

**SURFACE WATER AND FOUL WATER
DRAINAGE STATEMENT**

for

PRESTWICH MUSLIM WELFARE TRUST

PROPOSED ISLAMIC COMMUNITY CENTRE

at

**AL BILAL ISLAMIC CENTRE, 52 BURY OLD ROAD, PRESTWICH
M25 0ER**

MAY 2023

REFORD

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1. INTRODUCTION

- 1.1 This surface water and foul water drainage statement has been produced on behalf of Prestwich Muslim Welfare Trust in support of a planning application for a proposed Islamic Community Centre at Al Bilal Islamic Centre, 52 Bury Old Road, Prestwich, M25 0ER. A location plan is included within Appendix A.
- 1.2 This drainage statement describes the existing site conditions and proposed development. It assesses the potential impact of proposals on existing drainage and includes a proposed strategy for the provision of new drainage to serve the proposed development.

2. BASE INFORMATION

Existing site

- 2.1 The site lies to the east of Bury Old Road within the urban area and has an area measured as 1,400m².
- 2.2 The site currently comprises the existing Al Bilal Mosque, which is to be demolished. The building lies to the rear of the site with a car parking area at the front.
- 2.3 The site has a fall from the rear of the site to the west towards Bury Old Road.

Site geology

- 2.4 The online Soilscales viewer has identified the geology of this parcel of land as lying close to the boundary of two soil types:
- Slowly permeable seasonally wet acid loamy and clayey soils with impeded drainage
 - Freely draining slightly acid sandy soils

Understanding of existing drainage local to the site

- 2.5 There are no watercourses within the immediate vicinity of the development site. The nearest watercourse is approx. 250m to the south of the site.
- 2.6 United Utilities sewer records have been obtained and identify the head of a public combined sewer lying within the south-eastern corner of the site. The sewer flows across Bury Old Road to join the 225mm diameter public combined sewer that lies on the opposite side of Bury Old Road and flows to the southeast. Foul water inspection chambers are identified along the site's eastern boundary.
- 2.7 The records also identifies a public surface water sewer lying along each of the footways to Bury Old Road. The one in the nearest footway to the site is 150mm diameter and the one in the furthest footway is 225mm diameter. Both sewers flow to the southeast.

- 2.8 The sewer records are included within Appendix B.
- 2.9 The existing developed site discharges foul and surface water into the public sewer network.

Proposed development

- 2.10 The proposed development is for the demolition of the existing Al Bilal Mosque and the erection of a new purpose built Islamic Community Centre.

3. PROPOSED DRAINAGE STRATEGY

3.1 The foul and surface water drainage layout is included within Appendix C.

Surface water drainage

3.2 In accordance with the National Standards for Sustainable Drainage, the drainage strategy should incorporate the use of Sustainable Drainage (SUDS) where possible. The approach promotes the use infiltration features in the first instance. If drainage cannot be achieved solely through infiltration due to site conditions or contamination risks, the preferred options are (in order of preference):

- (i) a controlled discharge to a local waterbody or watercourse, or
- (ii) a controlled discharge into the public sewer network (depending on availability and capacity).

3.3 The rate and volume of discharge should strive to provide betterment and be restricted to the pre-development values as far as practicable.

3.4 The online Soilsmap viewer has identified the geology of this parcel of land as lying close to the boundary of two soil types:

- Slowly permeable seasonally wet acid loamy and clayey soils with impeded drainage
- Freely draining slightly acid sandy soils

3.5 Infiltration techniques for the disposal of surface water from the development may be considered to be feasible. However, it is only possible for soakaways, should they be feasible, to be installed within the rear of the site under the proposed car parking area. As the development site has a fall from the rear of the site to the west towards Bury Old Road, locating soakaways at this location would have them at a higher level than the finished flood level of the building and the surrounding area which may result in flooding occurring further down the slope. As such, soakways are not seen as a viable solution for the disposal of surface water runoff from the developed site.

