Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Width (mm)	Depth (m)
OB1	0.013	5.00	84.303	600	600	0.597
S101	0.095	5.00	84.325	600		1.100
S102			84.325	600		1.600
OB2	0.013	5.00	84.303	600	600	0.597
S103	0.095	5.00	84.225	1200		1.283
S104			84.393	1200		2.014
S105	0.053	5.00	85.176	600		1.098
S106	0.021	5.00	85.176	600		1.304
S107	0.053	5.00	85.122	600		1.291
S108			85.122	1200		1.490
S109			84.683	1350		2.479
S110	0.061	5.00	84.629	600		1.100
S111	0.017	5.00	84.708	600		1.582
S112	0.062	5.00	84.620	1200		1.300
S113			84.625	1200		1.672
S114			84.452	1350		2.310
OB3	0.051	5.00	84.545	600	600	0.853
S115	0.020	5.00	84.617	1200		1.311
OB4	0.023	5.00	84.741	600	600	0.850
S116	0.087	5.00	84.333	1200		1.229
OB5	0.045	5.00	83.446	600	600	0.750
S117	0.012	5.00	83.887	1200		1.287
OB6	0.109	5.00	84.183	600	600	0.850
S118			84.225	1350		1.988
PI-1			84.308			2.186
S119			84.308	1350		2.206
TANK			84.256			2.706
HB			84.450	1500		2.917
S120			84.308	1200		2.823
S121			83.609	1200		4.051
Ex.MH			83.650	1350		4.560

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Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	2.670	6.6	150	84.303	83.706	0.447	84.325	83.300	0.875
1.001	75.000	150.0	225	84.325	83.225	0.875	84.325	82.725	1.375
1.002	29.970	110.6	225	84.325	82.725	1.375	84.393	82.454	1.714
3.000	5.760	4.9	150	84.303	83.706	0.447	84.393	82.527	1.716
2.000	73.160	149.9	225	84.225	82.942	1.058	84.393	82.454	1.714
1.003	15.090	150.9	300	84.393	82.379	1.714	84.683	82.279	2.104
4.000	26.500	128.6	225	85.176	84.078	0.873	85.176	83.872	1.079
4.001	35.370	147.4	225	85.176	83.872	1.079	85.122	83.632	1.265
5.000	29.800	149.7	225	85.122	83.831	1.066	85.122	83.632	1.265
4.002	15.630	12.2	225	85.122	83.632	1.265	84.683	82.354	2.104
1.004	9.270	149.5	375	84.683	82.204	2.104	84.452	82.142	1.935
6.000	60.400	149.9	225	84.629	83.529	0.875	84.708	83.126	1.357
6.001	24.500	141.6	225	84.708	83.126	1.357	84.625	82.953	1.447
7.000	54.770	149.2	225	84.620	83.320	1.075	84.625	82.953	1.447
6.002	8.100	150.0	225	84.625	82.953	1.447	84.452	82.899	1.328

Link	US Node	Dia (mm)	Width (mm)	DS Node	Dia (mm)
1.000	OB1	600	600	S101	600
1.001	S101	600		S102	600
1.002	S102	600		S104	1200
3.000	OB2	600	600	S104	1200
2.000	S103	1200		S104	1200
1.003	S104	1200		S109	1350
4.000	S105	600		S106	600
4.001	S106	600		S108	1200
5.000	S107	600		S108	1200
4.002	S108	1200		S109	1350
1.004	S109	1350		S114	1350
6.000	S110	600		S111	600
6.001	S111	600		S113	1200
7.000	S112	1200		S113	1200
6.002	S113	1200		S114	1350

