

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	10	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	1.000
Ratio-R	0.400	Preferred Cover Depth (m)	0.450
CV	1.000	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Depth (m)	Invert Level (m)
RE1	0.009	5.00	51.350	100	0.550	50.800
RE2	0.011	5.00	50.600	100	0.550	50.050
RE3	0.009	5.00	50.100	100	0.550	49.550
RE4	0.003	5.00	51.200	100	0.550	50.650
RE5	0.005	5.00	50.000	100	0.550	49.450
RE6	0.011	5.00	51.300	100	0.550	50.750
RE7	0.003	5.00	50.000	100	0.550	49.450
SW01	0.000	5.00	51.500	1200	0.829	50.671
SW02	0.017	5.00	51.150	1200	0.627	50.523
SW03	0.018	5.00	51.100	1200	1.500	49.600
SW04			50.900	1200	1.600	49.300
SW05	0.010	5.00	51.050	1200	1.820	49.230
SW06			50.400	1200	1.610	48.790
SW07			50.000	1200	0.925	49.075
SW08			50.000	1200	1.440	48.560
SW09	0.002	5.00	51.200	450	0.865	50.335
SW10	0.002	5.00	51.200	450	0.957	50.243
SW11	0.009	5.00	50.000	225	0.550	49.450
SW12	0.005	5.00	50.450	450	1.067	49.383
SW13	0.005	5.00	50.300	450	1.083	49.217
SW14	0.003	5.00	50.650	225	0.550	50.100
SW15	0.003	5.00	50.200	450	0.827	49.373
SW16			50.550	450	0.700	49.850
SW17	0.000	5.00	50.200	450	0.925	49.275
SW18	0.005	5.00	50.400	450	1.217	49.183
SW19	0.003	5.00	50.000	225	0.550	49.450
SW20	0.003	5.00	50.800	225	0.550	50.250
SW21	0.003	5.00	51.000	225	0.550	50.450
TANK1		5.00	51.000	1200	1.450	49.550
TANK2			50.600	1200	1.400	49.200
TANK3		5.00	50.000	1200	0.920	49.080
CP1	0.019	5.00	50.500	1200	0.600	49.900
CP2	0.015	5.00	50.200	1200	0.900	49.300
CP3	0.013	5.00	50.200	1200	1.023	49.177
CP4	0.014	5.00	50.650	1200	1.318	49.332
CP5	0.004	5.00	51.025	1200	0.877	50.148
CP6	0.012	5.00	51.000	1200	0.688	50.312
DUMMY			51.100	1200	1.550	49.550
DUMMY1			51.050	1200	1.850	49.200
DUMMY2			50.400	1200	1.320	49.080

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)
1.000	RE1	SW01	12.278	0.600	50.800	50.671	0.129	95.2	100	5.26	50.0
1.001	SW01	SW02	14.335	0.600	50.671	50.528	0.143	100.2	100	5.57	50.0
1.002	SW02	SW03	8.304	0.600	50.523	49.600	0.923	9.0	150	5.61	50.0
1.003	SW03	DUMMY	2.390	0.600	49.600	49.576	0.024	99.6	150	5.65	50.0
1.004	TANK1	SW04	2.180	0.600	49.550	49.300	0.250	8.7	150	5.01	50.0
1.005	SW04	DUMMY1	5.491	0.600	49.300	49.207	0.093	59.0	150	5.50	50.0
1.006	TANK2	SW06	12.729	0.600	49.200	49.090	0.110	115.7	225	5.24	50.0
1.007	SW06	DUMMY2	2.092	0.600	49.090	49.080	0.010	209.2	225	5.90	50.0
1.008	TANK3	SW07	1.479	0.600	49.080	49.075	0.005	295.9	300	5.03	50.0
2.000	RE2	SW03	22.549	0.600	50.050	49.600	0.450	50.1	150	5.26	50.0
3.000	RE4	SW09	5.556	0.600	50.650	50.335	0.315	17.6	100	5.05	50.0
3.001	SW09	SW10	9.154	0.600	50.335	50.243	0.092	100.0	100	5.25	50.0
3.002	SW10	CP5	6.441	0.600	50.243	50.148	0.095	67.8	100	5.36	50.0
3.003	CP5	SW05	2.316	0.600	50.148	49.230	0.918	2.5	100	5.37	50.0
3.004	SW05	DUMMY1	1.220	0.600	49.230	49.217	0.013	93.8	150	5.39	50.0
4.000	RE6	CP6	13.867	0.600	50.750	50.312	0.438	31.7	100	5.17	50.0
4.001	CP6	SW05	10.272	0.600	50.312	49.230	1.082	9.5	100	5.24	50.0
5.000	SW19	CP4	7.001	0.600	49.450	49.332	0.118	59.3	100	5.12	50.0
5.001	CP4	SW04	10.430	0.600	49.332	49.300	0.032	325.9	150	5.43	50.0
6.000	SW21	CP6	8.190	0.600	50.450	50.312	0.138	59.3	100	5.14	50.0
7.000	SW20	TANK2	9.818	0.600	50.250	49.200	1.050	9.4	100	5.06	50.0
8.000	SW14	CP1	15.990	0.600	50.100	49.900	0.200	80.0	100	5.31	50.0
8.001	CP1	SW16	3.290	0.600	49.900	49.850	0.050	65.8	100	5.37	50.0
8.002	SW16	SW18	8.843	0.600	49.850	49.183	0.667	13.3	100	5.44	50.0

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)
1.000	0.788	6.2	1.8	0.450	0.729	0.009	0.0	37	0.684
1.001	0.768	6.0	1.8	0.729	0.522	0.009	0.0	37	0.667
1.002	3.379	59.7	5.2	0.477	1.350	0.026	0.0	30	2.074
1.003	1.007	17.8	10.9	1.350	1.374	0.055	0.0	85	1.058
1.004	3.433	60.7	0.0	1.300	1.450	0.000	0.0	0	0.000
1.005	1.311	23.2	3.4	1.450	1.693	0.017	0.0	38	0.934
1.006	1.214	48.3	0.6	1.175	1.085	0.003	0.0	17	0.408
1.007	0.900	35.8	19.3	1.085	1.095	0.097	0.0	117	0.915
1.008	0.909	64.2	0.0	0.620	0.625	0.000	0.0	0	0.000
2.000	1.424	25.2	2.2	0.400	1.350	0.011	0.0	30	0.872
3.000	1.848	14.5	0.6	0.450	0.765	0.003	0.0	14	0.892
3.001	0.769	6.0	1.0	0.765	0.857	0.005	0.0	28	0.569
3.002	0.936	7.4	1.4	0.857	0.777	0.007	0.0	29	0.716
3.003	4.907	38.5	2.2	0.777	1.720	0.011	0.0	16	2.630
3.004	1.037	18.3	9.3	1.670	1.683	0.047	0.0	76	1.042
4.000	1.376	10.8	2.2	0.450	0.588	0.011	0.0	31	1.084
4.001	2.523	19.8	5.2	0.588	1.720	0.026	0.0	35	2.122
5.000	1.002	7.9	0.6	0.450	1.218	0.003	0.0	18	0.580
5.001	0.551	9.7	3.4	1.168	1.450	0.017	0.0	61	0.502
6.000	1.001	7.9	0.6	0.450	0.588	0.003	0.0	18	0.580
7.000	2.542	20.0	0.6	0.450	1.300	0.003	0.0	12	1.136
8.000	0.861	6.8	0.6	0.450	0.500	0.003	0.0	20	0.524
8.001	0.951	7.5	4.4	0.500	0.600	0.022	0.0	55	0.988
8.002	2.133	16.8	4.4	0.600	1.117	0.022	0.0	35	1.793

