

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	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)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Depth (m)
S45L	0.051	5.00	101.750	600	1.104
S45	0.082	5.00	101.670	1200	1.200
S46LA	0.068	5.00	101.300	600	1.111
S46LB	0.033	5.00	101.200	600	1.051
S46	0.041	5.00	101.170	1200	1.200
S47LA	0.065	5.00	101.200	600	1.282
S47LB	0.050	5.00	101.000	600	1.095
S47	0.020	5.00	100.920	1200	1.200
S48LA	0.036	5.00	101.400	600	1.175
S48LB	0.046	5.00	101.200	600	0.959
S48	0.056	5.00	101.250	1200	1.200
S49L	0.053	5.00	101.600	600	1.509
S49	0.024	5.00	101.500	1350	1.868
S50	0.018	5.00	101.170	1350	1.699
S51L	0.065	5.00	100.900	600	1.097
S51	0.034	5.00	101.000	1350	1.617
S52	0.012	5.00	100.800	1350	1.578
S53L	0.052	5.00	101.400	600	1.189
S53	0.030	5.00	101.200	1200	1.200
S54	0.015	5.00	100.900	1350	1.733
S55L	0.082	5.00	100.700	600	1.201
S55	0.039	5.00	100.730	1350	1.638
S56LA	0.106	5.00	100.450	600	1.167
S56LB	0.036	5.00	100.400	600	1.133
S56	0.018	5.00	100.240	1350	1.377
S57L	0.075	5.00	100.100	600	0.859
S57	0.039	5.00	100.200	1200	1.200
S58L	0.046	5.00	100.300	600	1.305
S58	0.024	5.00	100.000	1200	1.200
S59L	0.077	5.00	100.200	600	1.386
S59	0.015	5.00	100.000	1350	1.615
S60	0.025	5.00	100.140	1350	1.838
S61LA	0.104	5.00	100.000	600	1.382
S61LB	0.072	5.00	100.000	600	1.408
S61	0.031	5.00	99.900	1350	1.724
S62LA	0.104	5.00	99.500	600	1.061
S62LB	0.077	5.00	99.300	600	0.849
S62	0.029	5.00	99.400	1350	1.424
Basin			99.684	1200	1.975
S63++			99.800	1200	1.740
HW9			99.000	1200	1.007

