

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)	500.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
SA			38.700	450	1388.253	767.500	1.300
PP1	0.002		37.500	450	1366.439	751.930	0.430
S01	0.004	4.00	38.250	450	1367.210	765.700	0.601
S02			38.250	450	1375.154	764.638	0.684
S03	0.004	4.00	38.250	450	1374.841	761.488	0.572
S04			38.700	450	1382.164	768.793	1.290

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	S01	S02	8.015	0.600	37.649	37.569	0.080	100.0	100	4.17	55.6
1.001	S02	S04	8.149	0.600	37.566	37.410	0.156	52.2	100	4.30	55.6
2.000	S03	S02	3.166	0.600	37.678	37.566	0.112	28.3	100	4.04	55.6
1.002	S04	SA	1.000	0.600	37.410	37.400	0.010	100.0	100	4.32	55.6

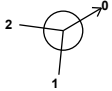
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	0.769	6.0	0.8	0.501	0.581	0.004	0.0	25	0.531
1.001	1.068	8.4	1.6	0.584	1.190	0.008	0.0	29	0.817
2.000	1.457	11.4	0.8	0.472	0.584	0.004	0.0	18	0.846
1.002	0.769	6.0	1.6	1.190	1.200	0.008	0.0	36	0.653

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)
1.000	8.015	100.0	100	Circular	38.250	37.649	0.501	38.250	37.569	0.581
1.001	8.149	52.2	100	Circular	38.250	37.566	0.584	38.700	37.410	1.190
2.000	3.166	28.3	100	Circular	38.250	37.678	0.472	38.250	37.566	0.584
1.002	1.000	100.0	100	Circular	38.700	37.410	1.190	38.700	37.400	1.200

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S01	450	Manhole	Adoptable	S02	450	Manhole	Adoptable
1.001	S02	450	Manhole	Adoptable	S04	450	Manhole	Adoptable
2.000	S03	450	Manhole	Adoptable	S02	450	Manhole	Adoptable
1.002	S04	450	Manhole	Adoptable	SA	450	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
SA	1388.253	767.500	38.700	1.300	450	1 	1	1.002	37.400	100
PP1	1366.439	751.930	37.500	0.430	450					
S01	1367.210	765.700	38.250	0.601	450		0	1.000	37.649	100
S02	1375.154	764.638	38.250	0.684	450	2 	1 2 0	2.000 1.000 1.001	37.566 37.569 37.566	100 100 100
S03	1374.841	761.488	38.250	0.572	450	0 	0	2.000	37.678	100
S04	1382.164	768.793	38.700	1.290	450	1 	1 0	1.001 1.002	37.410 37.410	100 100

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 %)
1	0	0	0
2	0	0	0
10	0	0	0
30	0	0	0
30	45	0	0
100	0	0	0
100	45	0	0

Node SA Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.66240	Invert Level (m)	37.400	Depth (m)	0.400
Side Inf Coefficient (m/hr)	0.66240	Time to half empty (mins)	26	Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	2.000	Number Required	1
Porosity	0.95	Pit Length (m)	3.000		

Node PP1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.66240	Invert Level (m)	37.070	Slope (1:X)	9.0
Side Inf Coefficient (m/hr)	0.66240	Time to half empty (mins)	2	Depth (m)	0.300
Safety Factor	2.0	Width (m)	4.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Results for 1 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	SA	21	37.440	0.040	0.9	0.2328	0.0000	OK
15 minute summer	PP1	11	37.114	0.044	0.3	0.0167	0.0000	OK
15 minute summer	S01	10	37.669	0.020	0.5	0.0031	0.0000	OK
15 minute summer	S02	10	37.589	0.023	1.0	0.0037	0.0000	OK
15 minute summer	S03	10	37.692	0.014	0.5	0.0023	0.0000	OK
30 minute summer	S04	20	37.441	0.031	0.9	0.0049	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
30 minute summer	SA	Infiltration		0.5			
15 minute summer	PP1	Infiltration		0.2			
15 minute summer	S01	1.000	S02	0.5	0.449	0.083	0.0089
15 minute summer	S02	1.001	S04	1.0	0.610	0.119	0.0134
15 minute summer	S03	2.000	S02	0.5	0.499	0.044	0.0033
30 minute summer	S04	1.002	SA	0.9	0.712	0.147	0.0024

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	SA	22	37.458	0.058	1.3	0.3390	0.0000	OK
30 minute summer	PP1	20	37.135	0.065	0.4	0.0286	0.0000	OK
15 minute summer	S01	10	37.674	0.025	0.8	0.0040	0.0000	OK
15 minute summer	S02	10	37.596	0.030	1.6	0.0047	0.0000	OK
15 minute summer	S03	10	37.696	0.018	0.8	0.0029	0.0000	OK
30 minute summer	S04	21	37.458	0.048	1.4	0.0077	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
30 minute summer	SA	Infiltration		0.6			
30 minute summer	PP1	Infiltration		0.2			
15 minute summer	S01	1.000	S02	0.8	0.501	0.133	0.0128
15 minute summer	S02	1.001	S04	1.6	0.696	0.191	0.0205
15 minute summer	S03	2.000	S02	0.8	0.563	0.070	0.0046
30 minute summer	S04	1.002	SA	1.3	0.712	0.222	0.0042

