

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	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	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.038	5.00	85.490	600	387949.497	400669.553	1.125
S2			86.230	600	388001.497	400680.321	2.187
S3	0.030	5.00	86.440	1200	388005.673	400677.735	2.427
S4	0.003	5.00	86.100	1200	388008.831	400662.488	2.181
S5	0.025	5.00	86.100	600	387985.662	400637.302	1.050
S6	0.020	5.00	86.210	600	388002.577	400645.281	1.422
S7	0.050	5.00	86.190	1200	387999.465	400660.369	2.329
S8	0.020	5.00	85.900	600	387968.423	400631.770	1.050
S9	0.003	5.00	86.000	600	387977.964	400636.271	1.330
S10	0.023	5.00	85.850	1350	387969.488	400654.239	2.174
S11	0.004	5.00	85.490	600	387949.297	400656.151	1.050
S12	0.004	5.00	85.500	600	387957.257	400657.799	1.141
S13	0.005	5.00	85.580	1800	387958.461	400651.984	1.972
C01			85.550	1200	387955.295	400651.339	2.090
C02			85.500	1500	387949.136	400650.077	4.610
S14		5.00	86.360	450	387997.610	400611.932	1.350
S15			86.170	450	387988.475	400608.057	1.350
S16			86.200	450	387985.038	400617.782	1.558
EXS01			86.130	1500	387985.081	400623.137	1.520
S17		5.00	86.510	450	388016.294	400621.458	1.350
S18			86.530	450	388011.198	400630.740	1.551
EXS02A			86.430	1200	388008.276	400634.201	1.478
S19		5.00	86.680	600	388024.767	400637.353	1.350
S20			86.820	600	388044.353	400641.430	1.690
S21			86.830	600	388041.797	400654.717	1.910
EXS02C			86.610	1200	388040.308	400657.912	1.711

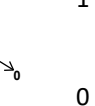
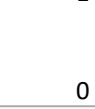
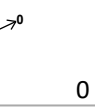
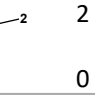
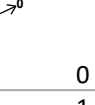
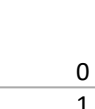
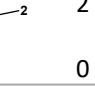
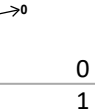
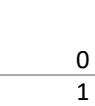
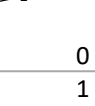
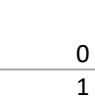
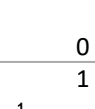
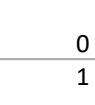
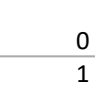
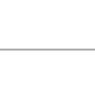
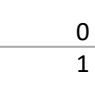
Links (Input)

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	S2	53.103	0.600	84.365	84.043	0.322	165.0	225	5.87	50.0
1.001	S2	S3	4.912	0.600	84.043	84.013	0.030	165.0	225	5.95	50.0
1.002	S3	S4	15.571	0.600	84.013	83.919	0.094	165.0	225	6.21	50.0
1.003	S4	S7	9.603	0.600	83.919	83.861	0.058	165.0	225	6.37	50.0
2.000	S5	S6	18.702	0.600	85.050	84.863	0.187	100.0	150	5.31	50.0
2.001	S6	S7	15.406	0.600	84.788	84.695	0.093	165.0	225	5.56	50.0
1.004	S7	S10	30.597	0.600	83.861	83.676	0.185	165.0	225	6.87	50.0
3.000	S8	S9	10.549	0.600	84.850	84.745	0.105	100.0	150	5.18	50.0
3.001	S9	S10	19.867	0.600	84.670	84.550	0.120	165.0	225	5.50	50.0
1.005	S10	S13	11.255	0.600	83.676	83.608	0.068	165.0	225	7.05	50.0
4.000	S11	S12	8.129	0.600	84.440	84.359	0.081	100.0	150	5.13	50.0
4.001	S12	S13	5.938	0.600	84.359	84.300	0.059	100.0	150	5.23	50.0
1.006	S13	C01	3.231	0.600	83.608	83.535	0.073	44.3	225	7.08	50.0
1.007	C01	C02	6.287	0.600	83.460	80.890	2.570	2.4	300	7.09	50.0
6.000	S14	S15	9.923	0.600	85.010	84.820	0.190	52.2	150	5.12	50.0
6.001	S15	S16	10.314	0.600	84.820	84.717	0.103	100.0	150	5.29	50.0
6.002	S16	EXS01	5.355	0.600	84.642	84.610	0.032	165.0	225	5.38	50.0
7.000	S17	S18	10.589	0.600	85.160	85.054	0.106	100.0	150	5.18	50.0
7.001	S18	EXS02A	4.530	0.600	84.979	84.952	0.027	165.0	225	5.25	50.0
5.000	S19	S20	20.006	0.600	85.330	85.130	0.200	100.0	150	5.33	50.0
5.001	S20	S21	13.531	0.600	85.130	84.995	0.135	100.0	150	5.56	50.0
5.002	S21	EXS02C	3.525	0.600	84.920	84.899	0.021	165.0	225	5.61	50.0

