STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Surface Network 1

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	19.000	Add Flow / Climate Change (%)	40
Ratio R	0.350	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 Surface Network 1

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.255	8-12	1.022	16-20	0.110	24-28	0.000	32-36	0.018
4-8	0.822	12-16	0.484	20-24	0.019	28-32	0.013		

Total Area Contributing (ha) = 2.742

Total Pipe Volume (m³) = 141.209

Network Design Table for Surface Network 1

« - 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
1.000	72.123	0.000	0.0	0.031	5.00	0.0	0.600	o	150	Pipe/Conduit	
1.001	1.848	0.050	37.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.002	31.170	0.260	119.9	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.003	3.088	0.050	61.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.004	34.423	0.000	0.0	0.000	0.00	0.0	0.600	o	300	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)
1.000	50.00	17.97	5.600	0.031	0.0	0.0	1.7	0.09	1.6«	5.9
1.001	50.00	17.99	6.200	0.031	0.0	0.0	1.7	1.66	29.4	5.9
1.002	50.00	18.55	6.150	0.031	0.0	0.0	1.7	0.92	16.2	5.9
1.003	50.00	18.59	5.890	0.031	0.0	0.0	1.7	1.28	22.7	5.9
1.004	50.00	22.45	5.250	0.031	0.0	0.0	1.7	0.15	10.5	5.9

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Network Design Table for Surface Network 1

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
2.000	49.541	0.400	123.9	0.000	5.00	0.0	0.600	o	150	Pipe/Conduit	
2.001	6.496	0.080	81.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
2.002	10.553	0.090	117.3	0.037	0.00	0.0	0.600	o	150	Pipe/Conduit	
2.003	32.873	0.270	121.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
2.004	2.949	0.040	73.7	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
2.005	2.131	0.010	213.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.005	49.746	0.100	497.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
3.000	7.158	0.060	119.3	0.021	5.00	0.0	0.600	o	150	Pipe/Conduit	
3.001	5.290	0.080	66.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
3.002	3.462	0.040	86.6	0.021	0.00	0.0	0.600	o	150	Pipe/Conduit	
3.003	23.754	0.000	0.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
3.004	11.051	0.460	24.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
3.005	6.763	0.050	135.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
4.000	14.266	0.110	129.7	0.017	5.00	0.0	0.600	o	150	Pipe/Conduit	
3.006	14.865	0.110	135.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
3.007	9.626	0.085	113.2	0.000	0.00	0.0	0.600	o	150	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)
2.000	50.00	5.92	6.400	0.000	0.0	0.0	0.0	0.90	15.9	0.0
2.001	50.00	6.01	6.000	0.000	0.0	0.0	0.0	1.12	19.7	0.0
2.002	50.00	6.20	5.920	0.037	0.0	0.0	2.0	0.93	16.4	7.0
2.003	50.00	6.80	5.830	0.037	0.0	0.0	2.0	0.91	16.1	7.0
2.004	50.00	6.85	5.560	0.037	0.0	0.0	2.0	1.17	20.7	7.0
2.005	50.00	6.90	5.520	0.037	0.0	0.0	2.0	0.68	12.1	7.0
1.005	50.00	23.63	5.250	0.068	0.0	0.0	3.7	0.70	49.4	12.9
3.000	50.00	5.13	5.880	0.021	0.0	0.0	1.1	0.92	16.2	4.0
3.001	50.00	5.20	5.820	0.021	0.0	0.0	1.1	1.24	21.9	4.0
3.002	50.00	5.25	5.740	0.042	0.0	0.0	2.3	1.08	19.1	8.0
3.003	50.00	9.53	5.700	0.042	0.0	0.0	2.3	0.09	1.6«	8.0
3.004	50.00	9.61	6.500	0.042	0.0	0.0	2.3	2.06	36.5	8.0
3.005	50.00	9.75	6.040	0.042	0.0	0.0	2.3	0.86	15.2	8.0
4.000	50.00	5.27	6.100	0.017	0.0	0.0	0.9	0.88	15.6	3.2
3.006	50.00	10.03	5.990	0.059	0.0	0.0	3.2	0.86	15.2	11.2
3.007	50.00	10.20	5.880	0.059	0.0	0.0	3.2	0.94	16.7	11.2

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Network Design Table for Surface Network 1

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
5.000	3.524	0.000	0.0	0.033	5.00	0.0	0.600	o	150	Pipe/Conduit	
5.001	3.983	0.030	132.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
5.002	22.642	0.195	116.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
6.000	8.069	0.555	14.5	0.054	5.00	0.0	0.600	o	150	Pipe/Conduit	
3.008	27.908	0.215	129.8	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
3.009	7.594	0.040	189.9	0.017	0.00	0.0	0.600	o	300	Pipe/Conduit	
3.010	15.573	0.070	222.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
3.011	17.786	0.100	177.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
7.000	11.325	0.087	130.2	0.054	5.00	0.0	0.600	o	150	Pipe/Conduit	
3.012	9.294	0.040	232.4	0.017	0.00	0.0	0.600	o	300	Pipe/Conduit	
3.013	4.885	0.030	162.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.006	65.460	0.030	2182.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
8.000	22.407	0.260	86.2	0.085	5.00	0.0	0.600	o	150	Pipe/Conduit	
9.000	8.117	0.060	135.3	0.068	5.00	0.0	0.600	o	150	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)
5.000	50.00	5.63	5.420	0.033	0.0	0.0	1.8	0.09	1.6«	6.3
5.001	50.00	5.71	6.020	0.033	0.0	0.0	1.8	0.87	15.4	6.3
5.002	50.00	6.12	5.990	0.033	0.0	0.0	1.8	0.93	16.5	6.3
6.000	50.00	5.05	6.350	0.054	0.0	0.0	2.9	2.66	46.9	10.2
3.008	50.00	10.61	5.720	0.146	0.0	0.0	7.9	1.15	45.6	27.7
3.009	50.00	10.72	5.430	0.163	0.0	0.0	8.8	1.14	80.4	30.9
3.010	50.00	10.97	5.390	0.163	0.0	0.0	8.8	1.05	74.2	30.9
3.011	50.00	11.22	5.320	0.163	0.0	0.0	8.8	1.18	83.1	30.9
7.000	50.00	5.21	5.457	0.054	0.0	0.0	2.9	0.88	15.5	10.2
3.012	50.00	11.37	5.220	0.234	0.0	0.0	12.7	1.03	72.6	44.4
3.013	50.00	11.44	5.180	0.234	0.0	0.0	12.7	1.23	86.9	44.4
1.006	50.00	26.96	5.150	0.302	0.0	0.0	16.4	0.33	23.2«	57.3
8.000	50.00	5.34	5.550	0.085	0.0	0.0	4.6	1.08	19.1	16.1
9.000	50.00	5.16	5.350	0.068	0.0	0.0	3.7	0.86	15.2	12.9

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Network Design Table for Surface Network 1

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
8.001	2.047	0.020	102.4	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.007	11.501	0.000	0.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.008	2.310	0.050	46.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.009	15.488	0.790	19.6	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.010	13.870	0.110	126.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
10.000	19.391	0.150	129.3	0.035	5.00	0.0	0.600	o	150	Pipe/Conduit	
10.001	12.727	0.100	127.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
10.002	21.907	0.120	182.6	0.035	0.00	0.0	0.600	o	150	Pipe/Conduit	
10.003	6.116	0.070	87.4	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
10.004	20.997	0.350	60.0	0.019	0.00	0.0	0.600	o	150	Pipe/Conduit	
11.000	13.280	0.130	102.2	0.011	5.00	0.0	0.600	o	150	Pipe/Conduit	
10.005	11.443	0.110	104.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
10.006	20.944	0.150	139.6	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
10.007	27.264	0.050	545.3	0.019	0.00	0.0	0.600	o	150	Pipe/Conduit	
10.008	8.359	0.050	167.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
10.009	8.609	0.050	172.2	0.008	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.011	5.898	0.050	118.0	0.000	0.00	0.0	0.600	o	150	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)
8.001	50.00	5.38	5.290	0.153	0.0	0.0	8.3	0.99	17.5«	29.0
1.007	50.00	28.25	5.120	0.455	0.0	0.0	24.6	0.15	10.5«	86.3
1.008	50.00	28.27	5.650	0.455	0.0	0.0	24.6	2.32	163.9	86.3
1.009	50.00	28.38	5.750	0.455	0.0	0.0	24.6	2.29	40.4«	86.3
1.010	50.00	28.64	4.960	0.455	0.0	0.0	24.6	0.89	15.8«	86.3
10.000	50.00	5.37	6.050	0.035	0.0	0.0	1.9	0.88	15.6	6.6
10.001	50.00	5.60	5.900	0.035	0.0	0.0	1.9	0.89	15.7	6.6
10.002	50.00	6.10	5.800	0.070	0.0	0.0	3.8	0.74	13.1«	13.3
10.003	50.00	6.19	5.680	0.070	0.0	0.0	3.8	1.08	19.0	13.3
10.004	50.00	6.46	5.610	0.089	0.0	0.0	4.8	1.30	23.0	16.9
11.000	50.00	5.22	5.390	0.011	0.0	0.0	0.6	0.99	17.6	2.1
10.005	50.00	6.66	5.260	0.100	0.0	0.0	5.4	0.98	17.4«	19.0
10.006	50.00	7.07	5.150	0.100	0.0	0.0	5.4	0.85	15.0«	19.0
10.007	50.00	8.14	5.000	0.119	0.0	0.0	6.4	0.42	7.5«	22.6
10.008	50.00	8.32	4.950	0.119	0.0	0.0	6.4	0.77	13.7«	22.6
10.009	50.00	8.51	4.900	0.127	0.0	0.0	6.9	0.76	13.5«	24.1
1.011	50.00	28.75	4.850	0.582	0.0	0.0	31.5	0.92	16.3«	110.3

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Network Design Table for Surface Network 1

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
1.012	17.211	0.050	344.2	0.033	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.013	9.176	0.060	152.9	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
12.000	28.335	0.190	149.1	0.034	5.00	0.0	0.600	o	150	Pipe/Conduit	
12.001	2.239	0.000	0.0	0.017	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.014	25.274	0.060	421.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.015	38.023	0.500	76.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.016	23.023	0.250	92.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
13.000	12.825	0.140	91.6	0.017	5.00	0.0	0.600	o	150	Pipe/Conduit	
13.001	8.557	0.090	95.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
13.002	12.946	0.110	117.7	0.017	0.00	0.0	0.600	o	150	Pipe/Conduit	
13.003	24.848	0.200	124.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.017	34.281	0.100	342.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
14.000	71.591	0.590	121.3	0.069	5.00	0.0	0.600	o	150	Pipe/Conduit	
15.000	42.159	0.330	127.8	0.069	5.00	0.0	0.600	o	150	Pipe/Conduit	
14.001	24.212	0.200	121.1	0.000	0.00	0.0	0.600	o	150	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)
1.012	50.00	29.28	5.550	0.615	0.0	0.0	33.3	0.54	9.5«	116.6
1.013	50.00	29.47	5.120	0.615	0.0	0.0	33.3	0.81	14.3«	116.6
12.000	50.00	5.58	5.250	0.034	0.0	0.0	1.8	0.82	14.5	6.4
12.001	50.00	5.98	5.060	0.051	0.0	0.0	2.8	0.09	1.6«	9.7
1.014	50.00	30.00	5.060	0.666	0.0	0.0	36.1	0.48	8.5«	126.3
1.015	50.00	30.00	5.000	0.666	0.0	0.0	36.1	1.15	20.4«	126.3
1.016	50.00	30.00	4.500	0.666	0.0	0.0	36.1	1.05	18.5«	126.3
13.000	50.00	5.20	4.790	0.017	0.0	0.0	0.9	1.05	18.6	3.2
13.001	50.00	5.34	4.650	0.017	0.0	0.0	0.9	1.03	18.2	3.2
13.002	50.00	5.58	4.560	0.034	0.0	0.0	1.8	0.93	16.4	6.4
13.003	50.00	6.04	4.450	0.034	0.0	0.0	1.8	0.90	15.9	6.4
1.017	50.00	30.00	4.350	0.700	0.0	0.0	37.9	0.54	9.5«	132.7
14.000	50.00	6.31	6.300	0.069	0.0	0.0	3.7	0.91	16.1	13.1
15.000	50.00	5.79	6.040	0.069	0.0	0.0	3.7	0.89	15.7	13.1
14.001	50.00	6.75	5.710	0.138	0.0	0.0	7.5	0.91	16.1«	26.2

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Network Design Table for Surface Network 1

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
14.002	3.270	0.330	9.9	0.017	0.00	0.0	0.600	o	150	Pipe/Conduit	
14.003	37.147	0.290	128.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
14.004	35.580	0.350	101.7	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
16.000	69.474	0.560	124.1	0.052	5.00	0.0	0.600	o	150	Pipe/Conduit	
16.001	7.069	0.550	12.9	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
14.005	26.222	0.100	262.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
14.006	5.601	0.030	186.7	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
14.007	5.773	0.060	96.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
17.000	25.685	0.550	46.7	0.035	5.00	0.0	0.600	o	150	Pipe/Conduit	
18.000	12.463	0.280	44.5	0.035	5.00	0.0	0.600	o	150	Pipe/Conduit	
17.001	9.756	0.080	121.9	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
17.002	32.780	0.420	78.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.018	6.009	0.050	120.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.019	10.456	0.020	522.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.020	31.084	0.080	388.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.021	34.007	1.390	24.5	0.000	0.00	0.0	0.600	o	300	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)
14.002	50.00	6.77	5.510	0.155	0.0	0.0	8.4	3.22	56.9	29.4
14.003	50.00	7.22	5.030	0.155	0.0	0.0	8.4	1.39	98.1	29.4
14.004	50.00	7.60	4.740	0.155	0.0	0.0	8.4	1.56	110.2	29.4
16.000	50.00	6.29	5.650	0.052	0.0	0.0	2.8	0.90	15.9	9.9
16.001	50.00	6.33	5.090	0.052	0.0	0.0	2.8	2.83	49.9	9.9
14.005	50.00	8.05	4.390	0.207	0.0	0.0	11.2	0.97	68.3	39.2
14.006	50.00	8.13	4.290	0.207	0.0	0.0	11.2	1.15	81.1	39.2
14.007	50.00	8.19	4.260	0.207	0.0	0.0	11.2	1.60	113.3	39.2
17.000	50.00	5.29	5.400	0.035	0.0	0.0	1.9	1.48	26.1	6.6
18.000	50.00	5.14	5.130	0.035	0.0	0.0	1.9	1.51	26.7	6.6
17.001	50.00	5.47	4.850	0.070	0.0	0.0	3.8	0.91	16.1	13.3
17.002	50.00	5.95	4.770	0.070	0.0	0.0	3.8	1.14	20.1	13.3
1.018	50.00	30.00	5.250	0.977	0.0	0.0	52.9	1.43	101.3«	185.2
1.019	50.00	30.00	5.200	0.977	0.0	0.0	52.9	0.68	48.1«	185.2
1.020	50.00	30.00	5.180	0.977	0.0	0.0	52.9	0.79	56.0«	185.2
1.021	50.00	30.00	5.100	0.977	0.0	0.0	52.9	3.19	225.6	185.2

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Network Design Table for Surface Network 1

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
19.000	13.799	0.100	138.0	0.014	5.00	0.0	0.600	o	150	Pipe/Conduit	
19.001	21.664	0.240	90.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
20.000	8.199	0.750	10.9	0.028	5.00	0.0	0.600	o	150	Pipe/Conduit	
19.002	15.413	0.120	128.4	0.014	0.00	0.0	0.600	o	150	Pipe/Conduit	
19.003	20.973	0.150	139.8	0.014	0.00	0.0	0.600	o	150	Pipe/Conduit	
19.004	27.653	0.140	197.5	0.028	0.00	0.0	0.600	o	225	Pipe/Conduit	
19.005	29.912	0.170	176.0	0.028	0.00	0.0	0.600	o	225	Pipe/Conduit	
19.006	10.054	0.240	41.9	0.014	0.00	0.0	0.600	o	225	Pipe/Conduit	
19.007	20.595	0.660	31.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
19.008	6.292	0.040	157.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
21.000	4.298	0.000	0.0	0.020	5.00	0.0	0.600	o	150	Pipe/Conduit	
21.001	14.817	0.160	92.6	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
21.002	23.360	0.210	111.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
21.003	19.767	0.235	84.1	0.018	0.00	0.0	0.600	o	150	Pipe/Conduit	
21.004	10.130	0.080	126.6	0.036	0.00	0.0	0.600	o	225	Pipe/Conduit	
21.005	21.349	0.170	125.6	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
21.006	20.837	0.150	138.9	0.018	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)
19.000	50.00	5.27	5.660	0.014	0.0	0.0	0.8	0.85	15.1	2.7
19.001	50.00	5.61	5.560	0.014	0.0	0.0	0.8	1.06	18.7	2.7
20.000	50.00	5.04	6.070	0.028	0.0	0.0	1.5	3.06	54.2	5.3
19.002	50.00	5.90	5.320	0.056	0.0	0.0	3.0	0.89	15.6	10.6
19.003	50.00	6.31	5.200	0.070	0.0	0.0	3.8	0.85	15.0	13.3
19.004	50.00	6.81	4.975	0.098	0.0	0.0	5.3	0.93	36.8	18.6
19.005	50.00	7.32	4.860	0.126	0.0	0.0	6.8	0.98	39.1	23.9
19.006	50.00	7.40	4.690	0.140	0.0	0.0	7.6	2.03	80.6	26.5
19.007	50.00	7.59	5.450	0.140	0.0	0.0	7.6	1.81	32.0	26.5
19.008	50.00	7.72	4.790	0.140	0.0	0.0	7.6	0.80	14.1«	26.5
21.000	50.00	5.77	5.900	0.020	0.0	0.0	1.1	0.09	1.6«	3.8
21.001	50.00	6.01	6.450	0.020	0.0	0.0	1.1	1.04	18.5	3.8
21.002	50.00	6.42	6.290	0.020	0.0	0.0	1.1	0.95	16.8	3.8
21.003	50.00	6.72	6.080	0.038	0.0	0.0	2.1	1.10	19.4	7.2
21.004	50.00	6.86	5.770	0.074	0.0	0.0	4.0	1.16	46.1	14.0
21.005	50.00	7.17	5.690	0.074	0.0	0.0	4.0	1.17	46.3	14.0
21.006	50.00	7.48	5.520	0.092	0.0	0.0	5.0	1.11	44.0	17.4

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Network Design Table for Surface Network 1

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
22.000	26.569	0.530	50.1	0.036	5.00	0.0	0.600	o	150	Pipe/Conduit	
22.001	2.103	0.055	38.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
23.000	7.158	0.205	34.9	0.036	5.00	0.0	0.600	o	150	Pipe/Conduit	
21.007	26.521	0.240	110.5	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
21.008	10.259	0.120	85.5	0.027	0.00	0.0	0.600	o	225	Pipe/Conduit	
21.009	4.237	0.040	105.9	0.009	0.00	0.0	0.600	o	225	Pipe/Conduit	
21.010	3.485	0.295	11.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
19.009	7.791	0.150	51.9	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
19.010	24.064	0.200	120.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
19.011	11.457	0.070	163.7	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
24.000	18.358	0.150	122.4	0.022	5.00	0.0	0.600	o	150	Pipe/Conduit	
24.001	23.010	0.190	121.1	0.022	0.00	0.0	0.600	o	150	Pipe/Conduit	
24.002	11.017	0.170	64.8	0.022	0.00	0.0	0.600	o	150	Pipe/Conduit	
24.003	10.252	0.030	341.7	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
19.012	25.858	0.110	235.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
25.000	17.917	0.050	358.3	0.028	5.00	0.0	0.600	o	150	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)
22.000	50.00	5.31	6.030	0.036	0.0	0.0	1.9	1.42	25.2	6.8
22.001	50.00	5.33	5.500	0.036	0.0	0.0	1.9	1.63	28.9	6.8
23.000	50.00	5.07	5.650	0.036	0.0	0.0	1.9	1.71	30.2	6.8
21.007	50.00	7.84	5.370	0.164	0.0	0.0	8.9	1.24	49.4	31.1
21.008	50.00	7.96	5.130	0.191	0.0	0.0	10.3	1.42	56.3	36.2
21.009	50.00	8.01	5.010	0.200	0.0	0.0	10.8	1.27	50.5	37.9
21.010	50.00	8.03	5.045	0.200	0.0	0.0	10.8	2.95	52.1	37.9
19.009	50.00	8.13	4.900	0.340	0.0	0.0	18.4	1.40	24.7«	64.5
19.010	50.00	8.57	5.900	0.340	0.0	0.0	18.4	0.91	16.2«	64.5
19.011	50.00	8.81	5.770	0.340	0.0	0.0	18.4	0.78	13.8«	64.5
24.000	50.00	5.34	6.310	0.022	0.0	0.0	1.2	0.91	16.0	4.2
24.001	50.00	5.76	6.160	0.044	0.0	0.0	2.4	0.91	16.1	8.3
24.002	50.00	5.90	5.970	0.066	0.0	0.0	3.6	1.25	22.1	12.5
24.003	50.00	6.22	5.800	0.066	0.0	0.0	3.6	0.54	9.5«	12.5
19.012	50.00	9.47	6.020	0.406	0.0	0.0	22.0	0.65	11.5«	77.0
25.000	50.00	5.57	6.050	0.028	0.0	0.0	1.5	0.53	9.3	5.3

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Network Design Table for Surface Network 1

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
25.001	17.329	0.020	866.4	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
25.002	33.286	0.030	1109.5	0.028	0.00	0.0	0.600	o	150	Pipe/Conduit	
25.003	6.308	0.000	0.0	0.028	0.00	0.0	0.600	o	150	Pipe/Conduit	
25.004	18.925	0.010	1892.5	0.010	0.00	0.0	0.600	o	150	Pipe/Conduit	
25.005	8.662	0.000	0.0	0.010	0.00	0.0	0.600	o	150	Pipe/Conduit	
25.006	18.362	0.020	918.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
25.007	6.116	0.010	611.6	0.010	0.00	0.0	0.600	o	150	Pipe/Conduit	
26.000	46.370	0.050	927.4	0.011	5.00	0.0	0.600	o	300	Pipe/Conduit	
26.001	9.129	0.150	60.9	0.010	0.00	0.0	0.600	o	150	Pipe/Conduit	
26.002	16.992	0.050	339.8	0.010	0.00	0.0	0.600	o	150	Pipe/Conduit	
26.003	8.356	0.000	0.0	0.010	0.00	0.0	0.600	o	150	Pipe/Conduit	
26.004	12.917	0.090	143.5	0.010	0.00	0.0	0.600	o	150	Pipe/Conduit	
27.000	17.312	0.010	1731.2	0.031	5.00	0.0	0.600	o	150	Pipe/Conduit	
19.013	15.685	0.560	28.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
28.000	9.451	0.090	105.0	0.016	5.00	0.0	0.600	o	150	Pipe/Conduit	
28.001	9.804	0.290	33.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
19.014	34.119	0.450	75.8	0.000	0.00	0.0	0.600	o	150	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)
25.001	50.00	6.43	6.000	0.028	0.0	0.0	1.5	0.33	5.9	5.3
25.002	50.00	8.32	5.980	0.056	0.0	0.0	3.0	0.29	5.2«	10.6
25.003	50.00	9.46	5.950	0.084	0.0	0.0	4.5	0.09	1.6«	15.9
25.004	50.00	10.87	5.950	0.094	0.0	0.0	5.1	0.22	3.9«	17.8
25.005	50.00	12.43	5.940	0.104	0.0	0.0	5.6	0.09	1.6«	19.7
25.006	50.00	13.38	5.940	0.104	0.0	0.0	5.6	0.32	5.7«	19.7
25.007	50.00	13.63	5.920	0.114	0.0	0.0	6.2	0.40	7.1«	21.6
26.000	50.00	6.52	6.100	0.011	0.0	0.0	0.6	0.51	35.9	2.1
26.001	50.00	6.64	6.200	0.021	0.0	0.0	1.1	1.29	22.8	4.0
26.002	50.00	7.16	6.050	0.031	0.0	0.0	1.7	0.54	9.5	5.9
26.003	50.00	8.67	6.000	0.041	0.0	0.0	2.2	0.09	1.6«	7.8
26.004	50.00	8.92	6.000	0.051	0.0	0.0	2.8	0.84	14.8	9.7
27.000	50.00	6.24	6.060	0.031	0.0	0.0	1.7	0.23	4.1«	5.9
19.013	50.00	13.72	5.910	0.602	0.0	0.0	32.6	2.98	210.8	114.1
28.000	50.00	5.16	5.880	0.016	0.0	0.0	0.9	0.98	17.3	3.0
28.001	50.00	5.25	5.790	0.016	0.0	0.0	0.9	1.74	30.7	3.0
19.014	50.00	14.21	5.600	0.618	0.0	0.0	33.5	1.16	20.4«	117.2

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Network Design Table for Surface Network 1

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
29.000	7.073	0.190	37.2	0.016	5.00	0.0	0.600	o	150	Pipe/Conduit	
29.001	13.576	0.120	113.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
29.002	8.815	0.100	88.2	0.016	0.00	0.0	0.600	o	150	Pipe/Conduit	
19.015	23.076	0.290	79.6	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
30.000	9.323	0.390	23.9	0.036	5.00	0.0	0.600	o	150	Pipe/Conduit	
19.016	15.391	0.000	0.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
31.000	10.691	0.340	31.4	0.034	5.00	0.0	0.600	o	150	Pipe/Conduit	
19.017	14.640	0.130	112.6	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
32.000	19.257	0.200	96.3	0.024	5.00	0.0	0.600	o	150	Pipe/Conduit	
32.001	21.001	0.160	131.3	0.005	0.00	0.0	0.600	o	150	Pipe/Conduit	
32.002	6.741	0.060	112.4	0.005	0.00	0.0	0.600	o	150	Pipe/Conduit	
33.000	20.846	0.410	50.8	0.007	5.00	0.0	0.600	o	150	Pipe/Conduit	
32.003	7.942	0.030	264.7	0.007	0.00	0.0	0.600	o	150	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)
29.000	50.00	5.07	5.310	0.016	0.0	0.0	0.9	1.65	29.2	3.0
29.001	50.00	5.31	5.120	0.016	0.0	0.0	0.9	0.94	16.7	3.0
29.002	50.00	5.45	5.000	0.032	0.0	0.0	1.7	1.07	18.9	6.1
19.015	50.00	14.43	5.300	0.650	0.0	0.0	35.2	1.76	124.7	123.2
30.000	50.00	5.08	5.550	0.036	0.0	0.0	1.9	2.07	36.6	6.8
19.016	50.00	16.15	5.010	0.686	0.0	0.0	37.2	0.15	10.5«	130.1
31.000	50.00	5.10	5.500	0.034	0.0	0.0	1.8	1.80	31.8	6.4
19.017	50.00	16.32	5.010	0.720	0.0	0.0	39.0	1.48	104.7«	136.5
32.000	50.00	5.31	5.330	0.024	0.0	0.0	1.3	1.02	18.1	4.5
32.001	50.00	5.71	5.130	0.029	0.0	0.0	1.6	0.88	15.5	5.5
32.002	50.00	5.83	4.970	0.034	0.0	0.0	1.8	0.95	16.7	6.4
33.000	50.00	5.25	5.320	0.007	0.0	0.0	0.4	1.41	25.0	1.3
32.003	50.00	6.05	4.910	0.048	0.0	0.0	2.6	0.61	10.8	9.1

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Network Design Table for Surface Network 1

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
19.018	11.784	0.830	14.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
34.000	56.564	0.470	120.3	0.013	5.00	0.0	0.600	o	150	Pipe/Conduit	
35.000	4.645	0.620	7.5	0.026	5.00	0.0	0.600	o	150	Pipe/Conduit	
34.001	18.478	0.220	84.0	0.013	0.00	0.0	0.600	o	300	Pipe/Conduit	
34.002	12.434	0.070	177.6	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
34.003	14.555	0.090	161.7	0.013	0.00	0.0	0.600	o	300	Pipe/Conduit	
34.004	22.413	0.120	186.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
36.000	20.257	0.270	75.0	0.013	5.00	0.0	0.600	o	150	Pipe/Conduit	
19.019	4.632	0.030	154.4	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
37.000	9.059	1.100	8.2	0.026	5.00	0.0	0.600	o	150	Pipe/Conduit	
38.000	8.252	0.145	56.9	0.026	5.00	0.0	0.600	o	150	Pipe/Conduit	
19.020	11.644	0.150	77.6	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
19.021	32.158	0.260	123.7	0.000	0.00	0.0	0.600	o	150	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)
19.018	50.00	16.36	4.980	0.768	0.0	0.0	41.6	4.19	296.5	145.6
34.000	50.00	6.03	5.270	0.013	0.0	0.0	0.7	0.91	16.2	2.5
35.000	50.00	5.02	5.420	0.026	0.0	0.0	1.4	3.70	65.5	4.9
34.001	50.00	6.21	4.650	0.052	0.0	0.0	2.8	1.72	121.3	9.9
34.002	50.00	6.39	4.430	0.052	0.0	0.0	2.8	1.18	83.2	9.9
34.003	50.00	6.58	4.360	0.065	0.0	0.0	3.5	1.23	87.2	12.3
34.004	50.00	6.91	4.270	0.065	0.0	0.0	3.5	1.15	81.1	12.3
36.000	50.00	5.29	4.570	0.013	0.0	0.0	0.7	1.16	20.5	2.5
19.019	50.00	16.42	4.150	0.846	0.0	0.0	45.8	1.26	89.3«	160.4
37.000	50.00	5.04	5.220	0.026	0.0	0.0	1.4	3.53	62.4	4.9
38.000	50.00	5.10	4.265	0.026	0.0	0.0	1.4	1.34	23.6	4.9
19.020	50.00	16.59	4.270	0.898	0.0	0.0	48.6	1.14	20.2«	170.2
19.021	50.00	17.19	4.720	0.898	0.0	0.0	48.6	0.90	15.9«	170.2

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Network Design Table for Surface Network 1

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
19.022	6.651	0.425	15.6	0.032	0.00	0.0	0.600	o	150	Pipe/Conduit	
39.000	5.810	0.300	19.4	0.023	5.00	0.0	0.600	o	150	Pipe/Conduit	
39.001	14.385	0.150	95.9	0.012	0.00	0.0	0.600	o	150	Pipe/Conduit	
39.002	7.928	0.085	93.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
40.000	6.955	0.060	115.9	0.018	5.00	0.0	0.600	o	225	Pipe/Conduit	
19.023	4.513	0.030	150.4	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
19.024	8.201	0.145	56.6	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.022	17.390	0.100	173.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.023	28.438	0.500	56.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.024	58.677	1.400	41.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
41.000	11.954	0.120	99.6	0.013	5.00	0.0	0.600	o	150	Pipe/Conduit	
42.000	7.349	0.560	13.1	0.026	5.00	0.0	0.600	o	150	Pipe/Conduit	
41.001	22.295	0.255	87.4	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
43.000	6.317	0.630	10.0	0.026	5.00	0.0	0.600	o	150	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)
19.022	50.00	17.23	4.460	0.930	0.0	0.0	50.4	2.56	45.2«	176.3
39.000	50.00	5.04	4.570	0.023	0.0	0.0	1.2	2.30	40.6	4.4
39.001	50.00	5.28	4.270	0.035	0.0	0.0	1.9	1.03	18.1	6.6
39.002	50.00	5.40	4.120	0.035	0.0	0.0	1.9	1.04	18.4	6.6
40.000	50.00	5.10	4.020	0.018	0.0	0.0	1.0	1.21	48.2	3.4
19.023	50.00	17.30	3.960	0.983	0.0	0.0	53.2	1.06	42.3«	186.4
19.024	50.00	17.38	3.930	0.983	0.0	0.0	53.2	1.74	69.3«	186.4
1.022	50.00	30.00	4.800	1.960	0.0	0.0	106.2	1.19	84.1«	371.6
1.023	50.00	30.00	4.700	1.960	0.0	0.0	106.2	2.09	147.7«	371.6
1.024	50.00	30.00	4.800	1.960	0.0	0.0	106.2	2.44	172.2«	371.6
41.000	50.00	5.20	4.280	0.013	0.0	0.0	0.7	1.01	17.8	2.5
42.000	50.00	5.04	4.720	0.026	0.0	0.0	1.4	2.80	49.4	4.9
41.001	50.00	5.54	4.160	0.039	0.0	0.0	2.1	1.08	19.0	7.4
43.000	50.00	5.03	4.650	0.026	0.0	0.0	1.4	3.20	56.6	4.9