- 3.6 United Utilities sewer records identifies a public surface water sewer lying along each of the footways to Bury Old Road. The one in the nearest footway to the site is 150mm diameter and the one in the furthest footway is 225mm diameter. Both sewers flow to the southeast.
- 3.7 The existing site comprises the existing Al Bilal Mosque, which is to be demolished and a hard surfaced car parking area. The site has been measured as having an area 1,400m².
- 3.8 Surface water runoff from the site drains to the public sewer network via an existing drainage system.
- 3.9 It is intended that surface water runoff from the redeveloped site will discharge into the public surface water drainage system, maintaining the status quo.
- 3.10 Surface water runoff will be restricted to the equivalent peak runoff rate from the existing developed site for the 1 year critical storm event, reduced by 50% to provide betterment.
- 3.11 The equivalent peak runoff rate from the existing site has been calculated as 17.7 l/s for the 1 year event and therefore with 50% betterment, the restricted discharge to the public surface water sewer network from the redeveloped site will be a maximum of 8.9 l/s.
- 3.12 A surface water drainage design has been carried out for the 100 year critical rain storm plus 45% on stored volumes. The additional 45% is to allow for climate change. Attenuation storage is to be provided using underground tanks located under the access.
- 3.13 The surface water drainage design is included within Appendix D.

Foul Water Drainage

- 3.14 United Utilities sewer records identify the head of a public combined sewer lying within the south-eastern corner of the site. The sewer flows across Bury Old Road to join the 225mm diameter public combined sewer that lies on the opposite side of Bury

Old Road and flows to the southeast. Foul water inspection chambers are identified along the site's eastern boundary.

- 3.15 It is intended that foul water from the redeveloped site will be discharged into the public combined sewer network.

4. SUMMARY AND CONCLUSIONS

- 4.1 This surface water and foul water drainage statement has been produced on behalf of Prestwich Muslim Welfare Trust in support of a planning application for a proposed Islamic Community Centre at Al Bilal Islamic Centre, 52 Bury Old Road, Prestwich, M25 0ER.
- 4.2 It is intended that surface water runoff from the redeveloped site will be restricted to 8.9 l/s, providing 50% betterment over the existing 1 year storm event rate and a discharge made into the public surface water drainage system, maintaining the status quo.
- 4.3 It is intended that foul water from the redeveloped site will be discharged into the public combined sewer network.

