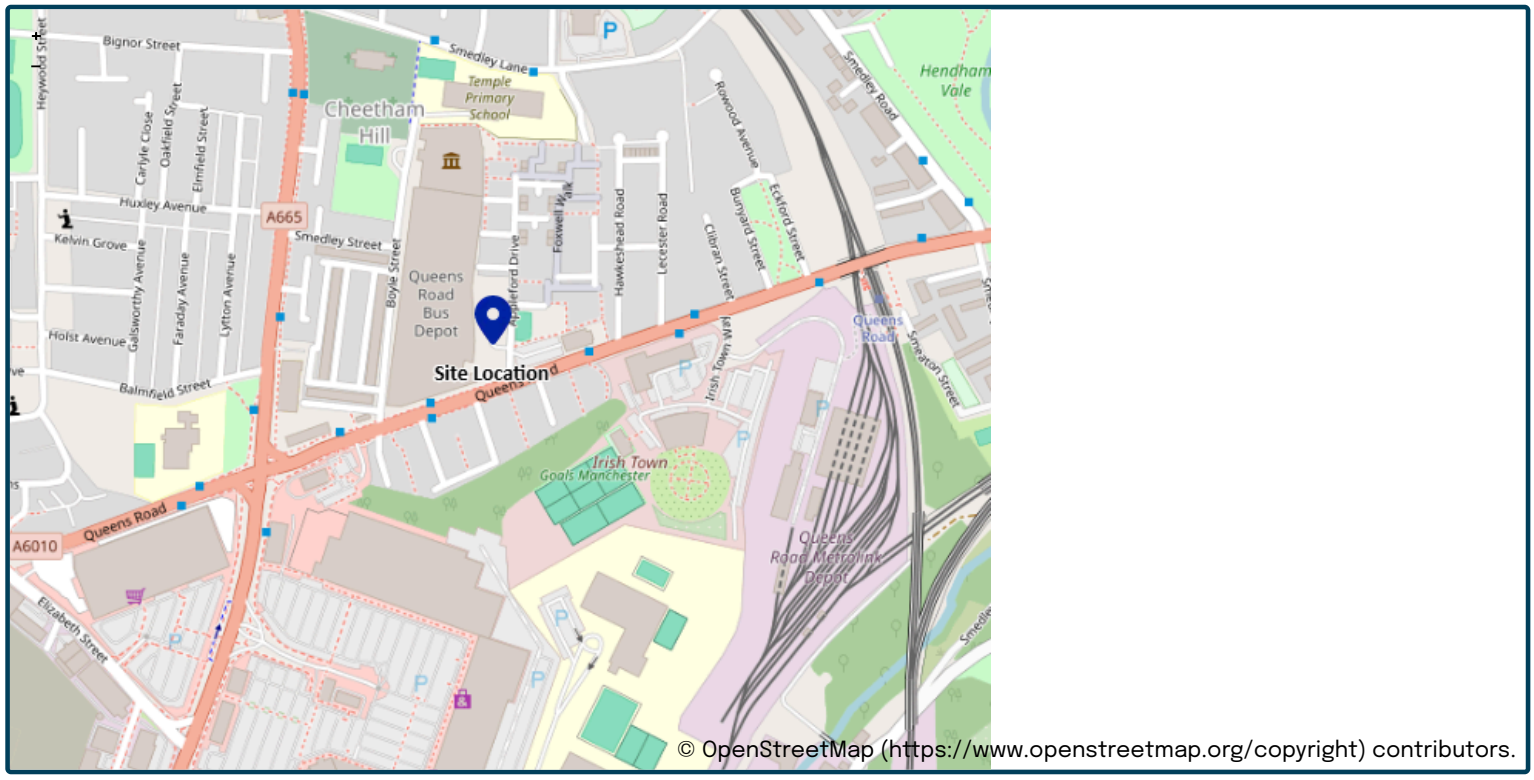
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	01/12/2025
Calculated by	Reship Raina
Reference	
Model version	2.2.2

Location

Site name	101 Queens Road
Site location	Cheetham Hill



Site easting (British National Grid)	384664
Site northing (British National Grid)	400507

Site details

Total site area (ha)	0.0777 ha

Greenfield runoff

Method

Method	IH124

IH124

	My value		Map value
SAAR (mm)	916 mm		916
How should SPR be derived?	WRAP soil type		
WRAP soil type	4		4
SPR	0.47		
QBar (IH124) (l/s)	0.5 l/s		