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Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.005	12.950	150.6	375	84.452	82.142	1.935	84.256	82.056	1.825
8.000	4.530	11.7	225	84.545	83.692	0.628	84.617	83.306	1.086
8.001	19.000	149.6	225	84.617	83.306	1.086	84.333	83.179	0.929
9.000	7.380	11.6	150	84.741	83.891	0.700	84.333	83.254	0.929
8.002	32.600	41.2	300	84.333	83.104	0.929	84.225	82.312	1.613
10.000	10.040	104.6	225	83.446	82.696	0.525	83.887	82.600	1.062
10.001	32.000	150.2	225	83.887	82.600	1.062	84.225	82.387	1.613
11.000	4.620	4.5	300	84.183	83.333	0.550	84.225	82.308	1.617
8.003	1.950	127.0	375	84.225	82.237	1.613	84.308	82.222	1.711
8.004	2.000	100.0	375	84.308	82.122	1.811	84.308	82.102	1.831
8.005	2.000	117.6	375	84.308	82.102	1.831	84.256	82.085	1.796
1.006	2.500	150.0	375	84.256	81.550	2.331	84.450	81.533	2.542
1.007	7.270	151.5	225	84.450	81.533	2.692	84.308	81.485	2.598
1.008	12.000	150.0	225	84.308	81.485	2.598	83.609	81.405	1.979
1.009	9.650	20.6	225	83.609	79.558	3.826	83.650	79.090	4.335

Link	US Node	Dia (mm)	Width (mm)	DS Node	Dia (mm)
1.005	S114	1350		TANK	
8.000	OB3	600	600	S115	1200
8.001	S115	1200		S116	1200
9.000	OB4	600	600	S116	1200
8.002	S116	1200		S118	1350
10.000	OB5	600	600	S117	1200
10.001	S117	1200		S118	1350
11.000	OB6	600	600	S118	1350
8.003	S118	1350		PI-1	
8.004	PI-1			S119	1350
8.005	S119	1350		TANK	
1.006	TANK			HB	1500
1.007	HB	1500		S120	1200
1.008	S120	1200		S121	1200
1.009	S121	1200		Ex.MH	1350

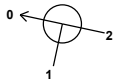
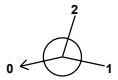
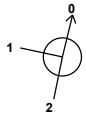
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Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Connections	Link	IL (m)	Dia (mm)
OB1	84.303	0.597	600	600		0	1.000	83.706	150
S101	84.325	1.100	600			1	1.000	83.300	150
						0	1.001	83.225	225
S102	84.325	1.600	600			1	1.001	82.725	225
						0	1.002	82.725	225
OB2	84.303	0.597	600	600		0	3.000	83.706	150
S103	84.225	1.283	1200			0	2.000	82.942	225
S104	84.393	2.014	1200			1	3.000	82.527	150
						2	2.000	82.454	225
						3	1.002	82.454	225
						0	1.003	82.379	300
S105	85.176	1.098	600			0	4.000	84.078	225
S106	85.176	1.304	600			1	4.000	83.872	225
						0	4.001	83.872	225

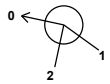
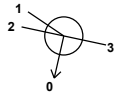
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Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Connections	Link	IL (m)	Dia (mm)
S107	85.122	1.291	600					
					0	5.000	83.831	225
S108	85.122	1.490	1200			1	5.000	83.632	225
						2	4.001	83.632	225
						0	4.002	83.632	225
S109	84.683	2.479	1350			1	4.002	82.354	225
						2	1.003	82.279	300
						0	1.004	82.204	375
S110	84.629	1.100	600					
					0	6.000	83.529	225
S111	84.708	1.582	600			1	6.000	83.126	225
					0	6.001	83.126	225
S112	84.620	1.300	1200					
					0	7.000	83.320	225
S113	84.625	1.672	1200			1	7.000	82.953	225
						2	6.001	82.953	225
						0	6.002	82.953	225
S114	84.452	2.310	1350			1	6.002	82.899	225
						2	1.004	82.142	375
						0	1.005	82.142	375

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Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Connections	Link	IL (m)	Dia (mm)
OB3	84.545	0.853	600	600				
					0	8.000	83.692	225
S115	84.617	1.311	1200			1	8.000	83.306	225
						0	8.001	83.306	225
OB4	84.741	0.850	600	600				
					0	9.000	83.891	150
S116	84.333	1.229	1200			1	9.000	83.254	150
						2	8.001	83.179	225
					0	8.002	83.104	300
OB5	83.446	0.750	600	600				
					0	10.000	82.696	225
S117	83.887	1.287	1200			1	10.000	82.600	225
									
					0	10.001	82.600	225
OB6	84.183	0.850	600	600				
					0	11.000	83.333	300
S118	84.225	1.988	1350			1	11.000	82.308	300
						2	10.001	82.387	225
						3	8.002	82.312	300
					0	8.003	82.237	375

