



ARCH
ASSOCIATES

APPENDIX 3

SURFACE WATER DRAINAGE CALCULATIONS



Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	1	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	100.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
25.01	0.057	5.00	9.373	1200	493995.300	104221.737	0.900
25.05	0.038	5.00	9.533	1200	493993.287	104170.000	1.103
25.04	0.003	5.00	9.663	1200	493995.623	104185.874	1.327
25	0.010	5.00	9.488	1200	493993.689	104192.015	1.190
24	0.015	5.00	9.341	1200	493975.856	104192.346	1.093
23	0.012	5.00	9.447	1200	493975.736	104185.866	1.237
22	0.053	5.00	9.505	1200	493971.155	104149.967	1.508
21	0.023	5.00	9.407	1200	493970.848	104140.134	1.468
20	0.071	5.00	8.989	1200	493973.124	104099.135	1.291
HW5			8.620		493969.116	104087.675	1.000
88	0.018	5.00	9.264	1350	494040.373	104163.015	1.250
87	0.050	5.00	9.425	1350	494030.789	104148.971	1.453
85	0.098	5.00	8.852	1350	494019.067	104069.426	1.079
HW6	0.022	5.00	8.620		493979.285	104074.383	1.000
HW4 (Western Basin)		5.00	8.620		493979.497	104070.848	1.000
19			8.401	1350	493983.470	104067.065	0.795
18			8.899	1350	494034.607	104056.617	1.422
17			9.310	1350	494071.745	104053.517	1.925
16	0.010	5.00	9.257	1350	494095.230	104048.676	1.931
15			9.023	1350	494124.835	104044.353	1.771
13			8.377	1350	494169.412	104035.807	1.239
12			8.380	1350	494172.500	104037.377	1.251
11			7.367	1350	494215.676	104030.658	1.111
10			5.900	1350	494255.057	104022.816	1.111
9			5.900	1350	494259.407	104032.417	1.137
8	0.024	5.00	6.053	1350	494254.182	104045.322	1.324
7	0.013	5.00	5.953	1350	494257.970	104060.337	1.234
6	0.018	5.00	5.889	1350	494258.509	104077.430	1.212
77	0.030	5.00	8.626	1200	494152.040	104191.495	1.725
78	0.028	5.00	9.336	1200	494072.383	104215.523	1.650
Attenuation Tank 7			8.954		494096.383	104129.904	4.039
75	0.093	5.00	9.365	1200	494073.738	104205.794	2.756
41	0.016	5.00	9.445	1200	494030.662	104217.744	1.725
40			9.521	1200	494030.065	104207.014	1.864
39	0.049	5.00	9.652	1200	494024.152	104192.948	2.085
38.02	0.024	5.00	9.500	1200	494017.548	104166.099	1.725
38.01	0.010	5.00	9.598	1200	494022.905	104178.012	1.900
38	0.035	5.00	9.442	1200	494026.286	104182.726	1.936
37	0.016	5.00	9.520	1200	494047.238	104171.756	3.240
36	0.012	5.00	9.365	1200	494061.573	104159.605	3.162
35.02	0.030	5.00	9.277	1200	494090.810	104171.913	1.725



Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
35.01	0.057	5.00	9.387	1200	494076.888	104156.176	2.671
74			9.328	1200	494063.229	104126.159	1.650
73	0.043	5.00	9.242	1200	494065.122	104139.023	2.051
35	0.005	5.00	9.185	1200	494072.320	104147.159	3.049
70	0.037	5.00	9.475	1200	494072.020	104084.998	1.725
69	0.004	5.00	9.285	1200	494078.377	104128.196	2.602
34	0.059	5.00	9.044	1500	494084.955	104136.747	3.050
57	0.059	5.00	7.522	1200	494205.006	104145.460	1.800
66	0.063	5.00	7.195	1200	494216.574	104192.424	1.324
56	0.092	5.00	7.326	1350	494209.824	104178.542	1.701
55	0.062	5.00	8.461	1350	494158.188	104188.655	3.360
54.02	0.022	5.00	8.448	1200	494170.921	104154.735	1.950
54.01	0.015	5.00	8.753	1200	494153.698	104162.244	3.194
54	0.048	5.00	8.684	1350	494145.956	104159.962	3.754
53	0.034	5.00	8.924	1500	494124.067	104137.100	4.072
33.02	0.036	5.00	9.083	1200	494104.494	104096.934	2.704
33.01	0.031	5.00	9.077	1200	494107.212	104115.406	3.632
33			8.979	1350	494114.810	104118.872	4.177
48	0.020	5.00	7.898	1200	494191.630	104060.909	1.534
47	0.035	5.00	8.211	1200	494188.999	104043.026	1.953
46	0.084	5.00	8.207	1200	494183.456	104040.128	1.985
52	0.010	5.00	8.986	1200	494041.009	104060.275	2.157
51	0.092	5.00	9.250	1200	494070.225	104056.959	2.594
44	0.070	5.00	9.150	1200	494113.438	104050.600	3.192
42	0.059	5.00	8.983	1200	494119.534	104101.300	3.577
32			9.018	1500	494125.232	104113.578	4.320
31	0.082	5.00	8.609	1500	494148.813	104109.779	3.960
30	0.116	5.00	7.786	1500	494191.397	104101.977	3.144
28	0.010	5.00	6.366	1500	494240.696	104094.421	1.786
5	0.042	5.00	6.036	1500	494253.287	104096.276	1.482
4	0.006	5.00	5.794	1500	494255.858	104116.900	1.282
3	0.077	5.00	6.212	1500	494261.589	104141.756	1.974
27	0.071	5.00	6.170	1200	494271.782	104190.118	1.509
2	0.004	5.00	6.309	1500	494271.623	104167.333	2.082
HW3			5.900		494282.945	104167.254	1.900
HW2 (Eastern Basin)	0.049	5.00	5.900		494284.745	104185.349	1.900
1			6.000	1500	494283.550	104194.501	2.231
HW1			3.250		494305.636	104198.080	0.500
Permeable Paving 1	0.036	5.00	5.870		494260.971	104068.206	0.685
Permeable Paving 2.1	0.011	5.00	7.490		494195.108	104064.271	0.800
Permeable Paving 3	0.036	5.00	9.200		494083.166	104131.732	0.800
Permeable Paving 4	0.025	5.00	9.080		494055.562	104123.493	0.880
Permeable Paving 5	0.012	5.00	9.350		494021.150	104156.289	0.800
Permeable Paving 6	0.018	5.00	9.250		494034.463	104223.388	0.800
Permeable Paving 7	0.040	5.00	8.625		494145.283	104190.662	0.800
Permeable Paving 8	0.037	5.00	7.315		494209.962	104170.316	0.800
Permeable Paving 2.2	0.011	5.00	7.715		494194.680	104055.433	0.800
Attenuation Tank 4			9.412		493982.039	104192.231	1.157
91		5.00	9.270	1200	493969.191	104192.470	0.880
86.01	0.018	5.00	9.383	1200	494049.944	104140.240	0.923
86	0.117	5.00	9.510	1350	494029.936	104143.184	1.552
84			8.704	1350	494010.551	104066.574	0.953



Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
83			8.627	1350	493997.353	104069.767	0.910
82			8.781	1350	493983.258	104079.905	1.107
89		5.00	8.907	1200	493978.036	104088.822	0.830
Attenuation Tank 11			8.972		494114.636	104198.325	2.207
76	0.038	5.00	8.820	1200	494133.467	104194.887	2.030
Attenuation Tank 10			7.411		494207.408	104161.957	1.701
Attenuation Tank 9			7.801		494184.640	104183.474	2.686
65			7.235	1200	494215.245	104183.304	1.418
62	0.013	5.00	8.326	1200	494166.157	104204.463	2.115
64		5.00	7.540	450	494193.627	104178.494	0.693
63		5.00	8.306	450	494168.603	104183.347	1.459
59		5.00	8.788	450	494147.858	104152.731	0.900
58	0.034	5.00	8.839	450	494143.563	104142.877	2.932
50			9.205	1200	494105.831	104051.719	2.761
43			9.267	1200	494113.367	104059.389	3.436
Attenuation Tank 8			8.585		494155.213	104044.453	2.455
45			8.395	1200	494169.399	104042.365	2.257
49		5.00	8.504	450	494155.230	104041.418	1.974
Attenuation Tank 6			8.198		494170.064	104105.886	3.553
Attenuation Tank 5			6.782		494228.354	104096.101	2.197
29			7.184	1500	494216.639	104097.696	2.594
81	0.023	5.00	6.140	1200	494251.081	104033.029	0.984
Attenuation Tank 3			6.017		494256.054	104052.740	1.292
Attenuation Tank 2			5.937		494257.969	104126.055	1.682
Attenuation Tank 1			6.391		494266.218	104153.556	2.156
14			8.987	1350	494127.344	104041.965	1.744

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
29.000	25.01	25	29.766	0.600	8.473	8.298	0.175	170.1	225	5.50	36.0
30.000	25.05	25.04	16.045	0.600	8.430	8.336	0.094	170.7	225	5.27	36.6
30.001	25.04	25	6.438	0.600	8.336	8.298	0.038	169.4	225	5.38	36.3
29.001	25	Attenuation Tank 4	6.652	0.600	8.298	8.255	0.043	154.7	225	5.60	35.7
29.003	24	23	6.481	0.600	8.248	8.210	0.038	170.6	225	5.73	35.4
29.004	23	22	36.190	0.600	8.210	7.997	0.213	169.9	225	6.33	33.9
29.005	22	21	9.838	0.600	7.997	7.939	0.058	169.6	225	6.50	33.5
29.006	21	20	41.062	0.600	7.939	7.698	0.241	170.4	225	7.18	32.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
29.000	0.999	39.7	7.4	0.675	0.965	0.057	0.0	65	0.768
30.000	0.998	39.7	5.1	0.878	1.102	0.038	0.0	54	0.688
30.001	1.001	39.8	5.4	1.102	0.965	0.041	0.0	56	0.704
29.001	1.049	41.7	14.0	0.965	0.932	0.109	0.0	90	0.949
29.003	0.998	39.7	15.8	0.868	1.012	0.124	0.0	99	0.944
29.004	1.000	39.8	16.7	1.012	1.283	0.136	0.0	102	0.957
29.005	1.001	39.8	22.9	1.283	1.243	0.189	0.0	123	1.035
29.006	0.999	39.7	24.5	1.243	1.066	0.212	0.0	128	1.049



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
29.007	20	HW5	12.141	0.600	7.698	7.627	0.071	171.0	225	7.39	31.5
3.000	Permeable Paving 1	6	9.547	0.600	5.185	5.027	0.158	60.4	100	5.16	36.9
26.000	88	87	17.003	0.600	8.014	7.972	0.042	404.8	450	5.28	36.6
26.001	87	86	5.850	0.600	7.972	7.958	0.014	417.8	450	5.38	36.3
26.003	85	84	8.981	0.600	7.773	7.751	0.022	408.2	450	6.77	32.9
22.000	Permeable Paving 2.1	48	4.837	0.600	6.690	6.609	0.081	60.0	100	5.08	37.1
1.000	HW4 (Western Basin)	19	5.486	0.600	7.620	7.606	0.014	391.9	450	5.09	37.1
1.001	19	18	52.193	15.000	7.606	7.477	0.129	404.6	450	6.53	33.4
1.002	18	17	37.267	0.600	7.477	7.385	0.092	405.1	450	7.15	32.0
1.003	17	16	23.979	0.600	7.385	7.326	0.059	406.4	450	7.55	31.2
1.004	16	15	29.919	15.000	7.326	7.252	0.074	404.3	450	8.37	29.7
1.005	15	14	3.464	0.600	7.252	7.243	0.009	384.9	450	8.43	29.6
1.007	13	12	3.464	0.600	7.138	7.129	0.009	384.9	450	9.66	27.6
1.008	12	11	43.696	15.000	7.129	6.256	0.873	50.1	450	10.08	26.9
1.009	11	10	40.154	0.600	6.256	4.789	1.467	27.4	450	10.26	26.7
1.010	10	9	10.540	0.600	4.789	4.763	0.026	405.4	450	10.43	26.5
1.011	9	8	13.923	0.600	4.763	4.729	0.034	409.5	450	10.66	26.1
1.012	8	Attenuation Tank 3	1.651	0.600	4.729	4.725	0.004	412.8	450	10.69	26.1
1.014	7	6	17.101	0.600	4.719	4.677	0.042	407.2	450	11.00	25.7
1.015	6	5	19.556	0.600	4.677	4.629	0.048	407.4	450	11.33	25.3
4.001	77	76	18.880	0.600	6.901	6.790	0.111	170.1	225	5.46	36.1
5.000	78	75	9.823	0.600	7.686	6.684	1.002	9.8	150	5.05	37.2
4.009	Attenuation Tank 7	33	11.477	0.600	4.915	4.877	0.038	302.0	375	7.80	30.7

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
29.007	0.997	39.6	32.3	1.066	0.768	0.283	0.0	154	1.107
3.000	0.992	7.8	4.8	0.585	0.762	0.036	0.0	57	1.043
26.000	1.004	159.7	2.4	0.800	1.003	0.018	0.0	38	0.371
26.001	0.988	157.1	9.0	1.003	1.102	0.068	0.0	73	0.544
26.003	1.000	159.0	35.8	0.629	0.503	0.301	0.0	145	0.813
22.000	0.996	7.8	1.5	0.700	1.189	0.011	0.0	29	0.762
1.000	1.021	162.3	0.0	0.550	0.345	0.000	0.0	0	0.000
1.001	0.604	96.0	0.0	0.345	0.972	0.000	0.0	0	0.000
1.002	1.004	159.6	0.0	0.972	1.475	0.000	0.0	0	0.000
1.003	1.002	159.4	0.0	1.475	1.481	0.000	0.0	0	0.000
1.004	0.604	96.0	1.0	1.481	1.321	0.010	0.0	36	0.180
1.005	1.030	163.8	1.0	1.321	1.294	0.010	0.0	25	0.288
1.007	1.030	163.8	1.0	0.789	0.801	0.010	0.0	24	0.281
1.008	1.717	273.1	0.9	0.801	0.661	0.010	0.0	22	0.338
1.009	3.897	619.8	0.9	0.661	0.661	0.010	0.0	13	0.705
1.010	1.003	159.6	0.9	0.661	0.687	0.010	0.0	24	0.273
1.011	0.998	158.8	0.9	0.687	0.874	0.010	0.0	24	0.272
1.012	0.994	158.1	5.3	0.874	0.842	0.057	0.0	56	0.467
1.014	1.001	159.2	6.4	0.784	0.762	0.069	0.0	61	0.497
1.015	1.001	159.2	11.3	0.762	0.957	0.124	0.0	80	0.587
4.001	0.999	39.7	9.2	1.500	1.805	0.071	0.0	73	0.816
5.000	3.236	57.2	3.7	1.500	2.531	0.028	0.0	26	1.840
4.009	1.037	114.5	79.7	3.664	3.727	0.718	0.0	231	1.118



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
4.004	75	37	43.137	0.600	6.609	6.355	0.254	169.8	225	6.70	33.0
6.001	41	40	10.747	0.600	7.720	7.657	0.063	170.6	225	5.29	36.6
6.002	40	39	15.258	0.600	7.657	7.567	0.090	169.5	225	5.55	35.9
6.003	39	38	10.442	0.600	7.567	7.506	0.061	170.0	225	5.72	35.4
7.001	38.02	38.01	13.062	0.600	7.775	7.698	0.077	169.6	225	5.31	36.5
7.002	38.01	38	5.801	0.600	7.698	7.506	0.192	30.2	225	5.35	36.4
6.004	38	37	23.650	0.600	7.506	6.355	1.151	20.5	225	5.86	35.1
4.005	37	36	18.792	0.600	6.280	6.203	0.077	244.1	300	7.01	32.3
4.006	36	35	16.444	0.600	6.203	6.136	0.067	245.4	300	7.28	31.8
9.000	35.02	35.01	21.011	0.600	7.552	6.716	0.836	25.1	225	5.13	37.0
9.001	35.01	35	10.108	0.600	6.716	6.211	0.505	20.0	225	5.19	36.8
8.001	74	73	13.003	0.600	7.678	7.191	0.487	26.7	150	5.25	36.7
8.002	73	35	10.863	0.600	7.191	6.286	0.905	12.0	150	5.31	36.5
4.007	35	34	16.372	0.600	6.136	6.069	0.067	244.4	300	7.55	31.2
10.000	70	69	43.663	0.600	7.750	6.683	1.067	40.9	225	5.35	36.4
10.001	69	34	10.788	0.600	6.683	6.144	0.539	20.0	225	5.42	36.2
4.008	34	Attenuation Tank 7	3.321	0.600	5.994	5.984	0.010	332.1	375	7.61	31.1
14.000	57	Attenuation Tank 10	2.421	0.600	5.722	5.710	0.012	201.8	300	5.04	37.2
12.000	66	65	9.216	0.600	5.871	5.817	0.054	170.7	225	5.15	36.9
12.002	56	Attenuation Tank 9	3.162	0.600	5.625	5.615	0.010	316.2	375	5.33	36.5
12.004	55	54	31.192	0.600	5.101	5.005	0.096	324.9	375	5.92	34.9
18.000	54.02	54.01	18.789	0.600	6.498	5.559	0.939	20.0	225	5.11	37.1
18.001	54.01	54	8.071	0.600	5.559	5.155	0.404	20.0	225	5.15	36.9
12.005	54	53	31.651	0.600	4.930	4.852	0.078	405.8	450	6.45	33.6

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
4.004	1.000	39.8	27.4	2.531	2.940	0.230	0.0	138	1.077
6.001	0.998	39.7	4.6	1.500	1.639	0.034	0.0	51	0.669
6.002	1.001	39.8	4.5	1.639	1.860	0.034	0.0	51	0.664
6.003	1.000	39.7	10.7	1.860	1.711	0.084	0.0	80	0.851
7.001	1.001	39.8	4.8	1.500	1.675	0.036	0.0	52	0.677
7.002	2.389	95.0	6.1	1.675	1.711	0.046	0.0	38	1.349
6.004	2.899	115.3	21.0	1.711	2.940	0.166	0.0	65	2.216
4.005	1.002	70.8	48.0	2.940	2.862	0.411	0.0	181	1.074
4.006	0.999	70.6	48.5	2.862	2.749	0.423	0.0	183	1.074
9.000	2.620	104.2	4.1	1.500	2.446	0.030	0.0	30	1.284
9.001	2.938	116.8	11.6	2.446	2.749	0.087	0.0	48	1.898
8.001	1.956	34.6	3.3	1.500	1.901	0.025	0.0	31	1.241
8.002	2.924	51.7	8.9	1.901	2.749	0.068	0.0	42	2.193
4.007	1.001	70.8	65.7	2.749	2.675	0.583	0.0	230	1.132
10.000	2.051	81.5	4.8	1.500	2.377	0.037	0.0	36	1.125
10.001	2.938	116.8	5.3	2.377	2.675	0.041	0.0	32	1.492
4.008	0.988	109.2	80.7	2.675	2.595	0.718	0.0	241	1.078
14.000	1.103	78.0	7.9	1.500	1.401	0.059	0.0	64	0.715
12.000	0.998	39.7	8.4	1.099	1.193	0.063	0.0	70	0.794
12.002	1.013	111.9	33.0	1.326	1.811	0.250	0.0	139	0.884
12.004	0.999	110.4	41.0	2.985	3.304	0.325	0.0	158	0.927
18.000	2.938	116.8	2.9	1.725	2.969	0.022	0.0	24	1.249
18.001	2.940	116.9	4.9	2.969	3.304	0.037	0.0	31	1.468
12.005	1.003	159.5	49.8	3.304	3.622	0.410	0.0	172	0.889



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
12.006	53	33	20.444	0.600	4.852	4.802	0.050	408.9	450	6.79	32.8
20.000	33.02	33.01	18.671	0.600	6.379	5.445	0.934	20.0	225	5.11	37.1
20.001	33.01	33	8.351	0.600	5.445	5.027	0.418	20.0	225	5.15	36.9
4.010	33	32	11.690	0.600	4.802	4.773	0.029	403.1	450	7.99	30.3
21.001	48	47	18.076	0.600	6.364	6.258	0.106	170.5	225	5.41	36.3
21.002	47	46	6.255	0.600	6.258	6.222	0.036	173.7	225	5.51	36.0
21.003	46	45	14.234	0.600	6.222	6.138	0.084	169.5	225	5.75	35.3
24.000	52	51	29.404	0.600	6.829	6.656	0.173	170.0	225	5.49	36.0
24.001	51	50	35.990	0.600	6.656	6.444	0.212	169.8	225	6.09	34.5
21.006	44	43	8.789	0.600	5.958	5.906	0.052	169.0	225	6.40	33.7
21.008	42	32	13.536	0.600	5.406	4.923	0.483	28.0	300	6.93	32.5
4.011	32	31	23.885	0.600	4.698	4.649	0.049	487.5	525	8.38	29.6
4.012	31	Attenuation Tank 6	1.605	0.600	4.649	4.645	0.004	401.3	525	8.41	29.6
4.014	30	29	25.602	0.600	4.642	4.590	0.052	492.4	525	8.86	28.8
4.017	28	5	12.727	0.600	4.580	4.554	0.026	489.5	525	9.14	28.3
1.016	5	4	20.784	0.600	4.554	4.512	0.042	490.0	525	11.67	24.9
1.017	4	Attenuation Tank 2	1.396	0.600	4.512	4.505	0.007	199.4	525	11.69	24.9
1.019	3	Attenuation Tank 1	1.676	0.600	4.238	4.235	0.003	558.7	525	11.85	24.7
25.000	27	2	22.786	0.600	4.661	4.527	0.134	170.0	225	5.38	36.3
1.021	2	HW3	11.322	0.600	4.227	4.025	0.202	56.0	525	11.98	24.5
11.000	Permeable Paving 3	34	5.325	0.600	8.400	8.310	0.090	59.2	100	5.09	37.1
32.000	HW2 (Eastern Basin)	1	9.230	0.600	4.000	3.769	0.231	40.0	225	5.07	37.1
32.001	1	HW1	22.374	0.600	3.769	2.750	1.019	22.0	225	5.21	36.8
8.000	Permeable Paving 4	74	8.117	0.600	8.200	8.063	0.137	59.3	100	5.13	37.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
12.006	0.999	158.9	56.6	3.622	3.727	0.477	0.0	185	0.917
20.000	2.939	116.9	4.8	2.479	3.407	0.036	0.0	31	1.467
20.001	2.940	116.9	9.0	3.407	3.727	0.067	0.0	42	1.752
4.010	1.006	160.0	138.4	3.727	3.795	1.262	0.0	325	1.127
21.001	0.998	39.7	5.4	1.309	1.728	0.041	0.0	56	0.701
21.002	0.989	39.3	10.0	1.728	1.760	0.077	0.0	77	0.827
21.003	1.001	39.8	20.5	1.760	2.032	0.161	0.0	115	1.009
24.000	1.000	39.8	1.3	1.932	2.369	0.010	0.0	28	0.459
24.001	1.000	39.8	12.7	2.369	2.536	0.102	0.0	87	0.893
21.006	1.003	39.9	28.2	2.967	3.136	0.231	0.0	140	1.085
21.008	2.981	210.7	46.0	3.277	3.795	0.392	0.0	95	2.400
4.011	1.008	218.1	177.2	3.795	3.435	1.654	0.0	361	1.117
4.012	1.112	240.7	185.7	3.435	3.028	1.736	0.0	347	1.221
4.014	1.002	217.0	192.8	2.619	2.069	1.852	0.0	387	1.126
4.017	1.005	217.6	190.8	1.261	0.957	1.862	0.0	383	1.127
1.016	1.005	217.5	182.5	0.957	0.757	2.028	0.0	370	1.120
1.017	1.582	342.5	182.9	0.757	0.907	2.035	0.0	273	1.607
1.019	0.940	203.6	188.4	1.449	1.631	2.112	0.0	401	1.061
25.000	1.000	39.7	9.3	1.284	1.557	0.071	0.0	74	0.821
1.021	2.997	648.8	193.9	1.557	1.350	2.187	0.0	196	2.633
11.000	1.003	7.9	4.8	0.700	0.634	0.036	0.0	56	1.048
32.000	2.074	82.5	6.6	1.675	2.006	0.049	0.0	43	1.250
32.001	2.804	111.5	6.6	2.006	0.275	0.049	0.0	36	1.540
8.000	1.002	7.9	3.3	0.780	1.165	0.025	0.0	45	0.956



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
7.000	Permeable Paving 5	38.02	10.450	0.600	8.550	7.900	0.650	16.1	100	5.09	37.1
6.000	Permeable Paving 6	41	6.805	0.600	8.450	8.337	0.113	60.0	100	5.11	37.0
4.000	Permeable Paving 7	77	6.808	0.600	7.825	7.786	0.039	174.6	150	5.15	36.9
13.000	Permeable Paving 8	56	8.227	0.600	6.515	6.356	0.159	51.7	100	5.13	37.0
21.000	Permeable Paving 2.2	48	6.268	0.600	6.915	6.811	0.104	60.0	100	5.10	37.1
29.002	Attenuation Tank 4	24	1.184	0.600	8.255	8.248	0.007	169.1	225	5.62	35.7
31.000	91	24	6.666	0.600	8.390	8.323	0.067	99.5	150	5.11	37.0
27.000	86.01	86	20.223	0.600	8.460	8.258	0.202	100.1	150	5.34	36.4
26.002	86	85	74.555	0.600	7.958	7.773	0.185	403.0	450	6.62	33.2
26.004	84	83	13.579	0.600	7.751	7.717	0.034	399.4	450	6.99	32.3
26.005	83	82	17.362	0.600	7.717	7.674	0.043	403.8	450	7.28	31.8
26.006	82	HW6	6.803	0.600	7.674	7.657	0.017	400.2	450	7.39	31.5
28.000	89	82	10.334	0.600	8.077	7.974	0.103	100.3	150	5.17	36.9
4.002	76	Attenuation Tank 11	4.143	0.600	6.790	6.765	0.025	165.7	225	5.53	35.9
4.003	Attenuation Tank 11	75	26.574	0.600	6.765	6.609	0.156	170.3	225	5.98	34.7
14.001	Attenuation Tank 10	56	2.510	0.600	5.710	5.700	0.010	251.0	300	5.08	37.1
12.001	65	56	7.216	0.600	5.817	5.775	0.042	171.8	225	5.27	36.6
12.003	Attenuation Tank 9	55	4.455	0.600	5.115	5.101	0.014	318.2	375	5.40	36.3
17.000	62	55	17.703	0.600	6.211	5.326	0.885	20.0	150	5.13	37.0
16.000	64	Attenuation Tank 9	1.160	0.600	6.847	6.835	0.012	96.7	150	5.02	37.3
15.000	63	Attenuation Tank 9	1.208	0.600	6.847	6.835	0.012	100.7	150	5.02	37.3
19.000	59	58	10.749	0.600	7.888	5.907	1.981	5.4	100	5.05	37.2
19.001	58	53	20.334	0.600	5.907	5.202	0.705	28.8	100	5.29	36.6
24.002	50	43	10.753	0.600	6.444	5.906	0.538	20.0	225	6.15	34.3

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
7.000	1.936	15.2	1.7	0.700	1.500	0.012	0.0	22	1.266
6.000	0.996	7.8	2.4	0.700	1.008	0.018	0.0	39	0.884
4.000	0.757	13.4	5.4	0.650	0.690	0.040	0.0	66	0.715
13.000	1.073	8.4	5.0	0.700	0.870	0.037	0.0	55	1.116
21.000	0.996	7.8	1.4	0.700	0.987	0.011	0.0	29	0.762
29.002	1.002	39.8	14.0	0.932	0.868	0.109	0.0	92	0.916
31.000	1.007	17.8	0.0	0.730	0.868	0.000	0.0	0	0.000
27.000	1.004	17.7	2.4	0.773	1.102	0.018	0.0	37	0.696
26.002	1.006	160.0	24.4	1.102	0.629	0.203	0.0	118	0.735
26.004	1.011	160.8	35.2	0.503	0.460	0.301	0.0	143	0.817
26.005	1.005	159.9	34.6	0.460	0.657	0.301	0.0	141	0.807
26.006	1.010	160.6	34.4	0.657	0.513	0.301	0.0	140	0.808
28.000	1.003	17.7	0.0	0.680	0.657	0.000	0.0	0	0.000
4.002	1.013	40.3	14.1	1.805	1.982	0.109	0.0	92	0.925
4.003	0.999	39.7	13.6	1.982	2.531	0.109	0.0	91	0.908
14.001	0.988	69.8	7.9	1.401	1.326	0.059	0.0	68	0.660
12.001	0.994	39.5	8.3	1.193	1.326	0.063	0.0	70	0.791
12.003	1.010	111.6	32.8	2.311	2.985	0.250	0.0	139	0.882
17.000	2.262	40.0	1.8	1.965	2.985	0.013	0.0	21	1.136
16.000	1.022	18.1	0.0	0.543	0.816	0.000	0.0	0	0.000
15.000	1.001	17.7	0.0	1.309	0.816	0.000	0.0	0	0.000
19.000	3.341	26.2	0.0	0.800	2.832	0.000	0.0	0	0.000
19.001	1.442	11.3	4.4	2.832	3.622	0.034	0.0	43	1.353
24.002	2.940	116.9	12.7	2.536	3.136	0.102	0.0	50	1.939



