

Network Details

Manhole Schedule

Manhole	Catchment Area (ha)	Size (mm)	Type	CL (m)	IL (m)	Depth To Soffit (m)	Easting (m)	Northing (m)
S88	0.000	1500	Type C	39.256	38.340	0.391	526018.940	122923.529
S90	0.000	1350	Type C	39.217	38.510	0.182	526060.213	122881.887
S89	0.150	1500	Type C	39.396	38.200	0.671	526061.642	122920.346
S80	0.000	1500	Type C	38.673	38.000	0.148	526064.672	122947.808
S81	0.134	1500	Type C	35.029	34.320	0.184	526069.540	122989.952
S82	0.000	---	Type C	35.345	34.220	0.600	526071.589	123027.826
S84	0.000	1350	Type C	35.836	35.290	0.021	526034.466	123123.140
S85	0.000	1350	Type C	36.000	34.850	0.625	526059.737	123118.674
S86	0.000	1350	Type C	35.300	34.560	0.215	526085.244	123109.716
S87	0.335	1500	Type C	35.200	34.300	0.375	526084.372	123084.230
S106	0.000	---	Type C	35.000	34.212	0.263	526075.887	123074.132
S83 OC	0.000	1500	Type C	35.345	34.180	0.790	526067.111	123071.754
S67	0.160	1350	Type B	36.278	34.182	1.796	526051.446	123006.980
S68	0.130	1500	Type C	35.608	33.850	1.383	526050.858	123073.928
S70	0.079	1350	Type C	35.918	34.440	1.178	525993.817	123037.215
S69	0.289	1350	Type B	36.211	33.611	2.225	525993.987	123072.767
S39	0.147	1350	Type C	37.071	35.571	1.200	525979.209	123127.240
S40	0.004	1350	Type C	36.258	34.630	1.328	525924.969	123128.864
S41	0.130	1350	Type C	36.091	34.420	1.371	525916.070	123124.802
S42	0.064	1350	Type C	35.853	34.145	1.333	525918.933	123105.884
S43	0.002	1350	Type C	35.613	33.765	1.398	525928.992	123083.445
S44	0.016	1350	Type B	35.553	32.550	2.553	525938.084	123076.597
S54	0.035	1350	Type B	34.936	32.305	2.181	525936.143	123056.078
S45	0.271	1350	Type B	33.816	31.655	1.711	525914.898	123019.614
S46	0.030	1500	Type B	33.323	30.820	1.903	525889.812	123032.928
S47	0.111	1500	Type B	33.342	30.700	2.042	525880.549	123051.539
S48CP	0.061	1500	Type C	32.150	30.595	0.955	525832.081	123025.524
S49	0.000	---	Type C	32.200	30.550	1.050	525799.939	123022.705
S63	0.105	1350	Type C	39.682	38.260	1.197	526053.213	122939.960
S64	0.000	1350	Type C	39.369	37.679	1.465	526053.578	122950.728
S65	0.224	1200	Type B	38.989	37.105	1.584	526047.175	122960.767
S66	0.055	1350	Type C	38.175	36.725	1.150	526016.058	122965.867
S55	0.099	1350	Type C	38.750	37.220	1.155	525988.212	122955.027
S56	0.000	1350	Type C	37.631	36.177	1.079	526002.434	122977.802
S57	0.000	1350	Type C	36.952	35.450	1.127	525988.397	122987.514
S58	0.151	1350	Type C	35.830	34.005	1.375	525962.621	122994.801
S94	0.009	1500	Type B	34.254	31.979	1.750	525927.494	123013.048
S59	0.051	1500	Type B	33.912	31.814	1.574	525914.378	122992.039
PS1	0.000	450	Type E	36.826	35.826	0.900	525939.580	122946.738
PS2	0.000	450	Type E	35.012	34.012	0.900	525916.536	122960.783
S60	0.117	1500	Type B	34.294	31.610	2.159	525898.895	122964.229
S61	0.000	1500	Type B	33.317	31.140	1.652	525870.780	122981.046
S75	0.000	1500	Type C	40.469	39.889	0.055	525974.970	122921.588
S76	0.019	1500	Type C	38.935	38.364	0.047	525946.627	122931.023
S77	0.000	1500	Type C	35.708	35.023	0.160	525916.533	122940.770
S78	0.722	1500	Type C	33.859	32.858	0.476	525896.466	122953.740
S79	0.000	1500	Type C	32.900	31.472	0.903	525872.596	122965.890
S71 CP	0.806	1500	Type C	32.200	30.653	0.872	525838.664	122990.769
S107	0.000	---	Type C	32.000	30.520	0.805	525800.658	123010.406
S51	0.152	1500	Type C	33.696	32.266	1.130	525861.244	123094.203
S91	0.045	1350	Type C	32.770	31.937	0.532	525833.394	123118.886
S92CP	0.000	1350	Type C	32.511	31.799	0.412	525832.621	123107.337
S93	0.031	1500	Type C	32.833	31.431	1.026	525832.158	123097.062
S52 CP	0.000	1500	Type C	32.226	30.945	0.831	525814.312	123097.718
S53	0.019	---	Type C	32.000	30.590	0.885	525801.018	123088.080
S72	0.000	2100	Type C	32.000	30.510	1.190	525778.203	123021.954
S73	0.000	2100	Type C	31.200	30.030	0.870	525759.137	123009.864

Pipe Schedule

Pipe Number	US Manhole	US IL (m)	DS Manhole	DS IL (m)	Shape	Dimension (mm)	Length (m)	Gradient (1:x)	Roughness (mm)	US Depth To Soffit (m)	DS Depth To Soffit (m)
1.000	S88	38.340	S89	38.200	Circ	525	42.820	306	0.600	0.391	0.671
2.000	S90	38.510	S89	38.200	Circ	525	38.486	124	0.600	0.182	0.671
1.001	S89	38.200	S80	38.000	Circ	525	27.629	138	0.600	0.671	0.148
1.002	S80	38.000	S81	34.320	Circ	525	42.424	12	0.600	0.148	0.184
1.003	S81	34.320	S82	34.220	Circ	525	37.929	379	0.600	0.184	0.600
1.004	S82	34.220	S83 OC	34.180	Circ	525	44.156	1104	0.600	0.600	0.640
3.000	S84	35.290	S85	34.850	Circ	525	25.663	58	0.600	0.021	0.625
3.001	S85	34.850	S86	34.560	Circ	525	27.035	93	0.600	0.625	0.215
3.002	S86	34.560	S87	34.300	Circ	525	25.501	98	0.600	0.215	0.375
3.003	S87	34.300	S106	34.212	Circ	525	13.189	150	0.600	0.375	0.263
3.004	S106	34.212	S83 OC	34.180	Circ	525	9.093	286	0.600	0.263	0.640
1.005	S83 OC	34.180	S68	33.850	Circ	375	16.397	50	0.600	0.790	1.383
4.000	S67	34.182	S68	33.925	Circ	300	66.951	260	0.600	1.796	1.383
1.006	S68	33.850	S69	33.611	Circ	375	56.883	238	0.600	1.383	2.225
5.000	S70	34.440	S69	33.686	Circ	300	35.553	47	0.600	1.178	2.225
1.007	S69	33.611	S44	32.625	Circ	375	56.035	57	0.600	2.225	2.553
6.000	S39	35.571	S40	34.630	Circ	300	54.264	58	0.600	1.200	1.328
6.001	S40	34.630	S41	34.420	Circ	300	9.782	47	0.600	1.328	1.371
6.002	S41	34.420	S42	34.220	Circ	300	19.134	96	0.600	1.371	1.333
6.003	S42	34.145	S43	33.840	Circ	375	24.590	81	0.600	1.333	1.398
6.004	S43	33.765	S44	32.550	Circ	450	11.382	9	0.600	1.398	2.553
1.008	S44	32.550	S54	32.305	Circ	450	20.611	84	0.600	2.553	2.181
1.009	S54	32.305	S45	31.655	Circ	450	42.202	65	0.600	2.181	1.711
1.010	S45	31.655	S46	30.970	Circ	450	28.401	41	0.600	1.711	1.903
1.011	S46	30.820	S47	30.700	Circ	600	20.788	174	0.600	1.903	2.042
1.012	S47	30.700	S48CP	30.595	Circ	600	55.009	525	0.600	2.042	0.955
1.013	S48CP	30.595	S49	30.550	Circ	600	32.265	710	0.600	0.955	1.050
1.014	S49	30.550	S72	30.510	Circ	600	21.749	544	0.600	1.050	0.890
7.000	S63	38.260	S64	37.679	Circ	225	10.775	19	0.600	1.197	1.465
7.001	S64	37.679	S65	37.180	Circ	225	11.907	24	0.600	1.465	1.584
7.002	S65	37.105	S66	36.725	Circ	300	31.532	83	0.600	1.584	1.150
7.003	S66	36.725	S56	36.252	Circ	300	18.112	38	0.600	1.150	1.079
8.000	S55	37.220	S56	36.177	Circ	375	26.851	26	0.600	1.155	1.079
7.004	S56	36.177	S57	35.450	Circ	375	17.069	23	0.600	1.079	1.127
7.005	S57	35.450	S58	34.080	Circ	375	26.786	20	0.600	1.127	1.375
7.006	S58	34.005	S94	32.054	Circ	450	39.584	20	0.600	1.375	1.750
7.007	S94	31.979	S59	31.814	Circ	525	24.767	150	0.600	1.750	1.574
7.008	S59	31.814	S60	31.610	Circ	525	31.830	156	0.600	1.574	2.159
9.000	PS1	35.826	PS2	34.012	Circ	100	26.986	15	0.600	0.900	0.900
9.001	PS2	34.012	S60	32.035	Circ	100	17.975	9	0.600	0.900	2.159
7.009	S60	31.610	S61	31.140	Circ	525	32.761	70	0.600	2.159	1.652
7.010	S61	31.140	S71 CP	30.803	Circ	525	33.556	99	0.600	1.652	0.872
10.000	S75	39.889	S76	38.364	Circ	525	29.872	20	0.600	0.055	0.047
10.001	S76	38.364	S77	35.023	Circ	525	31.633	9	0.600	0.047	0.160
10.002	S77	35.023	S78	32.858	Circ	525	23.894	11	0.600	0.160	0.476
10.003	S78	32.858	S79	31.472	Circ	525	26.784	19	0.600	0.476	0.903
10.004	S79	31.472	S71 CP	30.803	Circ	525	42.076	63	0.600	0.903	0.872
7.011	S71 CP	30.653	S107	30.520	Circ	675	42.779	323	0.600	0.872	0.805
7.012	S107	30.520	S72	30.510	Circ	1200	25.250	2525	0.600	0.280	0.290
11.000	S51	32.266	S93	31.506	Circ	300	29.227	38	0.600	1.130	1.026
12.000	S91	31.937	S92CP	31.799	Circ	300	11.575	84	0.600	0.532	0.412
12.001	S92CP	31.799	S93	31.506	Circ	300	10.285	35	0.600	0.412	1.026
11.001	S93	31.431	S52 CP	31.020	Circ	375	17.858	43	0.600	1.026	0.831
11.002	S52 CP	30.945	S53	30.665	Circ	450	16.420	59	0.600	0.831	0.885
11.003	S53	30.590	S72	30.510	Circ	525	69.952	874	0.600	0.885	0.965
1.015	S72	30.510	S73	30.030	Circ	300	22.576	47	0.600	1.190	0.870

