Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	5.00
Return Period (years)	1	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)	20.000	Minimum Backdrop Height (m)	1.000
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	✓

Adoptable 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

Circular Link Type

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

Available Diameters (mm)

100	150

Culvert 1800 Link Type

Shape	Closed Rectangular	Auto Increment (mm)	100
Barrels	1	Follow Ground	x
Height (mm)	1800		

Available Diameters (mm)

500

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
PS1	0.020	5.00	210.057	600	412164.280	406505.559	1.318
S1	0.047	5.00	209.666	1350	412161.773	406512.366	1.618
PS2	0.011	5.00	209.289	600	412186.975	406517.300	1.276
S2	0.023	5.00	209.072	1350	412182.186	406522.529	1.576
S3	0.003	5.00	208.825	1200	412177.727	406531.563	2.020
PS3	0.021	5.00	208.367	600	412171.405	406537.838	1.820
S4	0.038	5.00	208.378	1800	412176.291	406539.047	3.878
PS5	0.008	5.00	205.982	600	412128.204	406554.525	2.582
PS6	0.008	5.00	205.298	600	412123.719	406565.818	1.898
S5	0.029	5.00	205.646	1350	412126.697	406560.544	4.146
PS4	0.021	5.00	206.253	600	412145.659	406559.512	1.224
S6	0.009	5.00	205.645	1800	412145.392	406567.644	4.245
S7	0.039	5.00	205.415	2100	412162.495	406574.114	4.115

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
PS7	0.020	5.00	204.581	600	412150.413	406590.945	3.031
S8	0.023	5.00	203.920	1500	412154.744	406592.540	4.620
PS8	0.015	5.00	201.876	600	412142.353	406607.669	2.476
S9			201.922	2100	412146.738	406611.087	4.622
S10			199.564	1200	412144.053	406618.174	4.564
S11			196.250	1200	412140.991	406624.004	1.450
EXSW			193.240	1200	412186.580	406651.346	1.540

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	PS1	S1	7.254	0.600	208.739	208.048	0.691	10.5	150	5.00	50.0
1.001	S1	S2	22.804	0.600	208.048	207.496	0.552	41.3	150	5.00	50.0
2.000	PS2	S2	7.091	0.600	208.013	207.496	0.517	13.7	150	5.00	50.0
1.002	S2	S3	10.075	0.600	207.496	206.805	0.691	14.6	150	5.00	50.0
1.003	S3	S4	7.620	0.600	206.805	206.050	0.755	10.1	150	5.00	50.0
3.000	PS3	S4	5.033	0.600	206.547	206.050	0.497	10.1	150	5.00	50.0
1.004	S4	S7	37.684	0.600	204.500	202.500	2.000	18.8	525	5.00	50.0
4.000	PS5	S5	6.205	0.600	203.400	203.150	0.250	24.8	150	5.00	50.0
5.000	PS6	S5	6.057	0.600	203.400	203.150	0.250	24.2	150	5.00	50.0
4.001	S5	S6	19.998	0.600	201.500	201.400	0.100	200.0	3000	5.00	50.0
6.000	PS4	S6	8.137	0.600	205.029	204.550	0.479	17.0	150	5.00	50.0
4.002	S6	S7	18.285	0.600	201.400	201.300	0.100	182.9	525	5.00	50.0
1.005	S7	S8	19.989	0.600	201.300	199.300	2.000	10.0	525	5.00	50.0
7.000	PS7	S8	4.616	0.600	201.550	201.100	0.450	10.3	150	5.00	50.0
1.006	S8	S9	20.201	0.600	199.300	197.300	2.000	10.1	525	5.00	50.0
8.000	PS8	S9	5.560	0.600	199.400	198.800	0.600	9.3	150	5.00	50.0
1.007	S9	S10	7.578	0.600	197.300	196.500	0.800	9.5	225	5.00	50.0
1.008	S10	S11	6.585	0.600	195.000	194.800	0.200	32.9	225	5.00	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	3.127	55.3	2.7	1.168	1.468	0.020	0.0	23	1.626
1.001	1.570	27.7	9.1	1.468	1.426	0.067	0.0	59	1.406
2.000	2.734	48.3	1.5	1.126	1.426	0.011	0.0	18	1.226
1.002	2.651	46.9	13.7	1.426	1.870	0.101	0.0	55	2.305
1.003	3.190	56.4	14.1	1.870	2.178	0.104	0.0	51	2.666
3.000	3.184	56.3	2.8	1.670	2.178	0.021	0.0	23	1.682
1.004	5.176	1120.6	22.1	3.353	2.390	0.163	0.0	50	2.095
4.000	2.029	35.9	1.1	2.432	2.346	0.008	0.0	18	0.908
5.000	2.054	36.3	1.1	1.748	2.346	0.008	0.0	18	0.919
4.001	3.878	20943.4	6.1	2.346	2.445	0.045	0.0	8	0.252
6.000	2.456	43.4	2.8	1.074	0.945	0.021	0.0	26	1.395
4.002	1.653	357.8	10.2	3.720	3.590	0.075	0.0	60	0.742
1.005	7.112	1539.7	37.5	3.590	4.095	0.277	0.0	56	3.078
7.000	3.164	55.9	2.7	2.881	2.670	0.020	0.0	23	1.645
1.006	7.075	1531.6	43.4	4.095	4.097	0.320	0.0	60	3.198
8.000	3.329	58.8	2.0	2.326	2.972	0.015	0.0	19	1.556
1.007	4.276	170.0	45.4	4.397	2.839	0.335	0.0	80	3.645
1.008	2.288	91.0	45.4	4.339	1.225	0.335	0.0	112	2.284

