

Nodes

	Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Depth (m)
✓	1	0.008	4.00	8.309	150	0.559
✓	2			8.070	600	1.314
✓	3	0.015	4.00	8.450	150	0.700
✓	4	0.015	4.00	8.450	150	0.700
✓	5	0.015	4.00	8.450	150	0.700
✓	6	0.015	4.00	8.450	150	0.700
✓	7	0.015	4.00	8.450	150	0.700
✓	8	0.015	4.00	8.450	150	0.700
✓	9	0.015	4.00	8.450	150	0.700
✓	10	0.014	4.00	8.450	150	0.700
✓	11	0.008	4.00	8.450	150	0.700
✓	12	0.008	4.00	8.450	150	0.700
✓	13	0.015	4.00	8.450	150	0.700
✓	15			8.070	600	1.432
✓	16			8.070	600	1.532
✓	CPMH			8.070	600	1.632
✓	Attenuation tank			7.400	1200	1.600
✓	19	0.008	4.00	8.450	150	0.700
✓	HBMH	0.016	4.00	7.120	1200	1.620
✓	Outflow			7.200	1200	2.280
✓	22			7.650	600	0.650
✓	23			7.200	600	1.100
✓	14			8.300	600	1.207
✓	17			8.350	600	0.650
✓	18			8.325	600	0.725
✓	20			8.325	600	0.838
✓	21			8.300	600	0.913
✓	24			8.300	600	1.010
✓	25			8.300	600	1.111
✓	26	0.059	4.00	7.100	600	1.500

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Depth (m)
✓ 27	0.014	4.00	8.450	150	1.000

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	11	17	1.470	0.600	7.750	7.700	0.050	29.4	100	4.02	50.0
? 1.001	17	18	10.034	0.600	7.700	7.600	0.100	100.0	225	4.15	50.0
? 2.000	13	18	1.649	0.600	7.750	7.729	0.021	80.0	100	4.03	50.0
? 1.002	18	20	11.252	0.600	7.600	7.487	0.113	100.0	225	4.29	50.0
? 3.000	9	20	2.272	0.600	7.750	7.685	0.065	35.0	100	4.03	50.0
? 1.003	20	21	9.964	0.600	7.487	7.387	0.100	100.0	225	4.42	50.0
? 4.000	7	21	2.271	0.600	7.750	7.674	0.076	30.0	100	4.03	50.0
? 1.004	21	24	9.685	0.600	7.387	7.290	0.097	100.0	225	4.54	50.0
? 5.000	5	24	1.976	0.600	7.750	7.552	0.198	10.0	100	4.01	50.0
? 1.005	24	25	10.090	0.600	7.290	7.189	0.101	100.0	225	4.67	50.0
? 6.000	3	25	2.203	0.600	7.750	7.530	0.220	10.0	100	4.01	50.0

Name	US Node	DS Node	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	11	17	1.428	11.2	2.2	0.600	0.550	0.008	0.0	30	1.110
1.001	17	18	1.307	52.0	2.2	0.425	0.500	0.008	0.0	31	0.649
2.000	13	18	0.861	6.8	4.0	0.600	0.496	0.015	0.0	55	0.895
1.002	18	20	1.307	52.0	6.1	0.500	0.613	0.024	0.0	52	0.886
3.000	9	20	1.308	10.3	4.0	0.600	0.540	0.015	0.0	43	1.227
1.003	20	21	1.307	52.0	10.1	0.613	0.688	0.039	0.0	67	1.019
4.000	7	21	1.414	11.1	4.0	0.600	0.526	0.015	0.0	41	1.292
1.004	21	24	1.307	52.0	14.1	0.688	0.785	0.055	0.0	80	1.113
5.000	5	24	2.458	19.3	4.0	0.600	0.648	0.015	0.0	31	1.939
1.005	24	25	1.307	52.0	18.1	0.785	0.886	0.070	0.0	92	1.195
6.000	3	25	2.458	19.3	4.0	0.600	0.670	0.015	0.0	31	1.939

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)
?	1.006	25	14	9.593	0.600	7.189	7.093	0.096	100.0	225	4.79	50.0
?	7.000	1	14	1.846	0.600	7.750	7.381	0.369	5.0	100	4.01	50.0
?	1.007	14	2	33.745	0.600	7.093	6.756	0.337	100.0	225	5.22	50.0
?	8.000	19	2	3.295	0.600	7.750	7.091	0.659	5.0	100	4.02	50.0
?	1.008	2	15	11.843	0.600	6.756	6.638	0.118	100.0	225	5.37	50.0
?	9.000	4	15	2.769	0.600	7.750	7.196	0.554	5.0	100	4.01	50.0
✓	1.009	15	16	10.003	0.600	6.638	6.538	0.100	100.0	225	5.50	50.0
?	10.000	6	16	2.783	0.600	7.750	7.402	0.348	8.0	100	4.02	50.0
✓	1.010	16	CPMH	9.991	0.600	6.538	6.438	0.100	100.0	225	5.63	50.0
?	11.000	10	CPMH	10.394	0.600	7.750	7.230	0.520	20.0	100	4.10	50.0
?	12.000	8	CPMH	2.827	0.600	7.750	7.397	0.353	8.0	100	4.02	50.0
?	1.011	CPMH	Attenuation tank	7.287	0.600	6.438	6.365	0.073	100.0	225	5.72	50.0
✓	1.012	Attenuation tank	HBMH	12.227	0.600	5.800	5.500	0.300	40.8	225	5.82	50.0
?	13.000	12	22	1.171	0.600	7.750	7.000	0.750	1.6	100	4.00	50.0

