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File Surface Water Phase 3 D...

Designed by magdalenachmurska
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Network 2020.1.3

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FEH Rainfall Model

Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 460400 220850 SP 60400 20850
Data Type	Catchment
Maximum Rainfall (mm/hr)	50
Maximum Time of Concentration (mins)	30
Foul Sewage (l/s/ha)	0.000
Volumetric Runoff Coeff.	0.750
PIMP (%)	100
Add Flow / Climate Change (%)	0
Minimum Backdrop Height (m)	0.200
Maximum Backdrop Height (m)	1.500
Min Design Depth for Optimisation (m)	1.200
Min Vel for Auto Design only (m/s)	1.00
Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for Storm

- Indicates pipe length does not match coordinates
« - Indicates pipe capacity < flow

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	23.370	0.240	97.4	0.208	5.00	0.0	0.600	o	300	Pipe/Conduit	
S2.000	14.827	0.100	148.3	0.117	5.00	0.0	0.600	o	300	Pipe/Conduit	
S1.001	37.623	0.250	150.5	0.163	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.002	17.260	0.120	143.8	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)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S1.000	50.00	5.24	62.880	0.208	0.0	0.0	0.0	1.59	112.6	28.2
S2.000	50.00	5.19	62.740	0.117	0.0	0.0	0.0	1.29	91.1	15.8
S1.001	50.00	5.62	62.490	0.488	0.0	0.0	0.0	1.65	263.2	66.1
S1.002	50.00	5.79	62.240	0.488	0.0	0.0	0.0	1.69	269.3	66.1

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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
S1.003	16.563	0.110	150.6	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.004	15.063	0.100	150.6	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S3.000	5.151	0.050	103.0	0.203	5.00	0.0	0.600	o	300	Pipe/Conduit	
S3.001	7.994	0.001	7994.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S3.002	9.977	1.540	6.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.005	32.730	0.240	136.4	0.010	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.006	50.035	0.340	147.2	0.030	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.007	26.879	0.140	192.0	0.158	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.008	13.894	0.130	106.9	0.035	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.009	8.816	0.060	146.9	0.133	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.010	6.900#	0.070	98.6	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.011	3.600#	0.190	18.9	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S4.000	28.549	0.280	102.0	0.127	5.00	0.0	0.600	o	300	Pipe/Conduit	
S4.001	27.764	0.280	99.2	0.134	0.00	0.0	0.600	o	450	Pipe/Conduit	
S4.002	36.752	0.440	83.5	0.070	0.00	0.0	0.600	o	450	Pipe/Conduit	
S4.003	36.752	0.370	99.3	0.009	0.00	0.0	0.600	o	450	Pipe/Conduit	
S4.004	24.343	0.240	101.4	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S4.005	2.300#	0.300	7.7	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)
S1.003	50.00	5.96	62.120	0.488	0.0	0.0	0.0	1.65	263.1	66.1
S1.004	50.00	6.11	62.010	0.488	0.0	0.0	0.0	1.65	263.1	66.1
S3.000	50.00	5.06	63.650	0.203	0.0	0.0	0.0	1.55	109.5	27.5
S3.001	50.00	5.85	62.971	0.203	0.0	0.0	0.0	0.17	11.8«	27.5
S3.002	50.00	5.88	63.600	0.203	0.0	0.0	0.0	6.22	439.3	27.5
S1.005	50.00	6.43	61.910	0.701	0.0	0.0	0.0	1.74	276.6	94.9
S1.006	50.00	6.92	61.670	0.731	0.0	0.0	0.0	1.67	266.2	99.0
S1.007	50.00	7.23	61.330	0.889	0.0	0.0	0.0	1.46	232.8	120.4
S1.008	50.00	7.35	61.190	0.924	0.0	0.0	0.0	1.97	312.7	125.1
S1.009	50.00	7.44	61.060	1.057	0.0	0.0	0.0	1.68	266.4	143.1
S1.010	50.00	7.49	60.900	1.057	0.0	0.0	0.0	2.05	325.7	143.1
S1.011	50.00	7.50	60.830	1.057	0.0	0.0	0.0	4.69	745.5	143.1
S4.000	50.00	5.31	63.430	0.127	0.0	0.0	0.0	1.56	110.1	17.2
S4.001	50.00	5.53	62.970	0.261	0.0	0.0	0.0	2.04	324.7	35.3
S4.002	50.00	5.81	62.690	0.331	0.0	0.0	0.0	2.23	354.0	44.8
S4.003	50.00	6.11	62.250	0.340	0.0	0.0	0.0	2.04	324.5	46.0
S4.004	50.00	6.31	61.880	0.340	0.0	0.0	0.0	2.02	321.1	46.0
S4.005	50.00	6.31	61.640	0.340	0.0	0.0	0.0	7.38	1173.2	46.0