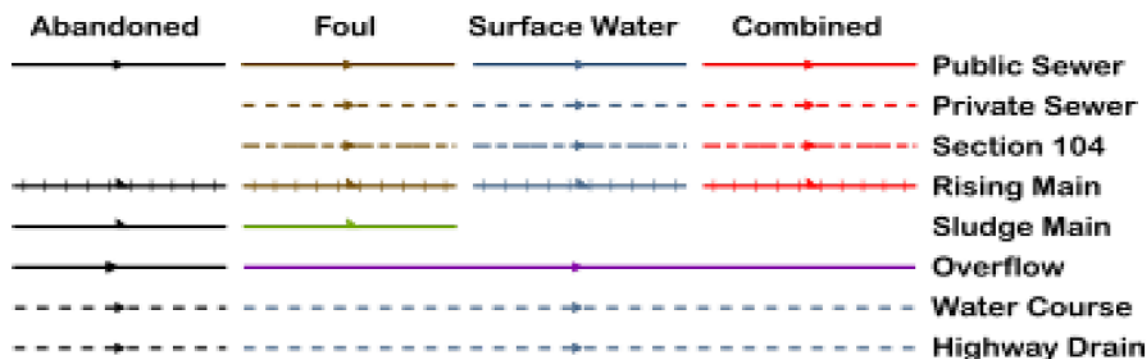
APPENDIX A



LOCATION PLAN

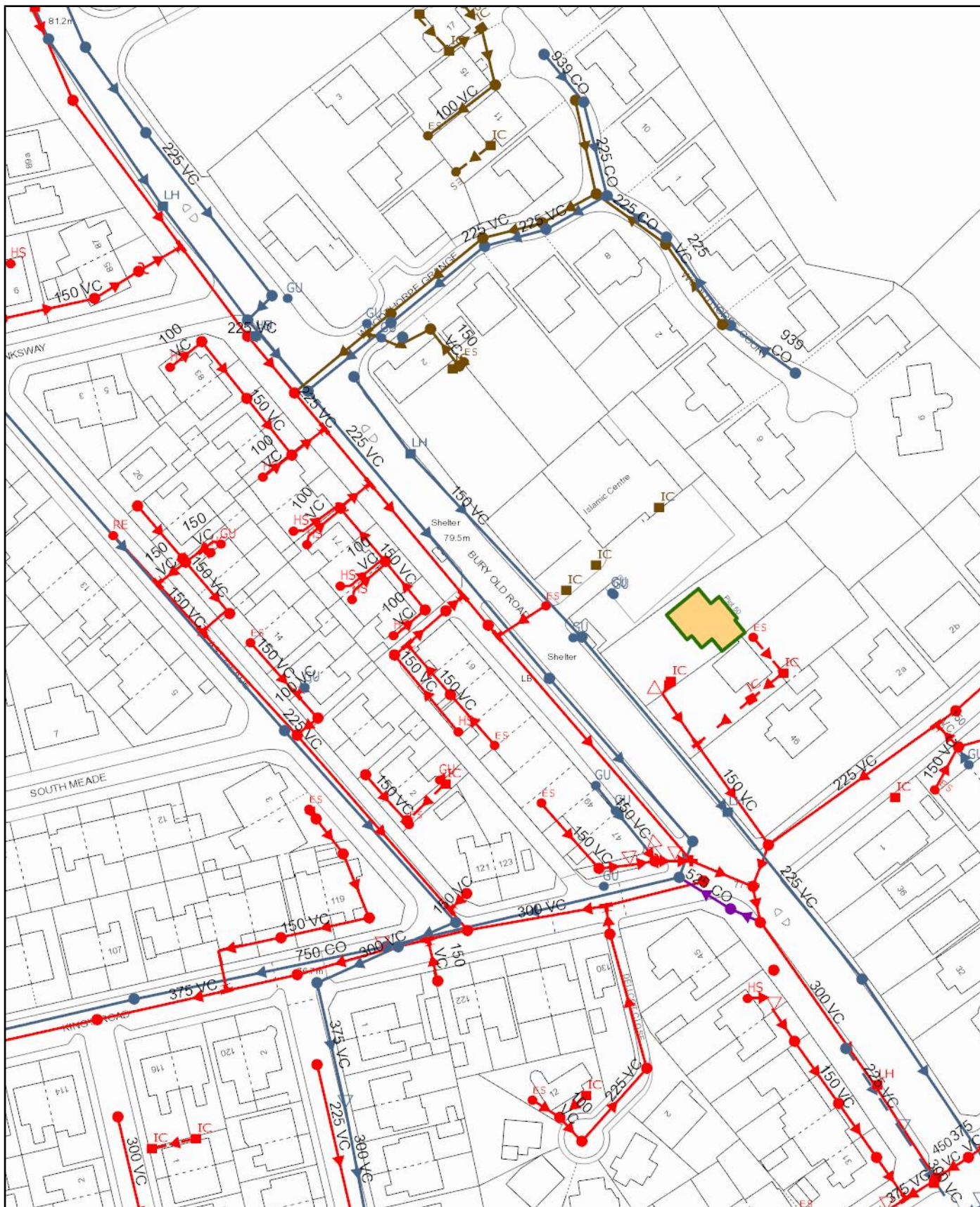
APPENDIX B

Wastewater Symbolology



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

Manhole	Side Entry Manhole
Head of System	Outfall
Extent of Survey	Screen Chamber
Rodding Eye	Inspection Chamber
Inlet	Bifurcation Chamber
Discharge Point	Lamp Hole
Vortex	T Junction / Saddle
Penstock	Catchpit
Washout Chamber	Valve Chamber
Valve	Vent Column
Air Valve	Vortex Chamber
Non Return Valve	Penstock Chamber
Soakaway	Network Storage Tank
Gully	Sewer Overflow
Cascade	Ww Treatment Works
Flow Meter	Ww Pumping Station
Hatch Box	Septic Tank
Oil Interceptor	Control Kiosk
Summit	
Drop Shaft	Change of Characteristic
Orifice Plate	



