

PRELIMINARY SURFACE WATER DRAINAGE NETWORK DETAILS

Site at Turnpike Close, Semington

For

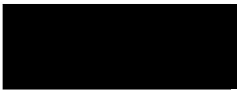
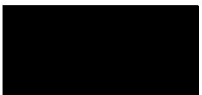
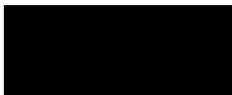
Hollins Strategic Land

Rev. 1.1

13th August 2026

**Surface Water Drainage Network Details
Turnpike Close, Semington**

13th August 2026

Issue no.	Rev. 1.0	Rev. 1.1
Date:	7 th August 2026	13 th August 2026
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Simulation Settings

Rainfall Methodology	FEH-22	Skip Steady State	x	1 year (l/s)	4.0
Rainfall Events	Singular	Drain Down Time (mins)	1440	2 year (l/s)	4.0
Summer CV	1.000	Additional Storage (m³/ha)	0.0	30 year (l/s)	4.0
Winter CV	1.000	Starting Level (m)		100 year (l/s)	4.0
Analysis Speed	Detailed	Check Discharge Rate(s)	✓	Check Discharge Volume	x

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
30	0	0	0
100	0	0	0
100	45	0	0

Pre-development Discharge Rate

Site Makeup	Greenfield	Growth Factor 30 year	1.95
Greenfield Method	IH124	Growth Factor 100 year	2.48
Positively Drained Area (ha)		Betterment (%)	0
SAAR (mm)		QBar	
Soil Index	1	Q 1 year (l/s)	
SPR	0.10	Q 30 year (l/s)	
Region	1	Q 100 year (l/s)	
Growth Factor 1 year	0.85		

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	1	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	1.000
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	x
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
S18	0.099	5.00	52.111	1500	389506.261	160141.102	1.736	50.375
S17	0.124	5.00	52.114	1500	389477.173	160139.542	1.812	50.302
S16	0.062	5.00	52.060	1500	389440.763	160138.659	1.849	50.211
S15	0.094	5.00	51.987	1800	389421.994	160137.686	1.823	50.164
S14	0.113	5.00	52.006	1500	389396.614	160126.696	1.911	50.095
S13	0.068	5.00	52.119	2100	389367.056	160111.750	2.107	50.012
S12	0.073	5.00	51.483	1350	389376.239	160093.481	1.522	49.961
S11	0.071	5.00	51.429	1350	389386.088	160073.888	1.523	49.906
S10	0.069		50.948	1350	389388.697	160057.679	1.375	49.573
CP1			51.741	1350	389531.754	160151.325	2.515	49.226
S8	0.018	5.00	50.948	1350	389431.801	160047.786	1.500	49.448
S7	0.123	5.00	51.415	1800	389456.652	160056.674	2.034	49.381
S6	0.218	5.00	51.465	2100	389479.639	160068.338	2.149	49.316
S5	0.086	5.00	50.908	1800	389539.992	160086.186	1.749	49.159
S4	0.108	5.00	51.490	1500	389533.470	160142.886	2.315	49.175
S3	0.124	5.00	51.054	2100	389539.729	160111.725	1.959	49.095
S2	0.034	5.00	50.858	1800	389575.604	160116.913	1.853	49.005
S1HB			50.627	2100	389585.940	160114.459	1.649	48.978
S19			50.500	1350	389602.262	160124.155	1.636	48.864
MH6123			50.000	1350	389628.395	160116.356	1.299	48.701
Cells 1		5.00	51.756		389531.397	160154.089	2.513	49.243
Cells 2		5.00	51.455		389476.265	160078.704	2.063	49.392
CP2			51.412	1350	389478.058	160074.313	2.049	49.363

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	S18	S17	29.129	0.600	50.375	50.302	0.073	399.0	450	5.48	30.0
1.001	S17	S16	36.421	0.600	50.302	50.211	0.091	400.2	450	6.08	28.5
1.002	S16	S15	18.794	0.600	50.211	50.164	0.047	399.9	450	6.39	27.9
1.003	S15	S14	27.692	0.600	50.164	50.095	0.069	401.3	450	6.85	26.9
1.004	S14	S13	33.082	0.600	50.095	50.012	0.083	398.6	450	7.39	26.0
1.005	S13	S12	20.447	0.600	50.012	49.961	0.051	400.9	450	7.73	25.4
3.000	Cells 1	CP1	2.787	0.600	49.243	49.226	0.017	163.9	225	5.05	31.1
1.007	S11	S10	16.417	0.600	49.906	49.865	0.041	400.4	600	8.07	24.8
3.001	CP1	S4	8.612	0.600	50.398	50.450	-0.052	-165.6	225	20.45	14.5
2.000	Cells 2	CP2	4.743	0.600	49.392	49.363	0.029	163.6	225	5.08	31.0
1.010	S8	S7	26.960	0.600	49.448	49.381	0.067	402.4	600	5.37	30.3

