Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	19.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

1 Manhole Type

Max Width (mm)	Diameter (mm)	Max Width (mm)	Diameter (mm)
374	1200	749	1500
499	1350	900	1800

>900 Link+900 mm

Max Depth (m)	Diameter (mm)	Max Depth (m)	Diameter (mm)
1.500	1050	99.999	1200

1 Link Type

Shape	Circular	Auto Increment (mm)	75
Barrels	1	Follow Ground	x

Available Diameters (mm)

100 | 150

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1L	0.010	5.00	4.100	1200	537362.619	324850.015	1.200
S1	0.020	5.00	3.664	1200	537361.622	324860.121	1.075
S2	0.014	5.00	3.862	1200	537375.629	324863.385	1.314
S3	0.023	5.00	3.935	1200	537392.847	324867.313	1.438
S4	0.006	5.00	3.778	1200	537418.149	324869.645	1.314
S5	0.028	5.00	3.815	1200	537412.866	324865.027	1.375
S6	0.020	5.00	3.800	1200	537413.395	324850.477	1.419
S7L	0.027	5.00	4.100	1200	537415.948	324825.313	1.475
S7	0.028	5.00	3.616	1200	537405.470	324829.451	1.299
S8	0.031	5.00	3.700	1200	537402.573	324806.115	1.479
S9LA	0.017	5.00	4.300	1200	537397.813	324788.970	1.800
S9LB	0.039	5.00	4.300	1200	537415.095	324790.256	1.902
S9			4.251	1200	537403.796	324789.423	2.078
S11			2.926	1200	537420.229	324770.168	0.871
HW1			3.100	1	537404.427	324696.850	1.351
HW2	0.075	5.00	3.100	1	537399.457	324680.625	1.351
S12			3.100	2700	537400.928	324673.658	1.380
HW3			3.100	1	537398.567	324659.092	1.456
S6L	0.011	5.00	4.000	1200	537408.355	324851.404	1.435
S4A	0.020	5.00	3.073	1200	537418.986	324900.234	0.507
S4AL	0.015	5.00	4.050	1200	537429.038	324901.032	1.050
S10A	0.026	5.00	3.412	1200	537369.627	324772.245	1.181

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Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S10B	0.033	5.00	3.910	1200	537404.951	324772.245	1.797
S10C			3.818	1200	537419.560	324775.901	1.739

