

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	0.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	17.000	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	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.014	5.00	49.104	600	385306.785	398140.429	0.842
2	0.013	5.00	49.159	600	385293.305	398154.331	1.026
3	0.006	5.00	49.339	600	385304.982	398164.304	1.383
4	0.012	5.00	49.349	600	385328.717	398175.046	1.567
5	0.011	5.00	49.419	600	385351.750	398184.365	1.802
6	0.091	5.00	49.436	600	385333.023	398151.196	1.533
7	0.006	5.00	49.780	600	385346.256	398161.933	1.991
8	0.005	5.00	49.451	600	385357.638	398169.430	1.753
9	0.005	5.00	49.639	600	385354.133	398177.180	2.072
10	0.048	5.00	50.439	600	385428.115	398217.315	0.998
11	0.039	5.00	50.346	600	385405.568	398202.113	1.177
12	0.030	5.00	50.368	600	385383.989	398187.021	1.463
13	0.034	5.00	50.744	600	385397.406	398219.613	1.701
14	0.035	5.00	50.047	600	385374.018	398199.280	2.037
15	0.002	5.00	50.180	600	385378.549	398193.721	2.407
16	0.007	5.00	49.846	1200	385370.542	398188.605	2.413
16_OUT			48.000	1350	385362.529	398200.819	0.664
GEO W		5.00	50.199		385373.021	398185.316	2.699

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	16	16_OUT	14.607	0.600	47.433	47.336	0.097	150.0	150	7.23	0.0
1.005	9	16	19.994	0.600	47.567	47.434	0.133	150.0	225	6.94	0.0
5.000	GEO W	16	4.119	0.600	47.500	47.433	0.067	61.5	150	5.05	0.0
3.003	15	16	9.531	0.600	47.773	47.455	0.318	30.0	225	6.10	0.0
3.002	12	15	8.673	0.600	48.905	48.819	0.086	100.8	150	6.03	0.0
4.001	14	15	7.129	0.600	48.010	47.773	0.237	30.1	225	5.27	0.0
4.000	13	14	30.991	0.600	49.043	48.010	1.033	30.0	225	5.22	0.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.006	0.818	14.5	0.0	2.263	0.514	0.358	0.0
1.005	1.065	42.3	0.0	1.847	2.187	0.163	0.0
5.000	1.285	22.7	0.0	2.549	2.263	0.000	0.0
3.003	2.398	95.4	0.0	2.182	2.166	0.188	0.0
3.002	1.000	17.7	0.0	1.313	1.211	0.117	0.0
4.001	2.394	95.2	0.0	1.812	2.182	0.069	0.0
4.000	2.397	95.3	0.0	1.476	1.812	0.034	0.0

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)
3.001	11	12	26.333	0.600	49.169	48.905	0.264	99.7	150	5.89	0.0
3.000	10	11	27.193	0.600	49.441	49.169	0.272	100.0	150	5.45	0.0
1.004	5	9	7.569	0.600	47.617	47.567	0.050	150.0	225	6.62	0.0
2.002	8	9	8.506	0.600	47.698	47.567	0.131	64.9	225	5.57	0.0
2.001	7	8	13.629	0.600	47.789	47.698	0.091	150.0	225	5.48	0.0
2.000	6	7	17.040	0.600	47.903	47.789	0.114	150.0	225	5.27	0.0
1.003	4	5	24.847	0.600	47.782	47.617	0.165	150.6	225	6.51	0.0
1.002	3	4	26.053	0.600	47.956	47.782	0.174	150.0	225	6.12	0.0
1.001	2	3	15.356	0.600	48.133	48.031	0.102	150.5	150	5.71	0.0
1.000	1	2	19.365	0.600	48.262	48.133	0.129	150.0	150	5.39	0.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
3.001	1.006	17.8	0.0	1.027	1.313	0.087	0.0
3.000	1.005	17.8	0.0	0.848	1.027	0.048	0.0
1.004	1.065	42.3	0.0	1.577	1.847	0.056	0.0
2.002	1.625	64.6	0.0	1.528	1.847	0.102	0.0
2.001	1.065	42.3	0.0	1.766	1.528	0.097	0.0
2.000	1.065	42.3	0.0	1.308	1.766	0.091	0.0
1.003	1.063	42.3	0.0	1.342	1.577	0.045	0.0
1.002	1.065	42.3	0.0	1.158	1.342	0.033	0.0
1.001	0.816	14.4	0.0	0.876	1.158	0.027	0.0
1.000	0.818	14.5	0.0	0.692	0.876	0.014	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)
1.006	14.607	150.0	150	Circular	49.846	47.433	2.263	48.000	47.336	0.514
1.005	19.994	150.0	225	Circular	49.639	47.567	1.847	49.846	47.434	2.187
5.000	4.119	61.5	150	Circular	50.199	47.500	2.549	49.846	47.433	2.263
3.003	9.531	30.0	225	Circular	50.180	47.773	2.182	49.846	47.455	2.166
3.002	8.673	100.8	150	Circular	50.368	48.905	1.313	50.180	48.819	1.211
4.001	7.129	30.1	225	Circular	50.047	48.010	1.812	50.180	47.773	2.182
4.000	30.991	30.0	225	Circular	50.744	49.043	1.476	50.047	48.010	1.812
3.001	26.333	99.7	150	Circular	50.346	49.169	1.027	50.368	48.905	1.313
3.000	27.193	100.0	150	Circular	50.439	49.441	0.848	50.346	49.169	1.027
1.004	7.569	150.0	225	Circular	49.419	47.617	1.577	49.639	47.567	1.847