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	S45L	S45	3.960	0.600	100.646	100.620	0.026	152.3	225	5.06	50.0
1.001	S45	S46	37.008	0.600	100.470	99.970	0.500	74.0	375	5.36	50.0
2.000	S46LA	S46	10.371	0.600	100.189	100.120	0.069	150.3	225	5.16	50.0
3.000	S46LB	S46	4.418	0.600	100.149	100.120	0.029	152.3	225	5.07	50.0
1.002	S46	S47	42.990	0.600	99.970	99.720	0.250	172.0	375	5.87	50.0
4.000	S47LA	S47	7.245	0.600	99.918	99.870	0.048	150.9	225	5.11	50.0
5.000	S47LB	S47	5.219	0.600	99.905	99.870	0.035	149.1	225	5.08	50.0
1.003	S47	S50	22.273	0.600	99.720	99.696	0.024	928.0	375	6.51	48.8
7.000	S48LA	S48	3.744	0.600	100.225	100.200	0.025	149.8	225	5.06	50.0
6.000	S48LB	S48	6.182	0.600	100.241	100.200	0.041	150.8	225	5.10	50.0
6.001	S48	S49	26.458	0.600	100.050	99.857	0.193	137.1	375	5.38	50.0
8.000	S49L	S49	12.576	0.600	100.091	100.007	0.084	149.7	225	5.20	50.0
6.002	S49	S50	30.372	0.600	99.632	99.471	0.161	188.6	600	5.67	50.0
1.004	S50	S51	19.859	0.600	99.471	99.383	0.088	225.7	600	6.71	48.1
9.000	S51L	S51	6.725	0.600	99.803	99.758	0.045	149.4	225	5.11	50.0
1.005	S51	S52	36.149	0.600	99.383	99.222	0.161	224.5	600	7.08	46.8
1.006	S52	S54	12.365	0.600	99.222	99.167	0.055	224.8	600	7.21	46.4
10.000	S53L	S53	9.163	0.600	100.211	100.150	0.061	150.2	225	5.14	50.0
10.001	S53	S54	12.920	0.600	100.000	99.392	0.608	21.3	375	5.20	50.0
1.007	S54	S55	16.967	0.600	99.167	99.092	0.075	226.2	600	7.39	45.9
11.000	S55L	S55	4.875	0.600	99.499	99.467	0.032	152.3	225	5.08	50.0
1.008	S55	S56	51.392	0.600	99.092	98.863	0.229	224.4	600	7.91	44.3
12.000	S56LA	S56	6.713	0.600	99.283	99.238	0.045	149.2	225	5.10	50.0
13.000	S56LB	S56	4.300	0.600	99.267	99.238	0.029	148.3	225	5.07	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	1.057	42.0	6.9	0.879	0.825	0.051	0.0	61	0.781
1.001	2.108	232.8	18.0	0.825	0.825	0.133	0.0	70	1.269
2.000	1.064	42.3	9.2	0.886	0.825	0.068	0.0	71	0.852
3.000	1.057	42.0	4.5	0.826	0.825	0.033	0.0	50	0.694
1.002	1.378	152.2	37.3	0.825	0.825	0.275	0.0	126	1.145
4.000	1.062	42.2	8.8	1.057	0.825	0.065	0.0	70	0.845
5.000	1.068	42.5	6.8	0.870	0.825	0.050	0.0	60	0.783
1.003	0.587	64.8	54.2	0.825	1.099	0.410	0.0	263	0.654
7.000	1.066	42.4	4.9	0.950	0.825	0.036	0.0	51	0.715
6.000	1.062	42.2	6.2	0.734	0.825	0.046	0.0	58	0.766
6.001	1.545	170.7	18.7	0.825	1.268	0.138	0.0	83	1.027
8.000	1.066	42.4	7.2	1.284	1.268	0.053	0.0	63	0.801
6.002	1.769	500.3	29.1	1.268	1.099	0.215	0.0	97	0.985
1.004	1.617	457.1	83.8	1.099	1.017	0.643	0.0	173	1.244
9.000	1.067	42.4	8.8	0.872	1.017	0.065	0.0	69	0.843
1.005	1.621	458.2	94.2	1.017	0.978	0.742	0.0	183	1.287
1.006	1.620	458.0	94.9	0.978	1.133	0.754	0.0	184	1.290
10.000	1.064	42.3	7.0	0.964	0.825	0.052	0.0	62	0.793
10.001	3.945	435.7	11.1	0.825	1.133	0.082	0.0	41	1.714
1.007	1.615	456.5	105.9	1.133	1.038	0.851	0.0	195	1.326
11.000	1.057	42.0	11.1	0.976	1.038	0.082	0.0	79	0.894
1.008	1.621	458.4	116.7	1.038	0.777	0.972	0.0	205	1.365
12.000	1.068	42.5	14.4	0.942	0.777	0.106	0.0	90	0.967
13.000	1.071	42.6	4.9	0.908	0.777	0.036	0.0	51	0.718