Scale: 1:1307
Date: 16/05/2023

SEWER RECORDS



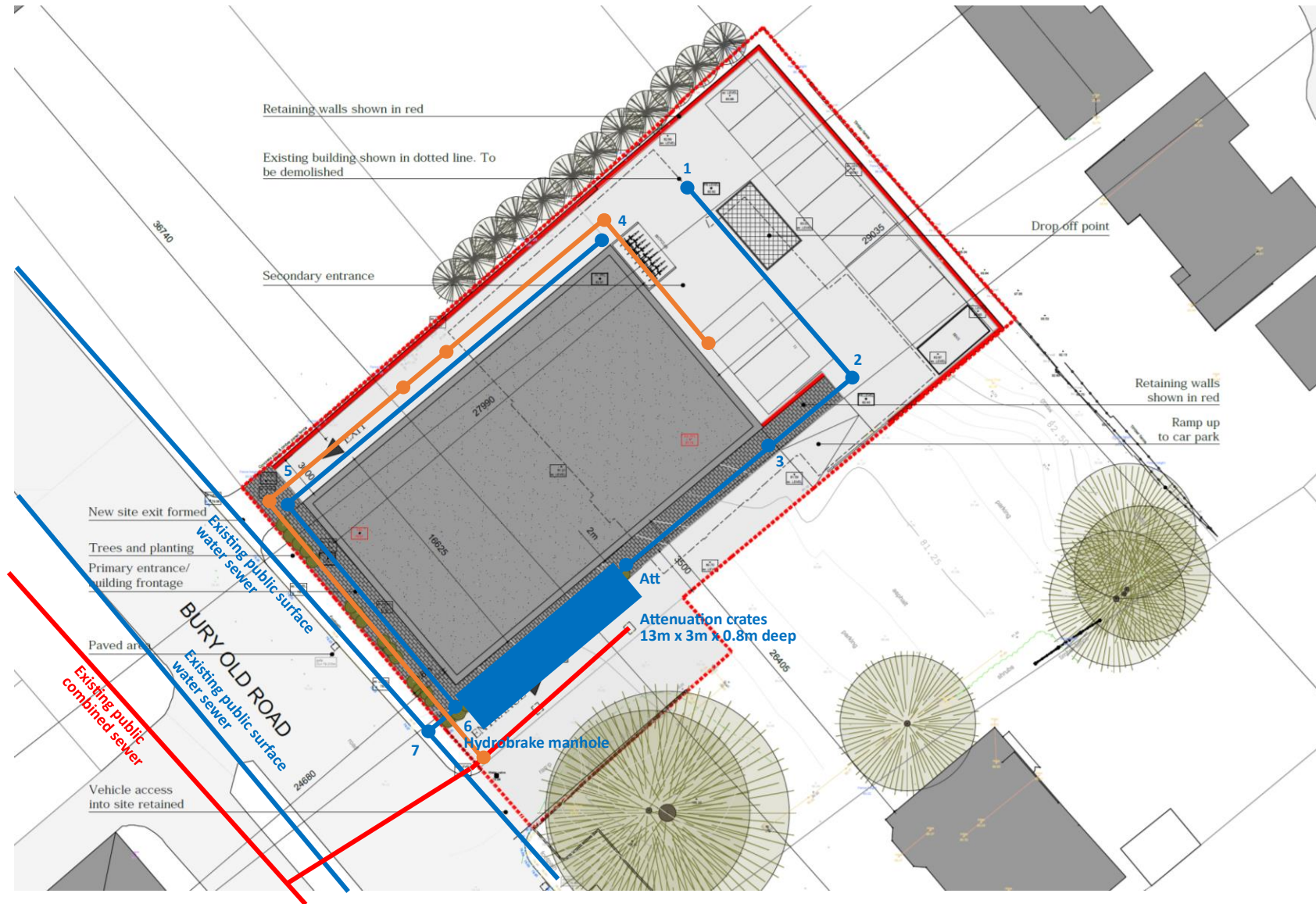
Water for the North West

Address or Site Reference: Al Bilal
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