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)
8.003	SW18	SW06	2.623	0.600	49.183	49.090	0.093	28.2	150	5.87	50.0
9.000	RE5	SW15	8.448	0.600	49.450	49.373	0.077	109.7	100	5.19	50.0
9.001	SW15	CP2	15.893	0.600	49.373	49.300	0.073	217.7	100	5.70	50.0
9.002	CP2	SW17	3.714	0.600	49.300	49.275	0.025	148.6	150	5.78	50.0
9.003	SW17	SW18	5.117	0.600	49.275	49.183	0.092	55.6	150	5.84	50.0
10.000	RE3	SW12	16.668	0.600	49.550	49.383	0.167	99.8	100	5.36	50.0
10.001	SW12	SW13	16.607	0.600	49.383	49.217	0.166	100.0	100	5.72	50.0
10.002	SW13	CP3	3.951	0.600	49.217	49.177	0.040	98.3	100	5.81	50.0
10.003	CP3	SW06	2.601	0.600	49.177	49.090	0.087	29.9	150	5.83	50.0
11.000	SW11	CP3	16.149	0.600	49.450	49.289	0.161	100.2	100	5.35	50.0
12.000	RE7	CP2	14.417	0.600	49.450	49.300	0.150	96.1	100	5.31	50.0
1.009	SW07	SW08	2.139	0.600	49.075	49.060	0.015	142.6	300	5.05	50.0

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)
8.003	1.903	33.6	10.5	1.067	1.160	0.053	0.0	58	1.688
9.000	0.733	5.8	1.0	0.450	0.727	0.005	0.0	29	0.552
9.001	0.517	4.1	1.6	0.727	0.800	0.008	0.0	43	0.485
9.002	0.822	14.5	5.2	0.750	0.775	0.026	0.0	62	0.753
9.003	1.351	23.9	5.2	0.775	1.067	0.026	0.0	47	1.080
10.000	0.769	6.0	1.8	0.450	0.967	0.009	0.0	37	0.668
10.001	0.769	6.0	2.8	0.967	0.983	0.014	0.0	48	0.756
10.002	0.775	6.1	3.8	0.983	0.923	0.019	0.0	57	0.815
10.003	1.848	32.7	8.1	0.873	1.160	0.041	0.0	51	1.543
11.000	0.768	6.0	1.8	0.450	0.811	0.009	0.0	37	0.667
12.000	0.784	6.2	0.6	0.450	0.800	0.003	0.0	21	0.500
1.009	1.314	92.9	0.0	0.625	0.640	0.000	0.0	0	0.000

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)
1.000	12.278	95.2	100	Circular	51.350	50.800	0.450	51.500	50.671	0.729
1.001	14.335	100.2	100	Circular	51.500	50.671	0.729	51.150	50.528	0.522
1.002	8.304	9.0	150	Circular	51.150	50.523	0.477	51.100	49.600	1.350
1.003	2.390	99.6	150	Circular	51.100	49.600	1.350	51.100	49.576	1.374
1.004	2.180	8.7	150	Circular	51.000	49.550	1.300	50.900	49.300	1.450
1.005	5.491	59.0	150	Circular	50.900	49.300	1.450	51.050	49.207	1.693
1.006	12.729	115.7	225	Circular	50.600	49.200	1.175	50.400	49.090	1.085

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	RE1	100	Manhole	Adoptable	SW01	1200	Manhole	Adoptable
1.001	SW01	1200	Manhole	Adoptable	SW02	1200	Manhole	Adoptable
1.002	SW02	1200	Manhole	Adoptable	SW03	1200	Manhole	Adoptable
1.003	SW03	1200	Manhole	Adoptable	DUMMY	1200	Manhole	Adoptable
1.004	TANK1	1200	Manhole	Adoptable	SW04	1200	Manhole	Adoptable
1.005	SW04	1200	Manhole	Adoptable	DUMMY1	1200	Manhole	Adoptable
1.006	TANK2	1200	Manhole	Adoptable	SW06	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)
1.007	2.092	209.2	225	Circular	50.400	49.090	1.085	50.400	49.080	1.095
1.008	1.479	295.9	300	Circular	50.000	49.080	0.620	50.000	49.075	0.625
2.000	22.549	50.1	150	Circular	50.600	50.050	0.400	51.100	49.600	1.350
3.000	5.556	17.6	100	Circular	51.200	50.650	0.450	51.200	50.335	0.765
3.001	9.154	100.0	100	Circular	51.200	50.335	0.765	51.200	50.243	0.857
3.002	6.441	67.8	100	Circular	51.200	50.243	0.857	51.025	50.148	0.777
3.003	2.316	2.5	100	Circular	51.025	50.148	0.777	51.050	49.230	1.720
3.004	1.220	93.8	150	Circular	51.050	49.230	1.670	51.050	49.217	1.683
4.000	13.867	31.7	100	Circular	51.300	50.750	0.450	51.000	50.312	0.588
4.001	10.272	9.5	100	Circular	51.000	50.312	0.588	51.050	49.230	1.720
5.000	7.001	59.3	100	Circular	50.000	49.450	0.450	50.650	49.332	1.218
5.001	10.430	325.9	150	Circular	50.650	49.332	1.168	50.900	49.300	1.450
6.000	8.190	59.3	100	Circular	51.000	50.450	0.450	51.000	50.312	0.588
7.000	9.818	9.4	100	Circular	50.800	50.250	0.450	50.600	49.200	1.300
8.000	15.990	80.0	100	Circular	50.650	50.100	0.450	50.500	49.900	0.500
8.001	3.290	65.8	100	Circular	50.500	49.900	0.500	50.550	49.850	0.600
8.002	8.843	13.3	100	Circular	50.550	49.850	0.600	50.400	49.183	1.117
8.003	2.623	28.2	150	Circular	50.400	49.183	1.067	50.400	49.090	1.160
9.000	8.448	109.7	100	Circular	50.000	49.450	0.450	50.200	49.373	0.727
9.001	15.893	217.7	100	Circular	50.200	49.373	0.727	50.200	49.300	0.800
9.002	3.714	148.6	150	Circular	50.200	49.300	0.750	50.200	49.275	0.775
9.003	5.117	55.6	150	Circular	50.200	49.275	0.775	50.400	49.183	1.067
10.000	16.668	99.8	100	Circular	50.100	49.550	0.450	50.450	49.383	0.967
10.001	16.607	100.0	100	Circular	50.450	49.383	0.967	50.300	49.217	0.983
10.002	3.951	98.3	100	Circular	50.300	49.217	0.983	50.200	49.177	0.923