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S1	387949.497	400669.553	85.490	1.125	600		0	1.000	84.365	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections		Link	IL (m)	Dia (mm)
S2	388001.497	400680.321	86.230	2.187	600		1	1.000	84.043	225
S3	388005.673	400677.735	86.440	2.427	1200		0	1.001	84.043	225
							1	1.001	84.013	225
S4	388008.831	400662.488	86.100	2.181	1200		1	1.002	84.013	225
S5	387985.662	400637.302	86.100	1.050	600		0	1.002	83.919	225
							1	1.003	83.919	225
S6	388002.577	400645.281	86.210	1.422	600		1	2.000	84.863	150
S7	387999.465	400660.369	86.190	2.329	1200		0	2.001	84.788	225
							1	2.001	84.695	225
S8	387968.423	400631.770	85.900	1.050	600		2	1.003	83.861	225
							0	1.004	83.861	225
S9	387977.964	400636.271	86.000	1.330	600		0	3.000	84.850	150
S10	387969.488	400654.239	85.850	2.174	1350		1	3.000	84.745	150
							0	3.001	84.670	225
S11	387949.297	400656.151	85.490	1.050	600		2	3.001	84.550	225
							0	1.004	83.676	225
S12	387957.257	400657.799	85.500	1.141	600		0	1.005	83.676	225
S13	387958.461	400651.984	85.580	1.972	1800		0	4.000	84.440	150
S14	387955.295	400651.339	85.550	2.090	1200		1	4.000	84.359	150
							0	4.001	84.359	150
S15	387958.461	400651.984	85.580	1.972	1800		1	4.001	84.300	150
C01	387955.295	400651.339	85.550	2.090	1200		2	1.005	83.608	225
							0	1.006	83.608	225
C02	387955.295	400651.339	85.550	2.090	1200		1	1.006	83.535	225
							0	1.007	83.460	300
C02	387949.136	400650.077	85.500	4.610	1500		1	1.007	80.890	300
S14	387997.610	400611.932	86.360	1.350	450		0	6.000	85.010	150
S15	387988.475	400608.057	86.170	1.350	450		1	6.000	84.820	150
							0	6.001	84.820	150
S16	387985.038	400617.782	86.200	1.558	450		1	6.001	84.717	150
EXS01	387985.081	400623.137	86.130	1.520	1500		0	6.002	84.642	225
							1	6.002	84.610	225
S17	388016.294	400621.458	86.510	1.350	450		0	7.000	85.160	150
S18	388011.198	400630.740	86.530	1.551	450		1	7.000	85.054	150
							0	7.001	84.979	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
EXS02A	388008.276	400634.201	86.430	1.478	1200		1	7.001	84.952	225
S19	388024.767	400637.353	86.680	1.350	600		0	5.000	85.330	150
S20	388044.353	400641.430	86.820	1.690	600		1	5.000	85.130	150
S21	388041.797	400654.717	86.830	1.910	600		1	5.001	84.995	150
EXS02C	388040.308	400657.912	86.610	1.711	1200		1	5.002	84.899	225

Simulation Settings

Rainfall Methodology	FSR	Summer CV	0.750	Drain Down Time (mins)	240
FSR Region	England and Wales	Winter CV	0.840	Additional Storage (m³/ha)	20.0
M5-60 (mm)	20.000	Analysis Speed	Normal	Check Discharge Rate(s)	x
Ratio-R	0.400	Skip Steady State	x	Check Discharge Volume	x

