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The Gatehouse Pattenden Lane TN12 9QS	24-039 Land adj to Bramble Cottage Spencers Wood, RG7 1BU	
Date 11/07/2025 16:04 File 24-039 SA1 REV -.SRCX	Designed by Reiss Rampton Checked by	
XP Solutions Source Control 2020.1.3		

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 127 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	44.936	0.856	0.3	3.3	O K
30 min Summer	45.167	1.087	0.4	4.1	O K
60 min Summer	45.353	1.273	0.5	4.8	O K
120 min Summer	45.447	1.367	0.5	5.2	O K
180 min Summer	45.471	1.391	0.5	5.3	O K
240 min Summer	45.468	1.388	0.5	5.3	O K
360 min Summer	45.425	1.345	0.5	5.1	O K
480 min Summer	45.369	1.289	0.5	4.9	O K
600 min Summer	45.314	1.234	0.4	4.7	O K
720 min Summer	45.260	1.180	0.4	4.5	O K
960 min Summer	45.164	1.084	0.4	4.1	O K
1440 min Summer	45.012	0.932	0.3	3.5	O K
2160 min Summer	44.855	0.775	0.3	2.9	O K
2880 min Summer	44.747	0.667	0.2	2.5	O K
4320 min Summer	44.607	0.527	0.2	2.0	O K
5760 min Summer	44.519	0.439	0.2	1.7	O K
7200 min Summer	44.457	0.377	0.1	1.4	O K
8640 min Summer	44.412	0.332	0.1	1.3	O K
10080 min Summer	44.378	0.298	0.1	1.1	O K
15 min Winter	45.039	0.959	0.3	3.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
15 min Summer	123.823	0.0	24
30 min Summer	81.428	0.0	37
60 min Summer	51.110	0.0	62
120 min Summer	31.072	0.0	98
180 min Summer	22.949	0.0	132
240 min Summer	18.415	0.0	166
360 min Summer	13.401	0.0	234
480 min Summer	10.670	0.0	300
600 min Summer	8.947	0.0	368
720 min Summer	7.744	0.0	434
960 min Summer	6.162	0.0	562
1440 min Summer	4.458	0.0	812
2160 min Summer	3.220	0.0	1180
2880 min Summer	2.554	0.0	1556
4320 min Summer	1.840	0.0	2288
5760 min Summer	1.457	0.0	3000
7200 min Summer	1.215	0.0	3744
8640 min Summer	1.047	0.0	4416
10080 min Summer	0.923	0.0	5152
15 min Winter	123.823	0.0	24

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	45.300	1.220	0.4	4.6	O K
60 min Winter	45.511	1.431	0.5	5.4	O K
120 min Winter	45.611	1.531	0.5	5.8	O K
180 min Winter	45.625	1.545	0.6	5.9	O K
240 min Winter	45.603	1.523	0.5	5.8	O K
360 min Winter	45.522	1.442	0.5	5.5	O K
480 min Winter	45.433	1.353	0.5	5.1	O K
600 min Winter	45.351	1.271	0.5	4.8	O K
720 min Winter	45.275	1.195	0.4	4.5	O K
960 min Winter	45.146	1.066	0.4	4.1	O K
1440 min Winter	44.955	0.875	0.3	3.3	O K
2160 min Winter	44.772	0.692	0.2	2.6	O K
2880 min Winter	44.654	0.574	0.2	2.2	O K
4320 min Winter	44.512	0.432	0.2	1.6	O K
5760 min Winter	44.429	0.349	0.1	1.3	O K
7200 min Winter	44.374	0.294	0.1	1.1	O K
8640 min Winter	44.335	0.255	0.1	1.0	O K
10080 min Winter	44.306	0.226	0.1	0.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
30 min Winter	81.428	0.0	37
60 min Winter	51.110	0.0	62
120 min Winter	31.072	0.0	102
180 min Winter	22.949	0.0	140
240 min Winter	18.415	0.0	176
360 min Winter	13.401	0.0	250
480 min Winter	10.670	0.0	320
600 min Winter	8.947	0.0	390
720 min Winter	7.744	0.0	456
960 min Winter	6.162	0.0	588
1440 min Winter	4.458	0.0	844
2160 min Winter	3.220	0.0	1216
2880 min Winter	2.554	0.0	1588
4320 min Winter	1.840	0.0	2300
5760 min Winter	1.457	0.0	3048
7200 min Winter	1.215	0.0	3752
8640 min Winter	1.047	0.0	4496
10080 min Winter	0.923	0.0	5160

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Rainfall Details

Rainfall Model	FSR	M5-60 (mm)	18.100	Winter Storms	Yes	Shortest Storm (mins)	15
Return Period (years)	100	Ratio R	0.400	Cv (Summer)	0.750	Longest Storm (mins)	10080
Region	England and Wales	Summer Storms	Yes	Cv (Winter)	0.840	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.015

Time (mins) Area			Time (mins) Area			Time (mins) Area		
From:	To:	(ha)	From:	To:	(ha)	From:	To:	(ha)
0	4	0.005	4	8	0.005	8	12	0.005

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Model Details

Storage is Online Cover Level (m) 46.050

Cellular Storage Structure

Invert Level (m) 44.080 Infiltration Coefficient Side (m/hr) 0.15120 Porosity 0.95
Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	4.0	4.0	1.600	4.0	31.2	1.601	0.0	31.2