	Name	US Node	DS Node	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)
	1.006	25	14	1.307	52.0	22.1	0.886	0.982	0.086	0.0	102	1.256
	7.000	1	14	3.482	27.3	2.2	0.459	0.819	0.008	0.0	19	2.082
	1.007	14	2	1.307	52.0	24.2	0.982	1.089	0.094	0.0	108	1.283
	8.000	19	2	3.482	27.3	2.2	0.600	0.879	0.008	0.0	19	2.082
	1.008	2	15	1.307	52.0	26.4	1.089	1.207	0.102	0.0	114	1.313
	9.000	4	15	3.482	27.3	4.0	0.600	0.774	0.015	0.0	25	2.463
	1.009	15	16	1.307	52.0	30.3	1.207	1.307	0.118	0.0	123	1.356
	10.000	6	16	2.750	21.6	4.0	0.600	0.568	0.015	0.0	29	2.108
	1.010	16	CPMH	1.307	52.0	34.3	1.307	1.407	0.133	0.0	134	1.395
	11.000	10	CPMH	1.734	13.6	3.5	0.600	0.740	0.014	0.0	35	1.458
	12.000	8	CPMH	2.750	21.6	4.0	0.600	0.573	0.015	0.0	29	2.108
	1.011	CPMH	Attenuation tank	1.307	52.0	41.8	1.407	0.810	0.162	0.0	153	1.449
	1.012	Attenuation tank	HBMH	2.055	81.7	41.8	1.375	1.395	0.162	0.0	114	2.064
	13.000	12	22	6.242	49.0	2.2	0.600	0.550	0.008	0.0	14	3.137

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)
? 13.001	22	23	10.448	0.600	7.000	6.100	0.900	11.6	150	4.06	50.0
? 14.000	27	23	1.265	0.600	7.450	6.200	1.250	1.0	100	4.00	50.0
? 13.002	23	HBMH	7.300	0.600	6.100	5.620	0.480	15.2	150	4.11	50.0
? 15.000	26	HBMH	4.139	0.600	5.600	5.500	0.100	41.4	300	4.03	50.0
? 1.013	HBMH	Outflow	5.102	0.600	5.500	4.920	0.580	8.8	225	5.84	50.0

Name	US Node	DS Node	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)
13.001	22	23	2.973	52.5	2.2	0.500	0.950	0.008	0.0	21	1.469
14.000	27	23	7.754	60.9	3.5	0.900	0.900	0.014	0.0	16	4.160
13.002	23	HBMH	2.596	45.9	5.7	0.950	1.350	0.022	0.0	35	1.771
15.000	26	HBMH	2.450	173.2	15.1	1.200	1.320	0.059	0.0	59	1.524
1.013	HBMH	Outflow	4.438	176.5	66.6	1.395	2.055	0.259	0.0	95	4.130

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	1.470	29.4	100	Circular	8.450	7.750	0.600	8.350	7.700	0.550
1.001	10.034	100.0	225	Circular	8.350	7.700	0.425	8.325	7.600	0.500
2.000	1.649	80.0	100	Circular	8.450	7.750	0.600	8.325	7.729	0.496
1.002	11.252	100.0	225	Circular	8.325	7.600	0.500	8.325	7.487	0.613
3.000	2.272	35.0	100	Circular	8.450	7.750	0.600	8.325	7.685	0.540

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	11	150	Manhole	Adoptable	17	600	Manhole	Adoptable
1.001	17	600	Manhole	Adoptable	18	600	Manhole	Adoptable
2.000	13	150	Manhole	Adoptable	18	600	Manhole	Adoptable
1.002	18	600	Manhole	Adoptable	20	600	Manhole	Adoptable
3.000	9	150	Manhole	Adoptable	20	600	Manhole	Adoptable

