

Network Details

Manhole Schedule

Manhole	Catchment Area (ha)	Size (mm)	Type	CL (m)	IL (m)	Depth To Soffit (m)	Easting (m)	Northing (m)
S12	0.015	450	Unknown	51.500	50.750	0.600	517630.181	131310.749
S13	0.009	450	Unknown	51.350	49.800	1.400	517613.513	131296.467
S14	0.004	450	Unknown	51.100	49.600	1.350	517609.187	131295.036
S15	0.014	450	Unknown	50.500	49.450	0.900	517598.070	131286.154
S16	0.026	450	Unknown	50.360	49.300	0.910	517584.855	131303.687
S17	0.008	450	Unknown	50.750	49.200	1.400	517593.523	131310.576
S1	0.020	450	Unknown	51.500	50.750	0.600	517603.602	131355.395
S11	0.018	450	Unknown	51.500	50.750	0.600	517631.342	131320.499
S2	0.000	450	Unknown	51.500	50.450	0.900	517618.743	131336.281
S3	0.008	450	Unknown	51.500	50.150	1.200	517603.778	131324.440
S7	0.004	0	Unknown	51.500	50.900	0.450	517594.145	131350.058
S8	0.013	450	Unknown	51.500	50.750	0.600	517587.546	131344.025
S9	0.000	450	Unknown	51.300	50.250	0.900	517592.909	131331.275
S10	0.017	450	Unknown	51.500	50.750	0.600	517606.881	131316.975
S4	0.000	450	Unknown	51.400	50.000	1.250	517600.640	131321.821
S5	0.006	1500	Type B	50.800	49.100	1.550	517583.104	131323.376
S6	0.000	450	Unknown	50.750	48.760	1.840	517566.897	131310.403

Pipe Schedule

Pipe Number	US Manhole	US IL (m)	DS Manhole	DS IL (m)	Shape	Dimension (mm)	Length (m)	Gradient (1:x)	Roughness (mm)	US Depth To Soffit (m)	DS Depth To Soffit (m)
1.000	S12	50.750	S13	49.800	Circ	150	21.950	23	0.600	0.600	1.400
1.001	S13	49.800	S14	49.600	Circ	150	4.557	23	0.600	1.400	1.350
1.002	S14	49.600	S15	49.450	Circ	150	14.230	95	0.600	1.350	0.900
1.003	S15	49.450	S16	49.300	Circ	150	21.956	146	0.600	0.900	0.910
1.004	S16	49.300	S17	49.200	Circ	150	11.072	111	0.600	0.910	1.400
1.005	S17	49.200	S5	49.100	Circ	150	16.505	165	0.600	1.400	1.550
2.000	S1	50.750	S2	50.450	Circ	150	24.384	81	0.600	0.600	0.900
3.000	S11	50.750	S2	50.450	Circ	150	20.194	67	0.600	0.600	0.900
2.001	S2	50.450	S3	50.150	Circ	150	19.083	64	0.600	0.900	1.200
2.002	S3	50.150	S4	50.000	Circ	150	4.088	27	0.600	1.200	1.250
4.000	S7	50.900	S8	50.750	Circ	150	8.941	60	0.600	0.450	0.600
4.001	S8	50.750	S9	50.250	Circ	150	13.832	28	0.600	0.600	0.900
4.002	S9	50.250	S4	50.000	Circ	150	12.213	49	0.600	0.900	1.250
5.000	S10	50.750	S4	50.000	Circ	150	7.902	11	0.600	0.600	1.250
2.003	S4	50.000	S5	49.100	Circ	150	17.605	20	0.600	1.250	1.550
1.006	S5	49.100	S6	48.760	Circ	150	20.760	61	0.600	1.550	1.840