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	1.011	160.8	10.7	1.286	1.362	0.099	0.0
1.001	1.010	160.6	23.0	1.362	1.399	0.223	0.0
1.002	1.010	160.7	28.7	1.399	1.373	0.285	0.0
1.003	1.008	160.4	36.9	1.373	1.461	0.379	0.0
1.004	1.012	160.9	46.1	1.461	1.657	0.492	0.0
1.005	1.009	160.5	51.4	1.657	1.072	0.560	0.0
3.000	1.018	40.5	0.0	2.288	2.290	0.000	0.0
1.007	1.210	342.3	63.1	0.923	0.483	0.704	0.0
3.001	0.009	0.4	0.0	1.118	0.815	0.000	0.0
2.000	1.019	40.5	0.0	1.838	1.824	0.000	0.0
1.010	1.207	341.4	2.0	0.900	1.434	0.018	0.0

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)
1.011	S7	S6	25.777	0.600	49.381	49.316	0.065	396.6	600	5.73	29.4
1.012	S6	S5	62.937	0.600	49.316	49.159	0.157	400.9	600	17.00	16.3
1.013	S5	S3	25.540	0.600	49.159	49.095	0.064	399.1	600	17.35	16.1
3.002	S4	S3	31.784	0.600	49.175	49.095	0.080	397.3	600	20.88	14.3
1.014	S3	S2	36.248	0.600	49.095	49.005	0.090	402.8	600	21.38	14.1
1.015	S2	S1HB	10.766	0.600	49.005	48.978	0.027	398.7	600	21.53	14.1
1.016	S1HB	S19	18.944	0.600	48.978	48.864	0.114	166.2	225	21.84	13.9
2.001	CP2	S6	6.181	0.600	50.375	50.412	-0.037	-167.0	225	16.13	16.9
4.006	S12	S11	21.929	0.600	49.961	49.906	0.055	398.7	600	7.84	25.2
1.017	S19	MH6123	27.272	0.600	48.864	48.701	0.163	167.3	225	22.29	13.8

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.011	1.216	343.9	15.0	1.434	1.549	0.141	0.0
1.012	1.210	342.1	21.2	1.549	1.149	0.359	0.0
1.013	1.213	342.8	25.9	1.149	1.359	0.445	0.0
3.002	1.215	343.6	5.6	1.715	1.359	0.108	0.0
1.014	1.207	341.3	34.6	1.359	1.253	0.677	0.0
1.015	1.213	343.0	36.2	1.253	1.049	0.711	0.0
1.016	1.011	40.2	35.8	1.424	1.411	0.711	0.0
2.001	0.009	0.4	0.0	0.812	0.828	0.000	0.0
4.006	3.287	25148.3	57.6	0.022	0.023	0.633	0.0
1.017	1.008	40.1	35.4	1.411	1.074	0.711	0.0

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	29.129	399.0	450	Circular	52.111	50.375	1.286	52.114	50.302	1.362
1.001	36.421	400.2	450	Circular	52.114	50.302	1.362	52.060	50.211	1.399
1.002	18.794	399.9	450	Circular	52.060	50.211	1.399	51.987	50.164	1.373
1.003	27.692	401.3	450	Circular	51.987	50.164	1.373	52.006	50.095	1.461
1.004	33.082	398.6	450	Circular	52.006	50.095	1.461	52.119	50.012	1.657
1.005	20.447	400.9	450	Circular	52.119	50.012	1.657	51.483	49.961	1.072
3.000	2.787	163.9	225	Circular	51.756	49.243	2.288	51.741	49.226	2.290
1.007	16.417	400.4	600	Circular	51.429	49.906	0.923	50.948	49.865	0.483
3.001	8.612	-165.6	225	Circular	51.741	50.398	1.118	51.490	50.450	0.815
2.000	4.743	163.6	225	Circular	51.455	49.392	1.838	51.412	49.363	1.824
1.010	26.960	402.4	600	Circular	50.948	49.448	0.900	51.415	49.381	1.434
1.011	25.777	396.6	600	Circular	51.415	49.381	1.434	51.465	49.316	1.549
1.012	62.937	400.9	600	Circular	51.465	49.316	1.549	50.908	49.159	1.149
1.013	25.540	399.1	600	Circular	50.908	49.159	1.149	51.054	49.095	1.359
3.002	31.784	397.3	600	Circular	51.490	49.175	1.715	51.054	49.095	1.359
1.014	36.248	402.8	600	Circular	51.054	49.095	1.359	50.858	49.005	1.253