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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
S5.000	28.002	0.280	100.0	0.164	5.00	0.0	0.600	o	450	Pipe/Conduit	
S5.001	27.900	0.285	97.9	0.232	0.00	0.0	0.600	o	450	Pipe/Conduit	
S5.002	14.110	0.140	100.8	0.232	0.00	0.0	0.600	o	525	Pipe/Conduit	
S5.003	24.259	0.240	101.1	0.117	0.00	0.0	0.600	o	525	Pipe/Conduit	
S5.004	9.900#	0.100	99.0	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit	
S1.012	3.400#	0.150	22.7	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.013	12.907	-3.860	-3.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S1.014	15.427	0.060	257.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S6.000	51.470	0.510	100.9	0.015	5.00	0.0	0.600	o	300	Pipe/Conduit	
S6.001	77.202	0.770	100.3	0.093	0.00	0.0	0.600	o	300	Pipe/Conduit	
S6.002	54.463	0.540	100.9	0.029	0.00	0.0	0.600	o	450	Pipe/Conduit	
S6.003	49.354	0.450	109.7	0.101	0.00	0.0	0.600	o	450	Pipe/Conduit	
S6.004	12.200	0.120	101.7	0.081	0.00	0.0	0.600	o	450	Pipe/Conduit	
S6.005	39.055	0.270	144.6	0.168	0.00	0.0	0.600	o	450	Pipe/Conduit	
S7.000	49.806	0.330	150.9	0.276	5.00	0.0	0.600	o	450	Pipe/Conduit	
S8.000	10.829	0.070	154.7	0.177	5.00	0.0	0.600	o	300	Pipe/Conduit	
S7.001	26.748	0.180	148.6	0.272	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)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S5.000	50.00	5.23	63.460	0.164	0.0	0.0	0.0	2.03	323.3	22.2
S5.001	50.00	5.46	63.180	0.396	0.0	0.0	0.0	2.06	326.8	53.6
S5.002	50.00	5.56	62.820	0.628	0.0	0.0	0.0	2.23	483.0	85.0
S5.003	50.00	5.74	62.680	0.745	0.0	0.0	0.0	2.23	482.3	100.9
S5.004	50.00	5.82	62.440	0.745	0.0	0.0	0.0	2.25	487.4	100.9
S1.012	50.00	7.52	60.640	2.142	0.0	0.0	0.0	4.28	681.4	290.1
S1.013	50.00	7.32	60.490	0.000	7.4	0.0	0.0	0.09	1.6<<	7.4
S1.014	50.00	7.73	64.350	0.000	7.4	0.0	0.0	0.62	11.0	7.4
S6.000	50.00	5.55	64.670	0.015	0.0	0.0	0.0	1.57	110.6	2.0
S6.001	50.00	6.37	64.160	0.108	0.0	0.0	0.0	1.57	111.0	14.6
S6.002	50.00	6.82	63.240	0.137	0.0	0.0	0.0	2.02	322.0	18.6
S6.003	50.00	7.24	62.700	0.238	0.0	0.0	0.0	1.94	308.7	32.2
S6.004	50.00	7.34	62.250	0.319	0.0	0.0	0.0	2.02	320.7	43.2
S6.005	50.00	7.73	62.130	0.487	0.0	0.0	0.0	1.69	268.5	65.9
S7.000	50.00	5.50	62.370	0.276	0.0	0.0	0.0	1.65	262.8	37.4
S8.000	50.00	5.14	62.260	0.177	0.0	0.0	0.0	1.26	89.2	24.0
S7.001	50.00	5.77	62.040	0.725	0.0	0.0	0.0	1.67	264.9	98.2

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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
S6.006	14.700#	0.100	147.0	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit		
S6.007	5.900#	0.040	147.5	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit		
S9.000	16.478	0.110	149.8	0.136	5.00	0.0	0.600	o	450	Pipe/Conduit		
S9.001	36.638	0.240	152.7	0.267	0.00	0.0	0.600	o	450	Pipe/Conduit		
S9.002	34.292	0.220	155.9	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit		
S9.003	22.913	0.150	152.8	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit		
S9.004	12.144	0.080	151.8	0.135	0.00	0.0	0.600	o	450	Pipe/Conduit		
S9.005	46.554	0.310	150.2	0.267	0.00	0.0	0.600	o	450	Pipe/Conduit		
S6.008	5.900#	0.040	147.5	0.000	0.00	0.0	0.600	o	600	Pipe/Conduit		
S10.000	27.809	0.270	103.0	0.105	5.00	0.0	0.600	o	450	Pipe/Conduit		
S10.001	28.577	0.290	98.5	0.208	0.00	0.0	0.600	o	450	Pipe/Conduit		
S10.002	28.309	0.285	99.3	0.202	0.00	0.0	0.600	o	450	Pipe/Conduit		
S10.003	23.592	0.230	102.6	0.102	0.00	0.0	0.600	o	525	Pipe/Conduit		
S10.004	39.574	0.400	98.9	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit		
S10.005	6.100#	0.060	101.7	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit		
S6.009	20.529	0.140	146.6	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit		
S6.010	12.700#	0.090	141.1	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit		

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
S6.006	50.00	7.85	61.710	1.212	0.0	0.0	0.0	2.01	567.3	164.1
S6.007	50.00	7.90	61.610	1.212	0.0	0.0	0.0	2.00	566.3	164.1
S9.000	50.00	5.17	62.680	0.136	0.0	0.0	0.0	1.66	263.8	18.4
S9.001	50.00	5.54	62.570	0.403	0.0	0.0	0.0	1.64	261.3	54.6
S9.002	50.00	5.89	62.330	0.403	0.0	0.0	0.0	1.63	258.6	54.6
S9.003	50.00	6.12	62.110	0.403	0.0	0.0	0.0	1.64	261.2	54.6
S9.004	50.00	6.24	61.960	0.538	0.0	0.0	0.0	1.65	262.1	72.9
S9.005	50.00	6.71	61.880	0.805	0.0	0.0	0.0	1.66	263.5	109.0
S6.008	50.00	7.95	61.570	2.017	0.0	0.0	0.0	2.00	566.3	273.1
S10.000	50.00	5.23	64.320	0.105	0.0	0.0	0.0	2.00	318.6	14.2
S10.001	50.00	5.46	64.050	0.313	0.0	0.0	0.0	2.05	325.8	42.4
S10.002	50.00	5.70	63.760	0.515	0.0	0.0	0.0	2.04	324.5	69.7
S10.003	50.00	5.87	63.400	0.617	0.0	0.0	0.0	2.21	478.8	83.5
S10.004	50.00	6.17	63.170	0.617	0.0	0.0	0.0	2.25	487.5	83.5
S10.005	50.00	6.21	62.770	0.617	0.0	0.0	0.0	2.22	480.9	83.5
S6.009	50.00	8.13	61.510	2.634	0.0	0.0	0.0	1.85	400.0	356.7
S6.010	50.00	8.24	61.370	2.634	0.0	0.0	0.0	1.88	407.8	356.7

