Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	40	Minimum Velocity (m/s)	0.70
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.500
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
Headwall			1.600	1200	523969.264	309165.099	0.560
MH-0001-S	0.013	5.00	1.750	1200	523960.319	309162.032	0.650
MH-0002-S	0.026	5.00	1.975	1200	523949.709	309160.786	0.805
IC-0101-S	0.009	5.00	2.100	450	523936.408	309182.355	0.630
IC-0201-S	0.009	5.00	2.100	450	523934.488	309176.136	0.670
IC-0301-S	0.009	5.00	1.950	450	523932.619	309170.091	0.650
IC-0302-S			1.940	450	523929.629	309170.662	0.620
IC-0401-S	0.009	5.00	2.100	450	523927.926	309159.589	0.710
IC-0501-S	0.009	5.00	2.100	450	523926.955	309151.710	0.660
IC-0601-S	0.009	5.00	2.100	450	523925.984	309143.825	0.610
IC-0701-S	0.012	5.00	2.000	450	523946.050	309131.626	0.640
IC-0801-S	0.012	5.00	1.975	450	523948.941	309131.263	0.505
IC-0802-S	0.005	5.00	2.100	450	523954.788	309130.849	0.590
IC-0901-S	0.012	5.00	2.100	450	523956.867	309148.165	0.900
IC-1001-S	0.012	5.00	2.100	600	523957.772	309155.376	0.950
Dummy Node			1.750	1200	523962.911	309163.059	0.655

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)
PN-0001-S	Dummy Node	Headwall	6.672	0.600	1.095	1.040	0.055	121.3	150	6.38	50.0
PN-0002-S	MH-0002-S	MH-0001-S	10.683	0.600	1.170	1.100	0.070	152.6	300	5.92	50.0
PN-0003-S	IC-0701-S	MH-0002-S	29.389	0.600	1.360	1.170	0.190	154.7	150	5.78	50.0
PN-0004-S	IC-0801-S	IC-0701-S	2.914	0.600	1.470	1.450	0.020	145.7	150	5.18	50.0
PN-0005-S	IC-0802-S	IC-0801-S	5.862	0.600	1.510	1.470	0.040	146.5	150	5.12	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)
PN-0001-S	0.911	16.1	27.7	0.505	0.410	0.146	0.0	150	0.928
PN-0002-S	1.270	89.8	10.4	0.505	0.350	0.055	0.0	69	0.858
PN-0003-S	0.805	14.2	5.5	0.490	0.655	0.029	0.0	65	0.754
PN-0004-S	0.830	14.7	3.2	0.355	0.400	0.017	0.0	48	0.667
PN-0005-S	0.828	14.6	0.9	0.440	0.355	0.005	0.0	26	0.467

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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)
PN-0006-S	IC-1001-S	MH-0001-S	7.127	0.600	1.150	1.100	0.050	142.5	225	5.25	50.0
PN-0007-S	IC-0901-S	IC-1001-S	7.268	0.600	1.200	1.150	0.050	145.4	150	5.15	50.0
PN-0008-S	IC-0301-S	MH-0001-S	28.849	0.600	1.300	1.100	0.200	144.2	150	6.21	50.0
PN-0009-S	IC-0201-S	IC-0301-S	6.327	0.600	1.430	1.390	0.040	158.2	150	5.27	50.0
PN-0010-S	IC-0101-S	IC-0201-S	6.509	0.600	1.470	1.430	0.040	162.7	150	5.14	50.0
PN-0011-S	IC-0302-S	IC-0301-S	3.044	0.600	1.320	1.300	0.020	152.2	150	5.63	50.0
PN-0012-S	IC-0401-S	IC-0302-S	11.203	0.600	1.390	1.320	0.070	160.0	150	5.57	50.0
PN-0013-S	IC-0501-S	IC-0401-S	7.939	0.600	1.440	1.390	0.050	158.8	150	5.33	50.0
PN-0014-S	IC-0601-S	IC-0501-S	7.945	0.600	1.490	1.440	0.050	158.9	150	5.17	50.0
Dummy Pipe	MH-0001-S	Dummy Node	2.788	0.600	1.100	1.095	0.005	557.6	600	6.25	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)
PN-0006-S	1.093	43.5	4.6	0.725	0.425	0.024	0.0	49	0.711
PN-0007-S	0.831	14.7	2.3	0.750	0.800	0.012	0.0	40	0.606
PN-0008-S	0.834	14.7	10.2	0.500	0.500	0.054	0.0	92	0.901
PN-0009-S	0.796	14.1	3.4	0.520	0.410	0.018	0.0	50	0.656
PN-0010-S	0.785	13.9	1.7	0.480	0.520	0.009	0.0	35	0.533
PN-0011-S	0.812	14.3	5.1	0.470	0.500	0.027	0.0	62	0.744
PN-0012-S	0.792	14.0	5.1	0.560	0.470	0.027	0.0	63	0.732
PN-0013-S	0.795	14.0	3.4	0.510	0.560	0.018	0.0	50	0.655
PN-0014-S	0.794	14.0	1.7	0.460	0.510	0.009	0.0	35	0.539
Dummy Pipe	1.024	289.5	27.7	0.050	0.055	0.146	0.0	124	0.656