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)
1.003	9.964	100.0	225	Circular	8.325	7.487	0.613	8.300	7.387	0.688
4.000	2.271	30.0	100	Circular	8.450	7.750	0.600	8.300	7.674	0.526
1.004	9.685	100.0	225	Circular	8.300	7.387	0.688	8.300	7.290	0.785
5.000	1.976	10.0	100	Circular	8.450	7.750	0.600	8.300	7.552	0.648
1.005	10.090	100.0	225	Circular	8.300	7.290	0.785	8.300	7.189	0.886
6.000	2.203	10.0	100	Circular	8.450	7.750	0.600	8.300	7.530	0.670
1.006	9.593	100.0	225	Circular	8.300	7.189	0.886	8.300	7.093	0.982
7.000	1.846	5.0	100	Circular	8.309	7.750	0.459	8.300	7.381	0.819
1.007	33.745	100.0	225	Circular	8.300	7.093	0.982	8.070	6.756	1.089
8.000	3.295	5.0	100	Circular	8.450	7.750	0.600	8.070	7.091	0.879
1.008	11.843	100.0	225	Circular	8.070	6.756	1.089	8.070	6.638	1.207
9.000	2.769	5.0	100	Circular	8.450	7.750	0.600	8.070	7.196	0.774
1.009	10.003	100.0	225	Circular	8.070	6.638	1.207	8.070	6.538	1.307
10.000	2.783	8.0	100	Circular	8.450	7.750	0.600	8.070	7.402	0.568
1.010	9.991	100.0	225	Circular	8.070	6.538	1.307	8.070	6.438	1.407

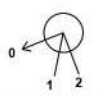
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.003	20	600	Manhole	Adoptable	21	600	Manhole	Adoptable
4.000	7	150	Manhole	Adoptable	21	600	Manhole	Adoptable
1.004	21	600	Manhole	Adoptable	24	600	Manhole	Adoptable
5.000	5	150	Manhole	Adoptable	24	600	Manhole	Adoptable
1.005	24	600	Manhole	Adoptable	25	600	Manhole	Adoptable
6.000	3	150	Manhole	Adoptable	25	600	Manhole	Adoptable
1.006	25	600	Manhole	Adoptable	14	600	Manhole	Adoptable
7.000	1	150	Manhole	Adoptable	14	600	Manhole	Adoptable
1.007	14	600	Manhole	Adoptable	2	600	Manhole	Adoptable
8.000	19	150	Manhole	Adoptable	2	600	Manhole	Adoptable
1.008	2	600	Manhole	Adoptable	15	600	Manhole	Adoptable
9.000	4	150	Manhole	Adoptable	15	600	Manhole	Adoptable
1.009	15	600	Manhole	Adoptable	16	600	Manhole	Adoptable
10.000	6	150	Manhole	Adoptable	16	600	Manhole	Adoptable
1.010	16	600	Manhole	Adoptable	CPMH	600	Manhole	Adoptable

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)
11.000	10.394	20.0	100	Circular	8.450	7.750	0.600	8.070	7.230	0.740
12.000	2.827	8.0	100	Circular	8.450	7.750	0.600	8.070	7.397	0.573
1.011	7.287	100.0	225	Circular	8.070	6.438	1.407	7.400	6.365	0.810
1.012	12.227	40.8	225	Circular	7.400	5.800	1.375	7.120	5.500	1.395
13.000	1.171	1.6	100	Circular	8.450	7.750	0.600	7.650	7.000	0.550
13.001	10.448	11.6	150	Circular	7.650	7.000	0.500	7.200	6.100	0.950
14.000	1.265	1.0	100	Circular	8.450	7.450	0.900	7.200	6.200	0.900
13.002	7.300	15.2	150	Circular	7.200	6.100	0.950	7.120	5.620	1.350
15.000	4.139	41.4	300	Circular	7.100	5.600	1.200	7.120	5.500	1.320
1.013	5.102	8.8	225	Circular	7.120	5.500	1.395	7.200	4.920	2.055

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
11.000	10	150	Manhole	Adoptable	CPMH	600	Manhole	Adoptable
12.000	8	150	Manhole	Adoptable	CPMH	600	Manhole	Adoptable
1.011	CPMH	600	Manhole	Adoptable	Attenuation tank	1200	Manhole	Adoptable
1.012	Attenuation tank	1200	Manhole	Adoptable	HBMH	1200	Manhole	Adoptable
13.000	12	150	Manhole	Adoptable	22	600	Manhole	Adoptable
13.001	22	600	Manhole	Adoptable	23	600	Manhole	Adoptable
14.000	27	150	Manhole	Adoptable	23	600	Manhole	Adoptable
13.002	23	600	Manhole	Adoptable	HBMH	1200	Manhole	Adoptable
15.000	26	600	Manhole	Adoptable	HBMH	1200	Manhole	Adoptable
1.013	HBMH	1200	Manhole	Adoptable	Outflow	1200	Manhole	Adoptable

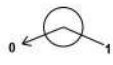
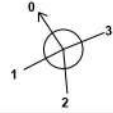
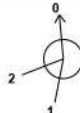
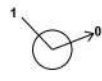
Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
1	8.309	0.559	150		0	7.000	7.750 100
2	8.070	1.314	600		1 2 0	8.000 1.007 1.008	7.091 6.756 6.756 225
3	8.450	0.700	150		0	6.000	7.750 100
4	8.450	0.700	150		0	9.000	7.750 100
5	8.450	0.700	150		0	5.000	7.750 100
6	8.450	0.700	150		0	10.000	7.750 100
7	8.450	0.700	150		0	4.000	7.750 100
8	8.450	0.700	150		0	12.000	7.750 100