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	S1L	S1	10.154	0.600	2.900	2.814	0.086	118.1	150	5.18	50.0
1.001	S1	S2	14.383	0.600	2.589	2.548	0.041	350.8	375	5.43	50.0
1.002	S2	S3	17.660	0.600	2.548	2.497	0.051	346.3	375	5.74	50.0
1.003	S3	S5	20.149	0.600	2.498	2.440	0.058	347.4	375	6.08	50.0
2.000	S4AL	S4A	10.081	0.600	3.000	2.791	0.209	48.2	150	5.12	50.0
2.001	S4A	S4	19.770	0.600	2.566	2.464	0.102	193.8	375	5.37	50.0
2.002	S4	S5	7.017	0.600	2.464	2.440	0.024	292.4	375	5.48	50.0
1.004	S5	S6	14.559	0.600	2.440	2.381	0.059	246.8	375	6.30	50.0
1.005	S6	S7	22.471	0.600	2.381	2.317	0.064	351.1	375	6.69	50.0
4.000	S7L	S7	11.265	0.600	2.625	2.542	0.083	135.7	150	5.22	50.0
1.006	S7	S8	23.515	0.600	2.317	2.221	0.096	244.9	375	7.03	50.0
1.007	S8	S9	29.678	0.600	2.221	2.173	0.048	618.3	375	7.71	50.0
5.000	S9LA	S9	5.451	0.600	2.500	2.398	0.102	53.4	150	5.07	50.0
6.000	S9LB	S9	12.456	0.600	2.398	2.397	0.001	12456.0	150	7.54	50.0
1.008	S9	S10B	10.534	0.600	2.173	2.113	0.060	175.6	375	7.84	50.0
7.000	S10A	S10B	35.052	0.600	2.231	2.113	0.118	297.1	375	5.56	50.0
1.009	S10B	S10C	13.381	0.600	2.113	2.079	0.034	393.6	375	8.09	50.0
1.010	S10C	S11	5.810	0.600	2.079	2.055	0.024	242.1	375	8.17	50.0
1.011	S11	HW1	66.224	0.600	2.055	1.749	0.306	216.4	375	9.07	50.0
1.012	HW2	S12	7.121	0.600	1.749	1.720	0.029	245.6	375	5.10	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	0.924	16.3	1.4	1.050	0.700	0.700	1.050	0.010	0.0
1.001	0.961	106.2	4.1	0.700	0.939	0.700	0.939	0.030	0.0
1.002	0.968	106.9	6.0	0.939	1.063	0.939	1.063	0.044	0.0
1.003	0.966	106.7	9.1	1.062	1.000	1.000	1.062	0.067	0.0
2.000	1.452	25.7	2.0	0.900	0.132	0.132	0.900	0.015	0.0
2.001	1.298	143.3	4.7	0.132	0.939	0.132	0.939	0.035	0.0
2.002	1.054	116.4	5.6	0.939	1.000	0.939	1.000	0.041	0.0
1.004	1.149	126.9	18.4	1.000	1.044	1.000	1.044	0.136	0.0
1.005	0.961	106.1	22.6	1.044	0.924	0.924	1.044	0.167	0.0
4.000	0.861	15.2	3.7	1.325	0.924	0.924	1.325	0.027	0.0
1.006	1.153	127.3	30.1	0.924	1.104	0.924	1.104	0.222	0.0
1.007	0.721	79.7	34.3	1.104	1.703	1.104	1.703	0.253	0.0
5.000	1.379	24.4	2.3	1.650	1.703	1.650	1.703	0.017	0.0
6.000	0.082	1.4	5.3	1.752	1.704	1.704	1.752	0.039	0.0
1.008	1.364	150.7	41.9	1.703	1.422	1.422	1.703	0.309	0.0
7.000	1.046	115.5	3.5	0.806	1.422	0.806	1.422	0.026	0.0
1.009	0.907	100.2	49.9	1.422	1.364	1.364	1.422	0.368	0.0
1.010	1.160	128.1	49.9	1.364	0.496	0.496	1.364	0.368	0.0
1.011	1.227	135.6	49.9	0.496	0.976	0.496	0.976	0.368	0.0
1.012	1.152	127.2	10.2	0.976	1.005	0.976	1.005	0.075	0.0

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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)
1.013	S12	HW3	14.757	0.600	1.720	1.644	0.076	194.2	300	5.32	50.0
3.000	S6L	S6	5.124	0.600	2.565	2.531	0.034	150.7	150	5.10	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.013	1.125	79.5	10.2	1.080	1.156	1.080	1.156	0.075	0.0
3.000	0.816	14.4	1.5	1.285	1.119	1.119	1.285	0.011	0.0

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	10.154	118.1	150	1	4.100	2.900	1.050	3.664	2.814	0.700
1.001	14.383	350.8	375	1	3.664	2.589	0.700	3.862	2.548	0.939
1.002	17.660	346.3	375	1	3.862	2.548	0.939	3.935	2.497	1.063
1.003	20.149	347.4	375	1	3.935	2.498	1.062	3.815	2.440	1.000
2.000	10.081	48.2	150	1	4.050	3.000	0.900	3.073	2.791	0.132
2.001	19.770	193.8	375	1	3.073	2.566	0.132	3.778	2.464	0.939
2.002	7.017	292.4	375	1	3.778	2.464	0.939	3.815	2.440	1.000
1.004	14.559	246.8	375	1	3.815	2.440	1.000	3.800	2.381	1.044
1.005	22.471	351.1	375	1	3.800	2.381	1.044	3.616	2.317	0.924
4.000	11.265	135.7	150	1	4.100	2.625	1.325	3.616	2.542	0.924
1.006	23.515	244.9	375	1	3.616	2.317	0.924	3.700	2.221	1.104
1.007	29.678	618.3	375	1	3.700	2.221	1.104	4.251	2.173	1.703
5.000	5.451	53.4	150	1	4.300	2.500	1.650	4.251	2.398	1.703
6.000	12.456	12456.0	150	1	4.300	2.398	1.752	4.251	2.397	1.704
1.008	10.534	175.6	375	1	4.251	2.173	1.703	3.910	2.113	1.422
7.000	35.052	297.1	375	1	3.412	2.231	0.806	3.910	2.113	1.422
1.009	13.381	393.6	375	1	3.910	2.113	1.422	3.818	2.079	1.364
1.010	5.810	242.1	375	1	3.818	2.079	1.364	2.926	2.055	0.496