Outfall Details

Outfall Manhole S6 : Free Discharge

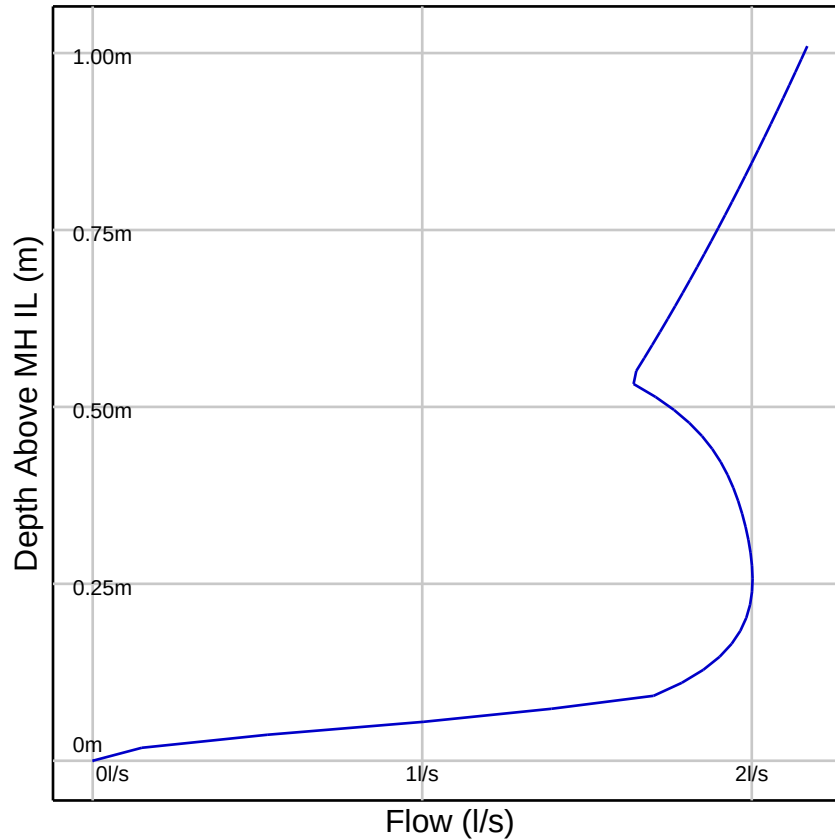
Flow Control Details

Controls within Manhole S5

Hydro-Brake® Optimum Control

Model Ref	Design Depth (m)	Design Flow (l/s)	Invert Offset (m)	FF Head (m)	FF Flow (l/s)	KF Head (m)	KF Flow (l/s)
SHE-0069-2000-0850-2000	0.850	2.000	0.000	0.257	2.002	0.535	1.628

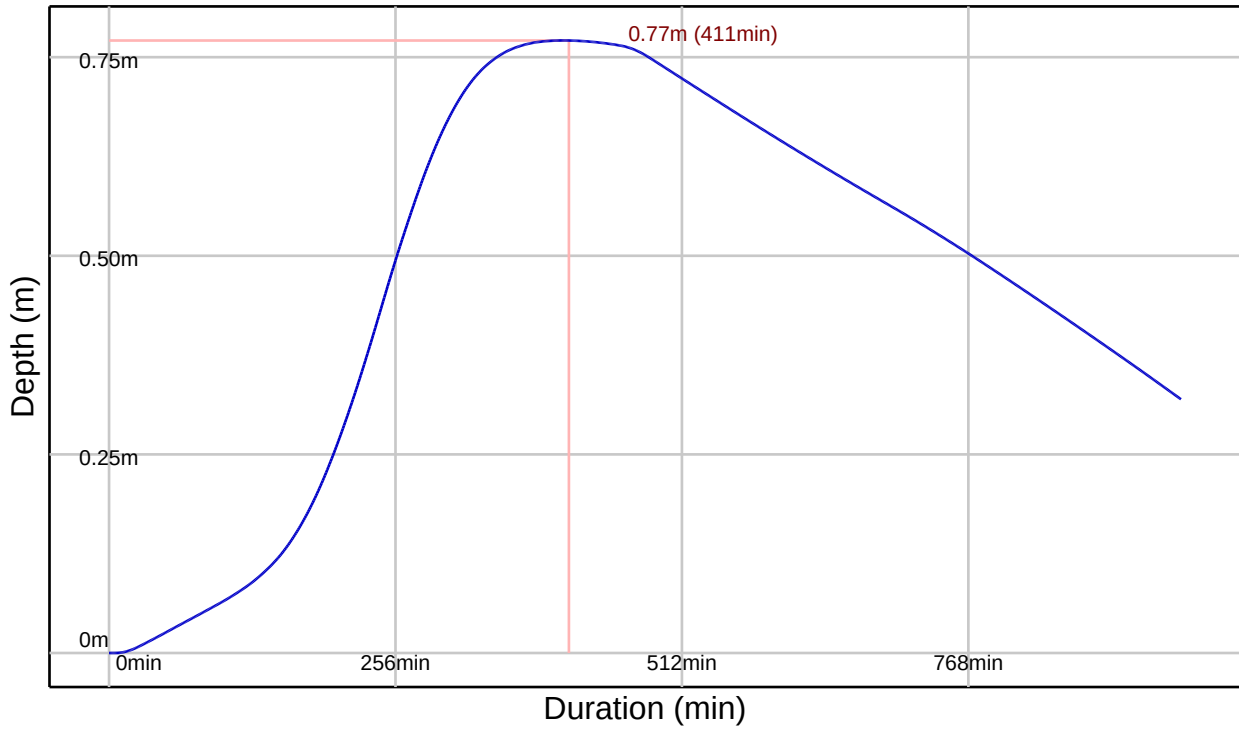
Hydro-Brake® Optimum Control from S5 to S6



Tank Structure at Manhole S5

Tank Invert (m)	Tank Height (m)	Porosity Ratio (%)	Area (m2)	Effective Area (m2) Area x Porosity Ratio	Max Storage (m3) Effective Area x Height	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
49.100	0.800	95.00	120.000	114.000	91.200	0.00000000	0.00000000	2.00

Tank 1 at S5 (100Yr+40% 480Min Winter)