Growth curve factors

	My value		Map value
Hydrological region	10		10
1 year growth factor	0.87		
2 year growth factor	0.93		
10 year growth factor	1.38		
30 year growth factor	1.7		
100 year growth factor	2.08		
200 year growth factor	2.37		

Results

Method	IH124
Flow rate 1 year (l/s)	0.4 l/s
Flow rate 2 year (l/s)	0.5 l/s
Flow rate 10 years (l/s)	0.7 l/s
Flow rate 30 years (l/s)	0.9 l/s
Flow rate 100 years (l/s)	1.1 l/s
Flow rate 200 years (l/s)	1.2 l/s

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent 'zero' figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.2.2) developed by HR Wallingford and available at uksuds.com (https://www.uksuds.com/). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (https://www.uksuds.com/terms-conditions). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

APPENDIX D
Drainage Layout

COVER AND INVERTS OF EXISTING SEWERS SHOULD BE CHECKED ON SITE PRIOR TO CONSTRUCTION

ALL RWP AND SVP'S TO BE CHECKED AGAINST ARCHITECTS LAYOUT PLANS

PERMEABLE PAVING
AREA=57m²
SUB-BASE=450mm
NO INFILTRATION

PERMEABLE PAVING
AREA=64m²
SUB-BASE=450mm
NO INFILTRATION

PERMEABLE PAVING
AREA=36m²
SUB-BASE=400mm
NO INFILTRATION

S10 FLOW CONTROL MANHOLE
HEAD=1.5m
FLOW=1.0l/s
ORIFICE=19mm

CL:64.50
IL:62.35
(assumed)

FFL
64.30

Repair any damaged rear/side boundary wall

Existing vehicle entrance to be extended

EXISTING Ø300 COMBINED SEWER

Landscape

SVP

RWP

Ø300 UPVC PIPE @ 1:101 (5.0m)

Ø100 UPVC PIPE @ 1:20 (18.0m)

Ø300 UPVC PIPE @ 1:83 (4.1m)

Ø300 UPVC PIPE @ 1:122 (7.44m)

Ø300 UPVC PIPE @ 1:136 (13.0m)

Ø300 UPVC PIPE @ 1:50 (10.5m)

Ø300 UPVC PIPE @ 1:40 (7.7m)

Ø300 UPVC PIPE @ 1:37 (10.2m)

Ø300 UPVC PIPE @ 1:36 (13.0m)

Ø300 UPVC PIPE @ 1:40 (14.8m)

Ø300 UPVC PIPE @ 1:36 (10.5m)

EXTERNAL DRAINAGE AREA

99

61.4m

QUEENS ROAD

DRAINAGE STRATEGY

SURFACE WATER

In accordance with the SuDS Hierarchy then infiltration should be considered in the first instance, based on the BGS website it is considered that the gound is not suitable for infiltration and therefore the use of soakaways has been discounted.

If soakaways do not work then the surface water should discharge to a water course wherever possible, as there are no watercourses within the vicinty of the site then this has been discounted.

We are therefore proposing to discharge to the public combined sewer located under Appleford Road, at a controlled rate of 1.0 l/s with attenuation on site to store the 1 in 100 Year + 40% climate change rainfall event. (Refer to Advant Engineers Drainage Strategy Report)

FOUL DRAINAGE

It is proposed to discharge the foul drainage to the existing public combined sewer located under Appleford Road.

EXISTING SEWERS TO BE INVESTIGATED ON SITE FOR BOTH SURFACE AND FOUL WITH THE INTENTION OF UTILISING AN EXISTING CONNECTION

NOTES

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4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
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6. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ADVANT ENGINEERS DRAWINGS AND SPECIFICATIONS.

KEY

- EXISTING CW SEWER
- PROPOSED SW SEWER
- PROPOSED FW SEWER
- PERMEABLE PAVING

REV		BY	DATE
A	INITIAL ISSUE	RR	24.11.25

PRELIMINARY

STATUS	CHK'D
PRELIMINARY	MJM
FOR COMMENT	MJM
FOR APPROVAL	
FOR CONSTRUCTION	
AS BUILT	

advant ENGINEERS
Unit 6 Benton Office Park, Bennett Avenue
Horbury, Wakefield, West Yorkshire, WF4 5RA
01924 654108
wakefield@advantengineers.co.uk