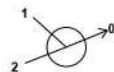
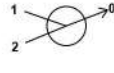
Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
9	8.450	0.700	150				
				0	3.000	7.750	100
10	8.450	0.700	150				
				0	11.000	7.750	100
11	8.450	0.700	150				
				0	1.000	7.750	100
12	8.450	0.700	150				
				0	13.000	7.750	100
13	8.450	0.700	150				
				0	2.000	7.750	100
15	8.070	1.432	600				
				1	9.000	7.196	100
				2	1.008	6.638	225
				0	1.009	6.638	225
16	8.070	1.532	600				
				1	10.000	7.402	100
				2	1.009	6.538	225
				0	1.010	6.538	225
CPMH	8.070	1.632	600				
				1	12.000	7.397	100
				2	11.000	7.230	100
				3	1.010	6.438	225
				0	1.011	6.438	225

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
Attenuation tank	7.400	1.600	1200		1	1.011	6.365	225
19	8.450	0.700	150		0	1.012	5.800	225
HBMH	7.120	1.620	1200		1	15.000	5.500	300
					2	13.002	5.620	150
					3	1.012	5.500	225
					0	1.013	5.500	225
Outflow	7.200	2.280	1200		1	1.013	4.920	225
22	7.650	0.650	600		1	13.000	7.000	100
					0	13.001	7.000	150
23	7.200	1.100	600		1	14.000	6.200	100
					2	13.001	6.100	150
					0	13.002	6.100	150
14	8.300	1.207	600		1	7.000	7.381	100
					2	1.006	7.093	225
					0	1.007	7.093	225
17	8.350	0.650	600		1	1.000	7.700	100
					0	1.001	7.700	225

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
18	8.325	0.725	600		1	2.000	7.729	100
					2	1.001	7.600	225
					0	1.002	7.600	225
20	8.325	0.838	600		1	3.000	7.685	100
					2	1.002	7.487	225
					0	1.003	7.487	225
21	8.300	0.913	600		1	4.000	7.674	100
					2	1.003	7.387	225
					0	1.004	7.387	225
24	8.300	1.010	600		1	5.000	7.552	100
					2	1.004	7.290	225
					0	1.005	7.290	225
25	8.300	1.111	600		1	6.000	7.530	100
					2	1.005	7.189	225
					0	1.006	7.189	225
26	7.100	1.500	600					
					0	15.000	5.600	300
27	8.450	1.000	150					
					0	14.000	7.450	100

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Additional Storage (m ³ /ha)	0.0	Check Discharge Volume	x
Rainfall Events	Singular	Skip Steady State	x	Starting Level (m)			
Summer CV	0.950	Drain Down Time (mins)	1440	Check Discharge Rate(s)	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 %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0	100	0	0	0
30	0	0	0	100	45	0	0

Node HBMH Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	5.500	Product Number	CTL-SHE-0066-2000-1100-2000
Design Depth (m)	1.100	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	2.0	Min Node Diameter (mm)	1200

Node Attenuation tank Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	5.800
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	1065

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	300.0	0.0	0.800	300.0	0.0	0.801	0.0	0.0

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

Results for 2 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 summer	1	10	7.768	0.018	1.7	0.0003	0.0000	OK
15 minute summer	2	11	6.862	0.106	20.2	0.0299	0.0000	OK
15 minute summer	3	10	7.780	0.030	3.1	0.0005	0.0000	OK
15 minute summer	4	10	7.774	0.024	3.0	0.0004	0.0000	OK
15 minute summer	5	10	7.781	0.031	3.1	0.0006	0.0000	OK
15 minute summer	6	10	7.777	0.027	3.0	0.0005	0.0000	OK
15 minute summer	7	10	7.790	0.040	3.0	0.0007	0.0000	OK
15 minute summer	8	10	7.777	0.027	3.0	0.0005	0.0000	OK
15 minute summer	9	10	7.793	0.043	3.1	0.0008	0.0000	OK
15 minute summer	10	10	7.781	0.031	2.7	0.0006	0.0000	OK
15 minute summer	11	10	7.780	0.030	1.7	0.0005	0.0000	OK
15 minute summer	12	10	7.763	0.013	1.7	0.0002	0.0000	OK
15 minute summer	13	10	7.805	0.055	3.1	0.0010	0.0000	OK
15 minute summer	15	11	6.755	0.117	22.6	0.0332	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 summer	1	7.000	14	1.7	1.835	0.062	0.0017	
15 minute summer	2	1.008	15	20.0	1.022	0.385	0.2319	
15 minute summer	3	6.000	25	3.1	1.669	0.161	0.0041	
15 minute summer	4	9.000	15	3.0	2.175	0.110	0.0038	
15 minute summer	5	5.000	24	3.1	1.658	0.161	0.0037	
15 minute summer	6	10.000	16	3.0	1.826	0.139	0.0046	
15 minute summer	7	4.000	21	3.0	1.103	0.270	0.0062	
15 minute summer	8	12.000	CPMH	3.0	1.827	0.139	0.0046	
15 minute summer	9	3.000	20	3.1	1.049	0.302	0.0067	
15 minute summer	10	11.000	CPMH	2.7	1.325	0.198	0.0212	
15 minute summer	11	1.000	17	1.7	0.909	0.152	0.0028	
15 minute summer	12	13.000	22	1.7	2.178	0.035	0.0009	
15 minute summer	13	2.000	18	3.1	0.775	0.458	0.0066	
15 minute summer	15	1.009	16	22.8	1.036	0.440	0.2205	