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S18	1500	Manhole	Adoptable	S17	1500	Manhole	Adoptable
1.001	S17	1500	Manhole	Adoptable	S16	1500	Manhole	Adoptable
1.002	S16	1500	Manhole	Adoptable	S15	1800	Manhole	Adoptable
1.003	S15	1800	Manhole	Adoptable	S14	1500	Manhole	Adoptable
1.004	S14	1500	Manhole	Adoptable	S13	2100	Manhole	Adoptable
1.005	S13	2100	Manhole	Adoptable	S12	1350	Junction	
3.000	Cells 1		Junction		CP1	1350	Manhole	Adoptable
1.007	S11	1350	Junction		S10	1350	Junction	
3.001	CP1	1350	Manhole	Adoptable	S4	1500	Manhole	Adoptable
2.000	Cells 2		Junction		CP2	1350	Manhole	Adoptable
1.010	S8	1350	Junction		S7	1800	Manhole	Adoptable
1.011	S7	1800	Manhole	Adoptable	S6	2100	Manhole	Adoptable
1.012	S6	2100	Manhole	Adoptable	S5	1800	Manhole	Adoptable
1.013	S5	1800	Manhole	Adoptable	S3	2100	Manhole	Adoptable
3.002	S4	1500	Manhole	Adoptable	S3	2100	Manhole	Adoptable
1.014	S3	2100	Manhole	Adoptable	S2	1800	Manhole	Adoptable

Pipeline Schedule

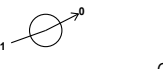
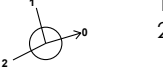
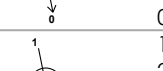
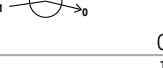
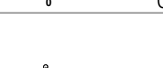
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.015	10.766	398.7	600	Circular	50.858	49.005	1.253	50.627	48.978	1.049
1.016	18.944	166.2	225	Circular	50.627	48.978	1.424	50.500	48.864	1.411
2.001	6.181	-167.0	225	Circular	51.412	50.375	0.812	51.465	50.412	0.828
4.006	21.929	398.7	600	Swale	51.483	49.961	0.022	51.429	49.906	0.023
1.017	27.272	167.3	225	Circular	50.500	48.864	1.411	50.000	48.701	1.074

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.015	S2	1800	Manhole	Adoptable	S1HB	2100	Manhole	Adoptable
1.016	S1HB	2100	Manhole	Adoptable	S19	1350	Manhole	Adoptable
2.001	CP2	1350	Manhole	Adoptable	S6	2100	Manhole	Adoptable
4.006	S12	1350	Junction		S11	1350	Junction	
1.017	S19	1350	Manhole	Adoptable	MH6123	1350	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S18	389506.261	160141.102	52.111	1.736	1500				
						0	1.000	50.375	450
S17	389477.173	160139.542	52.114	1.812	1500		1	1.000	50.302
						0	1.001	50.302	450
S16	389440.763	160138.659	52.060	1.849	1500		1	1.001	50.211
						0	1.002	50.211	450
S15	389421.994	160137.686	51.987	1.823	1800		1	1.002	50.164
						0	1.003	50.164	450
S14	389396.614	160126.696	52.006	1.911	1500		1	1.003	50.095
						0	1.004	50.095	450
S13	389367.056	160111.750	52.119	2.107	2100		1	1.004	50.012
						0	1.005	50.012	450
S12	389376.239	160093.481	51.483	1.522	1350		1	1.005	49.961
						0	4.006	49.961	600
S11	389386.088	160073.888	51.429	1.523	1350		1	4.006	49.906
						0	1.007	49.906	600
S10	389388.697	160057.679	50.948	1.375	1350		1	1.007	49.865
						0	3.000	49.226	225
CP1	389531.754	160151.325	51.741	2.515	1350		1	3.000	49.226
						0	3.001	50.398	225
S8	389431.801	160047.786	50.948	1.500	1350				
						0	1.010	49.448	600

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S7	389456.652	160056.674	51.415	2.034	1800		1	1.010	49.381	600
							0	1.011	49.381	600
S6	389479.639	160068.338	51.465	2.149	2100		1	2.001	50.412	225
							2	1.011	49.316	600
							0	1.012	49.316	600
S5	389539.992	160086.186	50.908	1.749	1800		1	1.012	49.159	600
							0	1.013	49.159	600
S4	389533.470	160142.886	51.490	2.315	1500		1	3.001	50.450	225
							0	3.002	49.175	600
S3	389539.729	160111.725	51.054	1.959	2100		1	3.002	49.095	600
							2	1.013	49.095	600
							0	1.014	49.095	600
S2	389575.604	160116.913	50.858	1.853	1800		1	1.014	49.005	600
							0	1.015	49.005	600
S1HB	389585.940	160114.459	50.627	1.649	2100		1	1.015	48.978	600
							0	1.016	48.978	225
S19	389602.262	160124.155	50.500	1.636	1350		1	1.016	48.864	225
							0	1.017	48.864	225
MH6123	389628.395	160116.356	50.000	1.299	1350		1	1.017	48.701	225
Cells 1	389531.397	160154.089	51.756	2.513						
							0	3.000	49.243	225
Cells 2	389476.265	160078.704	51.455	2.063						
							0	2.000	49.392	225
CP2	389478.058	160074.313	51.412	2.049	1350		1	2.000	49.363	225
							0	2.001	50.375	225