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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
S6.011	11.710	-0.830	-14.1	0.000	0.00	0.0	0.600	o	675	Pipe/Conduit	
S6.012	4.430	0.001	4430.0	0.000	0.00	0.0	0.600	o	675	Pipe/Conduit	
S6.013	27.607	0.180	153.4	0.000	0.00	0.0	0.600	o	675	Pipe/Conduit	
S6.014	5.198	0.130	40.0	0.000	0.00	0.0	0.600	o	675	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)
S6.011	50.00	9.01	61.280	2.634	0.0	0.0	0.0	0.25	90.7«	356.7
S6.012	50.00	9.21	64.600	2.634	0.0	0.0	0.0	0.38	137.4«	356.7
S6.013	50.00	9.42	64.600	2.634	0.0	0.0	0.0	2.11	756.5	356.7
S6.014	50.00	9.44	64.420	2.634	0.0	0.0	0.0	4.15	1486.0	356.7

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)
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S1.014	S	64.740	64.290	0.000	0	0
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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)
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S6.014	S	65.320	64.290	0.000	0	0
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Simulation Criteria for Storm

Volumetric Runoff Coeff	1.000	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha Storage	0.000
Hot Start (mins)	0	Inlet Coefficient	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	4
Number of Online Controls	2	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Region	England and Wales
Return Period (years)	100	M5-60 (mm)	20.000

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Synthetic Rainfall Details

Ratio R 0.405 Cv (Winter) 1.000
Profile Type Winter Storm Duration (mins) 30
Cv (Summer) 1.000

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Online Controls for Storm

Pump Manhole: SS25 PUMP1 to S26, DS/PN: S1.013, Volume (m³): 6.7

Invert Level (m) 60.490

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.200	7.3600	1.800	7.3600	3.400	7.3600	5.000	7.3600
0.400	7.3600	2.000	7.3600	3.600	7.3600	5.200	7.3600
0.600	7.3600	2.200	7.3600	3.800	7.3600	5.400	7.3600
0.800	7.3600	2.400	7.3600	4.000	7.3600	5.600	7.3600
1.000	7.3600	2.600	7.3600	4.200	7.3600	5.800	7.3600
1.200	7.3600	2.800	7.3600	4.400	7.3600	6.000	7.3600
1.400	7.3600	3.000	7.3600	4.600	7.3600		
1.600	7.3600	3.200	7.3600	4.800	7.3600		

Pump Manhole: SS52 PUMP2 to HW4, DS/PN: S6.011, Volume (m³): 9.5

Invert Level (m) 61.280

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.200	9.3800	1.800	9.3800	3.400	9.3800	5.000	9.3800
0.400	9.3800	2.000	9.3800	3.600	9.3800	5.200	9.3800
0.600	9.3800	2.200	9.3800	3.800	9.3800	5.400	9.3800
0.800	9.3800	2.400	9.3800	4.000	9.3800	5.600	9.3800
1.000	9.3800	2.600	9.3800	4.200	9.3800	5.800	9.3800
1.200	9.3800	2.800	9.3800	4.400	9.3800	6.000	9.3800
1.400	9.3800	3.000	9.3800	4.600	9.3800		
1.600	9.3800	3.200	9.3800	4.800	9.3800		

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Storage Structures for Storm

Tank or Pond Manhole: SHW1 to HW2, DS/PN: S3.001

Invert Level (m) 63.625

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	1.6	1.000	48.1	2.000	151.3
0.500	17.8	1.500	92.7		

Cellular Storage Manhole: SAT1 to S25 PUMP1, DS/PN: S1.012

Invert Level (m) 60.590 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	993.9	0.0	2.001	0.0	0.0
2.000	993.9	0.0			

Cellular Storage Manhole: SAT2 to S51, DS/PN: S6.009

Invert Level (m) 61.460 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	1270.3	0.0	2.001	0.0	0.0
2.000	1270.3	0.0			

Tank or Pond Manhole: SHW4 to HW5, DS/PN: S6.012

Invert Level (m) 64.600

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	30.2	0.500	76.9	1.000	138.0

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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 * 10m ³ /ha Storage	0.000
Hot Start Level (mm)	0	Inlet Coefficient	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	4
Number of Online Controls	2	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	0.406
Region England and Wales	Cv (Summer)		1.000
M5-60 (mm)	20.000	Cv (Winter)	1.000

Margin for Flood Risk Warning (mm)	300.0
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
Return Period(s) (years)	1, 2, 30, 100
Climate Change (%)	0, 0, 0, 40

WARNING: Half Drain Time has not been calculated as the structure is too full.

