Summary of Results for 100 year Return Period (+50%)

Half Drain Time : 245 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	8.258	0.298	0.0	2.4	2.4	34.9	O K
30 min Summer	8.384	0.424	0.0	2.8	2.8	49.6	O K
60 min Summer	8.526	0.566	0.0	3.3	3.3	66.1	O K
120 min Summer	8.655	0.695	0.0	3.6	3.6	81.3	O K
180 min Summer	8.704	0.744	0.0	3.8	3.8	87.0	O K
240 min Summer	8.734	0.774	0.0	3.8	3.8	90.6	O K
360 min Summer	8.769	0.809	0.0	3.9	3.9	94.6	O K
480 min Summer	8.783	0.823	0.0	4.0	4.0	96.2	O K
600 min Summer	8.785	0.825	0.0	4.0	4.0	96.4	O K
720 min Summer	8.780	0.820	0.0	4.0	4.0	95.9	O K
960 min Summer	8.760	0.800	0.0	3.9	3.9	93.5	O K
1440 min Summer	8.704	0.744	0.0	3.8	3.8	87.0	O K
2160 min Summer	8.621	0.661	0.0	3.6	3.6	77.3	O K
2880 min Summer	8.550	0.590	0.0	3.4	3.4	69.1	O K
4320 min Summer	8.440	0.480	0.0	3.0	3.0	56.1	O K
5760 min Summer	8.360	0.400	0.0	2.8	2.8	46.7	O K
7200 min Summer	8.299	0.339	0.0	2.5	2.5	39.7	O K
8640 min Summer	8.254	0.294	0.0	2.4	2.4	34.3	O K
10080 min Summer	8.216	0.256	0.0	2.2	2.2	29.9	O K
15 min Winter	8.258	0.298	0.0	2.4	2.4	34.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	118.283	0.0	36.0	18
30 min Summer	85.941	0.0	52.5	33
60 min Summer	59.825	0.0	73.5	62
120 min Summer	39.799	0.0	97.8	120
180 min Summer	30.594	0.0	112.8	168
240 min Summer	25.358	0.0	124.6	196
360 min Summer	19.384	0.0	142.9	262
480 min Summer	15.975	0.0	157.0	330
600 min Summer	13.728	0.0	168.7	400
720 min Summer	12.115	0.0	178.7	470
960 min Summer	9.929	0.0	195.2	608
1440 min Summer	7.472	0.0	220.3	880
2160 min Summer	5.625	0.0	249.0	1272
2880 min Summer	4.604	0.0	271.8	1644
4320 min Summer	3.482	0.0	308.1	2380
5760 min Summer	2.867	0.0	338.5	3120
7200 min Summer	2.475	0.0	365.3	3824
8640 min Summer	2.203	0.0	390.1	4584
10080 min Summer	1.998	0.0	412.7	5344
15 min Winter	118.283	0.0	36.0	18

Summary of Results for 100 year Return Period (+50%)

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
30 min Winter	8.384	0.424	0.0	2.8	2.8	49.6	O K
60 min Winter	8.526	0.566	0.0	3.3	3.3	66.2	O K
120 min Winter	8.659	0.699	0.0	3.7	3.7	81.7	O K
180 min Winter	8.709	0.749	0.0	3.8	3.8	87.7	O K
240 min Winter	8.735	0.775	0.0	3.9	3.9	90.6	O K
360 min Winter	8.764	0.804	0.0	3.9	3.9	94.0	O K
480 min Winter	8.770	0.810	0.0	3.9	3.9	94.7	O K
600 min Winter	8.762	0.802	0.0	3.9	3.9	93.9	O K
720 min Winter	8.748	0.788	0.0	3.9	3.9	92.2	O K
960 min Winter	8.709	0.749	0.0	3.8	3.8	87.7	O K
1440 min Winter	8.622	0.662	0.0	3.6	3.6	77.5	O K
2160 min Winter	8.508	0.548	0.0	3.2	3.2	64.1	O K
2880 min Winter	8.418	0.458	0.0	3.0	3.0	53.6	O K
4320 min Winter	8.291	0.331	0.0	2.5	2.5	38.7	O K
5760 min Winter	8.206	0.246	0.0	2.2	2.2	28.8	O K
7200 min Winter	8.127	0.167	0.0	2.0	2.0	19.5	O K
8640 min Winter	8.100	0.140	0.0	1.9	1.9	16.4	O K
10080 min Winter	8.086	0.126	0.0	1.7	1.7	14.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	85.941	0.0	52.5	32
60 min Winter	59.825	0.0	73.5	60
120 min Winter	39.799	0.0	97.8	118
180 min Winter	30.594	0.0	112.8	172
240 min Winter	25.358	0.0	124.6	216
360 min Winter	19.384	0.0	142.9	274
480 min Winter	15.975	0.0	157.0	352
600 min Winter	13.728	0.0	168.7	428
720 min Winter	12.115	0.0	178.7	504
960 min Winter	9.929	0.0	195.2	648
1440 min Winter	7.472	0.0	220.3	926
2160 min Winter	5.625	0.0	249.0	1324
2880 min Winter	4.604	0.0	271.8	1704
4320 min Winter	3.482	0.0	308.1	2464
5760 min Winter	2.867	0.0	338.5	3224
7200 min Winter	2.475	0.0	365.3	3816
8640 min Winter	2.203	0.0	390.1	4496
10080 min Winter	1.998	0.0	412.7	5144

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	19.700	Shortest Storm (mins)	15
Ratio R	0.221	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+50

Time Area Diagram

Total Area (ha) 0.123

Time From:	**(mins) To:**	**Area (ha)**
0	4	0.123

Model Details

Storage is Online Cover Level (m) 10.000

Cellular Storage Structure

Invert Level (m) 7.960 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	123.1	123.1	0.841	0.0	168.2
0.840	123.1	168.2			

Crown Vortex Valve® Outflow Control

Design Head (m) 0.840 Vortex Valve® Type R1 SW Only Invert Level (m) 7.960
Design Flow (l/s) 4.0 Diameter (mm) 86

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	1.4	1.200	4.8	3.000	7.6	7.000	11.6
0.200	2.0	1.400	5.2	3.500	8.2	7.500	12.0
0.300	2.4	1.600	5.5	4.000	8.7	8.000	12.4
0.400	2.8	1.800	5.9	4.500	9.3	8.500	12.8
0.500	3.1	2.000	6.2	5.000	9.8	9.000	13.1
0.600	3.4	2.200	6.5	5.500	10.3	9.500	13.5
0.800	3.9	2.400	6.8	6.000	10.7		
1.000	4.4	2.600	7.1	6.500	11.2		