Results for 2 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 summer	16	11	6.665	0.127	25.4	0.0361	0.0000	OK
15 minute summer	CPMH	11	6.578	0.140	30.4	0.0398	0.0000	OK
240 minute summer	Attenuation tank	216	5.930	0.130	13.9	37.3129	0.0000	OK
15 minute summer	19	10	7.768	0.018	1.7	0.0003	0.0000	OK
15 minute summer	HBMH	10	6.019	0.519	19.8	0.5868	0.0000	SURCHARGED
15 minute summer	Outflow	116	4.936	0.016	1.9	0.0000	0.0000	OK
15 minute summer	22	10	7.019	0.019	1.7	0.0053	0.0000	OK
15 minute summer	23	10	6.131	0.031	4.4	0.0089	0.0000	OK
15 minute summer	14	10	7.187	0.094	18.7	0.0266	0.0000	OK
15 minute summer	17	10	7.728	0.028	1.7	0.0079	0.0000	OK
15 minute summer	18	10	7.647	0.047	4.8	0.0133	0.0000	OK
15 minute summer	20	10	7.549	0.062	7.9	0.0176	0.0000	OK
15 minute summer	21	10	7.462	0.075	10.9	0.0213	0.0000	OK
15 minute summer	24	10	7.376	0.086	14.0	0.0245	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 summer	16	1.010	CPMH	25.6	1.041	0.493	0.2461	
15 minute summer	CPMH	1.011	Attenuation tank	30.8	1.272	0.592	0.1761	
240 minute summer	Attenuation tank	1.012	HBMH	-3.9	0.168	-0.048	0.3889	
15 minute summer	19	8.000	2	1.7	1.877	0.062	0.0030	
15 minute summer	HBMH	1.013	Outflow	1.9	1.422	0.011	0.0066	19.4
15 minute summer	22	13.001	23	1.7	0.884	0.032	0.0205	
15 minute summer	23	13.002	HBMH	4.4	1.014	0.096	0.0740	
15 minute summer	14	1.007	2	18.5	1.090	0.356	0.5731	
15 minute summer	17	1.001	18	1.7	0.395	0.033	0.0440	
15 minute summer	18	1.002	20	4.8	0.647	0.092	0.0839	
15 minute summer	20	1.003	21	7.9	0.771	0.152	0.1023	
15 minute summer	21	1.004	24	10.9	0.851	0.210	0.1241	
15 minute summer	24	1.005	25	14.0	0.923	0.269	0.1529	

