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)	2	PIMP (%)	100
M5-60 (mm)	19.000	Add Flow / Climate Change (%)	0
Ratio R	0.400	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	100	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	60	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

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
S1.000	30.013	0.073	411.1	0.070	5.00	0.0	0.600	o	450	Pipe/Conduit	
S1.001	37.727	0.092	410.1	0.104	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.002	42.027	0.102	412.0	0.122	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.003	17.694	0.043	411.5	0.017	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.004	66.022	0.161	410.1	0.193	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.005	13.220	0.039	339.0	0.025	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.006	10.870	0.050	217.4	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S2.000	16.400	0.100	164.0	0.051	5.00	0.0	0.600	o	225	Pipe/Conduit	
S3.000	13.400	0.100	134.0	0.029	5.00	0.0	0.600	o	225	Pipe/Conduit	
S2.001	31.003	0.076	407.9	0.090	0.00	0.0	0.600	o	450	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	64.05	5.50	2.010	0.070	0.0	0.0	0.0	1.00	158.5	12.1
S1.001	60.99	6.13	1.937	0.174	0.0	0.0	0.0	1.00	158.7	28.7
S1.002	57.95	6.84	1.845	0.296	0.0	0.0	0.0	1.00	158.3	46.5
S1.003	56.78	7.13	1.743	0.313	0.0	0.0	0.0	1.00	158.4	48.2
S1.004	52.84	8.24	1.700	0.506	0.0	0.0	0.0	1.00	158.7	72.4
S1.005	52.19	8.44	1.539	0.532	0.0	0.0	0.0	1.10	174.7	75.2
S1.006	51.77	8.57	1.500	0.532	0.0	0.0	0.0	1.37	218.7	75.2
S2.000	65.27	5.27	2.170	0.051	0.0	0.0	0.0	1.02	40.5	9.0
S3.000	65.65	5.20	2.170	0.029	0.0	0.0	0.0	1.13	44.8	5.2
S2.001	62.63	5.78	1.845	0.170	0.0	0.0	0.0	1.00	159.1	28.8

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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
S2.002	33.329	0.081	411.5	0.063	0.00	0.0	0.600	o	450	Pipe/Conduit	
S2.003	14.835	0.040	370.9	0.067	0.00	0.0	0.600	o	450	Pipe/Conduit	
S2.004	64.193	0.157	408.9	0.130	0.00	0.0	0.600	o	450	Pipe/Conduit	
S4.000	16.606	0.041	405.0	0.094	5.00	0.0	0.600	o	450	Pipe/Conduit	
S2.005	7.307	0.022	332.1	0.012	0.00	0.0	0.600	o	450	Pipe/Conduit	
S2.006	7.442	0.019	391.7	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.007	7.098	0.025	283.9	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.008	7.493	0.025	299.7	0.000	0.00	0.0	0.600	o	450	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)
S2.002	60.05	6.34	1.769	0.233	0.0	0.0	0.0	1.00	158.4	37.9
S2.003	59.03	6.58	1.688	0.300	0.0	0.0	0.0	1.05	167.0	48.0
S2.004	54.85	7.65	1.648	0.430	0.0	0.0	0.0	1.00	158.9	63.9
S4.000	65.23	5.28	1.532	0.094	0.0	0.0	0.0	1.00	159.7	16.6
S2.005	54.46	7.76	1.491	0.536	0.0	0.0	0.0	1.11	176.5	79.1
S2.006	54.04	7.88	1.469	0.536	0.0	0.0	0.0	1.02	162.4	79.1
S1.007	51.47	8.67	1.450	1.068	0.0	0.0	0.0	1.20	191.1	148.8
S1.008	51.14	8.77	1.425	1.068	0.0	0.0	0.0	1.17	185.9	148.8

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	0.000
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)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.000	Storm Duration (mins)	30
Ratio R	0.400		

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: S15, DS/PN: S1.008, Volume (m³): 3.5

Unit Reference	MD-SHE-0226-3000-1775-3000
Design Head (m)	1.775
Design Flow (l/s)	30.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	226
Invert Level (m)	1.425
Minimum Outlet Pipe Diameter (mm)	300
Suggested Manhole Diameter (mm)	1800

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.775	30.0
Flush-Flo™	0.528	30.0
Kick-Flo®	1.154	24.4
Mean Flow over Head Range	-	25.9