CLIENT
CREATE IT STUDIOS

CONTRACT
101 QUEENS ROAD
CHEETHAM HILL
M8 8UT

TITLE
DRAINAGE LAYOUT PLAN

DRAWN	RR	CHK'D	MJM
SCALE	1:100 @ A1	DATE	24.11.25

JOB No	DRG No	REV
25072	101	A

APPENDIX E
Surface Water Drainage Calculations

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	5.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	1.000
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Adoptable Manhole Type

Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)
374	1200	749	1500
499	1350	900	1800

>900 Link+900 mm

Max Depth (m)	Diameter (mm)	Max Depth (m)	Diameter (mm)
1.500	1050	99.999	1200

Circular Link Type

Template	Freeform Carrier	Auto Increment (mm)	75
Shape	Circular	Follow Ground	x
Barrels	1		

Available Diameters (mm)

100	150

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
1	0.013	5.00	64.150	900	384672.616	400495.621	0.900	63.250
2	0.008	5.00	64.150	900	384656.628	400490.123	1.200	62.950
3	0.000		64.150	900	384649.257	400487.588	1.350	62.800
4	0.007	5.00	64.150	900	384645.044	400500.758	1.450	62.700
5	0.013	5.00	64.150	900	384657.131	400504.891	1.550	62.600
7	0.000	5.00	64.150	900	384656.303	400513.891	1.200	62.950
6	0.021	5.00	64.150	900	384646.030	400514.246	1.125	63.025
8	0.000		64.150	900	384658.957	400509.640	1.600	62.550
9	0.000		64.150	900	384663.140	400509.806	1.650	62.500
10	0.010	5.00	64.150	900	384675.485	400509.903	1.750	62.400
10_OUT	0.000		64.150	900	384679.108	400509.346	1.800	62.350

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Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	1	2	16.907	0.600	63.250	62.950	0.300	56.4	300	5.00	50.0
1.001	2	3	7.795	0.600	62.950	62.800	0.150	52.0	300	5.00	50.0
1.002	3	4	13.827	0.600	62.800	62.700	0.100	138.3	300	5.00	50.0
1.003	4	5	5.453	0.600	62.700	62.600	0.100	54.5	300	5.00	50.0
2.001	7	8	5.011	0.600	62.950	62.550	0.400	12.5	300	5.00	50.0
2.000	6	7	10.279	0.600	63.025	62.950	0.075	137.1	300	5.00	50.0
1.005	8	9	4.186	0.600	62.550	62.500	0.050	83.7	300	5.00	50.0
1.006	9	10	12.345	0.600	62.500	62.400	0.100	123.5	300	5.00	50.0
1.007	10	10_OUT	3.666	0.600	62.400	62.350	0.050	73.3	300	5.00	50.0
1.004	5	8	5.088	0.600	62.600	62.550	0.050	101.8	300	5.00	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	2.098	148.3	1.8	0.600	0.900	0.013	0.0	23	0.713
1.001	2.186	154.5	2.8	0.900	1.050	0.021	0.0	28	0.852
1.002	1.335	94.4	2.8	1.050	1.150	0.021	0.0	35	0.604
1.003	2.133	150.8	3.8	1.150	1.250	0.028	0.0	33	0.918
2.001	4.465	315.6	2.8	0.900	1.300	0.021	0.0	20	1.421
2.000	1.341	94.8	2.8	0.825	0.900	0.021	0.0	35	0.607
1.005	1.719	121.5	8.4	1.300	1.350	0.062	0.0	53	0.998
1.006	1.414	99.9	8.4	1.350	1.450	0.062	0.0	58	0.867
1.007	1.838	129.9	9.8	1.450	1.500	0.072	0.0	55	1.095
1.004	1.558	110.1	5.6	1.250	1.300	0.041	0.0	45	0.823

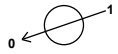
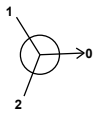
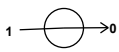
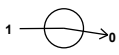
Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	16.907	56.4	300	Circular	64.150	63.250	0.600	64.150	62.950	0.900
1.001	7.795	52.0	300	Circular	64.150	62.950	0.900	64.150	62.800	1.050
1.002	13.827	138.3	300	Circular	64.150	62.800	1.050	64.150	62.700	1.150
1.003	5.453	54.5	300	Circular	64.150	62.700	1.150	64.150	62.600	1.250
2.001	5.011	12.5	300	Circular	64.150	62.950	0.900	64.150	62.550	1.300
2.000	10.279	137.1	300	Circular	64.150	63.025	0.825	64.150	62.950	0.900
1.005	4.186	83.7	300	Circular	64.150	62.550	1.300	64.150	62.500	1.350
1.006	12.345	123.5	300	Circular	64.150	62.500	1.350	64.150	62.400	1.450
1.007	3.666	73.3	300	Circular	64.150	62.400	1.450	64.150	62.350	1.500
1.004	5.088	101.8	300	Circular	64.150	62.600	1.250	64.150	62.550	1.300

