Design Settings

Rainfall Methodology	FEH-22	Maximum Time of Concentration (mins)	30.00	Preferred Cover Depth (m)	0.600
Return Period (years)	2	Maximum Rainfall (mm/hr)	50.0	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)	0.200		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1.01	0.011	5.00	30.000	320	434352.981	562306.011	0.750
S1.02	0.018	5.00	29.950	600	434371.584	562317.006	0.915
S2.01	0.012	5.00	29.950	320	434356.976	562347.944	0.750
S1.03			29.950	1200	434360.392	562339.204	1.485
S3.01	0.011	5.00	30.025	320	434352.848	562326.656	0.750
S3.02	0.014	5.00	30.025	600	434348.884	562334.706	1.436
S4.01		5.00	30.000	1200	434343.933	562332.795	0.750
S1.04			30.000	1200	434366.556	562337.584	1.716
S1.05			30.000	1200	434382.155	562310.297	2.240
SW3211			30.000	1200	434397.179	562290.905	3.020

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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	S1.01	S1.02	21.609	0.600	29.250	29.035	0.215	100.5	150	5.36	44.4
1.001	S1.02	S1.03	24.860	0.600	29.035	28.540	0.495	50.2	150	5.65	43.4
4.000	S2.01	S1.03	9.384	0.600	29.200	28.540	0.660	14.2	150	5.06	45.4
2.001	S3.02	S1.03	12.356	0.600	28.589	28.465	0.124	100.0	225	5.24	44.8
2.000	S3.01	S3.02	8.973	0.600	29.275	28.664	0.611	14.7	150	5.06	45.4
3.000	S4.01	S3.02	5.307	0.600	29.250	29.196	0.054	98.3	150	5.09	45.3
1.002	S1.03	S1.04	6.373	0.600	28.465	28.359	0.106	60.0	150	5.73	43.2
1.003	S1.04	S1.05	31.431	0.600	28.284	27.760	0.524	60.0	225	6.04	42.2
1.004	S1.05	SW3211	24.531	0.600	27.760	26.980	0.780	31.5	225	6.22	41.6

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	1.002	17.7	1.8	0.600	0.765	0.011	0.0	32	0.641
1.001	1.423	25.1	4.6	0.765	1.260	0.029	0.0	43	1.082
4.000	2.685	47.5	2.0	0.600	1.260	0.012	0.0	21	1.326
2.001	1.307	52.0	4.0	1.211	1.260	0.025	0.0	43	0.786
2.000	2.642	46.7	1.8	0.600	1.211	0.011	0.0	20	1.281
3.000	1.013	17.9	0.0	0.600	0.679	0.000	0.0	0	0.000
1.002	1.301	23.0	10.3	1.335	1.491	0.066	0.0	71	1.267
1.003	1.691	67.2	10.1	1.491	2.015	0.066	0.0	58	1.222
1.004	2.341	93.1	9.9	2.015	2.795	0.066	0.0	50	1.543

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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	21.609	100.5	150	Circular	30.000	29.250	0.600	29.950	29.035	0.765
1.001	24.860	50.2	150	Circular	29.950	29.035	0.765	29.950	28.540	1.260
4.000	9.384	14.2	150	Circular	29.950	29.200	0.600	29.950	28.540	1.260
2.001	12.356	100.0	225	Circular	30.025	28.589	1.211	29.950	28.465	1.260
2.000	8.973	14.7	150	Circular	30.025	29.275	0.600	30.025	28.664	1.211
3.000	5.307	98.3	150	Circular	30.000	29.250	0.600	30.025	29.196	0.679
1.002	6.373	60.0	150	Circular	29.950	28.465	1.335	30.000	28.359	1.491
1.003	31.431	60.0	225	Circular	30.000	28.284	1.491	30.000	27.760	2.015
1.004	24.531	31.5	225	Circular	30.000	27.760	2.015	30.000	26.980	2.795