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Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Connections		Link	IL (m)	Dia (mm)
PI-1	84.308	2.186				1	8.003	82.222	375
						0	8.004	82.122	375
S119	84.308	2.206	1350			1	8.004	82.102	375
						0	8.005	82.102	375
TANK	84.256	2.706				1	8.005	82.085	375
						2	1.005	82.056	375
						0	1.006	81.550	375
HB	84.450	2.917	1500			1	1.006	81.533	375
						0	1.007	81.533	225
S120	84.308	2.823	1200			1	1.007	81.485	225
						0	1.008	81.485	225
S121	83.609	4.051	1200			1	1.008	81.405	225
						0	1.009	79.558	225
Ex.MH	83.650	4.560	1350			1	1.009	79.090	225

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Simulation Settings

Rainfall Methodology	FSR	Summer CV	0.750	Additional Storage (m³/ha)	0.0
Rainfall Events	Singular	Winter CV	0.840	Starting Level (m)	
FSR Region	England and Wales	Analysis Speed	Detailed	Check Discharge Rate(s)	x
M5-60 (mm)	17.000	Skip Steady State	x	Check Discharge Volume	x
Ratio-R	0.400	Drain Down Time (mins)	10080		

Storm Durations

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

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	45	0	0
30	0	0	0				

Node HB Online Hydro-Brake® Control

Flap Valve	x	Design Flow (l/s)	20.2	Min Outlet Diameter (m)	0.225
Replaces Downstream Link	x	Objective	(HE) Minimise upstream storage	Min Node Diameter (mm)	1500
Invert Level (m)	81.533	Sump Available	✓		
Design Depth (m)	1.200	Product Number	CTL-SHE-0197-2020-1200-2020		

Node TANK Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	81.550
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.96	Time to half empty (mins)	134

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	256.0	0.0	1.440	256.0	0.0	1.441	0.0	0.0

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Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
1 year 15 minute summer	92.521	26.180	1 year 7200 minute winter	0.864	0.341
1 year 15 minute winter	64.927	26.180	1 year 8640 minute summer	1.171	0.299
1 year 30 minute summer	60.022	16.984	1 year 8640 minute winter	0.756	0.299
1 year 30 minute winter	42.121	16.984	1 year 10080 minute summer	1.047	0.267
1 year 60 minute summer	40.398	10.676	1 year 10080 minute winter	0.676	0.267
1 year 60 minute winter	26.839	10.676	30 year 15 minute summer	226.195	64.005
1 year 120 minute summer	24.980	6.602	30 year 15 minute winter	158.733	64.005
1 year 120 minute winter	16.596	6.602	30 year 30 minute summer	147.452	41.724
1 year 180 minute summer	19.271	4.959	30 year 30 minute winter	103.475	41.724
1 year 180 minute winter	12.527	4.959	30 year 60 minute summer	98.615	26.061
1 year 240 minute summer	15.301	4.043	30 year 60 minute winter	65.517	26.061
1 year 240 minute winter	10.165	4.043	30 year 120 minute summer	59.946	15.842
1 year 360 minute summer	11.775	3.030	30 year 120 minute winter	39.827	15.842
1 year 360 minute winter	7.654	3.030	30 year 180 minute summer	45.598	11.734
1 year 480 minute summer	9.342	2.469	30 year 180 minute winter	29.640	11.734
1 year 480 minute winter	6.207	2.469	30 year 240 minute summer	35.759	9.450
1 year 600 minute summer	7.682	2.101	30 year 240 minute winter	23.758	9.450
1 year 600 minute winter	5.249	2.101	30 year 360 minute summer	26.939	6.932
1 year 720 minute summer	6.859	1.838	30 year 360 minute winter	17.511	6.932
1 year 720 minute winter	4.609	1.838	30 year 480 minute summer	20.981	5.545
1 year 960 minute summer	5.653	1.489	30 year 480 minute winter	13.940	5.545
1 year 960 minute winter	3.745	1.489	30 year 600 minute summer	17.039	4.661
1 year 1440 minute summer	4.127	1.106	30 year 600 minute winter	11.642	4.661
1 year 1440 minute winter	2.773	1.106	30 year 720 minute summer	15.093	4.045
1 year 2160 minute summer	2.975	0.822	30 year 720 minute winter	10.143	4.045
1 year 2160 minute winter	2.050	0.822	30 year 960 minute summer	12.278	3.233
1 year 2880 minute summer	2.487	0.666	30 year 960 minute winter	8.133	3.233
1 year 2880 minute winter	1.671	0.666	30 year 1440 minute summer	8.788	2.355
1 year 4320 minute summer	1.898	0.496	30 year 1440 minute winter	5.906	2.355
1 year 4320 minute winter	1.250	0.496	30 year 2160 minute summer	6.201	1.714
1 year 5760 minute summer	1.570	0.402	30 year 2160 minute winter	4.273	1.714
1 year 5760 minute winter	1.016	0.402	30 year 2880 minute summer	5.100	1.367
1 year 7200 minute summer	1.338	0.341	30 year 2880 minute winter	3.428	1.367