Simulation Settings

FEH2022 (point): Filename=FEH_Point_Descriptors_350039_404939_v5_0_1 - 2.471.xml

Summer (Cv: 1.00), Winter (Cv: 1.00)

Global Time of Entry: 5.0 mins

Durations (mins): 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440

Return Periods (yrs) + Climate Change: (100, +40%)

Manhole Flood Risk Freeboard: 0.300m

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %
100Yr+40% 15Min Winter	116.893	0.00	0.52	100Yr+40% 360Min Summer	12.635	0.00	0.61
100Yr+40% 15Min Summer	116.893	0.00	0.42	100Yr+40% 360Min Winter	12.635	0.00	0.61
100Yr+40% 30Min Winter	78.029	0.00	1.05	100Yr+40% 480Min Summer	10.208	0.00	0.23
100Yr+40% 30Min Summer	78.029	0.00	0.97	100Yr+40% 480Min Winter	10.208	0.00	0.23
100Yr+40% 60Min Winter	49.648	0.00	1.57	100Yr+40% 600Min Summer	8.681	0.00	0.03
100Yr+40% 60Min Summer	49.648	0.00	1.53	100Yr+40% 600Min Winter	8.681	0.00	0.03
100Yr+40% 120Min Winter	29.075	0.00	1.46	100Yr+40% 720Min Summer	7.612	0.00	0.00
100Yr+40% 120Min Summer	29.075	0.00	1.45	100Yr+40% 720Min Winter	7.612	0.00	0.00
100Yr+40% 180Min Summer	21.184	0.00	1.25	100Yr+40% 960Min Summer	6.187	0.00	0.00
100Yr+40% 180Min Winter	21.184	0.00	1.25	100Yr+40% 960Min Winter	6.187	0.00	0.00
100Yr+40% 240Min Summer	17.129	0.00	1.04	100Yr+40% 1440Min Winter	4.618	0.00	0.00
100Yr+40% 240Min Winter	17.129	0.00	1.04	100Yr+40% 1440Min Summer	4.618	0.00	0.00

Simulation Results

Return Period (yrs) + Climate Change (%):

100yr+40%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
S12	15 min Summer	8	50.804	0.054	10.361		OK
S13	15 min Summer	10	50.641	0.841	13.442		Surcharged
S14	15 min Summer	10	50.611	1.011	15.323		Surcharged
S15	15 min Summer	10	50.500	1.050	22.794	0.455	Flood
S16	15 min Summer	10	50.329	1.029	29.843		Flood Risk
S17	15 min Summer	10	49.988	0.788	34.540		Surcharged
S1	15 min Summer	10	50.937	0.187	11.094		Surcharged
S11	15 min Summer	10	50.894	0.144	9.985		OK
S2	15 min Summer	10	50.841	0.391	20.841		Surcharged
S3	15 min Summer	10	50.580	0.430	24.804		Surcharged
S7	15 min Summer	8	50.935	0.035	2.763		OK
S8	15 min Summer	8	50.810	0.060	11.728		OK
S9	15 min Summer	10	50.520	0.270	9.641		Surcharged
S10	15 min Summer	8	50.796	0.046	11.742		OK
S4	15 min Summer	10	50.482	0.482	43.864		Surcharged
S5	480 min Winter	406	49.871	0.771	1.887		Surcharged
S6	720 min Winter	1183	48.790	0.030	2.002		Outfall

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	8	S12	S13	0.102	1.366	10.328	0.278	OK
1.001	15 min Summer	10	S13	S14	0.150	1.140	13.105	0.350	Surcharged
1.002	15 min Summer	10	S14	S15	0.150	0.850	15.028	0.825	Surcharged
1.003	15 min Summer	12	S15	S16	0.150	1.040	18.375	1.258	Surcharged
1.004	15 min Summer	9	S16	S17	0.150	1.707	30.158	1.791	Surcharged
1.005	15 min Summer	10	S17	S5	0.150	1.935	34.200	2.488	Surcharged
2.000	15 min Summer	10	S1	S2	0.150	0.928	12.966	0.658	Surcharged
3.000	15 min Summer	10	S11	S2	0.147	0.902	11.938	0.551	OK
2.001	30 min Summer	16	S2	S3	0.150	1.404	20.968	0.941	Surcharged
2.002	15 min Summer	11	S3	S4	0.150	1.433	25.324	0.741	Surcharged
4.000	15 min Summer	8	S7	S8	0.047	0.575	2.749	0.119	OK
4.001	15 min Summer	9	S8	S9	0.104	1.526	11.688	0.344	OK
4.002	15 min Summer	9	S9	S4	0.150	0.714	9.967	0.391	Surcharged
5.000	15 min Summer	8	S10	S4	0.098	0.958	11.725	0.213	OK
2.003	15 min Summer	9	S4	S5	0.150	2.788	43.829	1.085	Surcharged
1.006	720 min Winter	1183	S5	S6	0.030	0.807	2.002	0.088	OK