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Network Design Table for Surface Network 1

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
43.001	6.785	0.115	59.0	0.013	0.00	0.0	0.600	o	150	Pipe/Conduit	
41.002	11.709	0.150	78.1	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
41.003	27.011	0.200	135.1	0.013	0.00	0.0	0.600	o	225	Pipe/Conduit	
44.000	6.461	0.675	9.6	0.026	5.00	0.0	0.600	o	150	Pipe/Conduit	
41.004	6.311	0.005	1262.2	0.013	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.025	20.213	0.500	40.4	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.026	20.756	0.300	69.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
45.000	15.268	0.250	61.1	0.033	5.00	0.0	0.600	o	150	Pipe/Conduit	
45.001	17.732	0.100	177.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
45.002	13.608	0.110	123.7	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
45.003	19.693	0.160	123.1	0.019	0.00	0.0	0.600	o	150	Pipe/Conduit	
45.004	6.536	0.375	17.4	0.005	0.00	0.0	0.600	o	150	Pipe/Conduit	
46.000	12.734	0.025	509.4	0.010	5.00	0.0	0.600	o	150	Pipe/Conduit	
45.005	14.384	0.120	119.9	0.019	0.00	0.0	0.600	o	225	Pipe/Conduit	
45.006	24.977	0.200	124.9	0.014	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)
43.001	50.00	5.12	4.020	0.039	0.0	0.0	2.1	1.31	23.2	7.4
41.002	50.00	5.68	3.830	0.078	0.0	0.0	4.2	1.48	58.9	14.8
41.003	50.00	6.08	3.680	0.091	0.0	0.0	4.9	1.12	44.7	17.3
44.000	50.00	5.03	4.230	0.026	0.0	0.0	1.4	3.28	57.9	4.9
41.004	50.00	6.37	3.480	0.130	0.0	0.0	7.0	0.36	14.3«	24.6
1.025	50.00	30.00	4.500	2.090	0.0	0.0	113.2	2.48	175.3«	396.2
1.026	50.00	30.00	4.000	2.090	0.0	0.0	113.2	1.89	133.8«	396.2
45.000	50.00	5.20	6.150	0.033	0.0	0.0	1.8	1.29	22.8	6.3
45.001	50.00	5.59	6.100	0.033	0.0	0.0	1.8	0.75	13.3	6.3
45.002	50.00	5.84	6.000	0.033	0.0	0.0	1.8	0.90	15.9	6.3
45.003	50.00	6.20	5.890	0.052	0.0	0.0	2.8	0.90	16.0	9.9
45.004	50.00	6.25	5.730	0.057	0.0	0.0	3.1	2.42	42.8	10.8
46.000	50.00	5.48	5.380	0.010	0.0	0.0	0.5	0.44	7.8	1.9
45.005	50.00	6.45	5.280	0.086	0.0	0.0	4.7	1.19	47.4	16.3
45.006	50.00	6.81	5.160	0.100	0.0	0.0	5.4	1.17	46.5	19.0

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Network Design Table for Surface Network 1

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
45.007	8.469	0.080	105.9	0.029	0.00	0.0	0.600	o	225	Pipe/Conduit	
45.008	6.810	0.030	227.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
45.009	12.786	0.300	42.6	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
45.010	10.147	0.100	101.5	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
45.011	21.490	0.300	71.6	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
47.000	12.129	0.100	121.3	0.021	5.00	0.0	0.600	o	150	Pipe/Conduit	
47.001	3.838	0.210	18.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
45.012	18.379	0.050	367.6	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
45.013	18.447	0.050	368.9	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
48.000	14.874	0.610	24.4	0.017	5.00	0.0	0.600	o	150	Pipe/Conduit	
49.000	7.319	0.940	7.8	0.011	5.00	0.0	0.600	o	150	Pipe/Conduit	
48.001	14.874	0.190	78.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
48.002	12.797	0.170	75.3	0.011	0.00	0.0	0.600	o	150	Pipe/Conduit	
48.003	7.578	0.060	126.3	0.004	0.00	0.0	0.600	o	150	Pipe/Conduit	
48.004	4.811	0.090	53.5	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
45.014	24.774	0.600	41.3	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)
45.007	50.00	6.92	4.960	0.129	0.0	0.0	7.0	1.27	50.5	24.5
45.008	50.00	7.05	4.880	0.129	0.0	0.0	7.0	0.86	34.3	24.5
45.009	50.00	7.16	6.300	0.129	0.0	0.0	7.0	2.01	79.9	24.5
45.010	50.00	7.29	6.100	0.129	0.0	0.0	7.0	1.30	51.6	24.5
45.011	50.00	7.52	6.100	0.129	0.0	0.0	7.0	1.55	61.5	24.5
47.000	50.00	5.22	5.560	0.021	0.0	0.0	1.1	0.91	16.1	4.0
47.001	50.00	5.25	5.460	0.021	0.0	0.0	1.1	2.37	41.8	4.0
45.012	50.00	7.97	5.800	0.150	0.0	0.0	8.1	0.68	26.9«	28.4
45.013	50.00	8.43	5.750	0.150	0.0	0.0	8.1	0.67	26.8«	28.4
48.000	50.00	5.12	5.620	0.017	0.0	0.0	0.9	2.05	36.2	3.2
49.000	50.00	5.03	5.950	0.011	0.0	0.0	0.6	3.63	64.2	2.1
48.001	50.00	5.34	5.010	0.028	0.0	0.0	1.5	1.14	20.1	5.3
48.002	50.00	5.52	4.820	0.039	0.0	0.0	2.1	1.16	20.5	7.4
48.003	50.00	5.66	4.650	0.043	0.0	0.0	2.3	0.89	15.8	8.2
48.004	50.00	5.72	4.590	0.043	0.0	0.0	2.3	1.38	24.4	8.2
45.014	50.00	8.63	5.700	0.193	0.0	0.0	10.5	2.04	81.2	36.6

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Network Design Table for Surface Network 1

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
50.000	10.476	0.100	104.8	0.034	5.00	0.0	0.600	o	150	Pipe/Conduit	
50.001	17.287	0.180	96.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
50.002	11.447	0.650	17.6	0.011	0.00	0.0	0.600	o	150	Pipe/Conduit	
50.003	6.381	0.050	127.6	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
45.015	22.453	0.000	0.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
51.000	11.028	0.090	122.5	0.034	5.00	0.0	0.600	o	150	Pipe/Conduit	
51.001	6.465	0.055	117.5	0.008	0.00	0.0	0.600	o	150	Pipe/Conduit	
51.002	7.461	0.050	149.2	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
51.003	20.542	0.120	171.2	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
52.000	6.398	0.665	9.6	0.017	5.00	0.0	0.600	o	150	Pipe/Conduit	
51.004	25.121	0.135	186.1	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
53.000	7.911	0.110	71.9	0.017	5.00	0.0	0.600	o	150	Pipe/Conduit	
51.005	14.419	0.120	120.2	0.034	0.00	0.0	0.600	o	300	Pipe/Conduit	
54.000	5.913	0.130	45.5	0.017	5.00	0.0	0.600	o	150	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)
50.000	50.00	5.18	5.430	0.034	0.0	0.0	1.8	0.98	17.3	6.4
50.001	50.00	5.46	5.330	0.034	0.0	0.0	1.8	1.03	18.1	6.4
50.002	50.00	5.54	5.150	0.045	0.0	0.0	2.4	2.41	42.6	8.5
50.003	50.00	5.66	4.500	0.045	0.0	0.0	2.4	0.89	15.7	8.5
45.015	50.00	11.68	5.100	0.238	0.0	0.0	12.9	0.12	4.9«	45.1
51.000	50.00	5.20	5.650	0.034	0.0	0.0	1.8	0.91	16.0	6.4
51.001	50.00	5.32	5.580	0.042	0.0	0.0	2.3	0.93	16.4	8.0
51.002	50.00	5.44	5.450	0.042	0.0	0.0	2.3	1.07	42.5	8.0
51.003	50.00	5.78	5.400	0.042	0.0	0.0	2.3	1.00	39.6	8.0
52.000	50.00	5.03	6.020	0.017	0.0	0.0	0.9	3.27	57.7	3.2
51.004	50.00	6.22	5.280	0.059	0.0	0.0	3.2	0.96	38.0	11.2
53.000	50.00	5.11	5.330	0.017	0.0	0.0	0.9	1.19	21.0	3.2
51.005	50.00	6.39	5.070	0.110	0.0	0.0	6.0	1.43	101.3	20.9
54.000	50.00	5.07	5.230	0.017	0.0	0.0	0.9	1.50	26.4	3.2

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Network Design Table for Surface Network 1

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
51.006	35.195	0.440	80.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
55.000	4.192	0.400	10.5	0.034	5.00	0.0	0.600	o	150	Pipe/Conduit	
51.007	23.594	0.250	94.4	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
51.008	9.979	0.060	166.3	0.017	0.00	0.0	0.600	o	300	Pipe/Conduit	
51.009	5.909	0.100	59.1	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
51.010	4.450	0.020	222.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
45.016	22.062	0.100	220.6	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
56.000	6.067	0.040	151.7	0.008	5.00	0.0	0.600	o	300	Pipe/Conduit	
56.001	4.644	0.020	232.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
45.017	27.200	0.400	68.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
57.000	19.027	0.530	35.9	0.021	5.00	0.0	0.600	o	150	Pipe/Conduit	
57.001	10.816	0.100	108.2	0.011	0.00	0.0	0.600	o	150	Pipe/Conduit	
57.002	14.972	0.130	115.2	0.011	0.00	0.0	0.600	o	150	Pipe/Conduit	
57.003	3.822	0.170	22.5	0.000	0.00	0.0	0.600	o	150	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)
51.006	50.00	6.72	4.950	0.127	0.0	0.0	6.9	1.76	124.4	24.1
55.000	50.00	5.02	5.060	0.034	0.0	0.0	1.8	3.13	55.3	6.4
51.007	50.00	6.96	4.510	0.161	0.0	0.0	8.7	1.62	114.4	30.5
51.008	50.00	7.10	4.260	0.178	0.0	0.0	9.6	1.22	86.0	33.7
51.009	50.00	7.15	4.200	0.178	0.0	0.0	9.6	2.05	144.9	33.7
51.010	50.00	7.22	4.100	0.178	0.0	0.0	9.6	1.05	74.2	33.7
45.016	50.00	12.03	5.100	0.416	0.0	0.0	22.5	1.05	74.5«	78.9
56.000	50.00	5.08	4.140	0.008	0.0	0.0	0.4	1.27	90.1	1.5
56.001	50.00	5.15	4.100	0.008	0.0	0.0	0.4	1.03	72.6	1.5
45.017	50.00	12.27	5.000	0.424	0.0	0.0	23.0	1.91	135.0	80.4
57.000	50.00	5.19	5.180	0.021	0.0	0.0	1.1	1.69	29.8	4.0
57.001	50.00	5.37	4.650	0.032	0.0	0.0	1.7	0.97	17.1	6.1
57.002	50.00	5.64	4.550	0.043	0.0	0.0	2.3	0.94	16.5	8.2
57.003	50.00	5.67	4.420	0.043	0.0	0.0	2.3	2.13	37.7	8.2

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Network Design Table for Surface Network 1

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
45.018	10.385	0.000	0.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
45.019	14.589	0.050	291.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
45.020	13.735	0.000	0.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
45.021	12.519	0.000	0.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
58.000	22.046	0.190	116.0	0.017	5.00	0.0	0.600	o	150	Pipe/Conduit	
58.001	9.725	0.090	108.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
59.000	6.462	0.770	8.4	0.033	5.00	0.0	0.600	o	150	Pipe/Conduit	
58.002	19.638	0.280	70.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
60.000	7.982	0.850	9.4	0.025	5.00	0.0	0.600	o	150	Pipe/Conduit	
60.001	10.368	0.300	34.6	0.017	0.00	0.0	0.600	o	150	Pipe/Conduit	
58.003	13.666	0.080	170.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
58.004	46.757	0.250	187.0	0.017	0.00	0.0	0.600	o	300	Pipe/Conduit	
61.000	4.985	0.430	11.6	0.033	5.00	0.0	0.600	o	150	Pipe/Conduit	
58.005	12.346	0.050	246.9	0.017	0.00	0.0	0.600	o	300	Pipe/Conduit	
58.006	5.698	0.020	284.9	0.008	0.00	0.0	0.600	o	300	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)
45.018	50.00	13.43	4.600	0.467	0.0	0.0	25.3	0.15	10.5«	88.5
45.019	50.00	13.69	4.600	0.467	0.0	0.0	25.3	0.92	64.7«	88.5
45.020	50.00	15.23	4.550	0.467	0.0	0.0	25.3	0.15	10.5«	88.5
45.021	50.00	16.63	4.550	0.467	0.0	0.0	25.3	0.15	10.5«	88.5
58.000	50.00	5.39	4.860	0.017	0.0	0.0	0.9	0.93	16.5	3.2
58.001	50.00	5.56	4.670	0.017	0.0	0.0	0.9	0.97	17.1	3.2
59.000	50.00	5.03	5.350	0.033	0.0	0.0	1.8	3.50	61.8	6.3
58.002	50.00	5.83	4.580	0.050	0.0	0.0	2.7	1.20	21.2	9.5
60.000	50.00	5.04	5.450	0.025	0.0	0.0	1.4	3.31	58.5	4.7
60.001	50.00	5.14	4.600	0.042	0.0	0.0	2.3	1.72	30.4	8.0
58.003	50.00	6.02	4.150	0.092	0.0	0.0	5.0	1.20	84.8	17.4
58.004	50.00	6.70	4.070	0.109	0.0	0.0	5.9	1.15	81.0	20.7
61.000	50.00	5.03	4.400	0.033	0.0	0.0	1.8	2.98	52.6	6.3
58.005	50.00	6.91	3.820	0.159	0.0	0.0	8.6	1.00	70.4	30.1
58.006	50.00	7.01	3.770	0.167	0.0	0.0	9.0	0.93	65.5	31.7

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Network Design Table for Surface Network 1

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
58.007	3.876	0.000	0.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
45.022	32.579	0.200	162.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
62.000	11.089	0.290	38.2	0.018	5.00	0.0	0.600	o	150	Pipe/Conduit	
62.001	22.582	0.150	150.5	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
45.023	9.002	0.500	18.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.027	9.559	0.050	191.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.028	4.451	0.050	89.0	0.000	0.00	0.0	0.600	o	300	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)
58.007	50.00	7.45	3.750	0.167	0.0	0.0	9.0	0.15	10.5«	31.7
45.022	50.00	17.07	4.550	0.634	0.0	0.0	34.3	1.23	86.9«	120.2
62.000	50.00	5.11	4.540	0.018	0.0	0.0	1.0	1.63	28.9	3.4
62.001	50.00	5.57	4.500	0.018	0.0	0.0	1.0	0.82	14.4	3.4
45.023	50.00	17.11	4.200	0.652	0.0	0.0	35.3	3.72	263.2	123.6
1.027	50.00	30.00	3.700	2.742	0.0	0.0	148.5	1.13	80.1«	519.8
1.028	50.00	30.00	3.650	2.742	0.0	0.0	148.5	1.67	117.8«	519.8

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Manhole Schedules for Surface Network 1

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
S1	6.900	1.300	Open Manhole	1200	1.000	5.600	150				
S2	6.900	1.300	Open Manhole	1200	1.001	6.200	150	1.000	5.600	150	
S3	6.900	0.750	Open Manhole	1200	1.002	6.150	150	1.001	6.150	150	
S4	7.180	1.290	Open Manhole	1200	1.003	5.890	150	1.002	5.890	150	
S5	6.900	1.650	Open Manhole	1200	1.004	5.250	300	1.003	5.840	150	440
S6	7.300	0.900	Open Manhole	1200	2.000	6.400	150				
S7	7.200	1.200	Open Manhole	1200	2.001	6.000	150	2.000	6.000	150	
S8	7.261	1.341	Open Manhole	1200	2.002	5.920	150	2.001	5.920	150	
S9	7.083	1.253	Open Manhole	1200	2.003	5.830	150	2.002	5.830	150	
S10	6.809	1.249	Open Manhole	1200	2.004	5.560	150	2.003	5.560	150	
S11	6.900	1.380	Open Manhole	1200	2.005	5.520	150	2.004	5.520	150	
S12	6.900	1.650	Open Manhole	1200	1.005	5.250	300	1.004	5.250	300	
								2.005	5.510	150	110
S13	7.227	1.347	Open Manhole	1200	3.000	5.880	150				
S14	7.280	1.460	Open Manhole	1200	3.001	5.820	150	3.000	5.820	150	
S15	7.290	1.550	Open Manhole	1200	3.002	5.740	150	3.001	5.740	150	
S16	7.277	1.577	Open Manhole	1200	3.003	5.700	150	3.002	5.700	150	
S17	7.378	1.678	Open Manhole	1200	3.004	6.500	150	3.003	5.700	150	
S18	7.323	1.283	Open Manhole	1200	3.005	6.040	150	3.004	6.040	150	
S19	7.436	1.336	Open Manhole	1200	4.000	6.100	150				
S20	7.300	1.310	Open Manhole	1200	3.006	5.990	150	3.005	5.990	150	
								4.000	5.990	150	
S21	7.180	1.300	Open Manhole	1200	3.007	5.880	150	3.006	5.880	150	
S255	7.071	1.651	Open Manhole	1200	5.000	5.420	150				
S254	7.104	1.684	Open Manhole	1200	5.001	6.020	150	5.000	5.420	150	
S22	7.000	1.010	Open Manhole	1200	5.002	5.990	150	5.001	5.990	150	
S23	7.150	0.800	Open Manhole	1200	6.000	6.350	150				
S24	7.100	1.380	Open Manhole	1200	3.008	5.720	225	3.007	5.795	150	
								5.002	5.795	150	
								6.000	5.795	150	
S26	6.898	1.468	Open Manhole	1200	3.009	5.430	300	3.008	5.505	225	
S27	6.826	1.436	Open Manhole	1200	3.010	5.390	300	3.009	5.390	300	
S28	6.679	1.359	Open Manhole	1200	3.011	5.320	300	3.010	5.320	300	
S29	6.566	1.109	Open Manhole	1200	7.000	5.457	150				
S30	6.484	1.264	Open Manhole	1200	3.012	5.220	300	3.011	5.220	300	
								7.000	5.370	150	
S31	6.514	1.334	Open Manhole	1200	3.013	5.180	300	3.012	5.180	300	
S32	6.900	1.750	Open Manhole	1200	1.006	5.150	300	1.005	5.150	300	

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Manhole Schedules for Surface Network 1

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
								3.013	5.150	300	
S33	6.400	0.850	Open Manhole	1200	8.000	5.550	150				
S34	6.350	1.000	Open Manhole	1200	9.000	5.350	150				
S35	6.350	1.060	Open Manhole	1200	8.001	5.290	150	8.000	5.290	150	
								9.000	5.290	150	
S36	6.900	1.780	Open Manhole	1200	1.007	5.120	300	1.006	5.120	300	
								8.001	5.270	150	
S37	6.400	1.280	Open Manhole	1200	1.008	5.650	300	1.007	5.120	300	
S38	6.400	0.800	Open Manhole	1200	1.009	5.750	150	1.008	5.600	300	
S39	6.200	1.240	Open Manhole	1200	1.010	4.960	150	1.009	4.960	150	
S112	7.000	0.950	Open Manhole	1200	10.000	6.050	150				
S111	6.800	0.900	Open Manhole	1200	10.001	5.900	150	10.000	5.900	150	
S40	6.800	1.000	Open Manhole	1200	10.002	5.800	150	10.001	5.800	150	
S41	6.900	1.220	Open Manhole	1200	10.003	5.680	150	10.002	5.680	150	
S42	6.900	1.290	Open Manhole	1200	10.004	5.610	150	10.003	5.610	150	
S256	6.739	1.349	Open Manhole	1200	11.000	5.390	150				
S43	6.618	1.358	Open Manhole	1200	10.005	5.260	150	10.004	5.260	150	
								11.000	5.260	150	
S44	6.482	1.332	Open Manhole	1200	10.006	5.150	150	10.005	5.150	150	
S45	6.293	1.293	Open Manhole	1200	10.007	5.000	150	10.006	5.000	150	
S46	6.096	1.146	Open Manhole	1200	10.008	4.950	150	10.007	4.950	150	
S47	6.095	1.195	Open Manhole	1200	10.009	4.900	150	10.008	4.900	150	
S48	6.450	1.600	Open Manhole	1200	1.011	4.850	150	1.010	4.850	150	
								10.009	4.850	150	
S49	5.800	1.000	Open Manhole	1200	1.012	5.550	150	1.011	4.800	150	
S50	6.000	0.880	Open Manhole	1200	1.013	5.120	150	1.012	5.500	150	380
S51	6.150	0.900	Open Manhole	1200	12.000	5.250	150				
S52	6.000	0.940	Open Manhole	1200	12.001	5.060	150	12.000	5.060	150	
S53	6.000	0.940	Open Manhole	1200	1.014	5.060	150	1.013	5.060	150	
								12.001	5.060	150	
S54	6.000	1.000	Open Manhole	1200	1.015	5.000	150	1.014	5.000	150	
S55	5.800	1.300	Open Manhole	1200	1.016	4.500	150	1.015	4.500	150	
S56	6.134	1.344	Open Manhole	1200	13.000	4.790	150				
S57	5.996	1.346	Open Manhole	1200	13.001	4.650	150	13.000	4.650	150	
S58	5.916	1.356	Open Manhole	1200	13.002	4.560	150	13.001	4.560	150	
S59	5.807	1.357	Open Manhole	1200	13.003	4.450	150	13.002	4.450	150	
S60	5.750	1.500	Open Manhole	1200	1.017	4.350	150	1.016	4.250	150	
								13.003	4.250	150	

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Manhole Schedules for Surface Network 1

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
S61	7.050	0.750	Open Manhole	1200	14.000	6.300	150				
S62	6.900	0.860	Open Manhole	1200	15.000	6.040	150				
S63	6.900	1.190	Open Manhole	1200	14.001	5.710	150	14.000	5.710	150	
								15.000	5.710	150	
S64	6.450	0.940	Open Manhole	1200	14.002	5.510	150	14.001	5.510	150	
S65	6.574	1.544	Open Manhole	1200	14.003	5.030	300	14.002	5.180	150	
S66	6.237	1.497	Open Manhole	1200	14.004	4.740	300	14.003	4.740	300	
S67	6.750	1.100	Open Manhole	1200	16.000	5.650	150				
S68	6.160	1.070	Open Manhole	1200	16.001	5.090	150	16.000	5.090	150	
S69	5.886	1.496	Open Manhole	1200	14.005	4.390	300	14.004	4.390	300	
								16.001	4.540	150	
S70	5.667	1.377	Open Manhole	1200	14.006	4.290	300	14.005	4.290	300	
S71	5.900	1.640	Open Manhole	1200	14.007	4.260	300	14.006	4.260	300	
S72	6.150	0.750	Open Manhole	1200	17.000	5.400	150				
S73	5.850	0.720	Open Manhole	1200	18.000	5.130	150				
S74	6.000	1.150	Open Manhole	1200	17.001	4.850	150	17.000	4.850	150	
								18.000	4.850	150	
S75	6.000	1.230	Open Manhole	1200	17.002	4.770	150	17.001	4.770	150	
S76	5.750	1.550	Open Manhole	1200	1.018	5.250	300	1.017	4.250	150	
								14.007	4.200	300	
								17.002	4.350	150	
S77	5.750	0.550	Open Manhole	1200	1.019	5.200	300	1.018	5.200	300	
S78	5.750	0.570	Open Manhole	1200	1.020	5.180	300	1.019	5.180	300	
S79	5.500	0.400	Open Manhole	1200	1.021	5.100	300	1.020	5.100	300	
S80	7.005	1.345	Open Manhole	1200	19.000	5.660	150				
S81	6.895	1.335	Open Manhole	1200	19.001	5.560	150	19.000	5.560	150	
S82	6.950	0.880	Open Manhole	1200	20.000	6.070	150				
S83	6.669	1.349	Open Manhole	1200	19.002	5.320	150	19.001	5.320	150	
								20.000	5.320	150	
S84	6.529	1.329	Open Manhole	1200	19.003	5.200	150	19.002	5.200	150	
S85	6.499	1.524	Open Manhole	1200	19.004	4.975	225	19.003	5.050	150	
S86	6.497	1.662	Open Manhole	1200	19.005	4.860	225	19.004	4.835	225	
S87	6.600	1.910	Open Manhole	1200	19.006	4.690	225	19.005	4.690	225	
S88	6.550	2.100	Open Manhole	1200	19.007	5.450	150	19.006	4.450	225	
S89	6.550	1.760	Open Manhole	1200	19.008	4.790	150	19.007	4.790	150	
S253	7.300	1.400	Open Manhole	1200	21.000	5.900	150				
S90	7.300	1.400	Open Manhole	1200	21.001	6.450	150	21.000	5.900	150	
S91	7.633	1.343	Open Manhole	1200	21.002	6.290	150	21.001	6.290	150	

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Manhole Schedules for Surface Network 1

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
S92	7.429	1.349	Open Manhole	1200	21.003	6.080	150	21.002	6.080	150	
S93	7.250	1.480	Open Manhole	1200	21.004	5.770	225	21.003	5.845	150	
S94	7.164	1.474	Open Manhole	1200	21.005	5.690	225	21.004	5.690	225	
S95	6.981	1.461	Open Manhole	1200	21.006	5.520	225	21.005	5.520	225	
S96	6.969	0.939	Open Manhole	1200	22.000	6.030	150				
S97	6.780	1.280	Open Manhole	1200	22.001	5.500	150	22.000	5.500	150	
S98	6.780	1.130	Open Manhole	1200	23.000	5.650	150				
S99	6.800	1.430	Open Manhole	1200	21.007	5.370	225	21.006	5.370	225	
								22.001	5.445	150	
								23.000	5.445	150	
S100	6.536	1.406	Open Manhole	1200	21.008	5.130	225	21.007	5.130	225	
S101	6.430	1.420	Open Manhole	1200	21.009	5.010	225	21.008	5.010	225	
S102	6.550	1.580	Open Manhole	1200	21.010	5.045	150	21.009	4.970	225	
S103	6.556	1.806	Open Manhole	1200	19.009	4.900	150	19.008	4.750	150	
								21.010	4.750	150	
S104	6.556	1.806	Open Manhole	1200	19.010	5.900	150	19.009	4.750	150	
S105	6.900	1.200	Open Manhole	1200	19.011	5.770	150	19.010	5.700	150	
S106	7.120	0.810	Open Manhole	1200	24.000	6.310	150				
S107	7.200	1.040	Open Manhole	1200	24.001	6.160	150	24.000	6.160	150	
S108	6.906	0.936	Open Manhole	1200	24.002	5.970	150	24.001	5.970	150	
S109	6.900	1.100	Open Manhole	1200	24.003	5.800	150	24.002	5.800	150	
S110	6.900	1.200	Open Manhole	1200	19.012	6.020	150	19.011	5.700	150	
								24.003	5.770	150	
S113	7.000	0.950	Open Manhole	1200	25.000	6.050	150				
S114	6.804	0.804	Open Manhole	1200	25.001	6.000	150	25.000	6.000	150	
S115	6.849	0.869	Open Manhole	1200	25.002	5.980	150	25.001	5.980	150	
S116	7.100	1.150	Open Manhole	1200	25.003	5.950	150	25.002	5.950	150	
S117	7.100	1.150	Open Manhole	1200	25.004	5.950	150	25.003	5.950	150	
S118	7.000	1.060	Open Manhole	1200	25.005	5.940	150	25.004	5.940	150	
S119	7.000	1.060	Open Manhole	1200	25.006	5.940	150	25.005	5.940	150	
S120	6.750	0.830	Open Manhole	1200	25.007	5.920	150	25.006	5.920	150	
S121	6.900	0.800	Open Manhole	1200	26.000	6.100	300				
S122	7.100	1.050	Open Manhole	1200	26.001	6.200	150	26.000	6.050	300	
S123	7.105	1.055	Open Manhole	1200	26.002	6.050	150	26.001	6.050	150	
S124	6.900	0.900	Open Manhole	1200	26.003	6.000	150	26.002	6.000	150	
S125	6.719	0.719	Open Manhole	1200	26.004	6.000	150	26.003	6.000	150	
S126	6.753	0.693	Open Manhole	1200	27.000	6.060	150				
S127	6.753	0.843	Open Manhole	1200	19.013	5.910	300	19.012	5.910	150	

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Manhole Schedules for Surface Network 1

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
								25.007	5.910	150	
								26.004	5.910	150	
								27.000	6.050	150	
S128	6.700	0.820	Open Manhole	1200	28.000	5.880	150				
S129	6.665	0.875	Open Manhole	1200	28.001	5.790	150	28.000	5.790	150	
S130	6.800	1.450	Open Manhole	1200	19.014	5.600	150	19.013	5.350	300	
								28.001	5.500	150	
S131	6.577	1.267	Open Manhole	1200	29.000	5.310	150				
S132	6.474	1.354	Open Manhole	1200	29.001	5.120	150	29.000	5.120	150	
S133	6.320	1.320	Open Manhole	1200	29.002	5.000	150	29.001	5.000	150	
S134	6.600	1.700	Open Manhole	1200	19.015	5.300	300	19.014	5.150	150	
								29.002	4.900	150	
S135	6.370	0.820	Open Manhole	1200	30.000	5.550	150				
S136	6.600	1.590	Open Manhole	1200	19.016	5.010	300	19.015	5.010	300	
								30.000	5.160	150	
S137	6.250	0.750	Open Manhole	1200	31.000	5.500	150				
S138	5.938	0.928	Open Manhole	1200	19.017	5.010	300	19.016	5.010	300	
								31.000	5.160	150	
S139	6.250	0.920	Open Manhole	1200	32.000	5.330	150				
S140	6.000	0.870	Open Manhole	1200	32.001	5.130	150	32.000	5.130	150	
S141	5.770	0.800	Open Manhole	1200	32.002	4.970	150	32.001	4.970	150	
S142	6.074	0.754	Open Manhole	1200	33.000	5.320	150				
S143	6.070	1.160	Open Manhole	1200	32.003	4.910	150	32.002	4.910	150	
								33.000	4.910	150	
S144	5.900	1.020	Open Manhole	1200	19.018	4.980	300	19.017	4.880	300	
								32.003	4.880	150	
S145	6.617	1.347	Open Manhole	1200	34.000	5.270	150				
S146	6.610	1.190	Open Manhole	1200	35.000	5.420	150				
S147	6.152	1.502	Open Manhole	1200	34.001	4.650	300	34.000	4.800	150	
								35.000	4.800	150	
S148	5.993	1.563	Open Manhole	1200	34.002	4.430	300	34.001	4.430	300	
S149	5.898	1.538	Open Manhole	1200	34.003	4.360	300	34.002	4.360	300	
S150	5.782	1.512	Open Manhole	1200	34.004	4.270	300	34.003	4.270	300	
S151	5.920	1.350	Open Manhole	1200	36.000	4.570	150				
S152	5.640	1.490	Open Manhole	1200	19.019	4.150	300	19.018	4.150	300	
								34.004	4.150	300	
								36.000	4.300	150	
S153	5.970	0.750	Open Manhole	1200	37.000	5.220	150				