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Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
30 year 4320 minute summer	3.798	0.993	100 year +45% CC 480 minute summer	39.658	10.480
30 year 4320 minute winter	2.501	0.993	100 year +45% CC 480 minute winter	26.348	10.480
30 year 5760 minute summer	3.090	0.791	100 year +45% CC 600 minute summer	32.099	8.780
30 year 5760 minute winter	2.000	0.791	100 year +45% CC 600 minute winter	21.932	8.780
30 year 7200 minute summer	2.598	0.663	100 year +45% CC 720 minute summer	28.365	7.602
30 year 7200 minute winter	1.677	0.663	100 year +45% CC 720 minute winter	19.063	7.602
30 year 8640 minute summer	2.248	0.574	100 year +45% CC 960 minute summer	22.984	6.052
30 year 8640 minute winter	1.451	0.574	100 year +45% CC 960 minute winter	15.225	6.052
30 year 10080 minute summer	1.989	0.507	100 year +45% CC 1440 minute summer	16.353	4.383
30 year 10080 minute winter	1.284	0.507	100 year +45% CC 1440 minute winter	10.990	4.383
100 year +45% CC 15 minute summer	423.061	119.712	100 year +45% CC 2160 minute summer	11.465	3.169
100 year +45% CC 15 minute winter	296.885	119.712	100 year +45% CC 2160 minute winter	7.900	3.169
100 year +45% CC 30 minute summer	278.374	78.770	100 year +45% CC 2880 minute summer	9.384	2.515
100 year +45% CC 30 minute winter	195.350	78.770	100 year +45% CC 2880 minute winter	6.306	2.515
100 year +45% CC 60 minute summer	187.417	49.529	100 year +45% CC 4320 minute summer	6.936	1.813
100 year +45% CC 60 minute winter	124.515	49.529	100 year +45% CC 4320 minute winter	4.568	1.813
100 year +45% CC 120 minute summer	114.312	30.209	100 year +45% CC 5760 minute summer	5.612	1.437
100 year +45% CC 120 minute winter	75.946	30.209	100 year +45% CC 5760 minute winter	3.632	1.437
100 year +45% CC 180 minute summer	86.951	22.375	100 year +45% CC 7200 minute summer	4.698	1.198
100 year +45% CC 180 minute winter	56.520	22.375	100 year +45% CC 7200 minute winter	3.032	1.198
100 year +45% CC 240 minute summer	68.114	18.001	100 year +45% CC 8640 minute summer	4.050	1.033
100 year +45% CC 240 minute winter	45.253	18.001	100 year +45% CC 8640 minute winter	2.614	1.033
100 year +45% CC 360 minute summer	51.133	13.158	100 year +45% CC 10080 minute summer	3.572	0.911
100 year +45% CC 360 minute winter	33.238	13.158	100 year +45% CC 10080 minute winter	2.305	0.911