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S1L	1200	Manhole	1	S1	1200	Manhole	1
1.001	S1	1200	Manhole	1	S2	1200	Manhole	1
1.002	S2	1200	Manhole	1	S3	1200	Manhole	1
1.003	S3	1200	Manhole	1	S5	1200	Manhole	1
2.000	S4AL	1200	Manhole	1	S4A	1200	Manhole	1
2.001	S4A	1200	Manhole	1	S4	1200	Manhole	1
2.002	S4	1200	Manhole	1	S5	1200	Manhole	1
1.004	S5	1200	Manhole	1	S6	1200	Manhole	1
1.005	S6	1200	Manhole	1	S7	1200	Manhole	1
4.000	S7L	1200	Manhole	1	S7	1200	Manhole	1
1.006	S7	1200	Manhole	1	S8	1200	Manhole	1
1.007	S8	1200	Manhole	1	S9	1200	Manhole	1
5.000	S9LA	1200	Manhole	1	S9	1200	Manhole	1
6.000	S9LB	1200	Manhole	1	S9	1200	Manhole	1
1.008	S9	1200	Manhole	1	S10B	1200	Manhole	1
7.000	S10A	1200	Manhole	1	S10B	1200	Manhole	1
1.009	S10B	1200	Manhole	1	S10C	1200	Manhole	1
1.010	S10C	1200	Manhole	1	S11	1200	Manhole	1

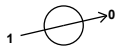
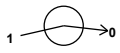
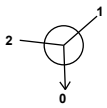
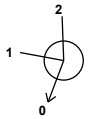
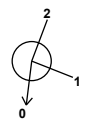
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Pipeline Schedule

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)
1.011	66.224	216.4	375	1	2.926	2.055	0.496	3.100	1.749	0.976
1.012	7.121	245.6	375	1	3.100	1.749	0.976	3.100	1.720	1.005
1.013	14.757	194.2	300	1	3.100	1.720	1.080	3.100	1.644	1.156
3.000	5.124	150.7	150	1	4.000	2.565	1.285	3.800	2.531	1.119

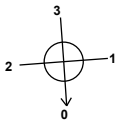
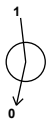
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.011	S11	1200	Manhole	1	HW1	1	Manhole	1
1.012	HW2	1	Manhole	1	S12	2700	Manhole	1
1.013	S12	2700	Manhole	1	HW3	1	Manhole	1
3.000	S6L	1200	Manhole	1	S6	1200	Manhole	1

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S1L	537362.619	324850.015	4.100	1.200	1200				
						0	1.000	2.900	150
S1	537361.622	324860.121	3.664	1.075	1200		1	1.000	2.814	150
									
						0	1.001	2.589	375
S2	537375.629	324863.385	3.862	1.314	1200		1	1.001	2.548	375
									
						0	1.002	2.548	375
S3	537392.847	324867.313	3.935	1.438	1200		1	1.002	2.497	375
									
						0	1.003	2.498	375
S4	537418.149	324869.645	3.778	1.314	1200		1	2.001	2.464	375
							0	2.002	2.464	375
S5	537412.866	324865.027	3.815	1.375	1200		1	2.002	2.440	375
							2	1.003	2.440	375
							0	1.004	2.440	375
S6	537413.395	324850.477	3.800	1.419	1200		1	3.000	2.531	150
							2	1.004	2.381	375
							0	1.005	2.381	375
S7L	537415.948	324825.313	4.100	1.475	1200					
							0	4.000	2.625	150
S7	537405.470	324829.451	3.616	1.299	1200		1	4.000	2.542	150
							2	1.005	2.317	375
							0	1.006	2.317	375

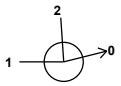
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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S8	537402.573	324806.115	3.700	1.479	1200	 1	1.006	2.221	375
						0	1.007	2.221	375
S9LA	537397.813	324788.970	4.300	1.800	1200				
						0	5.000	2.500	150
S9LB	537415.095	324790.256	4.300	1.902	1200				
						0	6.000	2.398	150
S9	537403.796	324789.423	4.251	2.078	1200	 1	6.000	2.397	150
						2	5.000	2.398	150
						3	1.007	2.173	375
						0	1.008	2.173	375
S11	537420.229	324770.168	2.926	0.871	1200	 1	1.010	2.055	375
						0	1.011	2.055	375
HW1	537404.427	324696.850	3.100	1.351	1	 1	1.011	1.749	375
HW2	537399.457	324680.625	3.100	1.351	1				
						0	1.012	1.749	375
S12	537400.928	324673.658	3.100	1.380	2700	 1	1.012	1.720	375
						0	1.013	1.720	300
HW3	537398.567	324659.092	3.100	1.456	1	 1	1.013	1.644	300
S6L	537408.355	324851.404	4.000	1.435	1200				
						0	3.000	2.565	150
S4A	537418.986	324900.234	3.073	0.507	1200	 1	2.000	2.791	150
						0	2.001	2.566	375
S4AL	537429.038	324901.032	4.050	1.050	1200				
						0	2.000	3.000	150
S10A	537369.627	324772.245	3.412	1.181	1200				
						0	7.000	2.231	375