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.006	16	1200	Manhole	Adoptable	16_OUT	1350	Manhole	Adoptable
1.005	9	600	Manhole	Adoptable	16	1200	Manhole	Adoptable
5.000	GEO W		Junction		16	1200	Manhole	Adoptable
3.003	15	600	Manhole	Adoptable	16	1200	Manhole	Adoptable
3.002	12	600	Manhole	Adoptable	15	600	Manhole	Adoptable
4.001	14	600	Manhole	Adoptable	15	600	Manhole	Adoptable
4.000	13	600	Manhole	Adoptable	14	600	Manhole	Adoptable
3.001	11	600	Manhole	Adoptable	12	600	Manhole	Adoptable
3.000	10	600	Manhole	Adoptable	11	600	Manhole	Adoptable
1.004	5	600	Manhole	Adoptable	9	600	Manhole	Adoptable

Pipeline Schedule

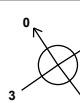
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
2.002	8.506	64.9	225	Circular	49.451	47.698	1.528	49.639	47.567	1.847
2.001	13.629	150.0	225	Circular	49.780	47.789	1.766	49.451	47.698	1.528
2.000	17.040	150.0	225	Circular	49.436	47.903	1.308	49.780	47.789	1.766
1.003	24.847	150.6	225	Circular	49.349	47.782	1.342	49.419	47.617	1.577
1.002	26.053	150.0	225	Circular	49.339	47.956	1.158	49.349	47.782	1.342
1.001	15.356	150.5	150	Circular	49.159	48.133	0.876	49.339	48.031	1.158
1.000	19.365	150.0	150	Circular	49.104	48.262	0.692	49.159	48.133	0.876

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
2.002	8	600	Manhole	Adoptable	9	600	Manhole	Adoptable
2.001	7	600	Manhole	Adoptable	8	600	Manhole	Adoptable
2.000	6	600	Manhole	Adoptable	7	600	Manhole	Adoptable
1.003	4	600	Manhole	Adoptable	5	600	Manhole	Adoptable
1.002	3	600	Manhole	Adoptable	4	600	Manhole	Adoptable
1.001	2	600	Manhole	Adoptable	3	600	Manhole	Adoptable
1.000	1	600	Manhole	Adoptable	2	600	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
1	385306.785	398140.429	49.104	0.842	600				
						0	1.000	48.262	150
2	385293.305	398154.331	49.159	1.026	600		1	1.000	48.133
						0	1.001	48.133	150
3	385304.982	398164.304	49.339	1.383	600		1	1.001	48.031
						0	1.002	47.956	225
4	385328.717	398175.046	49.349	1.567	600		1	1.002	47.782
						0	1.003	47.782	225
5	385351.750	398184.365	49.419	1.802	600		1	1.003	47.617
						0	1.004	47.617	225
6	385333.023	398151.196	49.436	1.533	600				
						0	2.000	47.903	225
7	385346.256	398161.933	49.780	1.991	600		1	2.000	47.789
						0	2.001	47.789	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
8	385357.638	398169.430	49.451	1.753	600		1	2.001	47.698	225
						0	2.002	47.698	225	
9	385354.133	398177.180	49.639	2.072	600		1	2.002	47.567	225
							2	1.004	47.567	225
							0	1.005	47.567	225
10	385428.115	398217.315	50.439	0.998	600		0	3.000	49.441	150
							1	3.000	49.169	150
11	385405.568	398202.113	50.346	1.177	600		0	3.001	49.169	150
							1	3.001	48.905	150
12	385383.989	398187.021	50.368	1.463	600		0	3.002	48.905	150
							0	4.000	49.043	225
13	385397.406	398219.613	50.744	1.701	600		1	4.000	48.010	225
							0	4.001	48.010	225
14	385374.018	398199.280	50.047	2.037	600		1	4.001	47.773	225
							2	3.002	48.819	150
							0	3.003	47.773	225
15	385378.549	398193.721	50.180	2.407	600		1	5.000	47.433	150
							2	3.003	47.455	225
							3	1.005	47.434	225
							0	1.006	47.433	150
16	385370.542	398188.605	49.846	2.413	1200		1	1.006	47.336	150
							0	5.000	47.500	150
16_OUT	385362.529	398200.819	48.000	0.664	1350		1	1.006	47.336	150
GEO W	385373.021	398185.316	50.199	2.699			0	5.000	47.500	150