Storm Durations

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0	100	45	0	0
30	0	0	0				

Node C02 Surcharged Outfall

Overrides Design Area	x	Depression Storage Area (m²)	0	Evapo-transpiration (mm/day)	0
Overrides Design Additional Inflow	x	Depression Storage Depth (mm)	0		
Applies to 30yr, 100yr+45% CC 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440 minute storms					

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
0	1.225	180	1.225	360	1.225	540	1.225	720	1.225	900	1.225	1080	1.225	1260	1.225
60	1.225	240	1.225	420	1.225	600	1.225	780	1.225	960	1.225	1140	1.225	1320	1.225
120	1.225	300	1.225	480	1.225	660	1.225	840	1.225	1020	1.225	1200	1.225	1380	1.225

Node S13 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	83.608	Product Number	CTL-SHE-0118-5600-0500-5600
Design Depth (m)	0.500	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	5.6	Min Node Diameter (mm)	1200

Node S13 Online Orifice Control

Flap Valve	x	Invert Level (m)	84.534	Design Flow (l/s)	14.9	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Depth (m)	1.750	Diameter (m)	0.073		

Node S4 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	83.919
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	98

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	63.0	0.0	0.800	63.0	0.0	0.801	0.0	0.0

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.70%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	84.419	0.054	5.4	0.0521	0.0000	OK
15 minute winter	S2	11	84.105	0.062	5.2	0.0175	0.0000	OK
15 minute winter	S3	10	84.092	0.079	9.1	0.1094	0.0000	OK
30 minute winter	S4	29	84.041	0.122	17.1	7.4227	0.0000	OK
15 minute winter	S5	10	85.096	0.046	3.5	0.0347	0.0000	OK
15 minute winter	S6	11	84.849	0.061	6.2	0.0345	0.0000	OK
30 minute winter	S7	28	84.040	0.179	11.8	0.2800	0.0000	OK
15 minute winter	S8	10	84.892	0.042	2.8	0.0276	0.0000	OK
15 minute winter	S9	11	84.713	0.043	3.2	0.0142	0.0000	OK
15 minute winter	S10	12	84.047	0.371	16.4	0.6096	0.0000	SURCHARGED
15 minute winter	S11	10	84.458	0.018	0.6	0.0066	0.0000	OK
15 minute winter	S12	10	84.385	0.026	1.2	0.0092	0.0000	OK
15 minute winter	S13	12	84.050	0.442	12.5	1.1480	0.0000	SURCHARGED
120 minute winter	C01	120	83.480	0.020	5.6	0.0222	0.0000	OK
60 minute winter	C02	84	80.909	0.019	5.6	0.0000	0.0000	OK
15 minute summer	S14	1	85.010	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S15	1	84.820	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S16	1	84.642	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXS01	1	84.610	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S17	1	85.160	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S18	1	84.979	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXS02A	1	84.952	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S19	1	85.330	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S20	1	85.130	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S21	1	84.920	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXS02C	1	84.899	0.000	0.0	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 winter	S1	1.000	S2	5.2	0.664	0.129	0.4288	
15 minute winter	S2	1.001	S3	5.1	0.510	0.127	0.0521	
15 minute winter	S3	1.002	S4	9.3	1.251	0.230	0.1807	
15 minute winter	S4	1.003	S7	-11.3	-0.543	-0.280	0.2329	
15 minute winter	S5	2.000	S6	3.4	0.768	0.192	0.0831	
15 minute winter	S6	2.001	S7	6.2	0.724	0.153	0.1310	
30 minute summer	S7	1.004	S10	11.6	0.617	0.286	1.1018	
15 minute winter	S8	3.000	S9	2.8	0.716	0.156	0.0408	
15 minute winter	S9	3.001	S10	3.2	0.603	0.078	0.1041	
15 minute winter	S10	1.005	S13	10.7	0.533	0.266	0.4476	
15 minute winter	S11	4.000	S12	0.6	0.347	0.032	0.0133	