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S10B	537404.951	324772.245	3.910	1.797	1200		1	7.000	2.113	375
							2	1.008	2.113	375
							0	1.009	2.113	375
S10C	537419.560	324775.901	3.818	1.739	1200		1	1.009	2.079	375
							0	1.010	2.079	375

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	19.000	Additional Storage (m³/ha)	0.0
Ratio-R	0.400	Check Discharge Rate(s)	x
Summer CV	0.750	Check Discharge Volume	x
Analysis Speed	Normal		

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 %)
2	0	0	0
30	0	0	0
100	40	0	0
100	40	10	0

Node S12 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	1.720	Product Number	CTL-SHE-0067-2000-1000-2000
Design Depth (m)	1.000	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	2.0	Min Node Diameter (mm)	1200

Node HW2 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	15.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	1.749	Main Channel Slope (1:X)	1000.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.100

Inlets

HW1

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	252.0	0.0	1.442	628.0	0.0	1.443	0.0	0.0

Other (defaults)

Entry Loss (manhole)	0.000	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.000	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

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Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
2 year 15 minute summer	134.275	37.995
2 year 30 minute summer	86.989	24.615
2 year 60 minute summer	58.092	15.352
2 year 120 minute summer	35.471	9.374
2 year 180 minute summer	27.149	6.986
2 year 240 minute summer	21.430	5.663
2 year 360 minute summer	16.342	4.205
2 year 480 minute summer	12.846	3.395
2 year 600 minute summer	10.511	2.875
2 year 720 minute summer	9.363	2.509
2 year 960 minute summer	7.689	2.025
2 year 1440 minute summer	5.582	1.496
30 year 15 minute summer	254.498	72.014
30 year 30 minute summer	165.775	46.909
30 year 60 minute summer	110.635	29.238
30 year 120 minute summer	66.994	17.704
30 year 180 minute summer	50.789	13.070
30 year 240 minute summer	39.713	10.495
30 year 360 minute summer	29.789	7.666
30 year 480 minute summer	23.214	6.135
30 year 600 minute summer	18.859	5.158
30 year 720 minute summer	16.698	4.475
30 year 960 minute summer	13.576	3.575
30 year 1440 minute summer	9.708	2.602
100 year +40% CC 15 minute summer	461.530	130.597
100 year +40% CC 30 minute summer	303.307	85.825
100 year +40% CC 60 minute summer	203.498	53.779
100 year +40% CC 120 minute summer	123.340	32.595
100 year +40% CC 180 minute summer	93.311	24.012
100 year +40% CC 240 minute summer	72.743	19.224
100 year +40% CC 360 minute summer	54.225	13.954
100 year +40% CC 480 minute summer	42.096	11.125
100 year +40% CC 600 minute summer	34.091	9.325
100 year +40% CC 720 minute summer	30.106	8.069
100 year +40% CC 960 minute summer	24.371	6.417
100 year +40% CC 1440 minute summer	17.314	4.640
100 year +40% CC +10% A 15 minute summer	461.530	130.597
100 year +40% CC +10% A 30 minute summer	303.307	85.825
100 year +40% CC +10% A 60 minute summer	203.498	53.779
100 year +40% CC +10% A 120 minute summer	123.340	32.595
100 year +40% CC +10% A 180 minute summer	93.311	24.012
100 year +40% CC +10% A 240 minute summer	72.743	19.224
100 year +40% CC +10% A 360 minute summer	54.225	13.954
100 year +40% CC +10% A 480 minute summer	42.096	11.125
100 year +40% CC +10% A 600 minute summer	34.091	9.325
100 year +40% CC +10% A 720 minute summer	30.106	8.069
100 year +40% CC +10% A 960 minute summer	24.371	6.417
100 year +40% CC +10% A 1440 minute summer	17.314	4.640