Outfall Details

Outfall Manhole S73 : Free Discharge

Flow Control Details

Controls within Manhole S83 OC

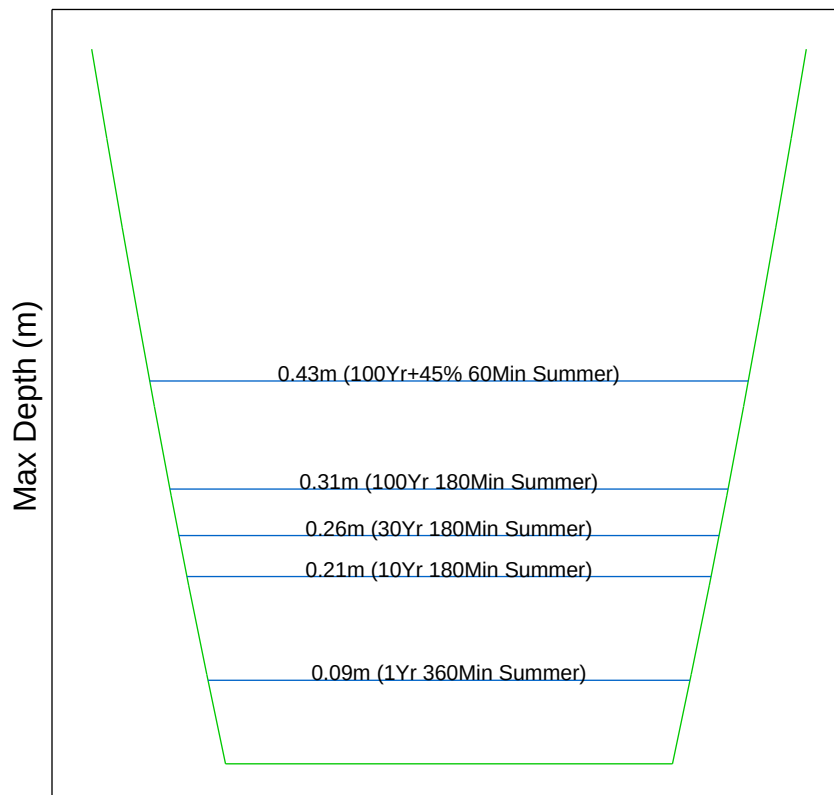
Orifice Control

Invert Offset (m)	Orifice Diameter (m)	Discharge Coeff
0.000	0.100	0.600

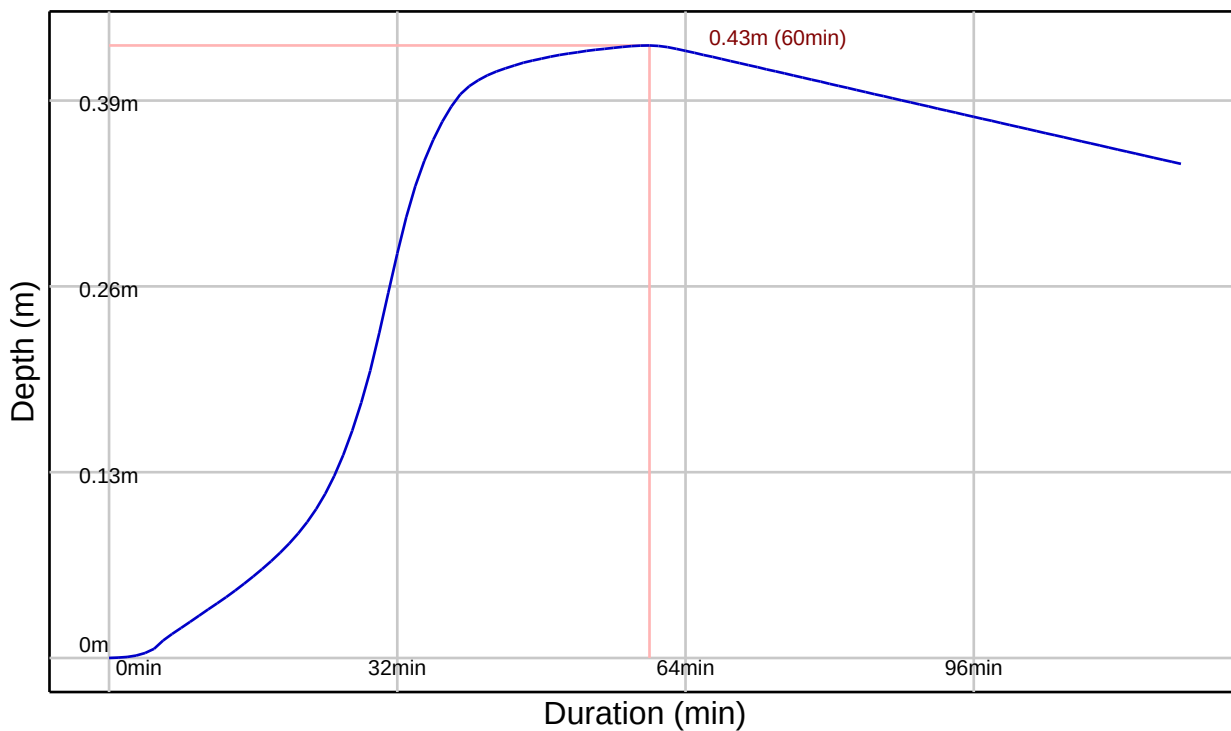
Pond Structure at Manhole S83 OC

Pond Invert (m)	Max Depth (m)	Volume To Water Level (m3)	Water Level (m)	Freeboard (m)	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
34.200	0.800	181.557	34.700	0.300	0.00000000	0.00000000	2.00

Pond Depth/Area Diagram at S83 OC



Pond 11 at S83 OC (100Yr+45% 60Min Summer)

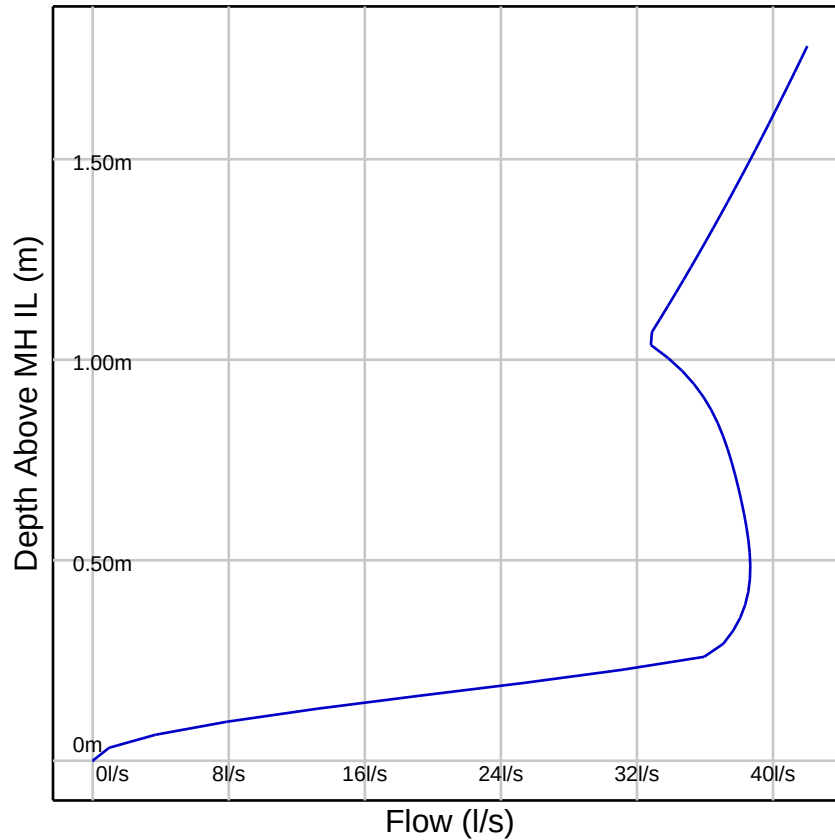


Controls within Manhole S72

Hydro-Brake® Optimum Control

Model Ref	Design Depth (m)	Design Flow (l/s)	Invert Offset (m)	FF Head (m)	FF Flow (l/s)	KF Head (m)	KF Flow (l/s)
SHE-0258-3870-1500-3870	1.500	38.700	0.000	0.482	38.665	1.044	32.508