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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	OB1	10	83.722	0.016	1.5	0.0058	0.0000	OK
15 minute winter	S101	10	83.311	0.086	12.8	0.0244	0.0000	OK
15 minute winter	S102	11	82.803	0.078	12.6	0.0221	0.0000	OK
15 minute winter	OB2	10	83.721	0.015	1.5	0.0052	0.0000	OK
15 minute winter	S103	11	83.019	0.077	11.3	0.0875	0.0000	OK
15 minute winter	S104	11	82.492	0.113	24.4	0.1274	0.0000	OK
15 minute winter	S105	10	84.134	0.056	6.3	0.0157	0.0000	OK
15 minute winter	S106	11	83.944	0.072	8.7	0.0204	0.0000	OK
15 minute winter	S107	10	83.891	0.060	6.3	0.0171	0.0000	OK
15 minute winter	S108	11	83.681	0.049	14.6	0.0556	0.0000	OK
15 minute winter	S109	11	82.349	0.145	38.8	0.2080	0.0000	OK
15 minute winter	S110	10	83.591	0.062	7.3	0.0175	0.0000	OK
15 minute winter	S111	11	83.195	0.069	9.1	0.0194	0.0000	OK
15 minute winter	S112	11	83.382	0.062	7.4	0.0701	0.0000	OK
15 minute winter	S113	11	83.055	0.102	16.1	0.1156	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)
15 minute winter	OB1	1.000	S101	1.5	1.548	0.021	0.0026	
15 minute winter	S101	1.001	S102	12.6	0.988	0.297	0.9740	
15 minute winter	S102	1.002	S104	12.2	1.022	0.247	0.3588	
15 minute winter	OB2	3.000	S104	1.5	1.752	0.018	0.0049	
15 minute winter	S103	2.000	S104	10.7	0.891	0.252	0.8749	
15 minute winter	S104	1.003	S109	24.1	1.052	0.267	0.3473	
15 minute winter	S105	4.000	S106	6.2	0.674	0.136	0.2450	
15 minute winter	S106	4.001	S108	8.6	0.998	0.201	0.3063	
15 minute winter	S107	5.000	S108	6.2	0.840	0.146	0.2208	
15 minute winter	S108	4.002	S109	14.7	2.358	0.098	0.0976	
15 minute winter	S109	1.004	S114	38.7	0.943	0.237	0.3805	
15 minute winter	S110	6.000	S111	7.1	0.757	0.167	0.5729	
15 minute winter	S111	6.001	S113	8.9	0.654	0.205	0.3399	
15 minute winter	S112	7.000	S113	7.1	0.591	0.168	0.7232	
15 minute winter	S113	6.002	S114	15.5	0.940	0.366	0.1339	

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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	S114	11	82.296	0.154	54.2	0.2207	0.0000	OK
15 minute winter	OB3	10	83.723	0.031	6.1	0.0110	0.0000	OK
15 minute winter	S115	10	83.375	0.069	8.5	0.0785	0.0000	OK
15 minute winter	OB4	10	83.915	0.024	2.7	0.0086	0.0000	OK
15 minute winter	S116	10	83.176	0.072	21.3	0.0813	0.0000	OK
15 minute winter	OB5	10	82.747	0.051	5.4	0.0184	0.0000	OK
15 minute winter	S117	11	82.660	0.060	6.7	0.0684	0.0000	OK
15 minute winter	OB6	10	83.365	0.032	13.0	0.0116	0.0000	OK
15 minute winter	S118	10	82.370	0.133	40.2	0.1902	0.0000	OK
15 minute winter	PI-1	10	82.258	0.136	40.0	0.0000	0.0000	OK
15 minute winter	S119	11	82.232	0.130	39.9	0.1858	0.0000	OK
120 minute winter	TANK	88	81.776	0.226	31.7	55.5072	0.0000	OK
120 minute winter	HB	88	81.776	0.243	12.9	0.4286	0.0000	SURCHARGED
120 minute winter	S120	88	81.575	0.090	12.9	0.1021	0.0000	OK
120 minute winter	S121	88	79.612	0.054	12.9	0.0608	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)
15 minute winter	S114	1.005	TANK	54.1	1.313	0.332	0.5337	
15 minute winter	OB3	8.000	S115	6.1	0.928	0.040	0.0308	
15 minute winter	S115	8.001	S116	8.2	0.816	0.194	0.1920	
15 minute winter	OB4	9.000	S116	2.7	1.533	0.051	0.0130	
15 minute winter	S116	8.002	S118	20.9	1.655	0.120	0.4129	
15 minute winter	OB5	10.000	S117	5.4	0.705	0.105	0.0764	
15 minute winter	S117	10.001	S118	6.5	0.773	0.155	0.2708	
15 minute winter	OB6	11.000	S118	13.0	2.580	0.025	0.0335	
15 minute winter	S118	8.003	PI-1	40.0	1.225	0.225	0.0637	
15 minute winter	PI-1	8.004	S119	39.9	1.142	0.199	0.0699	
15 minute winter	S119	8.005	TANK	40.0	1.268	0.217	0.0631	
120 minute winter	TANK	1.006	HB	12.9	0.260	0.079	0.1809	
120 minute winter	HB	1.007	S120	12.9	0.846	0.307	0.1110	
120 minute winter	S120	1.008	S121	12.9	0.907	0.305	0.1709	
120 minute winter	S121	1.009	Ex.MH	12.9	1.853	0.112	0.0673	91.9