15 minute winter	S12	4.001	S13	1.1	0.547	0.062	0.0119	
120 minute winter	S13	Hydro-Brake®	C01	5.6				
15 minute summer	S13	Orifice	C01	0.0				
60 minute winter	C01	1.007	C02	5.6	3.012	0.008	0.0117	24.0
15 minute summer	S14	6.000	S15	0.0	0.000	0.000	0.0000	
15 minute summer	S15	6.001	S16	0.0	0.000	0.000	0.0000	
15 minute summer	S16	6.002	EXS01	0.0	0.000	0.000	0.0000	0.0
15 minute summer	S17	7.000	S18	0.0	0.000	0.000	0.0000	
15 minute summer	S18	7.001	EXS02A	0.0	0.000	0.000	0.0000	0.0
15 minute summer	S19	5.000	S20	0.0	0.000	0.000	0.0000	
15 minute summer	S20	5.001	S21	0.0	0.000	0.000	0.0000	
15 minute summer	S21	5.002	EXS02C	0.0	0.000	0.000	0.0000	0.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.70%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	84.451	0.086	13.1	0.0827	0.0000	OK
60 minute winter	S2	57	84.397	0.354	6.7	0.1001	0.0000	SURCHARGED
60 minute winter	S3	57	84.397	0.384	11.1	0.5288	0.0000	SURCHARGED
60 minute winter	S4	57	84.396	0.477	28.6	29.1246	0.0000	SURCHARGED
15 minute winter	S5	10	85.126	0.076	8.6	0.0576	0.0000	OK
15 minute winter	S6	10	84.889	0.101	15.3	0.0568	0.0000	OK
60 minute winter	S7	57	84.396	0.535	19.5	0.8347	0.0000	SURCHARGED
15 minute winter	S8	10	84.918	0.068	6.9	0.0454	0.0000	OK
15 minute winter	S9	11	84.739	0.069	7.8	0.0225	0.0000	OK
60 minute winter	S10	57	84.393	0.717	12.3	1.1773	0.0000	SURCHARGED
15 minute winter	S11	10	84.468	0.028	1.4	0.0101	0.0000	OK
15 minute winter	S12	10	84.401	0.042	2.8	0.0148	0.0000	OK
60 minute winter	S13	57	84.390	0.782	8.6	2.0292	0.0000	SURCHARGED
60 minute winter	C01	57	83.481	0.021	6.9	0.0232	0.0000	OK
15 minute summer	C02	1	82.115	1.225	6.2	0.0000	0.0000	OK
15 minute summer	S14	1	85.010	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S15	1	84.820	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S16	1	84.642	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXS01	1	84.610	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S17	1	85.160	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S18	1	84.979	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXS02A	1	84.952	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S19	1	85.330	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S20	1	85.130	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S21	1	84.920	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXS02C	1	84.899	0.000	0.0	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 winter	S1	1.000	S2	12.8	0.788	0.317	1.2262	
15 minute winter	S2	1.001	S3	12.6	0.578	0.312	0.1954	
15 minute winter	S3	1.002	S4	22.2	1.404	0.549	0.6193	
15 minute summer	S4	1.003	S7	-43.9	-1.305	-1.087	0.3819	
15 minute winter	S5	2.000	S6	8.4	0.971	0.475	0.1624	
15 minute winter	S6	2.001	S7	15.1	0.918	0.373	0.2539	
15 minute winter	S7	1.004	S10	14.2	0.661	0.352	1.2169	
15 minute winter	S8	3.000	S9	6.8	0.906	0.383	0.0792	
15 minute winter	S9	3.001	S10	7.7	0.776	0.192	0.1983	
15 minute summer	S10	1.005	S13	13.0	0.568	0.323	0.4476	
15 minute winter	S11	4.000	S12	1.4	0.439	0.077	0.0257	
15 minute winter	S12	4.001	S13	2.7	0.701	0.152	0.0230	
60 minute winter	S13	Hydro-Brake®	C01	6.9				
15 minute summer	S13	Orifice	C01	0.0				
60 minute winter	C01	1.007	C02	6.9	0.161	0.010	0.2279	57.8
15 minute summer	S14	6.000	S15	0.0	0.000	0.000	0.0000	
15 minute summer	S15	6.001	S16	0.0	0.000	0.000	0.0000	
15 minute summer	S16	6.002	EXS01	0.0	0.000	0.000	0.0000	0.0
15 minute summer	S17	7.000	S18	0.0	0.000	0.000	0.0000	
15 minute summer	S18	7.001	EXS02A	0.0	0.000	0.000	0.0000	0.0
15 minute summer	S19	5.000	S20	0.0	0.000	0.000	0.0000	
15 minute summer	S20	5.001	S21	0.0	0.000	0.000	0.0000	
15 minute summer	S21	5.002	EXS02C	0.0	0.000	0.000	0.0000	0.0