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow
S1.000	SS01	15 Summer	1	+0%	30/15 Summer	100/15 Summer	
S2.000	SS02	15 Summer	1	+0%	30/15 Summer	100/15 Summer	
S1.001	SS03	15 Summer	1	+0%	30/15 Summer		
S1.002	SS05	15 Summer	1	+0%	30/15 Summer		
S1.003	SS06	15 Summer	1	+0%	30/15 Summer		
S1.004	SS07	15 Summer	1	+0%	30/15 Summer		
S3.000	SS08 to HW1	15 Summer	1	+0%	30/15 Summer	100/15 Summer	
S3.001	SHW1 to HW2	15 Summer	1	+0%	1/15 Summer		
S3.002	SHW2 to S09	15 Summer	1	+0%	100/15 Summer		
S1.005	SS09	15 Summer	1	+0%	30/15 Summer		
S1.006	SS10	15 Summer	1	+0%	30/15 Summer		
S1.007	SS11	15 Summer	1	+0%	30/15 Summer		
S1.008	SS60	15 Summer	1	+0%	2/15 Summer		
S1.009	SS12 to INT1 IN	15 Summer	1	+0%	2/15 Summer		
S1.010	SINT1 OUT to S13	15 Summer	1	+0%	30/15 Summer		
S1.011	SS13 to AT1	15 Summer	1	+0%	30/15 Summer		

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

PN	US/MH Name	Overflow Act.	Water Surcharged Flooded			Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)
			Level (m)	Depth (m)	Volume (m ³)			
S1.000	SS01		63.007	-0.173	0.000	0.37		
S2.000	SS02		62.847	-0.193	0.000	0.27		
S1.001	SS03		62.675	-0.265	0.000	0.35		
S1.002	SS05		62.443	-0.247	0.000	0.42		
S1.003	SS06		62.327	-0.243	0.000	0.44		
S1.004	SS07		62.224	-0.236	0.000	0.46		
S3.000	SS08 to HW1		63.817	-0.133	0.000	0.59		
S3.001	SHW1 to HW2		63.689	0.418	0.000	1.00		
S3.002	SHW2 to S09		63.668	-0.232	0.000	0.12		
S1.005	SS09		62.133	-0.227	0.000	0.49		
S1.006	SS10		61.894	-0.226	0.000	0.49		
S1.007	SS11		61.608	-0.172	0.000	0.69		
S1.008	SS60		61.466	-0.174	0.000	0.69		
S1.009	SS12 to INT1 IN		61.398	-0.112	0.000	0.91		
S1.010	SINT1 OUT to S13		61.237	-0.113	0.000	0.91		
S1.011	SS13 to AT1		61.089	-0.191	0.000	0.63		

PN	US/MH Name	Pipe Flow (l/s)	Status	Level Exceeded
S2.000	SS02	20.8	OK	5
S1.001	SS03	81.1	OK	
S1.002	SS05	81.8	OK	
S1.003	SS06	81.5	OK	
S1.004	SS07	81.2	OK	
S3.000	SS08 to HW1	36.1	OK	3
S3.001	SHW1 to HW2	35.8	SURCHARGED	
S3.002	SHW2 to S09	36.0	OK	
S1.005	SS09	117.4	OK	
S1.006	SS10	118.2	OK	
S1.007	SS11	136.8	OK	
S1.008	SS60	139.6	OK	
S1.009	SS12 to INT1 IN	153.2	OK	
S1.010	SINT1 OUT to S13	154.0	OK	
S1.011	SS13 to AT1	154.1	OK	

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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
S4.000	SS14	15 Summer	1	+0%	100/15 Summer		
S4.001	SS15	15 Summer	1	+0%			
S4.002	SS16	15 Summer	1	+0%			
S4.003	SS17	15 Summer	1	+0%			
S4.004	SS18	15 Summer	1	+0%			
S4.005	SS19 to AT1	15 Summer	1	+0%			
S5.000	SS20	15 Summer	1	+0%	100/15 Summer		
S5.001	SS21	15 Summer	1	+0%	100/15 Summer		
S5.002	SS22	15 Summer	1	+0%	30/15 Summer		
S5.003	SS23	15 Summer	1	+0%	30/15 Summer		
S5.004	SS24 to AT1	15 Summer	1	+0%	30/15 Summer		
S1.012	SAT1 to S25 PUMP1	60 Summer	1	+0%	30/30 Summer		
S1.013	SS25 PUMP1 to S26	60 Summer	1	+0%	1/15 Summer		
S1.014	SS26 to HW3	15 Summer	1	+0%			
S6.000	SS27	15 Summer	1	+0%	100/15 Summer		
S6.001	SS28	15 Summer	1	+0%	100/15 Summer		
S6.002	SS29	15 Summer	1	+0%	100/15 Summer		
S6.003	SS30	15 Summer	1	+0%	30/15 Summer		
S6.004	SS31	15 Summer	1	+0%	30/15 Summer		
S6.005	SS32	15 Summer	1	+0%	30/15 Summer		
S7.000	SS33	15 Summer	1	+0%	30/15 Summer	100/15 Summer	
S8.000	SS35	15 Summer	1	+0%	30/15 Summer	100/15 Summer	
S7.001	SS36	15 Summer	1	+0%	30/15 Summer		
S6.006	SS37 to INT2 IN	15 Summer	1	+0%	2/15 Summer		
S6.007	SINT2 OUT to S38	15 Summer	1	+0%	30/15 Summer		
S9.000	SS39	15 Summer	1	+0%	30/15 Summer	100/15 Summer	
S9.001	SS40	15 Summer	1	+0%	30/15 Summer	100/15 Summer	
S9.002	SS41	15 Summer	1	+0%	30/15 Summer		
S9.003	SS42	15 Summer	1	+0%	30/15 Summer		
S9.004	SS43	15 Summer	1	+0%	30/15 Summer		
S9.005	SS44	15 Summer	1	+0%	30/15 Summer		
S6.008	SS38 to AT2	15 Summer	1	+0%	30/15 Summer		
S10.000	SS45	15 Summer	1	+0%	100/15 Summer		
S10.001	SS46	15 Summer	1	+0%	100/15 Summer		
S10.002	SS47	15 Summer	1	+0%	100/15 Summer		
S10.003	SS48	15 Summer	1	+0%	100/15 Summer		
S10.004	SS49	15 Summer	1	+0%	100/15 Summer		
S10.005	SS50	15 Summer	1	+0%	30/15 Summer		
S6.009	SAT2 to S51	60 Winter	1	+0%	30/60 Summer		
S6.010	SS51 to S52 PUMP2	60 Winter	1	+0%	30/30 Summer		
S6.011	SS52 PUMP2 to HW4	60 Winter	1	+0%	30/30 Summer		
S6.012	SHW4 to HW5	60 Summer	1	+0%			
S6.013	SHW5 to S55	60 Summer	1	+0%			
S6.014	SS55 to HW6	60 Winter	1	+0%			