APPENDIX D

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	75.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	18.000	Minimum Backdrop Height (m)	2.000
Ratio-R	0.350	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Depth (m)
1	0.030	5.00	82.820	1200	1.350
2	0.027	5.00	82.820	1200	1.529
3	0.020	5.00	81.600	1200	1.350
4	0.021	5.00	82.820	1200	1.350
5	0.012	5.00	79.500	1200	1.350
6	0.030	5.00	79.250	1200	1.500
7			79.200	1200	1.500
att			80.200	1200	2.320

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	18.000	0.600	81.470	81.291	0.179	100.6	150	5.30	57.6
1.001	2	3	8.000	0.600	81.291	80.250	1.041	7.7	150	5.34	57.5
1.002	3	att	15.000	0.600	80.250	78.530	1.720	8.7	150	5.41	57.2
1.003	att	6	13.000	0.600	77.880	77.750	0.130	100.0	800	5.46	56.9
2.000	4	5	28.000	0.600	81.470	78.150	3.320	8.4	150	5.13	58.4
2.001	5	6	18.000	0.600	78.150	77.750	0.400	45.0	150	5.33	57.5
1.004	6	7	3.000	0.600	77.750	77.700	0.050	60.0	150	5.50	56.7

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	1.002	17.7	4.7	1.200	1.379	0.030	0.0
1.001	3.657	64.6	8.9	1.379	1.200	0.057	0.0
1.002	3.432	60.7	11.9	1.200	1.520	0.077	0.0
1.003	3.861	9265.5	11.9	1.520	0.700	0.077	0.0
2.000	3.490	61.7	3.3	1.200	1.200	0.021	0.0
2.001	1.504	26.6	5.1	1.200	1.350	0.033	0.0
1.004	1.301	23.0	21.5	1.350	1.350	0.140	0.0

Simulation Settings

Rainfall Methodology	FSR	Summer CV	0.750	Drain Down Time (mins)	240
FSR Region	England and Wales	Winter CV	0.840	Additional Storage (m³/ha)	20.0
M5-60 (mm)	18.000	Analysis Speed	Normal	Check Discharge Rate(s)	x
Ratio-R	0.350	Skip Steady State	x	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0	100	0	0	0
30	0	0	0	100	45	0	0

Node 6 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	77.750	Product Number	CTL-SHE-0131-8900-1500-8900
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	8.9	Min Node Diameter (mm)	1200

Results for 1 year Critical Storm Duration. Lowest mass balance: 93.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	81.519	0.049	3.6	0.0765	0.0000	OK
15 minute winter	2	10	81.324	0.033	6.8	0.0488	0.0000	OK
15 minute winter	3	10	80.291	0.041	9.2	0.0578	0.0000	OK
15 minute winter	4	10	81.491	0.021	2.5	0.0297	0.0000	OK
15 minute winter	5	10	78.189	0.039	4.0	0.0508	0.0000	OK
30 minute winter	6	23	77.916	0.166	12.9	0.2539	0.0000	SURCHARGED
15 minute summer	7	1	77.700	0.000	7.5	0.0000	0.0000	OK
30 minute winter	att	22	77.915	0.035	7.3	0.0397	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	3.5	0.915	0.199	0.0700	
15 minute winter	2	1.001	3	6.8	2.036	0.105	0.0267	
15 minute winter	3	1.002	att	9.1	2.426	0.150	0.0562	
15 minute winter	4	2.000	5	2.5	1.010	0.040	0.0708	
15 minute winter	5	2.001	6	3.9	0.805	0.146	0.1884	
30 minute winter	6	Hydro-Brake®	7	7.6				10.3
30 minute winter	att	1.003	6	8.1	0.061	0.001	3.8798	

