Summary of Results for 100 year Return Period (+45%)

Half Drain Time : 86 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	9.005	0.345	0.0	14.8	14.8	73.6	O K
30 min Summer	9.156	0.496	0.0	15.4	15.4	105.8	O K
60 min Summer	9.307	0.647	0.0	17.5	17.5	138.0	O K
120 min Summer	9.420	0.760	0.0	19.0	19.0	162.1	O K
180 min Summer	9.467	0.807	0.0	19.6	19.6	172.3	O K
240 min Summer	9.487	0.827	0.0	19.8	19.8	176.4	O K
360 min Summer	9.487	0.827	0.0	19.8	19.8	176.4	O K
480 min Summer	9.464	0.804	0.0	19.6	19.6	171.6	O K
600 min Summer	9.433	0.773	0.0	19.2	19.2	165.0	O K
720 min Summer	9.399	0.739	0.0	18.7	18.7	157.8	O K
960 min Summer	9.335	0.675	0.0	17.9	17.9	144.0	O K
1440 min Summer	9.225	0.565	0.0	16.4	16.4	120.6	O K
2160 min Summer	9.085	0.425	0.0	15.4	15.4	90.8	O K
2880 min Summer	9.008	0.348	0.0	14.8	14.8	74.2	O K
4320 min Summer	8.940	0.280	0.0	12.7	12.7	59.7	O K
5760 min Summer	8.903	0.243	0.0	11.1	11.1	51.8	O K
7200 min Summer	8.879	0.219	0.0	9.9	9.9	46.7	O K
8640 min Summer	8.861	0.201	0.0	8.9	8.9	42.8	O K
10080 min Summer	8.847	0.187	0.0	8.2	8.2	39.9	O K
15 min Winter	9.006	0.346	0.0	14.8	14.8	73.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	122.052	0.0	81.1	17
30 min Summer	91.829	0.0	122.2	31
60 min Summer	65.855	0.0	175.7	58
120 min Summer	44.333	0.0	236.6	90
180 min Summer	34.714	0.0	277.9	124
240 min Summer	29.070	0.0	310.4	158
360 min Summer	22.519	0.0	360.6	228
480 min Summer	18.717	0.0	399.7	296
600 min Summer	16.181	0.0	431.9	362
720 min Summer	14.348	0.0	459.5	428
960 min Summer	11.874	0.0	507.1	558
1440 min Summer	9.116	0.0	583.9	808
2160 min Summer	7.032	0.0	675.9	1168
2880 min Summer	5.889	0.0	754.6	1500
4320 min Summer	4.645	0.0	892.6	2208
5760 min Summer	3.926	0.0	1006.1	2936
7200 min Summer	3.443	0.0	1102.9	3672
8640 min Summer	3.091	0.0	1188.3	4408
10080 min Summer	2.821	0.0	1265.1	5136
15 min Winter	122.052	0.0	81.1	17

Summary of Results for 100 year Return Period (+45%)

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	9.157	0.497	0.0	15.4	15.4	106.0	O K
60 min Winter	9.309	0.649	0.0	17.6	17.6	138.5	O K
120 min Winter	9.412	0.752	0.0	18.9	18.9	160.6	O K
180 min Winter	9.448	0.788	0.0	19.4	19.4	168.1	O K
240 min Winter	9.453	0.793	0.0	19.4	19.4	169.3	O K
360 min Winter	9.426	0.766	0.0	19.1	19.1	163.5	O K
480 min Winter	9.380	0.720	0.0	18.5	18.5	153.7	O K
600 min Winter	9.329	0.669	0.0	17.8	17.8	142.7	O K
720 min Winter	9.278	0.618	0.0	17.1	17.1	131.9	O K
960 min Winter	9.185	0.525	0.0	15.8	15.8	112.0	O K
1440 min Winter	9.024	0.364	0.0	15.1	15.1	77.7	O K
2160 min Winter	8.938	0.278	0.0	12.6	12.6	59.3	O K
2880 min Winter	8.897	0.237	0.0	10.8	10.8	50.6	O K
4320 min Winter	8.855	0.195	0.0	8.6	8.6	41.7	O K
5760 min Winter	8.832	0.172	0.0	7.3	7.3	36.6	O K
7200 min Winter	8.816	0.156	0.0	6.5	6.5	33.2	O K
8640 min Winter	8.804	0.144	0.0	5.8	5.8	30.6	O K
10080 min Winter	8.794	0.134	0.0	5.3	5.3	28.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	91.829	0.0	122.2	31
60 min Winter	65.855	0.0	175.7	58
120 min Winter	44.333	0.0	236.6	94
180 min Winter	34.714	0.0	277.9	132
240 min Winter	29.070	0.0	310.4	170
360 min Winter	22.519	0.0	360.6	244
480 min Winter	18.717	0.0	399.7	314
600 min Winter	16.181	0.0	431.9	382
720 min Winter	14.348	0.0	459.5	450
960 min Winter	11.874	0.0	507.1	580
1440 min Winter	9.116	0.0	583.9	806
2160 min Winter	7.032	0.0	675.9	1148
2880 min Winter	5.889	0.0	754.6	1500
4320 min Winter	4.645	0.0	892.7	2208
5760 min Winter	3.926	0.0	1006.1	2936
7200 min Winter	3.443	0.0	1102.9	3672
8640 min Winter	3.091	0.0	1188.3	4400
10080 min Winter	2.821	0.0	1265.1	5136

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)	22.400	Shortest Storm (mins)	15
Ratio R	0.178	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+45

Time Area Diagram

Total Area (ha) 0.267

Time (mins) From:	To:	Area (ha)
0	4	0.267

Model Details

Storage is Online Cover Level (m) 10.000

Cellular Storage Structure

Invert Level (m) 8.660 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	224.6	224.6	0.841	0.0	272.6
0.840	224.6	272.6			

Crown Vortex Valve® Outflow Control

Design Head (m) 0.840 Vortex Valve® Type R1 SW Only Invert Level (m) 8.660
Design Flow (l/s) 20.0 Diameter (mm) 192

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.5	1.200	23.9	3.000	37.8	7.000	57.7
0.200	8.9	1.400	25.8	3.500	40.8	7.500	59.7
0.300	13.5	1.600	27.6	4.000	43.6	8.000	61.7
0.400	15.4	1.800	29.3	4.500	46.2	8.500	63.6
0.500	15.4	2.000	30.8	5.000	48.8	9.000	65.4
0.600	16.9	2.200	32.3	5.500	51.1	9.500	67.2
0.800	19.5	2.400	33.8	6.000	53.4		
1.000	21.8	2.600	35.2	6.500	55.6		