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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
120 minute winter	Ex.MH	88	79.141	0.051	12.9	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)

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Results for 30 year Critical Storm Duration. Lowest mass balance: 99.94%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	OB1	10	83.730	0.024	3.8	0.0086	0.0000	OK
15 minute winter	S101	10	83.372	0.147	31.5	0.0415	0.0000	OK
15 minute winter	S102	11	82.859	0.134	30.7	0.0379	0.0000	OK
15 minute winter	OB2	9	83.728	0.022	3.8	0.0080	0.0000	OK
15 minute winter	S103	11	83.073	0.131	27.7	0.1477	0.0000	OK
15 minute winter	S104	11	82.581	0.202	60.6	0.2283	0.0000	OK
15 minute winter	S105	10	84.168	0.090	15.4	0.0255	0.0000	OK
15 minute winter	S106	10	83.990	0.118	21.3	0.0334	0.0000	OK
15 minute winter	S107	10	83.928	0.097	15.4	0.0276	0.0000	OK
15 minute winter	S108	11	83.707	0.075	36.0	0.0846	0.0000	OK
15 minute winter	S109	11	82.473	0.268	96.2	0.3842	0.0000	OK
15 minute winter	S110	10	83.630	0.101	17.8	0.0286	0.0000	OK
15 minute winter	S111	11	83.238	0.112	22.4	0.0318	0.0000	OK
15 minute winter	S112	10	83.420	0.100	18.1	0.1132	0.0000	OK
15 minute winter	S113	11	83.146	0.193	39.5	0.2179	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)
15 minute winter	OB1	1.000	S101	3.8	1.530	0.054	0.0135	
15 minute winter	S101	1.001	S102	30.7	1.211	0.724	1.9264	
15 minute winter	S102	1.002	S104	30.5	1.281	0.618	0.7140	
15 minute winter	OB2	3.000	S104	3.8	2.253	0.047	0.0208	
15 minute winter	S103	2.000	S104	26.5	1.126	0.626	1.7230	
15 minute winter	S104	1.003	S109	60.3	1.257	0.667	0.7429	
15 minute winter	S105	4.000	S106	15.2	0.850	0.333	0.4758	
15 minute winter	S106	4.001	S108	21.0	1.296	0.491	0.5755	
15 minute winter	S107	5.000	S108	15.2	1.088	0.358	0.4165	
15 minute winter	S108	4.002	S109	36.0	2.840	0.241	0.2556	
15 minute winter	S109	1.004	S114	95.9	1.126	0.587	0.7891	
15 minute winter	S110	6.000	S111	17.4	0.953	0.411	1.1049	
15 minute winter	S111	6.001	S113	22.1	0.797	0.508	0.6864	
15 minute winter	S112	7.000	S113	17.6	0.712	0.415	1.4535	
15 minute winter	S113	6.002	S114	38.5	1.139	0.909	0.2727	