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)
1.009	S11	EXSW	53.160	0.600	194.800	191.700	3.100	17.1	225	5.00	50.0

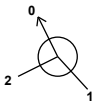
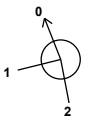
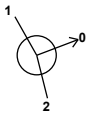
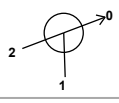
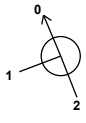
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.009	3.175	126.2	45.4	1.225	1.315	0.335	0.0	93	2.916

Pipeline Schedule

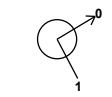
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	7.254	10.5	150	Circular	210.057	208.739	1.168	209.666	208.048	1.468
1.001	22.804	41.3	150	Circular	209.666	208.048	1.468	209.072	207.496	1.426
2.000	7.091	13.7	150	Circular	209.289	208.013	1.126	209.072	207.496	1.426
1.002	10.075	14.6	150	Circular	209.072	207.496	1.426	208.825	206.805	1.870
1.003	7.620	10.1	150	Circular	208.825	206.805	1.870	208.378	206.050	2.178
3.000	5.033	10.1	150	Circular	208.367	206.547	1.670	208.378	206.050	2.178
1.004	37.684	18.8	525	Circular	208.378	204.500	3.353	205.415	202.500	2.390
4.000	6.205	24.8	150	Circular	205.982	203.400	2.432	205.646	203.150	2.346
5.000	6.057	24.2	150	Circular	205.298	203.400	1.748	205.646	203.150	2.346
4.001	19.998	200.0	3000	Culvert 1800	205.646	201.500	2.346	205.645	201.400	2.445
6.000	8.137	17.0	150	Circular	206.253	205.029	1.074	205.645	204.550	0.945
4.002	18.285	182.9	525	Circular	205.645	201.400	3.720	205.415	201.300	3.590
1.005	19.989	10.0	525	Circular	205.415	201.300	3.590	203.920	199.300	4.095
7.000	4.616	10.3	150	Circular	204.581	201.550	2.881	203.920	201.100	2.670
1.006	20.201	10.1	525	Circular	203.920	199.300	4.095	201.922	197.300	4.097
8.000	5.560	9.3	150	Circular	201.876	199.400	2.326	201.922	198.800	2.972
1.007	7.578	9.5	225	Circular	201.922	197.300	4.397	199.564	196.500	2.839
1.008	6.585	32.9	225	Circular	199.564	195.000	4.339	196.250	194.800	1.225
1.009	53.160	17.1	225	Circular	196.250	194.800	1.225	193.240	191.700	1.315