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Results for 2 year Critical Storm Duration. Lowest mass balance: 98.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1L	11	2.932	0.032	1.6	0.0358	0.0000	OK
15 minute summer	S1	10	2.643	0.054	4.9	0.0608	0.0000	OK
15 minute summer	S2	11	2.612	0.064	7.1	0.0726	0.0000	OK
15 minute summer	S3	11	2.577	0.080	10.7	0.0903	0.0000	OK
15 minute summer	S4	11	2.546	0.082	6.7	0.0924	0.0000	OK
15 minute summer	S5	11	2.545	0.105	21.6	0.1190	0.0000	OK
15 minute summer	S6	11	2.507	0.126	26.3	0.1422	0.0000	OK
15 minute summer	S7L	10	2.680	0.055	4.4	0.0619	0.0000	OK
15 minute summer	S7	11	2.449	0.132	34.8	0.1488	0.0000	OK
15 minute summer	S8	11	2.395	0.174	39.3	0.1970	0.0000	OK
15 minute summer	S9LA	10	2.534	0.034	2.8	0.0388	0.0000	OK
15 minute summer	S9LB	10	2.509	0.111	6.4	0.1260	0.0000	OK
15 minute summer	S9	12	2.327	0.154	47.0	0.1738	0.0000	OK
15 minute summer	S11	12	2.227	0.172	54.0	0.1947	0.0000	OK
360 minute summer	HW1	280	1.941	0.192	11.8	0.0000	0.0000	OK
360 minute summer	HW2	280	1.941	0.192	8.1	0.0000	0.0000	OK
360 minute summer	S12	280	1.941	0.221	2.1	1.2682	0.0000	OK
15 minute summer	HW3	1	1.644	0.000	1.8	0.0000	0.0000	OK
15 minute summer	S6L	10	2.600	0.035	1.8	0.0401	0.0000	OK
15 minute summer	S4A	10	2.616	0.050	5.8	0.0571	0.0000	OK
15 minute summer	S4AL	10	3.032	0.032	2.5	0.0356	0.0000	OK
15 minute summer	S10A	12	2.301	0.070	4.3	0.0789	0.0000	OK
15 minute summer	S10B	12	2.295	0.182	54.5	0.2056	0.0000	OK
15 minute summer	S10C	12	2.249	0.170	54.1	0.1928	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	S1L	1.000	S1	1.6	0.592	0.098	0.0274	
15 minute summer	S1	1.001	S2	4.8	0.440	0.045	0.1586	
15 minute summer	S2	1.002	S3	7.0	0.477	0.066	0.2614	
15 minute summer	S3	1.003	S5	10.7	0.509	0.100	0.4240	
15 minute summer	S4	2.002	S5	6.5	0.307	0.056	0.1507	
15 minute summer	S5	1.004	S6	21.4	0.745	0.169	0.4197	
15 minute summer	S6	1.005	S7	26.1	0.783	0.246	0.7505	
15 minute summer	S7L	4.000	S7	4.3	0.748	0.285	0.0654	
15 minute summer	S7	1.006	S8	34.4	0.815	0.270	0.9937	
15 minute summer	S8	1.007	S9	39.0	0.844	0.489	1.3707	
15 minute summer	S9LA	5.000	S9	2.8	0.921	0.114	0.0165	
15 minute summer	S9LB	6.000	S9	6.2	0.553	4.318	0.1397	
15 minute summer	S9	1.008	S10B	47.4	0.993	0.314	0.5026	
15 minute summer	S11	1.011	HW1	54.5	1.863	0.402	2.0795	
360 minute summer	HW1	Flow through pond	HW2	5.6	0.009	0.000	51.1441	
360 minute summer	HW2	1.012	S12	2.1	0.238	0.017	0.4439	
360 minute summer	S12	Hydro-Brake®	HW3	1.9				56.0
15 minute summer	S6L	3.000	S6	1.8	0.558	0.123	0.0162	
15 minute summer	S4A	2.001	S4	5.7	0.502	0.040	0.2606	
15 minute summer	S4AL	2.000	S4A	2.5	0.923	0.096	0.0270	
15 minute summer	S10A	7.000	S10B	4.3	0.183	0.038	1.1748	
15 minute summer	S10B	1.009	S10C	54.1	1.065	0.540	0.6800	
15 minute summer	S10C	1.010	S11	54.0	1.101	0.421	0.2848	