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

PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Cap. (l/s)	Half Drain Time (mins)
S4.000	SS14		63.527	-0.203	0.000	0.23	
S4.001	SS15		63.088	-0.332	0.000	0.15	
S4.002	SS16		62.815	-0.325	0.000	0.17	
S4.003	SS17		62.382	-0.318	0.000	0.19	
S4.004	SS18		62.017	-0.313	0.000	0.20	
S4.005	SS19 to AT1		61.766	-0.324	0.000	0.17	
S5.000	SS20		63.558	-0.352	0.000	0.11	
S5.001	SS21		63.326	-0.304	0.000	0.23	
S5.002	SS22		63.033	-0.312	0.000	0.34	
S5.003	SS23		62.881	-0.324	0.000	0.31	
S5.004	SS24 to AT1		62.692	-0.273	0.000	0.47	
S1.012	SAT1 to S25 PUMP1		60.859	-0.231	0.000	0.04	
S1.013	SS25 PUMP1 to S26		60.886	0.246	0.000	1.46	
S1.014	SS26 to HW3		64.445	-0.055	0.000	0.72	
S6.000	SS27		64.702	-0.268	0.000	0.03	
S6.001	SS28		64.239	-0.221	0.000	0.16	
S6.002	SS29		63.318	-0.372	0.000	0.07	
S6.003	SS30		62.805	-0.345	0.000	0.12	
S6.004	SS31		62.398	-0.302	0.000	0.23	
S6.005	SS32		62.296	-0.284	0.000	0.29	
S7.000	SS33		62.508	-0.312	0.000	0.20	
S8.000	SS35		62.406	-0.154	0.000	0.48	
S7.001	SS36		62.276	-0.214	0.000	0.53	
S6.006	SS37 to INT2 IN		62.086	-0.224	0.000	0.51	
S6.007	SINT2 OUT to S38		62.058	-0.152	0.000	0.59	
S9.000	SS39		62.788	-0.342	0.000	0.13	
S9.001	SS40		62.732	-0.288	0.000	0.28	
S9.002	SS41		62.493	-0.287	0.000	0.28	
S9.003	SS42		62.276	-0.284	0.000	0.29	
S9.004	SS43		62.182	-0.228	0.000	0.48	
S9.005	SS44		62.117	-0.213	0.000	0.48	
S6.008	SS38 to AT2		62.041	-0.129	0.000	0.97	
S10.000	SS45		64.397	-0.373	0.000	0.07	
S10.001	SS46		64.179	-0.321	0.000	0.18	
S10.002	SS47		63.926	-0.284	0.000	0.29	
S10.003	SS48		63.582	-0.343	0.000	0.26	
S10.004	SS49		63.338	-0.357	0.000	0.22	
S10.005	SS50		62.994	-0.301	0.000	0.38	
S6.009	SAT2 to S51		61.716	-0.319	0.000	0.08	
S6.010	SS51 to S52 PUMP2		61.714	-0.181	0.000	0.07	
S6.011	SS52 PUMP2 to HW4		61.712	-0.243	0.000	0.05	
S6.012	SHW4 to HW5		64.680	-0.595	0.000	0.03	
S6.013	SHW5 to S55		64.656	-0.619	0.000	0.02	
S6.014	SS55 to HW6		64.484	-0.611	0.000	0.02	

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

PN	US/MH Name	Pipe Flow (l/s)	Status	Level Exceeded
S4.000		SS14 22.4	OK	
S4.001		SS15 42.2	OK	
S4.002		SS16 52.7	OK	
S4.003		SS17 53.9	OK	
S4.004		SS18 53.4	OK	
S4.005	SS19 to AT1	53.7	OK	
S5.000		SS20 29.2	OK	
S5.001		SS21 63.3	OK	
S5.002		SS22 97.4	OK	
S5.003		SS23 115.4	OK	
S5.004	SS24 to AT1	116.0	OK	
S1.012	SAT1 to S25 PUMP1	9.0	OK	
S1.013	SS25 PUMP1 to S26	7.4	SURCHARGED	
S1.014	SS26 to HW3	7.4	OK	
S6.000		SS27 2.6	OK	
S6.001		SS28 16.6	OK	
S6.002		SS29 20.5	OK	
S6.003		SS30 34.4	OK	
S6.004		SS31 45.7	OK	
S6.005		SS32 68.6	OK	
S7.000		SS33 48.2	OK	3
S8.000		SS35 31.5	OK	3
S7.001		SS36 119.6	OK	
S6.006	SS37 to INT2 IN	178.7	OK	
S6.007	SINT2 OUT to S38	176.8	OK	
S9.000		SS39 24.2	OK	3
S9.001		SS40 63.3	OK	2
S9.002		SS41 63.5	OK	
S9.003		SS42 62.8	OK	
S9.004		SS43 80.8	OK	
S9.005		SS44 114.5	OK	
S6.008	SS38 to AT2	288.3	OK	
S10.000		SS45 18.6	OK	
S10.001		SS46 49.6	OK	
S10.002		SS47 79.2	OK	
S10.003		SS48 94.5	OK	
S10.004		SS49 94.6	OK	
S10.005		SS50 93.3	OK	
S6.009	SAT2 to S51	23.0	OK	
S6.010	SS51 to S52 PUMP2	16.3	OK	
S6.011	SS52 PUMP2 to HW4	9.4	OK	
S6.012	SHW4 to HW5	9.4	OK	
S6.013	SHW5 to S55	9.4	OK	
S6.014	SS55 to HW6	9.4	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 * 10m ³ /ha Storage	0.000
Hot Start Level (mm)	0	Inlet Coefficient	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	4
Number of Online Controls	2	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	0.406
Region England and Wales Cv (Summer)			1.000
M5-60 (mm)	20.000	Cv (Winter)	1.000

Margin for Flood Risk Warning (mm)	300.0
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
Return Period(s) (years)	1, 2, 30, 100
Climate Change (%)	0, 0, 0, 40

WARNING: Half Drain Time has not been calculated as the structure is too full.