Node S1HB Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	48.978	Product Number	CTL-SHE-0086-4000-1600-4000
Design Depth (m)	1.600	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	4.0	Min Node Diameter (mm)	1200

Node CP2 Offline Orifice Control

Flap Valve	✓	Invert Level (m)	49.363	Discharge Coefficient	0.600
Loop to Node	S6	Diameter (m)	0.225		

Node CP1 Offline Orifice Control

Flap Valve	✓	Invert Level (m)	49.226	Discharge Coefficient	0.600
Loop to Node	S4	Diameter (m)	0.225		

Node S8 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	50.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	49.448	Main Channel Slope (1:X)	400.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.035

Inlets
S10

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	561.6	561.6	1.500	1169.2	1188.4

Node Cells 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	49.243
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	120.0	0.0	1.200	120.0	46.6	1.201	0.0	46.6

Node Cells 2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	49.392
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	648.0	648.0	1.200	648.0	756.3	1.201	0.0	756.3

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.95%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S18	10	50.449	0.074	10.1	0.1311	0.0000	OK
15 minute summer	S17	11	50.414	0.112	22.4	0.1973	0.0000	OK
15 minute summer	S16	11	50.349	0.138	28.3	0.2432	0.0000	OK
15 minute summer	S15	11	50.317	0.153	36.7	0.3884	0.0000	OK
15 minute summer	S14	12	50.265	0.170	46.4	0.3007	0.0000	OK
15 minute summer	S13	12	50.171	0.159	51.5	0.5505	0.0000	OK
15 minute summer	S12	12	50.070	0.109	57.7	0.0000	0.0000	OK
15 minute summer	S11	12	50.070	0.164	62.8	0.0000	0.0000	OK
720 minute winter	S10	675	49.761	0.188	10.3	0.0000	0.0000	OK
15 minute summer	CP1	1	49.226	0.000	0.0	0.0000	0.0000	OK
720 minute winter	S8	690	49.761	0.313	11.5	0.0000	0.0000	OK
720 minute winter	S7	675	49.761	0.380	7.5	0.9681	0.0000	OK
720 minute winter	S6	675	49.761	0.445	8.6	1.5429	0.0000	OK
720 minute winter	S5	675	49.762	0.603	7.8	1.5334	0.0000	SURCHARGED
720 minute winter	S4	675	49.762	0.587	1.4	1.0364	0.0000	OK
720 minute winter	S3	675	49.762	0.667	7.1	2.3088	0.0000	SURCHARGED
720 minute winter	S2	675	49.762	0.757	5.2	1.9253	0.0000	SURCHARGED
720 minute winter	S1HB	675	49.761	0.783	4.0	2.7140	0.0000	SURCHARGED
15 minute summer	S19	167	48.910	0.046	3.6	0.0656	0.0000	OK
15 minute summer	MH6123	167	48.746	0.045	3.6	0.0000	0.0000	OK
15 minute summer	Cells 1	1	49.243	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Cells 2	1	49.392	0.000	0.0	0.0000	0.0000	OK
15 minute summer	CP2	1	49.363	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)
15 minute summer	S18	1.000	S17	9.8	0.419	0.061	0.6927	
15 minute summer	S17	1.001	S16	22.3	0.627	0.139	1.3039	
15 minute summer	S16	1.002	S15	27.6	0.624	0.172	0.8301	
15 minute summer	S15	1.003	S14	35.8	0.702	0.223	1.4108	
15 minute summer	S14	1.004	S13	46.0	0.878	0.286	1.7348	
15 minute summer	S13	1.005	S12	51.9	1.316	0.323	0.8152	
15 minute summer	S12	4.006	S11	57.0	0.413	0.002	3.0784	
15 minute summer	S11	1.007	S10	61.0	1.020	0.178	0.9910	
720 minute winter	S10	Flow through Pond	S8	9.7	0.032	0.000	154.5406	
15 minute summer	CP1	3.001	S4	0.0	0.000	0.000	0.0000	
15 minute summer	CP1	Orifice	S4	0.0				0.0
