

Design Settings

Rainfall Methodology	FEH-13	Minimum Velocity (m/s)	1.00
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	0.450
Time of Entry (mins)	200.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
SW1.0	0.000	200.00	24.690	450	378138.738	391994.295	0.600
SW1.1	0.021	200.00	25.050	450	378168.257	392009.786	1.182
SW1.2	0.017	200.00	25.040	450	378178.172	391992.069	1.341
SW1.3	0.000		25.070	450	378170.951	391988.193	1.439
SW2.0	0.019	200.00	24.630	450	378132.868	391989.148	0.600
SW2.1	0.018	200.00	25.020	450	378142.431	391971.261	1.125
SW1.4	0.009	200.00	25.070	450	378172.383	391985.526	1.477
SW1.5	0.000		24.980	450	378174.480	391981.619	1.417
SW1.6	0.006		25.060	450	378178.176	391982.311	1.522

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	SW1.0	SW1.1	33.337	0.600	24.090	23.868	0.222	150.0	150	30.00	50.0
1.001	SW1.1	SW1.2	20.303	0.600	23.868	23.699	0.169	120.0	150	30.00	50.0
1.002	SW1.2	SW1.3	8.195	0.600	23.699	23.631	0.068	120.0	150	30.00	50.0
1.003	SW1.3	SW1.4	3.027	0.600	23.631	23.593	0.038	80.0	150	30.00	50.0
2.000	SW2.0	SW2.1	20.283	0.600	24.030	23.895	0.135	150.0	150	30.00	50.0
2.001	SW2.1	SW1.4	33.175	0.600	23.895	23.593	0.302	109.9	150	30.00	50.0
1.004	SW1.4	SW1.5	4.434	0.600	23.593	23.563	0.030	150.0	150	30.00	50.0
1.005	SW1.5	SW1.6	3.760	0.600	23.563	23.538	0.025	150.0	150	30.00	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	0.818	14.5	0.0	0.450	1.032	0.000	0.0	0	0.000
1.001	0.916	16.2	2.8	1.032	1.191	0.021	0.0	42	0.690
1.002	0.916	16.2	5.1	1.191	1.289	0.038	0.0	58	0.816
1.003	1.125	19.9	5.1	1.289	1.327	0.038	0.0	52	0.944
2.000	0.818	14.5	2.6	0.450	0.975	0.019	0.0	43	0.621
2.001	0.958	16.9	5.0	0.975	1.327	0.037	0.0	56	0.836
1.004	0.818	14.5	11.4	1.327	1.267	0.084	0.0	100	0.905
1.005	0.818	14.5	11.4	1.267	1.372	0.084	0.0	100	0.905

Simulation Settings

Rainfall Methodology	FEH-13	Skip Steady State	✓	Check Discharge Volume	✓
Summer CV	0.750	Drain Down Time (mins)	240	100 year 360 minute (m ³)	
Winter CV	0.840	Additional Storage (m ³ /ha)	20.0		
Analysis Speed	Normal	Check Discharge Rate(s)	✓		

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
100	0	0	0
100	45	0	0

Pre-development Discharge Rate

Site Makeup	Greenfield	Growth Factor 30 year	1.95
Greenfield Method	IH124	Growth Factor 100 year	2.48
Positively Drained Area (ha)		Betterment (%)	0
SAAR (mm)		QBar	
Soil Index	1	Q 1 year (l/s)	
SPR	0.10	Q 30 year (l/s)	
Region	1	Q 100 year (l/s)	
Growth Factor 1 year	0.85		

Pre-development Discharge Volume

Site Makeup	Greenfield	Return Period (years)	100
Greenfield Method	FSR/FEH	Climate Change (%)	0
Positively Drained Area (ha)		Storm Duration (mins)	360
Soil Index	1	Betterment (%)	0
SPR	0.10	PR	
CWI		Runoff Volume (m ³)	