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
21.004	45	Attenuation Tank 8	1.338	0.600	6.138	6.130	0.008	167.3	225	5.77	35.3
23.000	49	Attenuation Tank 8	2.000	0.600	6.530	6.510	0.020	100.0	150	5.03	37.3
21.005	Attenuation Tank 8	44	29.225	0.600	6.130	5.958	0.172	169.9	225	6.26	34.1
21.007	43	42	42.362	0.600	5.831	5.406	0.425	99.7	300	6.85	32.7
4.015	29	Attenuation Tank 5	1.823	0.600	4.590	4.585	0.005	364.6	525	8.89	28.8
4.016	Attenuation Tank 5	28	2.456	0.600	4.585	4.580	0.005	491.2	525	8.93	28.7
4.013	Attenuation Tank 6	30	1.689	0.600	4.645	4.642	0.003	563.0	525	8.44	29.5
2.000	81	8	12.678	0.600	5.156	5.029	0.127	99.8	150	5.21	36.8
1.013	Attenuation Tank 3	7	1.835	0.600	4.725	4.719	0.006	305.8	450	10.72	26.1
1.018	Attenuation Tank 2	3	8.112	0.600	4.255	4.238	0.017	477.2	525	11.82	24.7
1.020	Attenuation Tank 1	2	3.799	0.600	4.235	4.227	0.008	474.9	525	11.91	24.6
1.006	14	13	42.516	15.000	7.243	7.138	0.105	404.9	450	9.60	27.6

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
21.004	1.008	40.1	20.5	2.032	2.230	0.161	0.0	114	1.013
23.000	1.005	17.8	0.0	1.824	1.925	0.000	0.0	0	0.000
21.005	1.000	39.8	19.8	2.230	2.967	0.161	0.0	112	0.998
21.007	1.575	111.3	39.3	3.136	3.277	0.333	0.0	123	1.442
4.015	1.167	252.6	192.5	2.069	1.672	1.852	0.0	344	1.279
4.016	1.004	217.3	192.0	1.672	1.261	1.852	0.0	386	1.126
4.013	0.937	202.8	185.4	3.028	2.619	1.736	0.0	397	1.055
2.000	1.005	17.8	3.0	0.834	0.874	0.023	0.0	42	0.752
1.013	1.157	184.0	5.3	0.842	0.784	0.057	0.0	52	0.523
1.018	1.018	220.5	181.7	1.157	1.449	2.035	0.0	365	1.132
1.020	1.021	221.0	187.8	1.631	1.557	2.112	0.0	373	1.140
1.006	0.603	96.0	1.0	1.294	0.789	0.010	0.0	35	0.176

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
29.000	29.766	170.1	225	Circular	9.373	8.473	0.675	9.488	8.298	0.965
30.000	16.045	170.7	225	Circular	9.533	8.430	0.878	9.663	8.336	1.102
30.001	6.438	169.4	225	Circular	9.663	8.336	1.102	9.488	8.298	0.965
29.001	6.652	154.7	225	Circular	9.488	8.298	0.965	9.412	8.255	0.932
29.003	6.481	170.6	225	Circular	9.341	8.248	0.868	9.447	8.210	1.012
29.004	36.190	169.9	225	Circular	9.447	8.210	1.012	9.505	7.997	1.283
29.005	9.838	169.6	225	Circular	9.505	7.997	1.283	9.407	7.939	1.243
29.006	41.062	170.4	225	Circular	9.407	7.939	1.243	8.989	7.698	1.066

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
29.000	25.01	1200	Manhole	Adoptable	25	1200	Manhole	Adoptable
30.000	25.05	1200	Manhole	Adoptable	25.04	1200	Manhole	Adoptable
30.001	25.04	1200	Manhole	Adoptable	25	1200	Manhole	Adoptable
29.001	25	1200	Manhole	Adoptable	Attenuation Tank 4		Junction	
29.003	24	1200	Manhole	Adoptable	23	1200	Manhole	Adoptable
29.004	23	1200	Manhole	Adoptable	22	1200	Manhole	Adoptable
29.005	22	1200	Manhole	Adoptable	21	1200	Manhole	Adoptable
29.006	21	1200	Manhole	Adoptable	20	1200	Manhole	Adoptable



Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
29.007	12.141	171.0	225	Circular	8.989	7.698	1.066	8.620	7.627	0.768
3.000	9.547	60.4	100	Circular	5.870	5.185	0.585	5.889	5.027	0.762
26.000	17.003	404.8	450	Circular	9.264	8.014	0.800	9.425	7.972	1.003
26.001	5.850	417.8	450	Circular	9.425	7.972	1.003	9.510	7.958	1.102
26.003	8.981	408.2	450	Circular	8.852	7.773	0.629	8.704	7.751	0.503
22.000	4.837	60.0	100	Circular	7.490	6.690	0.700	7.898	6.609	1.189
1.000	5.486	391.9	450	Circular	8.620	7.620	0.550	8.401	7.606	0.345
1.001	52.193	404.6	450	Circular	8.401	7.606	0.345	8.899	7.477	0.972
1.002	37.267	405.1	450	Circular	8.899	7.477	0.972	9.310	7.385	1.475
1.003	23.979	406.4	450	Circular	9.310	7.385	1.475	9.257	7.326	1.481
1.004	29.919	404.3	450	Circular	9.257	7.326	1.481	9.023	7.252	1.321
1.005	3.464	384.9	450	Circular	9.023	7.252	1.321	8.987	7.243	1.294
1.007	3.464	384.9	450	Circular	8.377	7.138	0.789	8.380	7.129	0.801
1.008	43.696	50.1	450	Circular	8.380	7.129	0.801	7.367	6.256	0.661
1.009	40.154	27.4	450	Circular	7.367	6.256	0.661	5.900	4.789	0.661
1.010	10.540	405.4	450	Circular	5.900	4.789	0.661	5.900	4.763	0.687
1.011	13.923	409.5	450	Circular	5.900	4.763	0.687	6.053	4.729	0.874
1.012	1.651	412.8	450	Circular	6.053	4.729	0.874	6.017	4.725	0.842
1.014	17.101	407.2	450	Circular	5.953	4.719	0.784	5.889	4.677	0.762
1.015	19.556	407.4	450	Circular	5.889	4.677	0.762	6.036	4.629	0.957
4.001	18.880	170.1	225	Circular	8.626	6.901	1.500	8.820	6.790	1.805
5.000	9.823	9.8	150	Circular	9.336	7.686	1.500	9.365	6.684	2.531
4.009	11.477	302.0	375	Circular	8.954	4.915	3.664	8.979	4.877	3.727
4.004	43.137	169.8	225	Circular	9.365	6.609	2.531	9.520	6.355	2.940

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
29.007	20	1200	Manhole	Adoptable	HW5		Junction	
3.000	Permeable Paving 1		Junction		6	1350	Manhole	Adoptable
26.000	88	1350	Manhole	Adoptable	87	1350	Manhole	Adoptable
26.001	87	1350	Manhole	Adoptable	86	1350	Manhole	Adoptable
26.003	85	1350	Manhole	Adoptable	84	1350	Manhole	Adoptable
22.000	Permeable Paving 2.1		Junction		48	1200	Manhole	Adoptable
1.000	HW4 (Western Basin)		Junction		19	1350	Manhole	Adoptable
1.001	19	1350	Manhole	Adoptable	18	1350	Manhole	Adoptable
1.002	18	1350	Manhole	Adoptable	17	1350	Manhole	Adoptable
1.003	17	1350	Manhole	Adoptable	16	1350	Manhole	Adoptable
1.004	16	1350	Manhole	Adoptable	15	1350	Manhole	Adoptable
1.005	15	1350	Manhole	Adoptable	14	1350	Manhole	Adoptable
1.007	13	1350	Manhole	Adoptable	12	1350	Manhole	Adoptable
1.008	12	1350	Manhole	Adoptable	11	1350	Manhole	Adoptable
1.009	11	1350	Manhole	Adoptable	10	1350	Manhole	Adoptable
1.010	10	1350	Manhole	Adoptable	9	1350	Manhole	Adoptable
1.011	9	1350	Manhole	Adoptable	8	1350	Manhole	Adoptable
1.012	8	1350	Manhole	Adoptable	Attenuation Tank 3		Junction	
1.014	7	1350	Manhole	Adoptable	6	1350	Manhole	Adoptable
1.015	6	1350	Manhole	Adoptable	5	1500	Manhole	Adoptable
4.001	77	1200	Manhole	Adoptable	76	1200	Manhole	Adoptable
5.000	78	1200	Manhole	Adoptable	75	1200	Manhole	Adoptable
4.009	Attenuation Tank 7		Junction		33	1350	Manhole	Adoptable
4.004	75	1200	Manhole	Adoptable	37	1200	Manhole	Adoptable



Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
6.001	10.747	170.6	225	Circular	9.445	7.720	1.500	9.521	7.657	1.639
6.002	15.258	169.5	225	Circular	9.521	7.657	1.639	9.652	7.567	1.860
6.003	10.442	170.0	225	Circular	9.652	7.567	1.860	9.442	7.506	1.711
7.001	13.062	169.6	225	Circular	9.500	7.775	1.500	9.598	7.698	1.675
7.002	5.801	30.2	225	Circular	9.598	7.698	1.675	9.442	7.506	1.711
6.004	23.650	20.5	225	Circular	9.442	7.506	1.711	9.520	6.355	2.940
4.005	18.792	244.1	300	Circular	9.520	6.280	2.940	9.365	6.203	2.862
4.006	16.444	245.4	300	Circular	9.365	6.203	2.862	9.185	6.136	2.749
9.000	21.011	25.1	225	Circular	9.277	7.552	1.500	9.387	6.716	2.446
9.001	10.108	20.0	225	Circular	9.387	6.716	2.446	9.185	6.211	2.749
8.001	13.003	26.7	150	Circular	9.328	7.678	1.500	9.242	7.191	1.901
8.002	10.863	12.0	150	Circular	9.242	7.191	1.901	9.185	6.286	2.749
4.007	16.372	244.4	300	Circular	9.185	6.136	2.749	9.044	6.069	2.675
10.000	43.663	40.9	225	Circular	9.475	7.750	1.500	9.285	6.683	2.377
10.001	10.788	20.0	225	Circular	9.285	6.683	2.377	9.044	6.144	2.675
4.008	3.321	332.1	375	Circular	9.044	5.994	2.675	8.954	5.984	2.595
14.000	2.421	201.8	300	Circular	7.522	5.722	1.500	7.411	5.710	1.401
12.000	9.216	170.7	225	Circular	7.195	5.871	1.099	7.235	5.817	1.193
12.002	3.162	316.2	375	Circular	7.326	5.625	1.326	7.801	5.615	1.811
12.004	31.192	324.9	375	Circular	8.461	5.101	2.985	8.684	5.005	3.304
18.000	18.789	20.0	225	Circular	8.448	6.498	1.725	8.753	5.559	2.969
18.001	8.071	20.0	225	Circular	8.753	5.559	2.969	8.684	5.155	3.304
12.005	31.651	405.8	450	Circular	8.684	4.930	3.304	8.924	4.852	3.622
12.006	20.444	408.9	450	Circular	8.924	4.852	3.622	8.979	4.802	3.727
20.000	18.671	20.0	225	Circular	9.083	6.379	2.479	9.077	5.445	3.407

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
6.001	41	1200	Manhole	Adoptable	40	1200	Manhole	Adoptable
6.002	40	1200	Manhole	Adoptable	39	1200	Manhole	Adoptable
6.003	39	1200	Manhole	Adoptable	38	1200	Manhole	Adoptable
7.001	38.02	1200	Manhole	Adoptable	38.01	1200	Manhole	Adoptable
7.002	38.01	1200	Manhole	Adoptable	38	1200	Manhole	Adoptable
6.004	38	1200	Manhole	Adoptable	37	1200	Manhole	Adoptable
4.005	37	1200	Manhole	Adoptable	36	1200	Manhole	Adoptable
4.006	36	1200	Manhole	Adoptable	35	1200	Manhole	Adoptable
9.000	35.02	1200	Manhole	Adoptable	35.01	1200	Manhole	Adoptable
9.001	35.01	1200	Manhole	Adoptable	35	1200	Manhole	Adoptable
8.001	74	1200	Manhole	Adoptable	73	1200	Manhole	Adoptable
8.002	73	1200	Manhole	Adoptable	35	1200	Manhole	Adoptable
4.007	35	1200	Manhole	Adoptable	34	1500	Manhole	Adoptable
10.000	70	1200	Manhole	Adoptable	69	1200	Manhole	Adoptable
10.001	69	1200	Manhole	Adoptable	34	1500	Manhole	Adoptable
4.008	34	1500	Manhole	Adoptable	Attenuation Tank 7		Junction	
14.000	57	1200	Manhole	Adoptable	Attenuation Tank 10		Junction	
12.000	66	1200	Manhole	Adoptable	65	1200	Manhole	Adoptable
12.002	56	1350	Manhole	Adoptable	Attenuation Tank 9		Junction	
12.004	55	1350	Manhole	Adoptable	54	1350	Manhole	Adoptable
18.000	54.02	1200	Manhole	Adoptable	54.01	1200	Manhole	Adoptable
18.001	54.01	1200	Manhole	Adoptable	54	1350	Manhole	Adoptable
12.005	54	1350	Manhole	Adoptable	53	1500	Manhole	Adoptable
12.006	53	1500	Manhole	Adoptable	33	1350	Manhole	Adoptable
20.000	33.02	1200	Manhole	Adoptable	33.01	1200	Manhole	Adoptable



Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
20.001	8.351	20.0	225	Circular	9.077	5.445	3.407	8.979	5.027	3.727
4.010	11.690	403.1	450	Circular	8.979	4.802	3.727	9.018	4.773	3.795
21.001	18.076	170.5	225	Circular	7.898	6.364	1.309	8.211	6.258	1.728
21.002	6.255	173.7	225	Circular	8.211	6.258	1.728	8.207	6.222	1.760
21.003	14.234	169.5	225	Circular	8.207	6.222	1.760	8.395	6.138	2.032
24.000	29.404	170.0	225	Circular	8.986	6.829	1.932	9.250	6.656	2.369
24.001	35.990	169.8	225	Circular	9.250	6.656	2.369	9.205	6.444	2.536
21.006	8.789	169.0	225	Circular	9.150	5.958	2.967	9.267	5.906	3.136
21.008	13.536	28.0	300	Circular	8.983	5.406	3.277	9.018	4.923	3.795
4.011	23.885	487.5	525	Circular	9.018	4.698	3.795	8.609	4.649	3.435
4.012	1.605	401.3	525	Circular	8.609	4.649	3.435	8.198	4.645	3.028
4.014	25.602	492.4	525	Circular	7.786	4.642	2.619	7.184	4.590	2.069
4.017	12.727	489.5	525	Circular	6.366	4.580	1.261	6.036	4.554	0.957
1.016	20.784	490.0	525	Circular	6.036	4.554	0.957	5.794	4.512	0.757
1.017	1.396	199.4	525	Circular	5.794	4.512	0.757	5.937	4.505	0.907
1.019	1.676	558.7	525	Circular	6.212	4.238	1.449	6.391	4.235	1.631
25.000	22.786	170.0	225	Circular	6.170	4.661	1.284	6.309	4.527	1.557
1.021	11.322	56.0	525	Circular	6.309	4.227	1.557	5.900	4.025	1.350
11.000	5.325	59.2	100	Circular	9.200	8.400	0.700	9.044	8.310	0.634
32.000	9.230	40.0	225	Circular	5.900	4.000	1.675	6.000	3.769	2.006
32.001	22.374	22.0	225	Circular	6.000	3.769	2.006	3.250	2.750	0.275
8.000	8.117	59.3	100	Circular	9.080	8.200	0.780	9.328	8.063	1.165
7.000	10.450	16.1	100	Circular	9.350	8.550	0.700	9.500	7.900	1.500
6.000	6.805	60.0	100	Circular	9.250	8.450	0.700	9.445	8.337	1.008
4.000	6.808	174.6	150	Circular	8.625	7.825	0.650	8.626	7.786	0.690

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
20.001	33.01	1200	Manhole	Adoptable	33	1350	Manhole	Adoptable
4.010	33	1350	Manhole	Adoptable	32	1500	Manhole	Adoptable
21.001	48	1200	Manhole	Adoptable	47	1200	Manhole	Adoptable
21.002	47	1200	Manhole	Adoptable	46	1200	Manhole	Adoptable
21.003	46	1200	Manhole	Adoptable	45	1200	Manhole	Adoptable
24.000	52	1200	Manhole	Adoptable	51	1200	Manhole	Adoptable
24.001	51	1200	Manhole	Adoptable	50	1200	Manhole	Adoptable
21.006	44	1200	Manhole	Adoptable	43	1200	Manhole	Adoptable
21.008	42	1200	Manhole	Adoptable	32	1500	Manhole	Adoptable
4.011	32	1500	Manhole	Adoptable	31	1500	Manhole	Adoptable
4.012	31	1500	Manhole	Adoptable	Attenuation Tank 6		Junction	
4.014	30	1500	Manhole	Adoptable	29	1500	Manhole	Adoptable
4.017	28	1500	Manhole	Adoptable	5	1500	Manhole	Adoptable
1.016	5	1500	Manhole	Adoptable	4	1500	Manhole	Adoptable
1.017	4	1500	Manhole	Adoptable	Attenuation Tank 2		Junction	
1.019	3	1500	Manhole	Adoptable	Attenuation Tank 1		Junction	
25.000	27	1200	Manhole	Adoptable	2	1500	Manhole	Adoptable
1.021	2	1500	Manhole	Adoptable	HW3		Junction	
11.000	Permeable Paving 3		Junction		34	1500	Manhole	Adoptable
32.000	HW2 (Eastern Basin)		Junction		1	1500	Manhole	Adoptable
32.001	1	1500	Manhole	Adoptable	HW1		Junction	
8.000	Permeable Paving 4		Junction		74	1200	Manhole	Adoptable
7.000	Permeable Paving 5		Junction		38.02	1200	Manhole	Adoptable
6.000	Permeable Paving 6		Junction		41	1200	Manhole	Adoptable
4.000	Permeable Paving 7		Junction		77	1200	Manhole	Adoptable



Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
13.000	8.227	51.7	100	Circular	7.315	6.515	0.700	7.326	6.356	0.870
21.000	6.268	60.0	100	Circular	7.715	6.915	0.700	7.898	6.811	0.987
29.002	1.184	169.1	225	Circular	9.412	8.255	0.932	9.341	8.248	0.868
31.000	6.666	99.5	150	Circular	9.270	8.390	0.730	9.341	8.323	0.868
27.000	20.223	100.1	150	Circular	9.383	8.460	0.773	9.510	8.258	1.102
26.002	74.555	403.0	450	Circular	9.510	7.958	1.102	8.852	7.773	0.629
26.004	13.579	399.4	450	Circular	8.704	7.751	0.503	8.627	7.717	0.460
26.005	17.362	403.8	450	Circular	8.627	7.717	0.460	8.781	7.674	0.657
26.006	6.803	400.2	450	Circular	8.781	7.674	0.657	8.620	7.657	0.513
28.000	10.334	100.3	150	Circular	8.907	8.077	0.680	8.781	7.974	0.657
4.002	4.143	165.7	225	Circular	8.820	6.790	1.805	8.972	6.765	1.982
4.003	26.574	170.3	225	Circular	8.972	6.765	1.982	9.365	6.609	2.531
14.001	2.510	251.0	300	Circular	7.411	5.710	1.401	7.326	5.700	1.326
12.001	7.216	171.8	225	Circular	7.235	5.817	1.193	7.326	5.775	1.326
12.003	4.455	318.2	375	Circular	7.801	5.115	2.311	8.461	5.101	2.985
17.000	17.703	20.0	150	Circular	8.326	6.211	1.965	8.461	5.326	2.985
16.000	1.160	96.7	150	Circular	7.540	6.847	0.543	7.801	6.835	0.816
15.000	1.208	100.7	150	Circular	8.306	6.847	1.309	7.801	6.835	0.816
19.000	10.749	5.4	100	Circular	8.788	7.888	0.800	8.839	5.907	2.832
19.001	20.334	28.8	100	Circular	8.839	5.907	2.832	8.924	5.202	3.622
24.002	10.753	20.0	225	Circular	9.205	6.444	2.536	9.267	5.906	3.136
21.004	1.338	167.3	225	Circular	8.395	6.138	2.032	8.585	6.130	2.230
23.000	2.000	100.0	150	Circular	8.504	6.530	1.824	8.585	6.510	1.925
21.005	29.225	169.9	225	Circular	8.585	6.130	2.230	9.150	5.958	2.967
21.007	42.362	99.7	300	Circular	9.267	5.831	3.136	8.983	5.406	3.277

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
13.000	Permeable Paving 8		Junction		56	1350	Manhole	Adoptable
21.000	Permeable Paving 2.2		Junction		48	1200	Manhole	Adoptable
29.002	Attenuation Tank 4		Junction		24	1200	Manhole	Adoptable
31.000	91	1200	Manhole	Adoptable	24	1200	Manhole	Adoptable
27.000	86.01	1200	Manhole	Adoptable	86	1350	Manhole	Adoptable
26.002	86	1350	Manhole	Adoptable	85	1350	Manhole	Adoptable
26.004	84	1350	Manhole	Adoptable	83	1350	Manhole	Adoptable
26.005	83	1350	Manhole	Adoptable	82	1350	Manhole	Adoptable
26.006	82	1350	Manhole	Adoptable	HW6		Junction	
28.000	89	1200	Manhole	Adoptable	82	1350	Manhole	Adoptable
4.002	76	1200	Manhole	Adoptable	Attenuation Tank 11		Junction	
4.003	Attenuation Tank 11		Junction		75	1200	Manhole	Adoptable
14.001	Attenuation Tank 10		Junction		56	1350	Manhole	Adoptable
12.001	65	1200	Manhole	Adoptable	56	1350	Manhole	Adoptable
12.003	Attenuation Tank 9		Junction		55	1350	Manhole	Adoptable
17.000	62	1200	Manhole	Adoptable	55	1350	Manhole	Adoptable
16.000	64	450	Manhole	Adoptable	Attenuation Tank 9		Junction	
15.000	63	450	Manhole	Adoptable	Attenuation Tank 9		Junction	
19.000	59	450	Manhole	Adoptable	58	450	Manhole	Adoptable
19.001	58	450	Manhole	Adoptable	53	1500	Manhole	Adoptable
24.002	50	1200	Manhole	Adoptable	43	1200	Manhole	Adoptable
21.004	45	1200	Manhole	Adoptable	Attenuation Tank 8		Junction	
23.000	49	450	Manhole	Adoptable	Attenuation Tank 8		Junction	
21.005	Attenuation Tank 8		Junction		44	1200	Manhole	Adoptable
21.007	43	1200	Manhole	Adoptable	42	1200	Manhole	Adoptable



Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
4.015	1.823	364.6	525	Circular	7.184	4.590	2.069	6.782	4.585	1.672
4.016	2.456	491.2	525	Circular	6.782	4.585	1.672	6.366	4.580	1.261
4.013	1.689	563.0	525	Circular	8.198	4.645	3.028	7.786	4.642	2.619
2.000	12.678	99.8	150	Circular	6.140	5.156	0.834	6.053	5.029	0.874
1.013	1.835	305.8	450	Circular	6.017	4.725	0.842	5.953	4.719	0.784
1.018	8.112	477.2	525	Circular	5.937	4.255	1.157	6.212	4.238	1.449
1.020	3.799	474.9	525	Circular	6.391	4.235	1.631	6.309	4.227	1.557
1.006	42.516	404.9	450	Circular	8.987	7.243	1.294	8.377	7.138	0.789

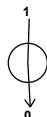
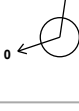
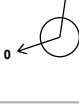
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
4.015	29	1500	Manhole	Adoptable	Attenuation Tank 5		Junction	
4.016	Attenuation Tank 5		Junction		28	1500	Manhole	Adoptable
4.013	Attenuation Tank 6		Junction		30	1500	Manhole	Adoptable
2.000	81	1200	Manhole	Adoptable	8	1350	Manhole	Adoptable
1.013	Attenuation Tank 3		Junction		7	1350	Manhole	Adoptable
1.018	Attenuation Tank 2		Junction		3	1500	Manhole	Adoptable
1.020	Attenuation Tank 1		Junction		2	1500	Manhole	Adoptable
1.006	14	1350	Manhole	Adoptable	13	1350	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
25.01	493995.300	104221.737	9.373	0.900	1200				
						0	29.000	8.473	225
25.05	493993.287	104170.000	9.533	1.103	1200				
						0	30.000	8.430	225
25.04	493995.623	104185.874	9.663	1.327	1200				
						1	30.000	8.336	225
						0	30.001	8.336	225
25	493993.689	104192.015	9.488	1.190	1200				
						1	30.001	8.298	225
						2	29.000	8.298	225
						0	29.001	8.298	225
24	493975.856	104192.346	9.341	1.093	1200				
						1	31.000	8.323	150
						2	29.002	8.248	225
						0	29.003	8.248	225
23	493975.736	104185.866	9.447	1.237	1200				
						1	29.003	8.210	225
						0	29.004	8.210	225
22	493971.155	104149.967	9.505	1.508	1200				
						1	29.004	7.997	225
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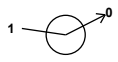
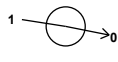
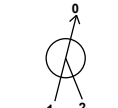
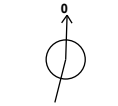
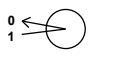
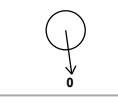
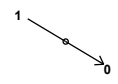
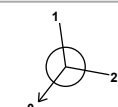
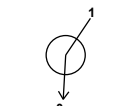


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
21	493970.848	104140.134	9.407	1.468	1200		1	29.005	7.939	225
20	493973.124	104099.135	8.989	1.291	1200		1	29.006	7.939	225
							0	29.007	7.698	225
HW5	493969.116	104087.675	8.620	1.000			1	29.007	7.627	225
88	494040.373	104163.015	9.264	1.250	1350					
87	494030.789	104148.971	9.425	1.453	1350		0	26.000	8.014	450
							1	26.000	7.972	450
85	494019.067	104069.426	8.852	1.079	1350		1	26.001	7.972	450
							0	26.002	7.773	450
HW6	493979.285	104074.383	8.620	1.000			1	26.003	7.773	450
HW4 (Western Basin)	493979.497	104070.848	8.620	1.000						
19	493983.470	104067.065	8.401	0.795	1350		0	1.000	7.620	450
							1	1.000	7.606	450
18	494034.607	104056.617	8.899	1.422	1350		0	1.001	7.606	450
							1	1.001	7.477	450
17	494071.745	104053.517	9.310	1.925	1350		0	1.002	7.477	450
							1	1.002	7.385	450
16	494095.230	104048.676	9.257	1.931	1350		0	1.003	7.385	450
							1	1.003	7.326	450
15	494124.835	104044.353	9.023	1.771	1350		0	1.004	7.326	450
							1	1.004	7.252	450
							0	1.005	7.252	450

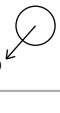
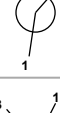
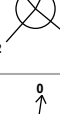


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
13	494169.412	104035.807	8.377	1.239	1350	 1	1.006	7.138	450
						0	1.007	7.138	450
12	494172.500	104037.377	8.380	1.251	1350	 1	1.007	7.129	450
						0	1.008	7.129	450
11	494215.676	104030.658	7.367	1.111	1350	 1	1.008	6.256	450
						0	1.009	6.256	450
10	494255.057	104022.816	5.900	1.111	1350	 1	1.009	4.789	450
						0	1.010	4.789	450
9	494259.407	104032.417	5.900	1.137	1350	 0	1.010	4.763	450
						1	1.011	4.763	450
8	494254.182	104045.322	6.053	1.324	1350	 0	2.000	5.029	150
						2	1.011	4.729	450
						0	1.012	4.729	450
7	494257.970	104060.337	5.953	1.234	1350	 0	1.013	4.719	450
						1	1.014	4.719	450
6	494258.509	104077.430	5.889	1.212	1350	 0	3.000	5.027	100
						2	1.014	4.677	450
						0	1.015	4.677	450
77	494152.040	104191.495	8.626	1.725	1200	 0	4.000	7.786	150
						0	4.001	6.901	225
78	494072.383	104215.523	9.336	1.650	1200	 0	5.000	7.686	150
Attenuation Tank 7	494096.383	104129.904	8.954	4.039		 1	4.008	5.984	375
						0	4.009	4.915	375
75	494073.738	104205.794	9.365	2.756	1200	 1	5.000	6.684	150
						2	4.003	6.609	225
						0	4.004	6.609	225
41	494030.662	104217.744	9.445	1.725	1200	 1	6.000	8.337	100
						0	6.001	7.720	225

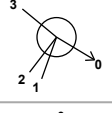
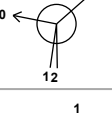
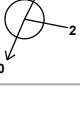
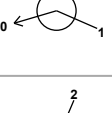
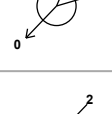
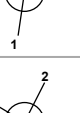
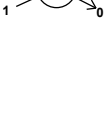


