

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)	4.00	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)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.003	4.00	10.100	550	78.034	32.489	0.505
Headwall			9.990	200	73.374	45.897	0.480
RE1		4.00	10.150	180	77.734	20.048	0.450

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)
1.001	S1	Headwall	5.300	0.600	9.595	9.510	0.085	62.4	100	4.27	0.0
1.000	RE1	S1	10.600	0.600	9.700	9.595	0.105	101.0	150	4.18	56.7

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)
1.001	0.977	7.7	0.0	0.405	0.380	0.003	0.0	0	0.000
1.000	1.000	17.7	0.0	0.300	0.355	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)
1.001	5.300	62.4	100	Circular	10.100	9.595	0.405	9.990	9.510	0.380
1.000	10.600	101.0	150	Circular	10.150	9.700	0.300	10.100	9.595	0.355

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.001	S1	550	Manhole	Adoptable	Headwall	200	Manhole	Adoptable
1.000	RE1	180	Manhole	Adoptable	S1	550	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S1	78.034	32.489	10.100	0.505	550		1	1.000	9.595	150
Headwall	73.374	45.897	9.990	0.480	200		0	1.001	9.595	100
							1	1.001	9.510	100

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
RE1	77.734	20.048	10.150	0.450	180				
						0	1.000	9.700	150

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

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

Node S1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.450	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	9.595	Diameter (m)	0.018		

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
30 minute summer	S1	22	9.690	0.095	0.5	0.0225	0.0000	OK
30 minute summer	Headwall	22	9.521	0.011	0.2	0.0000	0.0000	OK
15 minute summer	RE1	1	9.700	0.000	0.0	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)
30 minute summer	S1	1.001	Headwall	0.2	0.412	0.025	0.0025	0.3
15 minute summer	RE1	1.000	S1	0.0	0.000	0.000	0.0580	

Results for 10 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
30 minute summer	S1	22	9.746	0.151	1.0	0.0360	0.0000	SURCHARGED
30 minute summer	Headwall	23	9.522	0.012	0.3	0.0000	0.0000	OK
30 minute summer	RE1	23	9.746	0.046	0.5	0.0012	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)
30 minute summer	S1	1.001	Headwall	0.3	0.444	0.033	0.0030	0.6
30 minute summer	RE1	1.000	S1	-0.5	-0.076	-0.029	0.1177	

Results for 30 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
30 minute winter	S1	25	9.789	0.194	1.0	0.0462	0.0000	SURCHARGED
30 minute winter	Headwall	25	9.523	0.013	0.3	0.0000	0.0000	OK
30 minute winter	RE1	25	9.789	0.089	0.4	0.0022	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)
30 minute winter	S1	1.001	Headwall	0.3	0.462	0.037	0.0033	0.8
30 minute winter	RE1	1.000	S1	-0.4	-0.041	-0.022	0.1511	

Results for 30 year +45% CC 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
30 minute summer	S1	24	9.900	0.305	1.9	0.0726	0.0000	FLOOD RISK
30 minute summer	Headwall	25	9.525	0.015	0.4	0.0000	0.0000	OK
30 minute summer	RE1	24	9.900	0.200	0.9	0.0050	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)
30 minute summer	S1	1.001	Headwall	0.4	0.495	0.047	0.0039	1.1
30 minute summer	RE1	1.000	S1	-0.9	-0.067	-0.054	0.1866	

Results for 100 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
60 minute summer	S1	41	9.866	0.271	1.2	0.0644	0.0000	FLOOD RISK
60 minute summer	Headwall	41	9.524	0.014	0.3	0.0000	0.0000	OK
60 minute summer	RE1	41	9.866	0.166	0.6	0.0041	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)
60 minute summer	S1	1.001	Headwall	0.3	0.486	0.045	0.0037	1.2
60 minute summer	RE1	1.000	S1	-0.6	-0.053	-0.032	0.1866	

Results for 100 year +45% CC +10% A 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
60 minute summer	S1	42	10.082	0.487	1.9	0.1158	0.0000	FLOOD RISK
60 minute summer	Headwall	43	9.527	0.017	0.5	0.0000	0.0000	OK
60 minute summer	RE1	42	10.082	0.382	0.9	0.0095	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)
60 minute summer	S1	1.001	Headwall	0.5	0.531	0.060	0.0046	1.9
60 minute summer	RE1	1.000	S1	-0.9	-0.050	-0.050	0.1866	