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)
PN-0001-S	6.672	121.3	150	Circular	1.750	1.095	0.505	1.600	1.040	0.410
PN-0002-S	10.683	152.6	300	Circular	1.975	1.170	0.505	1.750	1.100	0.350
PN-0003-S	29.389	154.7	150	Circular	2.000	1.360	0.490	1.975	1.170	0.655
PN-0004-S	2.914	145.7	150	Circular	1.975	1.470	0.355	2.000	1.450	0.400
PN-0005-S	5.862	146.5	150	Circular	2.100	1.510	0.440	1.975	1.470	0.355
PN-0006-S	7.127	142.5	225	Circular	2.100	1.150	0.725	1.750	1.100	0.425

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
PN-0001-S	Dummy Node	1200	Manhole	Adoptable	Headwall	1200	Manhole	Adoptable
PN-0002-S	MH-0002-S	1200	Manhole	Adoptable	MH-0001-S	1200	Manhole	Adoptable
PN-0003-S	IC-0701-S	450	Manhole	Adoptable	MH-0002-S	1200	Manhole	Adoptable
PN-0004-S	IC-0801-S	450	Manhole	Adoptable	IC-0701-S	450	Manhole	Adoptable
PN-0005-S	IC-0802-S	450	Manhole	Adoptable	IC-0801-S	450	Manhole	Adoptable
PN-0006-S	IC-1001-S	600	Manhole	Adoptable	MH-0001-S	1200	Manhole	Adoptable

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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)
PN-0007-S	7.268	145.4	150	Circular	2.100	1.200	0.750	2.100	1.150	0.800
PN-0008-S	28.849	144.2	150	Circular	1.950	1.300	0.500	1.750	1.100	0.500
PN-0009-S	6.327	158.2	150	Circular	2.100	1.430	0.520	1.950	1.390	0.410
PN-0010-S	6.509	162.7	150	Circular	2.100	1.470	0.480	2.100	1.430	0.520
PN-0011-S	3.044	152.2	150	Circular	1.940	1.320	0.470	1.950	1.300	0.500
PN-0012-S	11.203	160.0	150	Circular	2.100	1.390	0.560	1.940	1.320	0.470
PN-0013-S	7.939	158.8	150	Circular	2.100	1.440	0.510	2.100	1.390	0.560
PN-0014-S	7.945	158.9	150	Circular	2.100	1.490	0.460	2.100	1.440	0.510
Dummy Pipe	2.788	557.6	600	Circular	1.750	1.100	0.050	1.750	1.095	0.055