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	7.6	1.200	24.9	3.000	38.6	7.000	58.1
0.200	22.5	1.400	26.8	3.500	41.6	7.500	60.1
0.300	28.4	1.600	28.5	4.000	44.3	8.000	62.0
0.400	29.6	1.800	30.2	4.500	46.9	8.500	63.9
0.500	29.9	2.000	31.8	5.000	49.4	9.000	65.7
0.600	29.9	2.200	33.2	5.500	51.7	9.500	67.4
0.800	29.1	2.400	34.7	6.000	53.9		
1.000	27.5	2.600	36.0	6.500	56.1		

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Storage Structures for Storm

Tank or Pond Manhole: SPond OF, DS/PN: S1.007

Invert Level (m) 1.500

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	220.5	0.700	440.6	1.400	695.8	2.100	0.0
0.100	249.7	0.800	475.1	1.500	734.6	2.200	0.0
0.200	279.6	0.900	510.3	1.600	774.0	2.300	0.0
0.300	310.3	1.000	546.3	1.700	813.9	2.400	0.0
0.400	341.7	1.100	582.8	1.701	0.0	2.500	0.0
0.500	373.9	1.200	619.9	1.900	0.0		
0.600	406.9	1.300	657.6	2.000	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	0.000
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	FEH
FEH Rainfall Version	1999
Site Location	GB 523100 322750 TF 23100 22750
C (1km)	-0.022
D1 (1km)	0.292
D2 (1km)	0.299
D3 (1km)	0.226
E (1km)	0.314
F (1km)	2.492
Cv (Summer)	0.750
Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S1.000	S1	60 Summer	1	+0%	100/60 Summer			
S1.001	S2	60 Summer	1	+0%	100/60 Summer			
S1.002	S3	60 Summer	1	+0%	100/60 Summer			
S1.003	S4	60 Summer	1	+0%	100/60 Summer			
S1.004	S5	60 Summer	1	+0%	100/60 Summer			
S1.005	S6	60 Winter	1	+0%	30/60 Summer			
S1.006	SPond Inlet 1	60 Winter	1	+0%	30/60 Summer			
S2.000	S7	60 Summer	1	+0%	100/60 Summer			
S3.000	S8	60 Summer	1	+0%	100/60 Summer			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
S1.000	S1	2.084	-0.376	0.000	0.04			5.9	OK
S1.001	S2	2.040	-0.347	0.000	0.10			13.9	OK
S1.002	S3	1.973	-0.322	0.000	0.16			22.6	OK
S1.003	S4	1.894	-0.299	0.000	0.20			23.7	OK
S1.004	S5	1.853	-0.297	0.000	0.25			36.5	OK
S1.005	S6	1.717	-0.272	0.000	0.27			33.1	OK
S1.006	SPond Inlet 1	1.709	-0.241	0.000	0.21			32.4	OK
S2.000	S7	2.222	-0.173	0.000	0.12			4.4	OK
S3.000	S8	2.207	-0.188	0.000	0.06			2.5	OK

PN	US/MH Name	Level Exceeded
S1.000	S1	
S1.001	S2	
S1.002	S3	
S1.003	S4	
S1.004	S5	
S1.005	S6	
S1.006	SPond Inlet 1	
S2.000	S7	
S3.000	S8	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S2.001	S9	60 Summer	1	+0%	100/60 Summer			
S2.002	S10	60 Summer	1	+0%	100/60 Summer			
S2.003	S11	60 Summer	1	+0%	100/60 Summer			
S2.004	S12	60 Summer	1	+0%	100/60 Summer			
S4.000	S13	60 Winter	1	+0%	30/60 Summer			
S2.005	S14	60 Winter	1	+0%	30/60 Summer			
S2.006	SPond Inlet 2	60 Winter	1	+0%	30/60 Summer			
S1.007	SPond OF	60 Winter	1	+0%	30/60 Summer			
S1.008	S15	60 Winter	1	+0%	30/60 Summer			