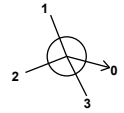
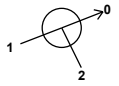
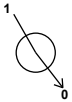
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S1.01	320	Manhole	Adoptable	S1.02	600	Manhole	Adoptable
1.001	S1.02	600	Manhole	Adoptable	S1.03	1200	Manhole	Adoptable
4.000	S2.01	320	Manhole	Adoptable	S1.03	1200	Manhole	Adoptable
2.001	S3.02	600	Manhole	Adoptable	S1.03	1200	Manhole	Adoptable
2.000	S3.01	320	Manhole	Adoptable	S3.02	600	Manhole	Adoptable
3.000	S4.01	1200	Manhole	Adoptable	S3.02	600	Manhole	Adoptable
1.002	S1.03	1200	Manhole	Adoptable	S1.04	1200	Manhole	Adoptable
1.003	S1.04	1200	Manhole	Adoptable	S1.05	1200	Manhole	Adoptable
1.004	S1.05	1200	Manhole	Adoptable	SW3211	1200	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S1.01	434352.981	562306.011	30.000	0.750	320				
						0	1.000	29.250	150

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S1.02	434371.584	562317.006	29.950	0.915	600	 1	1.000	29.035	150
						0	1.001	29.035	150
S2.01	434356.976	562347.944	29.950	0.750	320	 0	4.000	29.200	150
S1.03	434360.392	562339.204	29.950	1.485	1200	 1	4.000	28.540	150
						2	2.001	28.465	225
						3	1.001	28.540	150
						0	1.002	28.465	150
S3.01	434352.848	562326.656	30.025	0.750	320	 0	2.000	29.275	150
S3.02	434348.884	562334.706	30.025	1.436	600	 1	3.000	29.196	150
						2	2.000	28.664	150
						0	2.001	28.589	225
S4.01	434343.933	562332.795	30.000	0.750	1200	 0	3.000	29.250	150
S1.04	434366.556	562337.584	30.000	1.716	1200	1	1.002	28.359	150
						 0	1.003	28.284	225
S1.05	434382.155	562310.297	30.000	2.240	1200	 1	1.003	27.760	225
						0	1.004	27.760	225

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
SW3211	434397.179	562290.905	30.000	3.020	1200	1	1.004	26.980	225



Simulation Settings

Rainfall Methodology	FEH-22	Winter CV	1.000	Drain Down Time (mins)	960	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	40	0	0				

Node S1.03 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	28.465	Product Number	CTL-SHE-0106-5000-1000-5000
Design Depth (m)	1.000	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.0	Min Node Diameter (mm)	1200

Node S3.02 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	28.589
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	42

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Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	36.0	0.0	0.750	36.0	0.0	0.751	0.0	0.0

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Results for 2 year Critical Storm Duration. Lowest mass balance: 99.02%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1.01	10	29.281	0.031	1.7	0.0025	0.0000	OK
15 minute summer	S1.02	11	29.077	0.042	4.4	0.0118	0.0000	OK
15 minute summer	S2.01	10	29.220	0.020	1.8	0.0016	0.0000	OK
30 minute summer	S1.03	22	28.635	0.170	5.5	0.1925	0.0000	SURCHARGED
15 minute summer	S3.01	10	29.295	0.020	1.7	0.0016	0.0000	OK
30 minute summer	S3.02	22	28.636	0.047	4.8	1.6230	0.0000	OK
15 minute summer	S4.01	1	29.250	0.000	0.0	0.0000	0.0000	OK
30 minute summer	S1.04	23	28.324	0.040	4.3	0.0454	0.0000	OK
30 minute summer	S1.05	23	27.793	0.033	4.3	0.0378	0.0000	OK
30 minute summer	SW3211	23	27.013	0.033	4.3	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1.01	1.000	S1.02	1.7	0.504	0.094	0.0717	
15 minute summer	S1.02	1.001	S1.03	4.3	0.881	0.170	0.1780	
15 minute summer	S2.01	4.000	S1.03	1.8	1.005	0.038	0.0567	
30 minute summer	S1.03	1.002	S1.04	4.3	0.960	0.189	0.0288	
15 minute summer	S3.01	2.000	S3.02	1.7	1.234	0.036	0.0122	
30 minute summer	S3.02	2.001	S1.03	3.0	0.176	0.057	0.2362	
15 minute summer	S4.01	3.000	S3.02	0.0	0.000	0.000	0.0000	
30 minute summer	S1.04	1.003	S1.05	4.3	1.029	0.065	0.1327	
30 minute summer	S1.05	1.004	SW3211	4.3	1.194	0.047	0.0891	5.6