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
PN-0007-S	IC-0901-S	450	Manhole	Adoptable	IC-1001-S	600	Manhole	Adoptable
PN-0008-S	IC-0301-S	450	Manhole	Adoptable	MH-0001-S	1200	Manhole	Adoptable
PN-0009-S	IC-0201-S	450	Manhole	Adoptable	IC-0301-S	450	Manhole	Adoptable
PN-0010-S	IC-0101-S	450	Manhole	Adoptable	IC-0201-S	450	Manhole	Adoptable
PN-0011-S	IC-0302-S	450	Manhole	Adoptable	IC-0301-S	450	Manhole	Adoptable
PN-0012-S	IC-0401-S	450	Manhole	Adoptable	IC-0302-S	450	Manhole	Adoptable
PN-0013-S	IC-0501-S	450	Manhole	Adoptable	IC-0401-S	450	Manhole	Adoptable
PN-0014-S	IC-0601-S	450	Manhole	Adoptable	IC-0501-S	450	Manhole	Adoptable
Dummy Pipe	MH-0001-S	1200	Manhole	Adoptable	Dummy Node	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
Headwall	523969.264	309165.099	1.600	0.560	1200	1	PN-0001-S	1.040	150
MH-0001-S	523960.319	309162.032	1.750	0.650	1200	1	PN-0006-S	1.100	225
						2	PN-0002-S	1.100	300
						3	PN-0008-S	1.100	150
						0	Dummy Pipe	1.100	600
MH-0002-S	523949.709	309160.786	1.975	0.805	1200	1	PN-0003-S	1.170	150
						0	PN-0002-S	1.170	300
IC-0101-S	523936.408	309182.355	2.100	0.630	450	0	PN-0010-S	1.470	150
IC-0201-S	523934.488	309176.136	2.100	0.670	450	1	PN-0010-S	1.430	150
						0	PN-0009-S	1.430	150

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
IC-0301-S	523932.619	309170.091	1.950	0.650	450	1	PN-0009-S	1.390	150
						2	PN-0011-S	1.300	150
						0	PN-0008-S	1.300	150
IC-0302-S	523929.629	309170.662	1.940	0.620	450	1	PN-0012-S	1.320	150
						0	PN-0011-S	1.320	150
IC-0401-S	523927.926	309159.589	2.100	0.710	450	1	PN-0013-S	1.390	150
						0	PN-0012-S	1.390	150
IC-0501-S	523926.955	309151.710	2.100	0.660	450	1	PN-0014-S	1.440	150
						0	PN-0013-S	1.440	150
IC-0601-S	523925.984	309143.825	2.100	0.610	450	0	PN-0014-S	1.490	150
IC-0701-S	523946.050	309131.626	2.000	0.640	450	1	PN-0004-S	1.450	150
						0	PN-0003-S	1.360	150
IC-0801-S	523948.941	309131.263	1.975	0.505	450	1	PN-0005-S	1.470	150
						0	PN-0004-S	1.470	150
IC-0802-S	523954.788	309130.849	2.100	0.590	450	0	PN-0005-S	1.510	150
IC-0901-S	523956.867	309148.165	2.100	0.900	450	0	PN-0007-S	1.200	150
IC-1001-S	523957.772	309155.376	2.100	0.950	600	1	PN-0007-S	1.150	150
						0	PN-0006-S	1.150	225
Dummy Node	523962.911	309163.059	1.750	0.655	1200	1	Dummy Pipe	1.095	600
						0	PN-0001-S	1.095	150

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	20.000	Drain Down Time (mins)	240
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

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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
2	0	0	0
10	0	0	0
30	0	0	0
100	0	0	0
100	40	0	0

Node MH-0001-S Online Orifice Control

Flap Valve	x	Design Depth (m)	0.650	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.2		
Invert Level (m)	1.100	Diameter (m)	0.026		

Node MH-0001-S Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	1.100
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	50.0	0.0	0.540	50.0	0.0	0.541	0.0	0.0

Node MH-0002-S Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	1.170
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	75.0	0.0	0.600	75.0	0.0	0.601	0.0	0.0

Node MH-0002-S Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	1.170
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	95.0	0.0	0.695	95.0	0.0	0.696	0.0	0.0

Node IC-0802-S Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	1.510
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	210

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	50.0	0.0	0.500	50.0	0.0	0.501	0.0	0.0