720 minute winter	S8	1.010	S7	6.3	0.434	0.018	4.5461	
720 minute winter	S7	1.011	S6	6.4	0.424	0.019	5.3194	
720 minute winter	S6	1.012	S5	7.1	0.394	0.021	15.9195	
720 minute winter	S5	1.013	S3	5.9	0.340	0.017	7.1923	
720 minute winter	S4	3.002	S3	1.3	0.093	0.004	8.9272	
720 minute winter	S3	1.014	S2	4.9	0.218	0.014	10.2102	
720 minute winter	S2	1.015	S1HB	4.0	0.260	0.012	3.0325	
720 minute winter	S1HB	1.016	S19	3.6	0.615	0.089	0.1097	
15 minute summer	S19	1.017	MH6123	3.6	0.624	0.089	0.1557	64.4
15 minute summer	Cells 1	3.000	CP1	0.0	0.000	0.000	0.0000	
15 minute summer	Cells 2	2.000	CP2	0.0	0.000	0.000	0.0000	
15 minute summer	CP2	2.001	S6	0.0	0.000	0.000	0.0000	
15 minute summer	CP2	Orifice	S6	0.0				0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.92%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S18	10	50.468	0.093	15.8	0.1637	0.0000	OK
15 minute summer	S17	11	50.446	0.144	35.3	0.2547	0.0000	OK
15 minute summer	S16	11	50.395	0.184	44.3	0.3244	0.0000	OK
15 minute summer	S15	11	50.366	0.202	57.6	0.5153	0.0000	OK
15 minute summer	S14	11	50.316	0.221	73.6	0.3912	0.0000	OK
15 minute summer	S13	12	50.215	0.203	82.2	0.7026	0.0000	OK
15 minute summer	S12	12	50.115	0.153	91.2	0.0000	0.0000	OK
15 minute summer	S11	12	50.115	0.209	100.1	0.0000	0.0000	OK
720 minute winter	S10	705	49.887	0.314	13.3	0.0000	0.0000	OK
15 minute summer	CP1	1	49.226	0.000	0.0	0.0000	0.0000	OK
720 minute winter	S8	705	49.887	0.439	13.3	0.0000	0.0000	OK
720 minute winter	S7	705	49.887	0.506	7.2	1.2865	0.0000	OK
720 minute winter	S6	705	49.887	0.571	8.5	1.9762	0.0000	OK
720 minute winter	S5	705	49.887	0.728	7.5	1.8515	0.0000	SURCHARGED
720 minute winter	S4	705	49.887	0.712	1.9	1.2572	0.0000	SURCHARGED
720 minute winter	S3	705	49.887	0.792	7.0	2.7418	0.0000	SURCHARGED
720 minute winter	S2	705	49.887	0.882	5.1	2.2434	0.0000	SURCHARGED
720 minute winter	S1HB	705	49.887	0.909	4.0	3.1471	0.0000	SURCHARGED
15 minute summer	S19	347	48.910	0.046	3.6	0.0656	0.0000	OK
15 minute summer	MH6123	347	48.746	0.045	3.6	0.0000	0.0000	OK
15 minute summer	Cells 1	1	49.243	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Cells 2	1	49.392	0.000	0.0	0.0000	0.0000	OK
15 minute summer	CP2	1	49.363	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)
15 minute summer	S18	1.000	S17	15.5	0.470	0.096	0.9761	
15 minute summer	S17	1.001	S16	34.7	0.680	0.216	1.9028	
15 minute summer	S16	1.002	S15	43.3	0.667	0.270	1.2207	
15 minute summer	S15	1.003	S14	56.4	0.772	0.351	2.0318	
15 minute summer	S14	1.004	S13	72.4	0.990	0.450	2.4201	
15 minute summer	S13	1.005	S12	82.0	1.421	0.511	1.1962	
15 minute summer	S12	4.006	S11	91.2	0.442	0.004	4.5926	
15 minute summer	S11	1.007	S10	99.0	1.168	0.289	1.3922	
720 minute winter	S10	Flow through Pond	S8	10.5	0.042	0.000	240.6237	
15 minute summer	CP1	3.001	S4	0.0	0.000	0.000	0.0000	
15 minute summer	CP1	Orifice	S4	0.0				0.0
720 minute winter	S8	1.010	S7	6.0	0.424	0.018	6.3905	
720 minute winter	S7	1.011	S6	6.3	0.414	0.018	6.8310	
720 minute winter	S6	1.012	S5	6.6	0.386	0.019	17.5697	
720 minute winter	S5	1.013	S3	5.6	0.340	0.016	7.1940	
720 minute winter	S4	3.002	S3	1.7	0.102	0.005	8.9528	
720 minute winter	S3	1.014	S2	4.8	0.239	0.014	10.2102	
720 minute winter	S2	1.015	S1HB	4.0	0.188	0.012	3.0325	