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	PS1	600	Manhole	Adoptable	S1	1350	Manhole	Adoptable
1.001	S1	1350	Manhole	Adoptable	S2	1350	Manhole	Adoptable
2.000	PS2	600	Manhole	Adoptable	S2	1350	Manhole	Adoptable
1.002	S2	1350	Manhole	Adoptable	S3	1200	Manhole	Adoptable
1.003	S3	1200	Manhole	Adoptable	S4	1800	Manhole	Adoptable
3.000	PS3	600	Manhole	Adoptable	S4	1800	Manhole	Adoptable
1.004	S4	1800	Manhole	Adoptable	S7	2100	Manhole	Adoptable
4.000	PS5	600	Manhole	Adoptable	S5	1350	Manhole	Adoptable
5.000	PS6	600	Manhole	Adoptable	S5	1350	Manhole	Adoptable
4.001	S5	1350	Manhole	Adoptable	S6	1800	Manhole	Adoptable
6.000	PS4	600	Manhole	Adoptable	S6	1800	Manhole	Adoptable
4.002	S6	1800	Manhole	Adoptable	S7	2100	Manhole	Adoptable
1.005	S7	2100	Manhole	Adoptable	S8	1500	Manhole	Adoptable
7.000	PS7	600	Manhole	Adoptable	S8	1500	Manhole	Adoptable
1.006	S8	1500	Manhole	Adoptable	S9	2100	Manhole	Adoptable
8.000	PS8	600	Manhole	Adoptable	S9	2100	Manhole	Adoptable
1.007	S9	2100	Manhole	Adoptable	S10	1200	Manhole	Adoptable
1.008	S10	1200	Manhole	Adoptable	S11	1200	Manhole	Adoptable
1.009	S11	1200	Manhole	Adoptable	EXSW	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
PS1	412164.280	406505.559	210.057	1.318	600				
						0	1.000	208.739	150
S1	412161.773	406512.366	209.666	1.618	1350		1	1.000	208.048	150
									
						0	1.001	208.048	150
PS2	412186.975	406517.300	209.289	1.276	600				
						0	2.000	208.013	150
S2	412182.186	406522.529	209.072	1.576	1350		1	2.000	207.496	150
							2	1.001	207.496	150
						0	1.002	207.496	150
S3	412177.727	406531.563	208.825	2.020	1200		1	1.002	206.805	150
									
						0	1.003	206.805	150
PS3	412171.405	406537.838	208.367	1.820	600				
						0	3.000	206.547	150
S4	412176.291	406539.047	208.378	3.878	1800		1	3.000	206.050	150
							2	1.003	206.050	150
						0	1.004	204.500	525
PS5	412128.204	406554.525	205.982	2.582	600				
						0	4.000	203.400	150
PS6	412123.719	406565.818	205.298	1.898	600				
						0	5.000	203.400	150
S5	412126.697	406560.544	205.646	4.146	1350		1	5.000	203.150	150
							2	4.000	203.150	150
						0	4.001	201.500	3000
PS4	412145.659	406559.512	206.253	1.224	600				
						0	6.000	205.029	150
S6	412145.392	406567.644	205.645	4.245	1800		1	6.000	204.550	150
							2	4.001	201.400	3000
						0	4.002	201.400	525
S7	412162.495	406574.114	205.415	4.115	2100		1	4.002	201.300	525
							2	1.004	202.500	525
						0	1.005	201.300	525