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Results for 1 year Critical Storm Duration. Lowest mass balance: 97.62%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	Headwall	180	1.059	0.019	0.5	0.0000	0.0000	OK
180 minute winter	MH-0001-S	176	1.267	0.167	3.1	8.1235	0.0000	OK
180 minute winter	MH-0002-S	176	1.267	0.097	3.1	9.7917	0.0000	OK
15 minute winter	IC-0101-S	10	1.501	0.031	1.3	0.0049	0.0000	OK
15 minute winter	IC-0201-S	10	1.475	0.045	2.6	0.0072	0.0000	OK
15 minute winter	IC-0301-S	11	1.381	0.081	7.5	0.0129	0.0000	OK
15 minute winter	IC-0302-S	11	1.388	0.068	3.8	0.0108	0.0000	OK
15 minute winter	IC-0401-S	10	1.444	0.054	3.8	0.0085	0.0000	OK
15 minute winter	IC-0501-S	10	1.484	0.044	2.6	0.0070	0.0000	OK
15 minute winter	IC-0601-S	10	1.520	0.030	1.3	0.0048	0.0000	OK
15 minute winter	IC-0701-S	10	1.419	0.059	3.5	0.0093	0.0000	OK
15 minute winter	IC-0801-S	11	1.508	0.038	1.8	0.0061	0.0000	OK
30 minute winter	IC-0802-S	22	1.525	0.015	0.5	0.2297	0.0000	OK
180 minute winter	IC-0901-S	176	1.267	0.067	0.4	0.0107	0.0000	OK
180 minute winter	IC-1001-S	176	1.267	0.117	0.8	0.0331	0.0000	OK
180 minute winter	Dummy Node	180	1.114	0.019	0.5	0.0218	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)
180 minute winter	MH-0001-S	Dummy Pipe	Dummy Node	0.5	0.201	0.002	0.0075	
180 minute winter	MH-0002-S	PN-0002-S	MH-0001-S	-1.3	-0.108	-0.014	0.3205	
15 minute winter	IC-0101-S	PN-0010-S	IC-0201-S	1.3	0.366	0.092	0.0228	
15 minute winter	IC-0201-S	PN-0009-S	IC-0301-S	2.5	0.586	0.177	0.0270	
15 minute winter	IC-0301-S	PN-0008-S	MH-0001-S	7.6	1.089	0.518	0.2512	
15 minute winter	IC-0302-S	PN-0011-S	IC-0301-S	3.8	0.448	0.266	0.0266	
15 minute winter	IC-0401-S	PN-0012-S	IC-0302-S	3.8	0.563	0.269	0.0753	
15 minute winter	IC-0501-S	PN-0013-S	IC-0401-S	2.5	0.502	0.178	0.0396	
15 minute winter	IC-0601-S	PN-0014-S	IC-0501-S	1.3	0.373	0.090	0.0273	
15 minute winter	IC-0701-S	PN-0003-S	MH-0002-S	3.5	1.039	0.246	0.1092	
15 minute winter	IC-0801-S	PN-0004-S	IC-0701-S	1.8	0.540	0.123	0.0097	
30 minute winter	IC-0802-S	PN-0005-S	IC-0801-S	0.3	0.230	0.021	0.0111	
180 minute winter	IC-0901-S	PN-0007-S	IC-1001-S	0.4	0.279	0.027	0.0813	
180 minute winter	IC-1001-S	PN-0006-S	MH-0001-S	0.8	0.501	0.019	0.1870	
180 minute winter	Dummy Node	PN-0001-S	Headwall	0.5	0.418	0.034	0.0086	10.7

