

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	40	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	17.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
117	0.086	5.00	56.628	1200	387083.296	397794.156	0.900
116	0.027	5.00	56.921	1200	387063.552	397805.124	1.344
114	0.010	5.00	56.754	1200	387035.283	397824.979	0.900
113		5.00	57.256	1200	387072.524	397821.290	1.200
112	0.013	5.00	57.450	1200	387065.512	397834.508	1.494
111	0.117	5.00	56.948	1200	387042.841	397826.651	1.227
110			57.061	1200	387052.937	397816.110	1.586
109	0.008	5.00	57.046	1200	387076.643	397813.641	1.730
108	0.031	5.00	56.243	1200	387090.717	397790.065	1.110
107			56.312	1200	387091.990	397779.045	1.253
106	0.019	5.00	56.720	1200	387013.162	397806.407	0.900
105	0.019	5.00	56.808	1200	387046.087	397781.141	1.403
104	0.009	5.00	57.061	1200	387079.229	397755.659	1.935
103			56.663	1200	387086.539	397765.041	1.656
102	0.016	5.00	56.160	1200	387095.685	397777.180	1.254
101			56.059	1200	387112.355	397780.897	1.429

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)
1.007	102	101	17.079	0.600	54.906	54.630	0.276	61.9	300	7.19	50.0
1.006	107	102	4.139	0.600	55.059	55.018	0.041	100.0	300	6.88	50.0
4.003	103	102	15.199	0.600	55.007	54.906	0.101	150.0	150	7.05	50.0
4.002	104	103	11.894	0.600	55.126	55.007	0.119	100.0	150	6.74	50.0
4.001	105	104	41.806	0.600	55.405	55.126	0.279	150.0	150	6.54	50.0
4.000	106	105	41.502	0.600	55.820	55.405	0.415	100.0	150	5.69	50.0
1.005	108	107	11.093	0.600	55.133	55.059	0.074	150.0	300	6.83	50.0
1.004	109	108	27.457	0.600	55.316	55.133	0.183	150.0	300	6.69	50.0
1.003	110	109	23.834	0.600	55.475	55.316	0.159	150.0	300	6.33	50.0

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)
1.007	2.002	141.5	67.3	0.954	1.129	0.355	0.0	146	1.977
1.006	1.572	111.1	55.5	0.953	0.842	0.292	0.0	150	1.571
4.003	0.818	14.5	8.8	1.506	1.104	0.046	0.0	85	0.858
4.002	1.005	17.8	8.8	1.785	1.506	0.046	0.0	75	1.003
4.001	0.818	14.5	7.1	1.253	1.785	0.037	0.0	74	0.814
4.000	1.005	17.8	3.5	0.750	1.253	0.019	0.0	45	0.786
1.005	1.281	90.6	55.5	0.810	0.953	0.292	0.0	170	1.344
1.004	1.281	90.6	49.6	1.430	0.810	0.261	0.0	158	1.309
1.003	1.281	90.6	48.1	1.286	1.430	0.254	0.0	156	1.300

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)
3.001	116	110	15.276	0.600	55.577	55.475	0.102	150.0	225	5.59	50.0
1.002	111	110	14.596	0.600	55.721	55.624	0.097	150.0	225	6.02	50.0
2.001	114	111	7.741	0.600	55.854	55.802	0.052	150.0	150	5.16	50.0
1.001	112	111	23.994	0.600	55.956	55.796	0.160	150.0	150	5.79	50.0
1.000	113	112	14.963	0.600	56.056	55.956	0.100	150.0	150	5.30	50.0
3.000	117	116	22.586	0.600	55.728	55.577	0.151	150.0	225	5.35	50.0

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)
3.001	1.065	42.3	21.6	1.119	1.361	0.114	0.0	114	1.070
1.002	1.065	42.3	26.6	1.002	1.212	0.140	0.0	130	1.124
2.001	0.818	14.5	2.0	0.750	0.996	0.010	0.0	37	0.571
1.001	0.818	14.5	2.4	1.344	1.002	0.013	0.0	41	0.607
1.000	0.818	14.5	0.0	1.050	1.344	0.000	0.0	0	0.000
3.000	1.065	42.3	16.4	0.675	1.119	0.086	0.0	97	0.999