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow
S1.000	SS01	15 Summer	2	+0%	30/15 Summer	100/15 Summer	
S2.000	SS02	15 Summer	2	+0%	30/15 Summer	100/15 Summer	
S1.001	SS03	15 Summer	2	+0%	30/15 Summer		
S1.002	SS05	15 Summer	2	+0%	30/15 Summer		
S1.003	SS06	15 Summer	2	+0%	30/15 Summer		
S1.004	SS07	15 Summer	2	+0%	30/15 Summer		
S3.000	SS08 to HW1	15 Summer	2	+0%	30/15 Summer	100/15 Summer	
S3.001	SHW1 to HW2	15 Summer	2	+0%	1/15 Summer		
S3.002	SHW2 to S09	15 Summer	2	+0%	100/15 Summer		
S1.005	SS09	15 Summer	2	+0%	30/15 Summer		
S1.006	SS10	15 Summer	2	+0%	30/15 Summer		
S1.007	SS11	15 Summer	2	+0%	30/15 Summer		
S1.008	SS60	15 Summer	2	+0%	2/15 Summer		
S1.009	SS12 to INT1 IN	15 Summer	2	+0%	2/15 Summer		
S1.010	SINT1 OUT to S13	15 Summer	2	+0%	30/15 Summer		
S1.011	SS13 to AT1	15 Winter	2	+0%	30/15 Summer		

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

PN	US/MH Name	Overflow Act.	Water Surcharged Flooded			Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)
			Level (m)	Depth (m)	Volume (m ³)			
S1.000	SS01	63.027	-0.153	0.000	0.48			
S2.000	SS02	62.863	-0.177	0.000	0.35			
S1.001	SS03	62.705	-0.235	0.000	0.45			
S1.002	SS05	62.476	-0.214	0.000	0.54			
S1.003	SS06	62.362	-0.208	0.000	0.56			
S1.004	SS07	62.260	-0.200	0.000	0.59			
S3.000	SS08 to HW1	63.848	-0.102	0.000	0.76			
S3.001	SHW1 to HW2	63.707	0.436	0.000	1.30			
S3.002	SHW2 to S09	63.678	-0.222	0.000	0.15			
S1.005	SS09	62.170	-0.190	0.000	0.63			
S1.006	SS10	61.933	-0.187	0.000	0.63			
S1.007	SS11	61.747	-0.033	0.000	0.84			
S1.008	SS60	61.659	0.019	0.000	0.76			
S1.009	SS12 to INT1 IN	61.534	0.024	0.000	1.01			
S1.010	SINT1 OUT to S13	61.280	-0.070	0.000	1.00			
S1.011	SS13 to AT1	61.105	-0.175	0.000	0.69			

PN	US/MH Name	Pipe Flow (l/s)	Status	Level Exceeded
S2.000	SS02	26.9	OK	5
S1.001	SS03	105.0	OK	
S1.002	SS05	105.4	OK	
S1.003	SS06	104.3	OK	
S1.004	SS07	105.2	OK	
S3.000	SS08 to HW1	46.6	OK	3
S3.001	SHW1 to HW2	46.5	SURCHARGED	
S3.002	SHW2 to S09	46.5	OK	
S1.005	SS09	151.1	OK	
S1.006	SS10	152.6	OK	
S1.007	SS11	166.1	OK	
S1.008	SS60	155.4	SURCHARGED	
S1.009	SS12 to INT1 IN	170.4	SURCHARGED	
S1.010	SINT1 OUT to S13	169.1	OK	
S1.011	SS13 to AT1	169.0	OK	

