

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)
S19	0.077	5.00	17.350	Manhole	Adoptable	450	1511.103	213.769	1.032	16.318
BASIN			17.000	Manhole	Adoptable	150	1519.876	204.205	0.750	16.250
S23			16.900	Manhole	Adoptable	450	1517.596	196.343	0.709	16.191

Links (Input)

Name	US Node	DS Node	Length (m)	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
1.000	S19	BASIN	12.978	16.318	16.250	0.068	190.9	225
1.001	BASIN	S23	8.186	16.250	16.191	0.059	138.7	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
S19	1511.103	213.769	17.350	1.032	450	Adoptable		0	1.000	16.318	225	Circular
BASIN	1519.876	204.205	17.000	0.750	150	Adoptable		1	1.000	16.250	225	Circular
								0	1.001	16.250	225	Circular
S23	1517.596	196.343	16.900	0.709	450	Adoptable		1	1.001	16.191	225	Circular

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

Node S23 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.709	Discharge Coefficient	0.650
Replaces Downstream Link	x	Design Flow (l/s)	1.9		
Invert Level (m)	16.191	Diameter (m)	0.031		

Node BASIN Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	16.250
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	61.6	61.6	0.750	140.1	144.3

Results for 30 year +45% CC Critical Storm Duration. Lowest mass balance: 99.75%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	S19	176	16.719	0.401	12.3	0.0638	0.0000	SURCHARGED
180 minute winter	BASIN	176	16.719	0.469	12.2	40.4044	0.0000	FLOOD RISK
180 minute winter	S23	176	16.719	0.528	2.3	0.0839	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)
180 minute winter	S19	1.000	BASIN	12.2	0.788	0.325	0.5161	
180 minute winter	BASIN	1.001	S23	2.3	0.236	0.052	0.3256	
180 minute winter	S23	Orifice		1.6				31.5

**Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.57%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	S19	232	16.822	0.504	12.3	0.0802	0.0000	SURCHARGED
240 minute winter	BASIN	232	16.822	0.572	12.2	52.4133	0.0000	FLOOD RISK
240 minute winter	S23	224	16.828	0.637	3.5	0.1013	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)
240 minute winter	S19	1.000	BASIN	12.2	0.777	0.325	0.5161	
240 minute winter	BASIN	1.001	S23	3.5	0.211	0.080	0.3256	
240 minute winter	S23	Orifice		1.7				39.3