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
PS7	412150.413	406590.945	204.581	3.031	600				
						0	7.000	201.550	150
S8	412154.744	406592.540	203.920	4.620	1500		1	7.000	201.100	150
							2	1.005	199.300	525
						0	1.006	199.300	525
PS8	412142.353	406607.669	201.876	2.476	600				
						0	8.000	199.400	150
S9	412146.738	406611.087	201.922	4.622	2100		1	8.000	198.800	150
							2	1.006	197.300	525
						0	1.007	197.300	225
S10	412144.053	406618.174	199.564	4.564	1200		1	1.007	196.500	225
						0	1.008	195.000	225
S11	412140.991	406624.004	196.250	1.450	1200		1	1.008	194.800	225
						0	1.009	194.800	225
EXSW	412186.580	406651.346	193.240	1.540	1200		1	1.009	191.700	225

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Detailed
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	20.000	Drain Down Time (mins)	1440
Ratio-R	0.400	Additional Storage (m³/ha)	0.0
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
30	0	0	0
100	0	0	0
100	40	0	0

Node S9 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	197.300	Product Number	CTL-SHE-0065-3500-4000-3500
Design Depth (m)	4.000	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	3.5	Min Node Diameter (mm)	1200

Node S7 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	201.300	Product Number	CTL-SHE-0060-3000-4000-3000
Design Depth (m)	4.000	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	3.0	Min Node Diameter (mm)	1200

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 1 year Critical Storm Duration. Lowest mass balance: 99.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	PS1	10	208.762	0.023	2.8	0.0065	0.0000	OK
15 minute winter	S1	10	208.110	0.062	9.4	0.0881	0.0000	OK
15 minute winter	PS2	10	208.032	0.019	1.6	0.0053	0.0000	OK
15 minute winter	S2	10	207.556	0.060	14.1	0.0858	0.0000	OK
15 minute winter	S3	10	206.861	0.055	14.3	0.0628	0.0000	OK
15 minute winter	PS3	10	206.572	0.025	3.0	0.0070	0.0000	OK
15 minute winter	S4	11	204.552	0.052	22.6	0.1312	0.0000	OK
15 minute winter	PS5	11	203.419	0.019	1.1	0.0052	0.0000	OK
15 minute winter	PS6	11	203.418	0.018	1.1	0.0052	0.0000	OK
120 minute winter	S5	120	201.803	0.303	5.1	0.4331	0.0000	OK
15 minute winter	PS4	10	205.057	0.028	3.0	0.0078	0.0000	OK
120 minute winter	S6	118	201.803	0.403	8.2	1.0244	0.0000	OK
120 minute winter	S7	120	201.803	0.503	9.4	1.7413	0.0000	OK
15 minute winter	PS7	10	201.574	0.024	2.8	0.0068	0.0000	OK
15 minute winter	S8	10	199.326	0.026	7.5	0.0465	0.0000	OK
15 minute winter	PS8	10	199.420	0.020	2.1	0.0057	0.0000	OK
240 minute winter	S9	184	198.175	0.875	3.2	3.0311	0.0000	SURCHARGED
15 minute summer	S10	11	195.023	0.023	1.8	0.0263	0.0000	OK
15 minute summer	S11	81	194.819	0.019	1.8	0.0214	0.0000	OK
15 minute summer	EXSW	81	191.719	0.019	1.8	0.0000	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 winter	PS1	1.000	S1	2.8	0.688	0.050	0.0309	
15 minute winter	S1	1.001	S2	9.3	1.388	0.334	0.1525	
15 minute winter	PS2	2.000	S2	1.6	0.432	0.033	0.0277	
15 minute winter	S2	1.002	S3	13.9	2.234	0.298	0.0629	
15 minute winter	S3	1.003	S4	14.3	2.535	0.253	0.0429	
15 minute winter	PS3	3.000	S4	3.0	1.640	0.053	0.0091	
15 minute winter	S4	1.004	S7	22.3	2.079	0.020	0.4049	
15 minute winter	PS5	4.000	S5	1.1	0.899	0.031	0.0076	
15 minute winter	PS6	5.000	S5	1.1	0.907	0.030	0.0073	
120 minute winter	S5	4.001	S6	-3.0	0.037	0.000	21.1536	
15 minute winter	PS4	6.000	S6	3.0	1.376	0.068	0.0176	
120 minute winter	S6	4.002	S7	-6.8	-0.081	-0.019	3.5702	
120 minute winter	S7	Hydro-Brake®	S8	1.5				
15 minute winter	PS7	7.000	S8	2.8	1.600	0.050	0.0081	
15 minute winter	S8	1.006	S9	7.5	0.946	0.005	2.0638	
15 minute winter	PS8	8.000	S9	2.1	1.536	0.035	0.0076	
240 minute winter	S9	Hydro-Brake®	S10	1.8				
15 minute summer	S10	1.008	S11	1.8	0.970	0.020	0.0123	
15 minute summer	S11	1.009	EXSW	1.8	1.140	0.014	0.0841	19.4