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Results for 30 year Critical Storm Duration. Lowest mass balance: 98.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1L	10	2.944	0.044	3.1	0.0498	0.0000	OK
15 minute summer	S1	10	2.663	0.074	9.3	0.0832	0.0000	OK
15 minute summer	S2	11	2.636	0.088	13.6	0.0997	0.0000	OK
15 minute summer	S3	11	2.610	0.113	20.5	0.1279	0.0000	OK
15 minute summer	S4	11	2.594	0.130	12.7	0.1465	0.0000	OK
15 minute summer	S5	11	2.593	0.153	41.0	0.1731	0.0000	OK
15 minute summer	S6	11	2.564	0.183	50.2	0.2070	0.0000	OK
15 minute summer	S7L	10	2.704	0.079	8.4	0.0892	0.0000	OK
15 minute summer	S7	11	2.516	0.199	66.5	0.2255	0.0000	OK
15 minute summer	S8	11	2.477	0.256	75.1	0.2893	0.0000	OK
15 minute summer	S9LA	10	2.547	0.047	5.3	0.0536	0.0000	OK
15 minute summer	S9LB	10	2.565	0.167	12.2	0.1885	0.0000	SURCHARGED
15 minute summer	S9	11	2.404	0.231	90.5	0.2617	0.0000	OK
15 minute summer	S11	12	2.302	0.247	104.7	0.2795	0.0000	OK
360 minute summer	HW1	360	2.123	0.374	21.5	0.0000	0.0000	OK
360 minute summer	HW2	360	2.123	0.374	13.7	0.0000	0.0000	OK
360 minute summer	S12	360	2.123	0.403	2.7	2.3103	0.0000	SURCHARGED
15 minute summer	HW3	1	1.644	0.000	1.9	0.0000	0.0000	OK
15 minute summer	S6L	10	2.614	0.049	3.4	0.0557	0.0000	OK
15 minute summer	S4A	10	2.635	0.069	10.9	0.0776	0.0000	OK
15 minute summer	S4AL	10	3.043	0.043	4.7	0.0490	0.0000	OK
15 minute summer	S10A	12	2.384	0.153	8.1	0.1726	0.0000	OK
15 minute summer	S10B	12	2.380	0.267	105.7	0.3022	0.0000	OK
15 minute summer	S10C	12	2.327	0.248	104.4	0.2806	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	S1L	1.000	S1	3.1	0.714	0.188	0.0436	
15 minute summer	S1	1.001	S2	9.2	0.527	0.086	0.2508	
15 minute summer	S2	1.002	S3	13.4	0.569	0.125	0.4209	
15 minute summer	S3	1.003	S5	20.3	0.585	0.190	0.7039	
15 minute summer	S4	2.002	S5	12.4	0.330	0.106	0.2665	
15 minute summer	S5	1.004	S6	41.0	0.858	0.323	0.6962	
15 minute summer	S6	1.005	S7	50.1	0.887	0.472	1.2685	
15 minute summer	S7L	4.000	S7	8.3	0.886	0.545	0.1055	
15 minute summer	S7	1.006	S8	65.9	0.942	0.518	1.6414	
15 minute summer	S8	1.007	S9	73.8	0.977	0.926	2.2475	
15 minute summer	S9LA	5.000	S9	5.3	1.105	0.216	0.0260	
15 minute summer	S9LB	6.000	S9	12.0	0.726	8.296	0.1887	
15 minute summer	S9	1.008	S10B	89.4	1.157	0.594	0.8182	
15 minute summer	S11	1.011	HW1	105.8	2.132	0.780	3.5057	
360 minute summer	HW1	Flow through pond	HW2	9.1	0.011	0.001	110.0595	
360 minute summer	HW2	1.012	S12	2.7	0.279	0.021	0.7851	
360 minute summer	S12	Hydro-Brake®	HW3	2.0				60.5
15 minute summer	S6L	3.000	S6	3.4	0.672	0.234	0.0258	
15 minute summer	S4A	2.001	S4	10.8	0.525	0.075	0.4675	
15 minute summer	S4AL	2.000	S4A	4.7	1.108	0.182	0.0424	
15 minute summer	S10A	7.000	S10B	7.6	0.214	0.066	2.2098	
15 minute summer	S10B	1.009	S10C	104.4	1.297	1.042	1.0796	
15 minute summer	S10C	1.010	S11	104.7	1.357	0.817	0.4485	