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	900	Manhole	Adoptable	2	900	Manhole	Adoptable
1.001	2	900	Manhole	Adoptable	3	900	Manhole	Adoptable
1.002	3	900	Manhole	Adoptable	4	900	Manhole	Adoptable
1.003	4	900	Manhole	Adoptable	5	900	Manhole	Adoptable
2.001	7	900	Manhole	Adoptable	8	900	Manhole	Adoptable
2.000	6	900	Manhole	Adoptable	7	900	Manhole	Adoptable
1.005	8	900	Manhole	Adoptable	9	900	Manhole	Adoptable
1.006	9	900	Manhole	Adoptable	10	900	Manhole	Adoptable
1.007	10	900	Manhole	Adoptable	10_OUT	900	Manhole	Adoptable
1.004	5	900	Manhole	Adoptable	8	900	Manhole	Adoptable

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
1	384672.616	400495.621	64.150	0.900	900				
						0	1.000	63.250	300
2	384656.628	400490.123	64.150	1.200	900	1	1.000	62.950	300
									
						0	1.001	62.950	300
3	384649.257	400487.588	64.150	1.350	900	1	1.001	62.800	300
									
						0	1.002	62.800	300
4	384645.044	400500.758	64.150	1.450	900	1	1.002	62.700	300
									
						0	1.003	62.700	300
5	384657.131	400504.891	64.150	1.550	900	1	1.003	62.600	300
									
						0	1.004	62.600	300
7	384656.303	400513.891	64.150	1.200	900	1	2.000	62.950	300
									
						0	2.001	62.950	300
6	384646.030	400514.246	64.150	1.125	900				
						0	2.000	63.025	300
8	384658.957	400509.640	64.150	1.600	900	1	2.001	62.550	300
						2	1.004	62.550	300
									
						0	1.005	62.550	300
9	384663.140	400509.806	64.150	1.650	900	1	1.005	62.500	300
									
						0	1.006	62.500	300
10	384675.485	400509.903	64.150	1.750	900	1	1.006	62.400	300
									
						0	1.007	62.400	300
10_OUT	384679.108	400509.346	64.150	1.800	900	1	1.007	62.350	300
									

Simulation Settings

Rainfall Methodology	FSR	Winter CV	0.840
Rainfall Events	Singular	Analysis Speed	Detailed
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	20.000	Drain Down Time (mins)	1440
Ratio-R	0.400	Additional Storage (m³/ha)	0.0
Summer CV	0.750	Starting Level (m)	

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Simulation Settings

Check Discharge Rate(s) x | Check Discharge Volume x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	0	0	0
100	0	0	0
100	40	0	0

Node 10 Online Orifice Control

Flap Valve	x	Design Depth (m)	1.500	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	62.400	Diameter (m)	0.019		

Node 3 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	62.800
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.33	Time to half empty (mins)	264

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	36.0	36.0	0.400	36.0	44.5	0.401	0.0	44.5

Node 5 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	62.600
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.33	Time to half empty (mins)	336

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	64.0	64.0	0.450	64.0	76.8	0.451	0.0	76.8

Node 6 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	63.025
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.33	Time to half empty (mins)	168

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	57.0	57.0	0.450	57.0	69.0	0.451	0.0	69.0

Other (defaults)

Entry Loss (manhole)	0.250	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.250	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

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Approval Settings

Node Size	✓	Maximum Full Bore Velocity (m/s)	3.000
Node Losses	✓	Proportional Velocity	✓
Link Size	✓	Return Period (years)	
Minimum Diameter (mm)	150	Minimum Proportional Velocity (m/s)	0.750
Link Length	✓	Maximum Proportional Velocity (m/s)	3.000
Maximum Length (m)	100.000	Surcharged Depth	✓
Coordinates	✓	Return Period (years)	
Accuracy (m)	1.000	Maximum Surcharged Depth (m)	0.100
Crossings	✓	Flooding	✓
Cover Depth	✓	Return Period (years)	30
Minimum Cover Depth (m)		Time to Half Empty	x
Maximum Cover Depth (m)	3.000	Discharge Rates	✓
Backdrops	✓	Discharge Volume	✓
Minimum Backdrop Height (m)		100 year 360 minute (m^3)	
Maximum Backdrop Height (m)	1.500	First Flush	✓
Full Bore Velocity	✓	Return Period (years)	30
Minimum Full Bore Velocity (m/s)		First Flush Depth (mm)	5