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Manhole Schedules for Surface Network 1

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
S154	5.615	1.350	Open Manhole	1200	38.000	4.265	150				
S155	5.780	1.660	Open Manhole	1200	19.020	4.270	150	19.019	4.120	300	
								37.000	4.120	150	
								38.000	4.120	150	
S156	5.780	1.660	Open Manhole	1200	19.021	4.720	150	19.020	4.120	150	
S157	5.630	1.170	Open Manhole	1200	19.022	4.460	150	19.021	4.460	150	
S158	5.750	1.180	Open Manhole	1200	39.000	4.570	150				
S159	5.617	1.347	Open Manhole	1200	39.001	4.270	150	39.000	4.270	150	
S160	5.474	1.354	Open Manhole	1200	39.002	4.120	150	39.001	4.120	150	
S161	5.367	1.347	Open Manhole	1200	40.000	4.020	225				
S162	5.397	1.437	Open Manhole	1200	19.023	3.960	225	19.022	4.035	150	
								39.002	4.035	150	
								40.000	3.960	225	
S163	5.400	1.470	Open Manhole	1200	19.024	3.930	225	19.023	3.930	225	
S164	5.500	1.790	Open Manhole	1200	1.022	4.800	300	1.021	3.710	300	
								19.024	3.785	225	
S165	5.200	0.500	Open Manhole	1200	1.023	4.700	300	1.022	4.700	300	
S166	5.200	1.000	Open Manhole	1200	1.024	4.800	300	1.023	4.200	300	
S167	5.634	1.354	Open Manhole	1200	41.000	4.280	150				
S168	5.643	0.923	Open Manhole	1200	42.000	4.720	150				
S169	5.505	1.345	Open Manhole	1200	41.001	4.160	150	41.000	4.160	150	
								42.000	4.160	150	
S170	5.630	0.980	Open Manhole	1200	43.000	4.650	150				
S171	5.369	1.349	Open Manhole	1200	43.001	4.020	150	43.000	4.020	150	
S172	5.276	1.446	Open Manhole	1200	41.002	3.830	225	41.001	3.905	150	
								43.001	3.905	150	
S173	5.122	1.442	Open Manhole	1200	41.003	3.680	225	41.002	3.680	225	
S174	5.170	0.940	Open Manhole	1200	44.000	4.230	150				
S175	5.170	1.690	Open Manhole	1200	41.004	3.480	225	41.003	3.480	225	
								44.000	3.555	150	
S176	4.950	1.550	Open Manhole	1200	1.025	4.500	300	1.024	3.400	300	
								41.004	3.475	225	
S177	4.450	0.450	Open Manhole	1200	1.026	4.000	300	1.025	4.000	300	
S178	6.900	0.750	Open Manhole	1200	45.000	6.150	150				
S179	6.900	1.000	Open Manhole	1200	45.001	6.100	150	45.000	5.900	150	
S180	6.750	0.750	Open Manhole	1200	45.002	6.000	150	45.001	6.000	150	
S181	6.780	0.890	Open Manhole	1200	45.003	5.890	150	45.002	5.890	150	
S182	6.780	1.050	Open Manhole	1200	45.004	5.730	150	45.003	5.730	150	

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Manhole Schedules for Surface Network 1

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
S183	6.739	1.359	Open Manhole	1200	46.000	5.380	150				
S184	6.863	1.583	Open Manhole	1200	45.005	5.280	225	45.004	5.355	150	
								46.000	5.355	150	
S185	6.728	1.568	Open Manhole	1200	45.006	5.160	225	45.005	5.160	225	
S186	6.550	1.590	Open Manhole	1200	45.007	4.960	225	45.006	4.960	225	
S187	6.300	1.420	Open Manhole	1200	45.008	4.880	225	45.007	4.880	225	
S188	6.750	1.900	Open Manhole	1200	45.009	6.300	225	45.008	4.850	225	
S189	6.500	0.500	Open Manhole	1200	45.010	6.100	225	45.009	6.000	225	
S190	6.500	0.500	Open Manhole	1200	45.011	6.100	225	45.010	6.000	225	
S191	6.370	0.810	Open Manhole	1200	47.000	5.560	150				
S192	6.200	0.740	Open Manhole	1200	47.001	5.460	150	47.000	5.460	150	
S193	6.200	0.950	Open Manhole	1200	45.012	5.800	225	45.011	5.800	225	
								47.001	5.250	150	
S194	6.150	0.400	Open Manhole	1200	45.013	5.750	225	45.012	5.750	225	
S195	6.614	0.994	Open Manhole	1200	48.000	5.620	150				
S196	6.700	0.750	Open Manhole	1200	49.000	5.950	150				
S197	6.385	1.375	Open Manhole	1200	48.001	5.010	150	48.000	5.010	150	
								49.000	5.010	150	
S198	6.129	1.309	Open Manhole	1200	48.002	4.820	150	48.001	4.820	150	
S199	5.992	1.342	Open Manhole	1200	48.003	4.650	150	48.002	4.650	150	
S200	6.170	1.580	Open Manhole	1200	48.004	4.590	150	48.003	4.590	150	
S201	6.150	1.650	Open Manhole	1200	45.014	5.700	225	45.013	5.700	225	
								48.004	4.500	150	
S202	6.180	0.750	Open Manhole	1200	50.000	5.430	150				
S203	6.180	0.850	Open Manhole	1200	50.001	5.330	150	50.000	5.330	150	
S204	5.850	0.700	Open Manhole	1200	50.002	5.150	150	50.001	5.150	150	
S205	5.750	1.250	Open Manhole	1200	50.003	4.500	150	50.002	4.500	150	
S206	5.500	1.050	Open Manhole	1200	45.015	5.100	225	45.014	5.100	225	
								50.003	4.450	150	
S207	7.068	1.418	Open Manhole	1200	51.000	5.650	150				
S208	7.026	1.466	Open Manhole	1200	51.001	5.580	150	51.000	5.560	150	
S209	6.971	1.521	Open Manhole	1200	51.002	5.450	225	51.001	5.525	150	
S210	6.919	1.519	Open Manhole	1200	51.003	5.400	225	51.002	5.400	225	
S211	7.000	0.980	Open Manhole	1200	52.000	6.020	150				
S212	6.749	1.469	Open Manhole	1200	51.004	5.280	225	51.003	5.280	225	
								52.000	5.355	150	
S213	6.709	1.379	Open Manhole	1200	53.000	5.330	150				
S214	6.538	1.468	Open Manhole	1200	51.005	5.070	300	51.004	5.145	225	

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Manhole Schedules for Surface Network 1

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
								53.000	5.220	150	
S215	6.680	1.450	Open Manhole	1200	54.000	5.230	150				
S216	6.425	1.475	Open Manhole	1200	51.006	4.950	300	51.005	4.950	300	
								54.000	5.100	150	
S217	5.979	0.919	Open Manhole	1200	55.000	5.060	150				
S218	5.997	1.487	Open Manhole	1200	51.007	4.510	300	51.006	4.510	300	
								55.000	4.660	150	
S219	5.767	1.507	Open Manhole	1200	51.008	4.260	300	51.007	4.260	300	
S220	5.666	1.466	Open Manhole	1200	51.009	4.200	300	51.008	4.200	300	
S221	5.780	1.680	Open Manhole	1200	51.010	4.100	300	51.009	4.100	300	
S222	5.500	1.420	Open Manhole	1200	45.016	5.100	300	45.015	5.100	225	
								51.010	4.080	300	
S223	5.636	1.496	Open Manhole	1200	56.000	4.140	300				
S224	5.700	1.600	Open Manhole	1200	56.001	4.100	300	56.000	4.100	300	
S225	5.500	1.420	Open Manhole	1200	45.017	5.000	300	45.016	5.000	300	
								56.001	4.080	300	
S226	5.930	0.750	Open Manhole	1200	57.000	5.180	150				
S227	5.400	0.750	Open Manhole	1200	57.001	4.650	150	57.000	4.650	150	
S228	5.400	0.850	Open Manhole	1200	57.002	4.550	150	57.001	4.550	150	
S229	5.300	0.880	Open Manhole	1200	57.003	4.420	150	57.002	4.420	150	
S230	5.000	0.750	Open Manhole	1200	45.018	4.600	300	45.017	4.600	300	
								57.003	4.250	150	
S231	5.000	0.400	Open Manhole	1200	45.019	4.600	300	45.018	4.600	300	
S232	5.000	0.450	Open Manhole	1200	45.020	4.550	300	45.019	4.550	300	
S233	5.000	0.450	Open Manhole	1200	45.021	4.550	300	45.020	4.550	300	
S234	6.235	1.375	Open Manhole	1200	58.000	4.860	150				
S235	6.050	1.380	Open Manhole	1200	58.001	4.670	150	58.000	4.670	150	
S236	6.180	0.830	Open Manhole	1200	59.000	5.350	150				
S237	5.966	1.386	Open Manhole	1200	58.002	4.580	150	58.001	4.580	150	
								59.000	4.580	150	
S238	6.200	0.750	Open Manhole	1200	60.000	5.450	150				
S239	5.952	1.352	Open Manhole	1200	60.001	4.600	150	60.000	4.600	150	
S240	5.803	1.653	Open Manhole	1200	58.003	4.150	300	58.002	4.300	150	
								60.001	4.300	150	
S241	5.678	1.608	Open Manhole	1200	58.004	4.070	300	58.003	4.070	300	
S242	5.450	1.050	Open Manhole	900 x 675	61.000	4.400	150				
S243	5.279	1.459	Open Manhole	1200	58.005	3.820	300	58.004	3.820	300	
								61.000	3.970	150	

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Manhole Schedules for Surface Network 1

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
S244	5.172	1.402	Open Manhole	1200	58.006	3.770	300	58.005	3.770	300	
S245	5.250	1.500	Open Manhole	1200	58.007	3.750	300	58.006	3.750	300	
S246	5.000	1.250	Open Manhole	1200	45.022	4.550	300	45.021	4.550	300	
								58.007	3.750	300	
S247	5.350	0.810	Open Manhole	1200	62.000	4.540	150				
S248	5.100	0.850	Open Manhole	1200	62.001	4.500	150	62.000	4.250	150	
S249	4.650	0.450	Open Manhole	1200	45.023	4.200	300	45.022	4.350	300	150
								62.001	4.350	150	
S250	4.450	0.750	Open Manhole	1200	1.027	3.700	300	1.026	3.700	300	
								45.023	3.700	300	
S251	4.450	0.800	Open Manhole	1200	1.028	3.650	300	1.027	3.650	300	
S252	4.450	0.850	Open Manhole	1200		OUTFALL		1.028	3.600	300	