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Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1L	10	2.961	0.061	5.7	0.0686	0.0000	OK
15 minute summer	S1	13	2.738	0.149	16.9	0.1685	0.0000	OK
15 minute summer	S2	12	2.728	0.180	24.6	0.2040	0.0000	OK
15 minute summer	S3	12	2.719	0.222	36.5	0.2516	0.0000	OK
15 minute summer	S4	12	2.729	0.265	26.5	0.3000	0.0000	OK
15 minute summer	S5	12	2.732	0.292	70.5	0.3303	0.0000	OK
15 minute summer	S6	12	2.718	0.337	83.5	0.3807	0.0000	OK
15 minute summer	S7L	11	2.755	0.130	15.3	0.1468	0.0000	OK
15 minute summer	S7	11	2.701	0.384	109.9	0.4343	0.0000	SURCHARGED
15 minute summer	S8	11	2.655	0.434	118.3	0.4904	0.0000	SURCHARGED
15 minute summer	S9LA	11	2.569	0.069	9.6	0.0777	0.0000	OK
15 minute summer	S9LB	11	2.756	0.358	22.0	0.4050	0.0000	SURCHARGED
15 minute summer	S9	11	2.574	0.401	144.8	0.4532	0.0000	SURCHARGED
720 minute summer	S11	720	2.428	0.373	23.0	0.4216	0.0000	OK
720 minute summer	HW1	720	2.428	0.679	22.4	0.0000	0.0000	OK
720 minute summer	HW2	720	2.428	0.679	13.2	0.0000	0.0000	SURCHARGED
720 minute summer	S12	720	2.428	0.708	3.4	4.0523	0.0000	SURCHARGED
15 minute summer	HW3	1	1.644	0.000	2.0	0.0000	0.0000	OK
15 minute summer	S6L	11	2.733	0.168	6.2	0.1904	0.0000	SURCHARGED
15 minute summer	S4A	12	2.724	0.158	19.7	0.1785	0.0000	OK
15 minute summer	S4AL	10	3.059	0.059	8.5	0.0670	0.0000	OK
15 minute summer	S10A	11	2.528	0.297	14.7	0.3356	0.0000	OK
15 minute summer	S10B	11	2.527	0.414	163.5	0.4683	0.0000	SURCHARGED
15 minute summer	S10C	11	2.437	0.358	165.8	0.4054	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	S1L	1.000	S1	5.6	0.844	0.345	0.0677	
15 minute summer	S1	1.001	S2	16.7	0.589	0.157	0.6557	
15 minute summer	S2	1.002	S3	23.5	0.607	0.220	1.0641	
15 minute summer	S3	1.003	S5	35.8	0.611	0.336	1.6101	
15 minute summer	S4	2.002	S5	25.6	0.341	0.220	0.6156	
15 minute summer	S5	1.004	S6	67.0	0.893	0.528	1.4298	
15 minute summer	S6	1.005	S7	79.0	0.919	0.745	2.4104	
15 minute summer	S7L	4.000	S7	15.1	1.027	0.993	0.1904	
15 minute summer	S7	1.006	S8	100.8	0.991	0.792	2.5936	
15 minute summer	S8	1.007	S9	113.7	1.068	1.427	3.2734	
15 minute summer	S9LA	5.000	S9	9.6	1.276	0.395	0.0694	
15 minute summer	S9LB	6.000	S9	21.5	1.223	14.872	0.2193	
15 minute summer	S9	1.008	S10B	137.3	1.267	0.911	1.1619	
720 minute summer	S11	1.011	HW1	22.4	0.589	0.165	7.3000	
720 minute summer	HW1	Flow through pond	HW2	9.3	0.010	0.001	227.9230	
720 minute summer	HW2	1.012	S12	3.4	0.267	0.027	0.7854	
720 minute summer	S12	Hydro-Brake®	HW3	2.0				91.0
15 minute summer	S6L	3.000	S6	7.6	0.719	0.529	0.0902	
15 minute summer	S4A	2.001	S4	23.8	0.559	0.166	1.2589	
15 minute summer	S4AL	2.000	S4A	8.4	1.306	0.329	0.0651	
15 minute summer	S10A	7.000	S10B	14.3	0.237	0.124	3.5728	
15 minute summer	S10B	1.009	S10C	165.8	1.503	1.655	1.4642	
15 minute summer	S10C	1.010	S11	166.2	1.547	1.298	0.6237	

