STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	18.000	Add Flow / Climate Change (%)	0
Ratio R	0.359	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.102	4-8	0.031

Total Area Contributing (ha) = 0.133

Total Pipe Volume (m³) = 2.409

Network Design Table for Storm

- Indicates pipe length does not match coordinates

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S1.000	2.015	0.036	56.0	0.082	5.00	0.0	0.600	o	225	Pipe/Conduit	
S2.000	5.877	0.079	74.4	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
S1.001	20.443	0.328	62.3	0.003	0.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	50.00	5.02	47.674	0.082	0.0	0.0	0.0	1.75	69.6	11.1
S2.000	50.00	5.08	47.792	0.000	0.0	0.0	0.0	1.17	20.6	0.0
S1.001	50.00	5.29	47.638	0.085	0.0	0.0	0.0	1.66	66.0	11.5

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Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
S3.000	11.566	0.140	82.6	0.005	5.00	0.0	0.600	o	150	Pipe/Conduit	
S4.000	4.207	0.125	33.7	0.007	5.00	0.0	0.600	o	150	Pipe/Conduit	
S1.002	8.663	0.108	80.0	0.004	0.00	0.0	0.600	o	225	Pipe/Conduit	
S5.000	3.621	0.039	92.8	0.007	5.00	0.0	0.600	o	150	Pipe/Conduit	
S1.003	3.164#	0.030	105.5	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.004	4.781#	0.040	119.5	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.005	5.732	0.059	97.2	0.007	0.00	0.0	0.600	o	225	Pipe/Conduit	
S6.000	2.170	0.094	23.1	0.002	5.00	0.0	0.600	o	150	Pipe/Conduit	
S6.001	1.885	0.021	89.8	0.016	0.00	0.0	0.600	o	150	Pipe/Conduit	
S1.006	2.755	0.217	12.7	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S3.000	50.00	5.17	47.525	0.005	0.0	0.0	0.0	1.11	19.6	0.7
S4.000	50.00	5.04	47.517	0.007	0.0	0.0	0.0	1.74	30.8	0.9
S1.002	50.00	5.39	47.310	0.101	0.0	0.0	0.0	1.46	58.2	13.7
S5.000	50.00	5.06	47.316	0.007	0.0	0.0	0.0	1.04	18.4	0.9
S1.003	50.00	5.43	46.530	0.108	0.0	0.0	0.0	1.27	50.6	14.6
S1.004	50.00	5.50	46.500	0.108	0.0	0.0	0.0	1.19	47.5	14.6
S1.005	50.00	5.57	46.460	0.115	0.0	0.0	0.0	1.33	52.7	15.6
S6.000	50.00	5.02	46.591	0.002	0.0	0.0	0.0	2.10	37.2	0.3
S6.001	50.00	5.05	46.497	0.018	0.0	0.0	0.0	1.06	18.8	2.4
S1.006	50.00	5.58	46.401	0.133	0.0	0.0	0.0	3.69	146.8	18.0

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.082	0.082	0.082
2.000	-	-	100	0.000	0.000	0.000
1.001	-	-	100	0.003	0.003	0.003
3.000	-	-	100	0.005	0.005	0.005
4.000	-	-	100	0.007	0.007	0.007
1.002	-	-	100	0.004	0.004	0.004
5.000	-	-	100	0.007	0.007	0.007
1.003	-	-	100	0.000	0.000	0.000
1.004	-	-	100	0.000	0.000	0.000
1.005	-	-	100	0.007	0.007	0.007
6.000	-	-	100	0.002	0.002	0.002
6.001	-	-	100	0.016	0.016	0.016
1.006	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.133	0.133	0.133

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Network Classifications for Storm