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	150	S1	6.900	5.600	1.150	Open Manhole	1200
1.001	o	150	S2	6.900	6.200	0.550	Open Manhole	1200
1.002	o	150	S3	6.900	6.150	0.600	Open Manhole	1200
1.003	o	150	S4	7.180	5.890	1.140	Open Manhole	1200
1.004	o	300	S5	6.900	5.250	1.350	Open Manhole	1200
2.000	o	150	S6	7.300	6.400	0.750	Open Manhole	1200
2.001	o	150	S7	7.200	6.000	1.050	Open Manhole	1200
2.002	o	150	S8	7.261	5.920	1.191	Open Manhole	1200
2.003	o	150	S9	7.083	5.830	1.103	Open Manhole	1200
2.004	o	150	S10	6.809	5.560	1.099	Open Manhole	1200
2.005	o	150	S11	6.900	5.520	1.230	Open Manhole	1200
1.005	o	300	S12	6.900	5.250	1.350	Open Manhole	1200
3.000	o	150	S13	7.227	5.880	1.197	Open Manhole	1200
3.001	o	150	S14	7.280	5.820	1.310	Open Manhole	1200
3.002	o	150	S15	7.290	5.740	1.400	Open Manhole	1200
3.003	o	150	S16	7.277	5.700	1.427	Open Manhole	1200
3.004	o	150	S17	7.378	6.500	0.728	Open Manhole	1200
3.005	o	150	S18	7.323	6.040	1.133	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	72.123	0.0	S2	6.900	5.600	1.150	Open Manhole	1200
1.001	1.848	37.0	S3	6.900	6.150	0.600	Open Manhole	1200
1.002	31.170	119.9	S4	7.180	5.890	1.140	Open Manhole	1200
1.003	3.088	61.8	S5	6.900	5.840	0.910	Open Manhole	1200
1.004	34.423	0.0	S12	6.900	5.250	1.350	Open Manhole	1200
2.000	49.541	123.9	S7	7.200	6.000	1.050	Open Manhole	1200
2.001	6.496	81.2	S8	7.261	5.920	1.191	Open Manhole	1200
2.002	10.553	117.3	S9	7.083	5.830	1.103	Open Manhole	1200
2.003	32.873	121.8	S10	6.809	5.560	1.099	Open Manhole	1200
2.004	2.949	73.7	S11	6.900	5.520	1.230	Open Manhole	1200
2.005	2.131	213.1	S12	6.900	5.510	1.240	Open Manhole	1200
1.005	49.746	497.5	S32	6.900	5.150	1.450	Open Manhole	1200
3.000	7.158	119.3	S14	7.280	5.820	1.310	Open Manhole	1200
3.001	5.290	66.1	S15	7.290	5.740	1.400	Open Manhole	1200
3.002	3.462	86.6	S16	7.277	5.700	1.427	Open Manhole	1200
3.003	23.754	0.0	S17	7.378	5.700	1.528	Open Manhole	1200
3.004	11.051	24.0	S18	7.323	6.040	1.133	Open Manhole	1200
3.005	6.763	135.3	S20	7.300	5.990	1.160	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
4.000	o	150	S19	7.436	6.100	1.186	Open Manhole	1200
3.006	o	150	S20	7.300	5.990	1.160	Open Manhole	1200
3.007	o	150	S21	7.180	5.880	1.150	Open Manhole	1200
5.000	o	150	S255	7.071	5.420	1.501	Open Manhole	1200
5.001	o	150	S254	7.104	6.020	0.934	Open Manhole	1200
5.002	o	150	S22	7.000	5.990	0.860	Open Manhole	1200
6.000	o	150	S23	7.150	6.350	0.650	Open Manhole	1200
3.008	o	225	S24	7.100	5.720	1.155	Open Manhole	1200
3.009	o	300	S26	6.898	5.430	1.168	Open Manhole	1200
3.010	o	300	S27	6.826	5.390	1.136	Open Manhole	1200
3.011	o	300	S28	6.679	5.320	1.059	Open Manhole	1200
7.000	o	150	S29	6.566	5.457	0.959	Open Manhole	1200
3.012	o	300	S30	6.484	5.220	0.964	Open Manhole	1200
3.013	o	300	S31	6.514	5.180	1.034	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
4.000	14.266	129.7	S20	7.300	5.990	1.160	Open Manhole	1200
3.006	14.865	135.1	S21	7.180	5.880	1.150	Open Manhole	1200
3.007	9.626	113.2	S24	7.100	5.795	1.155	Open Manhole	1200
5.000	3.524	0.0	S254	7.104	5.420	1.534	Open Manhole	1200
5.001	3.983	132.8	S22	7.000	5.990	0.860	Open Manhole	1200
5.002	22.642	116.1	S24	7.100	5.795	1.155	Open Manhole	1200
6.000	8.069	14.5	S24	7.100	5.795	1.155	Open Manhole	1200
3.008	27.908	129.8	S26	6.898	5.505	1.168	Open Manhole	1200
3.009	7.594	189.9	S27	6.826	5.390	1.136	Open Manhole	1200
3.010	15.573	222.5	S28	6.679	5.320	1.059	Open Manhole	1200
3.011	17.786	177.9	S30	6.484	5.220	0.964	Open Manhole	1200
7.000	11.325	130.2	S30	6.484	5.370	0.964	Open Manhole	1200
3.012	9.294	232.4	S31	6.514	5.180	1.034	Open Manhole	1200
3.013	4.885	162.8	S32	6.900	5.150	1.450	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.006	o	300	S32	6.900	5.150	1.450	Open Manhole	1200
8.000	o	150	S33	6.400	5.550	0.700	Open Manhole	1200
9.000	o	150	S34	6.350	5.350	0.850	Open Manhole	1200
8.001	o	150	S35	6.350	5.290	0.910	Open Manhole	1200
1.007	o	300	S36	6.900	5.120	1.480	Open Manhole	1200
1.008	o	300	S37	6.400	5.650	0.450	Open Manhole	1200
1.009	o	150	S38	6.400	5.750	0.500	Open Manhole	1200
1.010	o	150	S39	6.200	4.960	1.090	Open Manhole	1200
10.000	o	150	S112	7.000	6.050	0.800	Open Manhole	1200
10.001	o	150	S111	6.800	5.900	0.750	Open Manhole	1200
10.002	o	150	S40	6.800	5.800	0.850	Open Manhole	1200
10.003	o	150	S41	6.900	5.680	1.070	Open Manhole	1200
10.004	o	150	S42	6.900	5.610	1.140	Open Manhole	1200
11.000	o	150	S256	6.739	5.390	1.199	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.006	65.460	2182.0	S36	6.900	5.120	1.480	Open Manhole	1200
8.000	22.407	86.2	S35	6.350	5.290	0.910	Open Manhole	1200
9.000	8.117	135.3	S35	6.350	5.290	0.910	Open Manhole	1200
8.001	2.047	102.4	S36	6.900	5.270	1.480	Open Manhole	1200
1.007	11.501	0.0	S37	6.400	5.120	0.980	Open Manhole	1200
1.008	2.310	46.2	S38	6.400	5.600	0.500	Open Manhole	1200
1.009	15.488	19.6	S39	6.200	4.960	1.090	Open Manhole	1200
1.010	13.870	126.1	S48	6.450	4.850	1.450	Open Manhole	1200
10.000	19.391	129.3	S111	6.800	5.900	0.750	Open Manhole	1200
10.001	12.727	127.3	S40	6.800	5.800	0.850	Open Manhole	1200
10.002	21.907	182.6	S41	6.900	5.680	1.070	Open Manhole	1200
10.003	6.116	87.4	S42	6.900	5.610	1.140	Open Manhole	1200
10.004	20.997	60.0	S43	6.618	5.260	1.208	Open Manhole	1200
11.000	13.280	102.2	S43	6.618	5.260	1.208	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
10.005	o	150	S43	6.618	5.260	1.208	Open Manhole	1200
10.006	o	150	S44	6.482	5.150	1.182	Open Manhole	1200
10.007	o	150	S45	6.293	5.000	1.143	Open Manhole	1200
10.008	o	150	S46	6.096	4.950	0.996	Open Manhole	1200
10.009	o	150	S47	6.095	4.900	1.045	Open Manhole	1200
1.011	o	150	S48	6.450	4.850	1.450	Open Manhole	1200
1.012	o	150	S49	5.800	5.550	0.100	Open Manhole	1200
1.013	o	150	S50	6.000	5.120	0.730	Open Manhole	1200
12.000	o	150	S51	6.150	5.250	0.750	Open Manhole	1200
12.001	o	150	S52	6.000	5.060	0.790	Open Manhole	1200
1.014	o	150	S53	6.000	5.060	0.790	Open Manhole	1200
1.015	o	150	S54	6.000	5.000	0.850	Open Manhole	1200
1.016	o	150	S55	5.800	4.500	1.150	Open Manhole	1200
13.000	o	150	S56	6.134	4.790	1.194	Open Manhole	1200
13.001	o	150	S57	5.996	4.650	1.196	Open Manhole	1200
13.002	o	150	S58	5.916	4.560	1.206	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
10.005	11.443	104.0	S44	6.482	5.150	1.182	Open Manhole	1200
10.006	20.944	139.6	S45	6.293	5.000	1.143	Open Manhole	1200
10.007	27.264	545.3	S46	6.096	4.950	0.996	Open Manhole	1200
10.008	8.359	167.2	S47	6.095	4.900	1.045	Open Manhole	1200
10.009	8.609	172.2	S48	6.450	4.850	1.450	Open Manhole	1200
1.011	5.898	118.0	S49	5.800	4.800	0.850	Open Manhole	1200
1.012	17.211	344.2	S50	6.000	5.500	0.350	Open Manhole	1200
1.013	9.176	152.9	S53	6.000	5.060	0.790	Open Manhole	1200
12.000	28.335	149.1	S52	6.000	5.060	0.790	Open Manhole	1200
12.001	2.239	0.0	S53	6.000	5.060	0.790	Open Manhole	1200
1.014	25.274	421.2	S54	6.000	5.000	0.850	Open Manhole	1200
1.015	38.023	76.0	S55	5.800	4.500	1.150	Open Manhole	1200
1.016	23.023	92.1	S60	5.750	4.250	1.350	Open Manhole	1200
13.000	12.825	91.6	S57	5.996	4.650	1.196	Open Manhole	1200
13.001	8.557	95.1	S58	5.916	4.560	1.206	Open Manhole	1200
13.002	12.946	117.7	S59	5.807	4.450	1.207	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
13.003	o	150	S59	5.807	4.450	1.207	Open Manhole	1200
1.017	o	150	S60	5.750	4.350	1.250	Open Manhole	1200
14.000	o	150	S61	7.050	6.300	0.600	Open Manhole	1200
15.000	o	150	S62	6.900	6.040	0.710	Open Manhole	1200
14.001	o	150	S63	6.900	5.710	1.040	Open Manhole	1200
14.002	o	150	S64	6.450	5.510	0.790	Open Manhole	1200
14.003	o	300	S65	6.574	5.030	1.244	Open Manhole	1200
14.004	o	300	S66	6.237	4.740	1.197	Open Manhole	1200
16.000	o	150	S67	6.750	5.650	0.950	Open Manhole	1200
16.001	o	150	S68	6.160	5.090	0.920	Open Manhole	1200
14.005	o	300	S69	5.886	4.390	1.196	Open Manhole	1200
14.006	o	300	S70	5.667	4.290	1.077	Open Manhole	1200
14.007	o	300	S71	5.900	4.260	1.340	Open Manhole	1200
17.000	o	150	S72	6.150	5.400	0.600	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
13.003	24.848	124.2	S60	5.750	4.250	1.350	Open Manhole	1200
1.017	34.281	342.8	S76	5.750	4.250	1.350	Open Manhole	1200
14.000	71.591	121.3	S63	6.900	5.710	1.040	Open Manhole	1200
15.000	42.159	127.8	S63	6.900	5.710	1.040	Open Manhole	1200
14.001	24.212	121.1	S64	6.450	5.510	0.790	Open Manhole	1200
14.002	3.270	9.9	S65	6.574	5.180	1.244	Open Manhole	1200
14.003	37.147	128.1	S66	6.237	4.740	1.197	Open Manhole	1200
14.004	35.580	101.7	S69	5.886	4.390	1.196	Open Manhole	1200
16.000	69.474	124.1	S68	6.160	5.090	0.920	Open Manhole	1200
16.001	7.069	12.9	S69	5.886	4.540	1.196	Open Manhole	1200
14.005	26.222	262.2	S70	5.667	4.290	1.077	Open Manhole	1200
14.006	5.601	186.7	S71	5.900	4.260	1.340	Open Manhole	1200
14.007	5.773	96.2	S76	5.750	4.200	1.250	Open Manhole	1200
17.000	25.685	46.7	S74	6.000	4.850	1.000	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
18.000	o	150	S73	5.850	5.130	0.570	Open Manhole	1200
17.001	o	150	S74	6.000	4.850	1.000	Open Manhole	1200
17.002	o	150	S75	6.000	4.770	1.080	Open Manhole	1200
1.018	o	300	S76	5.750	5.250	0.200	Open Manhole	1200
1.019	o	300	S77	5.750	5.200	0.250	Open Manhole	1200
1.020	o	300	S78	5.750	5.180	0.270	Open Manhole	1200
1.021	o	300	S79	5.500	5.100	0.100	Open Manhole	1200
19.000	o	150	S80	7.005	5.660	1.195	Open Manhole	1200
19.001	o	150	S81	6.895	5.560	1.185	Open Manhole	1200
20.000	o	150	S82	6.950	6.070	0.730	Open Manhole	1200
19.002	o	150	S83	6.669	5.320	1.199	Open Manhole	1200
19.003	o	150	S84	6.529	5.200	1.179	Open Manhole	1200
19.004	o	225	S85	6.499	4.975	1.299	Open Manhole	1200
19.005	o	225	S86	6.497	4.860	1.412	Open Manhole	1200
19.006	o	225	S87	6.600	4.690	1.685	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
18.000	12.463	44.5	S74	6.000	4.850	1.000	Open Manhole	1200
17.001	9.756	121.9	S75	6.000	4.770	1.080	Open Manhole	1200
17.002	32.780	78.0	S76	5.750	4.350	1.250	Open Manhole	1200
1.018	6.009	120.2	S77	5.750	5.200	0.250	Open Manhole	1200
1.019	10.456	522.8	S78	5.750	5.180	0.270	Open Manhole	1200
1.020	31.084	388.5	S79	5.500	5.100	0.100	Open Manhole	1200
1.021	34.007	24.5	S164	5.500	3.710	1.490	Open Manhole	1200
19.000	13.799	138.0	S81	6.895	5.560	1.185	Open Manhole	1200
19.001	21.664	90.3	S83	6.669	5.320	1.199	Open Manhole	1200
20.000	8.199	10.9	S83	6.669	5.320	1.199	Open Manhole	1200
19.002	15.413	128.4	S84	6.529	5.200	1.179	Open Manhole	1200
19.003	20.973	139.8	S85	6.499	5.050	1.299	Open Manhole	1200
19.004	27.653	197.5	S86	6.497	4.835	1.437	Open Manhole	1200
19.005	29.912	176.0	S87	6.600	4.690	1.685	Open Manhole	1200
19.006	10.054	41.9	S88	6.550	4.450	1.875	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
19.007	o	150	S88	6.550	5.450	0.950	Open Manhole	1200
19.008	o	150	S89	6.550	4.790	1.610	Open Manhole	1200
21.000	o	150	S253	7.300	5.900	1.250	Open Manhole	1200
21.001	o	150	S90	7.300	6.450	0.700	Open Manhole	1200
21.002	o	150	S91	7.633	6.290	1.193	Open Manhole	1200
21.003	o	150	S92	7.429	6.080	1.199	Open Manhole	1200
21.004	o	225	S93	7.250	5.770	1.255	Open Manhole	1200
21.005	o	225	S94	7.164	5.690	1.249	Open Manhole	1200
21.006	o	225	S95	6.981	5.520	1.236	Open Manhole	1200
22.000	o	150	S96	6.969	6.030	0.789	Open Manhole	1200
22.001	o	150	S97	6.780	5.500	1.130	Open Manhole	1200
23.000	o	150	S98	6.780	5.650	0.980	Open Manhole	1200
21.007	o	225	S99	6.800	5.370	1.205	Open Manhole	1200
21.008	o	225	S100	6.536	5.130	1.181	Open Manhole	1200
21.009	o	225	S101	6.430	5.010	1.195	Open Manhole	1200
21.010	o	150	S102	6.550	5.045	1.355	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
19.007	20.595	31.2	S89	6.550	4.790	1.610	Open Manhole	1200
19.008	6.292	157.3	S103	6.556	4.750	1.656	Open Manhole	1200
21.000	4.298	0.0	S90	7.300	5.900	1.250	Open Manhole	1200
21.001	14.817	92.6	S91	7.633	6.290	1.193	Open Manhole	1200
21.002	23.360	111.2	S92	7.429	6.080	1.199	Open Manhole	1200
21.003	19.767	84.1	S93	7.250	5.845	1.255	Open Manhole	1200
21.004	10.130	126.6	S94	7.164	5.690	1.249	Open Manhole	1200
21.005	21.349	125.6	S95	6.981	5.520	1.236	Open Manhole	1200
21.006	20.837	138.9	S99	6.800	5.370	1.205	Open Manhole	1200
22.000	26.569	50.1	S97	6.780	5.500	1.130	Open Manhole	1200
22.001	2.103	38.2	S99	6.800	5.445	1.205	Open Manhole	1200
23.000	7.158	34.9	S99	6.800	5.445	1.205	Open Manhole	1200
21.007	26.521	110.5	S100	6.536	5.130	1.181	Open Manhole	1200
21.008	10.259	85.5	S101	6.430	5.010	1.195	Open Manhole	1200
21.009	4.237	105.9	S102	6.550	4.970	1.355	Open Manhole	1200
21.010	3.485	11.8	S103	6.556	4.750	1.656	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
19.009	o	150	S103	6.556	4.900	1.506	Open Manhole	1200
19.010	o	150	S104	6.556	5.900	0.506	Open Manhole	1200
19.011	o	150	S105	6.900	5.770	0.980	Open Manhole	1200
24.000	o	150	S106	7.120	6.310	0.660	Open Manhole	1200
24.001	o	150	S107	7.200	6.160	0.890	Open Manhole	1200
24.002	o	150	S108	6.906	5.970	0.786	Open Manhole	1200
24.003	o	150	S109	6.900	5.800	0.950	Open Manhole	1200
19.012	o	150	S110	6.900	6.020	0.730	Open Manhole	1200
25.000	o	150	S113	7.000	6.050	0.800	Open Manhole	1200
25.001	o	150	S114	6.804	6.000	0.654	Open Manhole	1200
25.002	o	150	S115	6.849	5.980	0.719	Open Manhole	1200
25.003	o	150	S116	7.100	5.950	1.000	Open Manhole	1200
25.004	o	150	S117	7.100	5.950	1.000	Open Manhole	1200
25.005	o	150	S118	7.000	5.940	0.910	Open Manhole	1200
25.006	o	150	S119	7.000	5.940	0.910	Open Manhole	1200
25.007	o	150	S120	6.750	5.920	0.680	Open Manhole	1200
26.000	o	300	S121	6.900	6.100	0.500	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
19.009	7.791	51.9	S104	6.556	4.750	1.656	Open Manhole	1200
19.010	24.064	120.3	S105	6.900	5.700	1.050	Open Manhole	1200
19.011	11.457	163.7	S110	6.900	5.700	1.050	Open Manhole	1200
24.000	18.358	122.4	S107	7.200	6.160	0.890	Open Manhole	1200
24.001	23.010	121.1	S108	6.906	5.970	0.786	Open Manhole	1200
24.002	11.017	64.8	S109	6.900	5.800	0.950	Open Manhole	1200
24.003	10.252	341.7	S110	6.900	5.770	0.980	Open Manhole	1200
19.012	25.858	235.1	S127	6.753	5.910	0.693	Open Manhole	1200
25.000	17.917	358.3	S114	6.804	6.000	0.654	Open Manhole	1200
25.001	17.329	866.4	S115	6.849	5.980	0.719	Open Manhole	1200
25.002	33.286	1109.5	S116	7.100	5.950	1.000	Open Manhole	1200
25.003	6.308	0.0	S117	7.100	5.950	1.000	Open Manhole	1200
25.004	18.925	1892.5	S118	7.000	5.940	0.910	Open Manhole	1200
25.005	8.662	0.0	S119	7.000	5.940	0.910	Open Manhole	1200
25.006	18.362	918.1	S120	6.750	5.920	0.680	Open Manhole	1200
25.007	6.116	611.6	S127	6.753	5.910	0.693	Open Manhole	1200
26.000	46.370	927.4	S122	7.100	6.050	0.750	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
26.001	o	150	S122	7.100	6.200	0.750	Open Manhole	1200
26.002	o	150	S123	7.105	6.050	0.905	Open Manhole	1200
26.003	o	150	S124	6.900	6.000	0.750	Open Manhole	1200
26.004	o	150	S125	6.719	6.000	0.569	Open Manhole	1200
27.000	o	150	S126	6.753	6.060	0.543	Open Manhole	1200
19.013	o	300	S127	6.753	5.910	0.543	Open Manhole	1200
28.000	o	150	S128	6.700	5.880	0.670	Open Manhole	1200
28.001	o	150	S129	6.665	5.790	0.725	Open Manhole	1200
19.014	o	150	S130	6.800	5.600	1.050	Open Manhole	1200
29.000	o	150	S131	6.577	5.310	1.117	Open Manhole	1200
29.001	o	150	S132	6.474	5.120	1.204	Open Manhole	1200
29.002	o	150	S133	6.320	5.000	1.170	Open Manhole	1200
19.015	o	300	S134	6.600	5.300	1.000	Open Manhole	1200
30.000	o	150	S135	6.370	5.550	0.670	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
26.001	9.129	60.9	S123	7.105	6.050	0.905	Open Manhole	1200
26.002	16.992	339.8	S124	6.900	6.000	0.750	Open Manhole	1200
26.003	8.356	0.0	S125	6.719	6.000	0.569	Open Manhole	1200
26.004	12.917	143.5	S127	6.753	5.910	0.693	Open Manhole	1200
27.000	17.312	1731.2	S127	6.753	6.050	0.553	Open Manhole	1200
19.013	15.685	28.0	S130	6.800	5.350	1.150	Open Manhole	1200
28.000	9.451	105.0	S129	6.665	5.790	0.725	Open Manhole	1200
28.001	9.804	33.8	S130	6.800	5.500	1.150	Open Manhole	1200
19.014	34.119	75.8	S134	6.600	5.150	1.300	Open Manhole	1200
29.000	7.073	37.2	S132	6.474	5.120	1.204	Open Manhole	1200
29.001	13.576	113.1	S133	6.320	5.000	1.170	Open Manhole	1200
29.002	8.815	88.2	S134	6.600	4.900	1.550	Open Manhole	1200
19.015	23.076	79.6	S136	6.600	5.010	1.290	Open Manhole	1200
30.000	9.323	23.9	S136	6.600	5.160	1.290	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
19.016	o	300	S136	6.600	5.010	1.290	Open Manhole	1200
31.000	o	150	S137	6.250	5.500	0.600	Open Manhole	1200
19.017	o	300	S138	5.938	5.010	0.628	Open Manhole	1200
32.000	o	150	S139	6.250	5.330	0.770	Open Manhole	1200
32.001	o	150	S140	6.000	5.130	0.720	Open Manhole	1200
32.002	o	150	S141	5.770	4.970	0.650	Open Manhole	1200
33.000	o	150	S142	6.074	5.320	0.604	Open Manhole	1200
32.003	o	150	S143	6.070	4.910	1.010	Open Manhole	1200
19.018	o	300	S144	5.900	4.980	0.620	Open Manhole	1200
34.000	o	150	S145	6.617	5.270	1.197	Open Manhole	1200
35.000	o	150	S146	6.610	5.420	1.040	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
19.016	15.391	0.0	S138	5.938	5.010	0.628	Open Manhole	1200
31.000	10.691	31.4	S138	5.938	5.160	0.628	Open Manhole	1200
19.017	14.640	112.6	S144	5.900	4.880	0.720	Open Manhole	1200
32.000	19.257	96.3	S140	6.000	5.130	0.720	Open Manhole	1200
32.001	21.001	131.3	S141	5.770	4.970	0.650	Open Manhole	1200
32.002	6.741	112.4	S143	6.070	4.910	1.010	Open Manhole	1200
33.000	20.846	50.8	S143	6.070	4.910	1.010	Open Manhole	1200
32.003	7.942	264.7	S144	5.900	4.880	0.870	Open Manhole	1200
19.018	11.784	14.2	S152	5.640	4.150	1.190	Open Manhole	1200
34.000	56.564	120.3	S147	6.152	4.800	1.202	Open Manhole	1200
35.000	4.645	7.5	S147	6.152	4.800	1.202	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
34.001	o	300	S147	6.152	4.650	1.202	Open Manhole	1200
34.002	o	300	S148	5.993	4.430	1.263	Open Manhole	1200
34.003	o	300	S149	5.898	4.360	1.238	Open Manhole	1200
34.004	o	300	S150	5.782	4.270	1.212	Open Manhole	1200
36.000	o	150	S151	5.920	4.570	1.200	Open Manhole	1200
19.019	o	300	S152	5.640	4.150	1.190	Open Manhole	1200
37.000	o	150	S153	5.970	5.220	0.600	Open Manhole	1200
38.000	o	150	S154	5.615	4.265	1.200	Open Manhole	1200
19.020	o	150	S155	5.780	4.270	1.360	Open Manhole	1200
19.021	o	150	S156	5.780	4.720	0.910	Open Manhole	1200
19.022	o	150	S157	5.630	4.460	1.020	Open Manhole	1200
39.000	o	150	S158	5.750	4.570	1.030	Open Manhole	1200
39.001	o	150	S159	5.617	4.270	1.197	Open Manhole	1200
39.002	o	150	S160	5.474	4.120	1.204	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
34.001	18.478	84.0	S148	5.993	4.430	1.263	Open Manhole	1200
34.002	12.434	177.6	S149	5.898	4.360	1.238	Open Manhole	1200
34.003	14.555	161.7	S150	5.782	4.270	1.212	Open Manhole	1200
34.004	22.413	186.8	S152	5.640	4.150	1.190	Open Manhole	1200
36.000	20.257	75.0	S152	5.640	4.300	1.190	Open Manhole	1200
19.019	4.632	154.4	S155	5.780	4.120	1.360	Open Manhole	1200
37.000	9.059	8.2	S155	5.780	4.120	1.510	Open Manhole	1200
38.000	8.252	56.9	S155	5.780	4.120	1.510	Open Manhole	1200
19.020	11.644	77.6	S156	5.780	4.120	1.510	Open Manhole	1200
19.021	32.158	123.7	S157	5.630	4.460	1.020	Open Manhole	1200
19.022	6.651	15.6	S162	5.397	4.035	1.212	Open Manhole	1200
39.000	5.810	19.4	S159	5.617	4.270	1.197	Open Manhole	1200
39.001	14.385	95.9	S160	5.474	4.120	1.204	Open Manhole	1200
39.002	7.928	93.3	S162	5.397	4.035	1.212	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
40.000	o	225	S161	5.367	4.020	1.122	Open Manhole	1200
19.023	o	225	S162	5.397	3.960	1.212	Open Manhole	1200
19.024	o	225	S163	5.400	3.930	1.245	Open Manhole	1200
1.022	o	300	S164	5.500	4.800	0.400	Open Manhole	1200
1.023	o	300	S165	5.200	4.700	0.200	Open Manhole	1200
1.024	o	300	S166	5.200	4.800	0.100	Open Manhole	1200
41.000	o	150	S167	5.634	4.280	1.204	Open Manhole	1200
42.000	o	150	S168	5.643	4.720	0.773	Open Manhole	1200
41.001	o	150	S169	5.505	4.160	1.195	Open Manhole	1200
43.000	o	150	S170	5.630	4.650	0.830	Open Manhole	1200
43.001	o	150	S171	5.369	4.020	1.199	Open Manhole	1200
41.002	o	225	S172	5.276	3.830	1.221	Open Manhole	1200
41.003	o	225	S173	5.122	3.680	1.217	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
40.000	6.955	115.9	S162	5.397	3.960	1.212	Open Manhole	1200
19.023	4.513	150.4	S163	5.400	3.930	1.245	Open Manhole	1200
19.024	8.201	56.6	S164	5.500	3.785	1.490	Open Manhole	1200
1.022	17.390	173.9	S165	5.200	4.700	0.200	Open Manhole	1200
1.023	28.438	56.9	S166	5.200	4.200	0.700	Open Manhole	1200
1.024	58.677	41.9	S176	4.950	3.400	1.250	Open Manhole	1200
41.000	11.954	99.6	S169	5.505	4.160	1.195	Open Manhole	1200
42.000	7.349	13.1	S169	5.505	4.160	1.195	Open Manhole	1200
41.001	22.295	87.4	S172	5.276	3.905	1.221	Open Manhole	1200
43.000	6.317	10.0	S171	5.369	4.020	1.199	Open Manhole	1200
43.001	6.785	59.0	S172	5.276	3.905	1.221	Open Manhole	1200
41.002	11.709	78.1	S173	5.122	3.680	1.217	Open Manhole	1200
41.003	27.011	135.1	S175	5.170	3.480	1.465	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
44.000	o	150	S174	5.170	4.230	0.790	Open Manhole	1200
41.004	o	225	S175	5.170	3.480	1.465	Open Manhole	1200
1.025	o	300	S176	4.950	4.500	0.150	Open Manhole	1200
1.026	o	300	S177	4.450	4.000	0.150	Open Manhole	1200
45.000	o	150	S178	6.900	6.150	0.600	Open Manhole	1200
45.001	o	150	S179	6.900	6.100	0.650	Open Manhole	1200
45.002	o	150	S180	6.750	6.000	0.600	Open Manhole	1200
45.003	o	150	S181	6.780	5.890	0.740	Open Manhole	1200
45.004	o	150	S182	6.780	5.730	0.900	Open Manhole	1200
46.000	o	150	S183	6.739	5.380	1.209	Open Manhole	1200
45.005	o	225	S184	6.863	5.280	1.358	Open Manhole	1200
45.006	o	225	S185	6.728	5.160	1.343	Open Manhole	1200
45.007	o	225	S186	6.550	4.960	1.365	Open Manhole	1200
45.008	o	225	S187	6.300	4.880	1.195	Open Manhole	1200
45.009	o	225	S188	6.750	6.300	0.225	Open Manhole	1200
45.010	o	225	S189	6.500	6.100	0.175	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
44.000	6.461	9.6	S175	5.170	3.555	1.465	Open Manhole	1200
41.004	6.311	1262.2	S176	4.950	3.475	1.250	Open Manhole	1200
1.025	20.213	40.4	S177	4.450	4.000	0.150	Open Manhole	1200
1.026	20.756	69.2	S250	4.450	3.700	0.450	Open Manhole	1200
45.000	15.268	61.1	S179	6.900	5.900	0.850	Open Manhole	1200
45.001	17.732	177.3	S180	6.750	6.000	0.600	Open Manhole	1200
45.002	13.608	123.7	S181	6.780	5.890	0.740	Open Manhole	1200
45.003	19.693	123.1	S182	6.780	5.730	0.900	Open Manhole	1200
45.004	6.536	17.4	S184	6.863	5.355	1.358	Open Manhole	1200
46.000	12.734	509.4	S184	6.863	5.355	1.358	Open Manhole	1200
45.005	14.384	119.9	S185	6.728	5.160	1.343	Open Manhole	1200
45.006	24.977	124.9	S186	6.550	4.960	1.365	Open Manhole	1200
45.007	8.469	105.9	S187	6.300	4.880	1.195	Open Manhole	1200
45.008	6.810	227.0	S188	6.750	4.850	1.675	Open Manhole	1200
45.009	12.786	42.6	S189	6.500	6.000	0.275	Open Manhole	1200
45.010	10.147	101.5	S190	6.500	6.000	0.275	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
45.011	o	225	S190	6.500	6.100	0.175	Open Manhole	1200
47.000	o	150	S191	6.370	5.560	0.660	Open Manhole	1200
47.001	o	150	S192	6.200	5.460	0.590	Open Manhole	1200
45.012	o	225	S193	6.200	5.800	0.175	Open Manhole	1200
45.013	o	225	S194	6.150	5.750	0.175	Open Manhole	1200
48.000	o	150	S195	6.614	5.620	0.844	Open Manhole	1200
49.000	o	150	S196	6.700	5.950	0.600	Open Manhole	1200
48.001	o	150	S197	6.385	5.010	1.225	Open Manhole	1200
48.002	o	150	S198	6.129	4.820	1.159	Open Manhole	1200
48.003	o	150	S199	5.992	4.650	1.192	Open Manhole	1200
48.004	o	150	S200	6.170	4.590	1.430	Open Manhole	1200
45.014	o	225	S201	6.150	5.700	0.225	Open Manhole	1200
50.000	o	150	S202	6.180	5.430	0.600	Open Manhole	1200
50.001	o	150	S203	6.180	5.330	0.700	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
45.011	21.490	71.6	S193	6.200	5.800	0.175	Open Manhole	1200
47.000	12.129	121.3	S192	6.200	5.460	0.590	Open Manhole	1200
47.001	3.838	18.3	S193	6.200	5.250	0.800	Open Manhole	1200
45.012	18.379	367.6	S194	6.150	5.750	0.175	Open Manhole	1200
45.013	18.447	368.9	S201	6.150	5.700	0.225	Open Manhole	1200
48.000	14.874	24.4	S197	6.385	5.010	1.225	Open Manhole	1200
49.000	7.319	7.8	S197	6.385	5.010	1.225	Open Manhole	1200
48.001	14.874	78.3	S198	6.129	4.820	1.159	Open Manhole	1200
48.002	12.797	75.3	S199	5.992	4.650	1.192	Open Manhole	1200
48.003	7.578	126.3	S200	6.170	4.590	1.430	Open Manhole	1200
48.004	4.811	53.5	S201	6.150	4.500	1.500	Open Manhole	1200
45.014	24.774	41.3	S206	5.500	5.100	0.175	Open Manhole	1200
50.000	10.476	104.8	S203	6.180	5.330	0.700	Open Manhole	1200
50.001	17.287	96.0	S204	5.850	5.150	0.550	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
50.002	o	150	S204	5.850	5.150	0.550	Open Manhole	1200
50.003	o	150	S205	5.750	4.500	1.100	Open Manhole	1200
45.015	o	225	S206	5.500	5.100	0.175	Open Manhole	1200
51.000	o	150	S207	7.068	5.650	1.268	Open Manhole	1200
51.001	o	150	S208	7.026	5.580	1.296	Open Manhole	1200
51.002	o	225	S209	6.971	5.450	1.296	Open Manhole	1200
51.003	o	225	S210	6.919	5.400	1.294	Open Manhole	1200
52.000	o	150	S211	7.000	6.020	0.830	Open Manhole	1200
51.004	o	225	S212	6.749	5.280	1.244	Open Manhole	1200
53.000	o	150	S213	6.709	5.330	1.229	Open Manhole	1200
51.005	o	300	S214	6.538	5.070	1.168	Open Manhole	1200
54.000	o	150	S215	6.680	5.230	1.300	Open Manhole	1200
51.006	o	300	S216	6.425	4.950	1.175	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
50.002	11.447	17.6	S205	5.750	4.500	1.100	Open Manhole	1200
50.003	6.381	127.6	S206	5.500	4.450	0.900	Open Manhole	1200
45.015	22.453	0.0	S222	5.500	5.100	0.175	Open Manhole	1200
51.000	11.028	122.5	S208	7.026	5.560	1.316	Open Manhole	1200
51.001	6.465	117.5	S209	6.971	5.525	1.296	Open Manhole	1200
51.002	7.461	149.2	S210	6.919	5.400	1.294	Open Manhole	1200
51.003	20.542	171.2	S212	6.749	5.280	1.244	Open Manhole	1200
52.000	6.398	9.6	S212	6.749	5.355	1.244	Open Manhole	1200
51.004	25.121	186.1	S214	6.538	5.145	1.168	Open Manhole	1200
53.000	7.911	71.9	S214	6.538	5.220	1.168	Open Manhole	1200
51.005	14.419	120.2	S216	6.425	4.950	1.175	Open Manhole	1200
54.000	5.913	45.5	S216	6.425	5.100	1.175	Open Manhole	1200
51.006	35.195	80.0	S218	5.997	4.510	1.187	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
55.000	o	150	S217	5.979	5.060	0.769	Open Manhole	1200
51.007	o	300	S218	5.997	4.510	1.187	Open Manhole	1200
51.008	o	300	S219	5.767	4.260	1.207	Open Manhole	1200
51.009	o	300	S220	5.666	4.200	1.166	Open Manhole	1200
51.010	o	300	S221	5.780	4.100	1.380	Open Manhole	1200
45.016	o	300	S222	5.500	5.100	0.100	Open Manhole	1200
56.000	o	300	S223	5.636	4.140	1.196	Open Manhole	1200
56.001	o	300	S224	5.700	4.100	1.300	Open Manhole	1200
45.017	o	300	S225	5.500	5.000	0.200	Open Manhole	1200
57.000	o	150	S226	5.930	5.180	0.600	Open Manhole	1200
57.001	o	150	S227	5.400	4.650	0.600	Open Manhole	1200
57.002	o	150	S228	5.400	4.550	0.700	Open Manhole	1200
57.003	o	150	S229	5.300	4.420	0.730	Open Manhole	1200
45.018	o	300	S230	5.000	4.600	0.100	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
55.000	4.192	10.5	S218	5.997	4.660	1.187	Open Manhole	1200
51.007	23.594	94.4	S219	5.767	4.260	1.207	Open Manhole	1200
51.008	9.979	166.3	S220	5.666	4.200	1.166	Open Manhole	1200
51.009	5.909	59.1	S221	5.780	4.100	1.380	Open Manhole	1200
51.010	4.450	222.5	S222	5.500	4.080	1.120	Open Manhole	1200
45.016	22.062	220.6	S225	5.500	5.000	0.200	Open Manhole	1200
56.000	6.067	151.7	S224	5.700	4.100	1.300	Open Manhole	1200
56.001	4.644	232.2	S225	5.500	4.080	1.120	Open Manhole	1200
45.017	27.200	68.0	S230	5.000	4.600	0.100	Open Manhole	1200
57.000	19.027	35.9	S227	5.400	4.650	0.600	Open Manhole	1200
57.001	10.816	108.2	S228	5.400	4.550	0.700	Open Manhole	1200
57.002	14.972	115.2	S229	5.300	4.420	0.730	Open Manhole	1200
57.003	3.822	22.5	S230	5.000	4.250	0.600	Open Manhole	1200
45.018	10.385	0.0	S231	5.000	4.600	0.100	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
45.019	o	300	S231	5.000	4.600	0.100	Open Manhole	1200
45.020	o	300	S232	5.000	4.550	0.150	Open Manhole	1200
45.021	o	300	S233	5.000	4.550	0.150	Open Manhole	1200
58.000	o	150	S234	6.235	4.860	1.225	Open Manhole	1200
58.001	o	150	S235	6.050	4.670	1.230	Open Manhole	1200
59.000	o	150	S236	6.180	5.350	0.680	Open Manhole	1200
58.002	o	150	S237	5.966	4.580	1.236	Open Manhole	1200
60.000	o	150	S238	6.200	5.450	0.600	Open Manhole	1200
60.001	o	150	S239	5.952	4.600	1.202	Open Manhole	1200
58.003	o	300	S240	5.803	4.150	1.353	Open Manhole	1200
58.004	o	300	S241	5.678	4.070	1.308	Open Manhole	1200
61.000	o	150	S242	5.450	4.400	0.900	Open Manhole	900 x 675
58.005	o	300	S243	5.279	3.820	1.159	Open Manhole	1200
58.006	o	300	S244	5.172	3.770	1.102	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
45.019	14.589	291.8	S232	5.000	4.550	0.150	Open Manhole	1200
45.020	13.735	0.0	S233	5.000	4.550	0.150	Open Manhole	1200
45.021	12.519	0.0	S246	5.000	4.550	0.150	Open Manhole	1200
58.000	22.046	116.0	S235	6.050	4.670	1.230	Open Manhole	1200
58.001	9.725	108.1	S237	5.966	4.580	1.236	Open Manhole	1200
59.000	6.462	8.4	S237	5.966	4.580	1.236	Open Manhole	1200
58.002	19.638	70.1	S240	5.803	4.300	1.353	Open Manhole	1200
60.000	7.982	9.4	S239	5.952	4.600	1.202	Open Manhole	1200
60.001	10.368	34.6	S240	5.803	4.300	1.353	Open Manhole	1200
58.003	13.666	170.8	S241	5.678	4.070	1.308	Open Manhole	1200
58.004	46.757	187.0	S243	5.279	3.820	1.159	Open Manhole	1200
61.000	4.985	11.6	S243	5.279	3.970	1.159	Open Manhole	1200
58.005	12.346	246.9	S244	5.172	3.770	1.102	Open Manhole	1200
58.006	5.698	284.9	S245	5.250	3.750	1.200	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
58.007	o	300	S245	5.250	3.750	1.200	Open Manhole	1200
45.022	o	300	S246	5.000	4.550	0.150	Open Manhole	1200
62.000	o	150	S247	5.350	4.540	0.660	Open Manhole	1200
62.001	o	150	S248	5.100	4.500	0.450	Open Manhole	1200
45.023	o	300	S249	4.650	4.200	0.150	Open Manhole	1200
1.027	o	300	S250	4.450	3.700	0.450	Open Manhole	1200
1.028	o	300	S251	4.450	3.650	0.500	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
58.007	3.876	0.0	S246	5.000	3.750	0.950	Open Manhole	1200
45.022	32.579	162.9	S249	4.650	4.350	0.000	Open Manhole	1200
62.000	11.089	38.2	S248	5.100	4.250	0.700	Open Manhole	1200
62.001	22.582	150.5	S249	4.650	4.350	0.150	Open Manhole	1200
45.023	9.002	18.0	S250	4.450	3.700	0.450	Open Manhole	1200
1.027	9.559	191.2	S251	4.450	3.650	0.500	Open Manhole	1200
1.028	4.451	89.0	S252	4.450	3.600	0.550	Open Manhole	1200

Free Flowing Outfall Details for Surface Network 1

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.028	S252	4.450	3.600	0.000	1200	0

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Online Controls for Surface Network 1

Hydro-Brake® Optimum Manhole: S32, DS/PN: 1.006, Volume (m³): 5.7

Unit Reference	MD-SHE-0125-7500-1200-7500
Design Head (m)	1.200
Design Flow (l/s)	7.5
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	125
Invert Level (m)	5.150
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.200	7.5
Flush-Flo™	0.356	7.5
Kick-Flo®	0.763	6.1
Mean Flow over Head Range	-	6.5

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	4.5	1.200	7.5	3.000	11.5	7.000	17.3
0.200	7.1	1.400	8.1	3.500	12.4	7.500	17.9
0.300	7.5	1.600	8.6	4.000	13.2	8.000	18.4
0.400	7.5	1.800	9.1	4.500	14.0	8.500	19.0
0.500	7.4	2.000	9.5	5.000	14.7	9.000	19.5
0.600	7.1	2.200	10.0	5.500	15.4	9.500	20.0
0.800	6.2	2.400	10.4	6.000	16.1		
1.000	6.9	2.600	10.8	6.500	16.7		

Hydro-Brake® Optimum Manhole: S48, DS/PN: 1.011, Volume (m³): 2.2

Unit Reference	MD-SHE-0136-9000-1200-9000
Design Head (m)	1.200
Design Flow (l/s)	9.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	136
Invert Level (m)	4.850
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

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Hydro-Brake® Optimum Manhole: S48, DS/PN: 1.011, Volume (m³): 2.2

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.200	9.0
Flush-Flo™	0.354	9.0
Kick-Flo®	0.769	7.3
Mean Flow over Head Range	-	7.8

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	4.9	1.200	9.0	3.000	13.9	7.000	20.8
0.200	8.5	1.400	9.7	3.500	14.9	7.500	21.5
0.300	8.9	1.600	10.3	4.000	15.9	8.000	22.2
0.400	9.0	1.800	10.9	4.500	16.8	8.500	22.8
0.500	8.8	2.000	11.4	5.000	17.7	9.000	23.5
0.600	8.5	2.200	12.0	5.500	18.5	9.500	24.1
0.800	7.4	2.400	12.5	6.000	19.3		
1.000	8.3	2.600	13.0	6.500	20.1		

Orifice Manhole: S77, DS/PN: 1.019, Volume (m³): 1.0

Diameter (m) 0.244 Discharge Coefficient 0.600 Invert Level (m) 5.200

Hydro-Brake® Optimum Manhole: S127, DS/PN: 19.013, Volume (m³): 2.0

Unit Reference	MD-SHE-0258-3500-0600-3500
Design Head (m)	0.600
Design Flow (l/s)	35.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	258
Invert Level (m)	5.910
Minimum Outlet Pipe Diameter (mm)	300
Suggested Manhole Diameter (mm)	1500

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.600	35.0
Flush-Flo™	0.355	34.9
Kick-Flo®	0.523	32.8
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

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Hydro-Brake® Optimum Manhole: S127, DS/PN: 19.013, Volume (m³): 2.0

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	8.3	1.200	48.8	3.000	76.1	7.000	114.3
0.200	26.5	1.400	52.6	3.500	82.1	7.500	118.3
0.300	34.7	1.600	56.1	4.000	87.6	8.000	122.3
0.400	34.8	1.800	59.4	4.500	92.8	8.500	126.1
0.500	33.3	2.000	62.5	5.000	97.7	9.000	129.8
0.600	35.0	2.200	65.5	5.500	102.3	9.500	133.4
0.800	40.2	2.400	68.3	6.000	106.8		
1.000	44.7	2.600	71.0	6.500	110.0		

Hydro-Brake® Optimum Manhole: S136, DS/PN: 19.016, Volume (m³): 3.5

Unit Reference	MD-SHE-0196-2000-1200-2000
Design Head (m)	1.200
Design Flow (l/s)	20.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	196
Invert Level (m)	5.010
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1500

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.200	20.0
Flush-Flo™	0.376	20.0
Kick-Flo®	0.827	16.8
Mean Flow over Head Range	-	17.1

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	6.8	1.200	20.0	3.000	31.0	7.000	46.7
0.200	18.3	1.400	21.5	3.500	33.4	7.500	48.2
0.300	19.8	1.600	22.9	4.000	35.6	8.000	49.8
0.400	20.0	1.800	24.3	4.500	37.7	8.500	51.3
0.500	19.7	2.000	25.5	5.000	39.6	9.000	52.7
0.600	19.4	2.200	26.7	5.500	41.5	9.500	54.1
0.800	17.4	2.400	27.8	6.000	43.3		
1.000	18.3	2.600	28.9	6.500	45.0		

Orifice Manhole: S176, DS/PN: 1.025, Volume (m³): 4.8

Diameter (m) 0.290 Discharge Coefficient 0.600 Invert Level (m) 4.500

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Orifice Manhole: S225, DS/PN: 45.017, Volume (m³): 2.3

Diameter (m) 0.135 Discharge Coefficient 0.600 Invert Level (m) 5.000

Orifice Manhole: S246, DS/PN: 45.022, Volume (m³): 1.5

Diameter (m) 0.208 Discharge Coefficient 0.600 Invert Level (m) 4.550

Complex Manhole: S251, DS/PN: 1.028, Volume (m³): 1.5

Hydro-Brake® Optimum

Unit Reference	MD-SHE-0144-9000-0600-9000
Design Head (m)	0.600
Design Flow (l/s)	9.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	144
Invert Level (m)	3.650
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1200

Control Points	**Head (m)**	**Flow (l/s)**
Design Point (Calculated)	0.600	9.0
Flush-Flo™	0.226	9.0
Kick-Flo®	0.450	7.9
Mean Flow over Head Range	-	7.4

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	5.2	1.200	12.5	3.000	19.3	7.000	28.9
0.200	9.0	1.400	13.4	3.500	20.8	7.500	30.0
0.300	8.9	1.600	14.3	4.000	22.2	8.000	31.0
0.400	8.4	1.800	15.1	4.500	23.4	8.500	31.9
0.500	8.3	2.000	15.9	5.000	24.7	9.000	32.9
0.600	9.0	2.200	16.6	5.500	25.8	9.500	33.8
0.800	10.3	2.400	17.3	6.000	26.9		
1.000	11.4	2.600	18.0	6.500	27.9		

Hydro-Brake® Optimum

Unit Reference	MD-SHE-0221-2400-0500-2400
Design Head (m)	0.500
Design Flow (l/s)	24.0

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Hydro-Brake® Optimum

Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	221
Invert Level (m)	3.762
Minimum Outlet Pipe Diameter (mm)	300
Suggested Manhole Diameter (mm)	1200

Control Points	**Head (m)**	**Flow (l/s)**
Design Point (Calculated)	0.500	24.0
Flush-Flo™	0.301	24.0
Kick-Flo®	0.439	22.6
Mean Flow over Head Range	-	17.6

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	7.4	1.200	36.5	3.000	56.8	7.000	85.6
0.200	21.9	1.400	39.3	3.500	61.3	7.500	88.6
0.300	24.0	1.600	41.9	4.000	65.4	8.000	91.5
0.400	23.3	1.800	44.4	4.500	69.2	8.500	94.4
0.500	24.0	2.000	46.7	5.000	72.9	9.000	97.2
0.600	26.2	2.200	48.9	5.500	75.7	9.500	99.9
0.800	30.0	2.400	51.0	6.000	79.1		
1.000	33.4	2.600	53.0	6.500	82.4		

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Storage Structures for Surface Network 1

Trench Soakaway Manhole: S1, DS/PN: 1.000

Infiltration Coefficient Base (m/hr)	0.00000	Trench Width (m)	1.0
Infiltration Coefficient Side (m/hr)	0.00000	Trench Length (m)	72.0
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	6.600
Invert Level (m)	5.600	Cap Infiltration Depth (m)	6.600

Swale Manhole: S12, DS/PN: 1.005

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	80.0
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	5.850
Invert Level (m)	5.250	Cap Infiltration Depth (m)	5.850
Base Width (m)	2.5	Include Swale Volume	Yes

Swale Manhole: S17, DS/PN: 3.004

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	23.8
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	7.000
Invert Level (m)	5.700	Cap Infiltration Depth (m)	7.000
Base Width (m)	2.4	Include Swale Volume	Yes

Cellular Storage Manhole: S255, DS/PN: 5.000

Invert Level (m)	5.420	Safety Factor	1.0
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	108.0	108.0	0.900	0.0	146.4
0.800	108.0	146.4			

Complex Manhole: S36, DS/PN: 1.007

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Cellular Storage

Invert Level (m) 5.120 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	187.5	187.5	1.300	0.0	373.5
1.200	187.5	373.5			

Swale

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	75.0
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	359.0
Porosity	0.30	Cap Volume Depth (m)	6.400
Invert Level (m)	6.320	Cap Infiltration Depth (m)	6.400
Base Width (m)	2.5	Include Swale Volume	Yes

Swale Manhole: S41, DS/PN: 10.003

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	39.0
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	100.0
Porosity	0.30	Cap Volume Depth (m)	6.500
Invert Level (m)	5.680	Cap Infiltration Depth (m)	6.500
Base Width (m)	2.4	Include Swale Volume	Yes

Swale Manhole: S47, DS/PN: 10.009

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	64.8
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	100.0
Porosity	0.30	Cap Volume Depth (m)	6.000
Invert Level (m)	4.900	Cap Infiltration Depth (m)	6.000
Base Width (m)	2.0	Include Swale Volume	Yes

Tank or Pond Manhole: S49, DS/PN: 1.012

Invert Level (m) 5.550

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Tank or Pond Manhole: S49, DS/PN: 1.012

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	25.3	1.000	146.1

Swale Manhole: S53, DS/PN: 1.014

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	98.9
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	350.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	5.120	Cap Infiltration Depth (m)	0.000
Base Width (m)	2.4	Include Swale Volume	Yes