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Results for 30 year Critical Storm Duration. Lowest mass balance: 99.94%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S114	11	82.415	0.273	134.4	0.3900	0.0000	OK
15 minute winter	OB3	10	83.739	0.047	14.9	0.0170	0.0000	OK
15 minute winter	S115	10	83.422	0.116	20.7	0.1308	0.0000	OK
15 minute winter	OB4	10	83.929	0.038	6.7	0.0137	0.0000	OK
15 minute winter	S116	10	83.216	0.112	52.2	0.1263	0.0000	OK
15 minute winter	OB5	10	82.781	0.085	13.1	0.0305	0.0000	OK
15 minute winter	S117	11	82.698	0.098	16.5	0.1114	0.0000	OK
15 minute winter	OB6	10	83.382	0.049	31.7	0.0178	0.0000	OK
15 minute winter	S118	10	82.458	0.221	99.4	0.3167	0.0000	OK
15 minute winter	PI-1	10	82.354	0.232	98.7	0.0000	0.0000	OK
15 minute winter	S119	10	82.318	0.216	98.5	0.3085	0.0000	OK
120 minute winter	TANK	94	82.118	0.568	76.1	139.5542	0.0000	SURCHARGED
120 minute winter	HB	94	82.117	0.584	20.4	1.0322	0.0000	SURCHARGED
120 minute summer	S120	104	81.602	0.117	20.1	0.1325	0.0000	OK
30 minute winter	S121	31	79.626	0.068	20.1	0.0774	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)
15 minute winter	S114	1.005	TANK	133.6	1.625	0.821	1.0674	
15 minute winter	OB3	8.000	S115	14.9	1.149	0.097	0.0602	
15 minute winter	S115	8.001	S116	20.3	1.028	0.478	0.3750	
15 minute winter	OB4	9.000	S116	6.7	1.972	0.127	0.0250	
15 minute winter	S116	8.002	S118	51.9	1.800	0.299	0.9451	
15 minute winter	OB5	10.000	S117	13.0	0.860	0.256	0.1525	
15 minute winter	S117	10.001	S118	16.1	0.985	0.381	0.5233	
15 minute winter	OB6	11.000	S118	31.7	2.672	0.060	0.0990	
15 minute winter	S118	8.003	PI-1	98.7	1.559	0.556	0.1234	
15 minute winter	PI-1	8.004	S119	98.5	1.437	0.492	0.1371	
15 minute winter	S119	8.005	TANK	98.1	1.608	0.532	0.1220	
30 minute winter	TANK	1.006	HB	20.7	0.440	0.127	0.2757	
120 minute summer	HB	1.007	S120	20.1	0.932	0.478	0.1570	
120 minute summer	S120	1.008	S121	20.1	1.013	0.475	0.2385	
30 minute winter	S121	1.009	Ex.MH	20.1	2.081	0.175	0.0934	145.3

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Results for 30 year Critical Storm Duration. Lowest mass balance: 99.94%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	Ex.MH	31	79.153	0.063	20.1	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)

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Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	OB1	12	84.084	0.378	7.1	0.1361	0.0000	FLOOD RISK
15 minute winter	S101	11	84.075	0.850	55.7	0.2406	0.0000	FLOOD RISK
15 minute winter	S102	12	83.303	0.578	50.3	0.1635	0.0000	SURCHARGED
15 minute winter	OB2	10	83.736	0.030	7.1	0.0108	0.0000	OK
15 minute winter	S103	11	83.664	0.722	51.7	0.8165	0.0000	SURCHARGED
15 minute winter	S104	11	82.970	0.591	103.6	0.6687	0.0000	SURCHARGED
15 minute winter	S105	10	84.209	0.131	28.9	0.0372	0.0000	OK
15 minute winter	S106	10	84.052	0.180	40.0	0.0509	0.0000	OK
15 minute winter	S107	10	83.973	0.142	28.9	0.0402	0.0000	OK
15 minute winter	S108	11	83.737	0.105	67.7	0.1190	0.0000	OK
120 minute winter	S109	118	82.785	0.581	60.3	0.8311	0.0000	SURCHARGED
15 minute winter	S110	11	83.683	0.154	33.2	0.0437	0.0000	OK
15 minute winter	S111	11	83.505	0.379	41.9	0.1073	0.0000	SURCHARGED
15 minute winter	S112	11	83.492	0.172	33.8	0.1940	0.0000	OK
15 minute winter	S113	11	83.335	0.382	69.2	0.4320	0.0000	SURCHARGED