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
1 year 15 minute summer	109.521	30.991	30 year 180 minute summer	53.298	13.715
1 year 15 minute winter	76.857	30.991	30 year 180 minute winter	34.645	13.715
1 year 30 minute summer	71.439	20.215	30 year 240 minute summer	41.604	10.995
1 year 30 minute winter	50.133	20.215	30 year 240 minute winter	27.641	10.995
1 year 60 minute summer	48.435	12.800	30 year 360 minute summer	31.221	8.034
1 year 60 minute winter	32.179	12.800	30 year 360 minute winter	20.295	8.034
1 year 120 minute summer	30.053	7.942	30 year 480 minute summer	24.324	6.428
1 year 120 minute winter	19.966	7.942	30 year 480 minute winter	16.160	6.428
1 year 180 minute summer	23.233	5.979	30 year 600 minute summer	19.756	5.404
1 year 180 minute winter	15.102	5.979	30 year 600 minute winter	13.498	5.404
1 year 240 minute summer	18.475	4.882	30 year 720 minute summer	17.490	4.687
1 year 240 minute winter	12.274	4.882	30 year 720 minute winter	11.754	4.687
1 year 360 minute summer	14.169	3.646	30 year 960 minute summer	14.215	3.743
1 year 360 minute winter	9.210	3.646	30 year 960 minute winter	9.416	3.743
1 year 480 minute summer	11.185	2.956	30 year 1440 minute summer	10.161	2.723
1 year 480 minute winter	7.431	2.956	30 year 1440 minute winter	6.829	2.723
1 year 600 minute summer	9.182	2.511	100 year 15 minute summer	348.738	98.681
1 year 600 minute winter	6.274	2.511	100 year 15 minute winter	244.728	98.681
1 year 720 minute summer	8.203	2.199	100 year 30 minute summer	228.965	64.789
1 year 720 minute winter	5.513	2.199	100 year 30 minute winter	160.677	64.789
1 year 960 minute summer	6.768	1.782	100 year 60 minute summer	153.288	40.510
1 year 960 minute winter	4.483	1.782	100 year 60 minute winter	101.841	40.510
1 year 1440 minute summer	4.949	1.326	100 year 120 minute summer	92.562	24.461
1 year 1440 minute winter	3.326	1.326	100 year 120 minute winter	61.496	24.461
30 year 15 minute summer	268.706	76.035	100 year 180 minute summer	69.806	17.964
30 year 15 minute winter	188.566	76.035	100 year 180 minute winter	45.376	17.964
30 year 30 minute summer	174.929	49.499	100 year 240 minute summer	54.269	14.342
30 year 30 minute winter	122.757	49.499	100 year 240 minute winter	36.055	14.342
30 year 60 minute summer	116.589	30.811	100 year 360 minute summer	40.484	10.418
30 year 60 minute winter	77.459	30.811	100 year 360 minute winter	26.315	10.418
30 year 120 minute summer	70.438	18.615	100 year 480 minute summer	31.414	8.302
30 year 120 minute winter	46.797	18.615	100 year 480 minute winter	20.871	8.302

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Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year 600 minute summer	25.431	6.956	100 year +40% CC 180 minute summer	97.729	25.149
100 year 600 minute winter	17.376	6.956	100 year +40% CC 180 minute winter	63.526	25.149
100 year 720 minute summer	22.452	6.017	100 year +40% CC 240 minute summer	75.977	20.078
100 year 720 minute winter	15.089	6.017	100 year +40% CC 240 minute winter	50.477	20.078
100 year 960 minute summer	18.166	4.784	100 year +40% CC 360 minute summer	56.677	14.585
100 year 960 minute winter	12.033	4.784	100 year +40% CC 360 minute winter	36.841	14.585
100 year 1440 minute summer	12.896	3.456	100 year +40% CC 480 minute summer	43.979	11.622
100 year 1440 minute winter	8.667	3.456	100 year +40% CC 480 minute winter	29.219	11.622
100 year +40% CC 15 minute summer	488.233	138.153	100 year +40% CC 600 minute summer	35.604	9.738
100 year +40% CC 15 minute winter	342.620	138.153	100 year +40% CC 600 minute winter	24.327	9.738
100 year +40% CC 30 minute summer	320.551	90.705	100 year +40% CC 720 minute summer	31.433	8.424
100 year +40% CC 30 minute winter	224.948	90.705	100 year +40% CC 720 minute winter	21.125	8.424
100 year +40% CC 60 minute summer	214.603	56.713	100 year +40% CC 960 minute summer	25.432	6.697
100 year +40% CC 60 minute winter	142.577	56.713	100 year +40% CC 960 minute winter	16.847	6.697
100 year +40% CC 120 minute summer	129.587	34.246	100 year +40% CC 1440 minute summer	18.055	4.839
100 year +40% CC 120 minute winter	86.094	34.246	100 year +40% CC 1440 minute winter	12.134	4.839