720 minute winter	S1HB	1.016	S19	3.6	0.615	0.089	0.1097	
15 minute summer	S19	1.017	MH6123	3.6	0.624	0.089	0.1557	101.9
15 minute summer	Cells 1	3.000	CP1	0.0	0.000	0.000	0.0000	
15 minute summer	Cells 2	2.000	CP2	0.0	0.000	0.000	0.0000	
15 minute summer	CP2	2.001	S6	0.0	0.000	0.000	0.0000	
15 minute summer	CP2	Orifice	S6	0.0				0.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.88%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S18	12	50.659	0.284	44.2	0.5017	0.0000	OK
15 minute summer	S17	12	50.653	0.351	92.0	0.6210	0.0000	OK
15 minute summer	S16	12	50.626	0.415	109.2	0.7335	0.0000	OK
15 minute summer	S15	12	50.596	0.432	144.3	1.1006	0.0000	OK
15 minute summer	S14	11	50.530	0.435	189.2	0.7688	0.0000	OK
1440 minute winter	S13	1410	50.410	0.398	11.8	1.3772	0.0000	OK
1440 minute winter	S12	1410	50.410	0.449	13.3	0.0000	0.0000	OK
1440 minute winter	S11	1410	50.410	0.504	14.8	0.0000	0.0000	OK
1440 minute winter	S10	1410	50.410	0.837	16.2	0.0000	0.0000	OK
15 minute summer	CP1	1	49.226	0.000	0.0	0.0000	0.0000	OK
1440 minute winter	S8	1410	50.410	0.962	13.9	0.0000	0.0000	SURCHARGED
1440 minute winter	S7	1410	50.410	1.029	10.8	2.6177	0.0000	SURCHARGED
1440 minute winter	S6	1410	50.410	1.094	8.4	3.7881	0.0000	SURCHARGED
1440 minute winter	S5	1410	50.410	1.251	4.8	3.1827	0.0000	SURCHARGED
1440 minute winter	S4	1410	50.410	1.235	2.3	2.1814	0.0000	SURCHARGED
1440 minute winter	S3	1410	50.410	1.315	4.8	4.5536	0.0000	SURCHARGED
1440 minute winter	S2	1410	50.410	1.405	4.1	3.5745	0.0000	SURCHARGED
1440 minute winter	S1HB	1410	50.410	1.432	3.7	4.9588	0.0000	FLOOD RISK
1440 minute winter	S19	1410	48.911	0.047	3.7	0.0672	0.0000	OK
1440 minute winter	MH6123	1410	48.747	0.046	3.7	0.0000	0.0000	OK
15 minute summer	Cells 1	1	49.243	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Cells 2	1	49.392	0.000	0.0	0.0000	0.0000	OK
15 minute summer	CP2	1	49.363	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)
15 minute summer	S18	1.000	S17	37.7	0.505	0.234	3.4690	
15 minute summer	S17	1.001	S16	84.1	0.744	0.523	5.2024	
15 minute summer	S16	1.002	S15	109.0	0.730	0.679	2.9064	
15 minute summer	S15	1.003	S14	144.3	0.924	0.900	4.3374	
15 minute summer	S14	1.004	S13	186.8	1.251	1.160	4.9028	
1440 minute winter	S13	1.005	S12	11.8	0.959	0.073	3.1335	
1440 minute winter	S12	4.006	S11	13.3	0.277	0.001	21.2274	
1440 minute winter	S11	1.007	S10	14.7	0.672	0.043	4.2790	
1440 minute winter	S10	Flow through Pond	S8	5.9	0.025	0.000	669.5641	
15 minute summer	CP1	3.001	S4	0.0	0.000	0.000	0.0000	
15 minute summer	CP1	Orifice	S4	0.0				0.0
1440 minute winter	S8	1.010	S7	-10.7	0.377	-0.031	7.5940	
1440 minute winter	S7	1.011	S6	-8.2	0.382	-0.024	7.2608	
1440 minute winter	S6	1.012	S5	4.5	0.371	0.013	17.7279	
1440 minute winter	S5	1.013	S3	4.2	0.307	0.012	7.1940	
1440 minute winter	S4	3.002	S3	2.2	0.091	0.007	8.9528	
1440 minute winter	S3	1.014	S2	4.0	0.194	0.012	10.2102	
1440 minute winter	S2	1.015	S1HB	3.7	0.081	0.011	3.0325	
1440 minute winter	S1HB	1.016	S19	3.7	0.624	0.093	0.1137	
1440 minute winter	S19	1.017	MH6123	3.7	0.633	0.093	0.1613	589.1
15 minute summer	Cells 1	3.000	CP1	0.0	0.000	0.000	0.0000	
15 minute summer	Cells 2	2.000	CP2	0.0	0.000	0.000	0.0000	
15 minute summer	CP2	2.001	S6	0.0	0.000	0.000	0.0000	
15 minute summer	CP2	Orifice	S6	0.0				0.0