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
40	494030.065	104207.014	9.521	1.864	1200		1 6.001	7.657	225
39	494024.152	104192.948	9.652	2.085	1200		1 6.002	7.567	225
38.02	494017.548	104166.099	9.500	1.725	1200		0 7.000	7.900	100
38.01	494022.905	104178.012	9.598	1.900	1200		1 7.001	7.775	225
38	494026.286	104182.726	9.442	1.936	1200		2 6.003	7.506	225
37	494047.238	104171.756	9.520	3.240	1200		1 6.004	6.355	225
36	494061.573	104159.605	9.365	3.162	1200		1 4.005	6.280	300
35.02	494090.810	104171.913	9.277	1.725	1200		0 4.006	6.203	300
35.01	494076.888	104156.176	9.387	2.671	1200		1 9.000	7.552	225
74	494063.229	104126.159	9.328	1.650	1200		0 8.000	6.716	225
73	494065.122	104139.023	9.242	2.051	1200		1 8.001	6.716	225
35	494072.320	104147.159	9.185	3.049	1200		2 8.002	7.191	150
70	494072.020	104084.998	9.475	1.725	1200		0 10.000	6.211	225

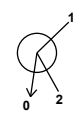
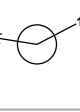
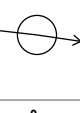
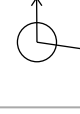
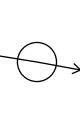
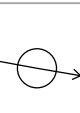
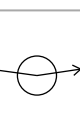
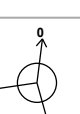
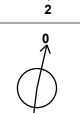


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
69	494078.377	104128.196	9.285	2.602	1200		1 10.000	6.683	225
						0 10.001	6.683	225	
34	494084.955	104136.747	9.044	3.050	1500		1 11.000	8.310	100
						2 10.001	6.144	225	
						3 4.007	6.069	300	
						0 4.008	5.994	375	
57	494205.006	104145.460	7.522	1.800	1200		0 14.000	5.722	300
66	494216.574	104192.424	7.195	1.324	1200		0 12.000	5.871	225
56	494209.824	104178.542	7.326	1.701	1350		1 14.001	5.700	300
						2 13.000	6.356	100	
						3 12.001	5.775	225	
						0 12.002	5.625	375	
55	494158.188	104188.655	8.461	3.360	1350		1 17.000	5.326	150
						2 12.003	5.101	375	
						0 12.004	5.101	375	
54.02	494170.921	104154.735	8.448	1.950	1200		0 18.000	6.498	225
54.01	494153.698	104162.244	8.753	3.194	1200		1 18.000	5.559	225
						0 18.001	5.559	225	
54	494145.956	104159.962	8.684	3.754	1350		1 18.001	5.155	225
						2 12.004	5.005	375	
						0 12.005	4.930	450	
53	494124.067	104137.100	8.924	4.072	1500		1 19.001	5.202	100
						2 12.005	4.852	450	
						0 12.006	4.852	450	
33.02	494104.494	104096.934	9.083	2.704	1200		0 20.000	6.379	225
33.01	494107.212	104115.406	9.077	3.632	1200		1 20.000	5.445	225
						0 20.001	5.445	225	
33	494114.810	104118.872	8.979	4.177	1350		1 20.001	5.027	225
						2 12.006	4.802	450	
						3 4.009	4.877	375	
						0 4.010	4.802	450	

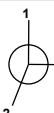


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
48	494191.630	104060.909	7.898	1.534	1200		1	22.000	6.609	100
							2	21.000	6.811	100
							0	21.001	6.364	225
47	494188.999	104043.026	8.211	1.953	1200		1	21.001	6.258	225
							0	21.002	6.258	225
46	494183.456	104040.128	8.207	1.985	1200		1	21.002	6.222	225
							0	21.003	6.222	225
52	494041.009	104060.275	8.986	2.157	1200					
							0	24.000	6.829	225
51	494070.225	104056.959	9.250	2.594	1200		1	24.000	6.656	225
							0	24.001	6.656	225
44	494113.438	104050.600	9.150	3.192	1200		1	21.005	5.958	225
							0	21.006	5.958	225
42	494119.534	104101.300	8.983	3.577	1200		1	21.007	5.406	300
							0	21.008	5.406	300
32	494125.232	104113.578	9.018	4.320	1500		1	21.008	4.923	300
							2	4.010	4.773	450
							0	4.011	4.698	525
31	494148.813	104109.779	8.609	3.960	1500		1	4.011	4.649	525
							0	4.012	4.649	525
30	494191.397	104101.977	7.786	3.144	1500		1	4.013	4.642	525
							0	4.014	4.642	525
28	494240.696	104094.421	6.366	1.786	1500		1	4.016	4.580	525
							0	4.017	4.580	525
5	494253.287	104096.276	6.036	1.482	1500		1	4.017	4.554	525
							2	1.015	4.629	450
							0	1.016	4.554	525
4	494255.858	104116.900	5.794	1.282	1500		1	1.016	4.512	525
							0	1.017	4.512	525

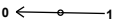
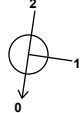
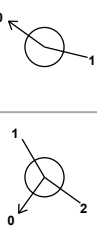
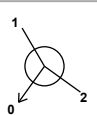
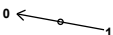


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
3	494261.589	104141.756	6.212	1.974	1500		1	1.018	4.238	525
						1	0	1.019	4.238	525
27	494271.782	104190.118	6.170	1.509	1200		0	25.000	4.661	225
2	494271.623	104167.333	6.309	2.082	1500		1	25.000	4.527	225
						2	0	1.020	4.227	525
						2	0	1.021	4.227	525
HW3	494282.945	104167.254	5.900	1.900			1	1.021	4.025	525
HW2 (Eastern Basin)	494284.745	104185.349	5.900	1.900			0	32.000	4.000	225
1	494283.550	104194.501	6.000	2.231	1500		1	32.000	3.769	225
						1	0	32.001	3.769	225
HW1	494305.636	104198.080	3.250	0.500			1	32.001	2.750	225
Permeable Paving 1	494260.971	104068.206	5.870	0.685			0	3.000	5.185	100
Permeable Paving 2.1	494195.108	104064.271	7.490	0.800			0	22.000	6.690	100
Permeable Paving 3	494083.166	104131.732	9.200	0.800			0	11.000	8.400	100
Permeable Paving 4	494055.562	104123.493	9.080	0.880			0	8.000	8.200	100
Permeable Paving 5	494021.150	104156.289	9.350	0.800			0	7.000	8.550	100
Permeable Paving 6	494034.463	104223.388	9.250	0.800			0	6.000	8.450	100

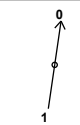
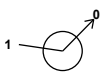
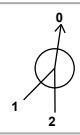
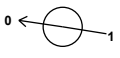


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
Permeable Paving 7	494145.283	104190.662	8.625	0.800			0	4.000	7.825	150
Permeable Paving 8	494209.962	104170.316	7.315	0.800			0	13.000	6.515	100
Permeable Paving 2.2	494194.680	104055.433	7.715	0.800			0	21.000	6.915	100
Attenuation Tank 4	493982.039	104192.231	9.412	1.157			1	29.001	8.255	225
91	493969.191	104192.470	9.270	0.880	1200		0	29.002	8.255	225
86.01	494049.944	104140.240	9.383	0.923	1200		0	31.000	8.390	150
86	494029.936	104143.184	9.510	1.552	1350		0	27.000	8.460	150
84	494010.551	104066.574	8.704	0.953	1350		1	27.000	8.258	150
83	493997.353	104069.767	8.627	0.910	1350		2	26.001	7.958	450
82	493983.258	104079.905	8.781	1.107	1350		0	26.002	7.958	450
89	493978.036	104088.822	8.907	0.830	1200		1	26.003	7.751	450
Attenuation Tank 11	494114.636	104198.325	8.972	2.207			0	26.004	7.751	450
76	494133.467	104194.887	8.820	2.030	1200		1	26.004	7.717	450
							0	26.005	7.717	450

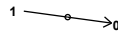


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
Attenuation Tank 10	494207.408	104161.957	7.411	1.701			1 14.000	5.710	300
							0 14.001	5.710	300
Attenuation Tank 9	494184.640	104183.474	7.801	2.686			1 16.000 2 15.000 3 12.002 0 12.003	6.835 6.835 5.615 5.115	150 150 375 375
65	494215.245	104183.304	7.235	1.418	1200		1 12.000	5.817	225
							0 12.001	5.817	225
62	494166.157	104204.463	8.326	2.115	1200		0 17.000	6.211	150
64	494193.627	104178.494	7.540	0.693	450		0 16.000	6.847	150
63	494168.603	104183.347	8.306	1.459	450		0 15.000	6.847	150
59	494147.858	104152.731	8.788	0.900	450		0 19.000	7.888	100
58	494143.563	104142.877	8.839	2.932	450		1 19.000	5.907	100
							0 19.001	5.907	100
50	494105.831	104051.719	9.205	2.761	1200		1 24.001	6.444	225
							0 24.002	6.444	225
43	494113.367	104059.389	9.267	3.436	1200		1 24.002 2 21.006 0 21.007	5.906 5.906 5.831	225 225 300
Attenuation Tank 8	494155.213	104044.453	8.585	2.455			1 23.000 2 21.004 0 21.005	6.510 6.130 6.130	150 225 225
45	494169.399	104042.365	8.395	2.257	1200		1 21.003	6.138	225
							0 21.004	6.138	225
49	494155.230	104041.418	8.504	1.974	450		0 23.000	6.530	150



Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
Attenuation Tank 6	494170.064	104105.886	8.198	3.553			1	4.012	4.645	525
							0	4.013	4.645	525
Attenuation Tank 5	494228.354	104096.101	6.782	2.197			1	4.015	4.585	525
							0	4.016	4.585	525
29	494216.639	104097.696	7.184	2.594	1500		1	4.014	4.590	525
							0	4.015	4.590	525
81	494251.081	104033.029	6.140	0.984	1200					
							0	2.000	5.156	150
Attenuation Tank 3	494256.054	104052.740	6.017	1.292			1	1.012	4.725	450
							0	1.013	4.725	450
Attenuation Tank 2	494257.969	104126.055	5.937	1.682			1	1.017	4.505	525
							0	1.018	4.255	525
Attenuation Tank 1	494266.218	104153.556	6.391	2.156			1	1.019	4.235	525
							0	1.020	4.235	525
14	494127.344	104041.965	8.987	1.744	1350		1	1.005	7.243	450
							0	1.006	7.243	450

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Detailed	Starting Level (m)
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s) x
Summer CV	1.000	Drain Down Time (mins)	240	Check Discharge Volume x
Winter CV	1.000	Additional Storage (m³/ha)	0.0	

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 1440 | 2880

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
10	0	0	0
30	45	0	0



Node 1 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	3.769	Product Number	CTL-SHE-0138-1070-1823-1070
Design Depth (m)	1.823	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	10.7	Min Node Diameter (mm)	1500

Node 30 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	4.642	Product Number	CTL-SHE-0124-1000-2479-1000
Design Depth (m)	2.479	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	10.0	Min Node Diameter (mm)	1500

Node 28 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	4.580	Product Number	CTL-SHE-0143-1000-1165-1000
Design Depth (m)	1.165	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	10.0	Min Node Diameter (mm)	1500

Node HW2 (Eastern Basin) Pond Storage Structure

Invert Level (m) 4.000 | Time to half empty (mins) | Analyse flow through structure x

Inlets

HW3

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	132.0	1.900	515.0

Node HW4 (Western Basin) Pond Storage Structure

Invert Level (m) 7.620 | Time to half empty (mins) 11 | Analyse flow through structure x

Inlets

HW5 | HW6

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	59.6	1.000	233.0

Node Permeable Paving 1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.270	Slope (1:X)	40.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	5	Depth (m)	0.580
Safety Factor	2.0	Width (m)	9.000	Inf Depth (m)	
Porosity	0.30	Length (m)	39.000		



Node Permeable Paving 2.1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.690	Slope (1:X)	30.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.580
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.900		

Node Permeable Paving 3 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	8.400	Slope (1:X)	90.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.580
Safety Factor	2.0	Width (m)	7.100	Inf Depth (m)	
Porosity	0.30	Length (m)	50.000		

Node Permeable Paving 4 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	8.280	Slope (1:X)	40.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.580
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	25.000		

Node Permeable Paving 5 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	8.550	Slope (1:X)	85.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.580
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	12.250		

Node Permeable Paving 6 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	8.450	Slope (1:X)	60.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.580
Safety Factor	2.0	Width (m)	5.200	Inf Depth (m)	
Porosity	0.30	Length (m)	35.000		

Node Permeable Paving 7 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	7.825	Slope (1:X)	40.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.580
Safety Factor	2.0	Width (m)	6.600	Inf Depth (m)	
Porosity	0.30	Length (m)	58.000		

Node Permeable Paving 8 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.515	Slope (1:X)	40.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	3	Depth (m)	0.580
Safety Factor	2.0	Width (m)	6.400	Inf Depth (m)	
Porosity	0.30	Length (m)	38.000		

Node Permeable Paving 2.2 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.915	Slope (1:X)	30.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.580
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.600		



Node Attenuation Tank 6 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.645	Depth (m)	2.520
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	10.000	Number Required	1
Porosity	0.94	Pit Length (m)	39.000		

Node Attenuation Tank 8 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.130	Depth (m)	0.630
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	165	Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	5.000	Number Required	1
Porosity	0.94	Pit Length (m)	26.000		

Node Attenuation Tank 11 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.765	Depth (m)	0.840
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	7	Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	4.000	Number Required	1
Porosity	0.94	Pit Length (m)	30.000		

Node Attenuation Tank 7 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.915	Depth (m)	2.310
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	8.000	Number Required	1
Porosity	0.94	Pit Length (m)	25.000		

Node Attenuation Tank 3 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.725	Depth (m)	1.050
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	5.000	Number Required	1
Porosity	0.94	Pit Length (m)	12.000		

Node Attenuation Tank 2 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.255	Depth (m)	1.260
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	5.000	Number Required	1
Porosity	0.94	Pit Length (m)	16.000		

Node Attenuation Tank 10 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.710	Depth (m)	0.630
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	5.000	Number Required	1
Porosity	0.94	Pit Length (m)	28.500		

Node Attenuation Tank 5 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.585	Depth (m)	1.680
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	10.000	Number Required	1
Porosity	0.94	Pit Length (m)	20.000		



Node Attenuation Tank 1 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.235	Depth (m)	1.470
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	6.000	Number Required	1
Porosity	0.94	Pit Length (m)	22.000		

Node Attenuation Tank 4 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	8.255	Depth (m)	0.840
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	9	Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	6.500	Number Required	1
Porosity	0.94	Pit Length (m)	10.000		

Node Attenuation Tank 9 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.115	Depth (m)	1.470
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	3.000	Number Required	1
Porosity	0.94	Pit Length (m)	45.000		



Results for 1 year Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	25.01	10	8.536	0.063	7.1	0.0717	0.0000	OK
15 minute summer	25.05	10	8.484	0.054	4.8	0.0608	0.0000	OK
15 minute summer	25.04	11	8.395	0.059	5.2	0.0672	0.0000	OK
15 minute summer	25	11	8.385	0.087	13.3	0.0978	0.0000	OK
30 minute summer	24	22	8.316	0.068	6.8	0.0766	0.0000	OK
30 minute summer	23	22	8.275	0.065	7.3	0.0734	0.0000	OK
30 minute summer	22	19	8.085	0.088	11.4	0.0999	0.0000	OK
30 minute summer	21	19	8.028	0.089	13.6	0.1008	0.0000	OK
30 minute summer	20	19	7.821	0.123	20.7	0.1386	0.0000	OK
30 minute summer	HW5	24	7.814	0.194	20.4	0.0000	0.0000	OK
15 minute summer	88	11	8.075	0.061	2.2	0.0876	0.0000	OK
15 minute summer	87	11	8.075	0.103	8.2	0.1471	0.0000	OK
15 minute summer	85	12	7.929	0.156	35.1	0.2236	0.0000	OK
30 minute summer	HW6	23	7.818	0.198	31.9	0.0000	0.0000	OK
30 minute summer	HW4 (Western Basin)	24	7.803	0.183	34.8	14.5953	0.0000	OK
30 minute summer	19	24	7.798	0.192	31.5	0.2741	0.0000	OK
30 minute summer	18	24	7.615	0.138	31.4	0.1974	0.0000	OK
120 minute summer	17	72	7.532	0.147	30.9	0.2106	0.0000	OK
120 minute summer	16	74	7.506	0.180	31.2	0.2576	0.0000	OK
120 minute summer	15	74	7.440	0.188	30.9	0.2693	0.0000	OK
120 minute summer	13	74	7.268	0.130	31.0	0.1862	0.0000	OK
120 minute summer	12	74	7.239	0.110	30.9	0.1571	0.0000	OK
120 minute summer	11	76	6.323	0.067	30.8	0.0965	0.0000	OK
120 minute summer	10	76	4.940	0.151	30.8	0.2155	0.0000	OK
120 minute summer	9	76	4.912	0.149	30.8	0.2137	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	25.01	29.000	25	7.0	0.616	0.176	0.3439	
15 minute summer	25.05	30.000	25.04	4.8	0.621	0.120	0.1241	
15 minute summer	25.04	30.001	25	5.1	0.459	0.128	0.0721	
15 minute summer	25	29.001	Attenuation Tank 4	13.3	1.656	0.318	0.0690	
30 minute summer	24	29.003	23	6.8	0.698	0.171	0.0632	
30 minute summer	23	29.004	22	7.3	0.666	0.184	0.4230	
30 minute summer	22	29.005	21	11.2	0.775	0.282	0.1429	
30 minute summer	21	29.006	20	13.4	0.734	0.337	0.7539	
30 minute summer	20	29.007	HW5	20.4	0.947	0.514	0.3449	
15 minute summer	88	26.000	87	2.2	0.136	0.014	0.3407	
15 minute summer	87	26.001	86	7.7	0.268	0.049	0.1719	
15 minute summer	85	26.003	84	33.1	0.702	0.208	0.4290	
30 minute summer	HW4 (Western Basin)	1.000	19	31.5	0.511	0.194	0.3418	
30 minute summer	19	1.001	18	31.4	0.600	0.327	2.7508	
30 minute summer	18	1.002	17	31.3	0.740	0.196	1.5980	
120 minute summer	17	1.003	16	30.8	0.594	0.193	1.2480	
120 minute summer	16	1.004	15	30.9	0.510	0.322	1.8246	
120 minute summer	15	1.005	14	31.0	0.493	0.189	0.2181	
120 minute summer	13	1.007	12	30.9	0.913	0.189	0.1174	
120 minute summer	12	1.008	11	30.8	1.403	0.113	0.9758	
120 minute summer	11	1.009	10	30.8	1.051	0.050	1.2305	
120 minute summer	10	1.010	9	30.8	0.671	0.193	0.4868	
120 minute summer	9	1.011	8	30.8	0.667	0.194	0.6547	



Results for 1 year Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	8	78	4.884	0.155	32.1	0.2216	0.0000	OK
120 minute summer	7	78	4.864	0.145	31.4	0.2074	0.0000	OK
120 minute summer	6	78	4.819	0.142	32.6	0.2027	0.0000	OK
15 minute summer	77	10	6.973	0.072	8.7	0.0817	0.0000	OK
15 minute summer	78	10	7.712	0.026	3.5	0.0292	0.0000	OK
480 minute summer	Attenuation Tank 7	368	5.181	0.266	20.8	50.0592	0.0000	OK
15 minute summer	75	11	6.708	0.099	15.7	0.1118	0.0000	OK
15 minute summer	41	10	7.771	0.051	4.2	0.0575	0.0000	OK
15 minute summer	40	11	7.706	0.049	4.2	0.0552	0.0000	OK
15 minute summer	39	11	7.648	0.081	10.2	0.0913	0.0000	OK
15 minute summer	38.02	10	7.828	0.053	4.4	0.0596	0.0000	OK
15 minute summer	38.01	11	7.735	0.037	5.6	0.0419	0.0000	OK
15 minute summer	38	11	7.569	0.063	19.9	0.0715	0.0000	OK
15 minute summer	37	11	6.451	0.171	37.2	0.1929	0.0000	OK
15 minute summer	36	11	6.388	0.185	38.5	0.2097	0.0000	OK
15 minute summer	35.02	10	7.581	0.029	3.8	0.0331	0.0000	OK
15 minute summer	35.01	10	6.762	0.046	10.9	0.0521	0.0000	OK
15 minute summer	74	10	7.708	0.030	3.0	0.0339	0.0000	OK
15 minute summer	73	10	7.232	0.041	8.3	0.0462	0.0000	OK
15 minute summer	35	11	6.351	0.215	57.1	0.2436	0.0000	OK
15 minute summer	70	10	7.787	0.037	4.6	0.0421	0.0000	OK
15 minute summer	69	11	6.715	0.032	5.0	0.0358	0.0000	OK
15 minute summer	34	11	6.209	0.215	72.1	0.3801	0.0000	OK
15 minute summer	57	10	5.784	0.062	7.4	0.0697	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	8	1.012	Attenuation Tank 3	32.0	0.734	0.202	0.0778	
120 minute summer	7	1.014	6	31.4	0.724	0.197	0.7419	
120 minute summer	6	1.015	5	32.6	0.839	0.205	0.7600	
15 minute summer	77	4.001	76	8.6	0.682	0.217	0.2386	
15 minute summer	78	5.000	75	3.5	1.758	0.061	0.0194	
480 minute summer	Attenuation Tank 7	4.009	33	17.1	0.759	0.149	1.0300	
15 minute summer	75	4.004	37	15.3	0.932	0.386	0.7105	
15 minute summer	41	6.001	40	4.2	0.644	0.105	0.0701	
15 minute summer	40	6.002	39	4.2	0.446	0.105	0.1459	
15 minute summer	39	6.003	38	10.1	0.928	0.255	0.1144	
15 minute summer	38.02	7.001	38.01	4.4	0.785	0.111	0.0738	
15 minute summer	38.01	7.002	38	5.6	0.854	0.059	0.0388	
15 minute summer	38	6.004	37	20.0	1.877	0.174	0.2975	
15 minute summer	37	4.005	36	37.1	0.860	0.524	0.8180	
15 minute summer	36	4.006	35	37.8	0.765	0.536	0.8210	
15 minute summer	35.02	9.000	35.01	3.8	0.864	0.036	0.0929	
15 minute summer	35.01	9.001	35	10.8	1.394	0.092	0.1605	
15 minute summer	74	8.001	73	3.0	0.955	0.087	0.0415	
15 minute summer	73	8.002	35	8.4	2.034	0.162	0.0606	
15 minute summer	35	4.007	34	56.1	1.130	0.792	0.8143	
15 minute summer	70	10.000	69	4.5	1.187	0.056	0.1672	
15 minute summer	69	10.001	34	5.0	1.358	0.043	0.0696	
15 minute summer	34	4.008	Attenuation Tank 7	71.8	1.163	0.657	0.2050	
15 minute summer	57	14.000	Attenuation Tank 10	7.4	1.577	0.094	0.0139	



Results for 1 year Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	66	10	5.943	0.072	7.8	0.0812	0.0000	OK
15 minute summer	56	10	5.739	0.114	23.5	0.1636	0.0000	OK
120 minute summer	55	70	5.191	0.090	13.4	0.1290	0.0000	OK
15 minute summer	54.02	10	6.522	0.024	2.7	0.0267	0.0000	OK
15 minute summer	54.01	10	5.590	0.031	4.6	0.0355	0.0000	OK
480 minute summer	54	368	5.181	0.251	10.6	0.3596	0.0000	OK
480 minute summer	53	368	5.181	0.329	12.0	0.5818	0.0000	OK
15 minute summer	33.02	10	6.409	0.030	4.5	0.0340	0.0000	OK
15 minute summer	33.01	10	5.488	0.043	8.4	0.0482	0.0000	OK
480 minute summer	33	368	5.181	0.379	29.9	0.5427	0.0000	OK
15 minute summer	48	11	6.417	0.053	5.0	0.0604	0.0000	OK
15 minute summer	47	11	6.349	0.091	9.3	0.1035	0.0000	OK
15 minute summer	46	11	6.339	0.117	19.5	0.1328	0.0000	OK
15 minute summer	52	11	6.855	0.026	1.2	0.0294	0.0000	OK
15 minute summer	51	11	6.748	0.092	12.6	0.1038	0.0000	OK
120 minute summer	44	68	6.044	0.086	11.0	0.0975	0.0000	OK
15 minute summer	42	11	5.486	0.080	29.3	0.0905	0.0000	OK
480 minute summer	32	368	5.181	0.483	40.0	0.8538	0.0000	OK
480 minute summer	31	368	5.181	0.532	41.3	0.9403	0.0000	SURCHARGED
480 minute summer	30	368	5.181	0.539	8.5	0.9526	0.0000	SURCHARGED
720 minute summer	28	525	4.803	0.223	8.4	0.3943	0.0000	OK
120 minute summer	5	80	4.692	0.138	33.6	0.2434	0.0000	OK
120 minute summer	4	80	4.628	0.116	32.2	0.2046	0.0000	OK
720 minute summer	3	645	4.458	0.220	22.4	0.3882	0.0000	OK
15 minute summer	27	10	4.734	0.073	8.9	0.0831	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	66	12.000	65	7.7	0.712	0.195	0.1000	
15 minute summer	56	12.002	Attenuation Tank 9	22.1	0.820	0.197	0.0852	
120 minute summer	55	12.004	54	13.5	0.705	0.122	0.5958	
15 minute summer	54.02	18.000	54.01	2.7	0.974	0.023	0.0521	
15 minute summer	54.01	18.001	54	4.5	1.394	0.039	0.0263	
480 minute summer	54	12.005	53	10.0	0.454	0.063	3.4070	
480 minute summer	53	12.006	33	11.0	0.335	0.069	2.7277	
15 minute summer	33.02	20.000	33.01	4.5	1.081	0.038	0.0779	
15 minute summer	33.01	20.001	33	8.3	1.651	0.071	0.0420	
480 minute summer	33	4.010	32	29.1	0.711	0.182	1.7165	
15 minute summer	48	21.001	47	5.0	0.451	0.125	0.2018	
15 minute summer	47	21.002	46	9.3	0.522	0.236	0.1129	
15 minute summer	46	21.003	45	19.4	0.968	0.487	0.2854	
15 minute summer	52	24.000	51	1.1	0.137	0.028	0.2609	
15 minute summer	51	24.001	50	12.4	1.134	0.311	0.3979	
120 minute summer	44	21.006	43	11.0	0.827	0.276	0.1171	
15 minute summer	42	21.008	32	29.1	2.024	0.138	0.1946	
480 minute summer	32	4.011	31	38.9	0.418	0.178	5.0636	
480 minute summer	31	4.012	Attenuation Tank 6	40.5	0.962	0.168	0.3467	
480 minute summer	30	4.014	29	8.4	0.394	0.039	1.7616	
720 minute summer	28	4.017	5	8.4	0.457	0.039	0.3646	
120 minute summer	5	1.016	4	32.1	0.802	0.148	0.8345	
120 minute summer	4	1.017	Attenuation Tank 2	32.3	0.969	0.094	0.0465	
720 minute summer	3	1.019	Attenuation Tank 1	22.3	0.721	0.110	0.1447	
15 minute summer	27	25.000	2	8.7	0.793	0.218	0.2496	