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Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 98.96%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1L	10	2.964	0.064	6.2	0.0719	0.0000	OK
15 minute summer	S1	12	2.818	0.229	18.5	0.2589	0.0000	OK
15 minute summer	S2	12	2.826	0.278	26.9	0.3146	0.0000	OK
15 minute summer	S3	12	2.803	0.306	39.5	0.3464	0.0000	OK
15 minute summer	S4	13	2.800	0.336	23.7	0.3798	0.0000	OK
15 minute summer	S5	13	2.792	0.352	74.6	0.3987	0.0000	OK
15 minute summer	S6	13	2.778	0.397	86.2	0.4487	0.0000	SURCHARGED
15 minute summer	S7L	11	2.822	0.197	16.8	0.2227	0.0000	SURCHARGED
15 minute summer	S7	12	2.743	0.426	105.0	0.4816	0.0000	SURCHARGED
15 minute summer	S8	12	2.695	0.474	112.8	0.5364	0.0000	SURCHARGED
15 minute summer	S9LA	12	2.628	0.128	10.6	0.1452	0.0000	OK
15 minute summer	S9LB	11	2.831	0.433	24.3	0.4897	0.0000	SURCHARGED
15 minute summer	S9	12	2.619	0.446	142.8	0.5042	0.0000	SURCHARGED
720 minute summer	S11	720	2.486	0.431	25.1	0.4878	0.0000	SURCHARGED
720 minute summer	HW1	720	2.486	0.737	24.6	0.0000	0.0000	OK
720 minute summer	HW2	720	2.486	0.737	17.4	0.0000	0.0000	SURCHARGED
720 minute summer	S12	720	2.486	0.766	6.1	4.3864	0.0000	SURCHARGED
15 minute summer	HW3	1	1.644	0.000	2.0	0.0000	0.0000	OK
15 minute summer	S6L	13	2.783	0.218	6.8	0.2462	0.0000	SURCHARGED
15 minute summer	S4A	13	2.801	0.235	21.6	0.2656	0.0000	OK
15 minute summer	S4AL	10	3.062	0.062	9.3	0.0704	0.0000	OK
15 minute summer	S10A	12	2.572	0.341	16.2	0.3857	0.0000	OK
15 minute summer	S10B	12	2.572	0.459	169.2	0.5193	0.0000	SURCHARGED
960 minute summer	S10C	945	2.488	0.409	20.4	0.4628	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	S1L	1.000	S1	6.1	0.864	0.375	0.0720	
15 minute summer	S1	1.001	S2	18.2	0.597	0.171	1.1370	
15 minute summer	S2	1.002	S3	25.2	0.609	0.236	1.6251	
15 minute summer	S3	1.003	S5	36.3	0.611	0.340	2.0306	
15 minute summer	S4	2.002	S5	21.4	0.332	0.183	0.7427	
15 minute summer	S5	1.004	S6	71.2	0.901	0.561	1.5859	
15 minute summer	S6	1.005	S7	87.5	0.951	0.824	2.4785	
15 minute summer	S7L	4.000	S7	15.7	1.024	1.035	0.1983	
15 minute summer	S7	1.006	S8	105.4	1.001	0.828	2.5936	
15 minute summer	S8	1.007	S9	113.1	1.086	1.419	3.2734	
15 minute summer	S9LA	5.000	S9	10.7	1.268	0.441	0.0917	
15 minute summer	S9LB	6.000	S9	23.1	1.315	16.000	0.2193	
15 minute summer	S9	1.008	S10B	140.0	1.269	0.929	1.1619	
720 minute summer	S11	1.011	HW1	24.6	0.604	0.181	7.3043	
720 minute summer	HW1	Flow through pond	HW2	12.6	0.009	0.001	253.2907	
720 minute summer	HW2	1.012	S12	6.1	0.245	0.048	0.7854	
720 minute summer	S12	Hydro-Brake®	HW3	2.0				93.4
15 minute summer	S6L	3.000	S6	6.2	0.738	0.429	0.0902	
15 minute summer	S4A	2.001	S4	20.0	0.564	0.139	1.7469	
15 minute summer	S4AL	2.000	S4A	9.2	1.339	0.360	0.0696	
15 minute summer	S10A	7.000	S10B	14.3	0.248	0.124	3.7785	
15 minute summer	S10B	1.009	S10C	168.8	1.530	1.685	1.4759	
960 minute summer	S10C	1.010	S11	20.1	0.869	0.157	0.6408	

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