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Results for 2 year Critical Storm Duration. Lowest mass balance: 97.62%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	Headwall	232	1.060	0.020	0.6	0.0000	0.0000	OK
240 minute winter	MH-0001-S	232	1.305	0.205	3.0	9.9609	0.0000	OK
240 minute winter	MH-0002-S	232	1.305	0.135	3.0	13.6008	0.0000	OK
15 minute winter	IC-0101-S	10	1.504	0.034	1.6	0.0054	0.0000	OK
15 minute winter	IC-0201-S	10	1.481	0.051	3.2	0.0080	0.0000	OK
15 minute summer	IC-0301-S	11	1.392	0.092	9.3	0.0146	0.0000	OK
15 minute summer	IC-0302-S	11	1.399	0.079	4.7	0.0126	0.0000	OK
15 minute winter	IC-0401-S	10	1.451	0.061	4.7	0.0096	0.0000	OK
15 minute winter	IC-0501-S	10	1.490	0.050	3.2	0.0079	0.0000	OK
15 minute winter	IC-0601-S	10	1.524	0.034	1.6	0.0054	0.0000	OK
15 minute winter	IC-0701-S	10	1.427	0.067	4.5	0.0106	0.0000	OK
15 minute winter	IC-0801-S	11	1.514	0.044	2.4	0.0071	0.0000	OK
30 minute winter	IC-0802-S	21	1.528	0.018	0.7	0.2753	0.0000	OK
240 minute winter	IC-0901-S	232	1.305	0.105	0.4	0.0167	0.0000	OK
240 minute winter	IC-1001-S	232	1.305	0.155	0.8	0.0438	0.0000	OK
240 minute winter	Dummy Node	232	1.115	0.020	0.6	0.0230	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)
240 minute winter	MH-0001-S	Dummy Pipe	Dummy Node	0.6	0.207	0.002	0.0082	
240 minute winter	MH-0002-S	PN-0002-S	MH-0001-S	-1.2	-0.091	-0.013	0.4376	
15 minute winter	IC-0101-S	PN-0010-S	IC-0201-S	1.6	0.387	0.113	0.0267	
15 minute winter	IC-0201-S	PN-0009-S	IC-0301-S	3.1	0.620	0.220	0.0317	
15 minute summer	IC-0301-S	PN-0008-S	MH-0001-S	9.5	1.126	0.642	0.3014	
15 minute summer	IC-0302-S	PN-0011-S	IC-0301-S	4.7	0.467	0.329	0.0316	
15 minute winter	IC-0401-S	PN-0012-S	IC-0302-S	4.7	0.583	0.333	0.0898	
15 minute winter	IC-0501-S	PN-0013-S	IC-0401-S	3.1	0.527	0.221	0.0468	
15 minute winter	IC-0601-S	PN-0014-S	IC-0501-S	1.6	0.392	0.112	0.0321	
15 minute winter	IC-0701-S	PN-0003-S	MH-0002-S	4.6	1.093	0.324	0.1349	
15 minute winter	IC-0801-S	PN-0004-S	IC-0701-S	2.4	0.583	0.164	0.0120	
30 minute winter	IC-0802-S	PN-0005-S	IC-0801-S	0.5	0.248	0.031	0.0143	
240 minute winter	IC-0901-S	PN-0007-S	IC-1001-S	0.4	0.248	0.027	0.1117	
240 minute winter	IC-1001-S	PN-0006-S	MH-0001-S	0.7	0.501	0.017	0.2391	
240 minute winter	Dummy Node	PN-0001-S	Headwall	0.6	0.432	0.038	0.0093	13.6

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Results for 10 year Critical Storm Duration. Lowest mass balance: 97.62%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	Headwall	344	1.062	0.022	0.7	0.0000	0.0000	OK
360 minute winter	MH-0001-S	344	1.382	0.282	3.0	13.6947	0.0000	OK
360 minute winter	MH-0002-S	344	1.382	0.212	3.0	21.3479	0.0000	OK
15 minute winter	IC-0101-S	10	1.513	0.043	2.5	0.0068	0.0000	OK
15 minute winter	IC-0201-S	10	1.495	0.065	4.9	0.0103	0.0000	OK
15 minute winter	IC-0301-S	11	1.426	0.126	14.3	0.0200	0.0000	OK
15 minute winter	IC-0302-S	11	1.435	0.115	7.2	0.0182	0.0000	OK
15 minute winter	IC-0401-S	10	1.470	0.080	7.3	0.0126	0.0000	OK
15 minute winter	IC-0501-S	10	1.505	0.065	5.0	0.0103	0.0000	OK
15 minute winter	IC-0601-S	10	1.532	0.042	2.5	0.0067	0.0000	OK
15 minute winter	IC-0701-S	10	1.443	0.083	6.9	0.0132	0.0000	OK
15 minute winter	IC-0801-S	11	1.527	0.057	3.7	0.0090	0.0000	OK
15 minute winter	IC-0802-S	13	1.534	0.024	1.4	0.3599	0.0000	OK
360 minute winter	IC-0901-S	344	1.382	0.182	0.4	0.0289	0.0000	SURCHARGED
360 minute winter	IC-1001-S	344	1.382	0.232	0.8	0.0655	0.0000	SURCHARGED
360 minute winter	Dummy Node	344	1.117	0.022	0.7	0.0250	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)
360 minute winter	MH-0001-S	Dummy Pipe	Dummy Node	0.7	0.216	0.002	0.0093	
360 minute winter	MH-0002-S	PN-0002-S	MH-0001-S	-1.1	0.063	-0.012	0.6505	
15 minute winter	IC-0101-S	PN-0010-S	IC-0201-S	2.4	0.430	0.176	0.0373	
15 minute winter	IC-0201-S	PN-0009-S	IC-0301-S	4.8	0.695	0.343	0.0440	
15 minute winter	IC-0301-S	PN-0008-S	MH-0001-S	14.3	1.147	0.969	0.4547	
15 minute winter	IC-0302-S	PN-0011-S	IC-0301-S	7.2	0.501	0.502	0.0460	
15 minute winter	IC-0401-S	PN-0012-S	IC-0302-S	7.2	0.614	0.515	0.1340	
15 minute winter	IC-0501-S	PN-0013-S	IC-0401-S	4.8	0.576	0.344	0.0666	
15 minute winter	IC-0601-S	PN-0014-S	IC-0501-S	2.5	0.434	0.175	0.0452	
15 minute winter	IC-0701-S	PN-0003-S	MH-0002-S	7.0	1.173	0.492	0.1926	
15 minute winter	IC-0801-S	PN-0004-S	IC-0701-S	3.7	0.655	0.254	0.0166	
15 minute winter	IC-0802-S	PN-0005-S	IC-0801-S	0.8	0.306	0.054	0.0222	
360 minute winter	IC-0901-S	PN-0007-S	IC-1001-S	0.4	0.201	0.025	0.1280	
360 minute winter	IC-1001-S	PN-0006-S	MH-0001-S	0.7	0.466	0.016	0.2834	
360 minute winter	Dummy Node	PN-0001-S	Headwall	0.7	0.454	0.045	0.0105	19.7