Results for 2 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 summer	25	10	7.286	0.097	17.1	0.0273	0.0000	OK
15 minute summer	26	10	6.022	0.422	11.6	0.1195	0.0000	SURCHARGED
15 minute summer	27	10	7.467	0.017	2.7	0.0003	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 summer	25	1.006	14	17.0	1.064	0.327	0.1535	
15 minute summer	26	15.000	HBMH	12.3	0.597	0.071	0.2915	
15 minute summer	27	14.000	23	2.7	4.375	0.044	0.0008	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.92%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	7.781	0.031	4.3	0.0006	0.0000	OK
15 minute summer	2	11	7.230	0.474	47.5	0.1340	0.0000	SURCHARGED
15 minute summer	3	10	7.804	0.054	8.0	0.0010	0.0000	OK
15 minute summer	4	10	7.792	0.042	8.0	0.0008	0.0000	OK
15 minute summer	5	10	7.805	0.055	8.0	0.0010	0.0000	OK
15 minute summer	6	10	7.798	0.048	7.9	0.0009	0.0000	OK
15 minute summer	7	10	7.828	0.078	8.0	0.0014	0.0000	OK
15 minute summer	8	10	7.799	0.049	8.0	0.0009	0.0000	OK
15 minute summer	9	10	7.833	0.083	8.0	0.0015	0.0000	OK
15 minute summer	10	10	7.804	0.054	7.0	0.0010	0.0000	OK
15 minute summer	11	10	7.803	0.053	4.3	0.0009	0.0000	OK
15 minute summer	12	10	7.771	0.021	4.3	0.0004	0.0000	OK
15 minute summer	13	10	7.879	0.129	8.0	0.0023	0.0000	SURCHARGED
15 minute summer	15	11	7.111	0.473	50.3	0.1339	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 summer	1	7.000	14	4.3	2.318	0.157	0.0078	
15 minute summer	2	1.008	15	44.2	1.113	0.851	0.4710	
15 minute summer	3	6.000	25	8.0	2.063	0.414	0.0085	
15 minute summer	4	9.000	15	8.0	2.768	0.293	0.0080	
15 minute summer	5	5.000	24	8.0	2.041	0.414	0.0077	
15 minute summer	6	10.000	16	7.9	2.299	0.366	0.0096	
15 minute summer	7	4.000	21	8.0	1.355	0.721	0.0133	
15 minute summer	8	12.000	CPMH	8.0	2.307	0.370	0.0098	
15 minute summer	9	3.000	20	8.0	1.277	0.779	0.0141	
15 minute summer	10	11.000	CPMH	7.0	1.689	0.514	0.0431	
15 minute summer	11	1.000	17	4.3	1.157	0.383	0.0055	
15 minute summer	12	13.000	22	4.3	2.792	0.088	0.0018	
15 minute summer	13	2.000	18	8.0	1.022	1.182	0.0125	
15 minute summer	15	1.009	16	50.3	1.265	0.968	0.3978	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.92%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	16	11	6.971	0.433	57.0	0.1226	0.0000	SURCHARGED
15 minute summer	CPMH	11	6.792	0.354	69.7	0.1002	0.0000	SURCHARGED
360 minute summer	Attenuation tank	360	6.170	0.370	22.9	105.9105	0.0000	SURCHARGED
15 minute summer	19	9	7.779	0.029	4.3	0.0005	0.0000	OK
15 minute summer	HBMH	9	6.207	0.707	52.2	0.8001	0.0000	SURCHARGED
15 minute summer	Outflow	410	4.936	0.016	1.9	0.0000	0.0000	OK
15 minute summer	22	10	7.029	0.029	4.3	0.0082	0.0000	OK
15 minute summer	23	9	6.241	0.141	11.3	0.0398	0.0000	OK
15 minute summer	14	11	7.464	0.371	43.7	0.1050	0.0000	SURCHARGED
15 minute summer	17	10	7.744	0.044	4.3	0.0123	0.0000	OK
15 minute summer	18	10	7.679	0.079	12.3	0.0222	0.0000	OK
15 minute summer	20	11	7.616	0.129	20.3	0.0366	0.0000	OK
15 minute summer	21	11	7.611	0.224	28.3	0.0635	0.0000	OK
15 minute summer	24	11	7.578	0.288	36.9	0.0816	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 summer	16	1.010	CPMH	57.1	1.435	1.098	0.3974	
15 minute summer	CPMH	1.011	Attenuation tank	69.9	1.757	1.345	0.2852	
360 minute summer	Attenuation tank	1.012	HBMH	-7.5	-0.193	-0.092	0.4863	
15 minute summer	19	8.000	2	4.3	2.399	0.157	0.0154	
15 minute summer	HBMH	1.013	Outflow	1.9	1.422	0.011	0.0066	51.5
15 minute summer	22	13.001	23	4.3	1.020	0.082	0.1020	
15 minute summer	23	13.002	HBMH	12.8	1.093	0.279	0.1269	
15 minute summer	14	1.007	2	43.2	1.182	0.832	1.3421	
15 minute summer	17	1.001	18	4.3	0.498	0.083	0.0888	
15 minute summer	18	1.002	20	12.3	0.780	0.236	0.1930	
15 minute summer	20	1.003	21	20.3	0.908	0.390	0.3156	
15 minute summer	21	1.004	24	28.9	0.970	0.557	0.3850	
15 minute summer	24	1.005	25	32.5	1.058	0.626	0.4013	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.92%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	25	11	7.531	0.342	40.4	0.0967	0.0000	SURCHARGED
15 minute summer	26	9	6.216	0.616	30.3	0.1742	0.0000	SURCHARGED
30 minute summer	27	17	7.478	0.028	6.3	0.0005	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 summer	25	1.006	14	39.4	1.248	0.758	0.3815	
15 minute summer	26	15.000	HBMH	31.2	0.486	0.180	0.2915	
30 minute summer	27	14.000	23	6.3	5.259	0.103	0.0016	