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.007	SW06	1200	Manhole	Adoptable	DUMMY2	1200	Manhole	Adoptable
1.008	TANK3	1200	Manhole	Adoptable	SW07	1200	Manhole	Adoptable
2.000	RE2	100	Manhole	Adoptable	SW03	1200	Manhole	Adoptable
3.000	RE4	100	Manhole	Adoptable	SW09	450	Manhole	Adoptable
3.001	SW09	450	Manhole	Adoptable	SW10	450	Manhole	Adoptable
3.002	SW10	450	Manhole	Adoptable	CP5	1200	Manhole	Adoptable
3.003	CP5	1200	Manhole	Adoptable	SW05	1200	Manhole	Adoptable
3.004	SW05	1200	Manhole	Adoptable	DUMMY1	1200	Manhole	Adoptable
4.000	RE6	100	Manhole	Adoptable	CP6	1200	Manhole	Adoptable
4.001	CP6	1200	Manhole	Adoptable	SW05	1200	Manhole	Adoptable
5.000	SW19	225	Manhole	Adoptable	CP4	1200	Manhole	Adoptable
5.001	CP4	1200	Manhole	Adoptable	SW04	1200	Manhole	Adoptable
6.000	SW21	225	Manhole	Adoptable	CP6	1200	Manhole	Adoptable
7.000	SW20	225	Manhole	Adoptable	TANK2	1200	Manhole	Adoptable
8.000	SW14	225	Manhole	Adoptable	CP1	1200	Manhole	Adoptable
8.001	CP1	1200	Manhole	Adoptable	SW16	450	Manhole	Adoptable
8.002	SW16	450	Manhole	Adoptable	SW18	450	Manhole	Adoptable
8.003	SW18	450	Manhole	Adoptable	SW06	1200	Manhole	Adoptable
9.000	RE5	100	Manhole	Adoptable	SW15	450	Manhole	Adoptable
9.001	SW15	450	Manhole	Adoptable	CP2	1200	Manhole	Adoptable
9.002	CP2	1200	Manhole	Adoptable	SW17	450	Manhole	Adoptable
9.003	SW17	450	Manhole	Adoptable	SW18	450	Manhole	Adoptable
10.000	RE3	100	Manhole	Adoptable	SW12	450	Manhole	Adoptable
10.001	SW12	450	Manhole	Adoptable	SW13	450	Manhole	Adoptable
10.002	SW13	450	Manhole	Adoptable	CP3	1200	Manhole	Adoptable

Pipeline Schedule

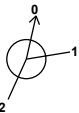
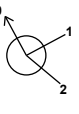
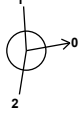
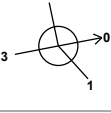
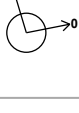
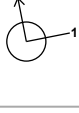
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
10.003	2.601	29.9	150	Circular	50.200	49.177	0.873	50.400	49.090	1.160
11.000	16.149	100.2	100	Circular	50.000	49.450	0.450	50.200	49.289	0.811
12.000	14.417	96.1	100	Circular	50.000	49.450	0.450	50.200	49.300	0.800
1.009	2.139	142.6	300	Circular	50.000	49.075	0.625	50.000	49.060	0.640

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
10.003	CP3	1200	Manhole	Adoptable	SW06	1200	Manhole	Adoptable
11.000	SW11	225	Manhole	Adoptable	CP3	1200	Manhole	Adoptable
12.000	RE7	100	Manhole	Adoptable	CP2	1200	Manhole	Adoptable
1.009	SW07	1200	Manhole	Adoptable	SW08	1200	Manhole	Adoptable

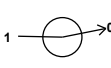
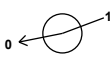
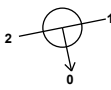
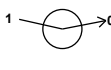
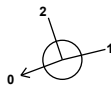
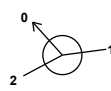
Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
RE1	51.350	0.550	100	 0	1.000	50.800	100
RE2	50.600	0.550	100	 0	2.000	50.050	150
RE3	50.100	0.550	100	 0	10.000	49.550	100
RE4	51.200	0.550	100	 0	3.000	50.650	100
RE5	50.000	0.550	100	 0	9.000	49.450	100
RE6	51.300	0.550	100	 0	4.000	50.750	100
RE7	50.000	0.550	100	 0	12.000	49.450	100
SW01	51.500	0.829	1200	1  0	1.000	50.671	100
				0	1.001	50.671	100

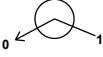
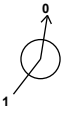
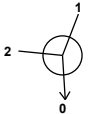
Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SW02	51.150	0.627	1200		1 1.001	50.528	100
					0 1.002	50.523	150
SW03	51.100	1.500	1200		1 2.000	49.600	150
					2 1.002	49.600	150
					0 1.003	49.600	150
SW04	50.900	1.600	1200		1 5.001	49.300	150
					2 1.004	49.300	150
					0 1.005	49.300	150
SW05	51.050	1.820	1200		1 4.001	49.230	100
					2 3.003	49.230	100
					0 3.004	49.230	150
SW06	50.400	1.610	1200		1 10.003	49.090	150
					2 8.003	49.090	150
					3 1.006	49.090	225
					0 1.007	49.090	225
SW07	50.000	0.925	1200		1 1.008	49.075	300
					0 1.009	49.075	300
SW08	50.000	1.440	1200		1 1.009	49.060	300
SW09	51.200	0.865	450		1 3.000	50.335	100
					0 3.001	50.335	100
SW10	51.200	0.957	450		1 3.001	50.243	100
					0 3.002	50.243	100
SW11	50.000	0.550	225		0 11.000	49.450	100
SW12	50.450	1.067	450		1 10.000	49.383	100
					0 10.001	49.383	100
SW13	50.300	1.083	450		1 10.001	49.217	100
					0 10.002	49.217	100
SW14	50.650	0.550	225		0 8.000	50.100	100

