Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	1	705	149.945	1.145	321.0	89.9442	0.0000	OK
720 minute winter	2	705	149.945	1.245	356.0	4167.8180	0.0000	SURCHARGED
60 minute summer	3	1	148.559	0.000	38.7	0.0000	0.0000	OK
720 minute winter	1A	705	149.945	1.045	29.8	2.6599	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	1	1.000	2	2568.2	3.943	0.173	5.2630	
120 minute summer	2	Hydro-Brake®	3	38.7				687.0
60 minute summer	1A	1.000A	1	58.3	-0.262	0.008	16.6299	

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	100	Maximum Rainfall (mm/hr)	75.0
Additional Flow (%)	40	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.394	Preferred Cover Depth (m)	1.200
CV	0.840	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	3.690	5.00	153.000	1800	451585.647	358043.642	2.000
2			152.500	1800	451585.647	358073.841	1.700
3			151.290	1800	451569.053	358091.177	0.880

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	5.000	0.600	151.000	150.800	0.200	25.0	1500	5.01	75.0
1.001	2	3	23.998	0.600	150.800	150.410	0.390	61.5	225	5.25	75.0

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	8.592	15182.5	1176.2	0.500	0.200	3.690	0.0	276	5.242
1.001	1.670	66.4	1176.2	1.475	0.655	3.690	0.0	225	1.701

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	5.000	25.0	1500	Circular	153.000	151.000	0.500	152.500	150.800	0.200
1.001	23.998	61.5	225	Circular	152.500	150.800	1.475	151.290	150.410	0.655

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	1800	Manhole	Adoptable	2	1800	Manhole	Adoptable
1.001	2	1800	Manhole	Adoptable	3	1800	Manhole	Adoptable

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	20.000	Drain Down Time (mins)	240
Ratio-R	0.394	Additional Storage (m³/ha)	20.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

60	120	180	240	360	480	600	720	960	1440

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

Node 2 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	150.800	Product Number	CTL-SHE-0191-1950-1400-1950
Design Depth (m)	1.400	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	19.5	Min Node Diameter (mm)	1500

Node 2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	150.800
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	1567.0	0.0	1.700	3316.0	0.0

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Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	1	705	151.953	0.953	290.8	37.5921	0.0000	OK
720 minute winter	2	705	151.953	1.153	409.7	2493.6270	0.0000	SURCHARGED
60 minute summer	3	1	150.410	0.000	19.5	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	1	1.000	2	1472.7	3.584	0.097	3.7710	
960 minute winter	2	Hydro-Brake®	3	19.5				1083.0

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