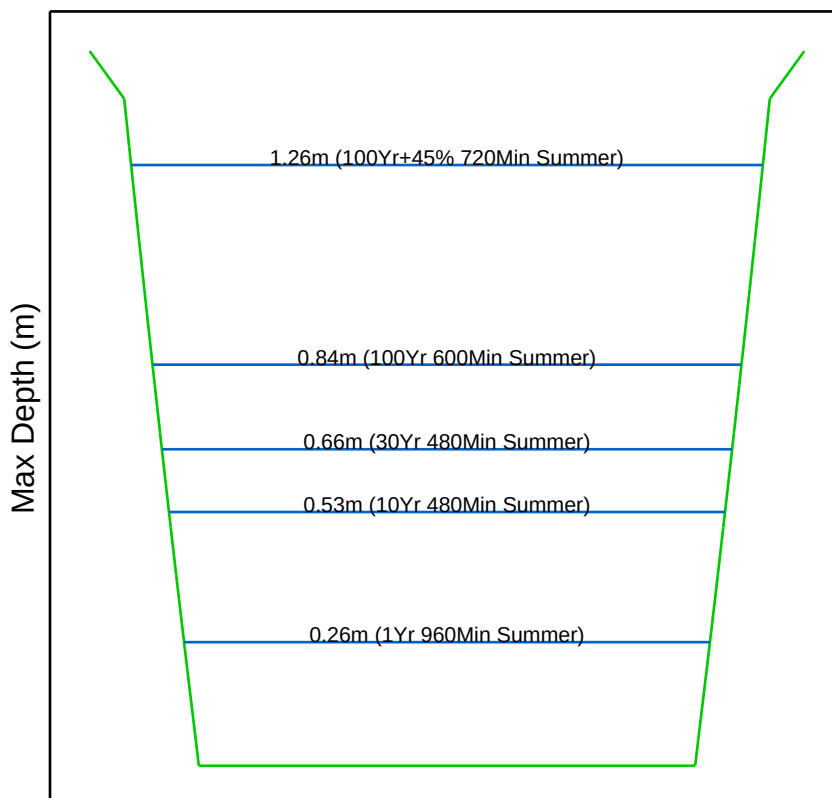
Hydro-Brake® Optimum Control from S72 to S73



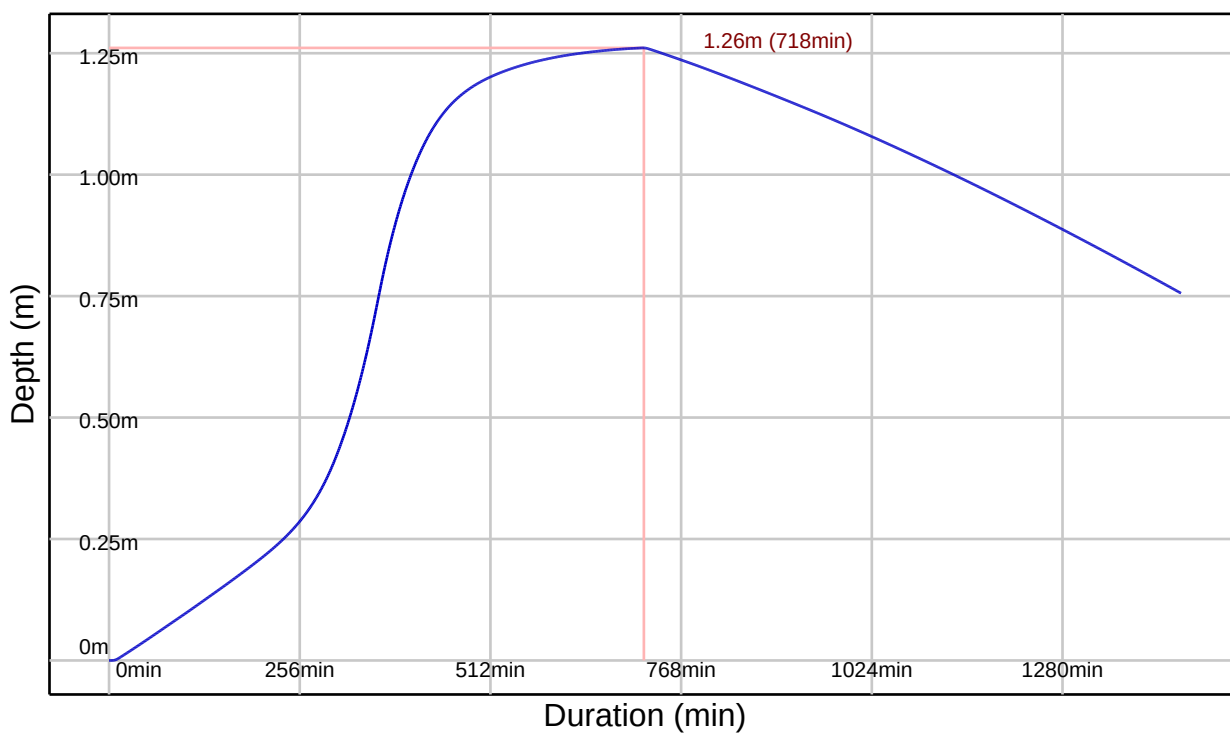
Pond Structure at Manhole S72

Pond Invert (m)	Max Depth (m)	Volume To Water Level (m3)	Water Level (m)	Freeboard (m)	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
30.500	1.500	2880.917	31.700	0.300	0.00000000	0.00000000	2.00

Pond Depth/Area Diagram at S72



Pond 4 at S72 (100Yr+45% 720Min Summer)



Simulation Settings

FEH2022 (point): Filename=FEH_Point_Descriptors_525634_122741_v5_1_0.xml

Summer (Cv min: 0.40, max: 1.00), Winter (Cv min: 0.40, max: 1.00)

Global Time of Entry: 5.0 mins

Durations (mins): 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 8640, 10080

Return Periods (yrs) + Climate Change: (1, +0%), (10, +0%), (30, +0%), (100, +0%), (100, +45%)

Manhole Flood Risk Freeboard: 0.300m

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
1Yr 15Min Winter	14.400	0.00	0.00	30Yr 480Min Summer	7.403	0.00	-0.06
1Yr 15Min Summer	14.400	0.00	0.00	30Yr 480Min Winter	7.403	0.00	-0.05
1Yr 30Min Winter	9.543	0.00	0.03	30Yr 600Min Summer	6.218	0.00	-0.04
1Yr 30Min Summer	9.543	0.00	0.04	30Yr 600Min Winter	6.218	0.00	-0.04
1Yr 60Min Winter	6.143	0.00	0.02	30Yr 720Min Summer	5.382	0.00	-0.03
1Yr 60Min Summer	6.143	0.00	0.01	30Yr 720Min Winter	5.382	0.00	-0.04
1Yr 120Min Winter	5.157	0.00	-0.02	30Yr 960Min Summer	4.291	0.00	-0.02
1Yr 120Min Summer	5.157	0.00	0.00	30Yr 960Min Winter	4.291	0.00	-0.02
1Yr 180Min Summer	4.455	0.00	-0.06	30Yr 1440Min Summer	3.109	0.00	-0.01
1Yr 180Min Winter	4.455	0.00	-0.05	30Yr 1440Min Winter	3.109	0.00	-0.01
1Yr 240Min Summer	3.755	0.00	-0.06	30Yr 8640Min Summer	0.851	0.00	0.00
1Yr 240Min Winter	3.755	0.00	-0.06	30Yr 8640Min Winter	0.851	0.00	0.00
1Yr 360Min Summer	2.978	0.00	-0.04	30Yr 10080Min Summer	0.777	0.00	0.00
1Yr 360Min Winter	2.978	0.00	-0.06	30Yr 10080Min Winter	0.777	0.00	-0.00
1Yr 480Min Winter	2.505	0.00	-0.06	100Yr 15Min Summer	100.383	0.00	0.14
1Yr 480Min Summer	2.505	0.00	-0.07	100Yr 15Min Winter	100.383	0.00	0.09
1Yr 600Min Summer	2.157	0.00	-0.09	100Yr 30Min Summer	67.241	0.00	0.05
1Yr 600Min Winter	2.157	0.00	-0.05	100Yr 30Min Winter	67.241	0.00	0.04
1Yr 720Min Winter	1.898	0.00	-0.04	100Yr 60Min Summer	43.178	0.00	-0.08
1Yr 720Min Summer	1.898	0.00	-0.08	100Yr 60Min Winter	43.178	0.00	-0.04
1Yr 960Min Summer	1.561	0.00	-0.05	100Yr 120Min Summer	26.048	0.00	0.01
1Yr 960Min Winter	1.561	0.00	-0.03	100Yr 120Min Winter	26.048	0.00	-0.04
1Yr 1440Min Summer	1.178	0.00	-0.01	100Yr 180Min Summer	19.245	0.00	-0.05
1Yr 1440Min Winter	1.178	0.00	-0.02	100Yr 180Min Winter	19.245	0.00	-0.04
1Yr 8640Min Summer	0.429	0.00	0.00	100Yr 240Min Summer	15.588	0.00	-0.12
1Yr 8640Min Winter	0.429	0.00	0.00	100Yr 240Min Winter	15.588	0.00	-0.05
1Yr 10080Min Summer	0.405	0.00	0.00	100Yr 360Min Summer	11.485	0.00	-0.09
1Yr 10080Min Winter	0.405	0.00	0.00	100Yr 360Min Winter	11.485	0.00	-0.06
10Yr 15Min Summer	61.131	0.00	0.16	100Yr 480Min Summer	9.230	0.00	-0.04
10Yr 15Min Winter	61.131	0.00	0.12	100Yr 480Min Winter	9.230	0.00	-0.05
10Yr 30Min Summer	40.365	0.00	0.11	100Yr 600Min Summer	7.789	0.00	-0.03
10Yr 30Min Winter	40.365	0.00	0.07	100Yr 600Min Winter	7.789	0.00	-0.04
10Yr 60Min Summer	25.483	0.00	0.03	100Yr 720Min Summer	6.775	0.00	-0.03
10Yr 60Min Winter	25.483	0.00	-0.02	100Yr 720Min Winter	6.775	0.00	-0.03
10Yr 120Min Summer	16.279	0.00	-0.07	100Yr 960Min Summer	5.435	0.00	-0.02
10Yr 120Min Winter	16.279	0.00	-0.07	100Yr 960Min Winter	5.435	0.00	-0.02
10Yr 180Min Summer	12.362	0.00	-0.05	100Yr 1440Min Summer	3.970	0.00	-0.01
10Yr 180Min Winter	12.362	0.00	-0.07	100Yr 1440Min Winter	3.970	0.00	-0.01
10Yr 240Min Summer	10.009	0.00	-0.09	100Yr 8640Min Summer	1.035	0.00	0.00
10Yr 240Min Winter	10.009	0.00	-0.07	100Yr 8640Min Winter	1.035	0.00	0.00
10Yr 360Min Summer	7.416	0.00	-0.12	100Yr 10080Min Summer	0.935	0.00	0.00
10Yr 360Min Winter	7.416	0.00	-0.06	100Yr 10080Min Winter	0.935	0.00	0.00
10Yr 480Min Summer	5.972	0.00	-0.08	100Yr+45% 15Min Summer	145.555	0.00	0.04
10Yr 480Min Winter	5.972	0.00	-0.05	100Yr+45% 15Min Winter	145.555	0.00	0.08
10Yr 600Min Summer	5.020	0.00	-0.04	100Yr+45% 30Min Summer	97.499	0.00	0.09
10Yr 600Min Winter	5.020	0.00	-0.04	100Yr+45% 30Min Winter	97.499	0.00	0.09
10Yr 720Min Winter	4.344	0.00	-0.04	100Yr+45% 60Min Summer	62.609	0.00	0.29
10Yr 720Min Summer	4.344	0.00	-0.03	100Yr+45% 60Min Winter	62.609	0.00	0.30
10Yr 960Min Winter	3.465	0.00	-0.02	100Yr+45% 120Min Summer	37.769	0.00	0.51
10Yr 960Min Summer	3.465	0.00	-0.02	100Yr+45% 120Min Winter	37.769	0.00	0.48
10Yr 1440Min Summer	2.517	0.00	-0.01	100Yr+45% 180Min Summer	27.905	0.00	0.48
10Yr 1440Min Winter	2.517	0.00	-0.01	100Yr+45% 180Min Winter	27.905	0.00	0.55
10Yr 8640Min Summer	0.726	0.00	0.00	100Yr+45% 240Min Summer	22.603	0.00	0.54
10Yr 8640Min Winter	0.726	0.00	-0.00	100Yr+45% 240Min Winter	22.603	0.00	0.57