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	9	7.785	0.035	5.5	0.0006	0.0000	OK
15 minute summer	2	11	7.399	0.643	47.3	0.1820	0.0000	SURCHARGED
15 minute summer	3	11	7.824	0.074	10.1	0.0013	0.0000	OK
15 minute summer	4	10	7.799	0.049	10.0	0.0009	0.0000	OK
15 minute summer	5	11	7.856	0.106	10.1	0.0019	0.0000	SURCHARGED
15 minute summer	6	10	7.807	0.057	10.0	0.0010	0.0000	OK
15 minute summer	7	11	7.897	0.147	10.1	0.0026	0.0000	SURCHARGED
15 minute summer	8	10	7.807	0.057	10.0	0.0010	0.0000	OK
15 minute summer	9	11	7.912	0.162	10.1	0.0029	0.0000	SURCHARGED
15 minute summer	10	10	7.813	0.063	8.9	0.0011	0.0000	OK
15 minute summer	11	12	7.869	0.119	5.5	0.0021	0.0000	SURCHARGED
15 minute summer	12	10	7.774	0.024	5.4	0.0004	0.0000	OK
15 minute summer	13	10	7.916	0.166	10.1	0.0030	0.0000	SURCHARGED
15 minute summer	15	11	7.261	0.623	55.4	0.1763	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 summer	1	7.000	14	5.4	2.442	0.199	0.0093	
15 minute summer	2	1.008	15	48.9	1.231	0.942	0.4710	
15 minute summer	3	6.000	25	9.9	2.144	0.515	0.0155	
15 minute summer	4	9.000	15	10.0	2.906	0.366	0.0114	
15 minute summer	5	5.000	24	9.9	2.120	0.515	0.0155	
15 minute summer	6	10.000	16	10.0	2.412	0.463	0.0115	
15 minute summer	7	4.000	21	10.0	1.364	0.902	0.0178	
15 minute summer	8	12.000	CPMH	10.0	2.414	0.463	0.0117	
15 minute summer	9	3.000	20	10.1	1.292	0.984	0.0178	
15 minute summer	10	11.000	CPMH	8.9	1.778	0.653	0.0520	
15 minute summer	11	1.000	17	5.5	1.232	0.490	0.0115	
15 minute summer	12	13.000	22	5.4	2.958	0.110	0.0021	
15 minute summer	13	2.000	18	10.1	1.289	1.491	0.0129	
15 minute summer	15	1.009	16	55.9	1.405	1.075	0.3978	

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	16	11	7.091	0.553	64.0	0.1564	0.0000	SURCHARGED
15 minute summer	CPMH	11	6.864	0.426	80.5	0.1204	0.0000	SURCHARGED
360 minute summer	Attenuation tank	368	6.283	0.483	29.3	138.2557	0.0000	SURCHARGED
15 minute summer	19	10	7.780	0.030	5.4	0.0005	0.0000	OK
15 minute summer	HBMH	9	6.293	0.793	64.8	0.8970	0.0000	SURCHARGED
15 minute summer	Outflow	538	4.936	0.016	1.9	0.0000	0.0000	OK
15 minute summer	22	10	7.033	0.033	5.4	0.0092	0.0000	OK
15 minute summer	23	10	6.352	0.252	14.3	0.0714	0.0000	SURCHARGED
15 minute summer	14	11	7.668	0.575	44.1	0.1628	0.0000	SURCHARGED
15 minute summer	17	12	7.859	0.159	5.5	0.0450	0.0000	OK
15 minute summer	18	12	7.857	0.257	15.5	0.0728	0.0000	SURCHARGED
15 minute summer	20	11	7.849	0.362	23.6	0.1025	0.0000	SURCHARGED
15 minute summer	21	11	7.830	0.443	32.6	0.1254	0.0000	SURCHARGED
15 minute summer	24	11	7.800	0.510	42.3	0.1442	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 summer	16	1.010	CPMH	64.3	1.618	1.238	0.3974	
15 minute summer	CPMH	1.011	Attenuation tank	80.5	2.025	1.549	0.2869	
360 minute summer	Attenuation tank	1.012	HBMH	-9.9	-0.248	-0.121	0.4863	
15 minute summer	19	8.000	2	5.4	2.414	0.197	0.0162	
15 minute summer	HBMH	1.013	Outflow	1.9	1.422	0.011	0.0066	64.9
15 minute summer	22	13.001	23	5.4	1.024	0.103	0.1066	
15 minute summer	23	13.002	HBMH	15.2	0.897	0.332	0.1285	
15 minute summer	14	1.007	2	44.5	1.222	0.856	1.3421	
15 minute summer	17	1.001	18	6.3	0.527	0.121	0.3499	
15 minute summer	18	1.002	20	16.6	0.805	0.320	0.4475	
15 minute summer	20	1.003	21	23.0	0.912	0.443	0.3963	
15 minute summer	21	1.004	24	32.4	0.948	0.623	0.3852	
15 minute summer	24	1.005	25	34.4	1.034	0.662	0.4013	