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)
1.009	S56	S59	19.215	0.600	98.863	98.385	0.478	40.2	600	8.00	44.0
14.000	S57L	S57	13.667	0.600	99.241	99.150	0.091	150.2	225	5.21	50.0
14.001	S57	S58	17.581	0.600	99.000	98.800	0.200	87.9	375	5.37	50.0
15.000	S58L	S58	6.741	0.600	98.995	98.950	0.045	149.8	225	5.11	50.0
14.002	S58	S59	25.809	0.600	98.800	98.610	0.190	135.8	375	5.64	50.0
16.000	S59L	S59	8.129	0.600	98.814	98.760	0.054	150.5	225	5.13	50.0
1.010	S59	S60	18.823	0.600	98.385	98.302	0.083	226.8	600	8.19	43.5
1.011	S60	S61	28.197	0.600	98.302	98.176	0.126	223.8	600	8.48	42.7
17.000	S61LA	S61	9.968	0.600	98.618	98.551	0.067	148.8	225	5.16	50.0
18.000	S61LB	S61	6.039	0.600	98.592	98.551	0.041	147.3	225	5.09	50.0
1.012	S61	S62	45.000	0.600	98.176	97.976	0.200	225.0	600	8.95	41.5
20.000	S62LA	S62	13.162	0.600	98.439	98.351	0.088	149.6	225	5.21	50.0
19.000	S62LB	S62	14.960	0.600	98.451	98.351	0.100	149.6	225	5.23	50.0
1.013	S62	Basin	9.524	0.600	97.976	97.709	0.267	35.7	600	8.98	41.4
1.014	Basin	S63++	5.348	0.600	98.084	98.060	0.024	222.8	375	9.06	41.2
1.015	S63++	HW9	15.211	0.600	98.060	97.993	0.067	227.0	375	9.27	40.7
							0.067	0.0	375		
							98.143	0.0	375		

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)
1.009	3.848	1088.0	135.1	0.777	1.015	1.132	0.0	141	2.659
14.000	1.064	42.3	10.2	0.634	0.825	0.075	0.0	75	0.880
14.001	1.933	213.5	15.4	0.825	0.825	0.114	0.0	68	1.142
15.000	1.066	42.4	6.2	1.080	0.825	0.046	0.0	58	0.769
14.002	1.553	171.5	24.9	0.825	1.015	0.184	0.0	96	1.120
16.000	1.063	42.3	10.4	1.161	1.015	0.077	0.0	76	0.884
1.010	1.613	455.9	166.1	1.015	1.238	1.408	0.0	250	1.491
1.011	1.623	459.0	166.0	1.238	1.124	1.433	0.0	249	1.498
17.000	1.069	42.5	14.1	1.157	1.124	0.104	0.0	89	0.964
18.000	1.075	42.7	9.8	1.183	1.124	0.072	0.0	73	0.872
1.012	1.619	457.8	184.5	1.124	0.824	1.640	0.0	265	1.536
20.000	1.067	42.4	14.1	0.836	0.824	0.104	0.0	89	0.961
19.000	1.066	42.4	10.4	0.624	0.824	0.077	0.0	76	0.887
1.013	4.086	1155.2	207.6	0.824	1.375	1.850	0.0	171	3.132
1.014	1.209	133.6	206.8	1.225	1.365	1.850	0.0	375	1.225
1.015	1.198	132.3	204.3	1.365	0.632	1.850	0.0	375	1.213