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SW15	50.200	0.827	450		1 9.000	49.373	100
					0 9.001	49.373	100
SW16	50.550	0.700	450		1 8.001	49.850	100
					0 8.002	49.850	100
SW17	50.200	0.925	450		1 9.002	49.275	150
					0 9.003	49.275	150
SW18	50.400	1.217	450		1 9.003	49.183	150
					2 8.002	49.183	100
					0 8.003	49.183	150
SW19	50.000	0.550	225				
					0 5.000	49.450	100
SW20	50.800	0.550	225				
					0 7.000	50.250	100
SW21	51.000	0.550	225				
					0 6.000	50.450	100
TANK1	51.000	1.450	1200				
					0 1.004	49.550	150
TANK2	50.600	1.400	1200		1 7.000	49.200	100
					0 1.006	49.200	225
TANK3	50.000	0.920	1200				
					0 1.008	49.080	300
CP1	50.500	0.600	1200		1 8.000	49.900	100
					0 8.001	49.900	100
CP2	50.200	0.900	1200		1 12.000	49.300	100
					2 9.001	49.300	100
					0 9.002	49.300	150
CP3	50.200	1.023	1200		1 11.000	49.289	100
					2 10.002	49.177	100
					0 10.003	49.177	150

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
CP4	50.650	1.318	1200		1	5.000	49.332 100
CP5	51.025	0.877	1200		1	3.002	49.332 150
CP6	51.000	0.688	1200		1	6.000	50.312 100
					2	4.000	50.312 100
DUMMY	51.100	1.550	1200		1	1.003	49.576 150
DUMMY1	51.050	1.850	1200		1	3.004	49.217 150
					2	1.005	49.207 150
DUMMY2	50.400	1.320	1200		1	1.007	49.080 225

Simulation Settings

Rainfall Methodology	FEH-13	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)	720	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 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
30	35	0	0
100	40	0	0

Node SW08 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	49.060	Product Number	CTL-SHE-0047-1000-1000-1000
Design Depth (m)	1.000	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	1.0	Min Node Diameter (mm)	1200

Node TANK1 Online Orifice Control

Flap Valve	x	Design Depth (m)	1.300	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	1.0		
Invert Level (m)	49.550	Diameter (m)	0.050		

Node TANK1 Tank Storage Structure

Invert Level (m)	49.550	Time to half empty (mins)	Analyse flow through structure	x
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Inlets DUMMY

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	65.0	0.400	65.0	0.401	0.0

Node TANK2 Tank Storage Structure

Invert Level (m)	49.200	Time to half empty (mins)	Analyse flow through structure	x
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Inlets DUMMY1

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	115.0	0.800	115.0	0.801	0.0

Node TANK3 Tank Storage Structure

Invert Level (m)	49.080	Time to half empty (mins)	Analyse flow through structure	x
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Inlets DUMMY2

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	64.0	0.400	64.0	0.401	0.0

Node CP1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	49.900	Slope (1:X)	500.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	2	Depth (m)	0.450
Safety Factor	2.0	Width (m)	6.600	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node CP2 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	49.300	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.450
Safety Factor	2.0	Width (m)	8.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node CP3 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	49.177	Slope (1:X)	500.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.450
Safety Factor	2.0	Width (m)	4.890	Inf Depth (m)	
Porosity	0.30	Length (m)	4.890		

Node CP4 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	49.332	Slope (1:X)	500.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.300
Safety Factor	2.0	Width (m)	6.140	Inf Depth (m)	
Porosity	0.30	Length (m)	6.140		

Node CP5 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	50.148	Slope (1:X)	500.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.300
Safety Factor	2.0	Width (m)	5.910	Inf Depth (m)	
Porosity	0.30	Length (m)	5.910		

Node CP6 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	50.312	Slope (1:X)	500.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	0	Depth (m)	0.300
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	RE1	10	50.834	0.034	1.5	0.0003	0.0000	OK
15 minute summer	RE2	10	50.077	0.027	1.8	0.0002	0.0000	OK
15 minute summer	RE3	10	49.584	0.034	1.5	0.0003	0.0000	OK
15 minute summer	RE4	11	50.663	0.013	0.5	0.0001	0.0000	OK
15 minute summer	RE5	11	49.475	0.025	0.8	0.0002	0.0000	OK
15 minute summer	RE6	10	50.778	0.028	1.8	0.0002	0.0000	OK
15 minute summer	RE7	11	49.469	0.019	0.5	0.0002	0.0000	OK
15 minute summer	SW01	11	50.705	0.034	1.5	0.0385	0.0000	OK
15 minute summer	SW02	11	50.550	0.027	4.2	0.0304	0.0000	OK
15 minute summer	SW03	11	49.686	0.086	8.9	0.0978	0.0000	OK
360 minute winter	SW04	320	49.343	0.043	1.6	0.0491	0.0000	OK
360 minute winter	SW05	344	49.339	0.109	1.4	0.1232	0.0000	OK
360 minute winter	SW06	344	49.336	0.246	7.4	0.2784	0.0000	SURCHARGED
360 minute winter	SW07	352	49.332	0.257	1.0	0.2906	0.0000	OK
360 minute winter	SW08	352	49.332	0.272	0.9	0.3076	0.0000	OK
15 minute summer	SW09	11	50.360	0.025	0.8	0.0039	0.0000	OK
15 minute summer	SW10	10	50.272	0.029	1.1	0.0047	0.0000	OK
15 minute summer	SW11	10	49.484	0.034	1.5	0.0014	0.0000	OK
15 minute summer	SW12	11	49.425	0.042	2.3	0.0067	0.0000	OK
360 minute winter	SW13	344	49.336	0.119	0.5	0.0189	0.0000	SURCHARGED
15 minute summer	SW14	11	50.118	0.018	0.5	0.0007	0.0000	OK
15 minute summer	SW15	10	49.413	0.040	1.3	0.0064	0.0000	OK
15 minute summer	SW16	13	49.875	0.025	2.3	0.0040	0.0000	OK
360 minute winter	SW17	344	49.336	0.061	0.7	0.0097	0.0000	OK
360 minute winter	SW18	344	49.336	0.153	1.4	0.0243	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	RE1	1.000	SW01	1.5	0.643	0.239	0.0285	
15 minute summer	RE2	2.000	SW03	1.8	0.305	0.071	0.1422	
15 minute summer	RE3	10.000	SW12	1.5	0.544	0.245	0.0454	
15 minute summer	RE4	3.000	SW09	0.5	0.517	0.034	0.0058	
15 minute summer	RE5	9.000	SW15	0.8	0.363	0.139	0.0189	
15 minute summer	RE6	4.000	CP6	1.8	0.958	0.165	0.0262	
15 minute summer	RE7	12.000	CP2	0.5	0.374	0.081	0.0293	
15 minute summer	SW01	1.001	SW02	1.4	0.626	0.240	0.0332	
15 minute summer	SW02	1.002	SW03	4.2	0.690	0.070	0.0525	
15 minute summer	SW03	1.003	DUMMY	8.9	0.920	0.498	0.0230	
360 minute winter	SW04	1.005	DUMMY1	2.1	0.619	0.091	0.0561	
360 minute winter	SW05	3.004	DUMMY1	1.4	0.567	0.076	0.0177	
360 minute winter	SW06	1.007	DUMMY2	7.8	0.494	0.217	0.0832	
360 minute winter	SW07	1.009	SW08	0.9	0.134	0.010	0.1405	
360 minute winter	SW08	Hydro-Brake®		0.8				47.2
15 minute summer	SW09	3.001	SW10	0.8	0.472	0.132	0.0156	
15 minute summer	SW10	3.002	CP5	1.1	0.891	0.150	0.0083	
15 minute summer	SW11	11.000	CP3	1.5	0.627	0.243	0.0377	
15 minute summer	SW12	10.001	SW13	2.2	0.601	0.372	0.0629	
360 minute winter	SW13	10.002	CP3	0.5	0.446	0.090	0.0309	
15 minute summer	SW14	8.000	CP1	0.5	0.339	0.074	0.0324	
15 minute summer	SW15	9.001	CP2	1.3	0.555	0.322	0.0458	
15 minute summer	SW16	8.002	SW18	2.3	0.941	0.140	0.0223	
360 minute winter	SW17	9.003	SW18	0.7	0.523	0.029	0.0623	
360 minute winter	SW18	8.003	SW06	3.1	0.299	0.091	0.0462	