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Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.02%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1.01	10	29.311	0.061	6.3	0.0049	0.0000	OK
15 minute summer	S1.02	10	29.123	0.088	16.5	0.0249	0.0000	OK
15 minute summer	S2.01	10	29.239	0.039	6.9	0.0031	0.0000	OK
60 minute summer	S1.03	46	28.974	0.509	16.3	0.5758	0.0000	SURCHARGED
15 minute summer	S3.01	9	29.313	0.038	6.3	0.0030	0.0000	OK
60 minute summer	S3.02	46	28.974	0.385	20.0	13.2897	0.0000	SURCHARGED
15 minute summer	S4.01	1	29.250	0.000	0.0	0.0000	0.0000	OK
15 minute winter	S1.04	12	28.327	0.043	5.0	0.0486	0.0000	OK
120 minute summer	S1.05	112	27.796	0.036	5.0	0.0405	0.0000	OK
120 minute summer	SW3211	112	27.015	0.035	5.0	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1.01	1.000	S1.02	6.2	0.712	0.352	0.1891	
15 minute summer	S1.02	1.001	S1.03	16.3	1.030	0.649	0.3523	
15 minute summer	S2.01	4.000	S1.03	6.9	1.075	0.145	0.0994	
60 minute winter	S1.03	1.002	S1.04	5.0	0.994	0.216	0.0319	
15 minute summer	S3.01	2.000	S3.02	6.3	1.757	0.134	0.0919	
15 minute summer	S3.02	2.001	S1.03	-16.5	-0.460	-0.318	0.4914	
15 minute summer	S4.01	3.000	S3.02	0.0	0.000	0.000	0.0000	
15 minute winter	S1.04	1.003	S1.05	5.0	1.072	0.074	0.1464	
120 minute summer	S1.05	1.004	SW3211	5.0	1.243	0.053	0.0982	33.6

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Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.02%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1.01	10	29.322	0.072	8.3	0.0057	0.0000	OK
30 minute summer	S1.02	20	29.234	0.199	20.1	0.0564	0.0000	SURCHARGED
15 minute summer	S2.01	10	29.245	0.045	9.1	0.0036	0.0000	OK
60 minute summer	S1.03	54	29.189	0.724	21.3	0.8184	0.0000	SURCHARGED
15 minute summer	S3.01	10	29.318	0.043	8.3	0.0034	0.0000	OK
60 minute summer	S3.02	54	29.189	0.600	28.1	20.6864	0.0000	SURCHARGED
15 minute summer	S4.01	1	29.250	0.000	0.0	0.0000	0.0000	OK
30 minute summer	S1.04	17	28.327	0.043	5.0	0.0486	0.0000	OK
180 minute summer	S1.05	180	27.796	0.036	5.0	0.0405	0.0000	OK
180 minute summer	SW3211	180	27.015	0.035	5.0	0.0000	0.0000	OK

Link Event (Outflow)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1.01	1.000	S1.02	8.2	0.740	0.464	0.2757	
15 minute summer	S1.02	1.001	S1.03	20.7	1.203	0.824	0.4377	
15 minute summer	S2.01	4.000	S1.03	9.1	1.042	0.191	0.1031	
30 minute summer	S1.03	1.002	S1.04	5.0	0.994	0.216	0.0319	
15 minute summer	S3.01	2.000	S3.02	8.3	1.780	0.177	0.0970	
15 minute summer	S3.02	2.001	S1.03	-22.4	-0.578	-0.431	0.4914	
15 minute summer	S4.01	3.000	S3.02	0.0	0.000	0.000	0.0000	
15 minute summer	S1.04	1.003	S1.05	5.0	1.072	0.074	0.1464	
240 minute summer	S1.05	1.004	SW3211	5.0	1.243	0.053	0.0982	51.3

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