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	3.960	152.3	225	Circular	101.750	100.646	0.879	101.670	100.620	0.825
1.001	37.008	74.0	375	Circular	101.670	100.470	0.825	101.170	99.970	0.825
2.000	10.371	150.3	225	Circular	101.300	100.189	0.886	101.170	100.120	0.825
3.000	4.418	152.3	225	Circular	101.200	100.149	0.826	101.170	100.120	0.825
1.002	42.990	172.0	375	Circular	101.170	99.970	0.825	100.920	99.720	0.825
4.000	7.245	150.9	225	Circular	101.200	99.918	1.057	100.920	99.870	0.825
5.000	5.219	149.1	225	Circular	101.000	99.905	0.870	100.920	99.870	0.825
1.003	22.273	928.0	375	Circular	100.920	99.720	0.825	101.170	99.696	1.099
7.000	3.744	149.8	225	Circular	101.400	100.225	0.950	101.250	100.200	0.825
6.000	6.182	150.8	225	Circular	101.200	100.241	0.734	101.250	100.200	0.825
6.001	26.458	137.1	375	Circular	101.250	100.050	0.825	101.500	99.857	1.268
8.000	12.576	149.7	225	Circular	101.600	100.091	1.284	101.500	100.007	1.268
6.002	30.372	188.6	600	Circular	101.500	99.632	1.268	101.170	99.471	1.099
1.004	19.859	225.7	600	Circular	101.170	99.471	1.099	101.000	99.383	1.017
9.000	6.725	149.4	225	Circular	100.900	99.803	0.872	101.000	99.758	1.017
1.005	36.149	224.5	600	Circular	101.000	99.383	1.017	100.800	99.222	0.978
1.006	12.365	224.8	600	Circular	100.800	99.222	0.978	100.900	99.167	1.133
10.000	9.163	150.2	225	Circular	101.400	100.211	0.964	101.200	100.150	0.825
10.001	12.920	21.3	375	Circular	101.200	100.000	0.825	100.900	99.392	1.133
1.007	16.967	226.2	600	Circular	100.900	99.167	1.133	100.730	99.092	1.038
11.000	4.875	152.3	225	Circular	100.700	99.499	0.976	100.730	99.467	1.038
1.008	51.392	224.4	600	Circular	100.730	99.092	1.038	100.240	98.863	0.777
12.000	6.713	149.2	225	Circular	100.450	99.283	0.942	100.240	99.238	0.777
13.000	4.300	148.3	225	Circular	100.400	99.267	0.908	100.240	99.238	0.777
1.009	19.215	40.2	600	Circular	100.240	98.863	0.777	100.000	98.385	1.015

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
1.000	S45L	600	Manhole	S45	1200	Manhole
1.001	S45	1200	Manhole	S46	1200	Manhole
2.000	S46LA	600	Manhole	S46	1200	Manhole
3.000	S46LB	600	Manhole	S46	1200	Manhole
1.002	S46	1200	Manhole	S47	1200	Manhole
4.000	S47LA	600	Manhole	S47	1200	Manhole
5.000	S47LB	600	Manhole	S47	1200	Manhole
1.003	S47	1200	Manhole	S50	1350	Manhole
7.000	S48LA	600	Manhole	S48	1200	Manhole
6.000	S48LB	600	Manhole	S48	1200	Manhole
6.001	S48	1200	Manhole	S49	1350	Manhole
8.000	S49L	600	Manhole	S49	1350	Manhole
6.002	S49	1350	Manhole	S50	1350	Manhole
1.004	S50	1350	Manhole	S51	1350	Manhole
9.000	S51L	600	Manhole	S51	1350	Manhole
1.005	S51	1350	Manhole	S52	1350	Manhole
1.006	S52	1350	Manhole	S54	1350	Manhole
10.000	S53L	600	Manhole	S53	1200	Manhole
10.001	S53	1200	Manhole	S54	1350	Manhole
1.007	S54	1350	Manhole	S55	1350	Manhole
11.000	S55L	600	Manhole	S55	1350	Manhole
1.008	S55	1350	Manhole	S56	1350	Manhole
12.000	S56LA	600	Manhole	S56	1350	Manhole
13.000	S56LB	600	Manhole	S56	1350	Manhole
1.009	S56	1350	Manhole	S59	1350	Manhole

