Summary of Results for 100 year Return Period (+20%)

Half Drain Time : 21 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	0.703	0.703	0.0	4.2	4.2	8.0	O K
30 min Summer	0.819	0.819	0.0	4.5	4.5	9.3	O K
60 min Summer	0.797	0.797	0.0	4.4	4.4	9.1	O K
120 min Summer	0.669	0.669	0.0	4.1	4.1	7.6	O K
180 min Summer	0.535	0.535	0.0	4.0	4.0	6.1	O K
240 min Summer	0.404	0.404	0.0	4.0	4.0	4.6	O K
360 min Summer	0.206	0.206	0.0	4.0	4.0	2.4	O K
480 min Summer	0.141	0.141	0.0	3.7	3.7	1.6	O K
600 min Summer	0.116	0.116	0.0	3.2	3.2	1.3	O K
720 min Summer	0.102	0.102	0.0	2.8	2.8	1.2	O K
960 min Summer	0.084	0.084	0.0	2.3	2.3	1.0	O K
1440 min Summer	0.066	0.066	0.0	1.6	1.6	0.7	O K
2160 min Summer	0.052	0.052	0.0	1.2	1.2	0.6	O K
2880 min Summer	0.045	0.045	0.0	0.9	0.9	0.5	O K
4320 min Summer	0.036	0.036	0.0	0.7	0.7	0.4	O K
5760 min Summer	0.031	0.031	0.0	0.5	0.5	0.4	O K
7200 min Summer	0.028	0.028	0.0	0.4	0.4	0.3	O K
8640 min Summer	0.025	0.025	0.0	0.4	0.4	0.3	O K
10080 min Summer	0.023	0.023	0.0	0.3	0.3	0.3	O K
15 min Winter	0.803	0.803	0.0	4.4	4.4	9.2	O K
30 min Winter	0.938	0.938	0.0	4.8	4.8	10.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	125.377	0.0	11.7	21
30 min Summer	81.066	0.0	15.2	30
60 min Summer	49.857	0.0	18.7	48
120 min Summer	29.625	0.0	22.2	80
180 min Summer	21.571	0.0	24.3	114
240 min Summer	17.130	0.0	25.7	144
360 min Summer	12.345	0.0	27.8	198
480 min Summer	9.785	0.0	29.3	252
600 min Summer	8.165	0.0	30.6	312
720 min Summer	7.040	0.0	31.7	370
960 min Summer	5.568	0.0	33.4	492
1440 min Summer	3.995	0.0	36.0	734
2160 min Summer	2.863	0.0	38.6	1088
2880 min Summer	2.258	0.0	40.6	1468
4320 min Summer	1.614	0.0	43.6	2168
5760 min Summer	1.271	0.0	45.7	2864
7200 min Summer	1.055	0.0	47.5	3600
8640 min Summer	0.906	0.0	48.9	4280
10080 min Summer	0.797	0.0	50.2	5120
15 min Winter	125.377	0.0	13.2	21
30 min Winter	81.066	0.0	17.0	31

Summary of Results for 100 year Return Period (+20%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
60 min Winter	0.899	0.899	0.0	4.7	4.7	10.3	O K
120 min Winter	0.702	0.702	0.0	4.2	4.2	8.0	O K
180 min Winter	0.498	0.498	0.0	4.0	4.0	5.7	O K
240 min Winter	0.283	0.283	0.0	4.0	4.0	3.2	O K
360 min Winter	0.132	0.132	0.0	3.5	3.5	1.5	O K
480 min Winter	0.104	0.104	0.0	2.9	2.9	1.2	O K
600 min Winter	0.089	0.089	0.0	2.4	2.4	1.0	O K
720 min Winter	0.079	0.079	0.0	2.1	2.1	0.9	O K
960 min Winter	0.066	0.066	0.0	1.6	1.6	0.8	O K
1440 min Winter	0.053	0.053	0.0	1.2	1.2	0.6	O K
2160 min Winter	0.042	0.042	0.0	0.8	0.8	0.5	O K
2880 min Winter	0.036	0.036	0.0	0.7	0.7	0.4	O K
4320 min Winter	0.029	0.029	0.0	0.5	0.5	0.3	O K
5760 min Winter	0.025	0.025	0.0	0.4	0.4	0.3	O K
7200 min Winter	0.023	0.023	0.0	0.3	0.3	0.3	O K
8640 min Winter	0.021	0.021	0.0	0.3	0.3	0.2	O K
10080 min Winter	0.019	0.019	0.0	0.2	0.2	0.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
60 min Winter	49.857	0.0	20.9	50
120 min Winter	29.625	0.0	24.9	86
180 min Winter	21.571	0.0	27.2	120
240 min Winter	17.130	0.0	28.8	148
360 min Winter	12.345	0.0	31.1	194
480 min Winter	9.785	0.0	32.9	252
600 min Winter	8.165	0.0	34.3	314
720 min Winter	7.040	0.0	35.5	370
960 min Winter	5.568	0.0	37.4	486
1440 min Winter	3.995	0.0	40.3	740
2160 min Winter	2.863	0.0	43.3	1084
2880 min Winter	2.258	0.0	45.5	1456
4320 min Winter	1.614	0.0	48.8	2204
5760 min Winter	1.271	0.0	51.2	2936
7200 min Winter	1.055	0.0	53.2	3672
8640 min Winter	0.906	0.0	54.8	4272
10080 min Winter	0.797	0.0	56.2	5016

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.500	Shortest Storm (mins)	15
Ratio R	0.436	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+20

Time Area Diagram

Total Area (ha) 0.050

Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)	Time (mins) From:	To:	Area (ha)
0	4	0.017	4	8	0.017	8	12	0.017

Model Details

Storage is Online Cover Level (m) 2.000

Cellular Storage Structure

Invert Level (m) 0.000 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	12.0	12.0	1.300	12.0	30.0
0.100	12.0	13.4	1.400	12.0	31.4
0.200	12.0	14.8	1.500	12.0	32.8
0.300	12.0	16.2	1.600	12.0	34.2
0.400	12.0	17.5	1.700	12.0	35.6
0.500	12.0	18.9	1.800	12.0	36.9
0.600	12.0	20.3	1.900	12.0	38.3
0.700	12.0	21.7	2.000	12.0	39.7
0.800	12.0	23.1	2.100	12.0	41.1
0.900	12.0	24.5	2.200	12.0	42.5
1.000	12.0	25.9	2.300	12.0	43.9
1.100	12.0	27.2	2.400	12.0	45.3
1.200	12.0	28.6	2.500	12.0	46.6

Hydro-Brake® Outflow Control

Design Head (m) 1.000 Hydro-Brake® Type Md6 SW Only Invert Level (m) 0.000
Design Flow (l/s) 5.0 Diameter (mm) 93

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.8	1.200	5.4	3.000	8.5	7.000	13.1
0.200	4.0	1.400	5.8	3.500	9.2	7.500	13.5
0.300	3.8	1.600	6.2	4.000	9.9	8.000	14.0
0.400	3.7	1.800	6.6	4.500	10.5	8.500	14.4
0.500	3.7	2.000	7.0	5.000	11.0	9.000	14.8
0.600	3.9	2.200	7.3	5.500	11.6	9.500	15.2
0.800	4.4	2.400	7.6	6.000	12.1		
1.000	4.9	2.600	8.0	6.500	12.6		