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
10Yr 10080Min Summer	0.667	0.00	-0.00	100Yr+45% 360Min Summer	16.654	0.00	0.53
10Yr 10080Min Winter	0.667	0.00	0.00	100Yr+45% 360Min Winter	16.654	0.00	0.50
30Yr 15Min Summer	79.814	0.00	0.11	100Yr+45% 480Min Summer	13.384	0.00	0.38
30Yr 15Min Winter	79.814	0.00	0.10	100Yr+45% 480Min Winter	13.384	0.00	0.36
30Yr 30Min Summer	53.125	0.00	0.07	100Yr+45% 600Min Summer	11.293	0.00	0.23
30Yr 30Min Winter	53.125	0.00	0.04	100Yr+45% 600Min Winter	11.293	0.00	0.21
30Yr 60Min Summer	33.742	0.00	-0.02	100Yr+45% 720Min Summer	9.823	0.00	0.09
30Yr 60Min Winter	33.742	0.00	-0.03	100Yr+45% 720Min Winter	9.823	0.00	0.08
30Yr 120Min Summer	20.790	0.00	-0.03	100Yr+45% 960Min Summer	7.880	0.00	-0.02
30Yr 120Min Winter	20.790	0.00	-0.07	100Yr+45% 960Min Winter	7.880	0.00	-0.02
30Yr 180Min Summer	15.537	0.00	-0.07	100Yr+45% 1440Min Summer	5.756	0.00	-0.02
30Yr 180Min Winter	15.537	0.00	-0.09	100Yr+45% 1440Min Winter	5.756	0.00	-0.01
30Yr 240Min Summer	12.555	0.00	-0.13	100Yr+45% 8640Min Summer	1.500	0.00	0.00
30Yr 240Min Winter	12.555	0.00	-0.08	100Yr+45% 8640Min Winter	1.500	0.00	0.00
30Yr 360Min Summer	9.235	0.00	-0.10	100Yr+45% 10080Min Winter	1.356	0.00	0.00
30Yr 360Min Winter	9.235	0.00	-0.07	100Yr+45% 10080Min Summer	1.356	0.00	0.00

Simulation Results

Return Period (yrs) + Climate Change (%):

1yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S88	15 min Winter	0	38.340	0.000	0.000		OK
S90	15 min Winter	0	38.510	0.000	0.000		OK
S89	15 min Summer	9	38.242	0.042	4.920		OK
S80	15 min Summer	9	38.021	0.021	4.855		OK
S81	15 min Summer	10	34.385	0.065	8.418		OK
S82	15 min Summer	10	34.307	0.087	8.684		OK
S84	15 min Winter	0	35.290	0.000	0.000		OK
S85	15 min Winter	0	34.850	0.000	0.000		OK
S86	15 min Winter	0	34.560	0.000	0.000		OK
S87	15 min Summer	8	34.401	0.101	15.259		OK
S106	15 min Winter	7	34.398	0.186	13.624		OK
S83 OC	360 min Summer	218	34.294	0.094	3.932		OK
S67	15 min Summer	9	34.270	0.087	13.101		OK
S68	15 min Summer	9	33.956	0.106	23.561		OK
S70	15 min Summer	8	34.481	0.041	6.699		OK
S69	15 min Summer	9	33.723	0.113	53.428		OK
S39	15 min Summer	8	35.630	0.059	12.540		OK
S40	15 min Summer	9	34.684	0.054	12.583		OK
S41	15 min Summer	9	34.506	0.086	20.092		OK
S42	15 min Summer	9	34.230	0.085	25.489		OK
S43	15 min Summer	9	33.811	0.046	25.803		OK
S44	15 min Summer	9	32.698	0.148	79.826		OK
S54	15 min Summer	9	32.443	0.138	82.553		OK
S45	15 min Summer	9	31.795	0.140	104.209		OK
S46	15 min Summer	9	31.019	0.199	105.601		OK
S47	15 min Summer	10	30.959	0.259	112.459		OK
S48CP	15 min Summer	10	30.868	0.273	118.179		OK
S49	15 min Summer	11	30.797	0.247	114.168		OK
S63	15 min Summer	8	38.300	0.040	8.899		OK
S64	15 min Summer	8	37.722	0.043	8.868		OK
S65	15 min Summer	8	37.192	0.087	22.122		OK
S66	15 min Summer	8	36.803	0.078	26.678		OK
S55	15 min Summer	8	37.257	0.037	8.402		OK
S56	15 min Summer	9	36.251	0.073	34.596		OK
S57	15 min Summer	9	35.520	0.070	34.792		OK
S58	15 min Summer	9	34.082	0.077	47.311		OK
S94	15 min Summer	9	32.103	0.124	48.226		OK
S59	15 min Summer	9	31.944	0.130	52.488		OK
PS1	15 min Winter	0	35.826	0.000	0.000		OK
PS2	15 min Winter	0	34.012	0.000	0.000		OK
S60	15 min Summer	9	31.724	0.114	62.131		OK
S61	15 min Summer	9	31.266	0.126	62.040		OK
S75	15 min Winter	0	39.889	0.000	0.000		OK
S76	15 min Summer	8	38.376	0.012	1.578		OK
S77	15 min Summer	9	35.036	0.013	1.538		OK
S78	15 min Summer	8	32.913	0.055	27.321		OK
S79	15 min Summer	8	31.545	0.073	27.140		OK
S71 CP	15 min Summer	9	30.896	0.244	140.292		OK
S107	15 min Summer	10	30.764	0.244	134.427		OK
S51	15 min Summer	8	32.320	0.054	12.921		OK
S91	15 min Summer	8	31.961	0.024	1.548		OK
S92CP	15 min Summer	9	31.817	0.018	1.507		OK
S93	15 min Summer	8	31.491	0.059	16.937		OK
S52 CP	15 min Summer	9	31.006	0.061	16.799		OK
S53	960 min Summer	599	30.759	0.169	1.218		OK
S72	960 min Summer	599	30.759	0.259	21.882		OK
S73	960 min Summer	599	30.102	0.072	21.854		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	9	S88	S89	0.021	0.000	0.000	0.000	OK
2.000	15 min Summer	9	S90	S89	0.021	0.000	0.000	0.000	OK
1.001	15 min Summer	9	S89	S80	0.032	0.907	4.855	0.012	OK
1.002	15 min Summer	10	S80	S81	0.043	0.568	4.771	0.003	OK
1.003	15 min Summer	10	S81	S82	0.076	0.451	8.684	0.035	OK
1.004	360 min Summer	217	S82	S83 OC	0.084	0.209	3.510	0.024	OK
3.000	15 min Winter	0	S84	S85	0.000	0.000	0.000	0.000	OK
3.001	15 min Winter	0	S85	S86	0.000	0.000	0.000	0.000	OK
3.002	15 min Summer	8	S86	S87	0.050	0.000	0.000	0.000	OK
3.003	15 min Winter	8	S87	S106	0.138	0.674	24.014	0.061	OK
3.004	15 min Winter	8	S106	S83 OC	0.095	1.286	23.517	0.082	OK
1.005	15 min Summer	23	S83 OC	S68	0.056	0.419	0.934	0.003	OK
4.000	15 min Summer	9	S67	S68	0.086	0.763	12.864	0.188	OK
1.006	15 min Summer	9	S68	S69	0.110	0.873	23.241	0.180	OK
5.000	15 min Summer	8	S70	S69	0.040	1.149	6.548	0.040	OK
1.007	15 min Summer	9	S69	S44	0.112	1.907	52.728	0.198	OK
6.000	15 min Summer	8	S39	S40	0.057	1.342	12.401	0.085	OK
6.001	15 min Summer	9	S40	S41	0.070	1.018	12.721	0.078	OK
6.002	15 min Summer	9	S41	S42	0.084	1.242	20.260	0.178	OK
6.003	15 min Summer	9	S42	S43	0.084	1.377	25.616	0.115	OK
6.004	15 min Summer	9	S43	S44	0.097	1.031	25.815	0.024	OK
1.008	15 min Summer	9	S44	S54	0.143	1.834	79.664	0.226	OK
1.009	15 min Summer	9	S54	S45	0.139	1.982	82.035	0.204	OK
1.010	15 min Summer	9	S45	S46	0.137	2.522	103.132	0.205	OK
1.011	15 min Summer	10	S46	S47	0.228	1.071	104.850	0.201	OK
1.012	15 min Summer	10	S47	S48CP	0.266	0.950	114.006	0.382	OK
1.013	15 min Summer	10	S48CP	S49	0.259	0.987	115.261	0.451	OK
1.014	15 min Summer	11	S49	S72	0.232	1.150	116.352	0.397	OK
7.000	15 min Summer	8	S63	S64	0.042	1.748	8.868	0.073	OK
7.001	15 min Summer	8	S64	S65	0.043	1.676	8.801	0.082	OK
7.002	15 min Summer	8	S65	S66	0.082	1.392	21.965	0.180	OK
7.003	15 min Summer	9	S66	S56	0.077	1.860	26.464	0.147	OK
8.000	15 min Summer	8	S55	S56	0.055	0.830	8.345	0.021	OK
7.004	15 min Summer	9	S56	S57	0.072	2.359	34.792	0.084	OK
7.005	15 min Summer	9	S57	S58	0.069	2.496	34.979	0.077	OK
7.006	15 min Summer	9	S58	S94	0.077	2.633	47.496	0.066	OK
7.007	15 min Summer	9	S94	S59	0.127	1.194	48.341	0.122	OK
7.008	15 min Summer	9	S59	S60	0.122	1.374	52.527	0.136	OK
9.000	15 min Winter	0	PS1	PS2	0.000	0.000	0.000	0.000	OK
9.001	15 min Winter	0	PS2	S60	0.000	0.000	0.000	0.000	OK
7.009	15 min Summer	9	S60	S61	0.120	1.667	62.040	0.107	OK
7.010	15 min Summer	10	S61	S71 CP	0.124	1.582	61.501	0.127	OK
10.000	15 min Summer	8	S75	S76	0.006	0.000	0.000	0.000	OK
10.001	15 min Summer	9	S76	S77	0.012	1.196	1.559	0.001	OK
10.002	15 min Summer	9	S77	S78	0.034	0.282	1.551	0.001	OK
10.003	15 min Summer	8	S78	S79	0.064	1.806	27.140	0.025	OK
10.004	15 min Summer	9	S79	S71 CP	0.083	1.374	27.086	0.044	OK
7.011	15 min Summer	9	S71 CP	S107	0.243	1.204	140.003	0.269	OK
7.012	960 min Summer	599	S107	S72	0.244	0.353	28.637	0.035	OK
11.000	15 min Summer	8	S51	S93	0.053	1.506	12.759	0.071	OK
12.000	15 min Summer	8	S91	S92CP	0.021	0.700	1.531	0.013	OK
12.001	15 min Summer	9	S92CP	S93	0.018	0.851	1.523	0.008	OK
11.001	15 min Summer	9	S93	S52 CP	0.058	1.532	16.799	0.055	OK
11.002	15 min Summer	9	S52 CP	S53	0.060	1.328	16.924	0.040	OK
11.003	960 min Summer	599	S53	S72	0.209	0.170	3.422	0.021	OK
1.015	960 min Summer	599	S72	S73	0.073	1.656	21.854	0.135	OK