Pipeline Schedule

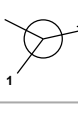
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.007	17.079	61.9	300	Circular	56.160	54.906	0.954	56.059	54.630	1.129
1.006	4.139	100.0	300	Circular	56.312	55.059	0.953	56.160	55.018	0.842
4.003	15.199	150.0	150	Circular	56.663	55.007	1.506	56.160	54.906	1.104
4.002	11.894	100.0	150	Circular	57.061	55.126	1.785	56.663	55.007	1.506
4.001	41.806	150.0	150	Circular	56.808	55.405	1.253	57.061	55.126	1.785
4.000	41.502	100.0	150	Circular	56.720	55.820	0.750	56.808	55.405	1.253
1.005	11.093	150.0	300	Circular	56.243	55.133	0.810	56.312	55.059	0.953
1.004	27.457	150.0	300	Circular	57.046	55.316	1.430	56.243	55.133	0.810
1.003	23.834	150.0	300	Circular	57.061	55.475	1.286	57.046	55.316	1.430
3.001	15.276	150.0	225	Circular	56.921	55.577	1.119	57.061	55.475	1.361
1.002	14.596	150.0	225	Circular	56.948	55.721	1.002	57.061	55.624	1.212
2.001	7.741	150.0	150	Circular	56.754	55.854	0.750	56.948	55.802	0.996
1.001	23.994	150.0	150	Circular	57.450	55.956	1.344	56.948	55.796	1.002
1.000	14.963	150.0	150	Circular	57.256	56.056	1.050	57.450	55.956	1.344
3.000	22.586	150.0	225	Circular	56.628	55.728	0.675	56.921	55.577	1.119

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.007	102	1200	Manhole	Private	101	1200	Manhole	Private
1.006	107	1200	Manhole	Private	102	1200	Manhole	Private
4.003	103	1200	Manhole	Private	102	1200	Manhole	Private
4.002	104	1200	Manhole	Private	103	1200	Manhole	Private
4.001	105	1200	Manhole	Private	104	1200	Manhole	Private
4.000	106	1200	Manhole	Private	105	1200	Manhole	Private
1.005	108	1200	Manhole	Private	107	1200	Manhole	Private
1.004	109	1200	Manhole	Private	108	1200	Manhole	Private
1.003	110	1200	Manhole	Private	109	1200	Manhole	Private
3.001	116	1200	Manhole	Private	110	1200	Manhole	Private
1.002	111	1200	Manhole	Private	110	1200	Manhole	Private
2.001	114	1200	Manhole	Private	111	1200	Manhole	Private
1.001	112	1200	Manhole	Private	111	1200	Manhole	Private
1.000	113	1200	Manhole	Private	112	1200	Manhole	Private
3.000	117	1200	Manhole	Private	116	1200	Manhole	Private

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
117	387083.296	397794.156	56.628	0.900	1200				
						0	3.000	55.728	225
116	387063.552	397805.124	56.921	1.344	1200		1	3.000	55.577
						0	3.001	55.577	225
114	387035.283	397824.979	56.754	0.900	1200				
						0	2.001	55.854	150
113	387072.524	397821.290	57.256	1.200	1200				
						0	1.000	56.056	150
112	387065.512	397834.508	57.450	1.494	1200		1	1.000	55.956
						0	1.001	55.956	150
111	387042.841	397826.651	56.948	1.227	1200		1	2.001	55.802
						2	1.001	55.796	150
						0	1.002	55.721	225
110	387052.937	397816.110	57.061	1.586	1200		1	3.001	55.475
						2	1.002	55.624	225
						0	1.003	55.475	300
109	387076.643	397813.641	57.046	1.730	1200		1	1.003	55.316
						0	1.004	55.316	300
108	387090.717	397790.065	56.243	1.110	1200		1	1.004	55.133
						0	1.005	55.133	300
107	387091.990	397779.045	56.312	1.253	1200		1	1.005	55.059
						0	1.006	55.059	300
106	387013.162	397806.407	56.720	0.900	1200				
						0	4.000	55.820	150
105	387046.087	397781.141	56.808	1.403	1200		1	4.000	55.405
						0	4.001	55.405	150
104	387079.229	397755.659	57.061	1.935	1200		1	4.001	55.126
						0	4.002	55.126	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
103	387086.539	397765.041	56.663	1.656	1200		1	4.002	55.007	150
							0	4.003	55.007	150
102	387095.685	397777.180	56.160	1.254	1200		1	4.003	54.906	150
							2	1.006	55.018	300
							0	1.007	54.906	300
101	387112.355	397780.897	56.059	1.429	1200		1	1.007	54.630	300