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	SW19	11	49.467	0.017	0.5	0.0007	0.0000	OK
15 minute summer	SW20	9	50.262	0.012	0.5	0.0005	0.0000	OK
15 minute summer	SW21	11	50.467	0.017	0.5	0.0007	0.0000	OK
240 minute summer	TANK1	148	49.637	0.087	2.0	5.7753	0.0000	OK
360 minute winter	TANK2	344	49.336	0.136	2.6	15.7321	0.0000	OK
360 minute winter	TANK3	352	49.332	0.252	2.9	16.3182	0.0000	OK
15 minute summer	CP1	13	49.943	0.043	3.7	0.6937	0.0000	OK
15 minute summer	CP2	13	49.343	0.043	4.3	0.9720	0.0000	OK
360 minute winter	CP3	344	49.336	0.159	1.2	1.2862	0.0000	SURCHARGED
15 minute summer	CP4	12	49.379	0.047	2.8	0.5026	0.0000	OK
15 minute summer	CP5	11	50.162	0.014	1.8	0.1016	0.0000	OK
15 minute summer	CP6	11	50.343	0.031	4.3	0.2320	0.0000	OK
240 minute summer	DUMMY	148	49.641	0.091	3.1	0.0000	0.0000	OK
360 minute winter	DUMMY1	344	49.339	0.139	2.9	0.0000	0.0000	OK
360 minute winter	DUMMY2	344	49.336	0.256	7.8	0.0000	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	SW19	5.000	CP4	0.5	0.322	0.064	0.0153	
15 minute summer	SW20	7.000	TANK2	0.5	1.480	0.026	0.0108	
15 minute summer	SW21	6.000	CP6	0.5	0.363	0.064	0.0122	
240 minute summer	TANK1	1.004	SW04	1.3	0.879	0.021	0.0037	
360 minute winter	TANK2	1.006	SW06	2.3	0.207	0.047	0.4130	
360 minute winter	TANK3	1.008	SW07	1.0	0.237	0.015	0.0942	
15 minute summer	CP1	8.001	SW16	2.3	0.996	0.312	0.0078	
15 minute summer	CP2	9.002	SW17	2.4	0.688	0.168	0.0132	
360 minute winter	CP3	10.003	SW06	3.4	0.323	0.105	0.0458	
15 minute summer	CP4	5.001	SW04	2.0	0.534	0.209	0.0400	
15 minute summer	CP5	3.003	SW05	1.7	0.488	0.044	0.0085	
15 minute summer	CP6	4.001	SW05	4.1	0.937	0.209	0.0448	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.52%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	RE1	10	50.862	0.062	4.1	0.0005	0.0000	OK
15 minute summer	RE2	10	50.096	0.046	5.1	0.0004	0.0000	OK
15 minute summer	RE3	11	49.616	0.066	4.1	0.0005	0.0000	OK
15 minute summer	RE4	10	50.671	0.021	1.4	0.0002	0.0000	OK
720 minute winter	RE5	690	49.590	0.140	0.2	0.0011	0.0000	SURCHARGED
15 minute summer	RE6	10	50.799	0.049	5.1	0.0004	0.0000	OK
720 minute winter	RE7	690	49.590	0.140	0.1	0.0011	0.0000	SURCHARGED
15 minute summer	SW01	11	50.733	0.062	4.1	0.0705	0.0000	OK
15 minute summer	SW02	10	50.568	0.045	11.8	0.0510	0.0000	OK
15 minute summer	SW03	10	49.818	0.218	25.1	0.2461	0.0000	SURCHARGED
360 minute winter	SW04	360	49.597	0.297	3.4	0.3364	0.0000	SURCHARGED
720 minute winter	SW05	690	49.593	0.363	1.6	0.4105	0.0000	SURCHARGED
720 minute winter	SW06	690	49.590	0.500	4.1	0.5653	0.0000	SURCHARGED
720 minute winter	SW07	690	49.585	0.510	0.9	0.5771	0.0000	SURCHARGED
720 minute winter	SW08	690	49.585	0.525	0.9	0.5941	0.0000	OK
15 minute summer	SW09	10	50.379	0.044	2.3	0.0070	0.0000	OK
15 minute summer	SW10	10	50.295	0.052	3.2	0.0083	0.0000	OK
720 minute winter	SW11	690	49.590	0.140	0.3	0.0056	0.0000	SURCHARGED
720 minute winter	SW12	690	49.590	0.207	0.5	0.0329	0.0000	SURCHARGED
720 minute winter	SW13	690	49.590	0.373	0.7	0.0593	0.0000	SURCHARGED
15 minute summer	SW14	10	50.131	0.031	1.4	0.0012	0.0000	OK
720 minute winter	SW15	690	49.590	0.217	0.3	0.0345	0.0000	SURCHARGED
15 minute summer	SW16	12	49.896	0.046	7.2	0.0073	0.0000	OK
720 minute winter	SW17	690	49.590	0.315	0.7	0.0501	0.0000	SURCHARGED
720 minute winter	SW18	690	49.590	0.407	2.2	0.0647	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	RE1	1.000	SW01	4.1	0.817	0.660	0.0623	
15 minute summer	RE2	2.000	SW03	5.1	0.383	0.201	0.2495	
15 minute summer	RE3	10.000	SW12	4.1	0.673	0.676	0.1112	
15 minute summer	RE4	3.000	SW09	1.4	0.632	0.096	0.0125	
720 minute winter	RE5	9.000	SW15	0.2	0.259	0.035	0.0661	
15 minute summer	RE6	4.000	CP6	5.1	1.236	0.469	0.0569	
720 minute winter	RE7	12.000	CP2	0.1	0.149	0.016	0.1128	
15 minute summer	SW01	1.001	SW02	4.0	0.808	0.671	0.0718	
15 minute summer	SW02	1.002	SW03	11.7	0.890	0.196	0.0916	
15 minute summer	SW03	1.003	DUMMY	24.6	1.397	1.382	0.0413	
360 minute winter	SW04	1.005	DUMMY1	4.0	0.626	0.173	0.0967	
720 minute winter	SW05	3.004	DUMMY1	1.6	0.503	0.086	0.0215	
720 minute winter	SW06	1.007	DUMMY2	2.6	0.469	0.074	0.0832	
720 minute winter	SW07	1.009	SW08	0.9	0.131	0.009	0.1506	
720 minute winter	SW08	Hydro-Brake®		0.8				58.3
15 minute summer	SW09	3.001	SW10	2.3	0.613	0.376	0.0339	
15 minute summer	SW10	3.002	CP5	3.2	1.169	0.429	0.0178	
720 minute winter	SW11	11.000	CP3	0.3	0.398	0.050	0.1264	
720 minute winter	SW12	10.001	SW13	0.5	0.363	0.083	0.1299	
720 minute winter	SW13	10.002	CP3	0.7	0.433	0.111	0.0309	
15 minute summer	SW14	8.000	CP1	1.4	0.405	0.204	0.0730	
720 minute winter	SW15	9.001	CP2	0.3	0.242	0.074	0.1244	
15 minute summer	SW16	8.002	SW18	7.2	1.102	0.431	0.0502	
720 minute winter	SW17	9.003	SW18	0.7	0.454	0.029	0.0901	
720 minute winter	SW18	8.003	SW06	1.5	0.343	0.046	0.0462	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.52%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	SW19	384	49.593	0.143	0.2	0.0057	0.0000	SURCHARGED
15 minute summer	SW20	10	50.268	0.018	1.4	0.0007	0.0000	OK
15 minute summer	SW21	10	50.478	0.028	1.4	0.0011	0.0000	OK
120 minute summer	TANK1	86	49.756	0.206	6.2	13.5855	0.0000	SURCHARGED
720 minute winter	TANK2	690	49.590	0.390	1.9	44.7729	0.0000	SURCHARGED
720 minute winter	TANK3	690	49.585	0.505	1.8	26.0974	0.0000	SURCHARGED
15 minute summer	CP1	12	49.989	0.089	10.2	1.6645	0.0000	OK
720 minute winter	CP2	690	49.590	0.290	0.9	7.1643	0.0000	SURCHARGED
720 minute winter	CP3	690	49.590	0.413	1.4	3.3931	0.0000	SURCHARGED
360 minute winter	CP4	376	49.593	0.261	1.0	3.1433	0.0000	SURCHARGED
15 minute summer	CP5	11	50.172	0.024	5.0	0.2146	0.0000	OK
15 minute summer	CP6	11	50.367	0.055	12.0	0.4402	0.0000	OK
120 minute summer	DUMMY	86	49.763	0.213	10.7	0.0000	0.0000	OK
720 minute winter	DUMMY1	690	49.593	0.393	5.7	0.0000	0.0000	OK
720 minute winter	DUMMY2	690	49.590	0.510	2.6	0.0000	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)
360 minute winter	SW19	5.000	CP4	0.2	0.173	0.025	0.0548	
15 minute summer	SW20	7.000	TANK2	1.4	1.539	0.070	0.0394	
15 minute summer	SW21	6.000	CP6	1.4	0.448	0.176	0.0255	
120 minute summer	TANK1	1.004	SW04	2.2	0.687	0.037	0.0206	
720 minute winter	TANK2	1.006	SW06	1.7	0.239	0.034	0.5062	
720 minute winter	TANK3	1.008	SW07	0.9	0.246	0.014	0.1042	
15 minute summer	CP1	8.001	SW16	7.2	1.287	0.969	0.0179	
720 minute winter	CP2	9.002	SW17	0.7	0.485	0.048	0.0654	
720 minute winter	CP3	10.003	SW06	2.5	0.312	0.076	0.0458	
360 minute winter	CP4	5.001	SW04	1.0	0.347	0.102	0.1836	
15 minute summer	CP5	3.003	SW05	4.9	0.889	0.128	0.0107	
15 minute summer	CP6	4.001	SW05	11.6	1.683	0.588	0.0630	