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	PS1	10	208.775	0.036	6.9	0.0101	0.0000	OK
15 minute winter	S1	10	208.158	0.110	23.2	0.1574	0.0000	OK
15 minute winter	PS2	10	208.042	0.028	3.8	0.0081	0.0000	OK
15 minute winter	S2	10	207.603	0.107	34.6	0.1536	0.0000	OK
15 minute winter	S3	10	206.904	0.099	35.3	0.1115	0.0000	OK
15 minute winter	PS3	10	206.586	0.039	7.3	0.0111	0.0000	OK
15 minute winter	S4	10	204.580	0.080	55.4	0.2038	0.0000	OK
15 minute winter	PS5	10	203.430	0.029	2.8	0.0083	0.0000	OK
15 minute winter	PS6	10	203.429	0.029	2.8	0.0083	0.0000	OK
360 minute winter	S5	344	202.585	1.085	5.5	1.5525	0.0000	OK
15 minute winter	PS4	10	205.073	0.044	7.3	0.0124	0.0000	OK
360 minute winter	S6	344	202.585	1.185	8.9	3.0156	0.0000	SURCHARGED
360 minute winter	S7	344	202.585	1.285	9.4	4.4509	0.0000	SURCHARGED
15 minute winter	PS7	10	201.588	0.038	6.9	0.0109	0.0000	OK
240 minute winter	S8	184	199.407	0.107	4.2	0.1893	0.0000	OK
15 minute winter	PS8	10	199.432	0.032	5.2	0.0090	0.0000	OK
240 minute winter	S9	184	199.407	2.107	5.2	7.2990	0.0000	SURCHARGED
240 minute winter	S10	184	195.028	0.028	2.6	0.0315	0.0000	OK
240 minute winter	S11	184	194.823	0.023	2.6	0.0255	0.0000	OK
240 minute winter	EXSW	184	191.722	0.022	2.6	0.0000	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 winter	PS1	1.000	S1	6.9	0.814	0.124	0.0619	
15 minute winter	S1	1.001	S2	22.9	1.673	0.824	0.3116	
15 minute winter	PS2	2.000	S2	3.8	0.498	0.078	0.0560	
15 minute winter	S2	1.002	S3	34.3	2.660	0.731	0.1297	
15 minute winter	S3	1.003	S4	35.1	3.094	0.622	0.0863	
15 minute winter	PS3	3.000	S4	7.3	2.086	0.129	0.0175	
15 minute winter	S4	1.004	S7	54.7	2.706	0.049	0.7639	
15 minute winter	PS5	4.000	S5	2.8	1.170	0.077	0.0147	
15 minute winter	PS6	5.000	S5	2.8	1.179	0.076	0.0142	
360 minute winter	S5	4.001	S6	-3.3	0.031	0.000	68.0896	
15 minute winter	PS4	6.000	S6	7.2	1.759	0.167	0.0335	
360 minute winter	S6	4.002	S7	-7.5	0.070	-0.021	3.9502	
360 minute winter	S7	Hydro-Brake®	S8	1.8				
15 minute winter	PS7	7.000	S8	6.9	2.039	0.123	0.0156	
240 minute winter	S8	1.006	S9	4.2	0.579	0.003	2.5007	
15 minute winter	PS8	8.000	S9	5.2	1.979	0.088	0.0145	
240 minute winter	S9	Hydro-Brake®	S10	2.6				
240 minute winter	S10	1.008	S11	2.6	1.080	0.029	0.0160	
240 minute winter	S11	1.009	EXSW	2.6	1.274	0.021	0.1089	123.1