Return Period (yrs) + Climate Change (%):

10yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S88	15 min Summer	0	38.340	0.000	0.000		OK
S90	15 min Summer	0	38.510	0.000	0.000		OK
S89	15 min Summer	9	38.283	0.083	20.867		OK
S80	15 min Summer	9	38.043	0.043	21.254		OK
S81	15 min Summer	9	34.462	0.142	39.871		OK
S82	180 min Summer	121	34.410	0.190	3.316		OK
S84	15 min Summer	0	35.290	0.000	0.000		OK
S85	15 min Summer	0	34.850	0.000	0.000		OK
S86	15 min Summer	0	34.560	0.000	0.000		OK
S87	15 min Winter	5	34.478	0.178	34.125		OK
S106	15 min Winter	5	34.495	0.283	28.816		OK
S83 OC	180 min Summer	121	34.410	0.210	8.236		OK
S67	15 min Summer	9	34.389	0.207	55.573		OK
S68	15 min Summer	9	34.107	0.257	103.797		OK
S70	15 min Summer	8	34.523	0.083	28.466		OK
S69	15 min Summer	9	33.883	0.273	231.511		OK
S39	15 min Summer	8	35.694	0.123	53.285		OK
S40	15 min Summer	8	34.761	0.131	54.427		OK
S41	15 min Summer	8	34.621	0.201	86.314		OK
S42	15 min Summer	9	34.334	0.189	108.118		OK
S43	15 min Summer	9	33.858	0.093	109.610		OK
S44	15 min Summer	9	32.944	0.394	347.721		OK
S54	15 min Summer	10	32.687	0.382	340.669		OK
S45	15 min Summer	10	32.233	0.578	425.606		Surcharged
S46	15 min Summer	10	31.684	0.864	438.163		Surcharged
S47	15 min Summer	10	31.577	0.877	469.798		Surcharged
S48CP	15 min Summer	10	31.310	0.715	486.550		Surcharged
S49	15 min Summer	10	31.132	0.582	483.124		OK
S63	15 min Summer	8	38.347	0.087	37.815		OK
S64	15 min Summer	8	37.769	0.091	37.722		OK
S65	15 min Summer	8	37.307	0.202	94.200		OK
S66	15 min Summer	8	36.905	0.180	113.517		OK
S55	15 min Summer	8	37.294	0.074	35.702		OK
S56	15 min Summer	8	36.338	0.161	148.265		OK
S57	15 min Summer	8	35.600	0.150	147.802		OK
S58	15 min Summer	8	34.163	0.158	201.725		OK
S94	15 min Summer	9	32.263	0.284	203.854		OK
S59	15 min Summer	9	32.103	0.289	223.122		OK
PS1	15 min Summer	0	35.826	0.000	0.000		OK
PS2	15 min Summer	0	34.012	0.000	0.000		OK
S60	15 min Summer	9	31.868	0.258	264.926		OK
S61	15 min Summer	9	31.440	0.300	265.950		OK
S75	15 min Summer	0	39.889	0.000	0.000		OK
S76	15 min Summer	8	38.387	0.024	6.705		OK
S77	15 min Summer	8	35.048	0.024	6.647		OK
S78	15 min Summer	8	32.969	0.111	116.278		OK
S79	15 min Summer	8	31.621	0.149	115.816		OK
S71 CP	15 min Summer	9	31.245	0.593	602.791		OK
S107	480 min Summer	356	31.033	0.513	15.766		OK
S51	15 min Summer	8	32.380	0.114	54.906		OK
S91	15 min Summer	8	31.985	0.047	6.576		OK
S92CP	15 min Summer	8	31.835	0.036	6.531		OK
S93	15 min Summer	8	31.558	0.127	72.316		OK
S52 CP	15 min Summer	8	31.074	0.129	71.911		OK
S53	480 min Summer	352	31.033	0.443	1.889		OK
S72	480 min Summer	356	31.033	0.533	38.500		Surcharged
S73	480 min Summer	356	30.126	0.096	38.553		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	9	S88	S89	0.042	0.000	0.000	0.000	OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
2.000	15 min Summer	9	S90	S89	0.042	0.000	0.000	0.000	OK
1.001	15 min Summer	9	S89	S80	0.063	1.428	21.254	0.052	OK
1.002	15 min Summer	9	S80	S81	0.093	0.829	21.308	0.015	OK
1.003	15 min Summer	9	S81	S82	0.153	0.762	39.897	0.161	OK
1.004	180 min Summer	121	S82	S83 OC	0.200	0.297	13.564	0.094	OK
3.000	15 min Summer	0	S84	S85	0.000	0.000	0.000	0.000	OK
3.001	15 min Summer	0	S85	S86	0.000	0.000	0.000	0.000	OK
3.002	15 min Winter	5	S86	S87	0.089	0.000	0.000	0.000	OK
3.003	15 min Winter	8	S87	S106	0.230	1.086	59.681	0.151	OK
3.004	180 min Summer	121	S106	S83 OC	0.204	0.672	23.272	0.082	OK
1.005	15 min Summer	17	S83 OC	S68	0.140	0.760	6.195	0.022	OK
4.000	15 min Summer	9	S67	S68	0.196	1.155	56.370	0.823	OK
1.006	15 min Summer	9	S68	S69	0.265	1.278	103.717	0.803	OK
5.000	15 min Summer	9	S70	S69	0.140	1.262	28.274	0.174	OK
1.007	15 min Summer	9	S69	S44	0.296	2.500	232.610	0.875	OK
6.000	15 min Summer	8	S39	S40	0.127	1.853	52.869	0.361	OK
6.001	15 min Summer	9	S40	S41	0.166	1.349	53.871	0.330	OK
6.002	15 min Summer	9	S41	S42	0.194	1.782	85.936	0.757	OK
6.003	15 min Summer	9	S42	S43	0.184	2.022	108.819	0.488	OK
6.004	15 min Summer	9	S43	S44	0.243	1.356	109.671	0.103	OK
1.008	15 min Summer	10	S44	S54	0.383	2.471	345.530	0.980	OK
1.009	15 min Summer	10	S54	S45	0.416	2.541	348.092	0.867	OK
1.010	15 min Summer	10	S45	S46	0.450	3.057	429.424	0.854	OK
1.011	15 min Winter	10	S46	S47	0.600	1.461	413.158	0.792	Surcharged
1.012	15 min Winter	10	S47	S48CP	0.600	1.578	446.056	1.496	Surcharged
1.013	15 min Summer	10	S48CP	S49	0.591	1.715	483.124	1.889	OK
1.014	15 min Summer	10	S49	S72	0.518	1.857	481.478	1.644	OK
7.000	15 min Summer	8	S63	S64	0.089	2.589	37.722	0.311	OK
7.001	15 min Summer	8	S64	S65	0.109	2.134	37.595	0.352	OK
7.002	15 min Summer	8	S65	S66	0.191	1.974	93.489	0.766	OK
7.003	15 min Summer	8	S66	S56	0.173	2.682	112.708	0.626	OK
8.000	15 min Summer	8	S55	S56	0.118	1.204	35.557	0.090	OK
7.004	15 min Summer	8	S56	S57	0.156	3.413	147.802	0.357	OK
7.005	15 min Summer	9	S57	S58	0.146	3.703	147.876	0.326	OK
7.006	15 min Summer	8	S58	S94	0.183	3.314	201.170	0.279	OK
7.007	15 min Summer	9	S94	S59	0.286	1.702	205.530	0.520	OK
7.008	15 min Summer	9	S59	S60	0.273	1.969	224.187	0.579	OK
9.000	15 min Summer	0	PS1	PS2	0.000	0.000	0.000	0.000	OK
9.001	15 min Summer	0	PS2	S60	0.000	0.000	0.000	0.000	OK
7.009	15 min Summer	9	S60	S61	0.279	2.277	265.950	0.458	OK
7.010	15 min Summer	9	S61	S71 CP	0.371	1.951	265.783	0.547	OK
10.000	15 min Summer	8	S75	S76	0.012	0.000	0.000	0.000	OK
10.001	15 min Summer	8	S76	S77	0.024	1.840	6.647	0.004	OK
10.002	15 min Summer	8	S77	S78	0.068	0.410	6.572	0.004	OK
10.003	15 min Summer	8	S78	S79	0.130	2.773	115.816	0.105	OK
10.004	15 min Summer	9	S79	S71 CP	0.295	1.369	114.764	0.188	OK
7.011	15 min Summer	9	S71 CP	S107	0.544	1.963	606.576	1.167	OK
7.012	480 min Summer	356	S107	S72	0.518	0.471	108.287	0.131	OK
11.000	15 min Summer	8	S51	S93	0.112	2.255	54.443	0.303	OK
12.000	15 min Summer	8	S91	S92CP	0.042	1.088	6.531	0.054	OK
12.001	15 min Summer	8	S92CP	S93	0.044	1.144	6.491	0.035	OK
11.001	15 min Summer	8	S93	S52 CP	0.123	2.283	71.911	0.236	OK
11.002	480 min Summer	355	S52 CP	S53	0.228	1.006	13.102	0.031	OK
11.003	480 min Summer	352	S53	S72	0.483	0.260	12.589	0.078	OK
1.015	480 min Summer	356	S72	S73	0.098	1.934	38.553	0.237	OK