Results for 30 year +35% CC Critical Storm Duration. Lowest mass balance: 98.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	RE1	10	50.879	0.079	5.6	0.0006	0.0000	OK
15 minute summer	RE2	10	50.103	0.053	6.8	0.0004	0.0000	OK
15 minute summer	RE3	12	49.820	0.270	5.6	0.0022	0.0000	FLOOD RISK
15 minute summer	RE4	10	50.674	0.024	1.9	0.0002	0.0000	OK
480 minute winter	RE5	472	49.764	0.314	0.3	0.0025	0.0000	FLOOD RISK
15 minute summer	RE6	10	50.808	0.058	6.8	0.0005	0.0000	OK
480 minute winter	RE7	472	49.764	0.314	0.2	0.0025	0.0000	FLOOD RISK
15 minute summer	SW01	11	50.750	0.079	5.5	0.0888	0.0000	OK
15 minute summer	SW02	10	50.576	0.053	15.9	0.0597	0.0000	OK
15 minute summer	SW03	11	49.901	0.301	33.8	0.3403	0.0000	SURCHARGED
480 minute winter	SW04	472	49.768	0.468	3.7	0.5292	0.0000	SURCHARGED
480 minute winter	SW05	472	49.768	0.538	3.0	0.6084	0.0000	SURCHARGED
480 minute winter	SW06	472	49.764	0.674	4.3	0.7628	0.0000	SURCHARGED
480 minute winter	SW07	472	49.759	0.684	0.9	0.7739	0.0000	FLOOD RISK
480 minute winter	SW08	472	49.759	0.699	0.9	0.7908	0.0000	OK
15 minute summer	SW09	10	50.388	0.053	3.1	0.0084	0.0000	OK
15 minute summer	SW10	10	50.305	0.062	4.3	0.0099	0.0000	OK
480 minute winter	SW11	472	49.764	0.314	0.6	0.0126	0.0000	FLOOD RISK
480 minute winter	SW12	472	49.764	0.381	0.9	0.0606	0.0000	SURCHARGED
480 minute winter	SW13	472	49.764	0.547	1.2	0.0870	0.0000	SURCHARGED
15 minute summer	SW14	10	50.136	0.036	1.9	0.0014	0.0000	OK
480 minute winter	SW15	472	49.765	0.392	0.5	0.0623	0.0000	SURCHARGED
15 minute summer	SW16	13	49.900	0.050	8.3	0.0080	0.0000	OK
480 minute winter	SW17	472	49.764	0.489	1.2	0.0778	0.0000	SURCHARGED
480 minute winter	SW18	472	49.764	0.581	2.6	0.0924	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	RE1	1.000	SW01	5.5	0.857	0.893	0.0802	
15 minute summer	RE2	2.000	SW03	6.8	0.493	0.269	0.2613	
15 minute summer	RE3	10.000	SW12	4.4	0.705	0.729	0.1304	
15 minute summer	RE4	3.000	SW09	1.9	0.679	0.130	0.0157	
480 minute winter	RE5	9.000	SW15	0.3	0.279	0.052	0.0661	
15 minute summer	RE6	4.000	CP6	6.8	1.323	0.627	0.0725	
480 minute winter	RE7	12.000	CP2	0.2	0.156	0.032	0.1128	
15 minute summer	SW01	1.001	SW02	5.4	0.849	0.903	0.0919	
15 minute summer	SW02	1.002	SW03	15.8	1.156	0.265	0.0960	
15 minute summer	SW03	1.003	DUMMY	33.2	1.886	1.866	0.0421	
480 minute winter	SW04	1.005	DUMMY1	3.2	0.609	0.139	0.0967	
480 minute winter	SW05	3.004	DUMMY1	2.9	0.560	0.160	0.0215	
480 minute winter	SW06	1.007	DUMMY2	6.0	0.629	0.168	0.0832	
480 minute winter	SW07	1.009	SW08	0.9	0.202	0.009	0.1506	
480 minute winter	SW08	Hydro-Brake®		0.9				54.9
15 minute summer	SW09	3.001	SW10	3.1	0.660	0.508	0.0426	
15 minute summer	SW10	3.002	CP5	4.3	1.251	0.579	0.0221	
480 minute winter	SW11	11.000	CP3	0.6	0.435	0.099	0.1264	
480 minute winter	SW12	10.001	SW13	0.9	0.401	0.148	0.1299	
480 minute winter	SW13	10.002	CP3	1.1	0.448	0.188	0.0309	
15 minute summer	SW14	8.000	CP1	1.9	0.423	0.278	0.0824	
480 minute winter	SW15	9.001	CP2	0.5	0.282	0.123	0.1244	
15 minute summer	SW16	8.002	SW18	8.3	1.242	0.498	0.0519	
480 minute winter	SW17	9.003	SW18	1.2	0.495	0.050	0.0901	
480 minute winter	SW18	8.003	SW06	2.8	0.370	0.083	0.0462	