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	17.000	Drain Down Time (mins)	240
Ratio-R	0.400	Additional Storage (m³/ha)	20.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations											
15	30	60	120	180	240	360	480	600	720	960	1440
Return Period (years)	Climate Change (CC %)		Additional Area (A %)		Additional Flow (Q %)						
1	0		0		0						
30	0		0		0						
100	40		0		0						

Node 16 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	47.433	Product Number	CTL-SHE-0051-1500-1700-1500
Design Depth (m)	1.700	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	1.5	Min Node Diameter (mm)	1200

Node 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	48.759
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	9

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	171.0	0.0	0.250	171.0	0.0	0.251	0.0	0.0

Node 2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	48.814
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	6

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	168.0	0.0	0.250	168.0	0.0	0.251	0.0	0.0

Node 3 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	48.994
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	56.0	0.0	0.250	56.0	0.0	0.251	0.0	0.0

Node 4 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	49.004
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	1

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	152.0	0.0	0.250	152.0	0.0	0.251	0.0	0.0

Node 5 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	49.074
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0

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	155.0	0.0	0.250	155.0	0.0	0.251	0.0	0.0

Node 7 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	49.435
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0

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	77.0	0.0	0.250	77.0	0.0	0.251	0.0	0.0

Node 8 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	49.106
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	1

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	64.0	0.0	0.250	64.0	0.0	0.251	0.0	0.0

Node 9 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	49.294
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0

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	45.0	0.0	0.250	45.0	0.0	0.251	0.0	0.0

Node 10 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	50.094
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	5

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	138.0	0.0	0.250	138.0	0.0	0.251	0.0	0.0

Node 11 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	50.001
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	3

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	144.0	0.0	0.250	144.0	0.0	0.251	0.0	0.0

Node 12 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	50.023
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0

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	130.0	0.0	0.250	130.0	0.0	0.251	0.0	0.0

Node 13 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	50.399
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0

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	290.0	0.0	0.250	290.0	0.0	0.251	0.0	0.0

Node 14 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	49.702
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0

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	0.250	300.0	0.0	0.251	0.0	0.0

Node 15 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	49.835
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0

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	114.0	0.0	0.250	114.0	0.0	0.251	0.0	0.0

Node GEO W Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	47.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

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	168.0	0.0	1.200	168.0	0.0	1.201	0.0	0.0