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	PS1	10	208.780	0.041	9.0	0.0116	0.0000	OK
15 minute winter	S1	11	208.270	0.222	30.1	0.3179	0.0000	SURCHARGED
15 minute winter	PS2	10	208.045	0.032	4.9	0.0091	0.0000	OK
15 minute winter	S2	11	207.632	0.136	42.7	0.1940	0.0000	OK
15 minute winter	S3	11	206.925	0.120	44.1	0.1353	0.0000	OK
15 minute winter	PS3	10	206.592	0.045	9.4	0.0128	0.0000	OK
15 minute winter	S4	10	204.590	0.090	69.9	0.2298	0.0000	OK
15 minute winter	PS5	10	203.434	0.034	3.6	0.0095	0.0000	OK
15 minute winter	PS6	10	203.434	0.033	3.6	0.0095	0.0000	OK
360 minute winter	S5	352	202.966	1.466	7.1	2.0977	0.0000	OK
15 minute winter	PS4	10	205.079	0.050	9.4	0.0143	0.0000	OK
360 minute winter	S6	352	202.966	1.566	12.0	3.9852	0.0000	SURCHARGED
360 minute winter	S7	352	202.966	1.666	12.4	5.7705	0.0000	SURCHARGED
15 minute winter	PS7	10	201.595	0.044	9.0	0.0126	0.0000	OK
180 minute winter	S8	172	199.910	0.610	6.0	1.0774	0.0000	SURCHARGED
180 minute winter	PS8	172	199.910	0.510	1.6	0.1442	0.0000	SURCHARGED
180 minute winter	S9	172	199.910	2.610	7.6	9.0400	0.0000	SURCHARGED
180 minute winter	S10	172	195.029	0.029	2.9	0.0330	0.0000	OK
180 minute winter	S11	172	194.824	0.024	2.9	0.0267	0.0000	OK
180 minute winter	EXSW	172	191.724	0.024	2.9	0.0000	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 winter	PS1	1.000	S1	9.0	0.824	0.162	0.0780	
15 minute winter	S1	1.001	S2	28.3	1.684	1.022	0.3917	
15 minute winter	PS2	2.000	S2	4.9	0.511	0.101	0.0688	
15 minute winter	S2	1.002	S3	42.8	2.696	0.913	0.1602	
15 minute winter	S3	1.003	S4	44.1	3.193	0.782	0.1048	
15 minute winter	PS3	3.000	S4	9.4	2.228	0.166	0.0212	
15 minute winter	S4	1.004	S7	69.6	2.890	0.062	0.9078	
15 minute winter	PS5	4.000	S5	3.6	1.255	0.100	0.0177	
15 minute winter	PS6	5.000	S5	3.6	1.265	0.098	0.0171	
360 minute winter	S5	4.001	S6	-4.4	0.025	0.000	90.9464	
15 minute winter	PS4	6.000	S6	9.3	1.879	0.215	0.0405	
360 minute winter	S6	4.002	S7	-10.1	0.070	-0.028	3.9502	
360 minute winter	S7	Hydro-Brake®	S8	2.0				
15 minute winter	PS7	7.000	S8	9.0	2.182	0.160	0.0190	
180 minute winter	S8	1.006	S9	6.0	0.674	0.004	4.3641	
180 minute winter	PS8	8.000	S9	1.6	1.393	0.027	0.0979	
180 minute winter	S9	Hydro-Brake®	S10	2.9				
180 minute winter	S10	1.008	S11	2.9	1.108	0.032	0.0172	
180 minute winter	S11	1.009	EXSW	2.9	1.312	0.023	0.1167	151.0