Tank or Pond Manhole: S76, DS/PN: 1.018

Invert Level (m) 5.250

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	461.0	1.000	751.0

Cellular Storage Manhole: S88, DS/PN: 19.007

Invert Level (m)	4.450	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	64.0	64.0	1.300	0.0	104.0
1.200	64.0	102.4			

Cellular Storage Manhole: S253, DS/PN: 21.000

Invert Level (m)	5.900	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	76.5	76.5	0.500	0.0	90.5
0.400	76.5	90.5			

Cellular Storage Manhole: S103, DS/PN: 19.009

Invert Level (m)	4.750	Safety Factor	2.0
Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.95
Infiltration Coefficient Side (m/hr)	0.00000		

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Cellular Storage Manhole: S103, DS/PN: 19.009

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	156.0	156.0	0.500	0.0	176.0
0.400	156.0	176.0			

Complex Manhole: S110, DS/PN: 19.012

Cellular Storage

Invert Level (m) 5.770 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	64.0	64.0	0.500	0.0	78.4
0.400	64.0	76.8			

Tank or Pond

Invert Level (m) 6.300

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	270.3	1.400	0.0	2.800	0.0	4.200	0.0
0.200	315.4	1.600	0.0	3.000	0.0	4.400	0.0
0.400	363.0	1.800	0.0	3.200	0.0	4.600	0.0
0.600	427.1	2.000	0.0	3.400	0.0	4.800	0.0
0.800	0.0	2.200	0.0	3.600	0.0	5.000	0.0
1.000	0.0	2.400	0.0	3.800	0.0		
1.200	0.0	2.600	0.0	4.000	0.0		

Swale Manhole: S116, DS/PN: 25.003

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	50.3
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	100.0
Porosity	0.30	Cap Volume Depth (m)	6.850
Invert Level (m)	5.950	Cap Infiltration Depth (m)	6.850
Base Width (m)	2.4	Include Swale Volume	Yes

Swale Manhole: S121, DS/PN: 26.000

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr) 0.00000 Infiltration Coefficient Side (m/hr) 0.00000

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Swale Manhole: S121, DS/PN: 26.000

Safety Factor	2.0	Side Slope (1:X)	4.0
Porosity	0.30	Slope (1:X)	100.0
Invert Level (m)	6.100	Cap Volume Depth (m)	6.850
Base Width (m)	2.4	Cap Infiltration Depth (m)	6.850
Length (m)	14.5	Include Swale Volume	Yes

Swale Manhole: S127, DS/PN: 19.013

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	50.3
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	100.0
Porosity	0.30	Cap Volume Depth (m)	6.800
Invert Level (m)	5.910	Cap Infiltration Depth (m)	6.800
Base Width (m)	2.4	Include Swale Volume	Yes

Complex Manhole: S130, DS/PN: 19.014

Tank or Pond

Invert Level (m) 6.200

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	269.2	2.800	0.0	5.600	0.0	8.400	0.0
0.400	346.7	3.200	0.0	6.000	0.0	8.800	0.0
0.800	0.0	3.600	0.0	6.400	0.0	9.200	0.0
1.200	0.0	4.000	0.0	6.800	0.0	9.600	0.0
1.600	0.0	4.400	0.0	7.200	0.0	10.000	0.0
2.000	0.0	4.800	0.0	7.600	0.0		
2.400	0.0	5.200	0.0	8.000	0.0		

Cellular Storage

Invert Level (m)	5.350	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	49.0	49.0	0.500	0.0	60.2
0.400	49.0	60.2			

Complex Manhole: S134, DS/PN: 19.015

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Tank or Pond

Invert Level (m) 6.200

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	250.5	2.800	0.0	5.600	0.0	8.400	0.0
0.400	329.9	3.200	0.0	6.000	0.0	8.800	0.0
0.800	0.0	3.600	0.0	6.400	0.0	9.200	0.0
1.200	0.0	4.000	0.0	6.800	0.0	9.600	0.0
1.600	0.0	4.400	0.0	7.200	0.0	10.000	0.0
2.000	0.0	4.800	0.0	7.600	0.0		
2.400	0.0	5.200	0.0	8.000	0.0		

Cellular Storage

Invert Level (m) 4.900 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	49.0	49.0	0.500	0.0	60.2
0.400	49.0	60.2			

Cellular Storage Manhole: S136, DS/PN: 19.016

Invert Level (m) 5.010 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	36.0	36.0	0.500	0.0	45.6
0.400	36.0	45.6			

Cellular Storage Manhole: S138, DS/PN: 19.017

Invert Level (m) 5.010 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	49.0	49.0	0.500	0.0	60.2
0.400	49.0	60.2			

Complex Manhole: S144, DS/PN: 19.018

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Tank or Pond

Invert Level (m) 5.500

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	260.0	2.800	0.0	5.600	0.0	8.400	0.0
0.400	345.2	3.200	0.0	6.000	0.0	8.800	0.0
0.800	0.0	3.600	0.0	6.400	0.0	9.200	0.0
1.200	0.0	4.000	0.0	6.800	0.0	9.600	0.0
1.600	0.0	4.400	0.0	7.200	0.0	10.000	0.0
2.000	0.0	4.800	0.0	7.600	0.0		
2.400	0.0	5.200	0.0	8.000	0.0		

Cellular Storage

Invert Level (m) 4.880 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	49.0	49.0	0.500	0.0	60.2
0.400	49.0	60.2			

Cellular Storage Manhole: S156, DS/PN: 19.021

Invert Level (m) 4.120 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	80.0	80.0	0.900	0.0	108.8
0.800	80.0	108.8			

Complex Manhole: S164, DS/PN: 1.022

Tank or Pond

Invert Level (m) 4.500

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	121.8	1.000	385.4

Cellular Storage

Invert Level (m) 3.710 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

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Cellular Storage

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	110.0	110.0	0.500	0.0	126.8
0.400	110.0	126.8			

Tank or Pond Manhole: S166, DS/PN: 1.024

Invert Level (m) 4.800

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	133.8	1.000	354.6

Complex Manhole: S176, DS/PN: 1.025

Cellular Storage

Invert Level (m) 3.400 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	80.0	80.0	0.900	0.0	108.8
0.800	80.0	108.8			

Tank or Pond

Invert Level (m) 4.200

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	106.0	0.750	211.5

Swale

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	58.6
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	4.950
Invert Level (m)	4.400	Cap Infiltration Depth (m)	4.950
Base Width (m)	2.5	Include Swale Volume	Yes

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Swale Manhole: S177, DS/PN: 1.026

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	3.5
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	4.450
Invert Level (m)	4.000	Cap Infiltration Depth (m)	4.450
Base Width (m)	2.5	Include Swale Volume	Yes

Cellular Storage Manhole: S179, DS/PN: 45.001

Invert Level (m)	5.900	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	55.0	55.0	0.500	0.0	68.3
0.400	55.0	66.9			

Complex Manhole: S188, DS/PN: 45.009

Cellular Storage

Invert Level (m)	4.950	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	95.0	95.0	0.500	0.0	110.6
0.400	95.0	110.6			

Tank or Pond

Invert Level (m) 5.750

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	77.9	1.000	211.5

Complex Manhole: S193, DS/PN: 45.012

Cellular Storage

Invert Level (m)	5.250	Infiltration Coefficient Side (m/hr)	0.00000
Infiltration Coefficient Base (m/hr)	0.00000	Safety Factor	2.0

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Cellular Storage

Porosity 0.95

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	25.0	25.0	0.500	0.0	33.0
0.400	25.0	33.0			

Swale

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	31.5
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	6.200
Invert Level (m)	4.550	Cap Infiltration Depth (m)	6.200
Base Width (m)	2.5	Include Swale Volume	Yes

Complex Manhole: S201, DS/PN: 45.014

Cellular Storage

Invert Level (m)	4.500	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	42.0	42.0	0.500	0.0	52.4
0.400	42.0	52.4			

Swale

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	36.8
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	6.150
Invert Level (m)	4.900	Cap Infiltration Depth (m)	6.150
Base Width (m)	2.5	Include Swale Volume	Yes

Complex Manhole: S206, DS/PN: 45.015

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Cellular Storage

Invert Level (m) 4.450 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	45.5	45.5	0.500	0.0	56.3
0.400	45.5	56.3			

Swale

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	24.7
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	5.500
Invert Level (m)	4.950	Cap Infiltration Depth (m)	5.500
Base Width (m)	2.5	Include Swale Volume	Yes

Complex Manhole: S222, DS/PN: 45.016

Cellular Storage

Invert Level (m) 4.080 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	54.0	54.0	0.900	0.0	79.0
0.800	54.0	77.5			

Swale

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	22.5
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	5.500
Invert Level (m)	4.880	Cap Infiltration Depth (m)	5.500
Base Width (m)	2.5	Include Swale Volume	Yes

Complex Manhole: S225, DS/PN: 45.017

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Cellular Storage

Invert Level (m) 4.080 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	54.0	54.0	0.900	0.0	79.0
0.800	54.0	77.5			

Swale

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	22.0
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	5.500
Invert Level (m)	4.880	Cap Infiltration Depth (m)	5.500
Base Width (m)	2.5	Include Swale Volume	Yes

Complex Manhole: S230, DS/PN: 45.018

Cellular Storage

Invert Level (m) 4.250 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	42.0	42.0	0.500	0.0	53.7
0.400	42.0	52.4			

Swale

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	27.2
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	5.000
Invert Level (m)	4.650	Cap Infiltration Depth (m)	5.000
Base Width (m)	2.5	Include Swale Volume	Yes

Complex Manhole: S246, DS/PN: 45.022

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Cellular Storage

Invert Level (m) 3.550 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	102.0	102.0	0.900	0.0	136.3
0.800	102.0	134.3			

Swale

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	51.2
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	5.000
Invert Level (m)	4.550	Cap Infiltration Depth (m)	5.000
Base Width (m)	2.5	Include Swale Volume	Yes

Cellular Storage Manhole: S248, DS/PN: 62.001

Invert Level (m) 4.250 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	20.0	20.0	0.500	0.0	28.0
0.400	20.0	27.2			

Swale Manhole: S249, DS/PN: 45.023

Warning:- Volume should always be included unless the upstream pipe is being used for storage and/or as a carrier

Infiltration Coefficient Base (m/hr)	0.00000	Length (m)	32.5
Infiltration Coefficient Side (m/hr)	0.00000	Side Slope (1:X)	4.0
Safety Factor	2.0	Slope (1:X)	200.0
Porosity	0.30	Cap Volume Depth (m)	4.500
Invert Level (m)	4.200	Cap Infiltration Depth (m)	4.500
Base Width (m)	2.5	Include Swale Volume	Yes

Tank or Pond Manhole: S250, DS/PN: 1.027

Invert Level (m) 3.700

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	178.2	0.750	326.9

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Time Area Diagram at Pipe Number 2.000 for Surface Network 1

Total Area (ha) 0.056

Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)
0	4	0.000	4	8	0.000	8	12	0.056

Time Area Diagram at Pipe Number 5.000 for Surface Network 1

Total Area (ha) 0.066

Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)
0	4	0.000	4	8	0.033	8	12	0.033

Time Area Diagram at Pipe Number 1.012 for Surface Network 1

Total Area (ha) 0.066

Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)
0	4	0.000	4	8	0.033	8	12	0.033

Time Area Diagram at Pipe Number 21.000 for Surface Network 1

Total Area (ha) 0.040

Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)
0	4	0.000	4	8	0.020	8	12	0.020

Time Area Diagram at Pipe Number 26.000 for Surface Network 1

Total Area (ha) 0.022

Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)
0	4	0.000	4	8	0.011	8	12	0.011

Time Area Diagram at Pipe Number 28.000 for Surface Network 1

Total Area (ha) 0.032

Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)
0	4	0.000	4	8	0.016	8	12	0.016

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Time Area Diagram at Pipe Number 29.002 for Surface Network 1

Total Area (ha) 0.016

Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)
0	4	0.000	4	8	0.000	8	12	0.016

Time Area Diagram at Pipe Number 31.000 for Surface Network 1

Total Area (ha) 0.017

Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)
0	4	0.000	4	8	0.000	8	12	0.017

Time Area Diagram at Pipe Number 19.022 for Surface Network 1

Total Area (ha) 0.032

Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)
0	4	0.000	4	8	0.000	8	12	0.032

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

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 39
Number of Online Controls 9 Number of Time/Area Diagrams 9
Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.350
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 19.000 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
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.
1.000	S1	1440 Winter	1	+0%	1/30 Summer			
1.001	S2	1440 Winter	1	+0%				
1.002	S3	60 Winter	1	+0%				
1.003	S4	60 Winter	1	+0%	100/120 Winter			
1.004	S5	1440 Winter	1	+0%	1/1440 Summer			
2.000	S6	15 Winter	1	+0%	30/15 Summer	100/15 Summer		
2.001	S7	15 Winter	1	+0%	30/15 Winter			
2.002	S8	15 Winter	1	+0%	30/15 Summer			
2.003	S9	15 Winter	1	+0%	30/15 Summer			
2.004	S10	15 Winter	1	+0%	30/15 Summer			
2.005	S11	15 Winter	1	+0%	30/15 Summer			
1.005	S12	1440 Winter	1	+0%	1/1440 Summer			
3.000	S13	1440 Winter	1	+0%	1/960 Summer			
3.001	S14	1440 Winter	1	+0%	1/240 Winter			
3.002	S15	1440 Winter	1	+0%	1/60 Winter			
3.003	S16	1440 Winter	1	+0%	1/30 Summer			
3.004	S17	1440 Winter	1	+0%				
3.005	S18	60 Winter	1	+0%	100/15 Summer			
4.000	S19	15 Winter	1	+0%	100/15 Winter			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	S1	6.072	0.322	0.000	0.01		0.1	SURCHARGED	
1.001	S2	6.072	-0.278	0.000	0.00		0.0	OK	
1.002	S3	6.150	-0.150	0.000	0.00		0.0	OK	
1.003	S4	5.890	-0.150	0.000	0.00		0.0	OK	
1.004	S5	5.599	0.049	0.000	0.00		0.0	SURCHARGED	
2.000	S6	6.474	-0.076	0.000	0.46		7.1	OK	4
2.001	S7	6.069	-0.081	0.000	0.43		7.2	OK	
2.002	S8	5.997	-0.073	0.000	0.52		7.6	OK	
2.003	S9	5.904	-0.076	0.000	0.48		7.5	OK	
2.004	S10	5.643	-0.067	0.000	0.59		7.4	OK	
2.005	S11	5.612	-0.058	0.000	0.68		7.4	OK	
1.005	S12	5.600	0.050	0.000	0.01		0.4	SURCHARGED	
3.000	S13	6.103	0.073	0.000	0.01		0.2	SURCHARGED	
3.001	S14	6.103	0.133	0.000	0.01		0.1	SURCHARGED	
3.002	S15	6.103	0.213	0.000	0.02		0.3	SURCHARGED	
3.003	S16	6.103	0.253	0.000	0.07		0.3	SURCHARGED	
3.004	S17	6.103	-0.547	0.000	0.00		0.0	OK	
3.005	S18	6.040	-0.150	0.000	0.00		0.0	OK	
4.000	S19	6.139	-0.111	0.000	0.15		2.1	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
3.006	S20	15 Winter	1	+0%	100/15 Summer			
3.007	S21	15 Winter	1	+0%	100/15 Summer			
5.000	S255	1440 Winter	1	+0%	1/960 Winter			
5.001	S254	1440 Winter	1	+0%				
5.002	S22	60 Winter	1	+0%	100/15 Summer			
6.000	S23	15 Winter	1	+0%				
3.008	S24	15 Winter	1	+0%	100/15 Summer			
3.009	S26	1440 Winter	1	+0%	30/15 Winter			
3.010	S27	1440 Winter	1	+0%	30/15 Summer			
3.011	S28	1440 Winter	1	+0%	30/15 Summer			
7.000	S29	1440 Winter	1	+0%	30/15 Summer			
3.012	S30	1440 Winter	1	+0%	1/960 Winter			
3.013	S31	1440 Winter	1	+0%	1/960 Summer			
1.006	S32	1440 Winter	1	+0%	1/360 Winter			
8.000	S33	15 Winter	1	+0%	30/15 Summer	100/15 Summer		
9.000	S34	1440 Winter	1	+0%	1/15 Summer	100/15 Summer		
8.001	S35	1440 Winter	1	+0%	1/15 Summer			
1.007	S36	1440 Winter	1	+0%	1/360 Winter			
1.008	S37	1440 Winter	1	+0%	100/360 Winter			
1.009	S38	1440 Winter	1	+0%	100/240 Winter			
1.010	S39	1440 Winter	1	+0%	1/15 Summer			
10.000	S112	15 Winter	1	+0%	100/15 Summer			
10.001	S111	15 Winter	1	+0%	30/15 Summer			
10.002	S40	15 Winter	1	+0%	30/15 Summer			
10.003	S41	15 Winter	1	+0%	30/15 Summer			
10.004	S42	15 Winter	1	+0%	30/15 Summer			
11.000	S256	1440 Winter	1	+0%	1/240 Winter			
10.005	S43	1440 Winter	1	+0%	1/60 Winter			
10.006	S44	1440 Winter	1	+0%	1/15 Winter			
10.007	S45	1440 Winter	1	+0%	1/15 Summer			
10.008	S46	1440 Winter	1	+0%	1/15 Summer			
10.009	S47	1440 Winter	1	+0%	1/15 Summer			
1.011	S48	1440 Winter	1	+0%	1/15 Summer			
1.012	S49	1440 Winter	1	+0%	100/15 Winter	100/960 Winter		
1.013	S50	1440 Winter	1	+0%	1/120 Summer			
12.000	S51	1440 Winter	1	+0%	30/120 Summer			
12.001	S52	1440 Winter	1	+0%	1/30 Summer			
1.014	S53	1440 Winter	1	+0%	1/30 Summer			
1.015	S54	1440 Winter	1	+0%	1/30 Summer			
1.016	S55	1440 Winter	1	+0%	1/15 Summer			
13.000	S56	1440 Winter	1	+0%	1/15 Summer			
13.001	S57	1440 Winter	1	+0%	1/15 Summer			
13.002	S58	1440 Winter	1	+0%	1/15 Summer			
13.003	S59	1440 Winter	1	+0%	1/15 Summer			
1.017	S60	1440 Winter	1	+0%	1/15 Summer			
14.000	S61	15 Winter	1	+0%	30/15 Summer	100/15 Summer		
15.000	S62	15 Winter	1	+0%	30/15 Summer	100/15 Summer		
14.001	S63	15 Winter	1	+0%	30/15 Summer			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
3.006	S20	6.029	-0.111	0.000	0.15		2.1	OK	
3.007	S21	5.918	-0.112	0.000	0.14		2.1	OK	
5.000	S255	5.600	0.030	0.000	0.02		0.2	SURCHARGED	
5.001	S254	5.600	-0.570	0.000	0.00		0.0	OK	
5.002	S22	5.990	-0.150	0.000	0.00		0.0	OK	
6.000	S23	6.391	-0.109	0.000	0.17		6.8	OK	
3.008	S24	5.790	-0.155	0.000	0.21		8.8	OK	
3.009	S26	5.600	-0.130	0.000	0.01		0.7	OK	
3.010	S27	5.600	-0.090	0.000	0.01		0.7	OK	
3.011	S28	5.600	-0.020	0.000	0.01		0.7	OK	
7.000	S29	5.600	-0.007	0.000	0.03		0.5	OK	
3.012	S30	5.600	0.080	0.000	0.02		1.2	SURCHARGED	
3.013	S31	5.600	0.120	0.000	0.02		1.2	SURCHARGED	
1.006	S32	5.600	0.150	0.000	0.04		1.3	SURCHARGED	
8.000	S33	5.634	-0.066	0.000	0.58		10.6	OK	5
9.000	S34	5.600	0.100	0.000	0.04		0.6	SURCHARGED	3
8.001	S35	5.600	0.160	0.000	0.11		1.2	SURCHARGED	
1.007	S36	5.600	0.180	0.000	0.12		3.3	SURCHARGED	
1.008	S37	5.670	-0.280	0.000	0.01		0.8	OK	
1.009	S38	5.691	-0.209	0.000	0.00		0.0	OK	
1.010	S39	5.593	0.483	0.000	0.00		0.0	SURCHARGED	
10.000	S112	6.107	-0.093	0.000	0.30		4.3	OK	
10.001	S111	5.957	-0.093	0.000	0.31		4.4	OK	
10.002	S40	5.888	-0.062	0.000	0.64		7.9	OK	
10.003	S41	5.754	-0.076	0.000	0.49		7.8	OK	
10.004	S42	5.680	-0.080	0.000	0.44		9.5	OK	
11.000	S256	5.604	0.064	0.000	0.00		0.1	SURCHARGED	
10.005	S43	5.604	0.194	0.000	0.05		0.8	SURCHARGED	
10.006	S44	5.602	0.302	0.000	0.05		0.8	SURCHARGED	
10.007	S45	5.600	0.450	0.000	0.12		0.9	SURCHARGED	
10.008	S46	5.597	0.497	0.000	0.07		0.9	SURCHARGED	
10.009	S47	5.595	0.545	0.000	0.05		0.6	SURCHARGED	
1.011	S48	5.593	0.593	0.000	0.04		0.6	SURCHARGED	
1.012	S49	5.582	-0.118	0.000	0.10		0.9	FLOOD RISK	2
1.013	S50	5.360	0.090	0.000	0.07		0.9	SURCHARGED	
12.000	S51	5.358	-0.042	0.000	0.02		0.3	OK	
12.001	S52	5.358	0.148	0.000	0.04		0.4	SURCHARGED	
1.014	S53	5.358	0.148	0.000	0.11		0.9	SURCHARGED	
1.015	S54	5.354	0.204	0.000	0.04		0.9	SURCHARGED	
1.016	S55	5.349	0.699	0.000	0.05		0.9	SURCHARGED	
13.000	S56	5.345	0.405	0.000	0.01		0.1	SURCHARGED	
13.001	S57	5.345	0.545	0.000	0.01		0.1	SURCHARGED	
13.002	S58	5.345	0.635	0.000	0.02		0.3	SURCHARGED	
13.003	S59	5.345	0.745	0.000	0.02		0.3	SURCHARGED	
1.017	S60	5.345	0.845	0.000	0.11		1.0	SURCHARGED	
14.000	S61	6.380	-0.070	0.000	0.50		8.0	OK	6
15.000	S62	6.122	-0.068	0.000	0.55		8.4	OK	6

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
14.001	S63	5.849	-0.011	0.000	1.00		15.3	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
14.002	S64	15 Winter	1	+0%	30/15 Summer			
14.003	S65	1440 Winter	1	+0%	1/960 Winter			
14.004	S66	1440 Winter	1	+0%	1/15 Summer			
16.000	S67	15 Winter	1	+0%	100/15 Summer			
16.001	S68	1440 Winter	1	+0%	1/30 Summer			
14.005	S69	1440 Winter	1	+0%	1/15 Summer			
14.006	S70	1440 Winter	1	+0%	1/15 Summer			
14.007	S71	1440 Winter	1	+0%	1/15 Summer			
17.000	S72	15 Winter	1	+0%	100/15 Summer			
18.000	S73	1440 Winter	1	+0%	1/60 Winter	100/15 Summer		
17.001	S74	1440 Winter	1	+0%	1/15 Summer			
17.002	S75	1440 Winter	1	+0%	1/15 Summer			
1.018	S76	1440 Winter	1	+0%				
1.019	S77	1440 Winter	1	+0%	100/360 Winter			
1.020	S78	960 Winter	1	+0%				
1.021	S79	1440 Winter	1	+0%				
19.000	S80	15 Winter	1	+0%	30/960 Summer			
19.001	S81	15 Winter	1	+0%	30/480 Winter			
20.000	S82	15 Winter	1	+0%	100/120 Winter			
19.002	S83	15 Winter	1	+0%	30/15 Summer			
19.003	S84	15 Winter	1	+0%	30/15 Summer			
19.004	S85	15 Winter	1	+0%	30/240 Winter	100/240 Winter		
19.005	S86	1440 Winter	1	+0%	30/240 Summer			
19.006	S87	1440 Winter	1	+0%	1/960 Summer			
19.007	S88	1440 Winter	1	+0%	30/480 Winter			
19.008	S89	1440 Winter	1	+0%	1/240 Winter			
21.000	S253	1440 Winter	1	+0%	1/1440 Winter			
21.001	S90	1440 Winter	1	+0%				
21.002	S91	60 Winter	1	+0%	100/120 Winter			
21.003	S92	15 Winter	1	+0%	100/15 Summer			
21.004	S93	15 Winter	1	+0%	30/960 Winter			
21.005	S94	15 Winter	1	+0%	30/960 Summer			
21.006	S95	15 Winter	1	+0%	30/960 Summer			
22.000	S96	15 Winter	1	+0%	100/15 Summer			
22.001	S97	15 Winter	1	+0%	30/15 Summer			
23.000	S98	15 Winter	1	+0%	30/960 Summer			
21.007	S99	15 Winter	1	+0%	30/15 Summer			
21.008	S100	15 Winter	1	+0%	30/15 Summer			
21.009	S101	1440 Winter	1	+0%	30/15 Summer	100/240 Winter		
21.010	S102	1440 Winter	1	+0%	30/15 Summer			
19.009	S103	1440 Winter	1	+0%	1/960 Winter			
19.010	S104	1440 Winter	1	+0%	30/960 Winter			
19.011	S105	1440 Winter	1	+0%	1/240 Winter			
24.000	S106	15 Winter	1	+0%	100/15 Summer			
24.001	S107	15 Winter	1	+0%	30/15 Winter			
24.002	S108	15 Winter	1	+0%	30/15 Summer			
24.003	S109	1440 Winter	1	+0%	30/15 Summer			
19.012	S110	1440 Winter	1	+0%	100/60 Winter			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
14.002	S64	5.583	-0.077	0.000	0.47		16.9	OK	
14.003	S65	5.340	0.010	0.000	0.01		1.3	SURCHARGED	
14.004	S66	5.341	0.301	0.000	0.01		1.3	SURCHARGED	
16.000	S67	5.718	-0.082	0.000	0.39		6.1	OK	
16.001	S68	5.341	0.101	0.000	0.01		0.4	SURCHARGED	
14.005	S69	5.341	0.651	0.000	0.03		1.7	SURCHARGED	
14.006	S70	5.341	0.751	0.000	0.03		1.7	SURCHARGED	
14.007	S71	5.340	0.780	0.000	0.03		1.7	SURCHARGED	
17.000	S72	5.443	-0.107	0.000	0.17		4.3	OK	
18.000	S73	5.342	0.062	0.000	0.01		0.3	SURCHARGED	6
17.001	S74	5.341	0.341	0.000	0.04		0.6	SURCHARGED	
17.002	S75	5.341	0.421	0.000	0.03		0.6	SURCHARGED	
1.018	S76	5.340	-0.210	0.000	0.02		1.5	OK	
1.019	S77	5.342	-0.158	0.000	0.04		1.2	OK	
1.020	S78	5.213	-0.267	0.000	0.02		1.1	OK	
1.021	S79	5.110	-0.290	0.000	0.01		1.2	OK	
19.000	S80	5.696	-0.114	0.000	0.13		1.7	OK	
19.001	S81	5.592	-0.118	0.000	0.10		1.7	OK	
20.000	S82	6.097	-0.123	0.000	0.07		3.5	OK	
19.002	S83	5.392	-0.078	0.000	0.46		6.7	OK	
19.003	S84	5.282	-0.068	0.000	0.57		8.1	OK	
19.004	S85	5.063	-0.137	0.000	0.32		10.9	OK	3
19.005	S86	5.047	-0.038	0.000	0.03		1.1	OK	
19.006	S87	5.047	0.132	0.000	0.02		1.1	SURCHARGED	
19.007	S88	5.047	-0.553	0.000	0.00		0.0	OK	
19.008	S89	5.146	0.206	0.000	0.00		0.0	SURCHARGED	
21.000	S253	6.051	0.001	0.000	0.01		0.1	SURCHARGED	
21.001	S90	6.052	-0.548	0.000	0.00		0.0	OK	
21.002	S91	6.290	-0.150	0.000	0.00		0.0	OK	
21.003	S92	6.113	-0.117	0.000	0.11		1.9	OK	
21.004	S93	5.828	-0.167	0.000	0.15		5.8	OK	
21.005	S94	5.745	-0.170	0.000	0.14		5.8	OK	
21.006	S95	5.586	-0.159	0.000	0.19		7.6	OK	
22.000	S96	6.074	-0.106	0.000	0.19		4.5	OK	
22.001	S97	5.557	-0.093	0.000	0.31		4.5	OK	
23.000	S98	5.692	-0.108	0.000	0.18		4.5	OK	
21.007	S99	5.463	-0.132	0.000	0.36		16.3	OK	
21.008	S100	5.230	-0.125	0.000	0.40		19.0	OK	
21.009	S101	5.146	-0.089	0.000	0.05		1.5	OK	4
21.010	S102	5.146	-0.049	0.000	0.04		1.5	OK	
19.009	S103	5.146	0.096	0.000	0.01		0.3	SURCHARGED	
19.010	S104	5.146	-0.904	0.000	0.00		0.0	OK	
19.011	S105	5.939	0.019	0.000	0.00		0.0	SURCHARGED	
24.000	S106	6.354	-0.106	0.000	0.18		2.7	OK	
24.001	S107	6.220	-0.090	0.000	0.33		5.1	OK	
24.002	S108	6.033	-0.087	0.000	0.37		7.4	OK	
24.003	S109	5.944	-0.006	0.000	0.06		0.5	OK	