Results for 1 year Critical Storm Duration. Lowest mass balance: 97.63%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	48.296	0.034	1.7	0.0210	0.0000	OK
15 minute winter	2	11	48.182	0.049	3.2	0.0261	0.0000	OK
15 minute winter	3	11	48.001	0.045	3.8	0.0168	0.0000	OK
15 minute winter	4	13	47.845	0.063	5.1	0.0273	0.0000	OK
15 minute winter	5	12	47.843	0.226	7.8	0.0916	0.0000	SURCHARGED
15 minute winter	6	10	47.983	0.080	10.8	0.1178	0.0000	OK
15 minute winter	7	10	47.872	0.083	11.4	0.0284	0.0000	OK
15 minute winter	8	12	47.850	0.152	12.5	0.0516	0.0000	OK
15 minute winter	9	12	47.836	0.269	17.7	0.0889	0.0000	SURCHARGED
15 minute winter	10	10	49.499	0.058	5.7	0.0718	0.0000	OK
15 minute winter	11	10	49.250	0.081	10.2	0.0764	0.0000	OK
15 minute winter	12	11	49.013	0.108	13.6	0.0750	0.0000	OK
15 minute winter	13	10	49.075	0.032	4.1	0.0215	0.0000	OK
15 minute winter	14	10	48.054	0.044	8.2	0.0277	0.0000	OK
15 minute winter	15	11	47.846	0.073	21.6	0.0217	0.0000	OK
15 minute winter	16	12	47.820	0.387	35.0	0.4596	0.0000	SURCHARGED
15 minute summer	16_OUT	1	47.336	0.000	1.0	0.0000	0.0000	OK
240 minute winter	GEO W	232	47.703	0.203	7.0	32.4684	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 winter	1	1.000	2	1.7	0.425	0.114	0.0769	
15 minute winter	2	1.001	3	3.1	0.645	0.217	0.0746	
15 minute winter	3	1.002	4	3.8	0.605	0.090	0.1807	
15 minute winter	4	1.003	5	5.9	0.545	0.140	0.6023	
15 minute winter	5	1.004	9	7.7	0.426	0.181	0.3009	
15 minute winter	6	2.000	7	10.7	0.823	0.252	0.2209	
15 minute winter	7	2.001	8	11.9	0.993	0.280	0.2710	
15 minute winter	8	2.002	9	12.1	0.821	0.187	0.2902	
15 minute winter	9	1.005	16	19.1	0.480	0.451	0.7952	
15 minute winter	10	3.000	11	5.6	0.705	0.316	0.2164	
15 minute winter	11	3.001	12	10.0	0.867	0.565	0.3058	
15 minute winter	12	3.002	15	13.6	1.051	0.768	0.1120	
15 minute winter	13	4.000	14	4.0	0.917	0.042	0.1374	
15 minute winter	14	4.001	15	8.1	1.003	0.085	0.0587	
15 minute winter	15	3.003	16	21.7	0.908	0.228	0.2423	
15 minute winter	16	Hydro-Brake®	16_OUT	1.0				14.7
240 minute winter	GEO W	5.000	16	-7.0	-0.442	-0.309	0.0725	