Node SW1.6 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.02876	Invert Level (m)	23.538	Depth (m)	0.800
Side Inf Coefficient (m/hr)	0.02876	Time to half empty (mins)	1339	Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	9.500	Number Required	1
Porosity	0.95	Pit Length (m)	8.000		

Results for 2 year Critical Storm Duration. Lowest mass balance: 95.37%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute summer	SW1.0	1	24.090	0.000	0.0	0.0000	0.0000	OK
180 minute winter	SW1.1	160	23.882	0.014	0.3	0.0073	0.0000	OK
180 minute winter	SW1.2	164	23.718	0.019	0.5	0.0077	0.0000	OK
720 minute winter	SW1.3	705	23.692	0.061	0.9	0.0097	0.0000	OK
240 minute winter	SW2.0	208	24.045	0.015	0.3	0.0119	0.0000	OK
240 minute winter	SW2.1	212	23.913	0.018	0.5	0.0085	0.0000	OK
720 minute winter	SW1.4	705	23.692	0.099	1.2	0.0279	0.0000	OK
720 minute winter	SW1.5	705	23.692	0.129	1.1	0.0205	0.0000	OK
720 minute winter	SW1.6	705	23.692	0.154	1.3	11.1611	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)
15 minute summer	SW1.0	1.000	SW1.1	0.0	0.000	0.000	0.0066
180 minute winter	SW1.1	1.001	SW1.2	0.3	0.291	0.019	0.0213
180 minute winter	SW1.2	1.002	SW1.3	0.5	0.435	0.031	0.0147
720 minute winter	SW1.3	1.003	SW1.4	0.7	0.315	0.037	0.0289
240 minute winter	SW2.0	2.000	SW2.1	0.3	0.291	0.021	0.0210
240 minute winter	SW2.1	2.001	SW1.4	0.5	0.315	0.030	0.1689
720 minute winter	SW1.4	1.004	SW1.5	1.1	0.435	0.075	0.0631
720 minute winter	SW1.5	1.005	SW1.6	1.2	0.582	0.086	0.0634
720 minute winter	SW1.6	Infiltration		0.3			

Results for 30 year Critical Storm Duration. Lowest mass balance: 95.37%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute summer	SW1.0	1	24.090	0.000	0.0	0.0000	0.0000	OK
720 minute winter	SW1.1	780	23.918	0.050	0.5	0.0256	0.0000	OK
720 minute winter	SW1.2	780	23.918	0.219	0.9	0.0904	0.0000	SURCHARGED
720 minute winter	SW1.3	780	23.918	0.287	1.3	0.0456	0.0000	SURCHARGED
180 minute winter	SW2.0	176	24.051	0.021	0.6	0.0165	0.0000	OK
180 minute winter	SW2.1	184	23.921	0.026	1.1	0.0124	0.0000	OK
720 minute winter	SW1.4	780	23.918	0.325	2.7	0.0913	0.0000	SURCHARGED
720 minute winter	SW1.5	780	23.918	0.355	1.8	0.0564	0.0000	SURCHARGED
720 minute winter	SW1.6	780	23.918	0.380	2.2	27.5088	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)
15 minute summer	SW1.0	1.000	SW1.1	0.0	0.000	0.000	0.0140
720 minute winter	SW1.1	1.001	SW1.2	0.5	0.332	0.031	0.2306
720 minute winter	SW1.2	1.002	SW1.3	0.9	0.480	0.055	0.1443
720 minute winter	SW1.3	1.003	SW1.4	1.7	0.319	0.087	0.0533
180 minute winter	SW2.0	2.000	SW2.1	0.6	0.345	0.042	0.0355
180 minute winter	SW2.1	2.001	SW1.4	1.1	0.349	0.065	0.3256
720 minute winter	SW1.4	1.004	SW1.5	1.8	0.443	0.122	0.0781
720 minute winter	SW1.5	1.005	SW1.6	2.1	0.570	0.143	0.0662
720 minute winter	SW1.6	Infiltration		0.4			