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Results for 30 year Critical Storm Duration. Lowest mass balance: 97.62%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	Headwall	555	1.063	0.023	0.8	0.0000	0.0000	OK
600 minute winter	MH-0001-S	555	1.463	0.363	2.9	17.6375	0.0000	OK
600 minute winter	MH-0002-S	555	1.463	0.293	2.7	29.5266	0.0000	OK
15 minute winter	IC-0101-S	10	1.520	0.050	3.1	0.0079	0.0000	OK
15 minute winter	IC-0201-S	11	1.505	0.075	6.1	0.0120	0.0000	OK
15 minute winter	IC-0301-S	12	1.489	0.189	16.5	0.0300	0.0000	SURCHARGED
15 minute winter	IC-0302-S	12	1.498	0.178	8.6	0.0284	0.0000	SURCHARGED
15 minute winter	IC-0401-S	12	1.518	0.128	9.1	0.0204	0.0000	OK
15 minute winter	IC-0501-S	12	1.524	0.084	6.2	0.0134	0.0000	OK
15 minute winter	IC-0601-S	10	1.537	0.047	3.1	0.0075	0.0000	OK
600 minute winter	IC-0701-S	555	1.463	0.103	1.0	0.0163	0.0000	OK
15 minute winter	IC-0801-S	11	1.535	0.065	4.9	0.0104	0.0000	OK
15 minute winter	IC-0802-S	13	1.539	0.029	1.7	0.4351	0.0000	OK
600 minute winter	IC-0901-S	555	1.463	0.263	0.4	0.0418	0.0000	SURCHARGED
600 minute winter	IC-1001-S	555	1.463	0.313	0.8	0.0885	0.0000	SURCHARGED
600 minute winter	Dummy Node	555	1.119	0.024	0.8	0.0267	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)
600 minute winter	MH-0001-S	Dummy Pipe	Dummy Node	0.8	0.224	0.003	0.0102	
600 minute winter	MH-0002-S	PN-0002-S	MH-0001-S	-1.0	0.089	-0.011	0.7499	
15 minute winter	IC-0101-S	PN-0010-S	IC-0201-S	3.0	0.446	0.220	0.0448	
15 minute winter	IC-0201-S	PN-0009-S	IC-0301-S	6.0	0.734	0.428	0.0651	
15 minute winter	IC-0301-S	PN-0008-S	MH-0001-S	15.5	1.165	1.054	0.5079	
15 minute winter	IC-0302-S	PN-0011-S	IC-0301-S	7.7	0.488	0.535	0.0536	
15 minute winter	IC-0401-S	PN-0012-S	IC-0302-S	8.6	0.620	0.617	0.1883	
15 minute winter	IC-0501-S	PN-0013-S	IC-0401-S	6.0	0.586	0.429	0.1038	
15 minute winter	IC-0601-S	PN-0014-S	IC-0501-S	3.1	0.453	0.218	0.0567	
600 minute winter	IC-0701-S	PN-0003-S	MH-0002-S	1.0	0.480	0.070	0.4476	
15 minute winter	IC-0801-S	PN-0004-S	IC-0701-S	4.8	0.698	0.328	0.0201	
15 minute winter	IC-0802-S	PN-0005-S	IC-0801-S	1.2	0.325	0.081	0.0279	
600 minute winter	IC-0901-S	PN-0007-S	IC-1001-S	0.4	0.201	0.026	0.1280	
600 minute winter	IC-1001-S	PN-0006-S	MH-0001-S	0.7	0.475	0.017	0.2834	
600 minute winter	Dummy Node	PN-0001-S	Headwall	0.8	0.472	0.051	0.0116	30.4