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	25	11	7.748	0.559	40.6	0.1582	0.0000	SURCHARGED
15 minute summer	26	9	6.306	0.706	38.2	0.1997	0.0000	SURCHARGED
30 minute summer	27	17	7.482	0.032	7.9	0.0006	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 summer	25	1.006	14	40.4	1.226	0.777	0.3815	
15 minute summer	26	15.000	HBMH	39.2	0.557	0.227	0.2915	
30 minute summer	27	14.000	23	7.9	5.483	0.129	0.0019	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	12	8.086	0.336	7.9	0.0060	0.0000	FLOOD RISK
15 minute summer	2	11	7.716	0.960	55.5	0.2716	0.0000	SURCHARGED
15 minute summer	3	12	8.251	0.501	14.6	0.0090	0.0000	FLOOD RISK
15 minute summer	4	10	7.818	0.068	14.5	0.0012	0.0000	OK
15 minute summer	5	12	8.317	0.567	14.6	0.0102	0.0000	FLOOD RISK
15 minute summer	6	10	7.826	0.076	14.5	0.0014	0.0000	OK
15 minute summer	7	12	8.364	0.614	14.6	0.0111	0.0000	FLOOD RISK
15 minute summer	8	10	7.825	0.075	14.5	0.0014	0.0000	OK
15 minute summer	9	12	8.386	0.636	14.6	0.0114	0.0000	FLOOD RISK
15 minute summer	10	10	7.838	0.088	12.9	0.0016	0.0000	OK
15 minute summer	11	12	8.339	0.589	7.9	0.0106	0.0000	FLOOD RISK
15 minute summer	12	10	7.780	0.030	7.9	0.0005	0.0000	OK
15 minute summer	13	12	8.380	0.630	14.6	0.0113	0.0000	FLOOD RISK
15 minute summer	15	11	7.549	0.911	63.9	0.2579	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 summer	1	7.000	14	7.1	2.523	0.258	0.0144	
15 minute summer	2	1.008	15	57.8	1.452	1.111	0.4710	
15 minute summer	3	6.000	25	11.7	2.194	0.604	0.0172	
15 minute summer	4	9.000	15	14.3	2.992	0.524	0.0187	
15 minute summer	5	5.000	24	11.6	2.167	0.603	0.0155	
15 minute summer	6	10.000	16	14.5	2.563	0.671	0.0157	
15 minute summer	7	4.000	21	11.8	1.505	1.061	0.0178	
15 minute summer	8	12.000	CPMH	14.5	2.567	0.671	0.0159	
15 minute summer	9	3.000	20	11.0	1.406	1.071	0.0178	
15 minute summer	10	11.000	CPMH	12.9	1.859	0.947	0.0719	
15 minute summer	11	1.000	17	6.1	1.278	0.548	0.0115	
15 minute summer	12	13.000	22	7.9	3.249	0.161	0.0029	
15 minute summer	13	2.000	18	13.4	1.711	1.980	0.0129	
15 minute summer	15	1.009	16	65.9	1.656	1.267	0.3978	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	16	11	7.327	0.789	75.6	0.2233	0.0000	SURCHARGED
15 minute summer	CPMH	11	7.012	0.574	99.6	0.1623	0.0000	SURCHARGED
600 minute summer	Attenuation tank	600	6.562	0.762	26.5	217.9826	0.0000	SURCHARGED
15 minute summer	19	11	7.808	0.058	7.9	0.0010	0.0000	OK
600 minute summer	HBMH	600	6.562	1.062	10.5	1.2009	0.0000	SURCHARGED
600 minute summer	Outflow	600	4.937	0.017	2.0	0.0000	0.0000	OK
15 minute summer	22	10	7.039	0.039	7.9	0.0111	0.0000	OK
15 minute summer	23	10	6.659	0.559	20.7	0.1582	0.0000	SURCHARGED
15 minute summer	14	12	8.067	0.974	51.2	0.2756	0.0000	FLOOD RISK
15 minute summer	17	12	8.327	0.627	14.9	0.1774	0.0000	FLOOD RISK
15 minute summer	18	12	8.325	0.725	16.5	0.2051	0.0000	FLOOD RISK
15 minute summer	20	12	8.316	0.829	25.3	0.2345	0.0000	FLOOD RISK
15 minute summer	21	12	8.293	0.906	34.1	0.2565	0.0000	FLOOD RISK
15 minute summer	24	12	8.251	0.961	43.7	0.2718	0.0000	FLOOD RISK

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 summer	16	1.010	CPMH	75.8	1.905	1.458	0.3974	
15 minute summer	CPMH	1.011	Attenuation tank	99.2	2.494	1.909	0.2869	
600 minute summer	Attenuation tank	1.012	HBMH	-8.8	-0.221	-0.108	0.4863	
15 minute summer	19	8.000	2	7.7	2.325	0.280	0.0207	
600 minute summer	HBMH	1.013	Outflow	2.0	1.445	0.011	0.0069	211.1
15 minute summer	22	13.001	23	7.9	0.995	0.150	0.1112	
15 minute summer	23	13.002	HBMH	21.3	1.211	0.465	0.1285	
15 minute summer	14	1.007	2	53.1	1.336	1.022	1.3421	
15 minute summer	17	1.001	18	-9.6	0.546	-0.185	0.3991	
15 minute summer	18	1.002	20	15.4	0.814	0.296	0.4475	
15 minute summer	20	1.003	21	23.8	0.916	0.459	0.3963	
15 minute summer	21	1.004	24	32.1	0.965	0.617	0.3852	
15 minute summer	24	1.005	25	40.6	1.033	0.781	0.4013	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	25	12	8.176	0.987	52.2	0.2794	0.0000	FLOOD RISK
600 minute summer	26	600	6.562	0.962	6.5	0.2722	0.0000	SURCHARGED
30 minute summer	27	15	7.485	0.035	11.5	0.0006	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 summer	25	1.006	14	46.8	1.198	0.900	0.3815	
600 minute summer	26	15.000	HBMH	6.4	0.098	0.037	0.2915	
30 minute summer	27	14.000	23	11.5	5.571	0.188	0.0061	