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2 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
S4.000	SS14	15 Summer	2	+0%	100/15 Summer		
S4.001	SS15	15 Summer	2	+0%			
S4.002	SS16	15 Summer	2	+0%			
S4.003	SS17	15 Summer	2	+0%			
S4.004	SS18	15 Summer	2	+0%			
S4.005	SS19 to AT1	15 Summer	2	+0%			
S5.000	SS20	15 Summer	2	+0%	100/15 Summer		
S5.001	SS21	15 Summer	2	+0%	100/15 Summer		
S5.002	SS22	15 Summer	2	+0%	30/15 Summer		
S5.003	SS23	15 Summer	2	+0%	30/15 Summer		
S5.004	SS24 to AT1	15 Summer	2	+0%	30/15 Summer		
S1.012	SAT1 to S25 PUMP1	60 Summer	2	+0%	30/30 Summer		
S1.013	SS25 PUMP1 to S26	60 Summer	2	+0%	1/15 Summer		
S1.014	SS26 to HW3	60 Summer	2	+0%			
S6.000	SS27	15 Summer	2	+0%	100/15 Summer		
S6.001	SS28	15 Summer	2	+0%	100/15 Summer		
S6.002	SS29	15 Summer	2	+0%	100/15 Summer		
S6.003	SS30	15 Summer	2	+0%	30/15 Summer		
S6.004	SS31	15 Summer	2	+0%	30/15 Summer		
S6.005	SS32	15 Summer	2	+0%	30/15 Summer		
S7.000	SS33	15 Summer	2	+0%	30/15 Summer	100/15 Summer	
S8.000	SS35	15 Summer	2	+0%	30/15 Summer	100/15 Summer	
S7.001	SS36	15 Summer	2	+0%	30/15 Summer		
S6.006	SS37 to INT2 IN	15 Summer	2	+0%	2/15 Summer		
S6.007	SINT2 OUT to S38	15 Summer	2	+0%	30/15 Summer		
S9.000	SS39	15 Summer	2	+0%	30/15 Summer	100/15 Summer	
S9.001	SS40	15 Summer	2	+0%	30/15 Summer	100/15 Summer	
S9.002	SS41	15 Summer	2	+0%	30/15 Summer		
S9.003	SS42	15 Summer	2	+0%	30/15 Summer		
S9.004	SS43	15 Summer	2	+0%	30/15 Summer		
S9.005	SS44	15 Summer	2	+0%	30/15 Summer		
S6.008	SS38 to AT2	15 Summer	2	+0%	30/15 Summer		
S10.000	SS45	15 Summer	2	+0%	100/15 Summer		
S10.001	SS46	15 Summer	2	+0%	100/15 Summer		
S10.002	SS47	15 Summer	2	+0%	100/15 Summer		
S10.003	SS48	15 Summer	2	+0%	100/15 Summer		
S10.004	SS49	15 Summer	2	+0%	100/15 Summer		
S10.005	SS50	15 Summer	2	+0%	30/15 Summer		
S6.009	SAT2 to S51	60 Summer	2	+0%	30/60 Summer		
S6.010	SS51 to S52 PUMP2	60 Summer	2	+0%	30/30 Summer		
S6.011	SS52 PUMP2 to HW4	60 Summer	2	+0%	30/30 Summer		
S6.012	SHW4 to HW5	60 Winter	2	+0%			
S6.013	SHW5 to S55	60 Winter	2	+0%			
S6.014	SS55 to HW6	60 Summer	2	+0%			

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

PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Cap. (l/s)	Half Drain Time (mins)
S4.000	SS14		63.541	-0.189	0.000	0.29	
S4.001	SS15		63.107	-0.313	0.000	0.20	
S4.002	SS16		62.833	-0.307	0.000	0.22	
S4.003	SS17		62.400	-0.300	0.000	0.24	
S4.004	SS18		62.035	-0.295	0.000	0.26	
S4.005	SS19 to AT1		61.785	-0.305	0.000	0.22	
S5.000	SS20		63.571	-0.339	0.000	0.14	
S5.001	SS21		63.348	-0.282	0.000	0.29	
S5.002	SS22		63.066	-0.279	0.000	0.44	
S5.003	SS23		62.911	-0.294	0.000	0.40	
S5.004	SS24 to AT1		62.734	-0.231	0.000	0.60	
S1.012	SAT1 to S25 PUMP1		60.935	-0.155	0.000	0.04	
S1.013	SS25 PUMP1 to S26		60.951	0.311	0.000	1.46	
S1.014	SS26 to HW3		64.445	-0.055	0.000	0.72	
S6.000	SS27		64.705	-0.265	0.000	0.03	
S6.001	SS28		64.251	-0.209	0.000	0.20	
S6.002	SS29		63.331	-0.359	0.000	0.09	
S6.003	SS30		62.821	-0.329	0.000	0.16	
S6.004	SS31		62.420	-0.280	0.000	0.30	
S6.005	SS32		62.363	-0.217	0.000	0.37	
S7.000	SS33		62.528	-0.292	0.000	0.26	
S8.000	SS35		62.431	-0.129	0.000	0.61	
S7.001	SS36		62.378	-0.112	0.000	0.69	
S6.006	SS37 to INT2 IN		62.313	0.003	0.000	0.57	
S6.007	SINT2 OUT to S38		62.210	0.000	0.000	0.62	
S9.000	SS39		62.807	-0.323	0.000	0.17	
S9.001	SS40		62.758	-0.262	0.000	0.36	
S9.002	SS41		62.518	-0.262	0.000	0.36	
S9.003	SS42		62.333	-0.227	0.000	0.36	
S9.004	SS43		62.298	-0.112	0.000	0.57	
S9.005	SS44		62.269	-0.061	0.000	0.57	
S6.008	SS38 to AT2		62.170	0.000	0.000	1.07	
S10.000	SS45		64.411	-0.359	0.000	0.09	
S10.001	SS46		64.197	-0.303	0.000	0.23	
S10.002	SS47		63.951	-0.259	0.000	0.37	
S10.003	SS48		63.610	-0.315	0.000	0.33	
S10.004	SS49		63.362	-0.333	0.000	0.29	
S10.005	SS50		63.031	-0.264	0.000	0.49	
S6.009	SAT2 to S51		61.787	-0.248	0.000	0.10	
S6.010	SS51 to S52 PUMP2		61.784	-0.111	0.000	0.08	
S6.011	SS52 PUMP2 to HW4		61.781	-0.174	0.000	0.05	
S6.012	SHW4 to HW5		64.680	-0.595	0.000	0.03	
S6.013	SHW5 to S55		64.656	-0.619	0.000	0.02	
S6.014	SS55 to HW6		64.484	-0.611	0.000	0.02	