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.93%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S18	11	51.096	0.721	56.5	1.2736	0.0000	SURCHARGED
15 minute summer	S17	11	51.075	0.773	118.8	1.3654	0.0000	SURCHARGED
15 minute summer	S16	11	51.009	0.798	144.0	1.4098	0.0000	SURCHARGED
15 minute summer	S15	11	50.956	0.792	193.3	2.0153	0.0000	SURCHARGED
15 minute summer	S14	11	50.816	0.721	255.4	1.2746	0.0000	SURCHARGED
15 minute summer	S13	11	50.537	0.525	287.9	1.8183	0.0000	SURCHARGED
960 minute winter	S12	660	50.510	0.549	23.5	0.0000	0.0000	OK
960 minute winter	S11	660	50.510	0.604	24.8	0.0000	0.0000	SURCHARGED
960 minute winter	S10	660	50.510	0.937	26.0	0.0000	0.0000	OK
1440 minute winter	CP1	2010	49.737	0.511	4.9	0.7307	0.0000	OK
960 minute winter	S8	660	50.510	1.062	24.4	0.0000	0.0000	SURCHARGED
960 minute winter	S7	660	50.510	1.129	22.2	2.8731	0.0000	SURCHARGED
960 minute winter	S6	660	50.510	1.194	17.8	4.1351	0.0000	SURCHARGED
960 minute winter	S5	660	50.510	1.351	9.4	3.4375	0.0000	SURCHARGED
960 minute winter	S4	660	50.510	1.335	5.6	2.3583	0.0000	SURCHARGED
960 minute winter	S3	660	50.510	1.415	8.8	4.9004	0.0000	SURCHARGED
960 minute winter	S2	660	50.510	1.505	5.0	3.8293	0.0000	SURCHARGED
960 minute winter	S1HB	660	50.510	1.532	4.0	5.3056	0.0000	FLOOD RISK
960 minute winter	S19	675	48.912	0.048	3.9	0.0683	0.0000	OK
960 minute winter	MH6123	675	48.748	0.047	3.9	0.0000	0.0000	OK
1440 minute winter	Cells 1	1890	49.737	0.494	4.8	56.2693	0.0000	SURCHARGED
1440 minute winter	Cells 2	1800	49.785	0.393	12.4	241.7617	0.0000	SURCHARGED
1440 minute winter	CP2	1950	49.785	0.422	12.4	0.6037	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)
15 minute summer	S18	1.000	S17	51.2	0.504	0.319	4.6153	
15 minute summer	S17	1.001	S16	111.4	0.754	0.693	5.7707	
15 minute summer	S16	1.002	S15	144.1	0.909	0.897	2.9778	
15 minute summer	S15	1.003	S14	193.9	1.224	1.209	4.3876	
15 minute summer	S14	1.004	S13	250.9	1.584	1.559	5.2416	
15 minute summer	S13	1.005	S12	290.4	1.888	1.810	2.9927	
960 minute winter	S12	4.006	S11	22.1	0.327	0.001	29.5073	
960 minute winter	S11	1.007	S10	23.5	0.766	0.069	4.6235	
960 minute winter	S10	Flow through Pond	S8	11.9	0.040	0.000	764.5598	
1440 minute winter	CP1	3.001	S4	-4.9	-0.669	-13.160	0.0628	
1440 minute winter	CP1	Orifice	S4	0.0				0.0
960 minute winter	S8	1.010	S7	-22.0	0.432	-0.065	7.5940	
960 minute winter	S7	1.011	S6	-17.5	0.430	-0.051	7.2608	
960 minute winter	S6	1.012	S5	-9.3	0.374	-0.027	17.7279	
960 minute winter	S5	1.013	S3	-6.1	0.313	-0.018	7.1940	
960 minute winter	S4	3.002	S3	-4.0	0.109	-0.012	8.9528	
960 minute winter	S3	1.014	S2	4.8	0.302	0.014	10.2102	
960 minute winter	S2	1.015	S1HB	4.0	0.178	0.012	3.0325	
960 minute winter	S1HB	1.016	S19	3.9	0.629	0.096	0.1164	
960 minute winter	S19	1.017	MH6123	3.9	0.639	0.096	0.1650	507.2
1440 minute winter	Cells 1	3.000	CP1	-4.8	-0.578	-0.119	0.1108	
1440 minute winter	Cells 2	2.000	CP2	-12.4	-0.972	-0.306	0.1886	
1440 minute winter	CP2	2.001	S6	-12.4	-0.847	-33.478	0.0906	
1440 minute winter	CP2	Orifice	S6	0.0				0.0