Results for 100 year Critical Storm Duration. Lowest mass balance: 95.37%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute summer	SW1.0	1	24.090	0.000	0.0	0.0000	0.0000	OK
720 minute winter	SW1.1	810	24.079	0.211	0.6	0.1083	0.0000	SURCHARGED
720 minute winter	SW1.2	810	24.079	0.380	1.1	0.1568	0.0000	SURCHARGED
720 minute winter	SW1.3	810	24.079	0.448	1.1	0.0712	0.0000	SURCHARGED
720 minute winter	SW2.0	810	24.079	0.049	0.6	0.0386	0.0000	OK
720 minute winter	SW2.1	810	24.079	0.184	1.1	0.0880	0.0000	SURCHARGED
720 minute winter	SW1.4	810	24.079	0.486	2.4	0.1365	0.0000	SURCHARGED
720 minute winter	SW1.5	810	24.079	0.516	2.4	0.0820	0.0000	SURCHARGED
720 minute winter	SW1.6	810	24.079	0.541	2.5	39.1598	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)
15 minute summer	SW1.0	1.000	SW1.1	0.0	0.000	0.000	0.0172
720 minute winter	SW1.1	1.001	SW1.2	0.6	0.333	0.037	0.3574
720 minute winter	SW1.2	1.002	SW1.3	1.0	0.482	0.065	0.1443
720 minute winter	SW1.3	1.003	SW1.4	1.4	0.329	0.071	0.0533
720 minute winter	SW2.0	2.000	SW2.1	0.6	0.344	0.042	0.2288
720 minute winter	SW2.1	2.001	SW1.4	1.1	0.315	0.065	0.5840
720 minute winter	SW1.4	1.004	SW1.5	2.4	0.445	0.163	0.0781
720 minute winter	SW1.5	1.005	SW1.6	2.3	0.570	0.161	0.0662
720 minute winter	SW1.6	Infiltration		0.4			

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 95.37%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
960 minute winter	SW1.0	990	24.595	0.505	0.1	0.0802	0.0000	FLOOD RISK
960 minute winter	SW1.1	990	24.594	0.726	0.8	0.3734	0.0000	SURCHARGED
960 minute winter	SW1.2	990	24.594	0.895	1.3	0.3697	0.0000	SURCHARGED
960 minute winter	SW1.3	990	24.594	0.963	1.3	0.1531	0.0000	SURCHARGED
960 minute winter	SW2.0	990	24.595	0.565	0.7	0.4471	0.0000	FLOOD RISK
960 minute winter	SW2.1	990	24.594	0.699	1.4	0.3351	0.0000	SURCHARGED
960 minute winter	SW1.4	990	24.594	1.001	2.9	0.2813	0.0000	SURCHARGED
960 minute winter	SW1.5	990	24.594	1.031	2.8	0.1640	0.0000	SURCHARGED
960 minute winter	SW1.6	990	24.594	1.056	3.0	58.0475	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)
960 minute winter	SW1.0	1.000	SW1.1	-0.1	-0.009	-0.007	0.5869
960 minute winter	SW1.1	1.001	SW1.2	0.7	0.332	0.044	0.3574
960 minute winter	SW1.2	1.002	SW1.3	1.3	0.460	0.079	0.1443
960 minute winter	SW1.3	1.003	SW1.4	1.5	0.315	0.075	0.0533
960 minute winter	SW2.0	2.000	SW2.1	0.7	0.359	0.048	0.3571
960 minute winter	SW2.1	2.001	SW1.4	1.3	0.278	0.079	0.5840
960 minute winter	SW1.4	1.004	SW1.5	2.8	0.430	0.197	0.0781
960 minute winter	SW1.5	1.005	SW1.6	2.8	0.570	0.194	0.0662
960 minute winter	SW1.6	Infiltration		0.4			