

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	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	✓
Maximum Rainfall (mm/hr)	75.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
S9	0.042	5.00	19.860	Manhole	Adoptable	450	498077.253	106310.114	0.940	18.920
S27	0.021	5.00	19.020	Manhole	Adoptable	450	498089.331	106281.062	0.938	18.082
BASIN			18.630	Manhole	Adoptable	150	498095.270	106274.798	0.780	17.850
S28			18.630	Manhole	Adoptable	450	498091.683	106271.225	0.815	17.815

Links (Input)

Name	US Node	DS Node	Length (m)	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
1.000	S9	S27	31.463	18.920	18.082	0.838	37.5	225
1.001	S27	BASIN	8.632	18.082	17.850	0.232	37.2	225
1.002	BASIN	S28	5.063	17.850	17.815	0.035	144.7	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
S9	498077.253	106310.114	19.860	0.940	450	Adoptable		0	1.000	18.920	225	Circular
S27	498089.331	106281.062	19.020	0.938	450	Adoptable		1	1.000	18.082	225	Circular
BASIN	498095.270	106274.798	18.630	0.780	150	Adoptable		0	1.001	18.082	225	Circular
								1	1.001	17.850	225	Circular
S28	498091.683	106271.225	18.630	0.815	450	Adoptable		0	1.002	17.850	225	Circular
								1	1.002	17.815	225	Circular

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	17.600
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	960	1440
----	----	----	-----	-----	-----	-----	-----	-----	-----	-----	------

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
2	0	0	0
10	0	0	0
30	45	0	0
100	45	0	0

Node S28 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.815	Discharge Coefficient	0.650
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	17.815	Diameter (m)	0.015		

Node BASIN Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	17.850
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	42.7	42.7	0.750	110.7	114.4

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.13%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S9	10	18.957	0.037	5.2	0.0060	0.0000	OK
15 minute summer	S27	10	18.134	0.052	7.8	0.0082	0.0000	OK
720 minute winter	BASIN	555	18.036	0.186	0.9	9.5230	0.0000	OK
720 minute winter	S28	555	18.036	0.221	0.2	0.0352	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	S9	1.000	S27	5.2	0.955	0.061	0.1759	
15 minute summer	S27	1.001	BASIN	7.9	1.700	0.092	0.0507	
720 minute winter	BASIN	1.002	S28	0.2	0.092	0.005	0.1892	
720 minute winter	S28	Orifice		0.2				10.2

**Results for 2 year Critical Storm Duration. Lowest mass balance: 99.29%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S9	10	18.966	0.046	7.9	0.0073	0.0000	OK
15 minute summer	S27	9	18.144	0.062	11.8	0.0099	0.0000	OK
600 minute winter	BASIN	555	18.096	0.246	1.4	13.2716	0.0000	SURCHARGED
600 minute winter	S28	555	18.096	0.281	0.3	0.0447	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	S9	1.000	S27	7.8	1.096	0.092	0.2323	
15 minute summer	S27	1.001	BASIN	11.9	1.783	0.140	0.0804	
600 minute winter	BASIN	1.002	S28	0.3	0.102	0.006	0.2014	
600 minute winter	S28	Orifice		0.3				10.3

Results for 10 year Critical Storm Duration. Lowest mass balance: 99.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S9	10	18.984	0.064	15.4	0.0102	0.0000	OK
480 minute winter	S27	464	18.225	0.143	2.6	0.0227	0.0000	OK
480 minute winter	BASIN	464	18.225	0.375	2.6	22.3814	0.0000	SURCHARGED
480 minute winter	S28	464	18.225	0.410	0.3	0.0652	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	S9	1.000	S27	15.3	1.317	0.180	0.3688	
480 minute winter	S27	1.001	BASIN	2.6	0.773	0.030	0.2863	
480 minute winter	BASIN	1.002	S28	0.3	0.120	0.008	0.2014	
480 minute winter	S28	Orifice		0.3				10.9

Results for 30 year +45% CC Critical Storm Duration. Lowest mass balance: 98.78%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S9	10	19.010	0.090	29.1	0.0143	0.0000	OK
480 minute winter	S27	472	18.471	0.389	4.7	0.0618	0.0000	SURCHARGED
480 minute winter	BASIN	472	18.471	0.621	4.5	43.9756	0.0000	FLOOD RISK
480 minute winter	S28	472	18.471	0.656	0.4	0.1042	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	S9	1.000	S27	29.0	1.503	0.341	0.6074	
480 minute winter	S27	1.001	BASIN	4.5	0.904	0.052	0.3433	
480 minute winter	BASIN	1.002	S28	0.4	0.152	0.010	0.2014	
480 minute winter	S28	Orifice		0.4				13.9

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 98.56%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S9	10	19.022	0.102	36.4	0.0162	0.0000	OK
600 minute winter	S27	585	18.589	0.507	4.8	0.0807	0.0000	SURCHARGED
600 minute winter	BASIN	585	18.589	0.739	4.7	56.3510	0.0000	FLOOD RISK
600 minute winter	S28	585	18.589	0.774	0.4	0.1231	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	S9	1.000	S27	36.3	1.557	0.426	0.7381	
600 minute winter	S27	1.001	BASIN	4.7	0.823	0.055	0.3433	
600 minute winter	BASIN	1.002	S28	0.4	0.149	0.010	0.2014	
600 minute winter	S28	Orifice		0.4				17.3