Return Period (yrs) + Climate Change (%):
30yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S88	15 min Summer	0	38.340	0.000	0.000		OK
S90	15 min Summer	0	38.510	0.000	0.000		OK
S89	15 min Summer	9	38.295	0.095	27.242		OK
S80	15 min Summer	9	38.049	0.049	27.770		OK
S81	15 min Summer	9	34.485	0.165	52.103		OK
S82	180 min Summer	124	34.456	0.236	3.673		OK
S84	15 min Summer	0	35.290	0.000	0.000		OK
S85	15 min Summer	0	34.850	0.000	0.000		OK
S86	15 min Summer	0	34.560	0.000	0.000		OK
S87	15 min Winter	5	34.526	0.226	44.597		OK
S106	15 min Winter	5	34.491	0.280	45.511		OK
S83 OC	180 min Summer	123	34.456	0.256	9.594		OK
S67	15 min Summer	10	34.530	0.347	60.501		Surcharged
S68	15 min Summer	10	34.356	0.506	105.802		Surcharged
S70	15 min Summer	8	34.535	0.095	37.163		OK
S69	15 min Summer	10	34.226	0.615	234.099		Surcharged
S39	15 min Summer	8	35.714	0.143	69.562		OK
S40	15 min Summer	8	34.793	0.163	71.118		OK
S41	15 min Summer	8	34.669	0.249	112.441		OK
S42	15 min Summer	9	34.369	0.224	141.044		OK
S43	15 min Summer	9	33.871	0.106	143.019		OK
S44	15 min Summer	10	33.478	0.928	367.998		Surcharged
S54	15 min Summer	10	33.172	0.867	377.660		Surcharged
S45	15 min Summer	10	32.577	0.922	476.364		Surcharged
S46	15 min Summer	10	31.901	1.081	486.723		Surcharged
S47	15 min Summer	10	31.769	1.069	527.593		Surcharged
S48CP	15 min Summer	10	31.432	0.837	548.902		Surcharged
S49	15 min Summer	10	31.193	0.643	547.265		Surcharged
S63	15 min Summer	8	38.362	0.102	49.368		OK
S64	15 min Summer	8	37.785	0.106	49.261		OK
S65	15 min Summer	8	37.358	0.253	122.982		OK
S66	15 min Summer	8	36.943	0.218	148.140		OK
S55	15 min Summer	8	37.304	0.084	46.608		OK
S56	15 min Summer	8	36.367	0.189	193.480		OK
S57	15 min Summer	8	35.625	0.175	192.860		OK
S58	15 min Summer	8	34.187	0.182	263.248		OK
S94	15 min Summer	9	32.321	0.342	266.048		OK
S59	15 min Summer	9	32.161	0.347	290.795		OK
PS1	15 min Summer	0	35.826	0.000	0.000		OK
PS2	15 min Summer	0	34.012	0.000	0.000		OK
S60	15 min Summer	9	31.930	0.320	344.857		OK
S61	15 min Summer	9	31.586	0.446	344.484		OK
S75	15 min Summer	0	39.889	0.000	0.000		OK
S76	15 min Summer	8	38.391	0.027	8.754		OK
S77	15 min Summer	8	35.051	0.028	8.682		OK
S78	15 min Summer	8	32.985	0.127	151.809		OK
S79	15 min Summer	8	31.643	0.171	151.270		OK
S71 CP	15 min Summer	9	31.434	0.781	780.719		Surcharged
S107	480 min Summer	392	31.164	0.644	15.565		OK
S51	15 min Summer	8	32.399	0.133	71.679		OK
S91	15 min Summer	8	31.992	0.054	8.585		OK
S92CP	15 min Summer	8	31.840	0.041	8.534		OK
S93	15 min Summer	8	31.579	0.147	94.453		OK
S52 CP	480 min Summer	393	31.166	0.221	2.127		OK
S53	480 min Summer	392	31.167	0.577	1.264		Surcharged
S72	480 min Summer	393	31.164	0.664	38.851		Surcharged
S73	360 min Summer	444	30.126	0.096	38.664		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	9	S88	S89	0.047	0.000	0.000	0.000	OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
2.000	15 min Summer	9	S90	S89	0.047	0.000	0.000	0.000	OK
1.001	15 min Summer	9	S89	S80	0.072	1.552	27.770	0.067	OK
1.002	15 min Summer	9	S80	S81	0.107	0.880	27.869	0.019	OK
1.003	180 min Summer	124	S81	S82	0.186	0.450	18.551	0.075	OK
1.004	180 min Summer	124	S82	S83 OC	0.246	0.488	16.838	0.117	OK
3.000	15 min Summer	0	S84	S85	0.000	0.000	0.000	0.000	OK
3.001	15 min Summer	0	S85	S86	0.000	0.000	0.000	0.000	OK
3.002	15 min Winter	5	S86	S87	0.113	0.000	0.000	0.000	OK
3.003	15 min Winter	8	S87	S106	0.253	1.143	76.769	0.194	OK
3.004	180 min Summer	123	S106	S83 OC	0.250	0.723	29.047	0.102	OK
1.005	15 min Summer	17	S83 OC	S68	0.265	0.805	7.430	0.026	OK
4.000	15 min Summer	10	S67	S68	0.300	1.169	73.384	1.072	Surcharged
1.006	15 min Summer	9	S68	S69	0.375	1.259	124.572	0.964	Surcharged
5.000	15 min Summer	8	S70	S69	0.197	1.243	36.941	0.228	OK
1.007	15 min Winter	9	S69	S44	0.375	2.492	260.143	0.979	Surcharged
6.000	15 min Summer	8	S39	S40	0.153	1.918	69.084	0.471	OK
6.001	15 min Summer	9	S40	S41	0.206	1.379	70.137	0.430	OK
6.002	15 min Summer	9	S41	S42	0.239	1.857	112.085	0.987	OK
6.003	15 min Summer	9	S42	S43	0.217	2.148	141.986	0.637	OK
6.004	15 min Summer	9	S43	S44	0.278	1.387	143.091	0.135	OK
1.008	30 min Summer	16	S44	S54	0.450	2.430	366.596	1.040	OK
1.009	15 min Winter	11	S54	S45	0.450	2.520	370.001	0.921	OK
1.010	15 min Winter	10	S45	S46	0.450	3.110	460.766	0.916	OK
1.011	15 min Winter	10	S46	S47	0.600	1.665	470.796	0.903	Surcharged
1.012	15 min Winter	10	S47	S48CP	0.600	1.799	508.529	1.706	Surcharged
1.013	15 min Winter	10	S48CP	S49	0.600	1.870	528.638	2.067	Surcharged
1.014	480 min Summer	325	S49	S72	0.600	0.659	122.563	0.419	Surcharged
7.000	15 min Summer	8	S63	S64	0.104	2.752	49.261	0.406	OK
7.001	15 min Summer	8	S64	S65	0.142	2.160	49.084	0.459	OK
7.002	15 min Summer	8	S65	S66	0.235	2.055	121.994	1.000	OK
7.003	15 min Summer	8	S66	S56	0.208	2.824	147.038	0.817	OK
8.000	15 min Summer	8	S55	S56	0.137	1.278	46.442	0.117	OK
7.004	15 min Summer	8	S56	S57	0.182	3.620	192.860	0.465	OK
7.005	15 min Summer	9	S57	S58	0.170	3.957	193.051	0.425	OK
7.006	15 min Summer	9	S58	S94	0.224	3.319	262.578	0.365	OK
7.007	15 min Summer	9	S94	S59	0.344	1.781	267.829	0.678	OK
7.008	15 min Summer	9	S59	S60	0.333	2.039	291.673	0.753	OK
9.000	15 min Summer	0	PS1	PS2	0.000	0.000	0.000	0.000	OK
9.001	15 min Summer	0	PS2	S60	0.000	0.000	0.000	0.000	OK
7.009	15 min Summer	9	S60	S61	0.383	2.316	344.484	0.593	OK
7.010	15 min Summer	10	S61	S71 CP	0.485	1.971	351.121	0.723	OK
10.000	15 min Summer	8	S75	S76	0.014	0.000	0.000	0.000	OK
10.001	15 min Summer	8	S76	S77	0.027	1.995	8.682	0.005	OK
10.002	15 min Summer	8	S77	S78	0.077	0.444	8.591	0.006	OK
10.003	15 min Summer	8	S78	S79	0.149	2.991	151.270	0.137	OK
10.004	15 min Summer	8	S79	S71 CP	0.348	1.400	150.042	0.245	OK
7.011	15 min Summer	9	S71 CP	S107	0.618	2.271	779.626	1.500	OK
7.012	480 min Summer	392	S107	S72	0.649	0.495	132.633	0.160	OK
11.000	15 min Summer	8	S51	S93	0.130	2.416	71.110	0.396	OK
12.000	15 min Summer	8	S91	S92CP	0.048	1.176	8.534	0.070	OK
12.001	15 min Summer	8	S92CP	S93	0.057	1.214	8.483	0.045	OK
11.001	15 min Summer	8	S93	S52 CP	0.142	2.445	93.907	0.309	OK
11.002	480 min Summer	393	S52 CP	S53	0.336	0.974	21.503	0.051	OK
11.003	240 min Summer	170	S53	S72	0.525	0.341	26.007	0.161	OK
1.015	360 min Summer	444	S72	S73	0.098	1.935	38.664	0.238	OK