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
19.012	S110	5.942	-0.228	0.000	0.00		0.0	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
25.000	S113	30 Winter	1	+0%	30/15 Summer			
25.001	S114	30 Winter	1	+0%	1/30 Winter			
25.002	S115	30 Winter	1	+0%	1/15 Winter			
25.003	S116	30 Winter	1	+0%	1/15 Summer			
25.004	S117	30 Winter	1	+0%	1/15 Winter			
25.005	S118	30 Winter	1	+0%	1/15 Winter			
25.006	S119	30 Winter	1	+0%	30/15 Summer			
25.007	S120	30 Winter	1	+0%	30/15 Summer			
26.000	S121	120 Winter	1	+0%				
26.001	S122	120 Winter	1	+0%				
26.002	S123	15 Winter	1	+0%	100/15 Summer			
26.003	S124	15 Winter	1	+0%	100/15 Summer			
26.004	S125	15 Winter	1	+0%	100/15 Summer			
27.000	S126	15 Winter	1	+0%	30/15 Summer			
19.013	S127	30 Winter	1	+0%	100/30 Winter			
28.000	S128	15 Winter	1	+0%	100/15 Winter			
28.001	S129	15 Winter	1	+0%	100/15 Winter			
19.014	S130	120 Winter	1	+0%	30/60 Winter			
29.000	S131	15 Winter	1	+0%	100/60 Summer			
29.001	S132	480 Winter	1	+0%	1/120 Winter			
29.002	S133	480 Winter	1	+0%	1/60 Winter			
19.015	S134	480 Winter	1	+0%	100/60 Winter			
30.000	S135	15 Winter	1	+0%	100/60 Winter			
19.016	S136	480 Winter	1	+0%	100/30 Summer			
31.000	S137	15 Summer	1	+0%	100/480 Winter			
19.017	S138	480 Winter	1	+0%	100/120 Summer			
32.000	S139	15 Winter	1	+0%	100/15 Winter			
32.001	S140	15 Winter	1	+0%	100/15 Summer			
32.002	S141	15 Winter	1	+0%	100/15 Summer			
33.000	S142	15 Winter	1	+0%	100/120 Winter			
32.003	S143	480 Winter	1	+0%	30/15 Summer			
19.018	S144	480 Winter	1	+0%	100/120 Summer			
34.000	S145	15 Winter	1	+0%	100/120 Winter			
35.000	S146	15 Winter	1	+0%	100/240 Winter			
34.001	S147	1440 Winter	1	+0%	30/120 Winter			
34.002	S148	1440 Winter	1	+0%	1/480 Winter			
34.003	S149	1440 Winter	1	+0%	1/360 Winter			
34.004	S150	1440 Winter	1	+0%	1/240 Winter			
36.000	S151	1440 Winter	1	+0%	1/480 Winter			
19.019	S152	1440 Winter	1	+0%	1/240 Summer			
37.000	S153	15 Winter	1	+0%	100/120 Winter			
38.000	S154	1440 Winter	1	+0%	1/240 Summer	100/360 Winter		
19.020	S155	1440 Winter	1	+0%	1/240 Summer			
19.021	S156	1440 Winter	1	+0%	30/240 Winter			
19.022	S157	1440 Winter	1	+0%	1/960 Summer			
39.000	S158	1440 Winter	1	+0%	1/960 Summer			
39.001	S159	1440 Winter	1	+0%	1/480 Winter			
39.002	S160	1440 Winter	1	+0%	1/480 Winter			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
25.000	S113	6.159	-0.041	0.000	0.29		2.5	OK	
25.001	S114	6.153	0.003	0.000	0.44		1.9	SURCHARGED	
25.002	S115	6.147	0.017	0.000	0.74		3.8	SURCHARGED	
25.003	S116	6.131	0.031	0.000	0.46		3.7	SURCHARGED	
25.004	S117	6.122	0.022	0.000	1.03		4.3	SURCHARGED	
25.005	S118	6.103	0.013	0.000	0.73		4.5	SURCHARGED	
25.006	S119	6.089	-0.001	0.000	1.00		4.3	OK	
25.007	S120	6.032	-0.038	0.000	0.60		5.0	OK	
26.000	S121	6.222	-0.178	0.000	0.02		0.7	OK	
26.001	S122	6.221	-0.129	0.000	0.05		1.0	OK	
26.002	S123	6.088	-0.112	0.000	0.12		1.0	OK	
26.003	S124	6.066	-0.084	0.000	0.32		2.0	OK	
26.004	S125	6.049	-0.101	0.000	0.23		3.0	OK	
27.000	S126	6.169	-0.041	0.000	0.87		3.8	OK	
19.013	S127	6.020	-0.190	0.000	0.06		9.8	OK	
28.000	S128	5.926	-0.104	0.000	0.21		3.2	OK	
28.001	S129	5.824	-0.116	0.000	0.12		3.2	OK	
19.014	S130	5.662	-0.088	0.000	0.35		7.0	OK	
29.000	S131	5.339	-0.121	0.000	0.08		2.0	OK	
29.001	S132	5.337	0.067	0.000	0.02		0.3	SURCHARGED	
29.002	S133	5.336	0.186	0.000	0.03		0.5	SURCHARGED	
19.015	S134	5.335	-0.265	0.000	0.03		3.6	OK	
30.000	S135	5.588	-0.112	0.000	0.14		4.5	OK	
19.016	S136	5.094	-0.216	0.000	0.15		3.1	OK	
31.000	S137	5.528	-0.122	0.000	0.08		2.3	OK	
19.017	S138	5.047	-0.263	0.000	0.04		3.2	OK	
32.000	S139	5.373	-0.107	0.000	0.18		3.0	OK	
32.001	S140	5.180	-0.100	0.000	0.24		3.5	OK	
32.002	S141	5.024	-0.096	0.000	0.28		4.0	OK	
33.000	S142	5.339	-0.131	0.000	0.04		0.9	OK	
32.003	S143	5.003	-0.057	0.000	0.09		0.9	OK	
19.018	S144	5.002	-0.278	0.000	0.02		3.5	OK	
34.000	S145	5.302	-0.118	0.000	0.10		1.6	OK	
35.000	S146	5.445	-0.125	0.000	0.07		3.3	OK	
34.001	S147	4.834	-0.116	0.000	0.00		0.4	OK	
34.002	S148	4.834	0.104	0.000	0.01		0.4	SURCHARGED	
34.003	S149	4.834	0.174	0.000	0.01		0.5	SURCHARGED	
34.004	S150	4.834	0.264	0.000	0.01		0.5	SURCHARGED	
36.000	S151	4.834	0.114	0.000	0.01		0.1	SURCHARGED	
19.019	S152	4.834	0.384	0.000	0.05		2.9	SURCHARGED	
37.000	S153	5.244	-0.126	0.000	0.06		3.3	OK	
38.000	S154	4.834	0.419	0.000	0.01		0.2	SURCHARGED	
19.020	S155	4.834	0.414	0.000	0.17		3.2	SURCHARGED	
19.021	S156	4.833	-0.037	0.000	0.18		2.8	OK	
19.022	S157	4.832	0.222	0.000	0.08		2.9	SURCHARGED	
39.000	S158	4.832	0.112	0.000	0.01		0.2	SURCHARGED	
39.001	S159	4.832	0.412	0.000	0.02		0.3	SURCHARGED	

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
39.002	S160	4.832	0.562	0.000	0.02		0.3	SURCHARGED	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
40.000	S161	1440 Winter	1	+0%	1/480 Summer			
19.023	S162	1440 Winter	1	+0%	1/480 Summer			
19.024	S163	1440 Winter	1	+0%	1/480 Summer			
1.022	S164	1440 Winter	1	+0%				
1.023	S165	1440 Winter	1	+0%				
1.024	S166	1440 Winter	1	+0%				
41.000	S167	1440 Winter	1	+0%	30/360 Summer			
42.000	S168	15 Winter	1	+0%				
41.001	S169	1440 Winter	1	+0%	1/1440 Winter			
43.000	S170	15 Winter	1	+0%				
43.001	S171	1440 Winter	1	+0%	1/1440 Winter			
41.002	S172	1440 Winter	1	+0%	1/1440 Summer			
41.003	S173	1440 Winter	1	+0%	1/1440 Summer			
44.000	S174	1440 Winter	1	+0%	1/1440 Winter			
41.004	S175	1440 Winter	1	+0%	1/480 Winter			
1.025	S176	1440 Winter	1	+0%				
1.026	S177	60 Winter	1	+0%	100/480 Winter	100/960 Winter		
45.000	S178	15 Winter	1	+0%				
45.001	S179	1440 Winter	1	+0%	100/1440 Winter			
45.002	S180	60 Winter	1	+0%	100/960 Summer			
45.003	S181	15 Winter	1	+0%	100/360 Winter			
45.004	S182	15 Winter	1	+0%	30/1440 Winter			
46.000	S183	15 Winter	1	+0%	30/480 Winter			
45.005	S184	15 Winter	1	+0%	30/480 Winter			
45.006	S185	1440 Winter	1	+0%	30/480 Winter			
45.007	S186	1440 Winter	1	+0%	1/960 Winter			
45.008	S187	1440 Winter	1	+0%	1/240 Winter			
45.009	S188	1440 Winter	1	+0%				
45.010	S189	960 Summer	1	+0%				
45.011	S190	960 Summer	1	+0%				
47.000	S191	15 Winter	1	+0%				
47.001	S192	15 Winter	1	+0%				
45.012	S193	1440 Winter	1	+0%				
45.013	S194	60 Winter	1	+0%				
48.000	S195	15 Winter	1	+0%				
49.000	S196	15 Winter	1	+0%				
48.001	S197	15 Winter	1	+0%	100/15 Summer			
48.002	S198	15 Winter	1	+0%	30/960 Summer			
48.003	S199	1440 Winter	1	+0%	30/120 Winter			
48.004	S200	1440 Winter	1	+0%	1/960 Winter			
45.014	S201	1440 Winter	1	+0%				
50.000	S202	15 Winter	1	+0%	100/15 Summer			
50.001	S203	15 Winter	1	+0%	100/15 Summer			
50.002	S204	15 Winter	1	+0%				
50.003	S205	1440 Winter	1	+0%	1/960 Summer			
45.015	S206	1440 Winter	1	+0%				
51.000	S207	15 Winter	1	+0%	100/15 Summer			
51.001	S208	15 Winter	1	+0%	100/15 Summer			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
40.000	S161	4.832	0.587	0.000	0.00		0.2	SURCHARGED	
19.023	S162	4.832	0.647	0.000	0.10		3.0	SURCHARGED	
19.024	S163	4.832	0.677	0.000	0.06		3.0	SURCHARGED	
1.022	S164	4.832	-0.268	0.000	0.01		1.1	OK	
1.023	S165	4.811	-0.189	0.000	0.01		1.1	OK	
1.024	S166	4.809	-0.291	0.000	0.01		1.1	OK	
41.000	S167	4.383	-0.047	0.000	0.01		0.1	OK	
42.000	S168	4.748	-0.122	0.000	0.08		3.3	OK	
41.001	S169	4.383	0.073	0.000	0.02		0.3	SURCHARGED	
43.000	S170	4.676	-0.124	0.000	0.07		3.3	OK	
43.001	S171	4.383	0.213	0.000	0.02		0.3	SURCHARGED	
41.002	S172	4.383	0.328	0.000	0.01		0.7	SURCHARGED	
41.003	S173	4.383	0.478	0.000	0.02		0.8	SURCHARGED	
44.000	S174	4.383	0.003	0.000	0.00		0.2	SURCHARGED	
41.004	S175	4.383	0.678	0.000	0.05		1.0	SURCHARGED	
1.025	S176	4.383	-0.417	0.000	0.00		0.0	OK	
1.026	S177	4.000	-0.300	0.000	0.00		0.0	OK	2
45.000	S178	6.195	-0.105	0.000	0.20		4.1	OK	
45.001	S179	6.075	-0.175	0.000	0.00		0.0	OK	
45.002	S180	6.000	-0.150	0.000	0.00		0.0	OK	
45.003	S181	5.927	-0.113	0.000	0.13		2.0	OK	
45.004	S182	5.756	-0.124	0.000	0.07		2.6	OK	
46.000	S183	5.425	-0.105	0.000	0.20		1.2	OK	
45.005	S184	5.336	-0.169	0.000	0.14		5.8	OK	
45.006	S185	5.226	-0.159	0.000	0.01		0.6	OK	
45.007	S186	5.226	0.041	0.000	0.02		0.8	SURCHARGED	
45.008	S187	5.226	0.121	0.000	0.03		0.7	SURCHARGED	
45.009	S188	5.226	-1.299	0.000	0.00		0.0	OK	
45.010	S189	6.007	-0.318	0.000	0.00		0.0	OK	
45.011	S190	6.002	-0.323	0.000	0.00		0.0	OK	
47.000	S191	5.603	-0.107	0.000	0.18		2.6	OK	
47.001	S192	5.491	-0.119	0.000	0.09		2.6	OK	
45.012	S193	4.813	-1.212	0.000	0.00		0.0	OK	
45.013	S194	5.750	-0.225	0.000	0.00		0.0	OK	
48.000	S195	5.645	-0.125	0.000	0.06		2.1	OK	
49.000	S196	5.966	-0.134	0.000	0.03		1.4	OK	
48.001	S197	5.055	-0.105	0.000	0.19		3.5	OK	
48.002	S198	4.871	-0.099	0.000	0.25		4.7	OK	
48.003	S199	4.784	-0.016	0.000	0.03		0.4	OK	
48.004	S200	4.784	0.044	0.000	0.02		0.3	SURCHARGED	
45.014	S201	4.784	-1.141	0.000	0.00		0.0	OK	
50.000	S202	5.484	-0.096	0.000	0.27		4.3	OK	
50.001	S203	5.381	-0.099	0.000	0.25		4.3	OK	
50.002	S204	5.187	-0.113	0.000	0.14		5.4	OK	
50.003	S205	4.731	0.081	0.000	0.03		0.4	SURCHARGED	
45.015	S206	4.731	-0.594	0.000	0.00		0.0	OK	
51.000	S207	5.706	-0.094	0.000	0.30		4.3	OK	

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
51.001	S208	5.644	-0.086	0.000	0.37		5.1	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
51.002	S209	15 Winter	1	+0%				
51.003	S210	15 Winter	1	+0%				
52.000	S211	15 Winter	1	+0%				
51.004	S212	15 Winter	1	+0%				
53.000	S213	15 Winter	1	+0%				
51.005	S214	15 Winter	1	+0%	100/60 Winter			
54.000	S215	15 Winter	1	+0%	100/60 Winter			
51.006	S216	15 Winter	1	+0%	100/60 Winter			
55.000	S217	15 Winter	1	+0%	100/60 Summer			
51.007	S218	1440 Winter	1	+0%	1/960 Winter			
51.008	S219	1440 Winter	1	+0%	1/240 Winter			
51.009	S220	1440 Winter	1	+0%	1/240 Summer			
51.010	S221	1440 Winter	1	+0%	1/120 Summer			
45.016	S222	1440 Winter	1	+0%				
56.000	S223	15 Winter	1	+0%	30/480 Winter			
56.001	S224	15 Winter	1	+0%	30/480 Winter			
45.017	S225	1440 Winter	1	+0%				
57.000	S226	15 Winter	1	+0%				
57.001	S227	15 Winter	1	+0%	100/15 Summer			
57.002	S228	15 Winter	1	+0%	100/15 Summer			
57.003	S229	1440 Winter	1	+0%	30/240 Summer			
45.018	S230	1440 Winter	1	+0%				
45.019	S231	60 Winter	1	+0%				
45.020	S232	60 Winter	1	+0%				
45.021	S233	60 Winter	1	+0%				
58.000	S234	15 Winter	1	+0%				
58.001	S235	15 Winter	1	+0%	100/15 Summer			
59.000	S236	15 Winter	1	+0%				
58.002	S237	15 Winter	1	+0%	100/15 Summer			
60.000	S238	15 Winter	1	+0%				
60.001	S239	15 Winter	1	+0%				
58.003	S240	15 Winter	1	+0%	30/960 Winter			
58.004	S241	15 Winter	1	+0%	30/960 Winter			
61.000	S242	15 Winter	1	+0%	30/960 Winter			
58.005	S243	1440 Winter	1	+0%	30/240 Winter			
58.006	S244	1440 Winter	1	+0%	30/240 Summer			
58.007	S245	1440 Winter	1	+0%	30/240 Summer			
45.022	S246	1440 Winter	1	+0%				
62.000	S247	15 Winter	1	+0%				
62.001	S248	1440 Winter	1	+0%				
45.023	S249	60 Winter	1	+0%				
1.027	S250	60 Winter	1	+0%	100/240 Winter			
1.028	S251	60 Winter	1	+0%	100/360 Winter			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
51.002	S209	5.511	-0.164	0.000	0.16		5.2	OK	
51.003	S210	5.456	-0.169	0.000	0.14		5.1	OK	
52.000	S211	6.040	-0.130	0.000	0.04		2.1	OK	
51.004	S212	5.349	-0.156	0.000	0.20		7.1	OK	
53.000	S213	5.364	-0.116	0.000	0.12		2.1	OK	
51.005	S214	5.147	-0.223	0.000	0.15		12.4	OK	
54.000	S215	5.261	-0.119	0.000	0.10		2.1	OK	
51.006	S216	5.021	-0.229	0.000	0.13		14.4	OK	
55.000	S217	5.093	-0.117	0.000	0.11		4.3	OK	
51.007	S218	4.921	0.111	0.000	0.01		1.3	SURCHARGED	
51.008	S219	4.921	0.361	0.000	0.02		1.4	SURCHARGED	
51.009	S220	4.921	0.421	0.000	0.02		1.4	SURCHARGED	
51.010	S221	4.921	0.521	0.000	0.03		1.3	SURCHARGED	
45.016	S222	4.921	-0.479	0.000	0.00		0.0	OK	
56.000	S223	4.164	-0.276	0.000	0.02		1.0	OK	
56.001	S224	4.129	-0.271	0.000	0.02		1.0	OK	
45.017	S225	4.123	-1.177	0.000	0.00		0.0	OK	
57.000	S226	5.211	-0.119	0.000	0.09		2.6	OK	
57.001	S227	4.701	-0.099	0.000	0.25		3.8	OK	
57.002	S228	4.609	-0.091	0.000	0.33		5.0	OK	
57.003	S229	4.543	-0.027	0.000	0.01		0.4	OK	
45.018	S230	4.543	-0.357	0.000	0.00		0.0	OK	
45.019	S231	4.600	-0.300	0.000	0.00		0.0	OK	
45.020	S232	4.550	-0.300	0.000	0.00		0.0	OK	
45.021	S233	4.550	-0.300	0.000	0.00		0.0	OK	
58.000	S234	4.897	-0.113	0.000	0.14		2.1	OK	
58.001	S235	4.707	-0.113	0.000	0.14		2.1	OK	
59.000	S236	5.378	-0.122	0.000	0.08		4.1	OK	
58.002	S237	4.638	-0.092	0.000	0.31		6.2	OK	
60.000	S238	5.474	-0.126	0.000	0.06		3.1	OK	
60.001	S239	4.644	-0.106	0.000	0.18		4.9	OK	
58.003	S240	4.230	-0.220	0.000	0.16		11.2	OK	
58.004	S241	4.152	-0.218	0.000	0.17		12.7	OK	
61.000	S242	4.432	-0.118	0.000	0.10		4.2	OK	
58.005	S243	4.011	-0.109	0.000	0.02		1.3	OK	
58.006	S244	4.011	-0.059	0.000	0.03		1.4	OK	
58.007	S245	4.011	-0.039	0.000	0.03		1.4	OK	
45.022	S246	4.011	-0.839	0.000	0.00		0.0	OK	
62.000	S247	4.570	-0.120	0.000	0.09		2.3	OK	
62.001	S248	4.500	-0.150	0.000	0.00		0.0	OK	
45.023	S249	4.200	-0.300	0.000	0.00		0.0	OK	
1.027	S250	3.700	-0.300	0.000	0.00		0.0	OK	
1.028	S251	3.650	-0.300	0.000	0.00		0.0	OK	

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

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 39
Number of Online Controls 9 Number of Time/Area Diagrams 9
Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.350
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 19.000 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
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.
1.000	S1	1440 Winter	30	+0%	1/30 Summer			
1.001	S2	1440 Winter	30	+0%				
1.002	S3	1440 Winter	30	+0%				
1.003	S4	1440 Winter	30	+0%	100/120 Winter			
1.004	S5	1440 Winter	30	+0%	1/1440 Summer			
2.000	S6	15 Winter	30	+0%	30/15 Summer	100/15 Summer		
2.001	S7	15 Winter	30	+0%	30/15 Winter			
2.002	S8	30 Summer	30	+0%	30/15 Summer			
2.003	S9	30 Summer	30	+0%	30/15 Summer			
2.004	S10	1440 Winter	30	+0%	30/15 Summer			
2.005	S11	1440 Winter	30	+0%	30/15 Summer			
1.005	S12	1440 Winter	30	+0%	1/1440 Summer			
3.000	S13	1440 Winter	30	+0%	1/960 Summer			
3.001	S14	1440 Winter	30	+0%	1/240 Winter			
3.002	S15	1440 Winter	30	+0%	1/60 Winter			
3.003	S16	1440 Winter	30	+0%	1/30 Summer			
3.004	S17	1440 Winter	30	+0%				
3.005	S18	15 Winter	30	+0%	100/15 Summer			
4.000	S19	15 Winter	30	+0%	100/15 Winter			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	S1	6.220	0.470	0.000	0.07		0.4	SURCHARGED	
1.001	S2	6.216	-0.134	0.000	0.03		0.4	OK	
1.002	S3	6.165	-0.135	0.000	0.02		0.4	OK	
1.003	S4	5.906	-0.134	0.000	0.03		0.4	OK	
1.004	S5	5.829	0.279	0.000	0.01		0.3	SURCHARGED	
2.000	S6	6.624	0.074	0.000	1.06		16.4	SURCHARGED	4
2.001	S7	6.154	0.004	0.000	0.94		15.7	SURCHARGED	
2.002	S8	6.092	0.022	0.000	1.06		15.5	SURCHARGED	
2.003	S9	6.003	0.023	0.000	0.95		14.7	SURCHARGED	
2.004	S10	5.831	0.121	0.000	0.12		1.5	SURCHARGED	
2.005	S11	5.830	0.160	0.000	0.14		1.5	SURCHARGED	
1.005	S12	5.829	0.279	0.000	0.02		1.0	SURCHARGED	
3.000	S13	6.349	0.319	0.000	0.02		0.3	SURCHARGED	
3.001	S14	6.349	0.379	0.000	0.02		0.3	SURCHARGED	
3.002	S15	6.349	0.459	0.000	0.05		0.6	SURCHARGED	
3.003	S16	6.349	0.499	0.000	0.14		0.6	SURCHARGED	
3.004	S17	6.349	-0.301	0.000	0.00		0.0	OK	
3.005	S18	6.043	-0.147	0.000	0.00		0.0	OK	
4.000	S19	6.163	-0.087	0.000	0.36		5.2	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
3.006	S20	15 Winter	30	+0%	100/15 Summer			
3.007	S21	15 Winter	30	+0%	100/15 Summer			
5.000	S255	1440 Winter	30	+0%	1/960 Winter			
5.001	S254	1440 Winter	30	+0%				
5.002	S22	60 Winter	30	+0%	100/15 Summer			
6.000	S23	15 Winter	30	+0%				
3.008	S24	15 Winter	30	+0%	100/15 Summer			
3.009	S26	1440 Winter	30	+0%	30/15 Winter			
3.010	S27	1440 Winter	30	+0%	30/15 Summer			
3.011	S28	1440 Winter	30	+0%	30/15 Summer			
7.000	S29	1440 Winter	30	+0%	30/15 Summer			
3.012	S30	1440 Winter	30	+0%	1/960 Winter			
3.013	S31	1440 Winter	30	+0%	1/960 Summer			
1.006	S32	1440 Winter	30	+0%	1/360 Winter			
8.000	S33	15 Winter	30	+0%	30/15 Summer	100/15 Summer		
9.000	S34	15 Winter	30	+0%	1/15 Summer	100/15 Summer		
8.001	S35	1440 Winter	30	+0%	1/15 Summer			
1.007	S36	1440 Winter	30	+0%	1/360 Winter			
1.008	S37	1440 Winter	30	+0%	100/360 Winter			
1.009	S38	1440 Winter	30	+0%	100/240 Winter			
1.010	S39	1440 Winter	30	+0%	1/15 Summer			
10.000	S112	15 Winter	30	+0%	100/15 Summer			
10.001	S111	15 Winter	30	+0%	30/15 Summer			
10.002	S40	15 Winter	30	+0%	30/15 Summer			
10.003	S41	30 Winter	30	+0%	30/15 Summer			
10.004	S42	30 Winter	30	+0%	30/15 Summer			
11.000	S256	60 Winter	30	+0%	1/240 Winter			
10.005	S43	60 Winter	30	+0%	1/60 Winter			
10.006	S44	60 Winter	30	+0%	1/15 Winter			
10.007	S45	360 Winter	30	+0%	1/15 Summer			
10.008	S46	1440 Winter	30	+0%	1/15 Summer			
10.009	S47	1440 Winter	30	+0%	1/15 Summer			
1.011	S48	1440 Winter	30	+0%	1/15 Summer			
1.012	S49	240 Winter	30	+0%	100/15 Winter	100/960 Winter		
1.013	S50	1440 Winter	30	+0%	1/120 Summer			
12.000	S51	1440 Winter	30	+0%	30/120 Summer			
12.001	S52	1440 Winter	30	+0%	1/30 Summer			
1.014	S53	1440 Winter	30	+0%	1/30 Summer			
1.015	S54	1440 Winter	30	+0%	1/30 Summer			
1.016	S55	1440 Winter	30	+0%	1/15 Summer			
13.000	S56	1440 Winter	30	+0%	1/15 Summer			
13.001	S57	1440 Winter	30	+0%	1/15 Summer			
13.002	S58	1440 Winter	30	+0%	1/15 Summer			
13.003	S59	1440 Winter	30	+0%	1/15 Summer			
1.017	S60	1440 Winter	30	+0%	1/15 Summer			
14.000	S61	15 Winter	30	+0%	30/15 Summer	100/15 Summer		
15.000	S62	15 Winter	30	+0%	30/15 Summer	100/15 Summer		
14.001	S63	15 Winter	30	+0%	30/15 Summer			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
3.006	S20	6.053	-0.087	0.000	0.37		5.2	OK	
3.007	S21	5.941	-0.089	0.000	0.35		5.2	OK	
5.000	S255	5.781	0.211	0.000	0.02		0.2	SURCHARGED	
5.001	S254	5.782	-0.388	0.000	0.00		0.0	OK	
5.002	S22	5.990	-0.150	0.000	0.00		0.0	OK	
6.000	S23	6.417	-0.083	0.000	0.41		16.7	OK	
3.008	S24	5.835	-0.110	0.000	0.51		21.5	OK	
3.009	S26	5.831	0.101	0.000	0.02		1.5	SURCHARGED	
3.010	S27	5.830	0.140	0.000	0.02		1.4	SURCHARGED	
3.011	S28	5.830	0.210	0.000	0.02		1.4	SURCHARGED	
7.000	S29	5.831	0.224	0.000	0.06		0.9	SURCHARGED	
3.012	S30	5.829	0.309	0.000	0.04		2.4	SURCHARGED	
3.013	S31	5.829	0.349	0.000	0.04		2.4	SURCHARGED	
1.006	S32	5.828	0.378	0.000	0.06		2.0	SURCHARGED	
8.000	S33	6.123	0.423	0.000	1.14		20.6	FLOOD RISK	5
9.000	S34	5.891	0.391	0.000	1.34		17.7	SURCHARGED	3
8.001	S35	5.782	0.342	0.000	0.22		2.4	SURCHARGED	
1.007	S36	5.780	0.360	0.000	0.16		4.3	SURCHARGED	
1.008	S37	5.786	-0.164	0.000	0.06		3.7	OK	
1.009	S38	5.786	-0.114	0.000	0.10		3.6	OK	
1.010	S39	5.714	0.604	0.000	0.25		3.6	SURCHARGED	
10.000	S112	6.196	-0.004	0.000	0.69		10.1	OK	
10.001	S111	6.131	0.081	0.000	0.68		9.7	SURCHARGED	
10.002	S40	6.092	0.142	0.000	1.44		17.8	SURCHARGED	
10.003	S41	5.904	0.074	0.000	0.73		11.6	SURCHARGED	
10.004	S42	5.880	0.120	0.000	0.72		15.7	SURCHARGED	
11.000	S256	5.797	0.257	0.000	0.09		1.4	SURCHARGED	
10.005	S43	5.794	0.384	0.000	0.71		11.1	SURCHARGED	
10.006	S44	5.750	0.450	0.000	0.74		10.4	SURCHARGED	
10.007	S45	5.710	0.560	0.000	0.73		5.2	SURCHARGED	
10.008	S46	5.702	0.602	0.000	0.16		2.0	SURCHARGED	
10.009	S47	5.700	0.650	0.000	0.16		1.9	SURCHARGED	
1.011	S48	5.702	0.702	0.000	0.27		3.7	SURCHARGED	
1.012	S49	5.624	-0.076	0.000	0.49		4.3	FLOOD RISK	2
1.013	S50	5.593	0.323	0.000	0.32		4.1	SURCHARGED	
12.000	S51	5.582	0.182	0.000	0.04		0.5	SURCHARGED	
12.001	S52	5.581	0.371	0.000	0.07		0.8	SURCHARGED	
1.014	S53	5.581	0.371	0.000	0.46		3.8	SURCHARGED	
1.015	S54	5.561	0.411	0.000	0.19		3.8	SURCHARGED	
1.016	S55	5.536	0.886	0.000	0.21		3.8	FLOOD RISK	
13.000	S56	5.518	0.578	0.000	0.02		0.3	SURCHARGED	
13.001	S57	5.518	0.718	0.000	0.02		0.3	SURCHARGED	
13.002	S58	5.518	0.808	0.000	0.04		0.5	SURCHARGED	
13.003	S59	5.518	0.918	0.000	0.03		0.5	FLOOD RISK	
1.017	S60	5.517	1.017	0.000	0.43		3.9	FLOOD RISK	
14.000	S61	6.761	0.311	0.000	0.95		15.0	FLOOD RISK	6
15.000	S62	6.555	0.365	0.000	1.00		15.3	SURCHARGED	6