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)
14.000	13.667	150.2	225	Circular	100.100	99.241	0.634	100.200	99.150	0.825
14.001	17.581	87.9	375	Circular	100.200	99.000	0.825	100.000	98.800	0.825
15.000	6.741	149.8	225	Circular	100.300	98.995	1.080	100.000	98.950	0.825
14.002	25.809	135.8	375	Circular	100.000	98.800	0.825	100.000	98.610	1.015
16.000	8.129	150.5	225	Circular	100.200	98.814	1.161	100.000	98.760	1.015
1.010	18.823	226.8	600	Circular	100.000	98.385	1.015	100.140	98.302	1.238
1.011	28.197	223.8	600	Circular	100.140	98.302	1.238	99.900	98.176	1.124
17.000	9.968	148.8	225	Circular	100.000	98.618	1.157	99.900	98.551	1.124
18.000	6.039	147.3	225	Circular	100.000	98.592	1.183	99.900	98.551	1.124
1.012	45.000	225.0	600	Circular	99.900	98.176	1.124	99.400	97.976	0.824
20.000	13.162	149.6	225	Circular	99.500	98.439	0.836	99.400	98.351	0.824
19.000	14.960	149.6	225	Circular	99.300	98.451	0.624	99.400	98.351	0.824
1.013	9.524	35.7	600	Circular	99.400	97.976	0.824	99.684	97.709	1.375
1.014	5.348	222.8	375	Circular	99.684	98.084	1.225	99.800	98.060	1.365
1.015	15.211	227.0	375	Circular	99.800	98.060	1.365	99.000	97.993	0.632
		0.0	375							
		0.0	375							

Link	US Node	Dia (mm)	Node Type	DS Node	Dia (mm)	Node Type
14.000	S57L	600	Manhole	S57	1200	Manhole
14.001	S57	1200	Manhole	S58	1200	Manhole
15.000	S58L	600	Manhole	S58	1200	Manhole
14.002	S58	1200	Manhole	S59	1350	Manhole
16.000	S59L	600	Manhole	S59	1350	Manhole
1.010	S59	1350	Manhole	S60	1350	Manhole
1.011	S60	1350	Manhole	S61	1350	Manhole
17.000	S61LA	600	Manhole	S61	1350	Manhole
18.000	S61LB	600	Manhole	S61	1350	Manhole
1.012	S61	1350	Manhole	S62	1350	Manhole
20.000	S62LA	600	Manhole	S62	1350	Manhole
19.000	S62LB	600	Manhole	S62	1350	Manhole
1.013	S62	1350	Manhole	Basin	1200	Manhole
1.014	Basin	1200	Manhole	S63++	1200	Manhole
1.015	S63++	1200	Manhole	HW9	1200	Manhole

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S45L	101.750	1.104	600	Adoptable				
					0	1.000	100.646	225
S45	101.670	1.200	1200	Adoptable				
					1	1.000	100.620	225
					0	1.001	100.470	375

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S46LA	101.300	1.111	600	Adoptable	0	2.000	100.189	225
S46LB	101.200	1.051	600	Adoptable	0	3.000	100.149	225
S46	101.170	1.200	1200	Adoptable	1230	3.000 2.000 1.001 1.002	100.120 100.120 99.970 99.970	225 225 375 375
S47LA	101.200	1.282	600	Adoptable	0	4.000	99.918	225
S47LB	101.000	1.095	600	Adoptable	0	5.000	99.905	225
S47	100.920	1.200	1200	Adoptable	1230	5.000 4.000 1.002 1.003	99.870 99.870 99.720 99.720	225 225 375 375
S48LA	101.400	1.175	600	Adoptable	0	7.000	100.225	225
S48LB	101.200	0.959	600	Adoptable	0	6.000	100.241	225
S48	101.250	1.200	1200	Adoptable	12	7.000 6.000 6.001	100.200 100.200 100.050	225 225 375
S49L	101.600	1.509	600	Adoptable	0	8.000	100.091	225
S49	101.500	1.868	1350	Adoptable	12	8.000 6.001 6.002	100.007 99.857 99.632	225 375 600
S50	101.170	1.699	1350	Adoptable	12	6.002 1.003 1.004	99.471 99.696 99.471	600 375 600
S51L	100.900	1.097	600	Adoptable	0	9.000	99.803	225