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
S2.001	S9	1.951	-0.344	0.000	0.10			13.8	OK
S2.002	S10	1.892	-0.327	0.000	0.13			18.3	OK
S2.003	S11	1.832	-0.306	0.000	0.20			23.1	OK
S2.004	S12	1.792	-0.306	0.000	0.22			31.9	OK
S4.000	S13	1.710	-0.272	0.000	0.06			6.4	OK
S2.005	S14	1.710	-0.231	0.000	0.31			33.2	OK
S2.006	SPond Inlet 2	1.707	-0.212	0.000	0.34			32.9	OK
S1.007	SPond OF	1.705	-0.195	0.000	0.22			26.8	OK
S1.008	S15	1.705	-0.170	0.000	0.21			25.7	OK

PN	US/MH Name	Level Exceeded
S2.001	S9	
S2.002	S10	
S2.003	S11	
S2.004	S12	
S4.000	S13	
S2.005	S14	
S2.006	SPond Inlet 2	
S1.007	SPond OF	
S1.008	S15	

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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	0.000
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	FEH
FEH Rainfall Version	1999
Site Location	GB 523100 322750 TF 23100 22750
C (1km)	-0.022
D1 (1km)	0.292
D2 (1km)	0.299
D3 (1km)	0.226
E (1km)	0.314
F (1km)	2.492
Cv (Summer)	0.750
Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S1.000	S1	60 Summer	30	+0%	100/60 Summer			
S1.001	S2	60 Summer	30	+0%	100/60 Summer			
S1.002	S3	60 Winter	30	+0%	100/60 Summer			
S1.003	S4	60 Winter	30	+0%	100/60 Summer			
S1.004	S5	60 Winter	30	+0%	100/60 Summer			
S1.005	S6	60 Winter	30	+0%	30/60 Summer			
S1.006	SPond Inlet 1	60 Winter	30	+0%	30/60 Summer			
S2.000	S7	60 Summer	30	+0%	100/60 Summer			
S3.000	S8	60 Summer	30	+0%	100/60 Summer			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)
S1.000	S1	2.166	-0.294	0.000	0.13			17.1
S1.001	S2	2.144	-0.243	0.000	0.29			41.3
S1.002	S3	2.105	-0.190	0.000	0.40			57.0
S1.003	S4	2.100	-0.093	0.000	0.50			57.7
S1.004	S5	2.097	-0.053	0.000	0.63			92.8
S1.005	S6	2.087	0.098	0.000	0.70			85.8
S1.006	SPond Inlet 1	2.082	0.132	0.000	0.54			83.2
S2.000	S7	2.262	-0.133	0.000	0.35			12.6
S3.000	S8	2.235	-0.160	0.000	0.18			7.2

PN	US/MH Name	Status	Level Exceeded
S1.000	S1	OK	
S1.001	S2	OK	
S1.002	S3	OK	
S1.003	S4	OK	
S1.004	S5	OK	
S1.005	S6	SURCHARGED	
S1.006	SPond Inlet 1	SURCHARGED	
S2.000	S7	OK	
S3.000	S8	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S2.001	S9	60 Winter	30	+0%	100/60 Summer			
S2.002	S10	60 Winter	30	+0%	100/60 Summer			
S2.003	S11	60 Winter	30	+0%	100/60 Summer			
S2.004	S12	60 Winter	30	+0%	100/60 Summer			
S4.000	S13	60 Winter	30	+0%	30/60 Summer			
S2.005	S14	60 Winter	30	+0%	30/60 Summer			
S2.006	SPond Inlet 2	60 Winter	30	+0%	30/60 Summer			
S1.007	SPond OF	60 Winter	30	+0%	30/60 Summer			
S1.008	S15	60 Winter	30	+0%	30/60 Summer			

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)
S2.001	S9	2.106	-0.189	0.000	0.25			34.0
S2.002	S10	2.104	-0.115	0.000	0.33			44.9
S2.003	S11	2.099	-0.039	0.000	0.48			55.6
S2.004	S12	2.097	-0.001	0.000	0.54			79.0
S4.000	S13	2.085	0.103	0.000	0.16			18.2
S2.005	S14	2.084	0.143	0.000	0.80			85.9
S2.006	SPond Inlet 2	2.080	0.161	0.000	0.89			85.0
S1.007	SPond OF	2.077	0.177	0.000	0.31			37.9
S1.008	S15	2.343	0.468	0.000	0.25			29.9