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	SA	23	37.540	0.140	2.5	0.8179	0.0000	OK
15 minute summer	PP1	12	37.201	0.131	0.8	0.0829	0.0000	OK
15 minute summer	S01	10	37.685	0.036	1.6	0.0058	0.0000	OK
15 minute summer	S02	10	37.609	0.043	3.2	0.0068	0.0000	OK
15 minute summer	S03	10	37.703	0.025	1.6	0.0040	0.0000	OK
30 minute summer	S04	23	37.540	0.130	2.7	0.0207	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
30 minute summer	SA	Infiltration		0.7			
15 minute summer	PP1	Infiltration		0.5			
15 minute summer	S01	1.000	S02	1.6	0.585	0.265	0.0219
15 minute summer	S02	1.001	S04	3.2	0.781	0.382	0.0418
15 minute summer	S03	2.000	S02	1.6	0.679	0.140	0.0075
30 minute summer	S04	1.002	SA	2.5	0.689	0.406	0.0078

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 summer	SA	25	37.602	0.202	3.3	1.1810	0.0000	OK
15 minute summer	PP1	12	37.240	0.170	1.1	0.1261	0.0000	OK
15 minute summer	S01	10	37.691	0.042	2.1	0.0067	0.0000	OK
15 minute summer	S02	9	37.616	0.050	4.2	0.0080	0.0000	OK
15 minute summer	S03	10	37.708	0.030	2.1	0.0047	0.0000	OK
30 minute summer	S04	25	37.602	0.192	3.7	0.0305	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
30 minute summer	SA	Infiltration		0.7			
15 minute summer	PP1	Infiltration		0.7			
15 minute summer	S01	1.000	S02	2.1	0.621	0.348	0.0271
15 minute summer	S02	1.001	S04	4.2	0.817	0.501	0.0479
15 minute summer	S03	2.000	S02	2.1	0.722	0.184	0.0093
30 minute summer	S04	1.002	SA	3.3	0.832	0.542	0.0078

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
60 minute summer	SA	43	37.702	0.302	3.3	1.7696	0.0000	OK
15 minute summer	PP1	12	37.300	0.230	1.5	0.2097	0.0000	OK
60 minute summer	S01	42	37.705	0.056	2.0	0.0088	0.0000	OK
60 minute summer	S02	42	37.704	0.138	4.0	0.0220	0.0000	SURCHARGED
15 minute summer	S03	10	37.716	0.038	3.1	0.0060	0.0000	OK
60 minute summer	S04	43	37.703	0.293	3.7	0.0465	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
60 minute summer	SA	Infiltration		0.8			
15 minute summer	PP1	Infiltration		0.9			
60 minute summer	S01	1.000	S02	2.0	0.605	0.328	0.0493
60 minute summer	S02	1.001	S04	3.7	0.598	0.443	0.0638
15 minute summer	S03	2.000	S02	3.2	0.773	0.277	0.0159
60 minute summer	S04	1.002	SA	3.3	0.689	0.544	0.0078

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	SA	43	37.667	0.267	3.1	1.5634	0.0000	OK
15 minute summer	PP1	12	37.274	0.204	1.3	0.1699	0.0000	OK
15 minute summer	S01	10	37.698	0.049	2.7	0.0078	0.0000	OK
60 minute summer	S02	43	37.669	0.103	3.6	0.0164	0.0000	SURCHARGED
15 minute summer	S03	10	37.713	0.035	2.7	0.0055	0.0000	OK
60 minute summer	S04	43	37.667	0.257	3.5	0.0409	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
60 minute summer	SA	Infiltration		0.8			
15 minute summer	PP1	Infiltration		0.8			
15 minute summer	S01	1.000	S02	2.7	0.642	0.447	0.0337
60 minute summer	S02	1.001	S04	3.5	0.598	0.421	0.0638
15 minute summer	S03	2.000	S02	2.7	0.746	0.236	0.0115
60 minute summer	S04	1.002	SA	3.1	0.689	0.515	0.0078

Results for 100 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
60 minute winter	SA	48	37.786	0.386	2.8	2.2610	0.0000	OK
15 minute summer	PP1	12	37.348	0.278	2.0	0.2899	0.0000	OK
60 minute winter	S01	47	37.790	0.141	1.8	0.0223	0.0000	SURCHARGED
60 minute winter	S02	47	37.789	0.223	3.6	0.0354	0.0000	SURCHARGED
60 minute winter	S03	47	37.789	0.111	1.8	0.0177	0.0000	SURCHARGED
60 minute winter	S04	48	37.786	0.376	3.2	0.0599	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
60 minute winter	SA	Infiltration		0.9			
15 minute summer	PP1	Infiltration		1.1			
60 minute winter	S01	1.000	S02	1.8	0.584	0.298	0.0627
60 minute winter	S02	1.001	S04	3.2	0.636	0.377	0.0638
60 minute winter	S03	2.000	S02	1.8	0.680	0.157	0.0248
60 minute winter	S04	1.002	SA	2.8	0.801	0.465	0.0078