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections		Link	IL (m)	Dia (mm)
S51	101.000	1.617	1350	Adoptable		1	9.000	99.758	225
						2	1.004	99.383	600
						0	1.005	99.383	600
S52	100.800	1.578	1350	Adoptable		1	1.005	99.222	600
						0	1.006	99.222	600
S53L	101.400	1.189	600	Adoptable		0	10.000	100.211	225
S53	101.200	1.200	1200	Adoptable		1	10.000	100.150	225
						0	10.001	100.000	375
S54	100.900	1.733	1350	Adoptable		1	10.001	99.392	375
						2	1.006	99.167	600
						0	1.007	99.167	600
S55L	100.700	1.201	600	Adoptable		0	11.000	99.499	225
						1	11.000	99.467	225
S55	100.730	1.638	1350	Adoptable		2	1.007	99.092	600
						0	1.008	99.092	600
						0	12.000	99.283	225
S56LA	100.450	1.167	600	Adoptable		0	13.000	99.267	225
S56LB	100.400	1.133	600	Adoptable		0	13.000	99.238	225
						2	12.000	99.238	225
S56	100.240	1.377	1350	Adoptable		3	1.008	98.863	600
						0	1.009	98.863	600
						1	13.000	99.238	225
						2	12.000	99.238	225
S57L	100.100	0.859	600	Adoptable		0	14.000	99.241	225
						1	14.000	99.150	225
S57	100.200	1.200	1200	Adoptable		0	14.001	99.000	375
						1	14.000	99.150	225
S58L	100.300	1.305	600	Adoptable		0	15.000	98.995	225
						0	15.000	98.995	225

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)
S58	100.000	1.200	1200	Adoptable		1	15.000	98.950 225
						2	14.001	98.800 375
						0	14.002	98.800 375
S59L	100.200	1.386	600	Adoptable		0	16.000	98.814 225
S59	100.000	1.615	1350	Adoptable		1	16.000	98.760 225
						2	14.002	98.610 375
						3	1.009	98.385 600
						0	1.010	98.385 600
S60	100.140	1.838	1350	Adoptable		1	1.010	98.302 600
						0	1.011	98.302 600
S61LA	100.000	1.382	600	Adoptable		0	17.000	98.618 225
						0	18.000	98.592 225
S61LB	100.000	1.408	600	Adoptable		0	18.000	98.592 225
						1	18.000	98.551 225
						2	17.000	98.551 225
						3	1.011	98.176 600
S61	99.900	1.724	1350	Adoptable		0	1.012	98.176 600
						1	18.000	98.551 225
						2	17.000	98.551 225
						3	1.011	98.176 600
S62LA	99.500	1.061	600	Adoptable		0	20.000	98.439 225
						0	20.000	98.439 225
S62LB	99.300	0.849	600	Adoptable		0	19.000	98.451 225
						1	20.000	98.351 225
						2	19.000	98.351 225
						3	1.012	97.976 600
S62	99.400	1.424	1350	Adoptable		0	1.013	97.976 600
						1	1.013	97.709 600
						0	1.014	98.084 375
						1	1.014	98.060 375
Basin	99.684	1.975	1200	Adoptable		1	1.013	97.709 600
						0	1.014	98.084 375
S63++	99.800	1.740	1200	Adoptable		1	1.014	98.060 375
						0	1.015	98.060 375
HW9	99.000	1.007	1200	Adoptable		1	1.015	97.993 375

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	10.0		

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 %)
100	40	0	0

Node S63++ Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	98.060	Product Number	CTL-SHE-0104-5100-1200-5100
Design Depth (m)	1.200	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.1	Min Node Diameter (mm)	1200

Node Basin Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	97.910
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	1000.0	0.0	1.600	1700.0	0.0