Results for 1 year Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute summer	2	645	4.457	0.230	25.0	0.4069	0.0000	OK
720 minute summer	HW3	645	4.457	0.457	24.8	0.0000	0.0000	OK
720 minute summer	HW2 (Eastern Basin)	645	4.447	0.447	17.3	80.3224	0.0000	SURCHARGED
720 minute summer	1	645	4.442	0.673	23.2	1.1895	0.0000	SURCHARGED
15 minute summer	HW1	1	3.110	0.360	9.9	0.0000	0.0000	OK
15 minute summer	Permeable Paving 1	10	5.241	0.056	4.5	0.0000	0.0000	OK
15 minute summer	Permeable Paving 2.1	11	6.719	0.029	1.4	0.0397	0.0000	OK
15 minute summer	Permeable Paving 3	11	8.453	0.053	4.4	0.2751	0.0000	OK
15 minute summer	Permeable Paving 4	10	8.244	0.044	3.1	0.0000	0.0000	OK
15 minute summer	Permeable Paving 5	11	8.571	0.021	1.5	0.0603	0.0000	OK
15 minute summer	Permeable Paving 6	11	8.488	0.038	2.3	0.0691	0.0000	OK
15 minute summer	Permeable Paving 7	10	7.890	0.065	5.0	0.0731	0.0000	OK
15 minute summer	Permeable Paving 8	10	6.569	0.054	4.6	0.0731	0.0000	OK
15 minute summer	Permeable Paving 2.2	11	6.943	0.028	1.3	0.0383	0.0000	OK
30 minute summer	Attenuation Tank 4	22	8.324	0.069	11.9	4.2434	0.0000	OK
15 minute summer	91	1	8.390	0.000	0.0	0.0000	0.0000	OK
15 minute summer	86.01	11	8.496	0.036	2.2	0.0404	0.0000	OK
15 minute summer	86	11	8.072	0.114	24.1	0.1633	0.0000	OK
15 minute summer	84	12	7.902	0.151	33.1	0.2161	0.0000	OK
15 minute summer	83	12	7.864	0.147	33.3	0.2101	0.0000	OK
30 minute summer	82	23	7.821	0.147	30.5	0.2105	0.0000	OK
15 minute summer	89	1	8.077	0.000	0.0	0.0000	0.0000	OK
120 minute summer	Attenuation Tank 11	72	6.817	0.052	7.3	5.8794	0.0000	OK
15 minute summer	76	11	6.878	0.088	13.3	0.0992	0.0000	OK
180 minute summer	Attenuation Tank 10	108	5.744	0.034	3.2	4.5214	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	2	1.021	HW3	24.8	1.155	0.038	1.5929	
720 minute summer	HW2 (Eastern Basin)	32.000	1	23.2	0.688	0.282	0.3671	
720 minute summer	1	32.001	HW1	10.7	0.388	0.096	0.5118	440.1
15 minute summer	Permeable Paving 1	3.000	6	4.4	1.009	0.571	0.0421	
15 minute summer	Permeable Paving 2.1	22.000	48	1.3	0.735	0.171	0.0088	
15 minute summer	Permeable Paving 3	11.000	34	4.0	0.984	0.513	0.0219	
15 minute summer	Permeable Paving 4	8.000	74	3.0	0.925	0.387	0.0268	
15 minute summer	Permeable Paving 5	7.000	38.02	1.5	1.220	0.098	0.0127	
15 minute summer	Permeable Paving 6	6.000	41	2.2	0.847	0.285	0.0180	
15 minute summer	Permeable Paving 7	4.000	77	4.9	0.690	0.367	0.0485	
15 minute summer	Permeable Paving 8	13.000	56	4.5	1.071	0.534	0.0346	
15 minute summer	Permeable Paving 2.2	21.000	48	1.3	0.728	0.166	0.0112	
30 minute summer	Attenuation Tank 4	29.002	24	6.1	0.607	0.153	0.0121	
15 minute summer	91	31.000	24	0.0	0.000	0.000	0.0000	
15 minute summer	86.01	27.000	86	2.1	0.676	0.121	0.0640	
15 minute summer	86	26.002	85	23.4	0.590	0.146	2.9784	
15 minute summer	84	26.004	83	33.3	0.729	0.207	0.6212	
15 minute summer	83	26.005	82	33.3	0.783	0.208	0.7384	
30 minute summer	82	26.006	HW6	29.7	0.844	0.185	0.3262	
15 minute summer	89	28.000	82	0.0	0.000	0.000	0.0000	
120 minute summer	Attenuation Tank 11	4.003	75	4.7	0.524	0.119	0.2662	
15 minute summer	76	4.002	Attenuation Tank 11	13.2	1.887	0.327	0.0350	
180 minute summer	Attenuation Tank 10	14.001	56	1.8	0.445	0.026	0.0103	



Results for 1 year Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	Attenuation Tank 9	70	5.201	0.086	14.0	10.8567	0.0000	OK
15 minute summer	65	10	5.888	0.071	7.7	0.0807	0.0000	OK
15 minute summer	62	10	6.232	0.021	1.7	0.0240	0.0000	OK
15 minute summer	64	1	6.847	0.000	0.0	0.0000	0.0000	OK
15 minute summer	63	1	6.847	0.000	0.0	0.0000	0.0000	OK
15 minute summer	59	1	7.888	0.000	0.0	0.0000	0.0000	OK
15 minute summer	58	10	5.950	0.043	4.2	0.0068	0.0000	OK
15 minute summer	50	11	6.496	0.052	12.4	0.0587	0.0000	OK
15 minute summer	43	11	5.926	0.095	22.5	0.1069	0.0000	OK
120 minute summer	Attenuation Tank 8	70	6.196	0.066	10.8	8.0177	0.0000	OK
15 minute summer	45	11	6.247	0.109	19.4	0.1238	0.0000	OK
15 minute summer	49	1	6.530	0.000	0.0	0.0000	0.0000	OK
480 minute summer	Attenuation Tank 6	368	5.181	0.536	40.5	196.5393	0.0000	SURCHARGED
720 minute summer	Attenuation Tank 5	525	4.803	0.218	8.4	41.0356	0.0000	OK
720 minute summer	29	525	4.803	0.213	8.4	0.3771	0.0000	OK
15 minute summer	81	10	5.197	0.041	2.8	0.0465	0.0000	OK
120 minute summer	Attenuation Tank 3	78	4.874	0.149	32.0	8.4245	0.0000	OK
720 minute summer	Attenuation Tank 2	645	4.458	0.203	21.2	15.2668	0.0000	OK
720 minute summer	Attenuation Tank 1	645	4.458	0.222	22.3	27.6077	0.0000	OK
120 minute summer	14	74	7.432	0.189	31.0	0.2704	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	Attenuation Tank 9	12.003	55	10.2	0.531	0.091	0.0873	
15 minute summer	65	12.001	56	7.6	0.742	0.192	0.0741	
15 minute summer	62	17.000	55	1.7	1.110	0.042	0.0266	
15 minute summer	64	16.000	Attenuation Tank 9	0.0	0.000	0.000	0.0000	
15 minute summer	63	15.000	Attenuation Tank 9	0.0	0.000	0.000	0.0000	
15 minute summer	59	19.000	58	0.0	0.000	0.000	0.0172	
15 minute summer	58	19.001	53	4.1	1.309	0.364	0.0641	
15 minute summer	50	24.002	43	12.4	1.861	0.106	0.0717	
15 minute summer	43	21.007	42	22.3	1.321	0.200	0.7216	
120 minute summer	Attenuation Tank 8	21.005	44	7.5	0.656	0.188	0.3421	
15 minute summer	45	21.004	Attenuation Tank 8	19.5	2.014	0.486	0.0153	
15 minute summer	49	23.000	Attenuation Tank 8	0.0	0.000	0.000	0.0000	
480 minute summer	Attenuation Tank 6	4.013	30	8.3	-0.284	0.041	0.3649	
720 minute summer	Attenuation Tank 5	4.016	28	8.4	0.100	0.039	0.2115	
720 minute summer	29	4.015	Attenuation Tank 5	8.4	0.501	0.033	0.1524	
15 minute summer	81	2.000	8	2.8	0.720	0.155	0.0486	
120 minute summer	Attenuation Tank 3	1.013	7	31.1	0.692	0.169	0.0826	
720 minute summer	Attenuation Tank 2	1.018	3	21.0	0.623	0.095	0.6595	
720 minute summer	Attenuation Tank 1	1.020	2	23.6	1.053	0.107	0.3383	
120 minute summer	14	1.006	13	31.0	0.616	0.323	2.1486	



Results for 10 year Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	25.01	10	8.586	0.113	20.7	0.1282	0.0000	OK
15 minute summer	25.05	10	8.524	0.094	14.0	0.1058	0.0000	OK
15 minute summer	25.04	11	8.473	0.137	15.0	0.1548	0.0000	OK
15 minute summer	25	11	8.464	0.166	38.5	0.1878	0.0000	OK
30 minute summer	24	21	8.436	0.188	23.1	0.2122	0.0000	OK
30 minute summer	23	21	8.425	0.215	24.5	0.2430	0.0000	OK
30 minute summer	22	19	8.385	0.388	34.8	0.4393	0.0000	SURCHARGED
30 minute summer	21	19	8.342	0.403	37.7	0.4557	0.0000	SURCHARGED
30 minute summer	20	19	8.121	0.423	57.4	0.4788	0.0000	SURCHARGED
30 minute summer	HW5	22	8.002	0.382	56.2	0.0000	0.0000	OK
15 minute summer	88	11	8.167	0.153	6.5	0.2186	0.0000	OK
15 minute summer	87	11	8.166	0.194	23.7	0.2778	0.0000	OK
15 minute summer	85	11	8.080	0.307	104.2	0.4389	0.0000	OK
30 minute summer	HW6	22	8.008	0.388	91.1	0.0000	0.0000	OK
30 minute summer	HW4 (Western Basin)	22	7.977	0.357	105.7	34.6677	0.0000	OK
30 minute summer	19	22	7.966	0.360	97.2	0.5156	0.0000	OK
30 minute summer	18	25	7.764	0.287	96.8	0.4110	0.0000	OK
30 minute summer	17	25	7.717	0.332	94.5	0.4748	0.0000	OK
30 minute summer	16	25	7.688	0.362	93.4	0.5184	0.0000	OK
30 minute summer	15	26	7.604	0.352	92.7	0.5031	0.0000	OK
30 minute summer	13	26	7.372	0.234	92.3	0.3346	0.0000	OK
30 minute summer	12	26	7.324	0.195	92.3	0.2787	0.0000	OK
30 minute summer	11	26	6.372	0.116	92.2	0.1654	0.0000	OK
60 minute summer	10	43	5.086	0.297	90.7	0.4246	0.0000	OK
60 minute summer	9	44	5.054	0.291	90.1	0.4170	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	25.01	29.000	25	20.5	0.814	0.515	0.7607	
15 minute summer	25.05	30.000	25.04	13.9	0.723	0.351	0.3250	
15 minute summer	25.04	30.001	25	14.7	0.517	0.369	0.1825	
15 minute summer	25	29.001	Attenuation Tank 4	38.4	1.758	0.921	0.1968	
30 minute summer	24	29.003	23	23.6	0.925	0.594	0.2414	
30 minute summer	23	29.004	22	26.0	0.807	0.654	1.4272	
30 minute summer	22	29.005	21	30.4	0.932	0.763	0.3913	
30 minute summer	21	29.006	20	35.5	0.892	0.894	1.6331	
30 minute summer	20	29.007	HW5	56.2	1.414	1.419	0.4829	
15 minute summer	88	26.000	87	6.4	0.132	0.040	0.9592	
15 minute summer	87	26.001	86	23.6	0.349	0.150	0.3956	
15 minute summer	85	26.003	84	100.8	0.903	0.634	1.0116	
30 minute summer	HW4 (Western Basin)	1.000	19	97.2	0.720	0.599	0.7434	
30 minute summer	19	1.001	18	96.8	0.813	1.008	6.2781	
30 minute summer	18	1.002	17	94.5	0.894	0.592	4.3246	
30 minute summer	17	1.003	16	92.7	0.739	0.582	3.1421	
30 minute summer	16	1.004	15	92.7	0.693	0.965	4.0327	
30 minute summer	15	1.005	14	92.4	0.704	0.564	0.4554	
30 minute summer	13	1.007	12	92.3	1.240	0.563	0.2579	
30 minute summer	12	1.008	11	92.2	1.906	0.338	2.1372	
30 minute summer	11	1.009	10	92.1	1.377	0.149	2.8483	
60 minute summer	10	1.010	9	90.1	0.834	0.565	1.1558	
60 minute summer	9	1.011	8	90.0	0.848	0.567	1.5087	



Results for 10 year Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	8	44	5.019	0.290	92.8	0.4155	0.0000	OK
60 minute summer	7	45	4.989	0.270	91.4	0.3864	0.0000	OK
60 minute summer	6	45	4.930	0.253	94.1	0.3627	0.0000	OK
15 minute summer	77	10	7.039	0.138	25.0	0.1565	0.0000	OK
15 minute summer	78	10	7.729	0.043	10.1	0.0482	0.0000	OK
480 minute winter	Attenuation Tank 7	464	5.730	0.815	28.8	153.1736	0.0000	SURCHARGED
15 minute summer	75	11	6.996	0.387	43.9	0.4379	0.0000	SURCHARGED
15 minute summer	41	11	7.810	0.090	12.0	0.1014	0.0000	OK
15 minute summer	40	11	7.741	0.084	11.9	0.0948	0.0000	OK
15 minute summer	39	11	7.718	0.151	29.4	0.1704	0.0000	OK
15 minute summer	38.02	10	7.866	0.091	12.9	0.1034	0.0000	OK
15 minute summer	38.01	11	7.766	0.068	16.3	0.0768	0.0000	OK
15 minute summer	38	11	7.630	0.124	58.0	0.1400	0.0000	OK
15 minute summer	37	11	6.965	0.685	78.4	0.7751	0.0000	SURCHARGED
15 minute summer	36	11	6.841	0.638	81.1	0.7211	0.0000	SURCHARGED
15 minute summer	35.02	10	7.601	0.049	11.0	0.0555	0.0000	OK
15 minute summer	35.01	11	6.800	0.084	31.5	0.0948	0.0000	OK
15 minute summer	74	11	7.728	0.050	8.2	0.0564	0.0000	OK
15 minute summer	73	10	7.266	0.075	23.6	0.0851	0.0000	OK
15 minute summer	35	11	6.715	0.579	136.8	0.6547	0.0000	SURCHARGED
15 minute summer	70	10	7.814	0.064	13.3	0.0719	0.0000	OK
15 minute summer	69	10	6.736	0.053	14.7	0.0604	0.0000	OK
15 minute summer	34	11	6.369	0.375	179.9	0.6623	0.0000	OK
15 minute summer	57	10	5.828	0.106	21.4	0.1199	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	8	1.012	Attenuation Tank 3	92.5	1.013	0.585	0.1748	
60 minute summer	7	1.014	6	91.5	0.957	0.575	1.6355	
60 minute summer	6	1.015	5	94.2	1.135	0.592	1.6223	
15 minute summer	77	4.001	76	24.8	0.864	0.624	0.5402	
15 minute summer	78	5.000	75	10.1	1.909	0.176	0.1067	
480 minute winter	Attenuation Tank 7	4.009	33	14.2	0.713	0.124	1.2659	
15 minute summer	75	4.004	37	40.8	1.155	1.025	1.7156	
15 minute summer	41	6.001	40	11.9	0.850	0.301	0.1515	
15 minute summer	40	6.002	39	12.0	0.582	0.300	0.3183	
15 minute summer	39	6.003	38	29.3	1.177	0.736	0.2643	
15 minute summer	38.02	7.001	38.01	12.7	1.017	0.320	0.1645	
15 minute summer	38.01	7.002	38	16.3	1.075	0.171	0.0941	
15 minute summer	38	6.004	37	58.1	1.933	0.504	0.7349	
15 minute summer	37	4.005	36	77.1	1.095	1.089	1.3233	
15 minute summer	36	4.006	35	81.3	1.154	1.151	1.1580	
15 minute summer	35.02	9.000	35.01	10.9	1.154	0.105	0.2068	
15 minute summer	35.01	9.001	35	30.7	1.383	0.262	0.2691	
15 minute summer	74	8.001	73	8.2	1.297	0.238	0.0907	
15 minute summer	73	8.002	35	23.3	2.111	0.451	0.1436	
15 minute summer	35	4.007	34	137.0	1.946	1.936	1.1525	
15 minute summer	70	10.000	69	13.2	1.610	0.162	0.3577	
15 minute summer	69	10.001	34	14.5	1.303	0.124	0.2528	
15 minute summer	34	4.008	Attenuation Tank 7	180.0	1.704	1.649	0.3451	
15 minute summer	57	14.000	Attenuation Tank 10	21.3	1.826	0.274	0.0405	



Results for 10 year Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	66	10	6.008	0.137	22.7	0.1555	0.0000	OK
15 minute summer	56	10	5.799	0.174	64.9	0.2489	0.0000	OK
480 minute winter	55	464	5.730	0.629	11.0	0.8998	0.0000	SURCHARGED
15 minute summer	54.02	10	6.537	0.039	7.8	0.0444	0.0000	OK
480 minute winter	54.01	464	5.730	0.171	1.5	0.1931	0.0000	OK
480 minute winter	54	464	5.730	0.800	14.1	1.1444	0.0000	SURCHARGED
480 minute winter	53	464	5.730	0.878	15.4	1.5509	0.0000	SURCHARGED
15 minute summer	33.02	10	6.430	0.051	13.1	0.0572	0.0000	OK
480 minute winter	33.01	464	5.730	0.285	2.8	0.3220	0.0000	SURCHARGED
480 minute winter	33	464	5.730	0.928	25.9	1.3275	0.0000	SURCHARGED
15 minute summer	48	11	6.614	0.250	14.6	0.2828	0.0000	SURCHARGED
15 minute summer	47	11	6.596	0.338	26.8	0.3823	0.0000	SURCHARGED
15 minute summer	46	11	6.567	0.345	56.0	0.3900	0.0000	SURCHARGED
15 minute summer	52	10	6.873	0.044	3.5	0.0499	0.0000	OK
15 minute summer	51	10	6.832	0.176	36.9	0.1995	0.0000	OK
30 minute summer	44	20	6.173	0.215	42.1	0.2430	0.0000	OK
480 minute winter	42	464	5.730	0.324	15.6	0.3661	0.0000	SURCHARGED
480 minute winter	32	464	5.730	1.032	37.6	1.8229	0.0000	SURCHARGED
480 minute winter	31	472	5.730	1.081	39.8	1.9093	0.0000	SURCHARGED
480 minute winter	30	472	5.730	1.088	8.8	1.9216	0.0000	SURCHARGED
1440 minute summer	28	1560	5.036	0.456	8.5	0.8063	0.0000	OK
1440 minute summer	5	1500	4.888	0.334	26.3	0.5909	0.0000	OK
1440 minute summer	4	1500	4.888	0.376	26.4	0.6649	0.0000	OK
1440 minute summer	3	1500	4.888	0.650	24.8	1.1489	0.0000	SURCHARGED
1440 minute summer	27	1500	4.888	0.227	1.7	0.2568	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	66	12.000	65	22.6	0.903	0.568	0.2301	
15 minute summer	56	12.002	Attenuation Tank 9	48.9	1.032	0.437	0.1499	
480 minute winter	55	12.004	54	10.9	0.615	0.099	3.4404	
15 minute summer	54.02	18.000	54.01	7.8	1.300	0.066	0.1129	
480 minute winter	54.01	18.001	54	1.5	0.987	0.013	0.2910	
480 minute winter	54	12.005	53	12.8	0.443	0.080	5.0149	
480 minute winter	53	12.006	33	14.1	0.328	0.089	3.2392	
15 minute summer	33.02	20.000	33.01	13.0	1.458	0.112	0.1724	
480 minute winter	33.01	20.001	33	2.8	1.115	0.024	0.3321	
480 minute winter	33	4.010	32	25.1	0.686	0.157	1.8522	
15 minute summer	48	21.001	47	14.9	0.466	0.376	0.7189	
15 minute summer	47	21.002	46	26.9	0.675	0.683	0.2488	
15 minute summer	46	21.003	45	56.0	1.407	1.406	0.5586	
15 minute summer	52	24.000	51	3.4	0.175	0.085	0.5716	
15 minute summer	51	24.001	50	36.0	1.477	0.906	0.8708	
30 minute summer	44	21.006	43	41.8	1.153	1.049	0.3144	
480 minute winter	42	21.008	32	15.6	1.414	0.074	0.9532	
480 minute winter	32	4.011	31	36.7	0.520	0.168	5.1599	
480 minute winter	31	4.012	Attenuation Tank 6	39.4	1.016	0.164	0.3467	
480 minute winter	30	4.014	29	8.6	0.413	0.040	4.2561	
1440 minute summer	28	4.017	5	8.5	0.300	0.039	1.7631	
1440 minute summer	5	1.016	4	26.2	0.755	0.121	3.2296	
1440 minute summer	4	1.017	Attenuation Tank 2	26.4	0.914	0.077	0.2335	
1440 minute summer	3	1.019	Attenuation Tank 1	24.6	0.689	0.121	0.3621	
1440 minute summer	27	25.000	2	1.7	0.499	0.043	0.9061	



Results for 10 year Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute summer	2	1500	4.888	0.661	20.6	1.1683	0.0000	SURCHARGED
1440 minute summer	HW3	1500	4.888	0.888	20.3	0.0000	0.0000	OK
1440 minute summer	HW2 (Eastern Basin)	1500	4.877	0.877	16.0	195.0438	0.0000	SURCHARGED
1440 minute summer	1	1500	4.874	1.105	25.0	1.9522	0.0000	SURCHARGED
15 minute summer	HW1	1	3.110	0.360	10.7	0.0000	0.0000	OK
15 minute summer	Permeable Paving 1	12	5.414	0.229	13.1	0.6801	0.0000	SURCHARGED
15 minute summer	Permeable Paving 2.1	11	6.742	0.052	4.0	0.1260	0.0000	OK
15 minute summer	Permeable Paving 3	12	8.522	0.122	12.9	1.4473	0.0000	SURCHARGED
15 minute summer	Permeable Paving 4	11	8.319	0.119	9.0	0.0875	0.0000	SURCHARGED
15 minute summer	Permeable Paving 5	11	8.587	0.037	4.5	0.1806	0.0000	OK
15 minute summer	Permeable Paving 6	11	8.522	0.072	6.6	0.2455	0.0000	OK
15 minute summer	Permeable Paving 7	11	7.955	0.130	14.6	0.2802	0.0000	OK
15 minute summer	Permeable Paving 8	12	6.711	0.196	13.5	0.9141	0.0000	SURCHARGED
15 minute summer	Permeable Paving 2.2	11	6.966	0.051	3.9	0.1207	0.0000	OK
30 minute summer	Attenuation Tank 4	22	8.440	0.185	35.0	11.3155	0.0000	OK
30 minute summer	91	21	8.436	0.046	0.5	0.0516	0.0000	OK
15 minute summer	86.01	10	8.524	0.064	6.5	0.0726	0.0000	OK
15 minute summer	86	11	8.162	0.204	71.1	0.2919	0.0000	OK
15 minute summer	84	12	8.047	0.296	100.8	0.4230	0.0000	OK
30 minute summer	83	21	8.020	0.303	90.2	0.4333	0.0000	OK
30 minute summer	82	22	8.011	0.337	88.0	0.4816	0.0000	OK
15 minute summer	89	1	8.077	0.000	0.0	0.0000	0.0000	OK
30 minute summer	Attenuation Tank 11	22	6.934	0.169	56.9	19.0802	0.0000	OK
15 minute summer	76	11	6.957	0.167	38.5	0.1893	0.0000	OK
30 minute summer	Attenuation Tank 10	21	5.801	0.091	31.9	12.2347	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	2	1.021	HW3	20.3	1.114	0.031	2.4459	
1440 minute summer	HW2 (Eastern Basin)	32.000	1	25.0	0.739	0.303	0.3671	
1440 minute summer	1	32.001	HW1	10.7	0.388	0.096	0.5118	754.3
15 minute summer	Permeable Paving 1	3.000	6	10.0	1.284	1.288	0.0739	
15 minute summer	Permeable Paving 2.1	22.000	48	3.9	0.969	0.494	0.0193	
15 minute summer	Permeable Paving 3	11.000	34	8.4	1.108	1.070	0.0407	
15 minute summer	Permeable Paving 4	8.000	74	8.2	1.085	1.048	0.0619	
15 minute summer	Permeable Paving 5	7.000	38.02	4.3	1.647	0.285	0.0275	
15 minute summer	Permeable Paving 6	6.000	41	6.3	1.079	0.805	0.0397	
15 minute summer	Permeable Paving 7	4.000	77	14.2	0.936	1.058	0.1026	
15 minute summer	Permeable Paving 8	13.000	56	10.1	1.294	1.201	0.0637	
15 minute summer	Permeable Paving 2.2	21.000	48	3.8	0.965	0.481	0.0245	
30 minute summer	Attenuation Tank 4	29.002	24	21.6	0.801	0.542	0.0416	
30 minute summer	91	31.000	24	-0.5	-0.118	-0.030	0.0624	
15 minute summer	86.01	27.000	86	6.4	0.908	0.359	0.1421	
15 minute summer	86	26.002	85	70.3	0.769	0.439	6.8934	
15 minute summer	84	26.004	83	99.2	0.948	0.617	1.4820	
30 minute summer	83	26.005	82	88.0	0.878	0.550	2.0798	
30 minute summer	82	26.006	HW6	84.7	0.860	0.528	0.8838	
15 minute summer	89	28.000	82	0.0	0.000	0.000	0.0072	
30 minute summer	Attenuation Tank 11	4.003	75	30.7	0.910	0.772	0.9540	
15 minute summer	76	4.002	Attenuation Tank 11	39.3	2.091	0.975	0.1200	
30 minute summer	Attenuation Tank 10	14.001	56	-12.8	-1.030	-0.184	0.0467	



Results for 10 year Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	Attenuation Tank 9	464	5.730	0.615	12.8	78.0152	0.0000	SURCHARGED
15 minute summer	65	10	5.950	0.133	22.6	0.1509	0.0000	OK
15 minute summer	62	10	6.247	0.036	4.8	0.0404	0.0000	OK
15 minute summer	64	1	6.847	0.000	0.0	0.0000	0.0000	OK
15 minute summer	63	1	6.847	0.000	0.0	0.0000	0.0000	OK
15 minute summer	59	1	7.888	0.000	0.0	0.0000	0.0000	OK
15 minute summer	58	11	6.035	0.128	12.2	0.0203	0.0000	SURCHARGED
15 minute summer	50	10	6.535	0.091	36.0	0.1027	0.0000	OK
30 minute summer	43	19	6.019	0.188	73.1	0.2126	0.0000	OK
30 minute summer	Attenuation Tank 8	22	6.268	0.138	52.8	16.8139	0.0000	OK
15 minute summer	45	11	6.349	0.211	56.0	0.2387	0.0000	OK
15 minute summer	49	1	6.530	0.000	0.0	0.0000	0.0000	OK
480 minute winter	Attenuation Tank 6	472	5.730	1.085	39.4	397.5901	0.0000	SURCHARGED
1440 minute summer	Attenuation Tank 5	1560	5.036	0.451	8.6	84.8481	0.0000	OK
1440 minute summer	29	1560	5.036	0.446	8.6	0.7887	0.0000	OK
15 minute summer	81	10	5.231	0.075	8.2	0.0848	0.0000	OK
60 minute summer	Attenuation Tank 3	45	5.005	0.280	92.5	15.7979	0.0000	OK
1440 minute summer	Attenuation Tank 2	1500	4.888	0.633	26.4	47.6212	0.0000	SURCHARGED
1440 minute summer	Attenuation Tank 1	1500	4.888	0.653	24.6	81.0473	0.0000	SURCHARGED
30 minute summer	14	26	7.587	0.344	92.4	0.4924	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	Attenuation Tank 9	12.003	55	8.2	0.504	0.073	0.4914	
15 minute summer	65	12.001	56	22.3	0.971	0.564	0.1658	
15 minute summer	62	17.000	55	4.8	1.504	0.119	0.0560	
15 minute summer	64	16.000	Attenuation Tank 9	0.0	0.000	0.000	0.0000	
15 minute summer	63	15.000	Attenuation Tank 9	0.0	0.000	0.000	0.0000	
15 minute summer	59	19.000	58	0.0	0.000	0.000	0.0421	
15 minute summer	58	19.001	53	11.6	1.586	1.028	0.1571	
15 minute summer	50	24.002	43	36.3	2.305	0.311	0.1855	
30 minute summer	43	21.007	42	73.0	1.811	0.656	1.7261	
30 minute summer	Attenuation Tank 8	21.005	44	28.0	0.915	0.704	0.9226	
15 minute summer	45	21.004	Attenuation Tank 8	46.7	2.126	1.166	0.0380	
15 minute summer	49	23.000	Attenuation Tank 8	0.0	0.000	0.000	0.0000	
480 minute winter	Attenuation Tank 6	4.013	30	8.6	-0.364	0.042	0.3649	
1440 minute summer	Attenuation Tank 5	4.016	28	8.5	0.092	0.039	0.4873	
1440 minute summer	29	4.015	Attenuation Tank 5	8.6	0.483	0.034	0.3584	
15 minute summer	81	2.000	8	8.1	0.953	0.455	0.1076	
60 minute summer	Attenuation Tank 3	1.013	7	90.8	0.895	0.494	0.1863	
1440 minute summer	Attenuation Tank 2	1.018	3	22.9	0.595	0.104	1.7525	
1440 minute summer	Attenuation Tank 1	1.020	2	19.2	0.975	0.087	0.8207	
30 minute summer	14	1.006	13	92.3	0.859	0.962	4.5338	