Results for 30 year +35% CC Critical Storm Duration. Lowest mass balance: 98.81%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	SW19	472	49.768	0.318	0.2	0.0127	0.0000	FLOOD RISK
15 minute summer	SW20	10	50.271	0.021	1.9	0.0008	0.0000	OK
15 minute summer	SW21	10	50.483	0.033	1.9	0.0013	0.0000	OK
120 minute summer	TANK1	88	49.836	0.286	8.2	18.8431	0.0000	SURCHARGED
480 minute winter	TANK2	472	49.764	0.564	3.4	64.7681	0.0000	SURCHARGED
480 minute winter	TANK3	472	49.759	0.679	2.4	26.6974	0.0000	FLOOD RISK
15 minute summer	CP1	13	50.022	0.122	13.7	2.3604	0.0000	SURCHARGED
480 minute winter	CP2	472	49.764	0.464	1.6	11.2178	0.0000	SURCHARGED
480 minute winter	CP3	472	49.764	0.587	2.5	3.8609	0.0000	SURCHARGED
480 minute winter	CP4	472	49.768	0.436	1.2	3.7860	0.0000	SURCHARGED
15 minute summer	CP5	11	50.176	0.028	6.8	0.2601	0.0000	OK
15 minute summer	CP6	11	50.382	0.070	16.2	0.5697	0.0000	OK
120 minute summer	DUMMY	88	49.844	0.294	14.4	0.0000	0.0000	OK
480 minute winter	DUMMY1	472	49.768	0.568	5.2	0.0000	0.0000	OK
480 minute winter	DUMMY2	472	49.764	0.684	6.0	0.0000	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	SW19	5.000	CP4	0.2	0.178	0.025	0.0548	
15 minute summer	SW20	7.000	TANK2	1.9	1.587	0.095	0.0420	
15 minute summer	SW21	6.000	CP6	1.9	0.487	0.239	0.0332	
120 minute summer	TANK1	1.004	SW04	7.2	0.613	0.119	0.0301	
480 minute winter	TANK2	1.006	SW06	-1.8	0.167	-0.038	0.5062	
480 minute winter	TANK3	1.008	SW07	0.9	0.243	0.015	0.1042	
15 minute summer	CP1	8.001	SW16	8.3	1.290	1.117	0.0193	
480 minute winter	CP2	9.002	SW17	1.2	0.544	0.085	0.0654	
480 minute winter	CP3	10.003	SW06	2.1	0.373	0.066	0.0458	
480 minute winter	CP4	5.001	SW04	1.0	0.325	0.099	0.1836	
15 minute summer	CP5	3.003	SW05	6.7	1.164	0.174	0.0111	
15 minute summer	CP6	4.001	SW05	15.6	2.103	0.789	0.0704	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.12%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	RE1	11	50.966	0.166	7.3	0.0013	0.0000	SURCHARGED
15 minute summer	RE2	10	50.111	0.061	8.9	0.0005	0.0000	OK
15 minute summer	RE3	12	50.091	0.541	7.3	0.0043	0.0000	FLOOD RISK
15 minute summer	RE4	10	50.678	0.028	2.4	0.0002	0.0000	OK
720 minute winter	RE5	705	49.974	0.524	0.3	0.0042	0.0000	FLOOD RISK
15 minute summer	RE6	10	50.820	0.070	8.9	0.0006	0.0000	OK
720 minute winter	RE7	705	49.974	0.524	0.2	0.0042	0.0000	FLOOD RISK
15 minute summer	SW01	12	50.788	0.117	6.7	0.1322	0.0000	SURCHARGED
15 minute summer	SW02	10	50.584	0.061	20.0	0.0685	0.0000	OK
15 minute summer	SW03	11	50.019	0.419	43.4	0.4742	0.0000	SURCHARGED
720 minute winter	SW04	705	49.978	0.678	4.4	0.7673	0.0000	SURCHARGED
720 minute winter	SW05	705	49.978	0.748	2.7	0.8464	0.0000	SURCHARGED
720 minute winter	SW06	705	49.974	0.884	3.6	1.0002	0.0000	SURCHARGED
720 minute winter	SW07	705	49.969	0.894	1.0	1.0106	0.0000	FLOOD RISK
720 minute winter	SW08	705	49.969	0.909	1.0	1.0275	0.0000	OK
15 minute summer	SW09	10	50.397	0.062	4.0	0.0099	0.0000	OK
15 minute summer	SW10	10	50.318	0.075	5.6	0.0118	0.0000	OK
720 minute winter	SW11	705	49.974	0.524	0.5	0.0210	0.0000	FLOOD RISK
720 minute winter	SW12	705	49.974	0.591	0.8	0.0940	0.0000	SURCHARGED
720 minute winter	SW13	705	49.974	0.757	1.0	0.1204	0.0000	SURCHARGED
15 minute summer	SW14	10	50.141	0.041	2.4	0.0016	0.0000	OK
720 minute winter	SW15	705	49.974	0.601	0.5	0.0956	0.0000	FLOOD RISK
720 minute winter	SW16	705	49.974	0.124	1.3	0.0198	0.0000	SURCHARGED