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.70%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	S1	47	85.455	1.090	12.8	1.0439	0.0000	FLOOD RISK
60 minute winter	S2	47	85.453	1.410	12.3	0.3991	0.0000	SURCHARGED
60 minute winter	S3	47	85.453	1.440	20.6	1.9841	0.0000	SURCHARGED
60 minute winter	S4	47	85.450	1.531	53.6	49.6828	0.0000	SURCHARGED
60 minute winter	S5	47	85.452	0.402	8.4	0.3051	0.0000	SURCHARGED
60 minute winter	S6	47	85.449	0.661	15.1	0.3726	0.0000	SURCHARGED
60 minute winter	S7	47	85.448	1.587	37.9	2.4752	0.0000	SURCHARGED
60 minute winter	S8	47	85.419	0.569	6.7	0.3776	0.0000	SURCHARGED
60 minute winter	S9	47	85.417	0.747	7.7	0.2451	0.0000	SURCHARGED
60 minute winter	S10	47	85.417	1.741	30.0	2.8600	0.0000	SURCHARGED
60 minute winter	S11	48	85.395	0.955	2.3	0.3429	0.0000	FLOOD RISK
60 minute winter	S12	48	85.395	1.036	3.9	0.3658	0.0000	FLOOD RISK
60 minute winter	S13	48	85.395	1.787	25.6	4.6378	0.0000	FLOOD RISK
60 minute winter	C01	48	83.494	0.034	20.3	0.0384	0.0000	OK
15 minute summer	C02	1	82.115	1.225	10.7	0.0000	0.0000	OK
15 minute summer	S14	1	85.010	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S15	1	84.820	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S16	1	84.642	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXS01	1	84.610	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S17	1	85.160	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S18	1	84.979	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXS02A	1	84.952	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S19	1	85.330	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S20	1	85.130	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S21	1	84.920	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EXS02C	1	84.899	0.000	0.0	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 winter	S1	1.000	S2	24.2	0.859	0.599	2.1120	
15 minute winter	S2	1.001	S3	17.9	0.555	0.443	0.1954	
15 minute winter	S3	1.002	S4	34.4	1.448	0.854	0.6193	
15 minute winter	S4	1.003	S7	-72.7	-1.829	-1.802	0.3819	
15 minute winter	S5	2.000	S6	15.9	1.105	0.896	0.2700	
15 minute winter	S6	2.001	S7	28.4	1.063	0.704	0.4139	
60 minute winter	S7	1.004	S10	21.1	0.611	0.523	1.2169	
15 minute winter	S8	3.000	S9	12.8	1.046	0.723	0.1294	
15 minute winter	S9	3.001	S10	14.6	0.911	0.361	0.4096	
60 minute winter	S10	1.005	S13	24.4	0.614	0.605	0.4476	
15 minute summer	S11	4.000	S12	2.5	0.504	0.140	0.1431	
15 minute winter	S12	4.001	S13	4.9	0.750	0.276	0.1045	
60 minute winter	S13	Hydro-Brake®	C01	10.2				
60 minute winter	S13	Orifice	C01	10.1				
60 minute winter	C01	1.007	C02	20.3	0.454	0.028	0.2351	110.6
15 minute summer	S14	6.000	S15	0.0	0.000	0.000	0.0000	
15 minute summer	S15	6.001	S16	0.0	0.000	0.000	0.0000	
15 minute summer	S16	6.002	EXS01	0.0	0.000	0.000	0.0000	0.0
15 minute summer	S17	7.000	S18	0.0	0.000	0.000	0.0000	
15 minute summer	S18	7.001	EXS02A	0.0	0.000	0.000	0.0000	0.0
15 minute summer	S19	5.000	S20	0.0	0.000	0.000	0.0000	
15 minute summer	S20	5.001	S21	0.0	0.000	0.000	0.0000	
15 minute summer	S21	5.002	EXS02C	0.0	0.000	0.000	0.0000	0.0