

Design Settings

Rainfall Methodology	FEH-22	Maximum Time of Concentration (mins)	30.00	Preferred Cover Depth (m)	1.200
Return Period (years)	1	Maximum Rainfall (mm/hr)	5.0	Include Intermediate Ground	✓
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00	Enforce best practice design rules	✓
CV	1.000	Connection Type	Level Soffits		
Time of Entry (mins)	5.00	Minimum Backdrop Height (m)	1.000		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S3	0.069	5.00	11.151	450	524165.488	105888.809	0.505
S2			11.470	450	524173.013	105885.705	0.900
S1			11.504	1200	524205.575	105884.377	1.184
S5			11.417		524209.434	105881.443	1.168

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	S3	S2	8.140	0.600	10.646	10.570	0.076	107.1	150	5.14	5.0
1.001	S2	S1	32.589	0.600	10.570	10.320	0.250	130.4	150	5.76	5.0
1.002	S1	S5	4.847	0.600	10.320	10.249	0.071	68.3	150	5.82	5.0

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	0.970	17.1	1.3	0.355	0.750	0.069	0.0	27	0.563
1.001	0.878	15.5	1.3	0.750	1.034	0.069	0.0	29	0.529
1.002	1.218	21.5	1.3	1.034	1.018	0.069	0.0	24	0.660

Simulation Settings

Rainfall Methodology	FEH-22	Winter CV	1.000	Drain Down Time (mins)	240	Check Discharge Rate(s)	x
Rainfall Events	Singular	Analysis Speed	Normal	Additional Storage (m³/ha)	0.0	Check Discharge Volume	x
Summer CV	1.000	Skip Steady State	x	Starting Level (m)			

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

Node S1 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	10.320	Product Number	CTL-SHE-0066-1500-0450-1500
Design Depth (m)	0.450	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	1.5	Min Node Diameter (mm)	1200

Node S3 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Width (m)	32.000	Depth (m)	0.500
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	10.646	Length (m)	10.000	Inf Depth (m)	
Safety Factor	2.0	Time to half empty (mins)		Slope (1:X)	80.0		

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.80%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	S3	120	10.757	0.111	5.2	4.7377	0.0000	OK
180 minute summer	S2	120	10.756	0.186	3.8	0.0296	0.0000	SURCHARGED
180 minute summer	S1	120	10.754	0.434	2.8	0.4907	0.0000	SURCHARGED
600 minute winter	S5	315	10.276	0.027	1.5	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)
180 minute summer	S3	1.000	S2	3.8	0.686	0.221	0.1284	
180 minute summer	S2	1.001	S1	2.8	0.364	0.182	0.5737	
180 minute summer	S1	1.002	S5	1.5	0.693	0.070	0.0105	15.4

Results for 30 year +45% CC Critical Storm Duration. Lowest mass balance: 98.80%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S3	118	11.029	0.383	15.1	30.8655	0.0000	FLOOD RISK
120 minute winter	S2	118	11.028	0.458	2.9	0.0728	0.0000	SURCHARGED
120 minute winter	S1	118	11.024	0.704	2.6	0.7965	0.0000	SURCHARGED
120 minute winter	S5	118	10.278	0.029	1.8	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)
120 minute winter	S3	1.000	S2	2.9	0.662	0.167	0.1433	
120 minute winter	S2	1.001	S1	2.6	0.455	0.166	0.5737	
120 minute winter	S1	1.002	S5	1.8	0.731	0.084	0.0120	34.1

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 98.80%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	S3	176	11.142	0.496	14.0	41.6661	0.0000	FLOOD RISK
180 minute winter	S2	176	11.140	0.570	2.6	0.0907	0.0000	SURCHARGED
180 minute winter	S1	176	11.136	0.816	2.4	0.9227	0.0000	SURCHARGED
180 minute winter	S5	176	10.279	0.030	1.9	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)
180 minute winter	S3	1.000	S2	2.6	0.650	0.151	0.1433	
180 minute winter	S2	1.001	S1	2.4	0.446	0.155	0.5737	
180 minute winter	S1	1.002	S5	1.9	0.745	0.090	0.0126	42.2