Return Period (yrs) + Climate Change (%):
100yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S88	15 min Summer	0	38.340	0.000	0.000		OK
S90	15 min Summer	0	38.510	0.000	0.000		OK
S89	15 min Summer	8	38.306	0.106	35.710		OK
S80	15 min Summer	9	38.055	0.055	34.937		OK
S81	15 min Summer	9	34.508	0.188	65.566		OK
S82	180 min Summer	126	34.508	0.288	4.230		OK
S84	15 min Summer	0	35.290	0.000	0.000		OK
S85	15 min Summer	0	34.850	0.000	0.000		OK
S86	15 min Summer	0	34.560	0.000	0.000		OK
S87	15 min Winter	5	34.513	0.213	56.135		OK
S106	15 min Winter	5	34.509	0.298	75.926		OK
S83 OC	180 min Summer	126	34.508	0.308	10.666		OK
S67	15 min Summer	10	35.104	0.921	76.083		Surcharged
S68	15 min Summer	11	34.881	1.031	97.003		Surcharged
S70	15 min Summer	10	34.777	0.337	37.392		Surcharged
S69	15 min Summer	11	34.733	1.122	206.932		Surcharged
S39	15 min Summer	8	35.734	0.163	87.487		OK
S40	15 min Summer	9	34.867	0.237	87.045		OK
S41	15 min Summer	9	34.810	0.390	138.159		Surcharged
S42	15 min Summer	9	34.405	0.260	174.579		OK
S43	15 min Summer	10	33.980	0.215	166.810		OK
S44	15 min Summer	11	33.969	1.419	381.752		Surcharged
S54	15 min Summer	10	33.609	1.304	407.288		Surcharged
S45	15 min Summer	10	32.934	1.279	526.508		Surcharged
S46	15 min Summer	10	32.117	1.297	536.456		Surcharged
S47	15 min Summer	10	31.956	1.256	586.621		Surcharged
S48CP	15 min Summer	10	31.542	0.946	611.844		Surcharged
S49	600 min Summer	509	31.342	0.792	20.803		Surcharged
S63	15 min Summer	8	38.375	0.115	62.088		OK
S64	15 min Summer	9	37.833	0.154	59.687		OK
S65	15 min Summer	9	37.599	0.494	149.623		Surcharged
S66	15 min Summer	9	37.001	0.276	183.298		OK
S55	15 min Summer	8	37.315	0.095	58.618		OK
S56	15 min Summer	9	36.396	0.218	240.475		OK
S57	15 min Summer	9	35.651	0.201	240.800		OK
S58	15 min Summer	9	34.211	0.206	326.893		OK
S94	15 min Summer	9	32.402	0.423	332.190		OK
S59	15 min Summer	10	32.280	0.466	334.598		OK
PS1	15 min Summer	0	35.826	0.000	0.000		OK
PS2	15 min Summer	0	34.012	0.000	0.000		OK
S60	15 min Summer	10	32.123	0.513	401.978		OK
S61	15 min Summer	9	31.886	0.746	405.677		Surcharged
S75	15 min Summer	0	39.889	0.000	0.000		OK
S76	15 min Summer	8	38.394	0.030	11.009		OK
S77	15 min Summer	8	35.054	0.031	10.922		OK
S78	15 min Summer	8	33.001	0.143	190.939		OK
S79	15 min Summer	9	31.675	0.203	184.239		OK
S71 CP	15 min Summer	9	31.627	0.974	952.275		Surcharged
S107	600 min Summer	511	31.342	0.822	15.101		OK
S51	15 min Summer	8	32.419	0.152	90.149		OK
S91	15 min Summer	8	31.998	0.061	10.797		OK
S92CP	15 min Summer	8	31.845	0.046	10.739		OK
S93	15 min Summer	8	31.600	0.168	118.822		OK
S52 CP	600 min Summer	509	31.344	0.399	1.785		OK
S53	600 min Summer	503	31.343	0.753	2.560		Surcharged
S72	600 min Summer	511	31.342	0.842	37.354		Surcharged
S73	1440 min Winter	1412	30.126	0.096	38.664		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	8	S88	S89	0.053	0.000	0.000	0.000	OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
2.000	15 min Summer	8	S90	S89	0.053	0.000	0.000	0.000	OK
1.001	15 min Summer	9	S89	S80	0.080	1.664	34.937	0.085	OK
1.002	15 min Summer	9	S80	S81	0.121	0.926	35.088	0.024	OK
1.003	180 min Summer	126	S81	S82	0.238	0.450	22.308	0.090	OK
1.004	180 min Summer	126	S82	S83 OC	0.298	0.534	20.004	0.139	OK
3.000	15 min Summer	0	S84	S85	0.000	0.000	0.000	0.000	OK
3.001	15 min Summer	0	S85	S86	0.000	0.000	0.000	0.000	OK
3.002	15 min Winter	5	S86	S87	0.107	0.000	0.000	0.000	OK
3.003	15 min Winter	8	S87	S106	0.255	1.148	97.342	0.246	OK
3.004	180 min Summer	126	S106	S83 OC	0.302	0.770	35.655	0.125	OK
1.005	30 min Summer	21	S83 OC	S68	0.375	0.879	16.895	0.059	Surcharged
4.000	15 min Winter	8	S67	S68	0.300	1.174	74.270	1.085	Surcharged
1.006	15 min Winter	14	S68	S69	0.375	1.472	127.837	0.989	Surcharged
5.000	15 min Summer	10	S70	S69	0.300	1.246	46.486	0.287	Surcharged
1.007	15 min Winter	8	S69	S44	0.375	2.494	268.595	1.011	Surcharged
6.000	15 min Summer	9	S39	S40	0.198	1.988	86.938	0.593	OK
6.001	15 min Summer	9	S40	S41	0.269	1.370	86.822	0.532	OK
6.002	15 min Summer	9	S41	S42	0.288	1.981	138.159	1.217	OK
6.003	15 min Summer	9	S42	S43	0.250	2.238	174.716	0.784	OK
6.004	15 min Summer	10	S43	S44	0.332	1.539	173.647	0.164	OK
1.008	30 min Summer	18	S44	S54	0.450	2.415	384.081	1.090	OK
1.009	15 min Winter	11	S54	S45	0.450	2.533	402.781	1.003	OK
1.010	15 min Winter	10	S45	S46	0.450	3.183	506.240	1.006	OK
1.011	30 min Summer	18	S46	S47	0.600	1.838	519.657	0.997	Surcharged
1.012	30 min Summer	18	S47	S48CP	0.600	2.000	565.524	1.897	Surcharged
1.013	30 min Summer	18	S48CP	S49	0.600	2.089	590.648	2.309	Surcharged
1.014	180 min Summer	111	S49	S72	0.600	1.371	303.232	1.036	Surcharged
7.000	15 min Summer	8	S63	S64	0.134	2.793	62.010	0.511	OK
7.001	15 min Summer	9	S64	S65	0.190	2.133	60.547	0.566	OK
7.002	15 min Summer	9	S65	S66	0.288	2.176	151.748	1.244	OK
7.003	15 min Summer	9	S66	S56	0.256	2.891	184.030	1.022	OK
8.000	15 min Summer	9	S55	S56	0.156	1.365	58.426	0.148	OK
7.004	15 min Summer	9	S56	S57	0.210	3.789	240.800	0.581	OK
7.005	15 min Summer	9	S57	S58	0.195	4.162	241.013	0.531	OK
7.006	15 min Summer	9	S58	S94	0.277	3.328	327.108	0.454	OK
7.007	15 min Summer	10	S94	S59	0.440	1.792	330.918	0.838	OK
7.008	15 min Summer	10	S59	S60	0.490	2.020	352.228	0.910	OK
9.000	15 min Summer	0	PS1	PS2	0.000	0.000	0.000	0.000	OK
9.001	15 min Summer	10	PS2	S60	0.044	0.000	0.000	0.000	OK
7.009	15 min Summer	10	S60	S61	0.519	2.234	414.178	0.713	OK
7.010	15 min Winter	10	S61	S71 CP	0.525	1.938	401.984	0.827	OK
10.000	15 min Summer	8	S75	S76	0.015	0.000	0.000	0.000	OK
10.001	15 min Summer	8	S76	S77	0.031	2.144	10.922	0.007	OK
10.002	15 min Summer	8	S77	S78	0.087	0.475	10.815	0.007	OK
10.003	15 min Summer	9	S78	S79	0.171	3.179	190.232	0.172	OK
10.004	15 min Summer	9	S79	S71 CP	0.364	1.364	188.608	0.308	OK
7.011	480 min Summer	366	S71 CP	S107	0.675	0.786	168.543	0.324	Surcharged
7.012	600 min Summer	511	S107	S72	0.827	0.486	138.918	0.168	OK
11.000	15 min Summer	8	S51	S93	0.149	2.555	89.453	0.498	OK
12.000	15 min Summer	8	S91	S92CP	0.054	1.258	10.739	0.088	OK
12.001	15 min Summer	8	S92CP	S93	0.070	1.143	10.681	0.057	OK
11.001	600 min Summer	494	S93	S52 CP	0.172	1.539	17.097	0.056	OK
11.002	600 min Summer	509	S52 CP	S53	0.424	0.855	30.016	0.071	OK
11.003	60 min Winter	56	S53	S72	0.525	0.742	59.916	0.370	OK
1.015	1440 min Winter	1412	S72	S73	0.098	1.935	38.664	0.238	OK