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Results for 1 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	63.273	0.023	1.8	0.0147	0.0000	OK
15 minute winter	2	10	62.979	0.029	2.9	0.0186	0.0000	OK
15 minute winter	3	12	62.834	0.034	2.9	0.4270	0.0000	OK
240 minute winter	4	188	62.811	0.111	1.3	0.0707	0.0000	OK
240 minute winter	5	192	62.810	0.210	3.5	4.5773	0.0000	OK
15 minute winter	7	13	62.967	0.017	2.1	0.0111	0.0000	OK
15 minute winter	6	12	63.058	0.033	3.0	0.6428	0.0000	OK
240 minute winter	8	192	62.810	0.260	1.4	0.1655	0.0000	OK
240 minute winter	9	188	62.811	0.311	1.0	0.1975	0.0000	SURCHARGED
240 minute winter	10	188	62.811	0.411	1.1	0.2616	0.0000	SURCHARGED
240 minute winter	10_OUT	192	62.363	0.013	0.5	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	1	1.000	2	1.8	0.600	0.012	0.0506	
15 minute winter	2	1.001	3	2.9	0.925	0.019	0.0293	
15 minute winter	3	1.002	4	2.4	0.600	0.026	0.0571	
240 minute winter	4	1.003	5	1.9	0.371	0.013	0.2080	
240 minute winter	5	1.004	8	-1.3	0.326	-0.012	0.2994	
15 minute winter	7	2.001	8	2.1	0.530	0.007	0.0900	
15 minute winter	6	2.000	7	2.1	0.731	0.022	0.0298	
240 minute winter	8	1.005	9	1.0	0.328	0.008	0.2833	
240 minute winter	9	1.006	10	0.9	0.069	0.009	0.8693	
240 minute winter	10	1.007	10_OUT	0.5	0.433	0.004	0.0040	12.0

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Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	63.286	0.036	4.5	0.0226	0.0000	OK
180 minute winter	2	176	63.083	0.133	1.7	0.0846	0.0000	OK
360 minute winter	3	336	63.083	0.283	1.5	3.5454	0.0000	OK
360 minute winter	4	336	63.083	0.383	2.0	0.2436	0.0000	SURCHARGED
360 minute winter	5	336	63.083	0.483	5.8	9.8217	0.0000	SURCHARGED
360 minute winter	7	344	63.083	0.133	1.0	0.0844	0.0000	OK
360 minute winter	6	336	63.083	0.058	1.0	1.1231	0.0000	OK
360 minute winter	8	336	63.083	0.533	1.7	0.3388	0.0000	SURCHARGED
360 minute winter	9	336	63.083	0.583	1.2	0.3706	0.0000	SURCHARGED
360 minute winter	10	344	63.083	0.683	1.3	0.4342	0.0000	SURCHARGED
360 minute winter	10_OUT	344	62.365	0.015	0.6	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	1	1.000	2	4.5	0.788	0.030	0.0960	
180 minute winter	2	1.001	3	1.6	0.617	0.010	0.3847	
360 minute winter	3	1.002	4	0.8	0.382	0.008	0.9633	
360 minute winter	4	1.003	5	3.2	0.454	0.021	0.3840	
360 minute winter	5	1.004	8	-2.2	0.328	-0.020	0.3583	
360 minute winter	7	2.001	8	1.0	0.242	0.003	0.2517	
360 minute winter	6	2.000	7	1.0	0.585	0.011	0.2031	
360 minute winter	8	1.005	9	1.2	0.369	0.010	0.2948	
360 minute winter	9	1.006	10	1.2	0.054	0.012	0.8693	
360 minute winter	10	1.007	10_OUT	0.6	0.465	0.005	0.0049	29.7

