

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	0.300	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

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
2	0	0	0
30	0	0	0
100	30	0	0

Node 1.3 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Downstream Link	1.003	Sump Available	
Replaces Downstream Link		Product Number	CTL-SHE-0054-1300-1000-1300
Invert Level (m)	2.580	Min Outlet Diameter (m)	0.075
Design Depth (m)	1.000	Min Node Diameter (mm)	1200
Design Flow (l/s)	1.3		

Node ATTENUATION BASIN Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	2.620
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)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	25.0	0.0	1.300	152.0	0.0	1.301	0.0	0.0

Results for 1 year Critical Storm Duration. Lowest mass balance: 98.34%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	In flow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute winter	1.0	10	3.996	0.046	5.9	0.0935	0.0000	OK
15 minute winter	2.0	10	4.143	0.043	5.6	0.0452	0.0000	OK
15 minute winter	1.1	10	3.235	0.045	13.9	0.0933	0.0000	OK
240 minute winter	1.2	208	2.982	0.282	4.0	0.3593	0.0000	SURCHARGED
240 minute winter	1.3	208	2.982	0.402	5.2	0.7100	0.0000	SURCHARGED
15 minute summer	1.4	1	2.410	0.000	1.1	0.0000	0.0000	OK
240 minute winter	ATTENUATION BASIN	208	2.982	0.362	3.7	15.4382	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
15 minute winter	1.0	1.000	1.1	5.8	1.018	0.088	0.2763	
15 minute winter	2.0	2.000	1.3	5.5	1.104	0.177	0.4789	
15 minute winter	1.1	1.001	1.2	13.8	1.519	0.087	0.0640	
240 minute winter	1.2	1.002	1.3	3.8	0.242	0.069	0.4347	
240 minute winter	1.3	Hydro-Brake®	1.4	1.1				29.5
240 minute winter	ATTENUATION BASIN	3.000	1.3	-3.7	0.255	-0.067	0.1423	

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.34%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	In flow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute winter	1.0	10	4.002	0.052	7.6	0.1064	0.0000	OK
15 minute winter	2.0	10	4.149	0.049	7.3	0.0518	0.0000	OK
15 minute winter	1.1	10	3.241	0.051	18.0	0.1060	0.0000	OK
360 minute winter	1.2	296	3.070	0.370	3.7	0.4722	0.0000	SURCHARGED
360 minute winter	1.3	296	3.070	0.490	4.8	0.8664	0.0000	SURCHARGED
15 minute summer	1.4	1	2.410	0.000	1.1	0.0000	0.0000	OK
360 minute winter	ATTENUATION BASIN	296	3.070	0.450	3.5	21.1643	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
15 minute winter	1.0	1.000	1.1	7.4	1.093	0.114	0.3318	
15 minute winter	2.0	2.000	1.3	7.2	1.149	0.231	0.5323	
15 minute winter	1.1	1.001	1.2	17.8	1.590	0.113	0.0941	
360 minute winter	1.2	1.002	1.3	3.5	0.215	0.065	0.4347	
360 minute winter	1.3	Hydro-Brake®	1.4	1.1				34.8
360 minute winter	ATTENUATION BASIN	3.000	1.3	-3.5	-0.087	-0.063	0.1423	

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.34%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	In ow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute winter	1.0	10	4.022	0.072	14.4	0.1483	0.0000	OK
15 minute winter	2.0	10	4.169	0.069	13.8	0.0734	0.0000	OK
360 minute winter	1.1	344	3.388	0.198	5.9	0.4111	0.0000	OK
360 minute winter	1.2	344	3.388	0.688	6.6	0.8768	0.0000	SURCHARGED
360 minute winter	1.3	344	3.388	0.808	8.7	1.4271	0.0000	SURCHARGED
15 minute summer	1.4	1	2.410	0.000	1.1	0.0000	0.0000	OK
360 minute winter	ATTENUATION BASIN	344	3.388	0.768	7.4	47.9776	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Out low (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
15 minute winter	1.0	1.000	1.1	14.1	1.306	0.217	0.5271	
15 minute winter	2.0	2.000	1.3	13.6	1.108	0.437	0.6054	
360 minute winter	1.1	1.001	1.2	5.9	0.820	0.037	0.2074	
360 minute winter	1.2	1.002	1.3	6.4	0.221	0.118	0.4347	
360 minute winter	1.3	Hydro-Brake®	1.4	1.2				38.6
360 minute winter	ATTENUATION BASIN	3.000	1.3	-7.4	-0.186	-0.134	0.1423	

Results for 100 year +30% CC Critical Storm Duration. Lowest mass balance: 98.34%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute winter	1.0	10	4.044	0.094	24.3	0.1924	0.0000	OK
15 minute winter	2.0	10	4.196	0.096	23.2	0.1015	0.0000	OK
480 minute winter	1.1	464	3.781	0.591	7.9	1.2283	0.0000	SURCHARGED
480 minute winter	1.2	464	3.781	1.081	8.3	1.3780	0.0000	SURCHARGED
480 minute winter	1.3	464	3.781	1.201	11.4	2.1217	0.0000	SURCHARGED
15 minute summer	1.4	1	2.410	0.000	1.1	0.0000	0.0000	OK
480 minute winter	ATTENUATION BASIN	464	3.781	1.161	9.9	94.8336	0.0000	FLOOD RISK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
15 minute winter	1.0	1.000	1.1	23.9	1.307	0.368	1.3335	
15 minute winter	2.0	2.000	1.3	22.8	1.399	0.730	0.6987	
480 minute winter	1.1	1.001	1.2	7.4	0.767	0.047	0.2149	
480 minute winter	1.2	1.002	1.3	8.2	0.224	0.151	0.4347	
480 minute winter	1.3	Hydro-Brake®	1.4	1.4				53.6
480 minute winter	ATTENUATION BASIN	3.000	1.3	-9.9	-0.249	-0.180	0.1423	