PN	USMH Name	Pipe Dia (mm)	Min Cover Depth (m)	Max Cover Depth (m)	Pipe Type	MH Dia (mm)	MH Width (mm)	MH Ring Depth (m)	MH Type
S1.000	S1.00	225	1.051	1.097	Unclassified	450	0	1.051	Unclassified
S2.000	S2.00	150	1.018	1.097	Unclassified	450	0	1.018	Unclassified
S1.001	S1.01	225	1.097	1.400	Unclassified	600	0	1.097	Unclassified
S3.000	S3.00	150	1.200	1.400	Unclassified	450	0	1.200	Unclassified
S4.000	S4.00	150	1.193	1.393	Unclassified	450	0	1.193	Unclassified
S1.002	S1.02	225	1.400	1.493	Unclassified	600	0	1.400	Unclassified
S5.000	S5.00	150	1.309	1.493	Unclassified	450	0	1.309	Unclassified
S1.003	S1.03	225	1.275	2.165	Unclassified	1200	0	2.165	Unclassified
S1.004	S1.04	225	1.275	1.485	Unclassified				Junction
S1.005	S1.05	225	1.274	1.485	Unclassified	1050	0	1.485	Unclassified
S6.000	S6.00	150	1.239	1.433	Unclassified	450	0	1.239	Unclassified
S6.001	S6.01	150	1.274	1.433	Unclassified	450	0	1.433	Unclassified
S1.006	S1.06	225	1.274	1.356	Unclassified	1200	0	1.274	Unclassified

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S1.006	S	47.765	46.184	0.000	0	0

Simulation Criteria for Storm

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/ha Storage	2.000
Hot Start (mins)	0	Inlet Coeffiecient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.000	Storm Duration (mins)	30
Ratio R	0.359		

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: S1.06, DS/PN: S1.006, Volume (m³): 1.9

Unit Reference	MD-SFP-0142-1100-1390-1100
Design Head (m)	1.390
Design Flow (l/s)	11.0
Flush-Flo™	Calculated
Objective	Future Proof
Application	Surface
Sump Available	Yes
Diameter (mm)	142
Invert Level (m)	46.401
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.390	11.0
Flush-Flo™	0.350	11.0
Kick-Flo®	0.813	8.6
Mean Flow over Head Range	-	9.4

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.4	1.200	10.3	3.000	15.8	7.000	23.7
0.200	10.4	1.400	11.0	3.500	17.0	7.500	24.5
0.300	10.9	1.600	11.8	4.000	18.1	8.000	25.3
0.400	10.9	1.800	12.4	4.500	19.2	8.500	26.0
0.500	10.7	2.000	13.1	5.000	20.2	9.000	26.8
0.600	10.4	2.200	13.7	5.500	21.1	9.500	27.5
0.800	8.8	2.400	14.2	6.000	22.0		
1.000	9.4	2.600	14.8	6.500	22.9		

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Storage Structures for Storm

Cellular Storage Manhole: S1.04, DS/PN: S1.004

Invert Level (m) 46.500 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	22.5	0.0	1.076	0.0	0.0
1.075	22.5	0.0			

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model		FSR	Ratio R 0.357
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	400.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 2, 30, 100
Climate Change (%)	0, 0, 0, 40

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
S1.000	S1.00	15 minute 1 year Winter I+0%	48.950	47.763	-0.136	0.000	0.33
S2.000	S2.00	15 minute 1 year Summer I+0%	48.960	47.792	-0.150	0.000	0.00
S1.001	S1.01	15 minute 1 year Winter I+0%	48.960	47.700	-0.163	0.000	0.17
S3.000	S3.00	15 minute 1 year Winter I+0%	48.875	47.543	-0.132	0.000	0.03
S4.000	S4.00	15 minute 1 year Winter I+0%	48.860	47.536	-0.131	0.000	0.04
S1.002	S1.02	15 minute 1 year Winter I+0%	48.935	47.388	-0.147	0.000	0.26
S5.000	S5.00	15 minute 1 year Winter I+0%	48.775	47.342	-0.124	0.000	0.07
S1.003	S1.03	15 minute 1 year Winter I+0%	48.920	46.634	-0.121	0.000	0.43
S1.004	S1.04	15 minute 1 year Winter I+0%	48.000	46.601	-0.124	0.000	0.30
S1.005	S1.05	15 minute 1 year Winter I+0%	48.170	46.595	-0.090	0.000	0.27
S6.000	S6.00	15 minute 1 year Winter I+0%	47.980	46.600	-0.141	0.000	0.01
S6.001	S6.01	15 minute 1 year Winter I+0%	48.080	46.588	-0.059	0.000	0.17
S1.006	S1.06	15 minute 1 year Winter I+0%	47.900	46.587	-0.039	0.000	0.16