Return Period (yrs) + Climate Change (%):
100yr+45%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S88	15 min Summer	0	38.340	0.000	0.000		OK
S90	15 min Summer	0	38.510	0.000	0.000		OK
S89	15 min Summer	8	38.327	0.127	51.786		OK
S80	15 min Summer	9	38.066	0.066	50.644		OK
S81	60 min Summer	59	34.629	0.309	6.078		OK
S82	60 min Summer	59	34.629	0.409	6.146		OK
S84	15 min Summer	0	35.290	0.000	0.000		OK
S85	15 min Summer	0	34.850	0.000	0.000		OK
S86	60 min Summer	59	34.628	0.068	0.000		OK
S87	60 min Summer	60	34.628	0.328	6.372		OK
S106	60 min Summer	60	34.628	0.417	6.229		OK
S83 OC	60 min Summer	60	34.629	0.429	12.014		Surcharged
S67	15 min Summer	10	36.219	2.036	110.378		Flood Risk
S68	15 min Summer	10	35.595	1.745	230.970		Flood Risk
S70	15 min Summer	10	35.713	1.273	54.247		Flood Risk
S69	15 min Summer	10	35.603	1.993	261.387		Surcharged
S39	15 min Summer	10	35.949	0.378	101.540		Surcharged
S40	15 min Summer	10	35.529	0.899	102.224		Surcharged
S41	15 min Summer	10	35.447	1.027	154.634		Surcharged
S42	15 min Summer	11	35.086	0.941	169.956		Surcharged
S43	15 min Summer	11	34.876	1.111	179.311		Surcharged
S44	15 min Summer	11	34.823	2.273	406.052		Surcharged
S54	15 min Summer	10	34.416	2.111	435.688		Surcharged
S45	15 min Summer	10	33.655	2.000	608.474		Flood Risk
S46	15 min Summer	10	32.569	1.749	622.801		Surcharged
S47	15 min Summer	10	32.354	1.654	695.210		Surcharged
S48CP	15 min Summer	10	31.774	1.179	731.367		Surcharged
S49	720 min Summer	716	31.761	1.211	20.269		Surcharged
S63	15 min Summer	10	39.014	0.754	72.062		Surcharged
S64	15 min Summer	10	38.763	1.084	76.533		Surcharged
S65	15 min Summer	9	38.458	1.353	203.398		Surcharged
S66	15 min Summer	10	37.452	0.727	233.599		Surcharged
S55	15 min Summer	8	37.335	0.115	85.006		OK
S56	15 min Summer	9	36.444	0.267	317.427		OK
S57	15 min Summer	9	35.692	0.242	316.829		OK
S58	15 min Summer	10	34.311	0.306	414.060		OK
S94	15 min Summer	10	33.399	1.420	422.459		Surcharged
S59	15 min Summer	10	33.189	1.375	447.826		Surcharged
PS1	15 min Summer	0	35.826	0.000	0.000		OK
PS2	15 min Summer	0	34.012	0.000	0.000		OK
S60	15 min Summer	10	32.892	1.282	520.924		Surcharged
S61	15 min Summer	10	32.476	1.336	514.703		Surcharged
S75	15 min Summer	0	39.889	0.000	0.000		OK
S76	15 min Summer	8	38.400	0.036	15.965		OK
S77	15 min Summer	8	35.060	0.037	15.856		OK
S78	15 min Summer	8	33.030	0.172	276.938		OK
S79	15 min Summer	9	32.182	0.710	266.995		Surcharged
S71 CP	15 min Summer	9	32.059	1.406	1240.797		Flood Risk
S107	720 min Summer	717	31.761	1.241	13.675		Flood Risk
S51	15 min Summer	8	32.461	0.194	130.730		OK
S91	15 min Summer	8	32.011	0.073	15.657		OK
S92CP	15 min Summer	8	31.855	0.056	15.586		OK
S93	720 min Summer	715	31.761	0.329	1.774		OK
S52 CP	720 min Summer	716	31.761	0.816	1.720		Surcharged
S53	720 min Summer	716	31.761	1.171	1.883		Flood Risk
S72	720 min Summer	717	31.761	1.261	35.121		Flood Risk
S73	960 min Winter	1808	30.126	0.096	38.664		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	8	S88	S89	0.064	0.000	0.000	0.000	OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
2.000	15 min Summer	8	S90	S89	0.064	0.000	0.000	0.000	OK
1.001	15 min Summer	9	S89	S80	0.096	1.867	50.644	0.123	OK
1.002	60 min Summer	59	S80	S81	0.164	0.912	35.444	0.025	OK
1.003	60 min Summer	59	S81	S82	0.359	0.744	65.276	0.264	OK
1.004	60 min Summer	59	S82	S83 OC	0.419	0.705	59.498	0.414	OK
3.000	15 min Summer	0	S84	S85	0.000	0.000	0.000	0.000	OK
3.001	60 min Summer	59	S85	S86	0.034	0.000	0.000	0.000	OK
3.002	60 min Summer	74	S86	S87	0.198	0.016	1.028	0.002	OK
3.003	60 min Summer	60	S87	S106	0.373	1.144	105.236	0.266	OK
3.004	60 min Summer	60	S106	S83 OC	0.423	1.238	103.542	0.363	OK
1.005	15 min Winter	16	S83 OC	S68	0.375	0.907	23.899	0.084	Surcharged
4.000	15 min Winter	10	S67	S68	0.300	1.428	100.918	1.474	Surcharged
1.006	15 min Winter	16	S68	S69	0.375	1.397	140.596	1.088	Surcharged
5.000	15 min Winter	10	S70	S69	0.300	1.249	54.186	0.334	Surcharged
1.007	30 min Summer	14	S69	S44	0.375	2.579	269.185	1.013	Surcharged
6.000	15 min Summer	10	S39	S40	0.300	2.062	122.289	0.835	Surcharged
6.001	30 min Summer	16	S40	S41	0.300	1.487	105.086	0.644	Surcharged
6.002	15 min Winter	9	S41	S42	0.300	2.390	168.576	1.485	Surcharged
6.003	15 min Winter	9	S42	S43	0.375	2.296	216.732	0.972	Surcharged
6.004	30 min Summer	16	S43	S44	0.450	1.568	194.619	0.183	OK
1.008	15 min Winter	13	S44	S54	0.450	2.662	423.304	1.201	OK
1.009	15 min Winter	13	S54	S45	0.450	2.874	457.029	1.138	OK
1.010	30 min Summer	18	S45	S46	0.450	3.701	588.604	1.170	OK
1.011	30 min Summer	18	S46	S47	0.600	2.149	607.516	1.165	Surcharged
1.012	30 min Summer	18	S47	S48CP	0.600	2.381	673.152	2.258	Surcharged
1.013	30 min Summer	18	S48CP	S49	0.600	2.507	708.967	2.772	Surcharged
1.014	30 min Winter	24	S49	S72	0.600	2.415	664.438	2.269	Surcharged
7.000	30 min Summer	16	S63	S64	0.225	2.816	77.179	0.636	OK
7.001	15 min Winter	11	S64	S65	0.225	2.173	76.321	0.714	OK
7.002	15 min Winter	9	S65	S66	0.300	2.607	184.308	1.511	Surcharged
7.003	15 min Winter	9	S66	S56	0.300	3.143	222.192	1.234	Surcharged
8.000	15 min Summer	9	S55	S56	0.190	1.586	84.747	0.214	OK
7.004	15 min Summer	9	S56	S57	0.254	3.978	316.829	0.764	OK
7.005	15 min Summer	10	S57	S58	0.234	4.401	315.923	0.695	OK
7.006	15 min Summer	10	S58	S94	0.378	3.339	435.449	0.605	OK
7.007	15 min Winter	10	S94	S59	0.525	1.795	388.667	0.984	OK
7.008	15 min Winter	11	S59	S60	0.525	1.997	423.072	1.093	OK
9.000	15 min Summer	0	PS1	PS2	0.000	0.000	0.000	0.000	OK
9.001	15 min Summer	7	PS2	S60	0.050	0.000	0.000	0.000	OK
7.009	15 min Winter	11	S60	S61	0.525	2.317	501.503	0.863	OK
7.010	15 min Winter	11	S61	S71 CP	0.525	2.415	522.792	1.076	OK
10.000	15 min Summer	8	S75	S76	0.018	0.000	0.000	0.000	OK
10.001	15 min Summer	8	S76	S77	0.036	2.393	15.856	0.010	OK
10.002	15 min Summer	8	S77	S78	0.105	0.519	15.730	0.011	OK
10.003	15 min Summer	8	S78	S79	0.349	3.290	276.080	0.249	OK
10.004	15 min Winter	9	S79	S71 CP	0.525	1.481	233.214	0.381	OK
7.011	30 min Summer	17	S71 CP	S107	0.675	3.204	1146.477	2.206	Surcharged
7.012	600 min Summer	485	S107	S72	1.200	0.542	203.484	0.245	Surcharged
11.000	15 min Summer	8	S51	S93	0.189	2.772	129.738	0.722	OK
12.000	15 min Summer	8	S91	S92CP	0.064	1.400	15.586	0.128	OK
12.001	720 min Summer	715	S92CP	S93	0.130	0.912	1.946	0.010	OK
11.001	720 min Summer	715	S93	S52 CP	0.352	1.524	21.562	0.071	OK
11.002	180 min Summer	111	S52 CP	S53	0.450	1.243	60.727	0.144	OK
11.003	30 min Winter	24	S53	S72	0.525	1.047	134.835	0.833	OK
1.015	960 min Winter	1808	S72	S73	0.098	1.935	38.664	0.238	OK