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Results for 100 year Critical Storm Duration. Lowest mass balance: 97.62%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	Headwall	690	1.064	0.024	0.9	0.0000	0.0000	OK
720 minute winter	MH-0001-S	675	1.554	0.454	2.9	22.0804	0.0000	OK
720 minute winter	MH-0002-S	675	1.554	0.384	2.7	38.7422	0.0000	SURCHARGED
15 minute winter	IC-0101-S	12	1.606	0.136	4.0	0.0217	0.0000	OK
15 minute winter	IC-0201-S	12	1.604	0.174	7.7	0.0277	0.0000	SURCHARGED
15 minute winter	IC-0301-S	12	1.595	0.295	18.2	0.0468	0.0000	SURCHARGED
15 minute winter	IC-0302-S	12	1.608	0.288	8.9	0.0458	0.0000	SURCHARGED
15 minute winter	IC-0401-S	12	1.643	0.253	10.8	0.0402	0.0000	SURCHARGED
15 minute winter	IC-0501-S	12	1.655	0.215	7.5	0.0342	0.0000	SURCHARGED
15 minute winter	IC-0601-S	12	1.658	0.168	4.0	0.0267	0.0000	SURCHARGED
720 minute winter	IC-0701-S	675	1.554	0.194	1.0	0.0309	0.0000	SURCHARGED
720 minute winter	IC-0801-S	675	1.554	0.084	0.6	0.0134	0.0000	OK
720 minute winter	IC-0802-S	675	1.554	0.044	0.2	0.6681	0.0000	OK
720 minute winter	IC-0901-S	675	1.554	0.354	0.4	0.0563	0.0000	SURCHARGED
720 minute winter	IC-1001-S	675	1.554	0.404	0.8	0.1143	0.0000	SURCHARGED
720 minute winter	Dummy Node	690	1.120	0.025	0.9	0.0284	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)
720 minute winter	MH-0001-S	Dummy Pipe	Dummy Node	0.9	0.231	0.003	0.0112	
720 minute winter	MH-0002-S	PN-0002-S	MH-0001-S	-1.0	0.067	-0.011	0.7523	
15 minute winter	IC-0101-S	PN-0010-S	IC-0201-S	3.7	0.452	0.269	0.1120	
15 minute winter	IC-0201-S	PN-0009-S	IC-0301-S	6.9	0.716	0.491	0.1114	
15 minute winter	IC-0301-S	PN-0008-S	MH-0001-S	17.0	1.190	1.156	0.5079	
15 minute winter	IC-0302-S	PN-0011-S	IC-0301-S	8.6	0.489	0.599	0.0536	
15 minute winter	IC-0401-S	PN-0012-S	IC-0302-S	8.9	0.630	0.636	0.1972	
15 minute winter	IC-0501-S	PN-0013-S	IC-0401-S	7.0	0.591	0.500	0.1398	
15 minute winter	IC-0601-S	PN-0014-S	IC-0501-S	3.7	0.466	0.260	0.1399	
720 minute winter	IC-0701-S	PN-0003-S	MH-0002-S	1.0	0.480	0.070	0.5174	
720 minute winter	IC-0801-S	PN-0004-S	IC-0701-S	0.6	0.397	0.041	0.0338	
720 minute winter	IC-0802-S	PN-0005-S	IC-0801-S	0.2	0.183	0.014	0.0424	
720 minute winter	IC-0901-S	PN-0007-S	IC-1001-S	0.4	0.201	0.026	0.1280	
720 minute winter	IC-1001-S	PN-0006-S	MH-0001-S	0.8	0.475	0.017	0.2834	
720 minute winter	Dummy Node	PN-0001-S	Headwall	0.9	0.488	0.057	0.0126	39.2