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
14.001	S63	6.312	0.452	0.000	1.75		26.7	SURCHARGED	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
14.002	S64	30 Winter	30	+0%	30/15 Summer			
14.003	S65	30 Winter	30	+0%	1/960 Winter			
14.004	S66	60 Winter	30	+0%	1/15 Summer			
16.000	S67	15 Winter	30	+0%	100/15 Summer			
16.001	S68	60 Winter	30	+0%	1/30 Summer			
14.005	S69	60 Winter	30	+0%	1/15 Summer			
14.006	S70	1440 Winter	30	+0%	1/15 Summer			
14.007	S71	1440 Winter	30	+0%	1/15 Summer			
17.000	S72	30 Winter	30	+0%	100/15 Summer			
18.000	S73	30 Winter	30	+0%	1/60 Winter	100/15 Summer		
17.001	S74	30 Winter	30	+0%	1/15 Summer			
17.002	S75	1440 Winter	30	+0%	1/15 Summer			
1.018	S76	1440 Winter	30	+0%				
1.019	S77	1440 Winter	30	+0%	100/360 Winter			
1.020	S78	1440 Winter	30	+0%				
1.021	S79	1440 Winter	30	+0%				
19.000	S80	1440 Winter	30	+0%	30/960 Summer			
19.001	S81	1440 Winter	30	+0%	30/480 Winter			
20.000	S82	15 Winter	30	+0%	100/120 Winter			
19.002	S83	1440 Winter	30	+0%	30/15 Summer			
19.003	S84	1440 Winter	30	+0%	30/15 Summer			
19.004	S85	1440 Winter	30	+0%	30/240 Winter	100/240 Winter		
19.005	S86	1440 Winter	30	+0%	30/240 Summer			
19.006	S87	1440 Winter	30	+0%	1/960 Summer			
19.007	S88	1440 Winter	30	+0%	30/480 Winter			
19.008	S89	1440 Winter	30	+0%	1/240 Winter			
21.000	S253	1440 Winter	30	+0%	1/1440 Winter			
21.001	S90	1440 Winter	30	+0%				
21.002	S91	60 Winter	30	+0%	100/120 Winter			
21.003	S92	15 Winter	30	+0%	100/15 Summer			
21.004	S93	1440 Winter	30	+0%	30/960 Winter			
21.005	S94	1440 Winter	30	+0%	30/960 Summer			
21.006	S95	1440 Winter	30	+0%	30/960 Summer			
22.000	S96	15 Winter	30	+0%	100/15 Summer			
22.001	S97	1440 Winter	30	+0%	30/15 Summer			
23.000	S98	1440 Winter	30	+0%	30/960 Summer			
21.007	S99	1440 Winter	30	+0%	30/15 Summer			
21.008	S100	1440 Winter	30	+0%	30/15 Summer			
21.009	S101	1440 Winter	30	+0%	30/15 Summer	100/240 Winter		
21.010	S102	1440 Winter	30	+0%	30/15 Summer			
19.009	S103	1440 Winter	30	+0%	1/960 Winter			
19.010	S104	1440 Winter	30	+0%	30/960 Winter			
19.011	S105	1440 Winter	30	+0%	1/240 Winter			
24.000	S106	15 Winter	30	+0%	100/15 Summer			
24.001	S107	15 Winter	30	+0%	30/15 Winter			
24.002	S108	15 Winter	30	+0%	30/15 Summer			
24.003	S109	1440 Winter	30	+0%	30/15 Summer			
19.012	S110	1440 Winter	30	+0%	100/60 Winter			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
14.002	S64	5.789	0.129	0.000	0.71		25.7	SURCHARGED	
14.003	S65	5.630	0.300	0.000	0.28		25.2	SURCHARGED	
14.004	S66	5.573	0.533	0.000	0.22		21.9	SURCHARGED	
16.000	S67	5.785	-0.015	0.000	0.94		14.8	OK	
16.001	S68	5.561	0.321	0.000	0.18		7.7	SURCHARGED	
14.005	S69	5.546	0.856	0.000	0.48		29.3	SURCHARGED	
14.006	S70	5.495	0.905	0.000	0.06		3.4	FLOOD RISK	
14.007	S71	5.494	0.934	0.000	0.06		3.4	SURCHARGED	
17.000	S72	5.533	-0.017	0.000	0.34		8.4	OK	
18.000	S73	5.522	0.242	0.000	0.29		7.0	SURCHARGED	6
17.001	S74	5.498	0.498	0.000	0.88		12.5	SURCHARGED	
17.002	S75	5.495	0.575	0.000	0.06		1.1	SURCHARGED	
1.018	S76	5.494	-0.056	0.000	0.07		4.5	FLOOD RISK	
1.019	S77	5.500	0.000	0.000	0.15		4.3	FLOOD RISK	
1.020	S78	5.238	-0.242	0.000	0.08		4.3	OK	
1.021	S79	5.129	-0.271	0.000	0.02		4.3	OK	
19.000	S80	6.094	0.284	0.000	0.02		0.2	SURCHARGED	
19.001	S81	6.094	0.384	0.000	0.01		0.2	SURCHARGED	
20.000	S82	6.113	-0.107	0.000	0.18		8.6	OK	
19.002	S83	6.094	0.624	0.000	0.07		0.9	SURCHARGED	
19.003	S84	6.092	0.742	0.000	0.08		1.2	SURCHARGED	
19.004	S85	6.091	0.891	0.000	0.05		1.6	SURCHARGED	3
19.005	S86	6.089	1.004	0.000	0.05		1.9	SURCHARGED	
19.006	S87	6.088	1.173	0.000	0.03		2.1	SURCHARGED	
19.007	S88	6.087	0.487	0.000	0.02		0.7	SURCHARGED	
19.008	S89	6.083	1.143	0.000	0.06		0.7	SURCHARGED	
21.000	S253	6.205	0.155	0.000	0.01		0.1	SURCHARGED	
21.001	S90	6.206	-0.394	0.000	0.00		0.0	OK	
21.002	S91	6.290	-0.150	0.000	0.00		0.0	OK	
21.003	S92	6.139	-0.091	0.000	0.33		5.9	OK	
21.004	S93	6.088	0.093	0.000	0.02		0.9	SURCHARGED	
21.005	S94	6.088	0.173	0.000	0.02		0.9	SURCHARGED	
21.006	S95	6.087	0.342	0.000	0.03		1.2	SURCHARGED	
22.000	S96	6.102	-0.078	0.000	0.46		11.0	OK	
22.001	S97	6.087	0.437	0.000	0.04		0.6	SURCHARGED	
23.000	S98	6.087	0.287	0.000	0.02		0.6	SURCHARGED	
21.007	S99	6.087	0.492	0.000	0.05		2.4	SURCHARGED	
21.008	S100	6.085	0.730	0.000	0.06		2.9	SURCHARGED	
21.009	S101	6.084	0.849	0.000	0.10		3.0	SURCHARGED	4
21.010	S102	6.083	0.888	0.000	0.09		2.9	SURCHARGED	
19.009	S103	6.082	1.032	0.000	0.08		1.7	SURCHARGED	
19.010	S104	6.077	0.027	0.000	0.11		1.7	SURCHARGED	
19.011	S105	6.068	0.148	0.000	0.13		1.7	SURCHARGED	
24.000	S106	6.381	-0.079	0.000	0.45		6.7	OK	
24.001	S107	6.311	0.001	0.000	0.81		12.4	SURCHARGED	
24.002	S108	6.188	0.068	0.000	0.90		17.9	SURCHARGED	
24.003	S109	6.063	0.113	0.000	0.13		1.1	SURCHARGED	

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
19.012	S110	6.062	-0.108	0.000	0.18		1.9	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
25.000	S113	15 Winter	30	+0%	30/15 Summer			
25.001	S114	15 Winter	30	+0%	1/30 Winter			
25.002	S115	15 Winter	30	+0%	1/15 Winter			
25.003	S116	30 Winter	30	+0%	1/15 Summer			
25.004	S117	30 Winter	30	+0%	1/15 Winter			
25.005	S118	30 Winter	30	+0%	1/15 Winter			
25.006	S119	30 Winter	30	+0%	30/15 Summer			
25.007	S120	15 Winter	30	+0%	30/15 Summer			
26.000	S121	30 Winter	30	+0%				
26.001	S122	30 Winter	30	+0%				
26.002	S123	60 Winter	30	+0%	100/15 Summer			
26.003	S124	15 Winter	30	+0%	100/15 Summer			
26.004	S125	15 Winter	30	+0%	100/15 Summer			
27.000	S126	15 Winter	30	+0%	30/15 Summer			
19.013	S127	15 Winter	30	+0%	100/30 Winter			
28.000	S128	15 Winter	30	+0%	100/15 Winter			
28.001	S129	15 Winter	30	+0%	100/15 Winter			
19.014	S130	60 Winter	30	+0%	30/60 Winter			
29.000	S131	120 Winter	30	+0%	100/60 Summer			
29.001	S132	120 Winter	30	+0%	1/120 Winter			
29.002	S133	120 Winter	30	+0%	1/60 Winter			
19.015	S134	120 Winter	30	+0%	100/60 Winter			
30.000	S135	15 Winter	30	+0%	100/60 Winter			
19.016	S136	120 Winter	30	+0%	100/30 Summer			
31.000	S137	15 Winter	30	+0%	100/480 Winter			
19.017	S138	120 Winter	30	+0%	100/120 Summer			
32.000	S139	15 Winter	30	+0%	100/15 Winter			
32.001	S140	15 Winter	30	+0%	100/15 Summer			
32.002	S141	15 Winter	30	+0%	100/15 Summer			
33.000	S142	15 Winter	30	+0%	100/120 Winter			
32.003	S143	15 Winter	30	+0%	30/15 Summer			
19.018	S144	240 Winter	30	+0%	100/120 Summer			
34.000	S145	15 Winter	30	+0%	100/120 Winter			
35.000	S146	15 Winter	30	+0%	100/240 Winter			
34.001	S147	240 Winter	30	+0%	30/120 Winter			
34.002	S148	240 Winter	30	+0%	1/480 Winter			
34.003	S149	240 Winter	30	+0%	1/360 Winter			
34.004	S150	240 Winter	30	+0%	1/240 Winter			
36.000	S151	240 Winter	30	+0%	1/480 Winter			
19.019	S152	240 Winter	30	+0%	1/240 Summer			
37.000	S153	15 Winter	30	+0%	100/120 Winter			
38.000	S154	240 Winter	30	+0%	1/240 Summer	100/360 Winter		
19.020	S155	240 Winter	30	+0%	1/240 Summer			
19.021	S156	960 Winter	30	+0%	30/240 Winter			
19.022	S157	960 Winter	30	+0%	1/960 Summer			
39.000	S158	960 Winter	30	+0%	1/960 Summer			
39.001	S159	960 Winter	30	+0%	1/480 Winter			
39.002	S160	960 Winter	30	+0%	1/480 Winter			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
25.000	S113	6.461	0.261	0.000	0.76		6.6	SURCHARGED	
25.001	S114	6.432	0.282	0.000	1.46		6.4	SURCHARGED	
25.002	S115	6.404	0.274	0.000	2.25		11.5	SURCHARGED	
25.003	S116	6.297	0.197	0.000	1.07		8.7	SURCHARGED	
25.004	S117	6.276	0.176	0.000	2.22		9.3	SURCHARGED	
25.005	S118	6.216	0.126	0.000	1.61		9.9	SURCHARGED	
25.006	S119	6.181	0.091	0.000	2.34		10.0	SURCHARGED	
25.007	S120	6.120	0.050	0.000	1.23		10.2	SURCHARGED	
26.000	S121	6.254	-0.146	0.000	0.12		4.1	OK	
26.001	S122	6.248	-0.102	0.000	0.23		4.5	OK	
26.002	S123	6.159	-0.041	0.000	0.59		5.2	OK	
26.003	S124	6.137	-0.013	0.000	0.90		5.7	OK	
26.004	S125	6.119	-0.031	0.000	0.62		8.4	OK	
27.000	S126	6.254	0.044	0.000	2.15		9.4	SURCHARGED	
19.013	S127	6.092	-0.118	0.000	0.13		22.9	OK	
28.000	S128	5.956	-0.074	0.000	0.51		7.8	OK	
28.001	S129	5.845	-0.095	0.000	0.29		7.8	OK	
19.014	S130	5.764	0.014	0.000	1.02		20.1	SURCHARGED	
29.000	S131	5.402	-0.058	0.000	0.07		1.7	OK	
29.001	S132	5.398	0.128	0.000	0.11		1.7	SURCHARGED	
29.002	S133	5.394	0.244	0.000	0.18		2.9	SURCHARGED	
19.015	S134	5.386	-0.214	0.000	0.18		20.0	OK	
30.000	S135	5.611	-0.089	0.000	0.34		11.1	OK	
19.016	S136	5.309	-0.001	0.000	0.87		18.4	OK	
31.000	S137	5.545	-0.105	0.000	0.20		5.6	OK	
19.017	S138	5.104	-0.206	0.000	0.22		19.0	OK	
32.000	S139	5.400	-0.080	0.000	0.43		7.3	OK	
32.001	S140	5.216	-0.064	0.000	0.61		8.9	OK	
32.002	S141	5.119	-0.001	0.000	0.70		10.0	OK	
33.000	S142	5.351	-0.119	0.000	0.09		2.2	OK	
32.003	S143	5.089	0.029	0.000	1.46		13.7	SURCHARGED	
19.018	S144	5.057	-0.223	0.000	0.08		19.4	OK	
34.000	S145	5.321	-0.099	0.000	0.25		4.0	OK	
35.000	S146	5.461	-0.109	0.000	0.16		8.0	OK	
34.001	S147	5.051	0.101	0.000	0.03		3.4	SURCHARGED	
34.002	S148	5.050	0.320	0.000	0.05		3.2	SURCHARGED	
34.003	S149	5.049	0.389	0.000	0.05		3.6	SURCHARGED	
34.004	S150	5.047	0.477	0.000	0.04		3.2	SURCHARGED	
36.000	S151	5.047	0.327	0.000	0.04		0.8	SURCHARGED	
19.019	S152	5.045	0.595	0.000	0.34		19.8	SURCHARGED	
37.000	S153	5.258	-0.112	0.000	0.15		8.0	OK	
38.000	S154	5.040	0.625	0.000	0.07		1.4	SURCHARGED	
19.020	S155	5.038	0.618	0.000	1.17		21.3	SURCHARGED	
19.021	S156	4.977	0.107	0.000	0.73		11.2	SURCHARGED	
19.022	S157	4.924	0.314	0.000	0.30		11.6	SURCHARGED	
39.000	S158	4.909	0.189	0.000	0.02		0.5	SURCHARGED	
39.001	S159	4.909	0.489	0.000	0.05		0.8	SURCHARGED	

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
39.002	S160	4.907	0.637	0.000	0.05		0.8	SURCHARGED	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
40.000	S161	960 Winter	30	+0%	1/480 Summer			
19.023	S162	960 Winter	30	+0%	1/480 Summer			
19.024	S163	960 Winter	30	+0%	1/480 Summer			
1.022	S164	960 Winter	30	+0%				
1.023	S165	960 Winter	30	+0%				
1.024	S166	960 Winter	30	+0%				
41.000	S167	1440 Winter	30	+0%	30/360 Summer			
42.000	S168	15 Winter	30	+0%				
41.001	S169	1440 Winter	30	+0%	1/1440 Winter			
43.000	S170	15 Winter	30	+0%				
43.001	S171	1440 Winter	30	+0%	1/1440 Winter			
41.002	S172	1440 Winter	30	+0%	1/1440 Summer			
41.003	S173	1440 Winter	30	+0%	1/1440 Summer			
44.000	S174	1440 Winter	30	+0%	1/1440 Winter			
41.004	S175	1440 Winter	30	+0%	1/480 Winter			
1.025	S176	1440 Winter	30	+0%				
1.026	S177	1440 Winter	30	+0%	100/480 Winter	100/960 Winter		
45.000	S178	15 Winter	30	+0%				
45.001	S179	960 Winter	30	+0%	100/1440 Winter			
45.002	S180	960 Winter	30	+0%	100/960 Summer			
45.003	S181	15 Winter	30	+0%	100/360 Winter			
45.004	S182	1440 Winter	30	+0%	30/1440 Winter			
46.000	S183	1440 Winter	30	+0%	30/480 Winter			
45.005	S184	1440 Winter	30	+0%	30/480 Winter			
45.006	S185	1440 Winter	30	+0%	30/480 Winter			
45.007	S186	1440 Winter	30	+0%	1/960 Winter			
45.008	S187	1440 Winter	30	+0%	1/240 Winter			
45.009	S188	1440 Winter	30	+0%				
45.010	S189	1440 Winter	30	+0%				
45.011	S190	480 Winter	30	+0%				
47.000	S191	15 Winter	30	+0%				
47.001	S192	15 Winter	30	+0%				
45.012	S193	1440 Winter	30	+0%				
45.013	S194	60 Winter	30	+0%				
48.000	S195	15 Winter	30	+0%				
49.000	S196	15 Winter	30	+0%				
48.001	S197	1440 Winter	30	+0%	100/15 Summer			
48.002	S198	1440 Winter	30	+0%	30/960 Summer			
48.003	S199	1440 Winter	30	+0%	30/120 Winter			
48.004	S200	1440 Winter	30	+0%	1/960 Winter			
45.014	S201	1440 Winter	30	+0%				
50.000	S202	15 Winter	30	+0%	100/15 Summer			
50.001	S203	15 Winter	30	+0%	100/15 Summer			
50.002	S204	15 Winter	30	+0%				
50.003	S205	1440 Winter	30	+0%	1/960 Summer			
45.015	S206	1440 Winter	30	+0%				
51.000	S207	15 Winter	30	+0%	100/15 Summer			
51.001	S208	15 Winter	30	+0%	100/15 Summer			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
40.000	S161	4.906	0.661	0.000	0.01		0.4	SURCHARGED	
19.023	S162	4.906	0.721	0.000	0.40		12.1	SURCHARGED	
19.024	S163	4.901	0.746	0.000	0.22		12.0	SURCHARGED	
1.022	S164	4.892	-0.208	0.000	0.15		10.7	OK	
1.023	S165	4.862	-0.138	0.000	0.08		10.7	OK	
1.024	S166	4.850	-0.250	0.000	0.07		10.7	OK	
41.000	S167	4.615	0.185	0.000	0.01		0.2	SURCHARGED	
42.000	S168	4.764	-0.106	0.000	0.19		8.0	OK	
41.001	S169	4.614	0.304	0.000	0.04		0.7	SURCHARGED	
43.000	S170	4.691	-0.109	0.000	0.17		8.0	OK	
43.001	S171	4.614	0.444	0.000	0.03		0.7	SURCHARGED	
41.002	S172	4.613	0.558	0.000	0.03		1.3	SURCHARGED	
41.003	S173	4.612	0.707	0.000	0.04		1.5	SURCHARGED	
44.000	S174	4.611	0.231	0.000	0.01		0.4	SURCHARGED	
41.004	S175	4.611	0.906	0.000	0.09		2.0	SURCHARGED	
1.025	S176	4.610	-0.190	0.000	0.06		9.7	OK	
1.026	S177	4.058	-0.242	0.000	0.08		9.7	OK	2
45.000	S178	6.224	-0.076	0.000	0.48		10.2	OK	
45.001	S179	6.119	-0.131	0.000	0.04		0.5	OK	
45.002	S180	6.018	-0.132	0.000	0.03		0.5	OK	
45.003	S181	5.958	-0.082	0.000	0.42		6.3	OK	
45.004	S182	5.925	0.045	0.000	0.02		0.8	SURCHARGED	
46.000	S183	5.925	0.395	0.000	0.03		0.2	SURCHARGED	
45.005	S184	5.925	0.420	0.000	0.03		1.2	SURCHARGED	
45.006	S185	5.925	0.540	0.000	0.03		1.3	SURCHARGED	
45.007	S186	5.926	0.741	0.000	0.04		1.7	SURCHARGED	
45.008	S187	5.926	0.821	0.000	0.06		1.6	SURCHARGED	
45.009	S188	5.926	-0.599	0.000	0.00		0.0	OK	
45.010	S189	6.007	-0.318	0.000	0.00		0.0	OK	
45.011	S190	6.002	-0.323	0.000	0.00		0.0	OK	
47.000	S191	5.630	-0.080	0.000	0.44		6.5	OK	
47.001	S192	5.509	-0.101	0.000	0.22		6.4	OK	
45.012	S193	4.952	-1.073	0.000	0.00		0.0	OK	
45.013	S194	5.750	-0.225	0.000	0.00		0.0	OK	
48.000	S195	5.660	-0.110	0.000	0.16		5.2	OK	
49.000	S196	5.974	-0.126	0.000	0.06		3.4	OK	
48.001	S197	5.124	-0.036	0.000	0.03		0.5	OK	
48.002	S198	5.124	0.154	0.000	0.04		0.7	SURCHARGED	
48.003	S199	5.124	0.324	0.000	0.05		0.7	SURCHARGED	
48.004	S200	5.124	0.384	0.000	0.04		0.7	SURCHARGED	
45.014	S201	5.124	-0.801	0.000	0.00		0.0	OK	
50.000	S202	5.522	-0.058	0.000	0.67		10.4	OK	
50.001	S203	5.416	-0.064	0.000	0.62		10.5	OK	
50.002	S204	5.213	-0.087	0.000	0.36		13.7	OK	
50.003	S205	5.143	0.493	0.000	0.06		0.7	SURCHARGED	
45.015	S206	5.142	-0.183	0.000	0.04		0.4	OK	
51.000	S207	5.746	-0.054	0.000	0.73		10.5	OK	

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
51.001	S208	5.697	-0.033	0.000	0.93		12.9	OK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
51.002	S209	15 Winter	30	+0%				
51.003	S210	15 Winter	30	+0%				
52.000	S211	15 Winter	30	+0%				
51.004	S212	15 Winter	30	+0%				
53.000	S213	15 Winter	30	+0%				
51.005	S214	15 Winter	30	+0%	100/60 Winter			
54.000	S215	15 Winter	30	+0%	100/60 Winter			
51.006	S216	480 Winter	30	+0%	100/60 Winter			
55.000	S217	480 Winter	30	+0%	100/60 Summer			
51.007	S218	480 Winter	30	+0%	1/960 Winter			
51.008	S219	480 Winter	30	+0%	1/240 Winter			
51.009	S220	480 Winter	30	+0%	1/240 Summer			
51.010	S221	480 Winter	30	+0%	1/120 Summer			
45.016	S222	480 Winter	30	+0%				
56.000	S223	1440 Winter	30	+0%	30/480 Winter			
56.001	S224	1440 Winter	30	+0%	30/480 Winter			
45.017	S225	1440 Winter	30	+0%				
57.000	S226	15 Winter	30	+0%				
57.001	S227	15 Winter	30	+0%	100/15 Summer			
57.002	S228	15 Winter	30	+0%	100/15 Summer			
57.003	S229	1440 Winter	30	+0%	30/240 Summer			
45.018	S230	1440 Winter	30	+0%				
45.019	S231	1440 Winter	30	+0%				
45.020	S232	1440 Winter	30	+0%				
45.021	S233	1440 Winter	30	+0%				
58.000	S234	15 Winter	30	+0%				
58.001	S235	15 Winter	30	+0%	100/15 Summer			
59.000	S236	15 Winter	30	+0%				
58.002	S237	15 Winter	30	+0%	100/15 Summer			
60.000	S238	15 Winter	30	+0%				
60.001	S239	15 Winter	30	+0%				
58.003	S240	1440 Winter	30	+0%	30/960 Winter			
58.004	S241	1440 Winter	30	+0%	30/960 Winter			
61.000	S242	1440 Winter	30	+0%	30/960 Winter			
58.005	S243	1440 Winter	30	+0%	30/240 Winter			
58.006	S244	1440 Winter	30	+0%	30/240 Summer			
58.007	S245	1440 Winter	30	+0%	30/240 Summer			
45.022	S246	1440 Winter	30	+0%				
62.000	S247	15 Winter	30	+0%				
62.001	S248	360 Winter	30	+0%				
45.023	S249	1440 Winter	30	+0%				
1.027	S250	1440 Winter	30	+0%	100/240 Winter			
1.028	S251	1440 Winter	30	+0%	100/360 Winter			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
51.002	S209	5.551	-0.124	0.000	0.41		13.0	OK	
51.003	S210	5.493	-0.132	0.000	0.36		12.9	OK	
52.000	S211	6.053	-0.117	0.000	0.11		5.3	OK	
51.004	S212	5.394	-0.111	0.000	0.51		17.7	OK	
53.000	S213	5.385	-0.095	0.000	0.29		5.2	OK	
51.005	S214	5.200	-0.170	0.000	0.38		32.2	OK	
54.000	S215	5.280	-0.100	0.000	0.24		5.2	OK	
51.006	S216	5.157	-0.093	0.000	0.04		4.9	OK	
55.000	S217	5.154	-0.056	0.000	0.03		1.3	OK	
51.007	S218	5.153	0.343	0.000	0.06		5.8	SURCHARGED	
51.008	S219	5.149	0.589	0.000	0.10		6.2	SURCHARGED	
51.009	S220	5.147	0.647	0.000	0.08		6.1	SURCHARGED	
51.010	S221	5.145	0.745	0.000	0.12		5.9	SURCHARGED	
45.016	S222	5.144	-0.256	0.000	0.05		3.4	OK	
56.000	S223	5.034	0.594	0.000	0.00		0.1	SURCHARGED	
56.001	S224	5.034	0.634	0.000	0.00		0.1	SURCHARGED	
45.017	S225	5.034	-0.266	0.000	0.01		0.7	OK	
57.000	S226	5.229	-0.101	0.000	0.23		6.5	OK	
57.001	S227	4.740	-0.060	0.000	0.65		10.0	OK	
57.002	S228	4.661	-0.039	0.000	0.88		13.5	OK	
57.003	S229	4.640	0.070	0.000	0.03		0.7	SURCHARGED	
45.018	S230	4.640	-0.260	0.000	0.02		0.7	OK	
45.019	S231	4.628	-0.272	0.000	0.01		0.7	OK	
45.020	S232	4.606	-0.244	0.000	0.03		0.7	OK	
45.021	S233	4.598	-0.252	0.000	0.03		0.7	OK	
58.000	S234	4.920	-0.090	0.000	0.33		5.2	OK	
58.001	S235	4.731	-0.089	0.000	0.34		5.2	OK	
59.000	S236	5.395	-0.105	0.000	0.20		10.2	OK	
58.002	S237	4.680	-0.050	0.000	0.77		15.3	OK	
60.000	S238	5.489	-0.111	0.000	0.15		7.7	OK	
60.001	S239	4.675	-0.075	0.000	0.49		13.3	OK	
58.003	S240	4.590	0.140	0.000	0.02		1.6	SURCHARGED	
58.004	S241	4.590	0.220	0.000	0.02		1.8	SURCHARGED	
61.000	S242	4.590	0.040	0.000	0.01		0.6	SURCHARGED	
58.005	S243	4.590	0.470	0.000	0.04		2.6	SURCHARGED	
58.006	S244	4.590	0.520	0.000	0.06		2.6	SURCHARGED	
58.007	S245	4.590	0.540	0.000	0.05		2.6	SURCHARGED	
45.022	S246	4.590	-0.260	0.000	0.01		1.1	OK	
62.000	S247	4.587	-0.103	0.000	0.21		5.6	OK	
62.001	S248	4.518	-0.132	0.000	0.03		0.5	OK	
45.023	S249	4.209	-0.291	0.000	0.01		1.2	OK	
1.027	S250	3.811	-0.189	0.000	0.16		10.0	OK	
1.028	S251	3.801	-0.149	0.000	0.16		10.0	OK	

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

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 39
Number of Online Controls 9 Number of Time/Area Diagrams 9
Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.350
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 19.000 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
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.
1.000	S1	240 Winter	100	+40%	1/30 Summer			
1.001	S2	240 Winter	100	+40%				
1.002	S3	240 Winter	100	+40%				
1.003	S4	960 Winter	100	+40%	100/120 Winter			
1.004	S5	960 Winter	100	+40%	1/1440 Summer			
2.000	S6	15 Winter	100	+40%	30/15 Summer	100/15 Summer		
2.001	S7	30 Winter	100	+40%	30/15 Winter			
2.002	S8	30 Winter	100	+40%	30/15 Summer			
2.003	S9	30 Winter	100	+40%	30/15 Summer			
2.004	S10	60 Winter	100	+40%	30/15 Summer			
2.005	S11	960 Winter	100	+40%	30/15 Summer			
1.005	S12	960 Winter	100	+40%	1/1440 Summer			
3.000	S13	1440 Winter	100	+40%	1/960 Summer			
3.001	S14	1440 Winter	100	+40%	1/240 Winter			
3.002	S15	1440 Winter	100	+40%	1/60 Winter			
3.003	S16	1440 Winter	100	+40%	1/30 Summer			
3.004	S17	1440 Winter	100	+40%				
3.005	S18	30 Winter	100	+40%	100/15 Summer			
4.000	S19	30 Winter	100	+40%	100/15 Winter			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	S1	6.268	0.518	0.000	0.44		2.4	SURCHARGED	
1.001	S2	6.241	-0.109	0.000	0.17		2.4	OK	
1.002	S3	6.189	-0.111	0.000	0.15		2.4	OK	
1.003	S4	6.091	0.051	0.000	0.09		1.2	SURCHARGED	
1.004	S5	6.090	0.540	0.000	0.04		1.2	SURCHARGED	
2.000	S6	7.301	0.751	0.611	1.46		22.7	FLOOD	4
2.001	S7	6.774	0.624	0.000	1.11		18.5	SURCHARGED	
2.002	S8	6.682	0.612	0.000	1.40		20.5	SURCHARGED	
2.003	S9	6.513	0.533	0.000	1.29		20.0	SURCHARGED	
2.004	S10	6.100	0.390	0.000	1.47		18.4	SURCHARGED	
2.005	S11	6.091	0.421	0.000	0.33		3.6	SURCHARGED	
1.005	S12	6.089	0.539	0.000	0.05		2.2	SURCHARGED	
3.000	S13	6.517	0.487	0.000	0.04		0.6	SURCHARGED	
3.001	S14	6.517	0.547	0.000	0.03		0.6	SURCHARGED	
3.002	S15	6.516	0.626	0.000	0.09		1.2	SURCHARGED	
3.003	S16	6.515	0.665	0.000	0.26		1.1	SURCHARGED	
3.004	S17	6.512	-0.138	0.000	0.02		0.6	OK	
3.005	S18	6.271	0.081	0.000	0.08		1.0	SURCHARGED	
4.000	S19	6.294	0.044	0.000	0.52		7.5	SURCHARGED	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
3.006	S20	30 Winter	100	+40%	100/15 Summer			
3.007	S21	30 Winter	100	+40%	100/15 Summer			
5.000	S255	1440 Winter	100	+40%	1/960 Winter			
5.001	S254	1440 Winter	100	+40%				
5.002	S22	30 Winter	100	+40%	100/15 Summer			
6.000	S23	15 Winter	100	+40%				
3.008	S24	30 Winter	100	+40%	100/15 Summer			
3.009	S26	30 Winter	100	+40%	30/15 Winter			
3.010	S27	30 Winter	100	+40%	30/15 Summer			
3.011	S28	960 Winter	100	+40%	30/15 Summer			
7.000	S29	15 Winter	100	+40%	30/15 Summer			
3.012	S30	960 Winter	100	+40%	1/960 Winter			
3.013	S31	960 Winter	100	+40%	1/960 Summer			
1.006	S32	960 Winter	100	+40%	1/360 Winter			
8.000	S33	15 Winter	100	+40%	30/15 Summer	100/15 Summer		
9.000	S34	15 Winter	100	+40%	1/15 Summer	100/15 Summer		
8.001	S35	15 Winter	100	+40%	1/15 Summer			
1.007	S36	960 Winter	100	+40%	1/360 Winter			
1.008	S37	960 Winter	100	+40%	100/360 Winter			
1.009	S38	960 Winter	100	+40%	100/240 Winter			
1.010	S39	1440 Winter	100	+40%	1/15 Summer			
10.000	S112	15 Winter	100	+40%	100/15 Summer			
10.001	S111	15 Winter	100	+40%	30/15 Summer			
10.002	S40	15 Winter	100	+40%	30/15 Summer			
10.003	S41	60 Winter	100	+40%	30/15 Summer			
10.004	S42	60 Winter	100	+40%	30/15 Summer			
11.000	S256	60 Winter	100	+40%	1/240 Winter			
10.005	S43	60 Winter	100	+40%	1/60 Winter			
10.006	S44	120 Winter	100	+40%	1/15 Winter			
10.007	S45	960 Winter	100	+40%	1/15 Summer			
10.008	S46	960 Winter	100	+40%	1/15 Summer			
10.009	S47	960 Winter	100	+40%	1/15 Summer			
1.011	S48	960 Winter	100	+40%	1/15 Summer			
1.012	S49	960 Winter	100	+40%	100/15 Winter	100/960 Winter		
1.013	S50	960 Winter	100	+40%	1/120 Summer			
12.000	S51	960 Winter	100	+40%	30/120 Summer			
12.001	S52	960 Winter	100	+40%	1/30 Summer			
1.014	S53	960 Winter	100	+40%	1/30 Summer			
1.015	S54	960 Winter	100	+40%	1/30 Summer			
1.016	S55	960 Winter	100	+40%	1/15 Summer			
13.000	S56	30 Winter	100	+40%	1/15 Summer			
13.001	S57	480 Winter	100	+40%	1/15 Summer			
13.002	S58	480 Winter	100	+40%	1/15 Summer			
13.003	S59	960 Winter	100	+40%	1/15 Summer			
1.017	S60	960 Winter	100	+40%	1/15 Summer			
14.000	S61	30 Winter	100	+40%	30/15 Summer	100/15 Summer		
15.000	S62	30 Winter	100	+40%	30/15 Summer	100/15 Summer		
14.001	S63	30 Summer	100	+40%	30/15 Summer			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
3.006	S20	6.271	0.131	0.000	0.46		6.5	SURCHARGED	
3.007	S21	6.249	0.219	0.000	0.50		7.3	SURCHARGED	
5.000	S255	6.060	0.490	0.000	0.06		0.6	SURCHARGED	
5.001	S254	6.059	-0.111	0.000	0.06		0.6	OK	
5.002	S22	6.184	0.044	0.000	0.03		0.5	SURCHARGED	
6.000	S23	6.451	-0.049	0.000	0.74		30.2	OK	
3.008	S24	6.235	0.290	0.000	0.55		23.3	SURCHARGED	
3.009	S26	6.185	0.455	0.000	0.44		26.4	SURCHARGED	
3.010	S27	6.116	0.426	0.000	0.41		25.4	SURCHARGED	
3.011	S28	6.089	0.469	0.000	0.04		3.2	SURCHARGED	
7.000	S29	6.199	0.592	0.000	1.88		26.3	SURCHARGED	
3.012	S30	6.088	0.568	0.000	0.11		5.9	SURCHARGED	
3.013	S31	6.087	0.607	0.000	0.10		5.9	SURCHARGED	
1.006	S32	6.086	0.636	0.000	0.14		4.6	SURCHARGED	
8.000	S33	6.405	0.705	5.046	1.60		29.0	FLOOD	5
9.000	S34	6.351	0.851	0.736	2.21		29.3	FLOOD	3
8.001	S35	6.064	0.624	0.000	4.64		50.3	FLOOD RISK	
1.007	S36	6.001	0.581	0.000	0.21		5.7	SURCHARGED	
1.008	S37	5.997	0.047	0.000	0.09		5.6	SURCHARGED	
1.009	S38	5.996	0.096	0.000	0.15		5.6	SURCHARGED	
1.010	S39	5.977	0.867	0.000	0.39		5.6	FLOOD RISK	
10.000	S112	6.818	0.618	0.000	1.00		14.7	FLOOD RISK	
10.001	S111	6.665	0.615	0.000	1.04		14.9	FLOOD RISK	
10.002	S40	6.565	0.615	0.000	2.16		26.8	FLOOD RISK	
10.003	S41	6.142	0.312	0.000	0.67		10.7	SURCHARGED	
10.004	S42	6.122	0.362	0.000	0.60		13.0	SURCHARGED	
11.000	S256	6.045	0.505	0.000	0.18		2.8	SURCHARGED	
10.005	S43	6.040	0.630	0.000	0.74		11.7	SURCHARGED	
10.006	S44	5.984	0.684	0.000	0.70		9.9	SURCHARGED	
10.007	S45	5.970	0.820	0.000	0.63		4.5	SURCHARGED	
10.008	S46	5.962	0.862	0.000	0.38		4.5	FLOOD RISK	
10.009	S47	5.958	0.908	0.000	0.28		3.3	FLOOD RISK	
1.011	S48	5.954	0.954	0.000	0.47		6.5	SURCHARGED	
1.012	S49	5.807	0.107	0.313	0.84		7.4	FLOOD	2
1.013	S50	5.774	0.504	0.000	0.58		7.3	FLOOD RISK	
12.000	S51	5.753	0.353	0.000	0.10		1.3	SURCHARGED	
12.001	S52	5.751	0.541	0.000	0.18		2.0	FLOOD RISK	
1.014	S53	5.750	0.540	0.000	0.93		7.5	FLOOD RISK	
1.015	S54	5.699	0.549	0.000	0.38		7.5	SURCHARGED	
1.016	S55	5.627	0.977	0.000	0.43		7.5	FLOOD RISK	
13.000	S56	5.612	0.672	0.000	0.38		6.3	SURCHARGED	
13.001	S57	5.592	0.792	0.000	0.07		1.1	SURCHARGED	
13.002	S58	5.591	0.881	0.000	0.15		2.2	SURCHARGED	
13.003	S59	5.587	0.987	0.000	0.08		1.3	FLOOD RISK	
1.017	S60	5.583	1.083	0.000	0.86		7.9	FLOOD RISK	
14.000	S61	7.055	0.605	4.597	1.04		16.4	FLOOD	6
15.000	S62	6.904	0.714	4.240	1.20		18.2	FLOOD	6