Simulation Settings

Rainfall Methodology	FSR	Drain Down Time (mins)	240
FSR Region	England and Wales	Additional Storage (m ³ /ha)	20.0
M5-60 (mm)	17.000	Check Discharge Rate(s)	✓
Ratio-R	0.400	1 year (l/s)	2.1
Summer CV	0.750	10 year (l/s)	3.3
Winter CV	0.840	30 year (l/s)	4.1
Analysis Speed	Normal	100 year (l/s)	5.0
Skip Steady State	x	Check Discharge Volume	x

Storm Durations

15 | 30 | 60 | 120 | 360 | 720 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	40	0	0
10	40	0	0
30	40	0	0
100	40	0	0

Pre-development Discharge Rate

Site Makeup	Greenfield	Region	10	QBar	2.4
Greenfield Method	IH124	Growth Factor 1 year	0.87	Q 1 year (l/s)	2.1
Positively Drained Area (ha)	0.370	Growth Factor 10 year	1.38	Q 10 year (l/s)	3.3
SAAR (mm)	900	Growth Factor 30 year	1.70	Q 30 year (l/s)	4.1
Soil Index	4	Growth Factor 100 year	2.08	Q 100 year (l/s)	5.0
SPR	0.47	Betterment (%)	0		

Node 102 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	54.906	Product Number	CTL-SHE-0102-5000-1250-5000
Design Depth (m)	1.250	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.0	Min Node Diameter (mm)	1200

Node 103 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	55.007
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	80.0	0.0	1.200	80.0	0.0	1.201	0.0	0.0

Node 110 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	55.475
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	108

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	80.0	0.0	0.800	80.0	0.0	0.801	0.0	0.0

Results for 1 year +40% CC Critical Storm Duration. Lowest mass balance: 99.52%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	117	10	55.820	0.092	14.4	0.2813	0.0000	OK
15 minute winter	116	11	55.686	0.109	18.6	0.1678	0.0000	OK
15 minute winter	114	10	55.889	0.035	1.7	0.0476	0.0000	OK
15 minute summer	113	1	56.056	0.000	0.0	0.0000	0.0000	OK
15 minute winter	112	11	55.994	0.038	2.1	0.0492	0.0000	OK
15 minute winter	111	10	55.846	0.125	23.2	0.3795	0.0000	OK
15 minute winter	110	13	55.593	0.118	41.0	9.1138	0.0000	OK
15 minute winter	109	14	55.429	0.113	28.0	0.1375	0.0000	OK
30 minute winter	108	24	55.409	0.276	29.3	0.4663	0.0000	OK
30 minute winter	107	24	55.401	0.342	26.2	0.3869	0.0000	SURCHARGED
15 minute winter	106	10	55.861	0.041	3.1	0.0640	0.0000	OK
15 minute winter	105	11	55.471	0.066	6.1	0.0923	0.0000	OK
60 minute winter	104	61	55.309	0.183	4.0	0.2241	0.0000	SURCHARGED
60 minute winter	103	62	55.309	0.302	19.5	23.2980	0.0000	SURCHARGED
30 minute winter	102	25	55.396	0.490	26.6	0.6799	0.0000	SURCHARGED
15 minute summer	101	1	54.630	0.000	5.0	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 winter	117	3.000	116	14.1	0.825	0.334	0.3870	
15 minute winter	116	3.001	110	18.4	1.260	0.434	0.2887	
15 minute winter	114	2.001	111	1.7	0.494	0.117	0.0286	
15 minute summer	113	1.000	112	0.0	0.000	0.000	0.0252	
15 minute winter	112	1.001	111	2.0	0.531	0.141	0.1029	
15 minute winter	111	1.002	110	22.6	1.047	0.533	0.3146	
15 minute winter	110	1.003	109	27.3	1.097	0.302	0.5939	
15 minute winter	109	1.004	108	27.9	0.866	0.308	1.2044	
30 minute winter	108	1.005	107	26.2	0.796	0.289	0.7663	
30 minute winter	107	1.006	102	25.4	0.821	0.229	0.2915	
15 minute winter	106	4.000	105	3.0	0.539	0.167	0.2370	
15 minute winter	105	4.001	104	5.8	0.711	0.404	0.3597	
60 minute winter	104	4.002	103	4.0	0.943	0.224	0.2094	
60 minute winter	103	4.003	102	-15.7	-0.912	-1.089	0.2676	
30 minute winter	102	Hydro-Brake®	101	5.0				34.6