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Results for 100 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	63.290	0.040	5.8	0.0255	0.0000	OK
240 minute winter	2	236	63.259	0.309	2.9	0.1964	0.0000	SURCHARGED
240 minute winter	3	232	63.259	0.459	4.1	5.0497	0.0000	SURCHARGED
240 minute winter	4	232	63.259	0.559	2.5	0.3553	0.0000	SURCHARGED
240 minute winter	5	232	63.259	0.659	3.2	9.9335	0.0000	SURCHARGED
240 minute winter	7	236	63.259	0.309	1.9	0.1963	0.0000	SURCHARGED
240 minute winter	6	236	63.259	0.234	2.6	4.5433	0.0000	OK
240 minute winter	8	232	63.259	0.709	2.0	0.4507	0.0000	SURCHARGED
240 minute winter	9	232	63.259	0.759	1.2	0.4825	0.0000	SURCHARGED
240 minute winter	10	232	63.259	0.859	1.3	0.5462	0.0000	SURCHARGED
240 minute winter	10_OUT	236	62.366	0.016	0.7	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	1	1.000	2	5.8	0.845	0.039	0.1158	
240 minute winter	2	1.001	3	3.2	0.617	0.021	0.5489	
240 minute winter	3	1.002	4	-1.5	0.420	-0.016	0.9737	
240 minute winter	4	1.003	5	-1.5	0.450	-0.010	0.3840	
240 minute winter	5	1.004	8	-1.9	0.362	-0.017	0.3583	
240 minute winter	7	2.001	8	1.7	0.282	0.006	0.3529	
240 minute winter	6	2.000	7	1.9	0.695	0.020	0.6645	
240 minute winter	8	1.005	9	-1.2	0.406	-0.010	0.2948	
240 minute winter	9	1.006	10	0.8	0.076	0.008	0.8693	
240 minute winter	10	1.007	10_OUT	0.7	0.480	0.005	0.0053	34.5

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Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	1	344	64.056	0.806	1.1	0.5126	0.0000	FLOOD RISK
360 minute winter	2	344	64.056	1.106	2.9	0.7034	0.0000	FLOOD RISK
360 minute winter	3	344	64.056	1.256	2.8	5.5567	0.0000	FLOOD RISK
360 minute winter	4	344	64.056	1.356	1.8	0.8623	0.0000	FLOOD RISK
360 minute winter	5	344	64.056	1.456	2.4	10.4405	0.0000	FLOOD RISK
360 minute winter	7	344	64.056	1.106	2.1	0.7033	0.0000	FLOOD RISK
360 minute winter	6	344	64.056	1.031	3.8	9.1295	0.0000	FLOOD RISK
360 minute winter	8	344	64.056	1.506	2.5	0.9577	0.0000	FLOOD RISK
360 minute winter	9	344	64.056	1.556	1.9	0.9895	0.0000	FLOOD RISK
360 minute winter	10	344	64.056	1.656	1.6	1.0530	0.0000	FLOOD RISK
360 minute winter	10_OUT	344	62.369	0.019	1.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	1	1.000	2	1.1	0.504	0.007	1.1906	
360 minute winter	2	1.001	3	2.6	0.599	0.017	0.5489	
360 minute winter	3	1.002	4	1.2	0.367	0.013	0.9737	
360 minute winter	4	1.003	5	1.4	0.469	0.010	0.3840	
360 minute winter	5	1.004	8	2.3	0.363	0.021	0.3583	
360 minute winter	7	2.001	8	-2.1	0.287	-0.007	0.3529	
360 minute winter	6	2.000	7	-2.1	0.641	-0.022	0.7238	
360 minute winter	8	1.005	9	1.9	0.415	0.015	0.2948	
360 minute winter	9	1.006	10	1.1	0.070	0.011	0.8693	
360 minute winter	10	1.007	10_OUT	1.0	0.529	0.007	0.0067	53.2

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APPENDIX F
Flood Exceedance Plan

COVER AND INVERTS OF EXISTING SEWERS SHOULD BE CHECKED ON SITE PRIOR TO CONSTRUCTION

ALL RWP AND SVP'S TO BE CHECKED AGAINST ARCHITECTS LAYOUT PLANS

PERMEABLE PAVING
AREA=264m²
SUB-BASE=300mm
NO INFILTRATION

PERMEABLE PAVING
AREA=264m²
SUB-BASE=300mm
NO INFILTRATION

Repair any damaged rear/side boundary wall

Landscape

RWP

SVP

Ø300 UPVC PIPE @ 1:137 (10.2m)