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Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 97.62%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	Headwall	915	1.067	0.027	1.1	0.0000	0.0000	OK
960 minute winter	MH-0001-S	915	1.748	0.648	3.5	26.4063	0.0000	FLOOD RISK
960 minute winter	MH-0002-S	915	1.748	0.578	3.2	58.2792	0.0000	FLOOD RISK
15 minute winter	IC-0101-S	13	1.868	0.398	5.7	0.0633	0.0000	FLOOD RISK
15 minute winter	IC-0201-S	13	1.864	0.434	9.3	0.0690	0.0000	FLOOD RISK
15 minute winter	IC-0301-S	13	1.849	0.549	22.5	0.0874	0.0000	FLOOD RISK
15 minute winter	IC-0302-S	13	1.873	0.553	11.2	0.0879	0.0000	FLOOD RISK
15 minute winter	IC-0401-S	13	1.927	0.537	12.7	0.0854	0.0000	FLOOD RISK
15 minute winter	IC-0501-S	13	1.945	0.505	9.2	0.0803	0.0000	FLOOD RISK
15 minute winter	IC-0601-S	13	1.950	0.460	5.7	0.0731	0.0000	FLOOD RISK
960 minute winter	IC-0701-S	915	1.748	0.388	1.2	0.0617	0.0000	FLOOD RISK
960 minute winter	IC-0801-S	915	1.748	0.278	0.7	0.0442	0.0000	FLOOD RISK
960 minute winter	IC-0802-S	915	1.748	0.238	0.4	3.6040	0.0000	SURCHARGED
960 minute winter	IC-0901-S	915	1.748	0.548	0.5	0.0871	0.0000	SURCHARGED
960 minute winter	IC-1001-S	915	1.748	0.598	1.0	0.1692	0.0000	SURCHARGED
960 minute winter	Dummy Node	915	1.123	0.028	1.1	0.0311	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)
960 minute winter	MH-0001-S	Dummy Pipe	Dummy Node	1.1	0.240	0.004	0.0129	
960 minute winter	MH-0002-S	PN-0002-S	MH-0001-S	-1.1	0.067	-0.013	0.7523	
15 minute winter	IC-0101-S	PN-0010-S	IC-0201-S	4.1	0.454	0.293	0.1146	
15 minute winter	IC-0201-S	PN-0009-S	IC-0301-S	7.6	0.716	0.542	0.1114	
15 minute winter	IC-0301-S	PN-0008-S	MH-0001-S	21.9	1.243	1.483	0.5079	
15 minute winter	IC-0302-S	PN-0011-S	IC-0301-S	11.2	0.634	0.778	0.0536	
15 minute winter	IC-0401-S	PN-0012-S	IC-0302-S	11.2	0.637	0.801	0.1972	
15 minute winter	IC-0501-S	PN-0013-S	IC-0401-S	7.5	0.592	0.532	0.1398	
15 minute winter	IC-0601-S	PN-0014-S	IC-0501-S	4.1	0.471	0.292	0.1399	
960 minute winter	IC-0701-S	PN-0003-S	MH-0002-S	1.1	0.480	0.078	0.5174	
960 minute winter	IC-0801-S	PN-0004-S	IC-0701-S	0.7	0.415	0.048	0.0513	
960 minute winter	IC-0802-S	PN-0005-S	IC-0801-S	-0.2	0.183	-0.016	0.1032	
960 minute winter	IC-0901-S	PN-0007-S	IC-1001-S	0.5	0.201	0.032	0.1280	
960 minute winter	IC-1001-S	PN-0006-S	MH-0001-S	1.0	0.475	0.022	0.2834	
960 minute winter	Dummy Node	PN-0001-S	Headwall	1.1	0.514	0.069	0.0144	57.7

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