Results for 10 year +40% CC Critical Storm Duration. Lowest mass balance: 99.52%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	117	10	55.868	0.140	28.0	0.4262	0.0000	OK
15 minute winter	116	11	55.752	0.175	36.3	0.2687	0.0000	OK
15 minute winter	114	11	55.936	0.082	3.4	0.1119	0.0000	OK
15 minute summer	113	1	56.056	0.000	0.0	0.0000	0.0000	OK
15 minute winter	112	10	56.009	0.053	4.1	0.0692	0.0000	OK
15 minute winter	111	11	55.934	0.213	44.8	0.6467	0.0000	OK
30 minute winter	110	24	55.739	0.264	62.3	20.3453	0.0000	OK
30 minute winter	109	24	55.726	0.410	47.3	0.4996	0.0000	SURCHARGED
30 minute winter	108	24	55.708	0.575	45.7	0.9721	0.0000	SURCHARGED
30 minute winter	107	25	55.696	0.637	38.8	0.7209	0.0000	SURCHARGED
15 minute winter	106	10	55.879	0.059	6.0	0.0913	0.0000	OK
120 minute winter	105	120	55.655	0.250	3.8	0.3494	0.0000	SURCHARGED
120 minute winter	104	118	55.655	0.529	4.7	0.6483	0.0000	SURCHARGED
120 minute winter	103	120	55.655	0.648	23.1	49.9969	0.0000	SURCHARGED
30 minute winter	102	25	55.690	0.784	38.9	1.0867	0.0000	SURCHARGED
15 minute summer	101	1	54.630	0.000	5.0	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 winter	117	3.000	116	27.5	0.952	0.650	0.6550	
15 minute winter	116	3.001	110	35.3	1.345	0.835	0.5252	
15 minute winter	114	2.001	111	3.6	0.478	0.249	0.1017	
15 minute summer	113	1.000	112	0.0	0.000	0.000	0.0406	
15 minute winter	112	1.001	111	3.9	0.532	0.272	0.2699	
15 minute winter	111	1.002	110	43.3	1.193	1.024	0.5248	
30 minute winter	110	1.003	109	45.4	1.135	0.501	1.6212	
30 minute winter	109	1.004	108	38.0	0.845	0.419	1.9335	
30 minute winter	108	1.005	107	38.8	0.801	0.429	0.7812	
30 minute winter	107	1.006	102	34.9	0.822	0.314	0.2915	
15 minute winter	106	4.000	105	5.8	0.634	0.329	0.3965	
120 minute winter	105	4.001	104	3.8	0.639	0.262	0.7360	
120 minute winter	104	4.002	103	3.9	0.851	0.220	0.2094	
120 minute winter	103	4.003	102	-19.3	-1.096	-1.335	0.2676	
30 minute winter	102	Hydro-Brake®	101	5.0				66.7

Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.52%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	117	10	55.895	0.167	35.3	0.5110	0.0000	OK
30 minute winter	116	23	55.871	0.294	35.9	0.4520	0.0000	SURCHARGED
15 minute winter	114	11	56.023	0.169	4.2	0.2305	0.0000	SURCHARGED
15 minute summer	113	1	56.056	0.000	0.0	0.0000	0.0000	OK
15 minute winter	112	11	56.035	0.079	5.1	0.1023	0.0000	OK
15 minute winter	111	11	56.017	0.296	55.0	0.8996	0.0000	SURCHARGED
30 minute winter	110	25	55.860	0.385	77.5	29.7092	0.0000	SURCHARGED
30 minute winter	109	25	55.843	0.527	45.8	0.6427	0.0000	SURCHARGED
30 minute winter	108	25	55.823	0.690	41.5	1.1678	0.0000	SURCHARGED
120 minute winter	107	118	55.816	0.757	25.1	0.8561	0.0000	SURCHARGED
15 minute winter	106	10	55.887	0.067	7.6	0.1039	0.0000	OK
120 minute winter	105	120	55.817	0.412	4.8	0.5757	0.0000	SURCHARGED
120 minute winter	104	120	55.817	0.691	6.0	0.8467	0.0000	SURCHARGED
120 minute winter	103	120	55.817	0.810	24.8	62.4832	0.0000	SURCHARGED
120 minute winter	102	120	55.818	0.912	26.2	1.2645	0.0000	SURCHARGED
15 minute summer	101	1	54.630	0.000	5.0	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 winter	117	3.000	116	34.5	0.985	0.815	0.8067	
30 minute winter	116	3.001	110	34.3	1.176	0.811	0.6075	
15 minute winter	114	2.001	111	4.3	0.494	0.299	0.1363	
15 minute summer	113	1.000	112	0.0	0.000	0.000	0.0507	
15 minute winter	112	1.001	111	5.8	0.501	0.403	0.3236	
15 minute winter	111	1.002	110	53.7	1.359	1.268	0.5534	
30 minute winter	110	1.003	109	43.5	1.151	0.480	1.6784	
30 minute winter	109	1.004	108	33.2	0.845	0.366	1.9335	
30 minute winter	108	1.005	107	33.4	0.806	0.369	0.7812	
120 minute winter	107	1.006	102	24.3	0.844	0.219	0.2915	
15 minute winter	106	4.000	105	7.4	0.662	0.416	0.4822	
120 minute winter	105	4.001	104	4.8	0.655	0.331	0.7360	
120 minute winter	104	4.002	103	5.2	0.899	0.292	0.2094	
120 minute winter	103	4.003	102	-20.2	-1.150	-1.400	0.2676	
120 minute winter	102	Hydro-Brake®	101	5.0				90.5

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.52%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	117	12	56.150	0.422	45.5	1.2891	0.0000	SURCHARGED
30 minute winter	116	24	56.049	0.472	42.7	0.7252	0.0000	SURCHARGED
15 minute winter	114	11	56.151	0.297	5.5	0.4046	0.0000	SURCHARGED
15 minute winter	113	11	56.175	0.119	4.5	0.1348	0.0000	OK
15 minute winter	112	11	56.171	0.215	6.6	0.2791	0.0000	SURCHARGED
15 minute winter	111	11	56.144	0.423	67.7	1.2852	0.0000	SURCHARGED
120 minute winter	110	120	56.038	0.563	41.5	43.4073	0.0000	SURCHARGED
120 minute winter	109	120	56.038	0.722	30.1	0.8796	0.0000	SURCHARGED
120 minute winter	108	120	56.038	0.905	27.5	1.5306	0.0000	FLOOD RISK
120 minute winter	107	120	56.037	0.978	24.7	1.1061	0.0000	FLOOD RISK
120 minute winter	106	122	56.038	0.218	3.2	0.3362	0.0000	SURCHARGED
120 minute winter	105	122	56.038	0.633	6.4	0.8838	0.0000	SURCHARGED
120 minute winter	104	120	56.038	0.912	7.2	1.1169	0.0000	SURCHARGED
120 minute winter	103	120	56.038	1.031	26.1	79.5186	0.0000	SURCHARGED
120 minute winter	102	120	56.038	1.132	26.6	1.5695	0.0000	FLOOD RISK
15 minute summer	101	1	54.630	0.000	5.0	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 winter	117	3.000	116	39.7	0.998	0.937	0.8983	
30 minute winter	116	3.001	110	40.5	1.227	0.956	0.6075	
15 minute winter	114	2.001	111	5.4	0.492	0.371	0.1363	
15 minute winter	113	1.000	112	-4.5	-0.345	-0.312	0.2440	
15 minute winter	112	1.001	111	7.1	0.470	0.493	0.4224	
15 minute winter	111	1.002	110	66.5	1.672	1.569	0.5805	
120 minute winter	110	1.003	109	29.1	1.026	0.322	1.6784	
120 minute winter	109	1.004	108	23.5	0.851	0.260	1.9335	
120 minute winter	108	1.005	107	24.7	0.784	0.273	0.7812	
120 minute winter	107	1.006	102	24.5	0.849	0.220	0.2915	
120 minute winter	106	4.000	105	3.2	0.523	0.180	0.7306	
120 minute winter	105	4.001	104	5.8	0.641	0.401	0.7360	
120 minute winter	104	4.002	103	6.4	0.971	0.361	0.2094	
120 minute winter	103	4.003	102	-20.6	-1.168	-1.422	0.2676	
120 minute winter	102	Hydro-Brake®	101	5.0				92.8