Results for 30 year Critical Storm Duration. Lowest mass balance: 97.63%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	13	48.470	0.208	4.1	0.1279	0.0000	SURCHARGED
15 minute winter	2	13	48.463	0.330	7.8	0.1768	0.0000	SURCHARGED
15 minute winter	3	13	48.444	0.488	9.6	0.1806	0.0000	SURCHARGED
15 minute winter	4	13	48.438	0.656	17.3	0.2862	0.0000	SURCHARGED
15 minute winter	5	13	48.430	0.813	12.4	0.3291	0.0000	SURCHARGED
15 minute winter	6	12	48.476	0.573	26.5	0.8423	0.0000	SURCHARGED
15 minute winter	7	13	48.456	0.667	26.3	0.2288	0.0000	SURCHARGED
15 minute winter	8	13	48.440	0.742	25.9	0.2522	0.0000	SURCHARGED
15 minute winter	9	13	48.426	0.859	27.8	0.2842	0.0000	SURCHARGED
15 minute winter	10	12	49.843	0.402	14.0	0.5002	0.0000	SURCHARGED
15 minute winter	11	12	49.703	0.534	22.0	0.5056	0.0000	SURCHARGED
15 minute winter	12	11	49.263	0.358	29.0	0.2479	0.0000	SURCHARGED
15 minute winter	13	10	49.092	0.049	9.9	0.0332	0.0000	OK
15 minute winter	14	13	48.438	0.428	20.0	0.2677	0.0000	SURCHARGED
15 minute winter	15	13	48.432	0.659	42.8	0.1971	0.0000	SURCHARGED
15 minute winter	16	13	48.354	0.921	69.6	1.0949	0.0000	SURCHARGED
15 minute summer	16_OUT	1	47.336	0.000	1.1	0.0000	0.0000	OK
600 minute winter	GEO W	585	48.105	0.605	8.3	96.6291	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 winter	1	1.000	2	4.0	0.535	0.277	0.3409	
15 minute winter	2	1.001	3	7.9	0.774	0.546	0.2703	
15 minute winter	3	1.002	4	9.5	0.646	0.225	1.0362	
15 minute winter	4	1.003	5	12.2	0.564	0.290	0.9882	
15 minute winter	5	1.004	9	14.4	0.369	0.340	0.3010	
15 minute winter	6	2.000	7	24.6	0.961	0.581	0.6777	
15 minute winter	7	2.001	8	24.4	1.050	0.576	0.5420	
15 minute winter	8	2.002	9	22.4	0.833	0.346	0.3383	
15 minute winter	9	1.005	16	28.0	0.705	0.662	0.7952	
15 minute winter	10	3.000	11	11.8	0.811	0.662	0.4787	
15 minute winter	11	3.001	12	21.3	1.211	1.199	0.4636	
15 minute winter	12	3.002	15	28.6	1.626	1.619	0.1511	
15 minute winter	13	4.000	14	9.8	1.160	0.103	0.7108	
15 minute winter	14	4.001	15	18.1	1.108	0.191	0.2835	
15 minute winter	15	3.003	16	42.2	1.060	0.442	0.3791	
15 minute winter	16	Hydro-Brake®	16_OUT	1.1				15.2
600 minute winter	GEO W	5.000	16	-8.3	-0.470	-0.364	0.0725	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 97.63%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	1	27	48.873	0.611	13.3	6.2559	0.0000	FLOOD RISK
30 minute winter	2	25	48.888	0.755	20.7	4.1690	0.0000	FLOOD RISK
15 minute winter	3	15	49.004	1.048	19.9	0.5642	0.0000	SURCHARGED
15 minute winter	4	14	49.028	1.246	22.4	1.6537	0.0000	SURCHARGED
15 minute winter	5	13	49.054	1.437	22.4	0.5822	0.0000	SURCHARGED
15 minute winter	6	11	49.374	1.471	47.9	2.1629	0.0000	FLOOD RISK
15 minute winter	7	12	49.249	1.460	44.1	0.5007	0.0000	SURCHARGED
15 minute winter	8	13	49.135	1.437	44.2	1.0558	0.0000	SURCHARGED
15 minute winter	9	13	49.063	1.496	42.5	0.4951	0.0000	SURCHARGED
15 minute winter	10	14	50.166	0.725	25.2	3.9171	0.0000	FLOOD RISK
15 minute winter	11	13	50.038	0.869	30.8	2.4543	0.0000	SURCHARGED
15 minute winter	12	12	49.593	0.688	38.7	0.4769	0.0000	SURCHARGED
15 minute winter	13	12	49.222	0.179	17.9	0.1222	0.0000	OK
15 minute winter	14	12	49.198	1.188	36.2	0.7437	0.0000	SURCHARGED
15 minute winter	15	13	49.172	1.399	62.6	0.4183	0.0000	SURCHARGED
15 minute winter	16	13	48.997	1.564	95.2	1.8600	0.0000	SURCHARGED
15 minute summer	16_OUT	1	47.336	0.000	1.4	0.0000	0.0000	OK
720 minute winter	GEO W	705	48.836	1.336	13.1	191.5998	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)
30 minute winter	1	1.000	2	17.7	1.008	1.227	0.3409	
30 minute winter	2	1.001	3	18.6	1.054	1.286	0.2703	
15 minute winter	3	1.002	4	21.0	0.648	0.496	1.0362	
15 minute winter	4	1.003	5	22.4	0.582	0.529	0.9882	
15 minute winter	5	1.004	9	23.7	0.596	0.560	0.3010	
15 minute winter	6	2.000	7	41.1	1.035	0.972	0.6777	
15 minute winter	7	2.001	8	42.1	1.074	0.994	0.5420	
15 minute winter	8	2.002	9	40.0	1.006	0.619	0.3383	
15 minute winter	9	1.005	16	32.3	0.813	0.763	0.7952	
15 minute winter	10	3.000	11	20.4	1.159	1.149	0.4787	
15 minute winter	11	3.001	12	26.9	1.527	1.512	0.4636	
15 minute winter	12	3.002	15	38.3	2.177	2.168	0.1527	
15 minute winter	13	4.000	14	17.8	1.185	0.186	1.1407	
15 minute winter	14	4.001	15	25.3	1.179	0.265	0.2835	
15 minute winter	15	3.003	16	59.4	1.493	0.623	0.3791	
15 minute winter	16	Hydro-Brake®	16_OUT	1.4				13.8
720 minute winter	GEO W	5.000	16	-13.1	-0.742	-0.575	0.0725	