Ø300 UPVC PIPE @ 1:12 (5.0m)

Ø300 UPVC PIPE @ 1:101 (5.0m)

Ø100 UPVC PIPE @ 1:40 (7.7m)

Ø100 UPVC PIPE @ 1:80 (18.0m)

Ø300 UPVC PIPE@ 1:122 (12.3m)

Ø300 UPVC PIPE@ 1:136 (10.9m)

Ø300 UPVC PIPE@ 1:66 (10.9m)

Ø300 UPVC PIPE@ 1:54 (10.8m)

S6 CL=64.15 IL=63.02

S7 CL=64.15 IL=62.95

S8 CL=64.15 IL=62.55

S9 CL=64.15 IL=97.60

F1 CL=64.15 IL=63.45

F2 CL=64.15 IL=63.25

S5 CL=64.15 IL=62.60

S4 CL=64.15 IL=62.70

S3 CL=64.15 IL=62.85

S2 CL=64.15 IL=62.80

S1 CL=64.15 IL=63.30

EXISTING Ø300 COMBINED SEWER

S10 FLOW CONTROL MANHOLE
HEAD=1.5m
FLOW=1.0l/s
ORIFICE=20mm

NEW MANHOLE ON EXISTING SEWER

CL:64.50
IL:63.00

Prop. Vehicle Entrance

FFL
64.30

99

61.4m

Existing vehicle entrance to be extended

QUEENS ROAD

EXISTING SEWERS TO BE INVESTIGATED ON SITE FOR BOTH SURFACE AND FOUL WITH THE INTENTION OF UTILISING AN EXISTING CONNECTION

DRAINAGE STRATEGY

SURFACE WATER

In accordance with the SuDS Hierarchy then infiltration should be considered in the first instance, soakaway testing has been undertaken on site in which unsatisfactory soakaway results where obtained.

If soakaways do not work then the surface water should discharge to a water course wherever possible, as there are no watercourses within the vicinty of the site then this has been discounted.

We are therefore proposing to discharge to the public sewer via existing connections on site, at a controlled rate of 1.0 l/s with attenuation on site to store the 1 in 100 Year + 40% climate change rainfall event. (Refer to JDA Drainage Strategy Report)

FOUL DRAINAGE

It is proposed to discharge the foul drainage to the existing public sewer via existing connections located on site.

NOTES

1. THIS DRAWING IS PRODUCED FOR USE IN THIS PROJECT ONLY AND MAY NOT BE USED FOR ANY OTHER PURPOSE. THE CONSULTING ENGINEERS ACCEPT NO LIABILITY FOR THE USE OF THIS DRAWING OTHER THAN THE PURPOSE FOR WHICH IT WAS INTENDED IN CONNECTION WITH THIS PROJECT AS RECORDED ON THE TITLE BLOCK FIELDS 'PURPOSE FOR ISSUE' AND 'FILE STATUS CODE'.
2. THIS DRAWING MAY NOT BE REPRODUCED IN ANY FORM WITHOUT PRIOR WRITTEN AGREEMENT FROM ADVANT ENGINEERS.
3. DO NOT SCALE FROM THE DRAWING, USE WRITTEN DIMENSIONS ONLY.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
5. DISCREPANCIES MUST BE REPORTED BACK TO THE ENGINEER PRIOR TO CONSTRUCTION.
6. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ADVANT ENGINEERS DRAWINGS AND SPECIFICATIONS.

KEY

FLOOD EXCEEDANCE EVENT

FLOOD FLOW ARROW

REV		BY	DATE
A	INITIAL ISSUE	RR	24.11.25
REV	AMENDMENTS	BY	DATE

PRELIMINARY

STATUS	CHK'D
PRELIMINARY	MJM
FOR COMMENT	MJM
FOR APPROVAL	
FOR CONSTRUCTION	
AS BUILT	

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CLIENT
CREATE IT STUDIOS

CONTRACT
101 QUEENS ROAD
CHEETHAM HILL
M8 8UT

TITLE
FLOOD EXCEEDANCE PLAN

DRAWN	RR	CHK'D	MJM
SCALE	1:100 @ A1	DATE	24.11.25

JOB No	DRG No	REV
25072	102	A



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