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	OB1	1.000	S101	10.8	1.635	0.155	0.0470	
15 minute winter	S101	1.001	S102	50.3	1.268	1.188	2.9828	
15 minute winter	S102	1.002	S104	51.5	1.294	1.042	1.1919	
15 minute winter	OB2	3.000	S104	7.1	2.332	0.087	0.0579	
15 minute winter	S103	2.000	S104	48.1	1.209	1.135	2.9097	
15 minute winter	S104	1.003	S109	103.6	1.472	1.148	1.0626	
15 minute winter	S105	4.000	S106	28.6	0.978	0.626	0.7692	
15 minute winter	S106	4.001	S108	39.3	1.491	0.919	0.9225	
15 minute winter	S107	5.000	S108	28.6	1.280	0.674	0.6641	
15 minute winter	S108	4.002	S109	67.3	2.879	0.450	0.4530	
15 minute winter	S109	1.004	S114	169.3	1.535	1.036	1.0225	
15 minute winter	S110	6.000	S111	32.6	1.036	0.770	2.0777	
15 minute winter	S111	6.001	S113	39.1	0.983	0.897	0.9744	
15 minute winter	S112	7.000	S113	31.9	0.860	0.752	1.9786	
15 minute winter	S113	6.002	S114	68.9	1.733	1.628	0.3168	

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Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S114	118	82.785	0.643	84.8	0.9195	0.0000	SURCHARGED
15 minute winter	OB3	10	83.760	0.068	27.8	0.0243	0.0000	OK
15 minute winter	S115	10	83.487	0.181	38.6	0.2043	0.0000	OK
15 minute winter	OB4	10	83.945	0.054	12.5	0.0193	0.0000	OK
15 minute winter	S116	10	83.263	0.159	97.6	0.1802	0.0000	OK
15 minute winter	OB5	10	82.822	0.126	24.5	0.0453	0.0000	OK
120 minute winter	S117	118	82.784	0.184	10.0	0.2084	0.0000	OK
15 minute winter	OB6	10	83.400	0.067	59.4	0.0242	0.0000	OK
120 minute winter	S118	118	82.784	0.547	60.9	0.7832	0.0000	SURCHARGED
120 minute winter	PI-1	118	82.784	0.662	60.9	0.0000	0.0000	SURCHARGED
120 minute winter	S119	118	82.784	0.682	60.7	0.9762	0.0000	SURCHARGED
120 minute winter	TANK	118	82.784	1.234	144.2	303.2965	0.0000	SURCHARGED
120 minute winter	HB	118	82.783	1.250	20.9	2.2096	0.0000	SURCHARGED
30 minute summer	S120	121	81.602	0.117	20.1	0.1325	0.0000	OK
15 minute winter	S121	83	79.626	0.068	20.1	0.0774	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)
15 minute winter	S114	1.005	TANK	237.8	2.157	1.461	1.3998	
15 minute winter	OB3	8.000	S115	27.7	1.264	0.182	0.1001	
15 minute winter	S115	8.001	S116	37.7	1.165	0.890	0.6169	
15 minute winter	OB4	9.000	S116	12.5	2.321	0.237	0.0396	
15 minute winter	S116	8.002	S118	97.0	1.817	0.558	1.7473	
15 minute winter	OB5	10.000	S117	24.4	0.996	0.480	0.2456	
15 minute winter	S117	10.001	S118	30.7	1.054	0.726	1.0358	
15 minute winter	OB6	11.000	S118	59.3	2.521	0.113	0.1881	
15 minute winter	S118	8.003	PI-1	184.0	1.762	1.037	0.2022	
15 minute winter	PI-1	8.004	S119	183.3	1.698	0.916	0.2184	
15 minute winter	S119	8.005	TANK	182.8	1.849	0.992	0.2064	
15 minute winter	TANK	1.006	HB	22.9	0.558	0.141	0.2757	
60 minute summer	HB	1.007	S120	20.1	0.933	0.478	0.1570	
60 minute winter	S120	1.008	S121	20.1	1.013	0.475	0.2385	
15 minute summer	S121	1.009	Ex.MH	20.1	2.081	0.175	0.0934	185.9

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Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	Ex.MH	64	79.153	0.063	20.1	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)

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