PN	US/MH Name	Status	Level Exceeded
S2.001	S9	OK	
S2.002	S10	OK	
S2.003	S11	OK	
S2.004	S12	OK	
S4.000	S13	SURCHARGED	
S2.005	S14	SURCHARGED	
S2.006	SPond Inlet 2	SURCHARGED	
S1.007	SPond OF	SURCHARGED	
S1.008	S15	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	0.000
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	FEH
FEH Rainfall Version	1999
Site Location	GB 523100 322750 TF 23100 22750
C (1km)	-0.022
D1 (1km)	0.292
D2 (1km)	0.299
D3 (1km)	0.226
E (1km)	0.314
F (1km)	2.492
Cv (Summer)	0.750
Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0
Analysis Timestep	2.5 Second Increment (Extended)
DTS Status	OFF
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S1.000	S1	60 Summer	100	+40%	100/60 Summer			
S1.001	S2	60 Summer	100	+40%	100/60 Summer			
S1.002	S3	60 Summer	100	+40%	100/60 Summer			
S1.003	S4	60 Summer	100	+40%	100/60 Summer			
S1.004	S5	60 Summer	100	+40%	100/60 Summer			
S1.005	S6	120 Winter	100	+40%	30/60 Summer			
S1.006	SPond Inlet 1	120 Winter	100	+40%	30/60 Summer			
S2.000	S7	60 Summer	100	+40%	100/60 Summer			
S3.000	S8	60 Summer	100	+40%	100/60 Summer			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)
S1.000	S1	2.928	0.468	0.000	0.23			30.7
S1.001	S2	2.915	0.528	0.000	0.54			75.7
S1.002	S3	2.881	0.586	0.000	0.90			127.6
S1.003	S4	2.808	0.615	0.000	1.15			133.4
S1.004	S5	2.761	0.611	0.000	1.43			210.2
S1.005	S6	2.677	0.688	0.000	0.93			113.3
S1.006	SPond Inlet 1	2.671	0.721	0.000	0.72			112.7
S2.000	S7	2.845	0.450	0.000	0.64			23.1
S3.000	S8	2.825	0.430	0.000	0.32			12.6

PN	US/MH Name	Status	Level Exceeded
S1.000	S1	FLOOD RISK	
S1.001	S2	FLOOD RISK	
S1.002	S3	SURCHARGED	
S1.003	S4	SURCHARGED	
S1.004	S5	SURCHARGED	
S1.005	S6	SURCHARGED	
S1.006	SPond Inlet 1	SURCHARGED	
S2.000	S7	SURCHARGED	
S3.000	S8	SURCHARGED	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S2.001	S9	60 Summer	100	+40%	100/60 Summer			
S2.002	S10	60 Summer	100	+40%	100/60 Summer			
S2.003	S11	60 Summer	100	+40%	100/60 Summer			
S2.004	S12	60 Summer	100	+40%	100/60 Summer			
S4.000	S13	120 Winter	100	+40%	30/60 Summer			
S2.005	S14	120 Winter	100	+40%	30/60 Summer			
S2.006	SPond Inlet 2	120 Winter	100	+40%	30/60 Summer			
S1.007	SPond OF	120 Winter	100	+40%	30/60 Summer			
S1.008	S15	180 Winter	100	+40%	30/60 Summer			

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)
S2.001	S9	2.804	0.509	0.000	0.55			75.6
S2.002	S10	2.774	0.555	0.000	0.74			101.9
S2.003	S11	2.730	0.592	0.000	1.14			130.4
S2.004	S12	2.687	0.589	0.000	1.24			183.2
S4.000	S13	2.675	0.693	0.000	0.19			21.7
S2.005	S14	2.673	0.732	0.000	1.10			117.9
S2.006	SPond Inlet 2	2.670	0.751	0.000	1.22			117.3
S1.007	SPond OF	2.667	0.767	0.000	0.32			38.6
S1.008	S15	3.052	1.177	0.000	0.25			29.9

PN	US/MH Name	Status	Level Exceeded
S2.001	S9	SURCHARGED	
S2.002	S10	SURCHARGED	
S2.003	S11	SURCHARGED	
S2.004	S12	SURCHARGED	
S4.000	S13	SURCHARGED	
S2.005	S14	SURCHARGED	
S2.006	SPond Inlet 2	SURCHARGED	
S1.007	SPond OF	SURCHARGED	
S1.008	S15	FLOOD RISK	

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