Results for 30 year +45% CC Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	25.01	19	8.895	0.422	35.4	0.4771	0.0000	SURCHARGED
30 minute summer	25.05	20	8.832	0.402	23.8	0.4546	0.0000	SURCHARGED
30 minute summer	25.04	20	8.811	0.475	24.0	0.5372	0.0000	SURCHARGED
30 minute summer	25	22	8.804	0.506	62.4	0.5728	0.0000	SURCHARGED
30 minute summer	24	23	8.784	0.536	31.9	0.6067	0.0000	SURCHARGED
30 minute summer	23	22	8.766	0.556	32.4	0.6287	0.0000	SURCHARGED
30 minute summer	22	21	8.711	0.714	39.1	0.8080	0.0000	SURCHARGED
30 minute summer	21	21	8.657	0.718	38.8	0.8124	0.0000	SURCHARGED
30 minute summer	20	19	8.409	0.711	77.9	0.8037	0.0000	SURCHARGED
30 minute summer	HW5	24	8.203	0.583	76.8	0.0000	0.0000	OK
30 minute summer	88	20	8.391	0.377	11.1	0.5388	0.0000	OK
30 minute summer	87	20	8.390	0.418	37.9	0.5978	0.0000	OK
30 minute summer	85	20	8.317	0.544	162.9	0.7779	0.0000	SURCHARGED
30 minute summer	HW6	23	8.211	0.591	161.2	0.0000	0.0000	OK
30 minute summer	HW4 (Western Basin)	23	8.172	0.552	165.0	62.9759	0.0000	SURCHARGED
30 minute summer	19	23	8.157	0.551	138.0	0.7884	0.0000	FLOOD RISK
30 minute summer	18	24	7.932	0.455	135.8	0.6515	0.0000	SURCHARGED
30 minute summer	17	24	7.867	0.482	125.3	0.6896	0.0000	SURCHARGED
30 minute summer	16	24	7.818	0.492	123.2	0.7045	0.0000	SURCHARGED
30 minute summer	15	24	7.682	0.430	122.6	0.6154	0.0000	OK
30 minute summer	13	24	7.415	0.277	122.6	0.3968	0.0000	OK
30 minute summer	12	24	7.358	0.229	122.6	0.3275	0.0000	OK
30 minute summer	11	25	6.390	0.134	122.5	0.1912	0.0000	OK
2880 minute winter	10	2820	5.396	0.607	10.4	0.8683	0.0000	SURCHARGED
2880 minute winter	9	2820	5.396	0.633	10.3	0.9055	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	25.01	29.000	25	33.8	0.892	0.850	1.1838	
30 minute summer	25.05	30.000	25.04	22.2	0.727	0.559	0.6381	
30 minute summer	25.04	30.001	25	22.3	0.562	0.561	0.2560	
30 minute summer	25	29.001	Attenuation Tank 4	60.7	1.670	1.457	0.2646	
30 minute summer	24	29.003	23	32.4	0.967	0.815	0.2578	
30 minute summer	23	29.004	22	33.1	0.889	0.832	1.4393	
30 minute summer	22	29.005	21	34.4	0.927	0.864	0.3913	
30 minute summer	21	29.006	20	39.3	0.989	0.991	1.6331	
30 minute summer	20	29.007	HW5	76.8	1.932	1.938	0.4829	
30 minute summer	88	26.000	87	10.5	0.130	0.066	2.5091	
30 minute summer	87	26.001	86	33.7	0.341	0.214	0.9051	
30 minute summer	85	26.003	84	156.9	0.990	0.987	1.4230	
30 minute summer	HW4 (Western Basin)	1.000	19	138.0	0.871	0.850	0.8692	
30 minute summer	19	1.001	18	135.8	0.890	1.414	8.2696	
30 minute summer	18	1.002	17	125.3	0.923	0.785	5.9047	
30 minute summer	17	1.003	16	121.1	0.769	0.760	3.7993	
30 minute summer	16	1.004	15	122.6	0.774	1.277	4.7040	
30 minute summer	15	1.005	14	122.5	0.792	0.748	0.5361	
30 minute summer	13	1.007	12	122.6	1.335	0.748	0.3178	
30 minute summer	12	1.008	11	122.5	2.052	0.449	2.6291	
30 minute summer	11	1.009	10	122.5	1.419	0.198	3.6351	
2880 minute winter	10	1.010	9	10.3	0.523	0.064	1.6700	
2880 minute winter	9	1.011	8	10.2	0.490	0.064	2.2060	



Results for 30 year +45% CC Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2880 minute winter	8	2820	5.396	0.667	11.0	0.9541	0.0000	SURCHARGED
2880 minute winter	7	2820	5.396	0.677	10.7	0.9684	0.0000	SURCHARGED
2880 minute winter	6	2820	5.396	0.719	11.6	1.0285	0.0000	SURCHARGED
30 minute summer	77	20	7.331	0.430	41.8	0.4867	0.0000	SURCHARGED
15 minute summer	78	11	7.772	0.086	18.8	0.0971	0.0000	OK
720 minute winter	Attenuation Tank 7	720	6.517	1.602	36.8	301.2617	0.0000	SURCHARGED
15 minute summer	75	11	7.568	0.959	81.5	1.0845	0.0000	SURCHARGED
15 minute summer	41	12	8.484	0.764	19.2	0.8644	0.0000	SURCHARGED
15 minute summer	40	12	8.470	0.813	19.4	0.9194	0.0000	SURCHARGED
15 minute summer	39	12	8.449	0.882	45.1	0.9974	0.0000	SURCHARGED
15 minute summer	38.02	12	8.399	0.624	24.2	0.7059	0.0000	SURCHARGED
15 minute summer	38.01	12	8.374	0.676	27.5	0.7643	0.0000	SURCHARGED
15 minute summer	38	12	8.350	0.844	85.1	0.9542	0.0000	SURCHARGED
15 minute summer	37	11	7.566	1.286	95.9	1.4545	0.0000	SURCHARGED
15 minute summer	36	11	7.377	1.174	101.6	1.3280	0.0000	SURCHARGED
15 minute summer	35.02	10	7.619	0.067	20.6	0.0762	0.0000	OK
15 minute summer	35.01	11	7.347	0.631	59.0	0.7141	0.0000	SURCHARGED
15 minute summer	74	12	7.784	0.106	10.7	0.1203	0.0000	OK
15 minute summer	73	11	7.737	0.546	38.8	0.6172	0.0000	SURCHARGED
15 minute summer	35	11	7.183	1.047	192.9	1.1846	0.0000	SURCHARGED
15 minute summer	70	10	7.839	0.089	24.8	0.1004	0.0000	OK
15 minute summer	69	10	6.756	0.073	27.3	0.0830	0.0000	OK
720 minute winter	34	720	6.517	0.523	36.8	0.9249	0.0000	SURCHARGED
720 minute winter	57	720	6.517	0.795	3.1	0.8996	0.0000	SURCHARGED
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2880 minute winter	8	1.012	Attenuation Tank 3	11.0	0.513	0.069	0.2616	
2880 minute winter	7	1.014	6	10.7	0.535	0.067	2.7095	
2880 minute winter	6	1.015	5	11.6	0.617	0.073	3.0985	
30 minute summer	77	4.001	76	40.2	1.011	1.012	0.7509	
15 minute summer	78	5.000	75	18.4	1.833	0.322	0.1377	
720 minute winter	Attenuation Tank 7	4.009	33	17.5	0.634	0.153	1.2659	
15 minute summer	75	4.004	37	49.2	1.253	1.236	1.7156	
15 minute summer	41	6.001	40	18.6	0.902	0.469	0.4274	
15 minute summer	40	6.002	39	25.5	0.748	0.640	0.6068	
15 minute summer	39	6.003	38	43.1	1.277	1.085	0.4153	
15 minute summer	38.02	7.001	38.01	21.1	1.047	0.530	0.5195	
15 minute summer	38.01	7.002	38	27.8	1.048	0.293	0.2307	
15 minute summer	38	6.004	37	87.0	2.188	0.755	0.9406	
15 minute summer	37	4.005	36	98.3	1.396	1.388	1.3233	
15 minute summer	36	4.006	35	102.7	1.459	1.455	1.1580	
15 minute summer	35.02	9.000	35.01	20.5	1.135	0.197	0.5226	
15 minute summer	35.01	9.001	35	54.6	1.484	0.467	0.4020	
15 minute summer	74	8.001	73	11.3	1.618	0.328	0.2013	
15 minute summer	73	8.002	35	35.2	2.143	0.681	0.1912	
15 minute summer	35	4.007	34	192.4	2.732	2.719	1.1529	
15 minute summer	70	10.000	69	24.6	1.909	0.301	0.5625	
15 minute summer	69	10.001	34	27.1	1.278	0.232	0.2751	
720 minute winter	34	4.008	Attenuation Tank 7	36.8	0.947	0.337	0.3663	
720 minute winter	57	14.000	Attenuation Tank 10	3.1	0.637	0.040	0.1705	



Results for 30 year +45% CC Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	66	720	6.517	0.646	3.2	0.7311	0.0000	SURCHARGED
720 minute winter	56	720	6.517	0.892	12.7	1.2771	0.0000	SURCHARGED
720 minute winter	55	720	6.517	1.416	16.3	2.0269	0.0000	SURCHARGED
15 minute summer	54.02	10	6.551	0.053	14.6	0.0604	0.0000	OK
720 minute winter	54.01	720	6.517	0.958	1.9	1.0840	0.0000	SURCHARGED
720 minute winter	54	720	6.517	1.587	12.7	2.2716	0.0000	SURCHARGED
720 minute winter	53	720	6.517	1.665	12.4	2.9428	0.0000	SURCHARGED
720 minute winter	33.02	720	6.517	0.138	1.9	0.1566	0.0000	OK
720 minute winter	33.01	720	6.517	1.072	3.5	1.2129	0.0000	SURCHARGED
720 minute winter	33	720	6.517	1.715	24.4	2.4548	0.0000	SURCHARGED
15 minute summer	48	11	6.984	0.620	21.2	0.7012	0.0000	SURCHARGED
15 minute summer	47	11	6.974	0.716	35.7	0.8101	0.0000	SURCHARGED
15 minute summer	46	11	6.931	0.709	89.8	0.8022	0.0000	SURCHARGED
15 minute summer	52	11	7.306	0.477	12.8	0.5397	0.0000	SURCHARGED
15 minute summer	51	11	7.288	0.632	66.1	0.7150	0.0000	SURCHARGED
720 minute winter	44	720	6.517	0.559	11.8	0.6328	0.0000	SURCHARGED
720 minute winter	42	720	6.517	1.111	20.1	1.2570	0.0000	SURCHARGED
720 minute winter	32	720	6.517	1.819	43.4	3.2149	0.0000	SURCHARGED
720 minute winter	31	720	6.517	1.868	47.4	3.3014	0.0000	SURCHARGED
720 minute winter	30	720	6.517	1.875	8.8	3.3138	0.0000	SURCHARGED
2880 minute winter	28	2880	5.546	0.966	8.8	1.7074	0.0000	SURCHARGED
2880 minute winter	5	2820	5.396	0.842	19.6	1.4874	0.0000	SURCHARGED
2880 minute winter	4	2820	5.396	0.884	19.6	1.5613	0.0000	SURCHARGED
2880 minute winter	3	2820	5.396	1.158	18.7	2.0453	0.0000	SURCHARGED
2880 minute winter	27	2820	5.395	0.734	1.2	0.8307	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	66	12.000	65	3.2	0.569	0.081	0.3665	
720 minute winter	56	12.002	Attenuation Tank 9	12.7	0.704	0.113	0.3488	
720 minute winter	55	12.004	54	-12.5	0.572	-0.114	3.4404	
15 minute summer	54.02	18.000	54.01	14.5	1.627	0.124	0.1719	
720 minute winter	54.01	18.001	54	1.7	0.941	0.015	0.3210	
720 minute winter	54	12.005	53	10.4	0.410	0.065	5.0149	
720 minute winter	53	12.006	33	11.4	0.291	0.072	3.2392	
720 minute winter	33.02	20.000	33.01	1.9	0.835	0.016	0.6104	
720 minute winter	33.01	20.001	33	3.3	0.965	0.028	0.3321	
720 minute winter	33	4.010	32	24.3	0.632	0.152	1.8522	
15 minute summer	48	21.001	47	24.3	0.611	0.612	0.7189	
15 minute summer	47	21.002	46	38.8	0.976	0.987	0.2488	
15 minute summer	46	21.003	45	88.8	2.233	2.230	0.5661	
15 minute summer	52	24.000	51	8.3	0.303	0.210	1.1694	
15 minute summer	51	24.001	50	63.1	1.788	1.586	1.1322	
720 minute winter	44	21.006	43	11.8	0.842	0.297	0.3495	
720 minute winter	42	21.008	32	19.7	1.238	0.094	0.9532	
720 minute winter	32	4.011	31	43.2	0.540	0.198	5.1599	
720 minute winter	31	4.012	Attenuation Tank 6	47.2	0.959	0.196	0.3467	
720 minute winter	30	4.014	29	39.4	0.428	0.181	5.5309	
2880 minute winter	28	4.017	5	8.8	0.344	0.041	2.7494	
2880 minute winter	5	1.016	4	19.5	0.683	0.090	4.4900	
2880 minute winter	4	1.017	Attenuation Tank 2	19.5	0.827	0.057	0.3016	
2880 minute winter	3	1.019	Attenuation Tank 1	18.6	0.632	0.091	0.3621	
2880 minute winter	27	25.000	2	1.2	0.426	0.029	0.9062	



Results for 30 year +45% CC Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
2880 minute winter	2	2820	5.395	1.168	16.5	2.0646	0.0000	SURCHARGED
2880 minute winter	HW3	2820	5.395	1.395	16.3	0.0000	0.0000	OK
2880 minute winter	HW2 (Eastern Basin)	2820	5.383	1.383	13.7	377.8423	0.0000	SURCHARGED
2880 minute winter	1	2820	5.378	1.609	10.7	2.8439	0.0000	SURCHARGED
15 minute summer	HW1	1	3.110	0.360	10.7	0.0000	0.0000	OK
15 minute summer	Permeable Paving 1	13	5.589	0.404	24.4	3.3031	0.0000	FLOOD RISK
15 minute summer	Permeable Paving 2.1	13	6.953	0.263	14.8	3.1249	0.0000	SURCHARGED
30 minute summer	Permeable Paving 3	21	8.613	0.213	22.1	4.3754	0.0000	SURCHARGED
15 minute summer	Permeable Paving 4	12	8.444	0.244	16.8	1.5027	0.0000	SURCHARGED
15 minute summer	Permeable Paving 5	12	8.606	0.056	8.4	0.4084	0.0000	OK
15 minute summer	Permeable Paving 6	12	8.602	0.152	12.4	1.0823	0.0000	SURCHARGED
15 minute summer	Permeable Paving 7	11	8.087	0.262	27.2	1.1139	0.0000	SURCHARGED
15 minute summer	Permeable Paving 8	13	6.903	0.388	25.1	3.5552	0.0000	SURCHARGED
15 minute summer	Permeable Paving 2.2	12	7.024	0.109	7.3	0.5439	0.0000	SURCHARGED
30 minute summer	Attenuation Tank 4	23	8.789	0.534	83.3	32.6300	0.0000	SURCHARGED
30 minute summer	91	23	8.784	0.394	1.7	0.4461	0.0000	SURCHARGED
15 minute summer	86.01	10	8.554	0.094	12.1	0.1068	0.0000	OK
30 minute summer	86	20	8.388	0.430	115.6	0.6153	0.0000	OK
30 minute summer	84	20	8.280	0.529	156.9	0.7566	0.0000	SURCHARGED
30 minute summer	83	21	8.240	0.523	155.3	0.7490	0.0000	SURCHARGED
30 minute summer	82	23	8.216	0.542	152.2	0.7756	0.0000	SURCHARGED
30 minute summer	89	23	8.216	0.139	1.8	0.1575	0.0000	OK
30 minute summer	Attenuation Tank 11	24	7.266	0.501	125.6	56.5272	0.0000	SURCHARGED
30 minute summer	76	24	7.272	0.482	63.8	0.5453	0.0000	SURCHARGED
720 minute winter	Attenuation Tank 10	720	6.517	0.807	14.7	84.4555	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
2880 minute winter	2	1.021	HW3	16.3	1.107	0.025	2.4459	
2880 minute winter	HW2 (Eastern Basin)	32.000	1	10.7	0.380	0.130	0.3671	
2880 minute winter	1	32.001	HW1	10.7	0.388	0.096	0.5118	1550.6
15 minute summer	Permeable Paving 1	3.000	6	12.7	1.623	1.629	0.0739	
15 minute summer	Permeable Paving 2.1	22.000	48	11.8	1.512	1.512	0.0378	
30 minute summer	Permeable Paving 3	11.000	34	11.0	1.405	1.395	0.0412	
15 minute summer	Permeable Paving 4	8.000	74	10.7	1.366	1.357	0.0629	
15 minute summer	Permeable Paving 5	7.000	38.02	8.0	1.831	0.524	0.0646	
15 minute summer	Permeable Paving 6	6.000	41	8.9	1.143	1.144	0.0532	
15 minute summer	Permeable Paving 7	4.000	77	24.6	1.395	1.835	0.1178	
15 minute summer	Permeable Paving 8	13.000	56	13.4	1.707	1.584	0.0637	
15 minute summer	Permeable Paving 2.2	21.000	48	7.9	1.060	1.013	0.0490	
30 minute summer	Attenuation Tank 4	29.002	24	31.4	0.854	0.787	0.0471	
30 minute summer	91	31.000	24	-1.7	-0.239	-0.097	0.1174	
15 minute summer	86.01	27.000	86	11.9	1.051	0.671	0.2562	
30 minute summer	86	26.002	85	102.0	0.792	0.637	11.7212	
30 minute summer	84	26.004	83	155.3	0.984	0.966	2.1515	
30 minute summer	83	26.005	82	152.2	0.975	0.952	2.7509	
30 minute summer	82	26.006	HW6	147.7	0.956	0.919	1.0779	
30 minute summer	89	28.000	82	-1.8	-0.119	-0.101	0.1791	
30 minute summer	Attenuation Tank 11	4.003	75	-63.1	-1.588	-1.590	1.0569	
30 minute summer	76	4.002	Attenuation Tank 11	62.5	1.829	1.551	0.1648	
720 minute winter	Attenuation Tank 10	14.001	56	-12.0	-0.661	-0.172	0.1768	



Results for 30 year +45% CC Critical Storm Duration. Lowest mass balance: 99.60%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	Attenuation Tank 9	720	6.517	1.402	16.1	177.9691	0.0000	SURCHARGED
720 minute winter	65	720	6.517	0.700	3.2	0.7922	0.0000	SURCHARGED
720 minute winter	62	720	6.517	0.306	0.7	0.3466	0.0000	SURCHARGED
15 minute summer	64	1	6.847	0.000	0.0	0.0000	0.0000	OK
15 minute summer	63	1	6.847	0.000	0.0	0.0000	0.0000	OK
15 minute summer	59	1	7.888	0.000	0.0	0.0000	0.0000	OK
15 minute summer	58	12	7.228	1.321	22.7	0.2100	0.0000	SURCHARGED
15 minute summer	50	12	6.571	0.127	63.1	0.1439	0.0000	OK
720 minute winter	43	720	6.517	0.686	17.1	0.7764	0.0000	SURCHARGED
720 minute winter	Attenuation Tank 8	720	6.518	0.388	8.3	47.3592	0.0000	SURCHARGED
720 minute winter	45	720	6.518	0.380	8.3	0.4293	0.0000	SURCHARGED
15 minute summer	49	1	6.530	0.000	0.0	0.0000	0.0000	OK
720 minute winter	Attenuation Tank 6	720	6.517	1.872	47.2	686.4155	0.0000	SURCHARGED
2880 minute winter	Attenuation Tank 5	2880	5.546	0.961	8.6	180.7294	0.0000	SURCHARGED
2880 minute winter	29	2880	5.546	0.956	8.6	1.6899	0.0000	SURCHARGED
2880 minute winter	81	2820	5.396	0.240	0.4	0.2712	0.0000	SURCHARGED
2880 minute winter	Attenuation Tank 3	2820	5.396	0.671	11.0	37.8305	0.0000	SURCHARGED
2880 minute winter	Attenuation Tank 2	2820	5.396	1.141	19.5	85.7717	0.0000	SURCHARGED
2880 minute winter	Attenuation Tank 1	2820	5.395	1.160	18.6	143.9934	0.0000	SURCHARGED
30 minute summer	14	24	7.661	0.418	122.5	0.5982	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	Attenuation Tank 9	12.003	55	-16.1	0.471	-0.145	0.4914	
720 minute winter	65	12.001	56	3.2	0.585	0.081	0.2870	
720 minute winter	62	17.000	55	0.7	0.773	0.018	0.3117	
15 minute summer	64	16.000	Attenuation Tank 9	0.0	0.000	0.000	0.0000	
15 minute summer	63	15.000	Attenuation Tank 9	0.0	0.000	0.000	0.0000	
15 minute summer	59	19.000	58	0.0	0.000	0.000	0.0421	
15 minute summer	58	19.001	53	17.0	2.172	1.500	0.1591	
15 minute summer	50	24.002	43	62.8	2.228	0.537	0.3383	
720 minute winter	43	21.007	42	17.1	1.217	0.154	2.9831	
720 minute winter	Attenuation Tank 8	21.005	44	8.2	0.659	0.208	1.1623	
720 minute winter	45	21.004	Attenuation Tank 8	8.3	0.952	0.207	0.0532	
15 minute summer	49	23.000	Attenuation Tank 8	0.0	0.000	0.000	0.0000	
720 minute winter	Attenuation Tank 6	4.013	30	8.8	-0.361	0.044	0.3649	
2880 minute winter	Attenuation Tank 5	4.016	28	8.8	0.096	0.041	0.5306	
2880 minute winter	29	4.015	Attenuation Tank 5	8.6	0.488	0.034	0.3938	
2880 minute winter	81	2.000	8	0.4	0.412	0.023	0.2232	
2880 minute winter	Attenuation Tank 3	1.013	7	10.5	0.530	0.057	0.2907	
2880 minute winter	Attenuation Tank 2	1.018	3	17.5	0.556	0.079	1.7525	
2880 minute winter	Attenuation Tank 1	1.020	2	15.3	0.915	0.069	0.8207	
30 minute summer	14	1.006	13	122.6	0.933	1.277	5.4423	



Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	1	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	100.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
25.01	0.054	5.00	9.373	1200	493995.300	104221.737	0.900
25.05	0.037	5.00	9.533	1200	493993.287	104170.000	1.103
25.04	0.003	5.00	9.663	1200	493995.623	104185.874	1.327
25	0.009	5.00	9.488	1200	493993.689	104192.015	1.190
24	0.014	5.00	9.341	1200	493975.856	104192.346	1.093
23	0.011	5.00	9.447	1200	493975.736	104185.866	1.237
22	0.049	5.00	9.505	1200	493971.155	104149.967	1.508
21	0.023	5.00	9.407	1200	493970.848	104140.134	1.468
20	0.067	5.00	8.989	1200	493973.124	104099.135	1.291
HW5			8.620		493969.116	104087.675	1.000
88	0.016	5.00	9.264	1350	494040.373	104163.015	1.250
87	0.046	5.00	9.425	1350	494030.789	104148.971	1.453
85	0.092	5.00	8.852	1350	494019.067	104069.426	1.079
HW6	0.020	5.00	8.620		493979.285	104074.383	1.000
HW4 (Western Basin)		5.00	8.620		493979.497	104070.848	1.000
19			8.401	1350	493983.470	104067.065	0.795
18			8.899	1350	494034.607	104056.617	1.422
17			9.310	1350	494071.745	104053.517	1.925
16	0.010	5.00	9.257	1350	494095.230	104048.676	1.931
15			9.023	1350	494124.835	104044.353	1.771
13			8.377	1350	494169.412	104035.807	1.239
12			8.380	1350	494172.500	104037.377	1.251
11			7.367	1350	494215.676	104030.658	1.111
10			5.900	1350	494255.057	104022.816	1.111
9			5.900	1350	494259.407	104032.417	1.137
8	0.024	5.00	6.053	1350	494254.182	104045.322	1.324
7	0.012	5.00	5.953	1350	494257.970	104060.337	1.234
6	0.018	5.00	5.889	1350	494258.509	104077.430	1.212
77	0.029	5.00	8.626	1200	494152.040	104191.495	1.725
78	0.026	5.00	9.336	1200	494072.383	104215.523	1.650
Attenuation Tank 7			8.954		494096.383	104129.904	4.039
75	0.088	5.00	9.365	1200	494073.738	104205.794	2.756
41	0.015	5.00	9.445	1200	494030.662	104217.744	1.725
40			9.521	1200	494030.065	104207.014	1.864
39	0.048	5.00	9.652	1200	494024.152	104192.948	2.085
38.02	0.024	5.00	9.500	1200	494017.548	104166.099	1.725
38.01	0.009	5.00	9.598	1200	494022.905	104178.012	1.900
38	0.032	5.00	9.442	1200	494026.286	104182.726	1.936
37	0.015	5.00	9.520	1200	494047.238	104171.756	3.240
36	0.012	5.00	9.365	1200	494061.573	104159.605	3.162
35.02	0.028	5.00	9.277	1200	494090.810	104171.913	1.725



Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
35.01	0.055	5.00	9.387	1200	494076.888	104156.176	2.671
74			9.328	1200	494063.229	104126.159	1.650
73	0.043	5.00	9.242	1200	494065.122	104139.023	2.051
35	0.005	5.00	9.185	1200	494072.320	104147.159	3.049
70	0.036	5.00	9.475	1200	494072.020	104084.998	1.725
69	0.004	5.00	9.285	1200	494078.377	104128.196	2.602
34	0.053	5.00	9.044	1500	494084.955	104136.747	3.050
57	0.058	5.00	7.522	1200	494205.006	104145.460	1.800
66	0.059	5.00	7.195	1200	494216.574	104192.424	1.324
56	0.088	5.00	7.326	1350	494209.824	104178.542	1.701
55	0.058	5.00	8.461	1350	494158.188	104188.655	3.360
54.02	0.020	5.00	8.448	1200	494170.921	104154.735	1.950
54.01	0.014	5.00	8.753	1200	494153.698	104162.244	3.194
54	0.045	5.00	8.684	1350	494145.956	104159.962	3.754
53	0.031	5.00	8.924	1500	494124.067	104137.100	4.072
33.02	0.035	5.00	9.083	1200	494104.494	104096.934	2.704
33.01	0.030	5.00	9.077	1200	494107.212	104115.406	3.632
33			8.979	1350	494114.810	104118.872	4.177
48	0.020	5.00	7.898	1200	494191.630	104060.909	1.534
47	0.034	5.00	8.211	1200	494188.999	104043.026	1.953
46	0.078	5.00	8.207	1200	494183.456	104040.128	1.985
52	0.010	5.00	8.986	1200	494041.009	104060.275	2.157
51	0.087	5.00	9.250	1200	494070.225	104056.959	2.594
44	0.067	5.00	9.150	1200	494113.438	104050.600	3.192
42	0.056	5.00	8.983	1200	494119.534	104101.300	3.577
32			9.018	1500	494125.232	104113.578	4.320
31	0.077	5.00	8.609	1500	494148.813	104109.779	3.960
30	0.109	5.00	7.786	1500	494191.397	104101.977	3.144
28	0.010	5.00	6.366	1500	494240.696	104094.421	1.786
5	0.038	5.00	6.036	1500	494253.287	104096.276	1.482
4	0.006	5.00	5.794	1500	494255.858	104116.900	1.282
3	0.073	5.00	6.212	1500	494261.589	104141.756	1.974
27	0.067	5.00	6.170	1200	494271.782	104190.118	1.509
2	0.004	5.00	6.309	1500	494271.623	104167.333	2.082
HW3			5.900		494282.945	104167.254	1.900
HW2 (Eastern Basin)	0.049	5.00	5.900		494284.745	104185.349	1.900
1			6.000	1500	494283.550	104194.501	2.231
HW1			3.250		494305.636	104198.080	0.500
Permeable Paving 1	0.033	5.00	5.870		494260.971	104068.206	0.685
Permeable Paving 2.1	0.010	5.00	7.490		494195.108	104064.271	0.800
Permeable Paving 3	0.032	5.00	9.200		494083.166	104131.732	0.800
Permeable Paving 4	0.023	5.00	9.080		494055.562	104123.493	0.880
Permeable Paving 5	0.011	5.00	9.350		494021.150	104156.289	0.800
Permeable Paving 6	0.017	5.00	9.250		494034.463	104223.388	0.800
Permeable Paving 7	0.037	5.00	8.625		494145.283	104190.662	0.800
Permeable Paving 8	0.034	5.00	7.315		494209.962	104170.316	0.800
Permeable Paving 2.2	0.010	5.00	7.715		494194.680	104055.433	0.800
Attenuation Tank 4			9.412		493982.039	104192.231	1.157
91		5.00	9.270	1200	493969.191	104192.470	0.880
86.01	0.016	5.00	9.383	1200	494049.944	104140.240	0.923
86	0.112	5.00	9.510	1350	494029.936	104143.184	1.552
84			8.704	1350	494010.551	104066.574	0.953



Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
83			8.627	1350	493997.353	104069.767	0.910
82			8.781	1350	493983.258	104079.905	1.107
89		5.00	8.907	1200	493978.036	104088.822	0.830
Attenuation Tank 11			8.972		494114.636	104198.325	2.207
76	0.037	5.00	8.820	1200	494133.467	104194.887	2.030
Attenuation Tank 10			7.411		494207.408	104161.957	1.701
Attenuation Tank 9			7.801		494184.640	104183.474	2.686
65			7.235	1200	494215.245	104183.304	1.418
62	0.012	5.00	8.326	1200	494166.157	104204.463	2.115
64		5.00	7.540	450	494193.627	104178.494	0.693
63		5.00	8.306	450	494168.603	104183.347	1.459
59		5.00	8.788	450	494147.858	104152.731	0.900
58	0.034	5.00	8.839	450	494143.563	104142.877	2.932
50			9.205	1200	494105.831	104051.719	2.761
43			9.267	1200	494113.367	104059.389	3.436
Attenuation Tank 8			8.585		494155.213	104044.453	2.455
45			8.395	1200	494169.399	104042.365	2.257
49		5.00	8.504	450	494155.230	104041.418	1.974
Attenuation Tank 6			8.198		494170.064	104105.886	3.553
Attenuation Tank 5			6.782		494228.354	104096.101	2.197
29			7.184	1500	494216.639	104097.696	2.594
81	0.021	5.00	6.140	1200	494251.081	104033.029	0.984
Attenuation Tank 3			6.017		494256.054	104052.740	1.292
Attenuation Tank 2			5.937		494257.969	104126.055	1.682
Attenuation Tank 1			6.391		494266.218	104153.556	2.156
14			8.987	1350	494127.344	104041.965	1.744