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.77%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S18	11	52.071	1.695	81.9	2.9959	0.0000	FLOOD RISK
15 minute summer	S17	11	52.049	1.747	174.0	3.0867	0.0000	FLOOD RISK
15 minute summer	S16	11	51.913	1.702	220.8	3.0070	0.0000	FLOOD RISK
15 minute summer	S15	11	51.775	1.611	292.3	4.1005	0.0000	FLOOD RISK
15 minute summer	S14	11	51.464	1.369	377.8	2.4192	0.0000	SURCHARGED
15 minute summer	S13	11	50.865	0.853	429.5	2.9536	0.0000	SURCHARGED
600 minute summer	S12	360	50.623	0.662	65.3	0.0000	0.0000	OK
600 minute summer	S11	360	50.623	0.717	67.8	0.0000	0.0000	SURCHARGED
720 minute summer	S10	435	50.623	1.050	63.4	0.0000	0.0000	OK
720 minute winter	CP1	495	50.604	1.378	28.0	1.9716	0.0000	OK
720 minute summer	S8	435	50.623	1.175	66.2	0.0000	0.0000	SURCHARGED
600 minute summer	S7	360	50.621	1.240	72.7	3.1569	0.0000	SURCHARGED
600 minute summer	S6	360	50.620	1.304	59.8	4.5161	0.0000	SURCHARGED
600 minute summer	S5	360	50.619	1.460	34.7	3.7162	0.0000	FLOOD RISK
600 minute summer	S4	360	50.618	1.443	31.7	2.5499	0.0000	SURCHARGED
600 minute summer	S3	360	50.619	1.524	29.0	5.2783	0.0000	SURCHARGED
600 minute summer	S2	360	50.619	1.614	6.0	4.1070	0.0000	FLOOD RISK
600 minute summer	S1HB	360	50.619	1.641	5.5	5.6836	0.0000	FLOOD RISK
600 minute summer	S19	360	48.913	0.049	4.0	0.0694	0.0000	OK
600 minute summer	MH6123	360	48.749	0.048	4.0	0.0000	0.0000	OK
720 minute winter	Cells 1	495	50.605	1.362	27.7	136.8570	0.0000	SURCHARGED
1440 minute winter	Cells 2	1440	50.526	1.134	30.5	698.1868	0.0000	SURCHARGED
1440 minute winter	CP2	1440	50.526	1.163	30.6	1.6645	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)
15 minute summer	S18	1.000	S17	75.8	0.499	0.471	4.6153	
15 minute summer	S17	1.001	S16	171.7	1.084	1.069	5.7707	
15 minute summer	S16	1.002	S15	218.1	1.376	1.357	2.9778	
15 minute summer	S15	1.003	S14	288.5	1.821	1.799	4.3876	
15 minute summer	S14	1.004	S13	375.8	2.372	2.335	5.2416	
15 minute summer	S13	1.005	S12	425.2	2.684	2.650	3.2397	
600 minute summer	S12	4.006	S11	59.7	0.371	0.002	40.4042	
600 minute summer	S11	1.007	S10	61.7	0.894	0.180	4.6243	
720 minute summer	S10	Flow through Pond	S8	39.7	0.053	0.002	875.9431	
720 minute winter	CP1	3.001	S4	-28.0	-1.039	-75.651	0.2883	
720 minute winter	CP1	Orifice	S4	1.0				44.2
720 minute summer	S8	1.010	S7	-64.4	0.466	-0.189	7.5940	
600 minute summer	S7	1.011	S6	-58.6	0.419	-0.170	7.2608	
600 minute summer	S6	1.012	S5	-34.4	0.377	-0.100	17.7279	
600 minute summer	S5	1.013	S3	-24.9	0.327	-0.073	7.1940	
600 minute summer	S4	3.002	S3	-26.6	0.111	-0.077	8.9528	
600 minute summer	S3	1.014	S2	5.6	0.089	0.016	10.2102	
600 minute summer	S2	1.015	S1HB	5.5	0.055	0.016	3.0325	
600 minute summer	S1HB	1.016	S19	4.0	0.635	0.099	0.1191	
600 minute summer	S19	1.017	MH6123	4.0	0.645	0.100	0.1689	441.2
720 minute winter	Cells 1	3.000	CP1	-27.7	-1.046	-0.684	0.1108	
1440 minute winter	Cells 2	2.000	CP2	-30.5	-1.299	-0.753	0.1886	
1440 minute winter	CP2	2.001	S6	-30.6	-1.042	-82.549	0.1811	
1440 minute winter	CP2	Orifice	S6	1.1				79.8