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S45L	12	100.994	0.348	30.2	0.2596	0.0000	SURCHARGED
15 minute winter	S45	12	100.983	0.513	78.4	0.9298	0.0000	SURCHARGED
15 minute winter	S46LA	12	101.009	0.820	40.2	0.7339	0.0000	FLOOD RISK
15 minute winter	S46LB	12	100.966	0.817	19.5	0.4879	0.0000	FLOOD RISK
15 minute winter	S46	12	100.960	0.990	143.3	1.4589	0.0000	FLOOD RISK
15 minute winter	S47LA	12	100.825	0.907	38.5	0.7164	0.0000	SURCHARGED
15 minute winter	S47LB	12	100.804	0.899	29.6	0.6646	0.0000	FLOOD RISK
15 minute winter	S47	12	100.785	1.065	217.6	1.3825	0.0000	FLOOD RISK
15 minute winter	S48LA	12	100.582	0.356	21.3	0.2100	0.0000	SURCHARGED
15 minute winter	S48LB	12	100.585	0.344	27.2	0.2621	0.0000	SURCHARGED
15 minute winter	S48	12	100.569	0.519	81.3	0.8297	0.0000	SURCHARGED
15 minute winter	S49L	12	100.589	0.498	31.4	0.3158	0.0000	SURCHARGED
15 minute winter	S49	12	100.553	0.921	125.2	1.4365	0.0000	SURCHARGED
15 minute winter	S50	12	100.545	1.074	336.3	1.6510	0.0000	SURCHARGED
15 minute winter	S51L	12	100.526	0.723	38.5	0.6327	0.0000	SURCHARGED
15 minute winter	S51	12	100.484	1.101	376.2	1.8081	0.0000	SURCHARGED
15 minute winter	S52	12	100.371	1.149	361.9	1.7312	0.0000	SURCHARGED
15 minute winter	S53L	10	100.368	0.157	30.8	0.1128	0.0000	OK
15 minute winter	S53	12	100.321	0.320	48.2	0.4426	0.0000	OK
15 minute winter	S54	12	100.310	1.142	399.9	1.7343	0.0000	SURCHARGED
15 minute winter	S55L	12	100.266	0.767	48.4	0.7408	0.0000	SURCHARGED
15 minute winter	S55	12	100.218	1.126	424.0	1.8789	0.0000	SURCHARGED
15 minute winter	S56LA	12	100.073	0.790	62.7	0.9412	0.0000	SURCHARGED
15 minute winter	S56LB	12	99.979	0.712	21.3	0.4273	0.0000	SURCHARGED
15 minute winter	S56	12	99.971	1.108	490.0	1.7302	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)
15 minute winter	S45L	1.000	S45	30.0	1.065	0.713	0.1575	
15 minute winter	S45	1.001	S46	71.5	1.054	0.307	4.0819	
15 minute winter	S46LA	2.000	S46	39.2	1.088	0.927	0.4125	
15 minute winter	S46LB	3.000	S46	19.0	0.843	0.451	0.1757	
15 minute winter	S46	1.002	S47	140.0	1.269	0.920	4.7417	
15 minute winter	S47LA	4.000	S47	37.3	0.937	0.883	0.2881	
15 minute winter	S47LB	5.000	S47	28.5	0.759	0.672	0.2076	
15 minute winter	S47	1.003	S50	215.8	1.959	3.332	2.4566	
15 minute winter	S48LA	7.000	S48	21.2	0.991	0.500	0.1489	
15 minute winter	S48LB	6.000	S48	27.0	1.059	0.638	0.2459	
15 minute winter	S48	6.001	S49	80.0	1.474	0.469	2.9182	
15 minute winter	S49L	8.000	S49	31.0	1.114	0.731	0.5002	
15 minute winter	S49	6.002	S50	109.8	0.714	0.220	8.5551	
15 minute winter	S50	1.004	S51	318.0	1.264	0.696	5.5938	
15 minute winter	S51L	9.000	S51	38.1	1.130	0.898	0.2675	