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
29.000	25.01	25	29.766	0.600	8.473	8.298	0.175	170.1	225	5.50	36.0
30.000	25.05	25.04	16.045	0.600	8.430	8.336	0.094	170.7	225	5.27	36.6
30.001	25.04	25	6.438	0.600	8.336	8.298	0.038	169.4	225	5.38	36.3
29.001	25	Attenuation Tank 4	6.652	0.600	8.298	8.255	0.043	154.7	225	5.60	35.7
29.003	24	23	6.481	0.600	8.248	8.210	0.038	170.6	225	5.73	35.4
29.004	23	22	36.190	0.600	8.210	7.997	0.213	169.9	225	6.33	33.9
29.005	22	21	9.838	0.600	7.997	7.939	0.058	169.6	225	6.50	33.5
29.006	21	20	41.062	0.600	7.939	7.698	0.241	170.4	225	7.18	32.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
29.000	0.999	39.7	7.1	0.675	0.965	0.054	0.0	64	0.756
30.000	0.998	39.7	4.9	0.878	1.102	0.037	0.0	53	0.682
30.001	1.001	39.8	5.3	1.102	0.965	0.040	0.0	55	0.697
29.001	1.049	41.7	13.4	0.965	0.932	0.104	0.0	87	0.936
29.003	0.998	39.7	15.0	0.868	1.012	0.117	0.0	96	0.932
29.004	1.000	39.8	15.7	1.012	1.283	0.129	0.0	98	0.942
29.005	1.001	39.8	21.5	1.283	1.243	0.178	0.0	118	1.021
29.006	0.999	39.7	23.2	1.243	1.066	0.201	0.0	123	1.036



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
29.007	20	HW5	12.141	0.600	7.698	7.627	0.071	171.0	225	7.39	31.5
3.000	Permeable Paving 1	6	9.547	0.600	5.185	5.027	0.158	60.4	100	5.16	36.9
26.000	88	87	17.003	0.600	8.014	7.972	0.042	404.8	450	5.28	36.6
26.001	87	86	5.850	0.600	7.972	7.958	0.014	417.8	450	5.38	36.3
26.003	85	84	8.981	0.600	7.773	7.751	0.022	408.2	450	6.77	32.9
22.000	Permeable Paving 2.1	48	4.837	0.600	6.690	6.609	0.081	60.0	100	5.08	37.1
1.000	HW4 (Western Basin)	19	5.486	0.600	7.620	7.606	0.014	391.9	450	5.09	37.1
1.001	19	18	52.193	15.000	7.606	7.477	0.129	404.6	450	6.53	33.4
1.002	18	17	37.267	0.600	7.477	7.385	0.092	405.1	450	7.15	32.0
1.003	17	16	23.979	0.600	7.385	7.326	0.059	406.4	450	7.55	31.2
1.004	16	15	29.919	15.000	7.326	7.252	0.074	404.3	450	8.37	29.7
1.005	15	14	3.464	0.600	7.252	7.243	0.009	384.9	450	8.43	29.6
1.007	13	12	3.464	0.600	7.138	7.129	0.009	384.9	450	9.66	27.6
1.008	12	11	43.696	15.000	7.129	6.256	0.873	50.1	450	10.08	26.9
1.009	11	10	40.154	0.600	6.256	4.789	1.467	27.4	450	10.26	26.7
1.010	10	9	10.540	0.600	4.789	4.763	0.026	405.4	450	10.43	26.5
1.011	9	8	13.923	0.600	4.763	4.729	0.034	409.5	450	10.66	26.1
1.012	8	Attenuation Tank 3	1.651	0.600	4.729	4.725	0.004	412.8	450	10.69	26.1
1.014	7	6	17.101	0.600	4.719	4.677	0.042	407.2	450	11.00	25.7
1.015	6	5	19.556	0.600	4.677	4.629	0.048	407.4	450	11.33	25.3
4.001	77	76	18.880	0.600	6.901	6.790	0.111	170.1	225	5.46	36.1
5.000	78	75	9.823	0.600	7.686	6.684	1.002	9.8	150	5.05	37.2
4.009	Attenuation Tank 7	33	11.477	0.600	4.915	4.877	0.038	302.0	375	7.80	30.7

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
29.007	0.997	39.6	30.5	1.066	0.768	0.268	0.0	148	1.096
3.000	0.992	7.8	4.4	0.585	0.762	0.033	0.0	54	1.020
26.000	1.004	159.7	2.1	0.800	1.003	0.016	0.0	36	0.360
26.001	0.988	157.1	8.2	1.003	1.102	0.062	0.0	69	0.528
26.003	1.000	159.0	33.6	0.629	0.503	0.283	0.0	140	0.800
22.000	0.996	7.8	1.3	0.700	1.189	0.010	0.0	28	0.739
1.000	1.021	162.3	0.0	0.550	0.345	0.000	0.0	0	0.000
1.001	0.604	96.0	0.0	0.345	0.972	0.000	0.0	0	0.000
1.002	1.004	159.6	0.0	0.972	1.475	0.000	0.0	0	0.000
1.003	1.002	159.4	0.0	1.475	1.481	0.000	0.0	0	0.000
1.004	0.604	96.0	1.0	1.481	1.321	0.010	0.0	36	0.180
1.005	1.030	163.8	1.0	1.321	1.294	0.010	0.0	25	0.288
1.007	1.030	163.8	1.0	0.789	0.801	0.010	0.0	24	0.281
1.008	1.717	273.1	0.9	0.801	0.661	0.010	0.0	22	0.338
1.009	3.897	619.8	0.9	0.661	0.661	0.010	0.0	13	0.705
1.010	1.003	159.6	0.9	0.661	0.687	0.010	0.0	24	0.273
1.011	0.998	158.8	0.9	0.687	0.874	0.010	0.0	24	0.272
1.012	0.994	158.1	5.2	0.874	0.842	0.055	0.0	55	0.462
1.014	1.001	159.2	6.2	0.784	0.762	0.066	0.0	60	0.493
1.015	1.001	159.2	10.7	0.762	0.957	0.117	0.0	78	0.575
4.001	0.999	39.7	8.6	1.500	1.805	0.066	0.0	71	0.800
5.000	3.236	57.2	3.6	1.500	2.531	0.026	0.0	25	1.815
4.009	1.037	114.5	75.3	3.664	3.727	0.678	0.0	222	1.104



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
4.004	75	37	43.137	0.600	6.609	6.355	0.254	169.8	225	6.70	33.0
6.001	41	40	10.747	0.600	7.720	7.657	0.063	170.6	225	5.29	36.6
6.002	40	39	15.258	0.600	7.657	7.567	0.090	169.5	225	5.55	35.9
6.003	39	38	10.442	0.600	7.567	7.506	0.061	170.0	225	5.72	35.4
7.001	38.02	38.01	13.062	0.600	7.775	7.698	0.077	169.6	225	5.31	36.5
7.002	38.01	38	5.801	0.600	7.698	7.506	0.192	30.2	225	5.35	36.4
6.004	38	37	23.650	0.600	7.506	6.355	1.151	20.5	225	5.86	35.1
4.005	37	36	18.792	0.600	6.280	6.203	0.077	244.1	300	7.01	32.3
4.006	36	35	16.444	0.600	6.203	6.136	0.067	245.4	300	7.28	31.8
9.000	35.02	35.01	21.011	0.600	7.552	6.716	0.836	25.1	225	5.13	37.0
9.001	35.01	35	10.108	0.600	6.716	6.211	0.505	20.0	225	5.19	36.8
8.001	74	73	13.003	0.600	7.678	7.191	0.487	26.7	150	5.25	36.7
8.002	73	35	10.863	0.600	7.191	6.286	0.905	12.0	150	5.31	36.5
4.007	35	34	16.372	0.600	6.136	6.069	0.067	244.4	300	7.55	31.2
10.000	70	69	43.663	0.600	7.750	6.683	1.067	40.9	225	5.35	36.4
10.001	69	34	10.788	0.600	6.683	6.144	0.539	20.0	225	5.42	36.2
4.008	34	Attenuation Tank 7	3.321	0.600	5.994	5.984	0.010	332.1	375	7.61	31.1
14.000	57	Attenuation Tank 10	2.421	0.600	5.722	5.710	0.012	201.8	300	5.04	37.2
12.000	66	65	9.216	0.600	5.871	5.817	0.054	170.7	225	5.15	36.9
12.002	56	Attenuation Tank 9	3.162	0.600	5.625	5.615	0.010	316.2	375	5.33	36.5
12.004	55	54	31.192	0.600	5.101	5.005	0.096	324.9	375	5.92	34.9
18.000	54.02	54.01	18.789	0.600	6.498	5.559	0.939	20.0	225	5.11	37.1
18.001	54.01	54	8.071	0.600	5.559	5.155	0.404	20.0	225	5.15	36.9
12.005	54	53	31.651	0.600	4.930	4.852	0.078	405.8	450	6.45	33.6

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
4.004	1.000	39.8	25.9	2.531	2.940	0.217	0.0	132	1.063
6.001	0.998	39.7	4.1	1.500	1.639	0.031	0.0	49	0.649
6.002	1.001	39.8	4.1	1.639	1.860	0.031	0.0	49	0.651
6.003	1.000	39.7	10.2	1.860	1.711	0.080	0.0	78	0.841
7.001	1.001	39.8	4.7	1.500	1.675	0.035	0.0	51	0.671
7.002	2.389	95.0	5.8	1.675	1.711	0.044	0.0	37	1.330
6.004	2.899	115.3	19.8	1.711	2.940	0.156	0.0	63	2.183
4.005	1.002	70.8	45.3	2.940	2.862	0.388	0.0	175	1.061
4.006	0.999	70.6	45.8	2.862	2.749	0.400	0.0	176	1.060
9.000	2.620	104.2	3.7	1.500	2.446	0.028	0.0	29	1.237
9.001	2.938	116.8	11.0	2.446	2.749	0.083	0.0	46	1.857
8.001	1.956	34.6	3.0	1.500	1.901	0.023	0.0	30	1.199
8.002	2.924	51.7	8.6	1.901	2.749	0.065	0.0	41	2.175
4.007	1.001	70.8	62.3	2.749	2.675	0.552	0.0	219	1.125
10.000	2.051	81.5	4.8	1.500	2.377	0.036	0.0	36	1.125
10.001	2.938	116.8	5.2	2.377	2.675	0.040	0.0	32	1.492
4.008	0.988	109.2	76.2	2.675	2.595	0.678	0.0	231	1.065
14.000	1.103	78.0	7.7	1.500	1.401	0.058	0.0	64	0.711
12.000	0.998	39.7	7.8	1.099	1.193	0.059	0.0	67	0.777
12.002	1.013	111.9	31.3	1.326	1.811	0.238	0.0	135	0.873
12.004	0.999	110.4	38.8	2.985	3.304	0.308	0.0	153	0.915
18.000	2.938	116.8	2.6	1.725	2.969	0.020	0.0	23	1.220
18.001	2.940	116.9	4.5	2.969	3.304	0.034	0.0	30	1.442
12.005	1.003	159.5	47.0	3.304	3.622	0.387	0.0	167	0.876



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
12.006	53	33	20.444	0.600	4.852	4.802	0.050	408.9	450	6.79	32.8
20.000	33.02	33.01	18.671	0.600	6.379	5.445	0.934	20.0	225	5.11	37.1
20.001	33.01	33	8.351	0.600	5.445	5.027	0.418	20.0	225	5.15	36.9
4.010	33	32	11.690	0.600	4.802	4.773	0.029	403.1	450	7.99	30.3
21.001	48	47	18.076	0.600	6.364	6.258	0.106	170.5	225	5.41	36.3
21.002	47	46	6.255	0.600	6.258	6.222	0.036	173.7	225	5.51	36.0
21.003	46	45	14.234	0.600	6.222	6.138	0.084	169.5	225	5.75	35.3
24.000	52	51	29.404	0.600	6.829	6.656	0.173	170.0	225	5.49	36.0
24.001	51	50	35.990	0.600	6.656	6.444	0.212	169.8	225	6.09	34.5
21.006	44	43	8.789	0.600	5.958	5.906	0.052	169.0	225	6.40	33.7
21.008	42	32	13.536	0.600	5.406	4.923	0.483	28.0	300	6.93	32.5
4.011	32	31	23.885	0.600	4.698	4.649	0.049	487.5	525	8.38	29.6
4.012	31	Attenuation Tank 6	1.605	0.600	4.649	4.645	0.004	401.3	525	8.41	29.6
4.014	30	29	25.602	0.600	4.642	4.590	0.052	492.4	525	8.86	28.8
4.017	28	5	12.727	0.600	4.580	4.554	0.026	489.5	525	9.14	28.3
1.016	5	4	20.784	0.600	4.554	4.512	0.042	490.0	525	11.67	24.9
1.017	4	Attenuation Tank 2	1.396	0.600	4.512	4.505	0.007	199.4	525	11.69	24.9
1.019	3	Attenuation Tank 1	1.676	0.600	4.238	4.235	0.003	558.7	525	11.85	24.7
25.000	27	2	22.786	0.600	4.661	4.527	0.134	170.0	225	5.38	36.3
1.021	2	HW3	11.322	0.600	4.227	4.025	0.202	56.0	525	11.98	24.5
11.000	Permeable Paving 3	34	5.325	0.600	8.400	8.310	0.090	59.2	100	5.09	37.1
32.000	HW2 (Eastern Basin)	1	9.230	0.600	4.000	3.769	0.231	40.0	225	5.07	37.1
32.001	1	HW1	22.374	0.600	3.769	2.750	1.019	22.0	225	5.21	36.8
8.000	Permeable Paving 4	74	8.117	0.600	8.200	8.063	0.137	59.3	100	5.13	37.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
12.006	0.999	158.9	53.5	3.622	3.727	0.451	0.0	180	0.905
20.000	2.939	116.9	4.7	2.479	3.407	0.035	0.0	30	1.442
20.001	2.940	116.9	8.6	3.407	3.727	0.064	0.0	41	1.730
4.010	1.006	160.0	130.8	3.727	3.795	1.194	0.0	311	1.117
21.001	0.998	39.7	5.2	1.309	1.728	0.039	0.0	55	0.695
21.002	0.989	39.3	9.5	1.728	1.760	0.073	0.0	75	0.817
21.003	1.001	39.8	19.3	1.760	2.032	0.151	0.0	110	0.993
24.000	1.000	39.8	1.3	1.932	2.369	0.010	0.0	28	0.459
24.001	1.000	39.8	12.0	2.369	2.536	0.096	0.0	85	0.879
21.006	1.003	39.9	26.5	2.967	3.136	0.218	0.0	134	1.070
21.008	2.981	210.7	43.4	3.277	3.795	0.369	0.0	92	2.361
4.011	1.008	218.1	167.4	3.795	3.435	1.563	0.0	346	1.106
4.012	1.112	240.7	175.4	3.435	3.028	1.640	0.0	334	1.208
4.014	1.002	217.0	182.0	2.619	2.069	1.749	0.0	370	1.117
4.017	1.005	217.6	180.2	1.261	0.957	1.759	0.0	366	1.118
1.016	1.005	217.5	172.2	0.957	0.757	1.914	0.0	354	1.109
1.017	1.582	342.5	172.7	0.757	0.907	1.921	0.0	264	1.585
1.019	0.940	203.6	177.8	1.449	1.631	1.994	0.0	382	1.054
25.000	1.000	39.7	8.8	1.284	1.557	0.067	0.0	72	0.806
1.021	2.997	648.8	183.0	1.557	1.350	2.064	0.0	190	2.593
11.000	1.003	7.9	4.4	0.700	0.634	0.032	0.0	53	1.025
32.000	2.074	82.5	6.6	1.675	2.006	0.049	0.0	43	1.250
32.001	2.804	111.5	6.6	2.006	0.275	0.049	0.0	36	1.540
8.000	1.002	7.9	3.0	0.780	1.165	0.023	0.0	43	0.932



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
7.000	Permeable Paving 5	38.02	10.450	0.600	8.550	7.900	0.650	16.1	100	5.09	37.1
6.000	Permeable Paving 6	41	6.805	0.600	8.450	8.337	0.113	60.0	100	5.11	37.0
4.000	Permeable Paving 7	77	6.808	0.600	7.825	7.786	0.039	174.6	150	5.15	36.9
13.000	Permeable Paving 8	56	8.227	0.600	6.515	6.356	0.159	51.7	100	5.13	37.0
21.000	Permeable Paving 2.2	48	6.268	0.600	6.915	6.811	0.104	60.0	100	5.10	37.1
29.002	Attenuation Tank 4	24	1.184	0.600	8.255	8.248	0.007	169.1	225	5.62	35.7
31.000	91	24	6.666	0.600	8.390	8.323	0.067	99.5	150	5.11	37.0
27.000	86.01	86	20.223	0.600	8.460	8.258	0.202	100.1	150	5.34	36.4
26.002	86	85	74.555	0.600	7.958	7.773	0.185	403.0	450	6.62	33.2
26.004	84	83	13.579	0.600	7.751	7.717	0.034	399.4	450	6.99	32.3
26.005	83	82	17.362	0.600	7.717	7.674	0.043	403.8	450	7.28	31.8
26.006	82	HW6	6.803	0.600	7.674	7.657	0.017	400.2	450	7.39	31.5
28.000	89	82	10.334	0.600	8.077	7.974	0.103	100.3	150	5.17	36.9
4.002	76	Attenuation Tank 11	4.143	0.600	6.790	6.765	0.025	165.7	225	5.53	35.9
4.003	Attenuation Tank 11	75	26.574	0.600	6.765	6.609	0.156	170.3	225	5.98	34.7
14.001	Attenuation Tank 10	56	2.510	0.600	5.710	5.700	0.010	251.0	300	5.08	37.1
12.001	65	56	7.216	0.600	5.817	5.775	0.042	171.8	225	5.27	36.6
12.003	Attenuation Tank 9	55	4.455	0.600	5.115	5.101	0.014	318.2	375	5.40	36.3
17.000	62	55	17.703	0.600	6.211	5.326	0.885	20.0	150	5.13	37.0
16.000	64	Attenuation Tank 9	1.160	0.600	6.847	6.835	0.012	96.7	150	5.02	37.3
15.000	63	Attenuation Tank 9	1.208	0.600	6.847	6.835	0.012	100.7	150	5.02	37.3
19.000	59	58	10.749	0.600	7.888	5.907	1.981	5.4	100	5.05	37.2
19.001	58	53	20.334	0.600	5.907	5.202	0.705	28.8	100	5.29	36.6
24.002	50	43	10.753	0.600	6.444	5.906	0.538	20.0	225	6.15	34.3

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
7.000	1.936	15.2	1.5	0.700	1.500	0.011	0.0	21	1.239
6.000	0.996	7.8	2.2	0.700	1.008	0.017	0.0	36	0.856
4.000	0.757	13.4	4.9	0.650	0.690	0.037	0.0	62	0.697
13.000	1.073	8.4	4.5	0.700	0.870	0.034	0.0	52	1.091
21.000	0.996	7.8	1.3	0.700	0.987	0.010	0.0	28	0.739
29.002	1.002	39.8	13.4	0.932	0.868	0.104	0.0	90	0.907
31.000	1.007	17.8	0.0	0.730	0.868	0.000	0.0	0	0.000
27.000	1.004	17.7	2.1	0.773	1.102	0.016	0.0	35	0.683
26.002	1.006	160.0	22.9	1.102	0.629	0.191	0.0	114	0.720
26.004	1.011	160.8	33.1	0.503	0.460	0.283	0.0	138	0.801
26.005	1.005	159.9	32.5	0.460	0.657	0.283	0.0	137	0.794
26.006	1.010	160.6	32.3	0.657	0.513	0.283	0.0	136	0.795
28.000	1.003	17.7	0.0	0.680	0.657	0.000	0.0	0	0.000
4.002	1.013	40.3	13.3	1.805	1.982	0.103	0.0	89	0.912
4.003	0.999	39.7	12.9	1.982	2.531	0.103	0.0	88	0.895
14.001	0.988	69.8	7.7	1.401	1.326	0.058	0.0	67	0.656
12.001	0.994	39.5	7.8	1.193	1.326	0.059	0.0	67	0.775
12.003	1.010	111.6	31.2	2.311	2.985	0.238	0.0	135	0.870
17.000	2.262	40.0	1.6	1.965	2.985	0.012	0.0	21	1.116
16.000	1.022	18.1	0.0	0.543	0.816	0.000	0.0	0	0.000
15.000	1.001	17.7	0.0	1.309	0.816	0.000	0.0	0	0.000
19.000	3.341	26.2	0.0	0.800	2.832	0.000	0.0	0	0.000
19.001	1.442	11.3	4.4	2.832	3.622	0.034	0.0	43	1.353
24.002	2.940	116.9	11.9	2.536	3.136	0.096	0.0	48	1.899



Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
21.004	45	Attenuation Tank 8	1.338	0.600	6.138	6.130	0.008	167.3	225	5.77	35.3
23.000	49	Attenuation Tank 8	2.000	0.600	6.530	6.510	0.020	100.0	150	5.03	37.3
21.005	Attenuation Tank 8	44	29.225	0.600	6.130	5.958	0.172	169.9	225	6.26	34.1
21.007	43	42	42.362	0.600	5.831	5.406	0.425	99.7	300	6.85	32.7
4.015	29	Attenuation Tank 5	1.823	0.600	4.590	4.585	0.005	364.6	525	8.89	28.8
4.016	Attenuation Tank 5	28	2.456	0.600	4.585	4.580	0.005	491.2	525	8.93	28.7
4.013	Attenuation Tank 6	30	1.689	0.600	4.645	4.642	0.003	563.0	525	8.44	29.5
2.000	81	8	12.678	0.600	5.156	5.029	0.127	99.8	150	5.21	36.8
1.013	Attenuation Tank 3	7	1.835	0.600	4.725	4.719	0.006	305.8	450	10.72	26.1
1.018	Attenuation Tank 2	3	8.112	0.600	4.255	4.238	0.017	477.2	525	11.82	24.7
1.020	Attenuation Tank 1	2	3.799	0.600	4.235	4.227	0.008	474.9	525	11.91	24.6
1.006	14	13	42.516	15.000	7.243	7.138	0.105	404.9	450	9.60	27.6

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
21.004	1.008	40.1	19.3	2.032	2.230	0.151	0.0	110	1.000
23.000	1.005	17.8	0.0	1.824	1.925	0.000	0.0	0	0.000
21.005	1.000	39.8	18.6	2.230	2.967	0.151	0.0	109	0.985
21.007	1.575	111.3	37.1	3.136	3.277	0.314	0.0	119	1.419
4.015	1.167	252.6	181.7	2.069	1.672	1.749	0.0	331	1.265
4.016	1.004	217.3	181.3	1.672	1.261	1.749	0.0	368	1.117
4.013	0.937	202.8	175.1	3.028	2.619	1.640	0.0	379	1.048
2.000	1.005	17.8	2.7	0.834	0.874	0.021	0.0	40	0.728
1.013	1.157	184.0	5.1	0.842	0.784	0.055	0.0	51	0.517
1.018	1.018	220.5	171.6	1.157	1.449	1.921	0.0	349	1.120
1.020	1.021	221.0	177.3	1.631	1.557	1.994	0.0	358	1.129
1.006	0.603	96.0	1.0	1.294	0.789	0.010	0.0	35	0.176

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
29.000	29.766	170.1	225	Circular	9.373	8.473	0.675	9.488	8.298	0.965
30.000	16.045	170.7	225	Circular	9.533	8.430	0.878	9.663	8.336	1.102
30.001	6.438	169.4	225	Circular	9.663	8.336	1.102	9.488	8.298	0.965
29.001	6.652	154.7	225	Circular	9.488	8.298	0.965	9.412	8.255	0.932
29.003	6.481	170.6	225	Circular	9.341	8.248	0.868	9.447	8.210	1.012
29.004	36.190	169.9	225	Circular	9.447	8.210	1.012	9.505	7.997	1.283
29.005	9.838	169.6	225	Circular	9.505	7.997	1.283	9.407	7.939	1.243
29.006	41.062	170.4	225	Circular	9.407	7.939	1.243	8.989	7.698	1.066

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
29.000	25.01	1200	Manhole	Adoptable	25	1200	Manhole	Adoptable
30.000	25.05	1200	Manhole	Adoptable	25.04	1200	Manhole	Adoptable
30.001	25.04	1200	Manhole	Adoptable	25	1200	Manhole	Adoptable
29.001	25	1200	Manhole	Adoptable	Attenuation Tank 4		Junction	
29.003	24	1200	Manhole	Adoptable	23	1200	Manhole	Adoptable
29.004	23	1200	Manhole	Adoptable	22	1200	Manhole	Adoptable
29.005	22	1200	Manhole	Adoptable	21	1200	Manhole	Adoptable
29.006	21	1200	Manhole	Adoptable	20	1200	Manhole	Adoptable



Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
29.007	12.141	171.0	225	Circular	8.989	7.698	1.066	8.620	7.627	0.768
3.000	9.547	60.4	100	Circular	5.870	5.185	0.585	5.889	5.027	0.762
26.000	17.003	404.8	450	Circular	9.264	8.014	0.800	9.425	7.972	1.003
26.001	5.850	417.8	450	Circular	9.425	7.972	1.003	9.510	7.958	1.102
26.003	8.981	408.2	450	Circular	8.852	7.773	0.629	8.704	7.751	0.503
22.000	4.837	60.0	100	Circular	7.490	6.690	0.700	7.898	6.609	1.189
1.000	5.486	391.9	450	Circular	8.620	7.620	0.550	8.401	7.606	0.345
1.001	52.193	404.6	450	Circular	8.401	7.606	0.345	8.899	7.477	0.972
1.002	37.267	405.1	450	Circular	8.899	7.477	0.972	9.310	7.385	1.475
1.003	23.979	406.4	450	Circular	9.310	7.385	1.475	9.257	7.326	1.481
1.004	29.919	404.3	450	Circular	9.257	7.326	1.481	9.023	7.252	1.321
1.005	3.464	384.9	450	Circular	9.023	7.252	1.321	8.987	7.243	1.294
1.007	3.464	384.9	450	Circular	8.377	7.138	0.789	8.380	7.129	0.801
1.008	43.696	50.1	450	Circular	8.380	7.129	0.801	7.367	6.256	0.661
1.009	40.154	27.4	450	Circular	7.367	6.256	0.661	5.900	4.789	0.661
1.010	10.540	405.4	450	Circular	5.900	4.789	0.661	5.900	4.763	0.687
1.011	13.923	409.5	450	Circular	5.900	4.763	0.687	6.053	4.729	0.874
1.012	1.651	412.8	450	Circular	6.053	4.729	0.874	6.017	4.725	0.842
1.014	17.101	407.2	450	Circular	5.953	4.719	0.784	5.889	4.677	0.762
1.015	19.556	407.4	450	Circular	5.889	4.677	0.762	6.036	4.629	0.957
4.001	18.880	170.1	225	Circular	8.626	6.901	1.500	8.820	6.790	1.805
5.000	9.823	9.8	150	Circular	9.336	7.686	1.500	9.365	6.684	2.531
4.009	11.477	302.0	375	Circular	8.954	4.915	3.664	8.979	4.877	3.727
4.004	43.137	169.8	225	Circular	9.365	6.609	2.531	9.520	6.355	2.940

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
29.007	20	1200	Manhole	Adoptable	HW5		Junction	
3.000	Permeable Paving 1		Junction		6	1350	Manhole	Adoptable
26.000	88	1350	Manhole	Adoptable	87	1350	Manhole	Adoptable
26.001	87	1350	Manhole	Adoptable	86	1350	Manhole	Adoptable
26.003	85	1350	Manhole	Adoptable	84	1350	Manhole	Adoptable
22.000	Permeable Paving 2.1		Junction		48	1200	Manhole	Adoptable
1.000	HW4 (Western Basin)		Junction		19	1350	Manhole	Adoptable
1.001	19	1350	Manhole	Adoptable	18	1350	Manhole	Adoptable
1.002	18	1350	Manhole	Adoptable	17	1350	Manhole	Adoptable
1.003	17	1350	Manhole	Adoptable	16	1350	Manhole	Adoptable
1.004	16	1350	Manhole	Adoptable	15	1350	Manhole	Adoptable
1.005	15	1350	Manhole	Adoptable	14	1350	Manhole	Adoptable
1.007	13	1350	Manhole	Adoptable	12	1350	Manhole	Adoptable
1.008	12	1350	Manhole	Adoptable	11	1350	Manhole	Adoptable
1.009	11	1350	Manhole	Adoptable	10	1350	Manhole	Adoptable
1.010	10	1350	Manhole	Adoptable	9	1350	Manhole	Adoptable
1.011	9	1350	Manhole	Adoptable	8	1350	Manhole	Adoptable
1.012	8	1350	Manhole	Adoptable	Attenuation Tank 3		Junction	
1.014	7	1350	Manhole	Adoptable	6	1350	Manhole	Adoptable
1.015	6	1350	Manhole	Adoptable	5	1500	Manhole	Adoptable
4.001	77	1200	Manhole	Adoptable	76	1200	Manhole	Adoptable
5.000	78	1200	Manhole	Adoptable	75	1200	Manhole	Adoptable
4.009	Attenuation Tank 7		Junction		33	1350	Manhole	Adoptable
4.004	75	1200	Manhole	Adoptable	37	1200	Manhole	Adoptable



Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
6.001	10.747	170.6	225	Circular	9.445	7.720	1.500	9.521	7.657	1.639
6.002	15.258	169.5	225	Circular	9.521	7.657	1.639	9.652	7.567	1.860
6.003	10.442	170.0	225	Circular	9.652	7.567	1.860	9.442	7.506	1.711
7.001	13.062	169.6	225	Circular	9.500	7.775	1.500	9.598	7.698	1.675
7.002	5.801	30.2	225	Circular	9.598	7.698	1.675	9.442	7.506	1.711
6.004	23.650	20.5	225	Circular	9.442	7.506	1.711	9.520	6.355	2.940
4.005	18.792	244.1	300	Circular	9.520	6.280	2.940	9.365	6.203	2.862
4.006	16.444	245.4	300	Circular	9.365	6.203	2.862	9.185	6.136	2.749
9.000	21.011	25.1	225	Circular	9.277	7.552	1.500	9.387	6.716	2.446
9.001	10.108	20.0	225	Circular	9.387	6.716	2.446	9.185	6.211	2.749
8.001	13.003	26.7	150	Circular	9.328	7.678	1.500	9.242	7.191	1.901
8.002	10.863	12.0	150	Circular	9.242	7.191	1.901	9.185	6.286	2.749
4.007	16.372	244.4	300	Circular	9.185	6.136	2.749	9.044	6.069	2.675
10.000	43.663	40.9	225	Circular	9.475	7.750	1.500	9.285	6.683	2.377
10.001	10.788	20.0	225	Circular	9.285	6.683	2.377	9.044	6.144	2.675
4.008	3.321	332.1	375	Circular	9.044	5.994	2.675	8.954	5.984	2.595
14.000	2.421	201.8	300	Circular	7.522	5.722	1.500	7.411	5.710	1.401
12.000	9.216	170.7	225	Circular	7.195	5.871	1.099	7.235	5.817	1.193
12.002	3.162	316.2	375	Circular	7.326	5.625	1.326	7.801	5.615	1.811
12.004	31.192	324.9	375	Circular	8.461	5.101	2.985	8.684	5.005	3.304
18.000	18.789	20.0	225	Circular	8.448	6.498	1.725	8.753	5.559	2.969
18.001	8.071	20.0	225	Circular	8.753	5.559	2.969	8.684	5.155	3.304
12.005	31.651	405.8	450	Circular	8.684	4.930	3.304	8.924	4.852	3.622
12.006	20.444	408.9	450	Circular	8.924	4.852	3.622	8.979	4.802	3.727
20.000	18.671	20.0	225	Circular	9.083	6.379	2.479	9.077	5.445	3.407

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
6.001	41	1200	Manhole	Adoptable	40	1200	Manhole	Adoptable
6.002	40	1200	Manhole	Adoptable	39	1200	Manhole	Adoptable
6.003	39	1200	Manhole	Adoptable	38	1200	Manhole	Adoptable
7.001	38.02	1200	Manhole	Adoptable	38.01	1200	Manhole	Adoptable
7.002	38.01	1200	Manhole	Adoptable	38	1200	Manhole	Adoptable
6.004	38	1200	Manhole	Adoptable	37	1200	Manhole	Adoptable
4.005	37	1200	Manhole	Adoptable	36	1200	Manhole	Adoptable
4.006	36	1200	Manhole	Adoptable	35	1200	Manhole	Adoptable
9.000	35.02	1200	Manhole	Adoptable	35.01	1200	Manhole	Adoptable
9.001	35.01	1200	Manhole	Adoptable	35	1200	Manhole	Adoptable
8.001	74	1200	Manhole	Adoptable	73	1200	Manhole	Adoptable
8.002	73	1200	Manhole	Adoptable	35	1200	Manhole	Adoptable
4.007	35	1200	Manhole	Adoptable	34	1500	Manhole	Adoptable
10.000	70	1200	Manhole	Adoptable	69	1200	Manhole	Adoptable
10.001	69	1200	Manhole	Adoptable	34	1500	Manhole	Adoptable
4.008	34	1500	Manhole	Adoptable	Attenuation Tank 7		Junction	
14.000	57	1200	Manhole	Adoptable	Attenuation Tank 10		Junction	
12.000	66	1200	Manhole	Adoptable	65	1200	Manhole	Adoptable
12.002	56	1350	Manhole	Adoptable	Attenuation Tank 9		Junction	
12.004	55	1350	Manhole	Adoptable	54	1350	Manhole	Adoptable
18.000	54.02	1200	Manhole	Adoptable	54.01	1200	Manhole	Adoptable
18.001	54.01	1200	Manhole	Adoptable	54	1350	Manhole	Adoptable
12.005	54	1350	Manhole	Adoptable	53	1500	Manhole	Adoptable
12.006	53	1500	Manhole	Adoptable	33	1350	Manhole	Adoptable
20.000	33.02	1200	Manhole	Adoptable	33.01	1200	Manhole	Adoptable



Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
20.001	8.351	20.0	225	Circular	9.077	5.445	3.407	8.979	5.027	3.727
4.010	11.690	403.1	450	Circular	8.979	4.802	3.727	9.018	4.773	3.795
21.001	18.076	170.5	225	Circular	7.898	6.364	1.309	8.211	6.258	1.728
21.002	6.255	173.7	225	Circular	8.211	6.258	1.728	8.207	6.222	1.760
21.003	14.234	169.5	225	Circular	8.207	6.222	1.760	8.395	6.138	2.032
24.000	29.404	170.0	225	Circular	8.986	6.829	1.932	9.250	6.656	2.369
24.001	35.990	169.8	225	Circular	9.250	6.656	2.369	9.205	6.444	2.536
21.006	8.789	169.0	225	Circular	9.150	5.958	2.967	9.267	5.906	3.136
21.008	13.536	28.0	300	Circular	8.983	5.406	3.277	9.018	4.923	3.795
4.011	23.885	487.5	525	Circular	9.018	4.698	3.795	8.609	4.649	3.435
4.012	1.605	401.3	525	Circular	8.609	4.649	3.435	8.198	4.645	3.028
4.014	25.602	492.4	525	Circular	7.786	4.642	2.619	7.184	4.590	2.069
4.017	12.727	489.5	525	Circular	6.366	4.580	1.261	6.036	4.554	0.957
1.016	20.784	490.0	525	Circular	6.036	4.554	0.957	5.794	4.512	0.757
1.017	1.396	199.4	525	Circular	5.794	4.512	0.757	5.937	4.505	0.907
1.019	1.676	558.7	525	Circular	6.212	4.238	1.449	6.391	4.235	1.631
25.000	22.786	170.0	225	Circular	6.170	4.661	1.284	6.309	4.527	1.557
1.021	11.322	56.0	525	Circular	6.309	4.227	1.557	5.900	4.025	1.350
11.000	5.325	59.2	100	Circular	9.200	8.400	0.700	9.044	8.310	0.634
32.000	9.230	40.0	225	Circular	5.900	4.000	1.675	6.000	3.769	2.006
32.001	22.374	22.0	225	Circular	6.000	3.769	2.006	3.250	2.750	0.275
8.000	8.117	59.3	100	Circular	9.080	8.200	0.780	9.328	8.063	1.165
7.000	10.450	16.1	100	Circular	9.350	8.550	0.700	9.500	7.900	1.500
6.000	6.805	60.0	100	Circular	9.250	8.450	0.700	9.445	8.337	1.008
4.000	6.808	174.6	150	Circular	8.625	7.825	0.650	8.626	7.786	0.690

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
20.001	33.01	1200	Manhole	Adoptable	33	1350	Manhole	Adoptable
4.010	33	1350	Manhole	Adoptable	32	1500	Manhole	Adoptable
21.001	48	1200	Manhole	Adoptable	47	1200	Manhole	Adoptable
21.002	47	1200	Manhole	Adoptable	46	1200	Manhole	Adoptable
21.003	46	1200	Manhole	Adoptable	45	1200	Manhole	Adoptable
24.000	52	1200	Manhole	Adoptable	51	1200	Manhole	Adoptable
24.001	51	1200	Manhole	Adoptable	50	1200	Manhole	Adoptable
21.006	44	1200	Manhole	Adoptable	43	1200	Manhole	Adoptable
21.008	42	1200	Manhole	Adoptable	32	1500	Manhole	Adoptable
4.011	32	1500	Manhole	Adoptable	31	1500	Manhole	Adoptable
4.012	31	1500	Manhole	Adoptable	Attenuation Tank 6		Junction	
4.014	30	1500	Manhole	Adoptable	29	1500	Manhole	Adoptable
4.017	28	1500	Manhole	Adoptable	5	1500	Manhole	Adoptable
1.016	5	1500	Manhole	Adoptable	4	1500	Manhole	Adoptable
1.017	4	1500	Manhole	Adoptable	Attenuation Tank 2		Junction	
1.019	3	1500	Manhole	Adoptable	Attenuation Tank 1		Junction	
25.000	27	1200	Manhole	Adoptable	2	1500	Manhole	Adoptable
1.021	2	1500	Manhole	Adoptable	HW3		Junction	
11.000	Permeable Paving 3		Junction		34	1500	Manhole	Adoptable
32.000	HW2 (Eastern Basin)		Junction		1	1500	Manhole	Adoptable
32.001	1	1500	Manhole	Adoptable	HW1		Junction	
8.000	Permeable Paving 4		Junction		74	1200	Manhole	Adoptable
7.000	Permeable Paving 5		Junction		38.02	1200	Manhole	Adoptable
6.000	Permeable Paving 6		Junction		41	1200	Manhole	Adoptable
4.000	Permeable Paving 7		Junction		77	1200	Manhole	Adoptable



Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
13.000	8.227	51.7	100	Circular	7.315	6.515	0.700	7.326	6.356	0.870
21.000	6.268	60.0	100	Circular	7.715	6.915	0.700	7.898	6.811	0.987
29.002	1.184	169.1	225	Circular	9.412	8.255	0.932	9.341	8.248	0.868
31.000	6.666	99.5	150	Circular	9.270	8.390	0.730	9.341	8.323	0.868
27.000	20.223	100.1	150	Circular	9.383	8.460	0.773	9.510	8.258	1.102
26.002	74.555	403.0	450	Circular	9.510	7.958	1.102	8.852	7.773	0.629
26.004	13.579	399.4	450	Circular	8.704	7.751	0.503	8.627	7.717	0.460
26.005	17.362	403.8	450	Circular	8.627	7.717	0.460	8.781	7.674	0.657
26.006	6.803	400.2	450	Circular	8.781	7.674	0.657	8.620	7.657	0.513
28.000	10.334	100.3	150	Circular	8.907	8.077	0.680	8.781	7.974	0.657
4.002	4.143	165.7	225	Circular	8.820	6.790	1.805	8.972	6.765	1.982
4.003	26.574	170.3	225	Circular	8.972	6.765	1.982	9.365	6.609	2.531
14.001	2.510	251.0	300	Circular	7.411	5.710	1.401	7.326	5.700	1.326
12.001	7.216	171.8	225	Circular	7.235	5.817	1.193	7.326	5.775	1.326
12.003	4.455	318.2	375	Circular	7.801	5.115	2.311	8.461	5.101	2.985
17.000	17.703	20.0	150	Circular	8.326	6.211	1.965	8.461	5.326	2.985
16.000	1.160	96.7	150	Circular	7.540	6.847	0.543	7.801	6.835	0.816
15.000	1.208	100.7	150	Circular	8.306	6.847	1.309	7.801	6.835	0.816
19.000	10.749	5.4	100	Circular	8.788	7.888	0.800	8.839	5.907	2.832
19.001	20.334	28.8	100	Circular	8.839	5.907	2.832	8.924	5.202	3.622
24.002	10.753	20.0	225	Circular	9.205	6.444	2.536	9.267	5.906	3.136
21.004	1.338	167.3	225	Circular	8.395	6.138	2.032	8.585	6.130	2.230
23.000	2.000	100.0	150	Circular	8.504	6.530	1.824	8.585	6.510	1.925
21.005	29.225	169.9	225	Circular	8.585	6.130	2.230	9.150	5.958	2.967
21.007	42.362	99.7	300	Circular	9.267	5.831	3.136	8.983	5.406	3.277

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
13.000	Permeable Paving 8		Junction		56	1350	Manhole	Adoptable
21.000	Permeable Paving 2.2		Junction		48	1200	Manhole	Adoptable
29.002	Attenuation Tank 4		Junction		24	1200	Manhole	Adoptable
31.000	91	1200	Manhole	Adoptable	24	1200	Manhole	Adoptable
27.000	86.01	1200	Manhole	Adoptable	86	1350	Manhole	Adoptable
26.002	86	1350	Manhole	Adoptable	85	1350	Manhole	Adoptable
26.004	84	1350	Manhole	Adoptable	83	1350	Manhole	Adoptable
26.005	83	1350	Manhole	Adoptable	82	1350	Manhole	Adoptable
26.006	82	1350	Manhole	Adoptable	HW6		Junction	
28.000	89	1200	Manhole	Adoptable	82	1350	Manhole	Adoptable
4.002	76	1200	Manhole	Adoptable	Attenuation Tank 11		Junction	
4.003	Attenuation Tank 11		Junction		75	1200	Manhole	Adoptable
14.001	Attenuation Tank 10		Junction		56	1350	Manhole	Adoptable
12.001	65	1200	Manhole	Adoptable	56	1350	Manhole	Adoptable
12.003	Attenuation Tank 9		Junction		55	1350	Manhole	Adoptable
17.000	62	1200	Manhole	Adoptable	55	1350	Manhole	Adoptable
16.000	64	450	Manhole	Adoptable	Attenuation Tank 9		Junction	
15.000	63	450	Manhole	Adoptable	Attenuation Tank 9		Junction	
19.000	59	450	Manhole	Adoptable	58	450	Manhole	Adoptable
19.001	58	450	Manhole	Adoptable	53	1500	Manhole	Adoptable
24.002	50	1200	Manhole	Adoptable	43	1200	Manhole	Adoptable
21.004	45	1200	Manhole	Adoptable	Attenuation Tank 8		Junction	
23.000	49	450	Manhole	Adoptable	Attenuation Tank 8		Junction	
21.005	Attenuation Tank 8		Junction		44	1200	Manhole	Adoptable
21.007	43	1200	Manhole	Adoptable	42	1200	Manhole	Adoptable

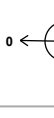
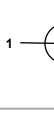


Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
4.015	1.823	364.6	525	Circular	7.184	4.590	2.069	6.782	4.585	1.672
4.016	2.456	491.2	525	Circular	6.782	4.585	1.672	6.366	4.580	1.261
4.013	1.689	563.0	525	Circular	8.198	4.645	3.028	7.786	4.642	2.619
2.000	12.678	99.8	150	Circular	6.140	5.156	0.834	6.053	5.029	0.874
1.013	1.835	305.8	450	Circular	6.017	4.725	0.842	5.953	4.719	0.784
1.018	8.112	477.2	525	Circular	5.937	4.255	1.157	6.212	4.238	1.449
1.020	3.799	474.9	525	Circular	6.391	4.235	1.631	6.309	4.227	1.557
1.006	42.516	404.9	450	Circular	8.987	7.243	1.294	8.377	7.138	0.789

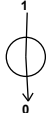
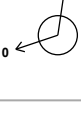
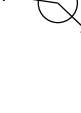
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
4.015	29	1500	Manhole	Adoptable	Attenuation Tank 5		Junction	
4.016	Attenuation Tank 5		Junction		28	1500	Manhole	Adoptable
4.013	Attenuation Tank 6		Junction		30	1500	Manhole	Adoptable
2.000	81	1200	Manhole	Adoptable	8	1350	Manhole	Adoptable
1.013	Attenuation Tank 3		Junction		7	1350	Manhole	Adoptable
1.018	Attenuation Tank 2		Junction		3	1500	Manhole	Adoptable
1.020	Attenuation Tank 1		Junction		2	1500	Manhole	Adoptable
1.006	14	1350	Manhole	Adoptable	13	1350	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
25.01	493995.300	104221.737	9.373	0.900	1200		0	29.000	8.473	225
25.05	493993.287	104170.000	9.533	1.103	1200		0	30.000	8.430	225
25.04	493995.623	104185.874	9.663	1.327	1200		1	30.000	8.336	225
							0	30.001	8.336	225
25	493993.689	104192.015	9.488	1.190	1200		1	30.001	8.298	225
							2	29.000	8.298	225
							0	29.001	8.298	225
24	493975.856	104192.346	9.341	1.093	1200		1	31.000	8.323	150
							2	29.002	8.248	225
							0	29.003	8.248	225
23	493975.736	104185.866	9.447	1.237	1200		1	29.003	8.210	225
							0	29.004	8.210	225
22	493971.155	104149.967	9.505	1.508	1200		1	29.004	7.997	225
							0	29.005	7.997	225

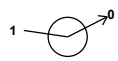
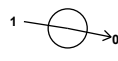
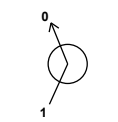
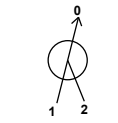
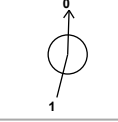
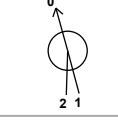
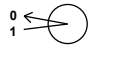
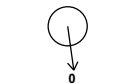
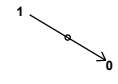
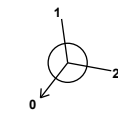
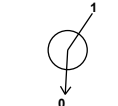
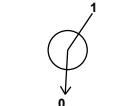


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
21	493970.848	104140.134	9.407	1.468	1200	 1 0	29.005	7.939	225
20	493973.124	104099.135	8.989	1.291	1200	 1 0	29.006	7.698	225
HW5	493969.116	104087.675	8.620	1.000		 1 0	29.007	7.627	225
88	494040.373	104163.015	9.264	1.250	1350	 0 1	26.000	8.014	450
87	494030.789	104148.971	9.425	1.453	1350	 1 0	26.001	7.972	450
85	494019.067	104069.426	8.852	1.079	1350	 1 0	26.002	7.773	450
HW6	493979.285	104074.383	8.620	1.000		 1 0	26.006	7.657	450
HW4 (Western Basin)	493979.497	104070.848	8.620	1.000		 0 1	1.000	7.620	450
19	493983.470	104067.065	8.401	0.795	1350	 1 0	1.001	7.606	450
18	494034.607	104056.617	8.899	1.422	1350	 1 0	1.001	7.477	450
17	494071.745	104053.517	9.310	1.925	1350	 1 0	1.002	7.385	450
16	494095.230	104048.676	9.257	1.931	1350	 1 0	1.003	7.326	450
15	494124.835	104044.353	9.023	1.771	1350	 1 0	1.004	7.252	450

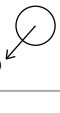
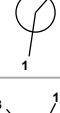
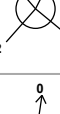


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
13	494169.412	104035.807	8.377	1.239	1350		1	1.006	7.138	450
12	494172.500	104037.377	8.380	1.251	1350		0	1.007	7.138	450
						1	1.007	7.129	450	
11	494215.676	104030.658	7.367	1.111	1350		0	1.008	7.129	450
						1	1.008	6.256	450	
10	494255.057	104022.816	5.900	1.111	1350		0	1.009	6.256	450
						1	1.009	4.789	450	
9	494259.407	104032.417	5.900	1.137	1350		0	1.010	4.789	450
						1	1.010	4.763	450	
8	494254.182	104045.322	6.053	1.324	1350		1	2.000	5.029	150
						2	1.011	4.729	450	
						0	1.012	4.729	450	
7	494257.970	104060.337	5.953	1.234	1350		1	1.013	4.719	450
						0	1.014	4.719	450	
6	494258.509	104077.430	5.889	1.212	1350		1	3.000	5.027	100
						2	1.014	4.677	450	
						0	1.015	4.677	450	
77	494152.040	104191.495	8.626	1.725	1200		1	4.000	7.786	150
78	494072.383	104215.523	9.336	1.650	1200		0	4.001	6.901	225
						0	5.000	7.686	150	
Attenuation Tank 7	494096.383	104129.904	8.954	4.039			1	4.008	5.984	375
75	494073.738	104205.794	9.365	2.756	1200		0	4.009	4.915	375
						1	5.000	6.684	150	
						2	4.003	6.609	225	
41	494030.662	104217.744	9.445	1.725	1200		0	4.004	6.609	225
						1	6.000	8.337	100	
							0	6.001	7.720	225

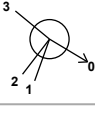
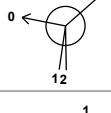
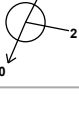
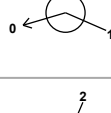
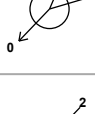
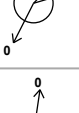
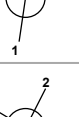


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
40	494030.065	104207.014	9.521	1.864	1200	 1	6.001	7.657	225
						0	6.002	7.657	225
39	494024.152	104192.948	9.652	2.085	1200	 1	6.002	7.567	225
						0	6.003	7.567	225
38.02	494017.548	104166.099	9.500	1.725	1200	 1	7.000	7.900	100
						0	7.001	7.775	225
38.01	494022.905	104178.012	9.598	1.900	1200	 1	7.001	7.698	225
						0	7.002	7.698	225
38	494026.286	104182.726	9.442	1.936	1200	 1	7.002	7.506	225
						2	6.003	7.506	225
						0	6.004	7.506	225
37	494047.238	104171.756	9.520	3.240	1200	 1	6.004	6.355	225
						2	4.004	6.355	225
						0	4.005	6.280	300
36	494061.573	104159.605	9.365	3.162	1200	 1	4.005	6.203	300
						0	4.006	6.203	300
35.02	494090.810	104171.913	9.277	1.725	1200	 0			
						0	9.000	7.552	225
35.01	494076.888	104156.176	9.387	2.671	1200	 1	9.000	6.716	225
						0	9.001	6.716	225
74	494063.229	104126.159	9.328	1.650	1200	 1	8.000	8.063	100
						0	8.001	7.678	150
73	494065.122	104139.023	9.242	2.051	1200	 1	8.001	7.191	150
						0	8.002	7.191	150
35	494072.320	104147.159	9.185	3.049	1200	 1	9.001	6.211	225
						2	8.002	6.286	150
						3	4.006	6.136	300
						0	4.007	6.136	300
70	494072.020	104084.998	9.475	1.725	1200	 0			
						0	10.000	7.750	225

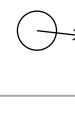
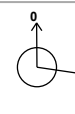
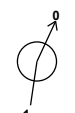
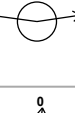
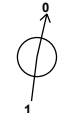


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
69	494078.377	104128.196	9.285	2.602	1200		1 0	10.000 10.001	6.683 6.683	225 225
34	494084.955	104136.747	9.044	3.050	1500		1 2 3 0	11.000 10.001 4.007 4.008	8.310 6.144 6.069 5.994	100 225 300 375
57	494205.006	104145.460	7.522	1.800	1200		0	14.000	5.722	300
66	494216.574	104192.424	7.195	1.324	1200		0	12.000	5.871	225
56	494209.824	104178.542	7.326	1.701	1350		1 2 3 0	14.001 13.000 12.001 12.002	5.700 6.356 5.775 5.625	300 100 225 375
55	494158.188	104188.655	8.461	3.360	1350		1 2 0	17.000 12.003 12.004	5.326 5.101 5.101	150 375 375
54.02	494170.921	104154.735	8.448	1.950	1200		0	18.000	6.498	225
54.01	494153.698	104162.244	8.753	3.194	1200		1 0	18.000 18.001	5.559 5.559	225 225
54	494145.956	104159.962	8.684	3.754	1350		1 2 0	18.001 12.004 12.005	5.155 5.005 4.930	225 375 450
53	494124.067	104137.100	8.924	4.072	1500		1 2 0	19.001 12.005 12.006	5.202 4.852 4.852	100 450 450
33.02	494104.494	104096.934	9.083	2.704	1200		0	20.000	6.379	225
33.01	494107.212	104115.406	9.077	3.632	1200		1 0	20.000 20.001	5.445	225 225
33	494114.810	104118.872	8.979	4.177	1350		1 2 3 0	20.001 12.006 4.009 4.010	5.027 4.802 4.877 4.802	225 450 375 450

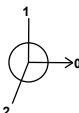


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
48	494191.630	104060.909	7.898	1.534	1200		1	22.000	6.609	100
							2	21.000	6.811	100
							0	21.001	6.364	225
47	494188.999	104043.026	8.211	1.953	1200		1	21.001	6.258	225
							0	21.002	6.258	225
46	494183.456	104040.128	8.207	1.985	1200		1	21.002	6.222	225
							0	21.003	6.222	225
52	494041.009	104060.275	8.986	2.157	1200		0	24.000	6.829	225
51	494070.225	104056.959	9.250	2.594	1200		1	24.000	6.656	225
							0	24.001	6.656	225
44	494113.438	104050.600	9.150	3.192	1200		1	21.005	5.958	225
							0	21.006	5.958	225
42	494119.534	104101.300	8.983	3.577	1200		1	21.007	5.406	300
							0	21.008	5.406	300
32	494125.232	104113.578	9.018	4.320	1500		1	21.008	4.923	300
							2	4.010	4.773	450
							0	4.011	4.698	525
31	494148.813	104109.779	8.609	3.960	1500		1	4.011	4.649	525
							0	4.012	4.649	525
30	494191.397	104101.977	7.786	3.144	1500		1	4.013	4.642	525
							0	4.014	4.642	525
28	494240.696	104094.421	6.366	1.786	1500		1	4.016	4.580	525
							0	4.017	4.580	525
5	494253.287	104096.276	6.036	1.482	1500		1	4.017	4.554	525
							2	1.015	4.629	450
							0	1.016	4.554	525
4	494255.858	104116.900	5.794	1.282	1500		1	1.016	4.512	525
							0	1.017	4.512	525

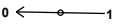
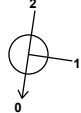
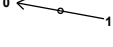
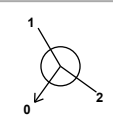
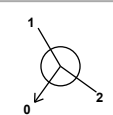
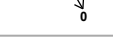
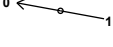


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
3	494261.589	104141.756	6.212	1.974	1500		1	1.018	4.238	525
							0	1.019	4.238	525
27	494271.782	104190.118	6.170	1.509	1200		0	25.000	4.661	225
2	494271.623	104167.333	6.309	2.082	1500		1	25.000	4.527	225
							2	1.020	4.227	525
							0	1.021	4.227	525
HW3	494282.945	104167.254	5.900	1.900			1	1.021	4.025	525
HW2 (Eastern Basin)	494284.745	104185.349	5.900	1.900			0	32.000	4.000	225
1	494283.550	104194.501	6.000	2.231	1500		1	32.000	3.769	225
							0	32.001	3.769	225
HW1	494305.636	104198.080	3.250	0.500			1	32.001	2.750	225
Permeable Paving 1	494260.971	104068.206	5.870	0.685			0	3.000	5.185	100
Permeable Paving 2.1	494195.108	104064.271	7.490	0.800			0	22.000	6.690	100
Permeable Paving 3	494083.166	104131.732	9.200	0.800			0	11.000	8.400	100
Permeable Paving 4	494055.562	104123.493	9.080	0.880			0	8.000	8.200	100
Permeable Paving 5	494021.150	104156.289	9.350	0.800			0	7.000	8.550	100
Permeable Paving 6	494034.463	104223.388	9.250	0.800			0	6.000	8.450	100



Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
Permeable Paving 7	494145.283	104190.662	8.625	0.800			0	4.000	7.825	150
Permeable Paving 8	494209.962	104170.316	7.315	0.800			0	13.000	6.515	100
Permeable Paving 2.2	494194.680	104055.433	7.715	0.800			0	21.000	6.915	100
Attenuation Tank 4	493982.039	104192.231	9.412	1.157			1	29.001	8.255	225
91	493969.191	104192.470	9.270	0.880	1200		0	29.002	8.255	225
86.01	494049.944	104140.240	9.383	0.923	1200		0	31.000	8.390	150
86	494029.936	104143.184	9.510	1.552	1350		0	27.000	8.460	150
84	494010.551	104066.574	8.704	0.953	1350		1	27.000	8.258	150
83	493997.353	104069.767	8.627	0.910	1350		2	26.001	7.958	450
82	493983.258	104079.905	8.781	1.107	1350		0	26.002	7.958	450
89	493978.036	104088.822	8.907	0.830	1200		1	26.003	7.751	450
Attenuation Tank 11	494114.636	104198.325	8.972	2.207			0	26.004	7.751	450
76	494133.467	104194.887	8.820	2.030	1200		1	26.004	7.717	450
							0	26.005	7.717	450
							1	28.000	7.974	150
							2	26.005	7.674	450
							0	26.006	7.674	450
							0	28.000	8.077	150
							1	4.002	6.765	225
							0	4.003	6.765	225
							1	4.001	6.790	225
							0	4.002	6.790	225

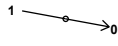
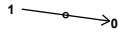
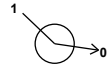


Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
Attenuation Tank 10	494207.408	104161.957	7.411	1.701			1 14.000	5.710	300
							0 14.001	5.710	300
Attenuation Tank 9	494184.640	104183.474	7.801	2.686			1 16.000	6.835	150
							2 15.000	6.835	150
							3 12.002	5.615	375
							0 12.003	5.115	375
65	494215.245	104183.304	7.235	1.418	1200		1 12.000	5.817	225
							0 12.001	5.817	225
62	494166.157	104204.463	8.326	2.115	1200		0 17.000	6.211	150
64	494193.627	104178.494	7.540	0.693	450		0 16.000	6.847	150
63	494168.603	104183.347	8.306	1.459	450		0 15.000	6.847	150
59	494147.858	104152.731	8.788	0.900	450		0 19.000	7.888	100
58	494143.563	104142.877	8.839	2.932	450		1 19.000	5.907	100
							0 19.001	5.907	100
50	494105.831	104051.719	9.205	2.761	1200		1 24.001	6.444	225
							0 24.002	6.444	225
43	494113.367	104059.389	9.267	3.436	1200		1 24.002	5.906	225
							2 21.006	5.906	225
							0 21.007	5.831	300
Attenuation Tank 8	494155.213	104044.453	8.585	2.455			1 23.000	6.510	150
							2 21.004	6.130	225
							0 21.005	6.130	225
45	494169.399	104042.365	8.395	2.257	1200		1 21.003	6.138	225
							0 21.004	6.138	225
49	494155.230	104041.418	8.504	1.974	450		0 23.000	6.530	150



Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
Attenuation Tank 6	494170.064	104105.886	8.198	3.553			1 4.012	4.645	525
							0 4.013	4.645	525
Attenuation Tank 5	494228.354	104096.101	6.782	2.197			1 4.015	4.585	525
							0 4.016	4.585	525
29	494216.639	104097.696	7.184	2.594	1500		1 4.014	4.590	525
							0 4.015	4.590	525
81	494251.081	104033.029	6.140	0.984	1200				
							0 2.000	5.156	150
Attenuation Tank 3	494256.054	104052.740	6.017	1.292			1 1.012	4.725	450
							0 1.013	4.725	450
Attenuation Tank 2	494257.969	104126.055	5.937	1.682			1 1.017	4.505	525
							0 1.018	4.255	525
Attenuation Tank 1	494266.218	104153.556	6.391	2.156			1 1.019	4.235	525
							0 1.020	4.235	525
14	494127.344	104041.965	8.987	1.744	1350		1 1.005	7.243	450
							0 1.006	7.243	450

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Detailed	Starting Level (m)
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s) x
Summer CV	1.000	Drain Down Time (mins)	240	Check Discharge Volume x
Winter CV	1.000	Additional Storage (m ³ /ha)	0.0	

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 1440 | 2880

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
100	45	10	0



Node 1 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	3.769	Product Number	CTL-SHE-0138-1070-1823-1070
Design Depth (m)	1.823	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	10.7	Min Node Diameter (mm)	1500

Node 30 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	4.642	Product Number	CTL-SHE-0124-1000-2479-1000
Design Depth (m)	2.479	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	10.0	Min Node Diameter (mm)	1500

Node 28 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	4.580	Product Number	CTL-SHE-0143-1000-1165-1000
Design Depth (m)	1.165	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	10.0	Min Node Diameter (mm)	1500

Node HW2 (Eastern Basin) Pond Storage Structure

Invert Level (m)	4.000	Time to half empty (mins)	Analyse flow through structure	x
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Inlets

HW3

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	132.0	1.900	515.0

Node HW4 (Western Basin) Pond Storage Structure

Invert Level (m)	7.620	Time to half empty (mins)	22	Analyse flow through structure	x
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Inlets

HW5 | HW6

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	59.6	1.000	233.0

Node Permeable Paving 1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.270	Slope (1:X)	40.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	10	Depth (m)	0.580
Safety Factor	2.0	Width (m)	9.000	Inf Depth (m)	
Porosity	0.30	Length (m)	39.000		



Node Permeable Paving 2.1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.690	Slope (1:X)	30.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	195	Depth (m)	0.580
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.900		

Node Permeable Paving 3 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	8.400	Slope (1:X)	90.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.580
Safety Factor	2.0	Width (m)	7.100	Inf Depth (m)	
Porosity	0.30	Length (m)	50.000		

Node Permeable Paving 4 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	8.280	Slope (1:X)	40.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.580
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	25.000		

Node Permeable Paving 5 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	8.550	Slope (1:X)	85.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.580
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	12.250		

Node Permeable Paving 6 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	8.450	Slope (1:X)	60.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.580
Safety Factor	2.0	Width (m)	5.200	Inf Depth (m)	
Porosity	0.30	Length (m)	35.000		

Node Permeable Paving 7 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	7.825	Slope (1:X)	40.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.580
Safety Factor	2.0	Width (m)	6.600	Inf Depth (m)	
Porosity	0.30	Length (m)	58.000		

Node Permeable Paving 8 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.515	Slope (1:X)	40.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.580
Safety Factor	2.0	Width (m)	6.400	Inf Depth (m)	
Porosity	0.30	Length (m)	38.000		

Node Permeable Paving 2.2 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.915	Slope (1:X)	30.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.580
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.600		



Node Attenuation Tank 6 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.645	Depth (m)	2.520
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	10.000	Number Required	1
Porosity	0.94	Pit Length (m)	38.400		

Node Attenuation Tank 8 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.130	Depth (m)	0.630
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	5.000	Number Required	1
Porosity	0.94	Pit Length (m)	26.000		

Node Attenuation Tank 11 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	6.765	Depth (m)	0.840
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	20	Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	4.000	Number Required	1
Porosity	0.94	Pit Length (m)	30.000		

Node Attenuation Tank 7 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.915	Depth (m)	2.310
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	8.000	Number Required	1
Porosity	0.94	Pit Length (m)	25.000		

Node Attenuation Tank 3 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.725	Depth (m)	1.050
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	5.000	Number Required	1
Porosity	0.94	Pit Length (m)	12.000		

Node Attenuation Tank 2 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.255	Depth (m)	1.260
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	5.000	Number Required	1
Porosity	0.94	Pit Length (m)	16.000		

Node Attenuation Tank 10 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.710	Depth (m)	0.630
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	5.000	Number Required	1
Porosity	0.94	Pit Length (m)	28.500		

Node Attenuation Tank 5 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.585	Depth (m)	1.680
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	10.000	Number Required	1
Porosity	0.94	Pit Length (m)	20.000		



Node Attenuation Tank 1 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	4.235	Depth (m)	1.470
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	6.000	Number Required	1
Porosity	0.94	Pit Length (m)	22.000		

Node Attenuation Tank 4 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	8.255	Depth (m)	0.840
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	23	Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	6.500	Number Required	1
Porosity	0.94	Pit Length (m)	10.000		

Node Attenuation Tank 9 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	5.115	Depth (m)	1.470
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	3.000	Number Required	1
Porosity	0.94	Pit Length (m)	45.000		



Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 99.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	25.01	19	9.266	0.793	46.9	0.8969	0.0000	FLOOD RISK
30 minute summer	25.05	20	9.145	0.715	32.2	0.8083	0.0000	SURCHARGED
30 minute summer	25.04	20	9.104	0.768	32.2	0.8688	0.0000	SURCHARGED
30 minute summer	25	21	9.082	0.784	82.5	0.8865	0.0000	SURCHARGED
60 minute summer	24	41	9.055	0.807	33.2	0.9122	0.0000	FLOOD RISK
30 minute summer	23	23	9.033	0.823	35.5	0.9303	0.0000	SURCHARGED
30 minute summer	22	22	8.968	0.971	42.3	1.0979	0.0000	SURCHARGED
30 minute summer	21	21	8.910	0.971	42.0	1.0980	0.0000	SURCHARGED
30 minute summer	20	19	8.645	0.947	93.9	1.0713	0.0000	SURCHARGED
60 minute summer	HW5	41	8.361	0.741	79.5	0.0000	0.0000	OK
15 minute summer	88	11	8.828	0.814	18.5	1.1654	0.0000	SURCHARGED
15 minute summer	87	11	8.834	0.862	47.2	1.2340	0.0000	SURCHARGED
30 minute summer	85	19	8.638	0.865	232.0	1.2384	0.0000	FLOOD RISK
30 minute summer	HW6	23	8.368	0.748	236.4	0.0000	0.0000	OK
60 minute summer	HW4 (Western Basin)	40	8.327	0.707	169.4	90.0807	0.0000	FLOOD RISK
60 minute summer	19	40	8.308	0.702	133.0	1.0049	0.0000	FLOOD RISK
60 minute summer	18	40	8.028	0.551	133.1	0.7881	0.0000	SURCHARGED
60 minute summer	17	40	7.946	0.561	133.1	0.8023	0.0000	SURCHARGED
60 minute summer	16	40	7.886	0.560	135.3	0.8019	0.0000	SURCHARGED
60 minute summer	15	40	7.716	0.464	135.3	0.6644	0.0000	SURCHARGED
60 minute summer	13	41	7.433	0.295	135.3	0.4224	0.0000	OK
60 minute summer	12	41	7.372	0.243	135.3	0.3473	0.0000	OK
60 minute summer	11	41	6.397	0.141	135.3	0.2013	0.0000	OK
1440 minute winter	10	1440	5.635	0.846	23.2	1.2107	0.0000	FLOOD RISK
1440 minute winter	9	1440	5.635	0.872	22.7	1.2479	0.0000	FLOOD RISK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	25.01	29.000	25	44.6	1.121	1.122	1.1838	
30 minute summer	25.05	30.000	25.04	29.9	0.752	0.754	0.6381	
30 minute summer	25.04	30.001	25	29.9	0.753	0.752	0.2560	
30 minute summer	25	29.001	Attenuation Tank 4	80.3	2.018	1.925	0.2646	
60 minute summer	24	29.003	23	33.8	0.992	0.851	0.2578	
30 minute summer	23	29.004	22	36.1	0.909	0.908	1.4393	
30 minute summer	22	29.005	21	37.6	0.952	0.944	0.3913	
30 minute summer	21	29.006	20	42.7	1.074	1.076	1.6331	
30 minute summer	20	29.007	HW5	92.4	2.323	2.331	0.4829	
15 minute summer	88	26.000	87	15.7	0.138	0.098	2.6940	
15 minute summer	87	26.001	86	50.7	0.320	0.323	0.9269	
30 minute summer	85	26.003	84	228.1	1.440	1.434	1.4230	
60 minute summer	HW4 (Western Basin)	1.000	19	133.0	0.840	0.819	0.8692	
60 minute summer	19	1.001	18	133.1	0.857	1.386	8.2696	
60 minute summer	18	1.002	17	133.1	0.862	0.834	5.9047	
60 minute summer	17	1.003	16	133.1	0.840	0.835	3.7993	
60 minute summer	16	1.004	15	135.3	0.854	1.409	4.7405	
60 minute summer	15	1.005	14	135.3	0.854	0.826	0.5486	
60 minute summer	13	1.007	12	135.3	1.369	0.826	0.3419	
60 minute summer	12	1.008	11	135.3	2.103	0.495	2.8283	
60 minute summer	11	1.009	10	135.3	1.307	0.218	3.9804	
1440 minute winter	10	1.010	9	22.7	0.596	0.142	1.6700	
1440 minute winter	9	1.011	8	22.4	0.563	0.141	2.2060	



Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 99.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	8	1440	5.635	0.906	24.2	1.2965	0.0000	SURCHARGED
1440 minute winter	7	1440	5.635	0.916	21.9	1.3108	0.0000	SURCHARGED
1440 minute winter	6	1440	5.635	0.958	23.7	1.3709	0.0000	FLOOD RISK
30 minute summer	77	20	7.599	0.698	53.0	0.7894	0.0000	SURCHARGED
15 minute summer	78	11	8.195	0.509	24.7	0.5757	0.0000	SURCHARGED
720 minute winter	Attenuation Tank 7	720	7.136	2.221	48.1	417.6034	0.0000	SURCHARGED
15 minute summer	75	11	7.998	1.389	100.5	1.5707	0.0000	SURCHARGED
15 minute summer	41	12	8.891	1.171	21.4	1.3241	0.0000	SURCHARGED
15 minute summer	40	12	8.890	1.233	21.0	1.3944	0.0000	SURCHARGED
15 minute summer	39	12	8.883	1.316	46.9	1.4878	0.0000	SURCHARGED
15 minute summer	38.02	12	8.813	1.038	29.9	1.1741	0.0000	SURCHARGED
15 minute summer	38.01	12	8.802	1.104	28.9	1.2483	0.0000	SURCHARGED
15 minute summer	38	12	8.785	1.279	89.7	1.4463	0.0000	SURCHARGED
15 minute summer	37	11	7.985	1.705	106.8	1.9289	0.0000	SURCHARGED
15 minute summer	36	11	7.753	1.550	115.2	1.7534	0.0000	SURCHARGED
15 minute summer	35.02	11	7.815	0.263	25.8	0.2978	0.0000	SURCHARGED
15 minute summer	35.01	11	7.758	1.042	73.2	1.1787	0.0000	SURCHARGED
15 minute summer	74	12	8.338	0.660	11.8	0.7467	0.0000	SURCHARGED
15 minute summer	73	12	8.292	1.101	44.1	1.2457	0.0000	SURCHARGED
15 minute summer	35	11	7.507	1.371	226.4	1.5509	0.0000	SURCHARGED
15 minute summer	70	10	7.856	0.106	33.9	0.1202	0.0000	OK
720 minute winter	69	720	7.136	0.453	2.9	0.5127	0.0000	SURCHARGED
720 minute winter	34	720	7.136	1.142	48.1	2.0184	0.0000	SURCHARGED
720 minute winter	57	720	7.136	1.414	4.1	1.5994	0.0000	SURCHARGED
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	8	1.012	Attenuation Tank 3	23.9	0.594	0.151	0.2616	
1440 minute winter	7	1.014	6	21.7	0.619	0.137	2.7095	
1440 minute winter	6	1.015	5	23.5	0.727	0.148	3.0985	
30 minute summer	77	4.001	76	50.9	1.281	1.282	0.7509	
15 minute summer	78	5.000	75	22.0	1.793	0.385	0.1729	
720 minute winter	Attenuation Tank 7	4.009	33	22.7	0.637	0.198	1.2659	
15 minute summer	75	4.004	37	52.5	1.323	1.321	1.7156	
15 minute summer	41	6.001	40	21.0	0.859	0.529	0.4274	
15 minute summer	40	6.002	39	26.6	0.810	0.668	0.6068	
15 minute summer	39	6.003	38	44.3	1.232	1.115	0.4153	
15 minute summer	38.02	7.001	38.01	22.9	1.184	0.574	0.5195	
15 minute summer	38.01	7.002	38	34.1	1.114	0.359	0.2307	
15 minute summer	38	6.004	37	89.1	2.240	0.773	0.9406	
15 minute summer	37	4.005	36	104.9	1.490	1.482	1.3233	
15 minute summer	36	4.006	35	113.5	1.612	1.608	1.1580	
15 minute summer	35.02	9.000	35.01	24.2	1.172	0.232	0.8356	
15 minute summer	35.01	9.001	35	66.9	1.683	0.573	0.4020	
15 minute summer	74	8.001	73	18.7	1.735	0.540	0.2289	
15 minute summer	73	8.002	35	41.8	2.372	0.808	0.1912	
15 minute summer	35	4.007	34	226.7	3.219	3.203	1.1529	
15 minute summer	70	10.000	69	33.6	2.072	0.412	0.7093	
720 minute winter	69	10.001	34	2.9	1.231	0.025	0.4291	
720 minute winter	34	4.008	Attenuation Tank 7	48.1	1.025	0.440	0.3663	
720 minute winter	57	14.000	Attenuation Tank 10	5.0	0.697	0.064	0.1705	



Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 99.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	66	720	7.136	1.265	4.2	1.4309	0.0000	FLOOD RISK
720 minute winter	56	720	7.136	1.511	17.6	2.1625	0.0000	FLOOD RISK
720 minute winter	55	720	7.136	2.035	20.9	2.9124	0.0000	SURCHARGED
720 minute winter	54.02	720	7.136	0.638	1.4	0.7218	0.0000	SURCHARGED
720 minute winter	54.01	720	7.136	1.577	3.8	1.7838	0.0000	SURCHARGED
720 minute winter	54	720	7.136	2.206	22.7	3.1571	0.0000	SURCHARGED
720 minute winter	53	720	7.136	2.284	24.4	4.0362	0.0000	SURCHARGED
720 minute winter	33.02	720	7.136	0.757	2.5	0.8564	0.0000	SURCHARGED
720 minute winter	33.01	720	7.136	1.691	4.6	1.9128	0.0000	SURCHARGED
720 minute winter	33	720	7.136	2.334	32.2	3.3403	0.0000	SURCHARGED
15 minute summer	48	11	7.211	0.847	25.7	0.9583	0.0000	SURCHARGED
15 minute summer	47	11	7.208	0.950	36.1	1.0747	0.0000	SURCHARGED
15 minute summer	46	11	7.174	0.952	100.9	1.0765	0.0000	SURCHARGED
15 minute summer	52	11	7.740	0.911	13.5	1.0305	0.0000	SURCHARGED
15 minute summer	51	11	7.705	1.049	85.4	1.1868	0.0000	SURCHARGED
720 minute winter	44	720	7.136	1.178	15.4	1.3326	0.0000	SURCHARGED
720 minute winter	42	720	7.136	1.730	24.8	1.9569	0.0000	SURCHARGED
720 minute winter	32	720	7.136	2.438	49.6	4.3083	0.0000	SURCHARGED
720 minute winter	31	720	7.136	2.487	54.2	4.3949	0.0000	SURCHARGED
720 minute winter	30	720	7.136	2.494	8.8	4.4072	0.0000	SURCHARGED
1440 minute winter	28	1470	5.765	1.185	8.0	2.0930	0.0000	SURCHARGED
1440 minute winter	5	1440	5.635	1.081	28.2	1.9101	0.0000	SURCHARGED
1440 minute winter	4	1440	5.635	1.123	28.3	1.9841	0.0000	FLOOD RISK
1440 minute winter	3	1440	5.635	1.397	26.4	2.4681	0.0000	SURCHARGED
1440 minute winter	27	1440	5.635	0.974	2.7	1.1013	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	66	12.000	65	4.0	0.606	0.101	0.3665	
720 minute winter	56	12.002	Attenuation Tank 9	14.8	0.717	0.132	0.3488	
720 minute winter	55	12.004	54	16.4	0.563	0.148	3.4404	
720 minute winter	54.02	18.000	54.01	3.1	0.739	0.027	0.7473	
720 minute winter	54.01	18.001	54	4.1	0.892	0.035	0.3210	
720 minute winter	54	12.005	53	21.4	0.429	0.134	5.0149	
720 minute winter	53	12.006	33	24.4	0.307	0.153	3.2392	
720 minute winter	33.02	20.000	33.01	2.5	0.848	0.021	0.7426	
720 minute winter	33.01	20.001	33	4.3	0.965	0.037	0.3321	
720 minute winter	33	4.010	32	32.8	0.667	0.205	1.8522	
15 minute summer	48	21.001	47	27.3	0.686	0.688	0.7189	
15 minute summer	47	21.002	46	38.7	0.974	0.985	0.2488	
15 minute summer	46	21.003	45	99.1	2.492	2.489	0.5661	
15 minute summer	52	24.000	51	12.1	0.318	0.305	1.1694	
15 minute summer	51	24.001	50	84.1	2.121	2.114	1.4314	
720 minute winter	44	21.006	43	15.2	0.897	0.380	0.3495	
720 minute winter	42	21.008	32	24.6	1.251	0.117	0.9532	
720 minute winter	32	4.011	31	49.3	0.597	0.226	5.1599	
720 minute winter	31	4.012	Attenuation Tank 6	54.0	0.996	0.224	0.3467	
720 minute winter	30	4.014	29	8.5	0.438	0.039	5.5309	
1440 minute winter	28	4.017	5	8.0	0.319	0.037	2.7494	
1440 minute winter	5	1.016	4	28.1	0.754	0.129	4.4900	
1440 minute winter	4	1.017	Attenuation Tank 2	28.0	0.913	0.082	0.3016	
1440 minute winter	3	1.019	Attenuation Tank 1	26.2	0.665	0.129	0.3621	
1440 minute winter	27	25.000	2	2.7	0.490	0.067	0.9062	



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Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
1440 minute winter	2	1440	5.635	1.408	22.3	2.4874	0.0000	SURCHARGED
1440 minute winter	HW3	1440	5.635	1.635	22.3	0.0000	0.0000	OK
1440 minute winter	HW2 (Eastern Basin)	1440	5.621	1.621	16.7	482.0291	0.0000	FLOOD RISK
1440 minute winter	1	1440	5.616	1.847	16.3	3.2643	0.0000	SURCHARGED
15 minute summer	HW1	1	3.110	0.360	10.7	0.0000	0.0000	OK
30 minute summer	Permeable Paving 1	21	5.668	0.483	28.3	5.1124	0.0000	FLOOD RISK
720 minute winter	Permeable Paving 2.1	720	7.136	0.446	0.8	8.6718	0.0000	SURCHARGED
30 minute summer	Permeable Paving 3	22	8.658	0.258	28.0	6.4108	0.0000	SURCHARGED
15 minute summer	Permeable Paving 4	13	8.512	0.312	21.1	3.0244	0.0000	SURCHARGED
15 minute summer	Permeable Paving 5	13	8.702	0.152	16.5	2.9453	0.0000	SURCHARGED
15 minute summer	Permeable Paving 6	13	8.770	0.320	23.8	4.7891	0.0000	SURCHARGED
15 minute summer	Permeable Paving 7	12	8.160	0.335	34.2	1.8021	0.0000	SURCHARGED
720 minute winter	Permeable Paving 8	720	7.136	0.621	2.4	9.0925	0.0000	FLOOD RISK
15 minute summer	Permeable Paving 2.2	13	7.172	0.257	15.2	2.9822	0.0000	SURCHARGED
60 minute summer	Attenuation Tank 4	41	9.060	0.805	82.8	49.1946	0.0000	SURCHARGED
60 minute summer	91	41	9.055	0.665	1.5	0.7517	0.0000	FLOOD RISK
15 minute summer	86.01	11	8.959	0.499	15.2	0.5641	0.0000	SURCHARGED
15 minute summer	86	11	8.838	0.880	160.2	1.2599	0.0000	SURCHARGED
30 minute summer	84	19	8.544	0.793	228.1	1.1353	0.0000	FLOOD RISK
30 minute summer	83	20	8.441	0.724	224.4	1.0362	0.0000	FLOOD RISK
30 minute summer	82	22	8.375	0.701	222.3	1.0029	0.0000	SURCHARGED
30 minute summer	89	23	8.375	0.298	2.7	0.3366	0.0000	SURCHARGED
60 minute summer	Attenuation Tank 11	42	7.510	0.745	126.1	84.0132	0.0000	SURCHARGED
60 minute summer	76	41	7.519	0.729	65.2	0.8249	0.0000	SURCHARGED
720 minute winter	Attenuation Tank 10	720	7.136	1.426	20.9	84.4555	0.0000	FLOOD RISK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	2	1.021	HW3	22.3	1.113	0.034	2.4459	
1440 minute winter	HW2 (Eastern Basin)	32.000	1	16.3	0.546	0.198	0.3671	
1440 minute winter	1	32.001	HW1	10.7	0.388	0.096	0.5118	918.8
30 minute summer	Permeable Paving 1	3.000	6	13.7	1.753	1.760	0.0739	
720 minute winter	Permeable Paving 2.1	22.000	48	0.7	0.612	0.089	0.0378	
30 minute summer	Permeable Paving 3	11.000	34	12.1	1.549	1.538	0.0412	
15 minute summer	Permeable Paving 4	8.000	74	11.8	1.505	1.495	0.0635	
15 minute summer	Permeable Paving 5	7.000	38.02	14.1	2.188	0.928	0.0818	
15 minute summer	Permeable Paving 6	6.000	41	12.2	1.564	1.564	0.0532	
15 minute summer	Permeable Paving 7	4.000	77	29.5	1.677	2.206	0.1186	
720 minute winter	Permeable Paving 8	13.000	56	2.4	0.914	0.285	0.0644	
15 minute summer	Permeable Paving 2.2	21.000	48	10.7	1.364	1.364	0.0490	
60 minute summer	Attenuation Tank 4	29.002	24	32.7	0.863	0.821	0.0471	
60 minute summer	91	31.000	24	-1.5	-0.194	-0.085	0.1174	
15 minute summer	86.01	27.000	86	14.3	1.071	0.806	0.3560	
15 minute summer	86	26.002	85	164.4	1.038	1.027	11.8128	
30 minute summer	84	26.004	83	224.4	1.416	1.396	2.1515	
30 minute summer	83	26.005	82	222.3	1.403	1.390	2.7509	
30 minute summer	82	26.006	HW6	220.9	1.394	1.375	1.0779	
30 minute summer	89	28.000	82	-2.7	-0.251	-0.153	0.1819	
60 minute summer	Attenuation Tank 11	4.003	75	-62.3	-1.566	-1.568	1.0569	
60 minute summer	76	4.002	Attenuation Tank 11	63.9	1.740	1.586	0.1648	
720 minute winter	Attenuation Tank 10	14.001	56	-17.2	-0.590	-0.246	0.1768	



Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 99.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	Attenuation Tank 9	720	7.136	2.021	20.7	186.6064	0.0000	SURCHARGED
720 minute winter	65	720	7.136	1.319	4.0	1.4920	0.0000	FLOOD RISK
720 minute winter	62	720	7.136	0.925	0.9	1.0464	0.0000	SURCHARGED
720 minute winter	64	720	7.136	0.289	0.1	0.0460	0.0000	SURCHARGED
720 minute winter	63	720	7.136	0.289	0.1	0.0460	0.0000	SURCHARGED
15 minute summer	59	12	8.179	0.291	4.5	0.0462	0.0000	SURCHARGED
15 minute summer	58	12	8.193	2.286	31.3	0.3634	0.0000	SURCHARGED
720 minute winter	50	720	7.136	0.692	6.8	0.7829	0.0000	SURCHARGED
720 minute winter	43	720	7.136	1.305	21.9	1.4762	0.0000	SURCHARGED
720 minute winter	Attenuation Tank 8	720	7.136	1.006	13.6	77.0471	0.0000	SURCHARGED
720 minute winter	45	720	7.136	0.998	10.8	1.1290	0.0000	SURCHARGED
720 minute winter	49	720	7.136	0.606	0.1	0.0964	0.0000	SURCHARGED
720 minute winter	Attenuation Tank 6	720	7.136	2.491	54.0	899.2238	0.0000	SURCHARGED
1440 minute winter	Attenuation Tank 5	1470	5.765	1.180	8.6	221.7528	0.0000	SURCHARGED
1440 minute winter	29	1470	5.765	1.175	8.6	2.0754	0.0000	SURCHARGED
1440 minute winter	81	1440	5.635	0.479	0.8	0.5418	0.0000	SURCHARGED
1440 minute winter	Attenuation Tank 3	1440	5.635	0.910	23.9	51.3253	0.0000	SURCHARGED
1440 minute winter	Attenuation Tank 2	1440	5.635	1.380	28.0	94.7896	0.0000	SURCHARGED
1440 minute winter	Attenuation Tank 1	1440	5.635	1.400	26.2	173.6814	0.0000	SURCHARGED
60 minute summer	14	40	7.692	0.449	135.3	0.6423	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	Attenuation Tank 9	12.003	55	-20.7	0.466	-0.185	0.4914	
720 minute winter	65	12.001	56	4.0	0.613	0.102	0.2870	
720 minute winter	62	17.000	55	0.9	0.772	0.023	0.3117	
720 minute winter	64	16.000	Attenuation Tank 9	-0.1	-0.017	-0.003	0.0204	
720 minute winter	63	15.000	Attenuation Tank 9	-0.1	-0.017	-0.003	0.0213	
15 minute summer	59	19.000	58	-4.5	-0.751	-0.172	0.0841	
15 minute summer	58	19.001	53	20.5	2.624	1.812	0.1591	
720 minute winter	50	24.002	43	6.8	1.559	0.058	0.4277	
720 minute winter	43	21.007	42	21.0	1.227	0.188	2.9831	
720 minute winter	Attenuation Tank 8	21.005	44	10.7	0.698	0.270	1.1623	
720 minute winter	45	21.004	Attenuation Tank 8	10.8	0.959	0.269	0.0532	
720 minute winter	49	23.000	Attenuation Tank 8	-0.1	-0.013	-0.006	0.0352	
720 minute winter	Attenuation Tank 6	4.013	30	7.7	-0.405	0.038	0.3649	
1440 minute winter	Attenuation Tank 5	4.016	28	8.0	-0.125	0.037	0.5306	
1440 minute winter	29	4.015	Attenuation Tank 5	8.6	0.614	0.034	0.3938	
1440 minute winter	81	2.000	8	0.8	0.506	0.045	0.2232	
1440 minute winter	Attenuation Tank 3	1.013	7	21.4	0.611	0.117	0.2907	
1440 minute winter	Attenuation Tank 2	1.018	3	24.2	0.582	0.110	1.7525	
1440 minute winter	Attenuation Tank 1	1.020	2	20.0	0.895	0.090	0.8207	
60 minute summer	14	1.006	13	135.3	0.965	1.409	5.7080	