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

PN	US/MH Name	Pipe Flow (l/s)	Status	Level Exceeded
S4.000		SS14 29.0	OK	
S4.001		SS15 54.5	OK	
S4.002		SS16 68.1	OK	
S4.003		SS17 69.8	OK	
S4.004		SS18 69.3	OK	
S4.005	SS19 to AT1	69.3	OK	
S5.000		SS20 37.8	OK	
S5.001		SS21 81.9	OK	
S5.002		SS22 126.0	OK	
S5.003		SS23 149.2	OK	
S5.004	SS24 to AT1	149.9	OK	
S1.012	SAT1 to S25 PUMP1	8.9	OK	
S1.013	SS25 PUMP1 to S26	7.4	SURCHARGED	
S1.014	SS26 to HW3	7.4	OK	
S6.000		SS27 3.4	OK	
S6.001		SS28 21.5	OK	
S6.002		SS29 26.5	OK	
S6.003		SS30 44.5	OK	
S6.004		SS31 59.1	OK	
S6.005		SS32 88.8	OK	
S7.000		SS33 62.4	OK	3
S8.000		SS35 40.7	OK	3
S7.001		SS36 154.2	OK	
S6.006	SS37 to INT2 IN	196.9	SURCHARGED	
S6.007	SINT2 OUT to S38	185.6	OK	
S9.000		SS39 31.3	OK	3
S9.001		SS40 81.8	OK	2
S9.002		SS41 82.1	OK	
S9.003		SS42 77.8	OK	
S9.004		SS43 95.6	OK	
S9.005		SS44 135.3	OK	
S6.008	SS38 to AT2	318.6	OK	
S10.000		SS45 24.0	OK	
S10.001		SS46 64.2	OK	
S10.002		SS47 102.2	OK	
S10.003		SS48 122.3	OK	
S10.004		SS49 122.4	OK	
S10.005		SS50 120.9	OK	
S6.009	SAT2 to S51	29.6	OK	
S6.010	SS51 to S52 PUMP2	19.3	OK	
S6.011	SS52 PUMP2 to HW4	9.4	OK	
S6.012	SHW4 to HW5	9.4	OK	
S6.013	SHW5 to S55	9.4	OK	
S6.014	SS55 to HW6	9.4	OK	

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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 Coefficient 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 4
Number of Online Controls 2 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 0.406
Region England and Wales Cv (Summer) 1.000
M5-60 (mm) 20.000 Cv (Winter) 1.000

Margin for Flood Risk Warning (mm) 300.0
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
Return Period(s) (years) 1, 2, 30, 100
Climate Change (%) 0, 0, 0, 40

WARNING: Half Drain Time has not been calculated as the structure is too full.

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow
S1.000	SS01	15 Summer	30	+0%	30/15 Summer	100/15 Summer	
S2.000	SS02	15 Summer	30	+0%	30/15 Summer	100/15 Summer	
S1.001	SS03	15 Summer	30	+0%	30/15 Summer		
S1.002	SS05	15 Summer	30	+0%	30/15 Summer		
S1.003	SS06	15 Summer	30	+0%	30/15 Summer		
S1.004	SS07	15 Summer	30	+0%	30/15 Summer		
S3.000	SS08 to HW1	15 Summer	30	+0%	30/15 Summer	100/15 Summer	
S3.001	SHW1 to HW2	15 Summer	30	+0%	1/15 Summer		
S3.002	SHW2 to S09	15 Summer	30	+0%	100/15 Summer		
S1.005	SS09	15 Summer	30	+0%	30/15 Summer		
S1.006	SS10	15 Summer	30	+0%	30/15 Summer		
S1.007	SS11	15 Summer	30	+0%	30/15 Summer		
S1.008	SS60	15 Summer	30	+0%	2/15 Summer		
S1.009	SS12 to INT1 IN	15 Summer	30	+0%	2/15 Summer		
S1.010	SINT1 OUT to S13	15 Summer	30	+0%	30/15 Summer		
S1.011	SS13 to AT1	15 Summer	30	+0%	30/15 Summer		

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

PN	US/MH Name	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap. (l/s)	Overflow (l/s)	Half Drain Time (mins)
S1.000	SS01		63.548	0.368	0.000	0.90		
S2.000	SS02		63.534	0.494	0.000	0.67		
S1.001	SS03		63.411	0.471	0.000	0.91		
S1.002	SS05		63.266	0.576	0.000	0.98		
S1.003	SS06		63.144	0.574	0.000	0.94		
S1.004	SS07		63.033	0.573	0.000	0.88		
S3.000	SS08 to HW1		64.012	0.062	0.000	1.44		
S3.001	SHW1 to HW2		63.837	0.566	0.000	2.48		
S3.002	SHW2 to S09		63.709	-0.191	0.000	0.29		
S1.005	SS09		62.926	0.566	0.000	0.96		
S1.006	SS10		62.711	0.591	0.000	0.96		
S1.007	SS11		62.465	0.685	0.000	1.31		
S1.008	SS60		62.206	0.566	0.000	1.32		
S1.009	SS12 to INT1 IN		61.964	0.454	0.000	1.79		
S1.010	SINT1 OUT to S13		61.643	0.293	0.000	1.79		
S1.011	SS13 to AT1		61.353	0.073	0.000	1.22		

PN	US/MH Name	Pipe Flow (l/s)	Status	Level Exceeded
S1.000	SS01	90.3	SURCHARGED	3
S2.000	SS02	51.1	SURCHARGED	5
S1.001	SS03	211.8	SURCHARGED	
S1.002	SS05	191.3	SURCHARGED	
S1.003	SS06	175.6	SURCHARGED	
S1.004	SS07	156.7	SURCHARGED	
S3.000	SS08 to HW1	88.5	SURCHARGED	3
S3.001	SHW1 to HW2	88.5	SURCHARGED	
S3.002	SHW2 to S09	88.6	OK	
S1.005	SS09	229.6	SURCHARGED	
S1.006	SS10	231.8	SURCHARGED	
S1.007	SS11	257.6	SURCHARGED	
S1.008	SS60	267.7	SURCHARGED	
S1.009	SS12 to INT1 IN	302.9	SURCHARGED	
S1.010	SINT1 OUT to S13	302.5	SURCHARGED	
S1.011	SS13 to AT1	299.8	SURCHARGED	