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
S1.000	S1.00		9.8	OK
S2.000	S2.00		0.0	OK
S1.001	S1.01		10.0	OK
S3.000	S3.00		0.6	OK
S4.000	S4.00		0.8	OK
S1.002	S1.02		11.9	OK
S5.000	S5.00		0.8	OK
S1.003	S1.03		12.9	OK
S1.004	S1.04		8.8	OK*
S1.005	S1.05		9.1	OK
S6.000	S6.00		0.2	OK
S6.001	S6.01		1.9	OK
S1.006	S1.06		10.2	OK

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.357
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	400.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 2, 30, 100
Climate Change (%)	0, 0, 0, 40

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
S1.000	S1.00	15 minute 2 year Winter I+0%	48.950	47.777	-0.122	0.000	0.43
S2.000	S2.00	15 minute 2 year Summer I+0%	48.960	47.792	-0.150	0.000	0.00
S1.001	S1.01	15 minute 2 year Winter I+0%	48.960	47.710	-0.153	0.000	0.22
S3.000	S3.00	15 minute 2 year Winter I+0%	48.875	47.545	-0.130	0.000	0.04
S4.000	S4.00	15 minute 2 year Winter I+0%	48.860	47.538	-0.129	0.000	0.05
S1.002	S1.02	15 minute 2 year Winter I+0%	48.935	47.400	-0.135	0.000	0.33
S5.000	S5.00	15 minute 2 year Winter I+0%	48.775	47.346	-0.120	0.000	0.09
S1.003	S1.03	15 minute 2 year Winter I+0%	48.920	46.651	-0.104	0.000	0.56
S1.004	S1.04	15 minute 2 year Winter I+0%	48.000	46.645	-0.080	0.000	0.30
S1.005	S1.05	15 minute 2 year Winter I+0%	48.170	46.642	-0.043	0.000	0.27
S6.000	S6.00	15 minute 2 year Winter I+0%	47.980	46.636	-0.105	0.000	0.02
S6.001	S6.01	15 minute 2 year Winter I+0%	48.080	46.636	-0.011	0.000	0.20
S1.006	S1.06	15 minute 2 year Winter I+0%	47.900	46.634	0.008	0.000	0.16

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
S1.000	S1.00		12.7	OK
S2.000	S2.00		0.0	OK
S1.001	S1.01		13.0	OK
S3.000	S3.00		0.8	OK
S4.000	S4.00		1.1	OK
S1.002	S1.02		15.4	OK
S5.000	S5.00		1.1	OK
S1.003	S1.03		16.6	OK
S1.004	S1.04		9.0	OK*
S1.005	S1.05		9.3	OK
S6.000	S6.00		0.3	OK
S6.001	S6.01		2.2	OK
S1.006	S1.06		10.6	SURCHARGED

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.357
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	400.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 2, 30, 100
Climate Change (%)	0, 0, 0, 40