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	PS1	12	209.116	0.377	12.6	0.1066	0.0000	SURCHARGED
15 minute winter	S1	12	209.082	1.034	39.5	1.4802	0.0000	SURCHARGED
15 minute winter	PS2	12	208.128	0.115	6.9	0.0325	0.0000	OK
15 minute winter	S2	12	208.121	0.625	53.5	0.8949	0.0000	SURCHARGED
15 minute winter	S3	12	207.085	0.280	50.9	0.3168	0.0000	SURCHARGED
15 minute winter	PS3	10	206.602	0.055	13.2	0.0155	0.0000	OK
360 minute winter	S4	352	205.080	0.580	14.0	1.4771	0.0000	SURCHARGED
360 minute winter	PS5	352	205.079	1.679	0.9	0.4752	0.0000	SURCHARGED
360 minute winter	PS6	352	205.079	1.679	0.9	0.4752	0.0000	FLOOD RISK
360 minute winter	S5	352	205.080	3.580	10.2	5.1224	0.0000	SURCHARGED
15 minute winter	PS4	10	205.090	0.061	13.2	0.0173	0.0000	OK
360 minute winter	S6	352	205.080	3.680	16.7	9.3646	0.0000	SURCHARGED
360 minute winter	S7	352	205.080	3.780	17.4	13.0937	0.0000	SURCHARGED
15 minute winter	PS7	10	201.604	0.054	12.6	0.0153	0.0000	OK
240 minute winter	S8	232	201.534	2.234	6.9	3.9476	0.0000	SURCHARGED
240 minute winter	PS8	232	201.534	2.134	1.8	0.6039	0.0000	SURCHARGED
240 minute winter	S9	232	201.534	4.234	7.8	14.6668	0.0000	SURCHARGED
240 minute winter	S10	232	195.033	0.033	3.6	0.0370	0.0000	OK
240 minute winter	S11	236	194.826	0.026	3.6	0.0297	0.0000	OK
240 minute winter	EXSW	236	191.726	0.026	3.6	0.0000	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 winter	PS1	1.000	S1	11.7	0.880	0.212	0.1277	
15 minute winter	S1	1.001	S2	33.5	1.901	1.206	0.4015	
15 minute winter	PS2	2.000	S2	6.9	0.541	0.142	0.1137	
15 minute winter	S2	1.002	S3	49.3	2.803	1.053	0.1774	
15 minute winter	S3	1.003	S4	50.5	3.221	0.895	0.1202	
15 minute winter	PS3	3.000	S4	13.1	2.421	0.234	0.0273	
360 minute winter	S4	1.004	S7	14.0	1.791	0.012	8.1410	
360 minute winter	PS5	4.000	S5	0.7	0.788	0.020	0.1092	
360 minute winter	PS6	5.000	S5	0.7	0.794	0.019	0.1066	
360 minute winter	S5	4.001	S6	-6.4	0.042	0.000	108.0390	
15 minute winter	PS4	6.000	S6	13.1	2.047	0.302	0.0522	
360 minute winter	S6	4.002	S7	-14.1	-0.074	-0.039	3.9502	
360 minute winter	S7	Hydro-Brake®	S8	2.9				
15 minute winter	PS7	7.000	S8	12.5	2.369	0.224	0.0245	
240 minute winter	S8	1.006	S9	6.2	0.639	0.004	4.3641	
240 minute winter	PS8	8.000	S9	1.9	1.335	0.033	0.0979	
240 minute winter	S9	Hydro-Brake®	S10	3.6				
240 minute winter	S10	1.008	S11	3.6	1.182	0.040	0.0202	
240 minute winter	S11	1.009	EXSW	3.6	1.403	0.029	0.1365	217.3