720 minute winter	SW17	705	49.974	0.699	0.8	0.1112	0.0000	FLOOD RISK
720 minute winter	SW18	705	49.974	0.791	1.8	0.1258	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	RE1	1.000	SW01	6.7	0.886	1.085	0.0961	
15 minute summer	RE2	2.000	SW03	8.9	0.621	0.352	0.2749	
15 minute summer	RE3	10.000	SW12	5.3	0.678	0.878	0.1304	
15 minute summer	RE4	3.000	SW09	2.4	0.703	0.165	0.0191	
720 minute winter	RE5	9.000	SW15	0.3	0.259	0.052	0.0661	
15 minute summer	RE6	4.000	CP6	8.9	1.374	0.822	0.0944	
720 minute winter	RE7	12.000	CP2	0.2	0.148	0.032	0.1128	
15 minute summer	SW01	1.001	SW02	6.5	0.848	1.082	0.1055	
15 minute summer	SW02	1.002	SW03	19.9	1.401	0.333	0.1007	
15 minute summer	SW03	1.003	DUMMY	42.6	2.421	2.395	0.0421	
720 minute winter	SW04	1.005	DUMMY1	2.2	0.600	0.095	0.0967	
720 minute winter	SW05	3.004	DUMMY1	2.6	0.497	0.143	0.0215	
720 minute winter	SW06	1.007	DUMMY2	3.5	0.557	0.099	0.0832	
720 minute winter	SW07	1.009	SW08	1.0	0.128	0.010	0.1506	
720 minute winter	SW08	Hydro-Brake®		1.0				71.7
15 minute summer	SW09	3.001	SW10	4.0	0.697	0.658	0.0520	
15 minute summer	SW10	3.002	CP5	5.6	1.316	0.756	0.0270	
720 minute winter	SW11	11.000	CP3	0.5	0.400	0.083	0.1264	
720 minute winter	SW12	10.001	SW13	0.7	0.360	0.123	0.1299	
720 minute winter	SW13	10.002	CP3	1.0	0.433	0.163	0.0309	
15 minute summer	SW14	8.000	CP1	2.4	0.431	0.352	0.0867	
720 minute winter	SW15	9.001	CP2	0.5	0.236	0.113	0.1244	
720 minute winter	SW16	8.002	SW18	1.3	0.587	0.078	0.0692	
720 minute winter	SW17	9.003	SW18	0.8	0.411	0.033	0.0901	
720 minute winter	SW18	8.003	SW06	1.8	0.300	0.053	0.0462	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.12%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	SW19	705	49.978	0.528	0.2	0.0211	0.0000	FLOOD RISK
15 minute summer	SW20	10	50.273	0.023	2.4	0.0009	0.0000	OK
15 minute summer	SW21	10	50.488	0.038	2.4	0.0015	0.0000	OK
360 minute winter	TANK1	344	49.998	0.448	3.9	26.1399	0.0000	SURCHARGED
720 minute winter	TANK2	705	49.974	0.774	3.4	88.8133	0.0000	SURCHARGED
720 minute winter	TANK3	705	49.969	0.889	2.2	27.4190	0.0000	FLOOD RISK
15 minute summer	CP1	13	50.067	0.167	17.9	3.3082	0.0000	SURCHARGED
720 minute winter	CP2	705	49.974	0.674	1.5	11.4552	0.0000	FLOOD RISK
720 minute winter	CP3	705	49.974	0.797	2.2	4.0984	0.0000	FLOOD RISK
720 minute winter	CP4	705	49.978	0.646	0.9	4.0241	0.0000	SURCHARGED
15 minute summer	CP5	11	50.180	0.032	8.9	0.3074	0.0000	OK
15 minute summer	CP6	12	50.451	0.139	21.1	1.1595	0.0000	SURCHARGED
360 minute winter	DUMMY	344	50.003	0.453	5.6	0.0000	0.0000	OK
720 minute winter	DUMMY1	705	49.978	0.778	4.7	0.0000	0.0000	OK
720 minute winter	DUMMY2	705	49.974	0.894	3.5	0.0000	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	SW19	5.000	CP4	0.2	0.158	0.025	0.0548	
15 minute summer	SW20	7.000	TANK2	2.4	1.674	0.120	0.0443	
15 minute summer	SW21	6.000	CP6	2.4	0.507	0.303	0.0429	
360 minute winter	TANK1	1.004	SW04	3.2	0.756	0.053	0.0384	
720 minute winter	TANK2	1.006	SW06	-2.0	0.175	-0.041	0.5062	
720 minute winter	TANK3	1.008	SW07	1.0	0.230	0.015	0.1042	
15 minute summer	CP1	8.001	SW16	9.9	1.410	1.320	0.0205	
720 minute winter	CP2	9.002	SW17	0.8	0.485	0.057	0.0654	
720 minute winter	CP3	10.003	SW06	2.0	0.329	0.061	0.0458	
720 minute winter	CP4	5.001	SW04	0.8	0.281	0.079	0.1836	
15 minute summer	CP5	3.003	SW05	8.7	1.470	0.226	0.0115	
15 minute summer	CP6	4.001	SW05	16.8	2.189	0.848	0.0804	