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
S1.000	S1.00	15 minute 30 year Winter I+0%	48.950	47.829	-0.070	0.000	0.80
S2.000	S2.00	15 minute 30 year Summer I+0%	48.960	47.792	-0.150	0.000	0.00
S1.001	S1.01	15 minute 30 year Winter I+0%	48.960	47.740	-0.123	0.000	0.41
S3.000	S3.00	15 minute 30 year Winter I+0%	48.875	47.554	-0.121	0.000	0.08
S4.000	S4.00	15 minute 30 year Winter I+0%	48.860	47.548	-0.119	0.000	0.09
S1.002	S1.02	15 minute 30 year Winter I+0%	48.935	47.443	-0.092	0.000	0.64
S5.000	S5.00	15 minute 30 year Winter I+0%	48.775	47.357	-0.109	0.000	0.17
S1.003	S1.03	30 minute 30 year Winter I+0%	48.920	46.926	0.171	0.000	0.81
S1.004	S1.04	30 minute 30 year Winter I+0%	48.000	46.922	0.197	0.000	0.33
S1.005	S1.05	30 minute 30 year Winter I+0%	48.170	46.921	0.236	0.000	0.30
S6.000	S6.00	30 minute 30 year Winter I+0%	47.980	46.915	0.174	0.000	0.02
S6.001	S6.01	30 minute 30 year Winter I+0%	48.080	46.915	0.268	0.000	0.35
S1.006	S1.06	30 minute 30 year Winter I+0%	47.900	46.914	0.288	0.000	0.17

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
S1.000	S1.00		24.0	OK
S2.000	S2.00		0.0	OK
S1.001	S1.01		24.7	OK
S3.000	S3.00		1.5	OK
S4.000	S4.00		2.1	OK
S1.002	S1.02		29.5	OK
S5.000	S5.00		2.1	OK
S1.003	S1.03		24.2	SURCHARGED
S1.004	S1.04		10.0	SURCHARGED*
S1.005	S1.05		10.3	SURCHARGED
S6.000	S6.00		0.3	SURCHARGED
S6.001	S6.01		3.7	SURCHARGED
S1.006	S1.06		10.9	SURCHARGED

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	1
Number of Online Controls	1	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model		FSR	Ratio R 0.357
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	18.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	400.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	ON
Inertia Status	ON

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	1, 2, 30, 100
Climate Change (%)	0, 0, 0, 40

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.
S1.000	S1.00	15 minute 100 year Winter I+40%	48.950	47.950	0.051	0.000	1.45
S2.000	S2.00	15 minute 100 year Summer I+40%	48.960	47.792	-0.150	0.000	0.00
S1.001	S1.01	15 minute 100 year Winter I+40%	48.960	47.787	-0.076	0.000	0.75
S3.000	S3.00	15 minute 100 year Winter I+40%	48.875	47.577	-0.098	0.000	0.15
S4.000	S4.00	60 minute 100 year Winter I+40%	48.860	47.574	-0.093	0.000	0.09
S1.002	S1.02	60 minute 100 year Winter I+40%	48.935	47.573	0.038	0.000	0.63
S5.000	S5.00	60 minute 100 year Winter I+40%	48.775	47.565	0.099	0.000	0.16
S1.003	S1.03	60 minute 100 year Winter I+40%	48.920	47.564	0.809	0.000	1.01
S1.004	S1.04	60 minute 100 year Winter I+40%	48.000	47.560	0.835	0.000	0.33
S1.005	S1.05	60 minute 100 year Winter I+40%	48.170	47.555	0.870	0.000	0.30
S6.000	S6.00	60 minute 100 year Winter I+40%	47.980	47.549	0.808	0.000	0.02
S6.001	S6.01	60 minute 100 year Winter I+40%	48.080	47.549	0.902	0.000	0.42
S1.006	S1.06	60 minute 100 year Winter I+40%	47.900	47.548	0.922	0.000	0.17

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm

PN	US/MH Name	Overflow (l/s)	Pipe Flow (l/s)	Status
S1.000	S1.00		43.4	SURCHARGED
S2.000	S2.00		0.0	OK
S1.001	S1.01		44.7	OK
S3.000	S3.00		2.6	OK
S4.000	S4.00		2.0	OK
S1.002	S1.02		29.4	SURCHARGED
S5.000	S5.00		2.0	SURCHARGED
S1.003	S1.03		30.1	SURCHARGED
S1.004	S1.04		9.7	SURCHARGED*
S1.005	S1.05		10.2	SURCHARGED
S6.000	S6.00		0.4	SURCHARGED
S6.001	S6.01		4.6	SURCHARGED
S1.006	S1.06		10.9	FLOOD RISK

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