Results for 30 year Critical Storm Duration. Lowest mass balance: 93.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	81.550	0.080	8.9	0.1265	0.0000	OK
15 minute winter	2	10	81.344	0.053	16.8	0.0787	0.0000	OK
15 minute winter	3	10	80.317	0.067	22.6	0.0949	0.0000	OK
15 minute winter	4	10	81.502	0.032	6.2	0.0462	0.0000	OK
15 minute winter	5	10	78.212	0.062	9.6	0.0810	0.0000	OK
30 minute winter	6	27	78.164	0.414	29.0	0.6331	0.0000	SURCHARGED
15 minute summer	7	1	77.700	0.000	8.8	0.0000	0.0000	OK
30 minute winter	att	26	78.165	0.285	19.2	0.3221	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	8.8	1.160	0.495	0.1365	
15 minute winter	2	1.001	3	16.7	2.548	0.258	0.0524	
15 minute winter	3	1.002	att	22.4	3.076	0.369	0.1093	
15 minute winter	4	2.000	5	6.1	1.306	0.100	0.1344	
15 minute winter	5	2.001	6	9.5	0.908	0.357	0.2201	
30 minute winter	6	Hydro-Brake®	7	8.9				25.4
30 minute winter	att	1.003	6	18.1	0.081	0.002	13.6006	

Results for 100 year Critical Storm Duration. Lowest mass balance: 93.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	81.564	0.094	11.5	0.1482	0.0000	OK
15 minute winter	2	10	81.352	0.061	21.6	0.0911	0.0000	OK
15 minute winter	3	10	80.328	0.078	29.1	0.1107	0.0000	OK
15 minute winter	4	10	81.506	0.036	8.0	0.0525	0.0000	OK
60 minute winter	5	46	78.313	0.163	6.9	0.2135	0.0000	SURCHARGED
60 minute winter	6	47	78.310	0.560	24.0	0.8570	0.0000	SURCHARGED
15 minute summer	7	1	77.700	0.000	8.9	0.0000	0.0000	OK
60 minute winter	att	47	78.311	0.431	16.0	0.4876	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	11.3	1.229	0.639	0.1657	
15 minute winter	2	1.001	3	21.5	2.694	0.333	0.0639	
15 minute winter	3	1.002	att	28.9	3.269	0.476	0.1326	
15 minute winter	4	2.000	5	7.9	1.389	0.129	0.1669	
60 minute winter	5	2.001	6	6.9	0.785	0.260	0.3169	
60 minute winter	6	Hydro-Brake®	7	8.9				42.7
60 minute winter	att	1.003	6	11.5	0.072	0.001	19.3237	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 93.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	81.593	0.123	16.6	0.1941	0.0000	OK
15 minute winter	2	10	81.368	0.077	31.2	0.1138	0.0000	OK
15 minute winter	3	10	80.350	0.100	42.1	0.1422	0.0000	OK
15 minute winter	4	10	81.514	0.044	11.6	0.0634	0.0000	OK
60 minute winter	5	47	79.011	0.861	9.9	1.1276	0.0000	SURCHARGED
60 minute winter	6	46	78.941	1.191	26.6	1.8236	0.0000	SURCHARGED
15 minute summer	7	1	77.700	0.000	8.9	0.0000	0.0000	OK
60 minute winter	att	47	79.174	1.294	364.9	1.4638	0.0000	SURCHARGED

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	16.3	1.315	0.920	0.2208	
15 minute winter	2	1.001	3	31.0	2.885	0.480	0.0859	
15 minute winter	3	1.002	att	41.8	3.532	0.690	0.1776	
15 minute winter	4	2.000	5	11.5	1.458	0.187	0.3045	
60 minute winter	5	2.001	6	10.9	0.840	0.412	0.3169	
60 minute winter	6	Hydro-Brake®	7	8.9				58.0
60 minute winter	att	1.003	6	-359.5	-0.150	-0.039	31.2167	