15 minute winter	S51	1.005	S52	354.8	1.330	0.774	10.1824	
15 minute winter	S52	1.006	S54	351.2	1.248	0.767	3.4829	
15 minute winter	S53L	10.000	S53	30.5	1.099	0.720	0.2653	
15 minute winter	S53	10.001	S54	48.1	2.090	0.110	1.3605	
15 minute winter	S54	1.007	S55	379.7	1.441	0.832	4.7792	
15 minute winter	S55L	11.000	S55	46.3	1.185	1.101	0.1939	
15 minute winter	S55	1.008	S56	428.6	1.975	0.935	14.4760	
15 minute winter	S56LA	12.000	S56	58.1	1.460	1.368	0.2670	
15 minute winter	S56LB	13.000	S56	28.6	0.977	0.671	0.1710	
15 minute winter	S56	1.009	S59	494.3	1.755	0.454	5.4124	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.73%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S57L	12	99.951	0.710	44.3	0.8204	0.0000	FLOOD RISK
15 minute winter	S57	12	99.871	0.871	61.3	1.2685	0.0000	SURCHARGED
15 minute winter	S58L	12	99.873	0.878	27.2	0.5577	0.0000	SURCHARGED
15 minute winter	S58	12	99.855	1.055	95.5	1.4044	0.0000	FLOOD RISK
15 minute winter	S59L	12	99.857	1.043	45.5	0.8744	0.0000	SURCHARGED
15 minute winter	S59	12	99.796	1.411	614.5	2.1511	0.0000	FLOOD RISK
15 minute winter	S60	12	99.525	1.223	626.0	1.9160	0.0000	SURCHARGED
15 minute winter	S61LA	11	99.319	0.701	61.5	0.7260	0.0000	SURCHARGED
15 minute winter	S61LB	12	99.209	0.617	42.5	0.4898	0.0000	SURCHARGED
15 minute winter	S61	12	99.165	0.989	723.0	1.5934	0.0000	SURCHARGED
1440 minute winter	S62LA	1410	99.016	0.577	2.7	0.7283	0.0000	SURCHARGED
1440 minute winter	S62LB	1410	99.016	0.565	2.0	0.6718	0.0000	FLOOD RISK
1440 minute winter	S62	1410	99.015	1.039	126.3	1.6983	0.0000	SURCHARGED
1440 minute winter	Basin	1410	99.015	1.306	113.0	1374.7150	0.0000	SURCHARGED
1440 minute winter	S63++	1410	99.016	0.956	5.1	1.0808	0.0000	SURCHARGED
30 minute winter	HW9	35	98.043	0.050	5.1	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 winter	S57L	14.000	S57	39.7	1.158	0.938	0.5436	
15 minute winter	S57	14.001	S58	58.2	1.081	0.273	1.9391	
15 minute winter	S58L	15.000	S58	23.9	0.991	0.564	0.2681	
15 minute winter	S58	14.002	S59	94.6	1.183	0.552	2.8467	
15 minute winter	S59L	16.000	S59	41.6	1.057	0.984	0.3233	
15 minute winter	S59	1.010	S60	614.3	2.181	1.347	5.3020	
15 minute winter	S60	1.011	S61	626.0	2.223	1.364	7.9425	
15 minute winter	S61LA	17.000	S61	57.3	1.442	1.348	0.3964	
15 minute winter	S61LB	18.000	S61	39.3	1.097	0.920	0.2402	
15 minute winter	S61	1.012	S62	723.1	2.569	1.580	12.3696	
1440 minute winter	S62LA	20.000	S62	2.6	0.564	0.062	0.5235	
1440 minute winter	S62LB	19.000	S62	2.0	0.517	0.047	0.5950	
1440 minute winter	S62	1.013	Basin	113.0	0.590	0.098	2.6827	
1440 minute winter	Basin	1.014	S63++	5.1	0.125	0.038	0.5899	
1440 minute winter	S63++	1.015	HW9	5.1	0.579	0.039	0.1342	325.0