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
14.001	S63	6.709	0.849	0.000	1.87		28.6	FLOOD RISK	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
14.002	S64	30 Winter	100	+40%	30/15 Summer			
14.003	S65	60 Winter	100	+40%	1/960 Winter			
14.004	S66	60 Winter	100	+40%	1/15 Summer			
16.000	S67	15 Winter	100	+40%	100/15 Summer			
16.001	S68	120 Winter	100	+40%	1/30 Summer			
14.005	S69	120 Winter	100	+40%	1/15 Summer			
14.006	S70	120 Winter	100	+40%	1/15 Summer			
14.007	S71	120 Winter	100	+40%	1/15 Summer			
17.000	S72	30 Summer	100	+40%	100/15 Summer			
18.000	S73	30 Winter	100	+40%	1/60 Winter	100/15 Summer		
17.001	S74	30 Summer	100	+40%	1/15 Summer			
17.002	S75	60 Winter	100	+40%	1/15 Summer			
1.018	S76	360 Winter	100	+40%				
1.019	S77	360 Winter	100	+40%	100/360 Winter			
1.020	S78	360 Winter	100	+40%				
1.021	S79	360 Winter	100	+40%				
19.000	S80	360 Winter	100	+40%	30/960 Summer			
19.001	S81	360 Winter	100	+40%	30/480 Winter			
20.000	S82	360 Winter	100	+40%	100/120 Winter			
19.002	S83	360 Winter	100	+40%	30/15 Summer			
19.003	S84	360 Winter	100	+40%	30/15 Summer			
19.004	S85	360 Winter	100	+40%	30/240 Winter	100/240 Winter		
19.005	S86	360 Winter	100	+40%	30/240 Summer			
19.006	S87	360 Winter	100	+40%	1/960 Summer			
19.007	S88	360 Winter	100	+40%	30/480 Winter			
19.008	S89	360 Winter	100	+40%	1/240 Winter			
21.000	S253	1440 Winter	100	+40%	1/1440 Winter			
21.001	S90	1440 Winter	100	+40%				
21.002	S91	360 Winter	100	+40%	100/120 Winter			
21.003	S92	360 Winter	100	+40%	100/15 Summer			
21.004	S93	360 Winter	100	+40%	30/960 Winter			
21.005	S94	360 Winter	100	+40%	30/960 Summer			
21.006	S95	360 Winter	100	+40%	30/960 Summer			
22.000	S96	15 Winter	100	+40%	100/15 Summer			
22.001	S97	360 Winter	100	+40%	30/15 Summer			
23.000	S98	360 Winter	100	+40%	30/960 Summer			
21.007	S99	360 Winter	100	+40%	30/15 Summer			
21.008	S100	480 Winter	100	+40%	30/15 Summer			
21.009	S101	480 Winter	100	+40%	30/15 Summer	100/240 Winter		
21.010	S102	360 Winter	100	+40%	30/15 Summer			
19.009	S103	360 Winter	100	+40%	1/960 Winter			
19.010	S104	360 Winter	100	+40%	30/960 Winter			
19.011	S105	240 Winter	100	+40%	1/240 Winter			
24.000	S106	15 Winter	100	+40%	100/15 Summer			
24.001	S107	15 Winter	100	+40%	30/15 Winter			
24.002	S108	15 Winter	100	+40%	30/15 Summer			
24.003	S109	240 Winter	100	+40%	30/15 Summer			
19.012	S110	240 Winter	100	+40%	100/60 Winter			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
14.002	S64	6.056	0.396	0.000	0.95		34.1	SURCHARGED	
14.003	S65	5.818	0.488	0.000	0.35		31.5	SURCHARGED	
14.004	S66	5.736	0.696	0.000	0.31		31.3	SURCHARGED	
16.000	S67	6.624	0.824	0.000	1.32		20.6	FLOOD RISK	
16.001	S68	5.711	0.471	0.000	0.22		9.4	SURCHARGED	
14.005	S69	5.697	1.007	0.000	0.56		34.2	FLOOD RISK	
14.006	S70	5.616	1.026	0.000	0.62		34.1	FLOOD RISK	
14.007	S71	5.551	0.991	0.000	0.55		34.0	SURCHARGED	
17.000	S72	6.024	0.474	0.000	0.57		14.2	FLOOD RISK	
18.000	S73	5.852	0.572	1.820	0.52		12.7	FLOOD	6
17.001	S74	5.832	0.832	0.000	1.39		19.8	FLOOD RISK	
17.002	S75	5.693	0.773	0.000	0.92		17.9	SURCHARGED	
1.018	S76	5.520	-0.030	0.000	0.30		18.3	FLOOD RISK	
1.019	S77	5.500	0.000	0.000	0.64		18.3	FLOOD RISK	
1.020	S78	5.304	-0.176	0.000	0.36		18.3	OK	
1.021	S79	5.160	-0.240	0.000	0.09		18.3	OK	
19.000	S80	6.532	0.722	0.000	0.09		1.2	SURCHARGED	
19.001	S81	6.529	0.819	0.000	0.07		1.2	SURCHARGED	
20.000	S82	6.530	0.310	0.000	0.05		2.4	SURCHARGED	
19.002	S83	6.526	1.056	0.000	0.34		4.9	FLOOD RISK	
19.003	S84	6.515	1.165	0.000	0.43		6.0	FLOOD RISK	
19.004	S85	6.499	1.299	0.246	0.23		7.8	FLOOD	3
19.005	S86	6.490	1.405	0.000	0.27		9.9	FLOOD RISK	
19.006	S87	6.477	1.562	0.000	0.16		10.9	FLOOD RISK	
19.007	S88	6.469	0.869	0.000	0.20		6.0	FLOOD RISK	
19.008	S89	6.443	1.503	0.000	0.50		6.0	FLOOD RISK	
21.000	S253	6.469	0.419	0.000	0.06		0.6	SURCHARGED	
21.001	S90	6.468	-0.132	0.000	0.04		0.6	OK	
21.002	S91	6.476	0.036	0.000	0.01		0.2	SURCHARGED	
21.003	S92	6.477	0.247	0.000	0.09		1.6	SURCHARGED	
21.004	S93	6.474	0.479	0.000	0.12		4.7	SURCHARGED	
21.005	S94	6.470	0.555	0.000	0.11		4.7	SURCHARGED	
21.006	S95	6.465	0.720	0.000	0.16		6.2	SURCHARGED	
22.000	S96	6.528	0.348	0.000	0.73		17.4	SURCHARGED	
22.001	S97	6.460	0.810	0.000	0.21		3.1	SURCHARGED	
23.000	S98	6.463	0.663	0.000	0.12		3.1	SURCHARGED	
21.007	S99	6.458	0.863	0.000	0.27		12.4	SURCHARGED	
21.008	S100	6.444	1.089	0.000	0.24		11.2	FLOOD RISK	
21.009	S101	6.437	1.202	7.485	0.38		11.4	FLOOD	4
21.010	S102	6.435	1.240	0.000	0.43		14.5	FLOOD RISK	
19.009	S103	6.430	1.380	0.000	0.46		9.8	FLOOD RISK	
19.010	S104	6.405	0.355	0.000	0.62		9.6	FLOOD RISK	
19.011	S105	6.355	0.435	0.000	0.68		8.5	SURCHARGED	
24.000	S106	6.861	0.401	0.000	0.67		10.0	FLOOD RISK	
24.001	S107	6.804	0.494	0.000	1.19		18.1	SURCHARGED	
24.002	S108	6.539	0.419	0.000	1.36		26.9	SURCHARGED	
24.003	S109	6.331	0.381	0.000	0.87		7.3	SURCHARGED	

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PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
19.012	S110	6.326	0.156	0.000	0.99		10.8	SURCHARGED	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
25.000	S113	15 Winter	100	+40%	30/15 Summer			
25.001	S114	15 Winter	100	+40%	1/30 Winter			
25.002	S115	15 Winter	100	+40%	1/15 Winter			
25.003	S116	60 Winter	100	+40%	1/15 Summer			
25.004	S117	60 Winter	100	+40%	1/15 Winter			
25.005	S118	60 Winter	100	+40%	1/15 Winter			
25.006	S119	60 Winter	100	+40%	30/15 Summer			
25.007	S120	120 Winter	100	+40%	30/15 Summer			
26.000	S121	60 Winter	100	+40%				
26.001	S122	60 Winter	100	+40%				
26.002	S123	60 Winter	100	+40%	100/15 Summer			
26.003	S124	120 Winter	100	+40%	100/15 Summer			
26.004	S125	120 Winter	100	+40%	100/15 Summer			
27.000	S126	15 Winter	100	+40%	30/15 Summer			
19.013	S127	120 Winter	100	+40%	100/30 Winter			
28.000	S128	120 Winter	100	+40%	100/15 Winter			
28.001	S129	120 Winter	100	+40%	100/15 Winter			
19.014	S130	120 Winter	100	+40%	30/60 Winter			
29.000	S131	120 Winter	100	+40%	100/60 Summer			
29.001	S132	120 Winter	100	+40%	1/120 Winter			
29.002	S133	120 Winter	100	+40%	1/60 Winter			
19.015	S134	120 Winter	100	+40%	100/60 Winter			
30.000	S135	120 Winter	100	+40%	100/60 Winter			
19.016	S136	120 Winter	100	+40%	100/30 Summer			
31.000	S137	480 Winter	100	+40%	100/480 Winter			
19.017	S138	480 Winter	100	+40%	100/120 Summer			
32.000	S139	480 Winter	100	+40%	100/15 Winter			
32.001	S140	480 Winter	100	+40%	100/15 Summer			
32.002	S141	480 Winter	100	+40%	100/15 Summer			
33.000	S142	480 Winter	100	+40%	100/120 Winter			
32.003	S143	480 Winter	100	+40%	30/15 Summer			
19.018	S144	480 Winter	100	+40%	100/120 Summer			
34.000	S145	480 Winter	100	+40%	100/120 Winter			
35.000	S146	480 Winter	100	+40%	100/240 Winter			
34.001	S147	480 Winter	100	+40%	30/120 Winter			
34.002	S148	360 Winter	100	+40%	1/480 Winter			
34.003	S149	360 Winter	100	+40%	1/360 Winter			
34.004	S150	360 Winter	100	+40%	1/240 Winter			
36.000	S151	480 Winter	100	+40%	1/480 Winter			
19.019	S152	360 Winter	100	+40%	1/240 Summer			
37.000	S153	480 Winter	100	+40%	100/120 Winter			
38.000	S154	480 Winter	100	+40%	1/240 Summer	100/360 Winter		
19.020	S155	360 Winter	100	+40%	1/240 Summer			
19.021	S156	480 Winter	100	+40%	30/240 Winter			
19.022	S157	480 Winter	100	+40%	1/960 Summer			
39.000	S158	480 Winter	100	+40%	1/960 Summer			
39.001	S159	480 Winter	100	+40%	1/480 Winter			
39.002	S160	480 Winter	100	+40%	1/480 Winter			

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PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
25.000	S113	6.932	0.732	0.000	1.53		13.3	FLOOD RISK	
25.001	S114	6.801	0.651	0.000	2.69		11.8	FLOOD RISK	
25.002	S115	6.786	0.656	0.000	3.64		18.6	FLOOD RISK	
25.003	S116	6.492	0.392	0.000	1.16		9.5	SURCHARGED	
25.004	S117	6.469	0.369	0.000	2.37		10.0	SURCHARGED	
25.005	S118	6.401	0.311	0.000	1.85		11.4	SURCHARGED	
25.006	S119	6.358	0.268	0.000	2.61		11.1	SURCHARGED	
25.007	S120	6.300	0.230	0.000	1.43		12.0	SURCHARGED	
26.000	S121	6.357	-0.043	0.000	0.14		4.6	OK	
26.001	S122	6.350	0.000	0.000	0.29		5.9	OK	
26.002	S123	6.331	0.131	0.000	0.78		6.9	SURCHARGED	
26.003	S124	6.304	0.154	0.000	1.35		8.6	SURCHARGED	
26.004	S125	6.292	0.142	0.000	0.77		10.3	SURCHARGED	
27.000	S126	6.384	0.174	0.000	3.83		16.8	SURCHARGED	
19.013	S127	6.277	0.067	0.000	0.14		24.8	SURCHARGED	
28.000	S128	6.179	0.149	0.000	0.39		5.9	SURCHARGED	
28.001	S129	6.168	0.228	0.000	0.21		5.8	SURCHARGED	
19.014	S130	6.157	0.407	0.000	1.18		23.2	SURCHARGED	
29.000	S131	5.946	0.486	0.000	0.12		3.0	SURCHARGED	
29.001	S132	5.942	0.672	0.000	0.20		3.0	SURCHARGED	
29.002	S133	5.938	0.788	0.000	0.36		6.0	SURCHARGED	
19.015	S134	5.928	0.328	0.000	0.26		29.0	SURCHARGED	
30.000	S135	5.918	0.218	0.000	0.22		7.0	SURCHARGED	
19.016	S136	5.909	0.599	0.000	0.95		20.0	SURCHARGED	
31.000	S137	5.652	0.002	0.000	0.04		1.2	SURCHARGED	
19.017	S138	5.651	0.341	0.000	0.22		18.9	FLOOD RISK	
32.000	S139	5.643	0.163	0.000	0.10		1.7	SURCHARGED	
32.001	S140	5.642	0.362	0.000	0.13		2.0	SURCHARGED	
32.002	S141	5.640	0.520	0.000	0.15		2.1	FLOOD RISK	
33.000	S142	5.639	0.169	0.000	0.03		0.8	SURCHARGED	
32.003	S143	5.639	0.579	0.000	0.31		2.9	SURCHARGED	
19.018	S144	5.637	0.357	0.000	0.08		17.6	FLOOD RISK	
34.000	S145	5.627	0.207	0.000	0.06		0.9	SURCHARGED	
35.000	S146	5.626	0.056	0.000	0.04		1.8	SURCHARGED	
34.001	S147	5.621	0.671	0.000	0.03		3.4	SURCHARGED	
34.002	S148	5.621	0.891	0.000	0.06		4.0	SURCHARGED	
34.003	S149	5.624	0.964	0.000	0.07		5.0	FLOOD RISK	
34.004	S150	5.628	1.058	0.000	0.07		4.9	FLOOD RISK	
36.000	S151	5.619	0.899	0.000	0.04		0.8	SURCHARGED	
19.019	S152	5.630	1.180	0.000	0.36		20.8	FLOOD RISK	
37.000	S153	5.611	0.241	0.000	0.03		1.8	SURCHARGED	
38.000	S154	5.612	1.197	0.007	0.08		1.7	FLOOD	
19.020	S155	5.620	1.200	0.000	1.31		23.8	FLOOD RISK	
19.021	S156	5.477	0.607	0.000	1.17		18.0	SURCHARGED	
19.022	S157	5.147	0.537	0.000	0.48		18.5	SURCHARGED	
39.000	S158	5.062	0.342	0.000	0.05		1.6	SURCHARGED	
39.001	S159	5.061	0.641	0.000	0.14		2.3	SURCHARGED	

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PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
39.002	S160	5.057	0.787	0.000	0.14		2.3	SURCHARGED	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
40.000	S161	480 Winter	100	+40%	1/480 Summer			
19.023	S162	480 Winter	100	+40%	1/480 Summer			
19.024	S163	480 Winter	100	+40%	1/480 Summer			
1.022	S164	480 Winter	100	+40%				
1.023	S165	480 Winter	100	+40%				
1.024	S166	480 Winter	100	+40%				
41.000	S167	960 Winter	100	+40%	30/360 Summer			
42.000	S168	15 Winter	100	+40%				
41.001	S169	960 Winter	100	+40%	1/1440 Winter			
43.000	S170	960 Winter	100	+40%				
43.001	S171	960 Winter	100	+40%	1/1440 Winter			
41.002	S172	960 Winter	100	+40%	1/1440 Summer			
41.003	S173	960 Winter	100	+40%	1/1440 Summer			
44.000	S174	960 Winter	100	+40%	1/1440 Winter			
41.004	S175	960 Winter	100	+40%	1/480 Winter			
1.025	S176	960 Winter	100	+40%				
1.026	S177	1440 Winter	100	+40%	100/480 Winter	100/960 Winter		
45.000	S178	1440 Winter	100	+40%				
45.001	S179	1440 Winter	100	+40%	100/1440 Winter			
45.002	S180	1440 Winter	100	+40%	100/960 Summer			
45.003	S181	1440 Winter	100	+40%	100/360 Winter			
45.004	S182	1440 Winter	100	+40%	30/1440 Winter			
46.000	S183	1440 Winter	100	+40%	30/480 Winter			
45.005	S184	1440 Winter	100	+40%	30/480 Winter			
45.006	S185	1440 Winter	100	+40%	30/480 Winter			
45.007	S186	1440 Winter	100	+40%	1/960 Winter			
45.008	S187	1440 Winter	100	+40%	1/240 Winter			
45.009	S188	1440 Winter	100	+40%				
45.010	S189	1440 Winter	100	+40%				
45.011	S190	1440 Summer	100	+40%				
47.000	S191	15 Winter	100	+40%				
47.001	S192	15 Winter	100	+40%				
45.012	S193	1440 Winter	100	+40%				
45.013	S194	60 Winter	100	+40%				
48.000	S195	15 Winter	100	+40%				
49.000	S196	15 Winter	100	+40%				
48.001	S197	1440 Winter	100	+40%	100/15 Summer			
48.002	S198	1440 Winter	100	+40%	30/960 Summer			
48.003	S199	1440 Winter	100	+40%	30/120 Winter			
48.004	S200	1440 Winter	100	+40%	1/960 Winter			
45.014	S201	1440 Winter	100	+40%				
50.000	S202	15 Winter	100	+40%	100/15 Summer			
50.001	S203	15 Winter	100	+40%	100/15 Summer			
50.002	S204	15 Winter	100	+40%				
50.003	S205	240 Winter	100	+40%	1/960 Summer			
45.015	S206	240 Winter	100	+40%				
51.000	S207	15 Winter	100	+40%	100/15 Summer			
51.001	S208	15 Winter	100	+40%	100/15 Summer			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
40.000	S161	5.055	0.810	0.000	0.03		1.1	SURCHARGED	
19.023	S162	5.054	0.869	0.000	0.70		20.9	SURCHARGED	
19.024	S163	5.008	0.853	0.000	0.39		20.7	SURCHARGED	
1.022	S164	4.987	-0.113	0.000	0.49		35.4	OK	
1.023	S165	4.949	-0.051	0.000	0.26		35.4	FLOOD RISK	
1.024	S166	4.894	-0.206	0.000	0.22		35.3	OK	
41.000	S167	4.749	0.319	0.000	0.03		0.5	SURCHARGED	
42.000	S168	4.781	-0.089	0.000	0.34		14.6	OK	
41.001	S169	4.748	0.438	0.000	0.09		1.6	SURCHARGED	
43.000	S170	4.747	-0.053	0.000	0.02		1.1	OK	
43.001	S171	4.745	0.575	0.000	0.08		1.5	SURCHARGED	
41.002	S172	4.743	0.688	0.000	0.06		2.9	SURCHARGED	
41.003	S173	4.740	0.835	0.000	0.08		3.3	SURCHARGED	
44.000	S174	4.736	0.356	0.000	0.02		1.1	SURCHARGED	
41.004	S175	4.735	1.030	0.000	0.22		4.8	SURCHARGED	
1.025	S176	4.732	-0.068	0.000	0.24		36.9	FLOOD RISK	
1.026	S177	4.463	0.163	13.421	0.30		34.6	FLOOD	2
45.000	S178	6.283	-0.017	0.000	0.05		1.0	OK	
45.001	S179	6.283	0.033	0.000	0.08		1.0	SURCHARGED	
45.002	S180	6.284	0.134	0.000	0.07		1.0	SURCHARGED	
45.003	S181	6.284	0.244	0.000	0.10		1.5	SURCHARGED	
45.004	S182	6.284	0.404	0.000	0.04		1.6	SURCHARGED	
46.000	S183	6.284	0.754	0.000	0.04		0.3	SURCHARGED	
45.005	S184	6.284	0.779	0.000	0.06		2.4	SURCHARGED	
45.006	S185	6.284	0.899	0.000	0.06		2.7	SURCHARGED	
45.007	S186	6.284	1.099	0.000	0.09		3.5	FLOOD RISK	
45.008	S187	6.284	1.179	0.000	0.13		3.5	FLOOD RISK	
45.009	S188	6.284	-0.241	0.000	0.00		0.0	OK	
45.010	S189	6.013	-0.312	0.000	0.00		0.0	OK	
45.011	S190	6.002	-0.323	0.000	0.00		0.0	OK	
47.000	S191	5.663	-0.047	0.000	0.80		11.7	OK	
47.001	S192	5.527	-0.083	0.000	0.41		11.6	OK	
45.012	S193	5.121	-0.904	0.000	0.00		0.0	OK	
45.013	S194	5.750	-0.225	0.000	0.00		0.0	OK	
48.000	S195	5.675	-0.095	0.000	0.29		9.5	OK	
49.000	S196	5.983	-0.117	0.000	0.11		6.2	OK	
48.001	S197	5.444	0.284	0.000	0.04		0.8	SURCHARGED	
48.002	S198	5.444	0.474	0.000	0.06		1.1	SURCHARGED	
48.003	S199	5.444	0.644	0.000	0.08		1.1	SURCHARGED	
48.004	S200	5.444	0.704	0.000	0.06		1.1	SURCHARGED	
45.014	S201	5.444	-0.481	0.000	0.00		0.0	OK	
50.000	S202	5.628	0.048	0.000	1.17		18.2	SURCHARGED	
50.001	S203	5.494	0.014	0.000	1.05		17.8	SURCHARGED	
50.002	S204	5.235	-0.065	0.000	0.60		23.1	OK	
50.003	S205	5.223	0.573	0.000	0.39		5.1	SURCHARGED	
45.015	S206	5.215	-0.110	0.000	0.31		3.1	FLOOD RISK	
51.000	S207	5.969	0.169	0.000	1.28		18.5	SURCHARGED	

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
51.001	S208	5.819	0.089	0.000	1.64		22.7	SURCHARGED	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
51.002	S209	15 Winter	100	+40%				
51.003	S210	15 Winter	100	+40%				
52.000	S211	15 Winter	100	+40%				
51.004	S212	15 Winter	100	+40%				
53.000	S213	120 Winter	100	+40%				
51.005	S214	120 Winter	100	+40%	100/60 Winter			
54.000	S215	120 Winter	100	+40%	100/60 Winter			
51.006	S216	120 Winter	100	+40%	100/60 Winter			
55.000	S217	120 Winter	100	+40%	100/60 Summer			
51.007	S218	120 Winter	100	+40%	1/960 Winter			
51.008	S219	120 Winter	100	+40%	1/240 Winter			
51.009	S220	120 Winter	100	+40%	1/240 Summer			
51.010	S221	120 Winter	100	+40%	1/120 Summer			
45.016	S222	120 Winter	100	+40%				
56.000	S223	480 Winter	100	+40%	30/480 Winter			
56.001	S224	480 Winter	100	+40%	30/480 Winter			
45.017	S225	480 Winter	100	+40%				
57.000	S226	15 Winter	100	+40%				
57.001	S227	15 Winter	100	+40%	100/15 Summer			
57.002	S228	15 Winter	100	+40%	100/15 Summer			
57.003	S229	480 Winter	100	+40%	30/240 Summer			
45.018	S230	480 Winter	100	+40%				
45.019	S231	480 Winter	100	+40%				
45.020	S232	480 Winter	100	+40%				
45.021	S233	480 Winter	100	+40%				
58.000	S234	15 Winter	100	+40%				
58.001	S235	15 Winter	100	+40%	100/15 Summer			
59.000	S236	15 Winter	100	+40%				
58.002	S237	15 Winter	100	+40%	100/15 Summer			
60.000	S238	15 Winter	100	+40%				
60.001	S239	480 Winter	100	+40%				
58.003	S240	480 Winter	100	+40%	30/960 Winter			
58.004	S241	480 Winter	100	+40%	30/960 Winter			
61.000	S242	480 Winter	100	+40%	30/960 Winter			
58.005	S243	480 Winter	100	+40%	30/240 Winter			
58.006	S244	480 Winter	100	+40%	30/240 Summer			
58.007	S245	480 Winter	100	+40%	30/240 Summer			
45.022	S246	480 Winter	100	+40%				
62.000	S247	15 Winter	100	+40%				
62.001	S248	120 Winter	100	+40%				
45.023	S249	1440 Winter	100	+40%				
1.027	S250	1440 Winter	100	+40%	100/240 Winter			
1.028	S251	1440 Winter	100	+40%	100/360 Winter			

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
51.002	S209	5.591	-0.084	0.000	0.72		22.6	OK	
51.003	S210	5.530	-0.095	0.000	0.63		22.5	OK	
52.000	S211	6.065	-0.105	0.000	0.20		9.5	OK	
51.004	S212	5.445	-0.060	0.000	0.88		30.8	OK	
53.000	S213	5.425	-0.055	0.000	0.18		3.3	OK	
51.005	S214	5.418	0.048	0.000	0.25		21.3	SURCHARGED	
54.000	S215	5.410	0.030	0.000	0.15		3.3	SURCHARGED	
51.006	S216	5.405	0.155	0.000	0.21		23.8	SURCHARGED	
55.000	S217	5.391	0.181	0.000	0.17		6.6	SURCHARGED	
51.007	S218	5.383	0.573	0.000	0.25		25.3	SURCHARGED	
51.008	S219	5.359	0.799	0.000	0.45		27.7	SURCHARGED	
51.009	S220	5.289	0.789	0.000	0.34		26.9	SURCHARGED	
51.010	S221	5.219	0.819	0.000	0.55		26.1	SURCHARGED	
45.016	S222	5.211	-0.189	0.000	0.30		19.4	FLOOD RISK	
56.000	S223	5.147	0.707	0.000	0.01		0.5	SURCHARGED	
56.001	S224	5.147	0.747	0.000	0.01		0.5	SURCHARGED	
45.017	S225	5.147	-0.153	0.000	0.07		9.0	OK	
57.000	S226	5.248	-0.082	0.000	0.42		11.7	OK	
57.001	S227	4.964	0.164	0.000	1.10		16.8	SURCHARGED	
57.002	S228	4.844	0.144	0.000	1.46		22.2	SURCHARGED	
57.003	S229	4.768	0.198	0.000	0.11		2.8	SURCHARGED	
45.018	S230	4.766	-0.134	0.000	0.35		10.2	FLOOD RISK	
45.019	S231	4.753	-0.147	0.000	0.19		10.1	FLOOD RISK	
45.020	S232	4.744	-0.106	0.000	0.44		10.1	FLOOD RISK	
45.021	S233	4.728	-0.122	0.000	0.41		10.1	FLOOD RISK	
58.000	S234	4.971	-0.039	0.000	0.60		9.3	OK	
58.001	S235	4.920	0.100	0.000	0.65		9.9	SURCHARGED	
59.000	S236	5.412	-0.088	0.000	0.35		18.5	OK	
58.002	S237	4.897	0.167	0.000	1.19		23.8	SURCHARGED	
60.000	S238	5.504	-0.096	0.000	0.28		14.0	OK	
60.001	S239	4.733	-0.017	0.000	0.11		2.9	OK	
58.003	S240	4.728	0.278	0.000	0.09		6.4	SURCHARGED	
58.004	S241	4.726	0.356	0.000	0.10		7.4	SURCHARGED	
61.000	S242	4.722	0.172	0.000	0.06		2.3	SURCHARGED	
58.005	S243	4.720	0.600	0.000	0.19		10.6	SURCHARGED	
58.006	S244	4.716	0.646	0.000	0.25		11.0	SURCHARGED	
58.007	S245	4.714	0.664	0.000	0.22		10.9	SURCHARGED	
45.022	S246	4.712	-0.138	0.000	0.19		15.5	FLOOD RISK	
62.000	S247	4.605	-0.085	0.000	0.39		10.1	OK	
62.001	S248	4.545	-0.105	0.000	0.20		2.7	OK	
45.023	S249	4.392	-0.108	0.000	0.07		12.2	FLOOD RISK	
1.027	S250	4.389	0.389	0.000	0.56		34.4	FLOOD RISK	
1.028	S251	4.306	0.356	0.000	0.56		34.4	FLOOD RISK	

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