

Townfoot  
 Longtown, Carlisle  
 Cumbria CA6 5LY

2107-a101 - Roof A  
 Moresby Parks, CA28 8XG  
 Tank Size: 2.4m x 3.0m x 1.26m



Date 28/07/21  
 File 2107-A101LAND ADJACENT ...

Designed by GA  
 Checked by

Micro Drainage


Source Control 2014.1

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

Half Drain Time : 903 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	8.302	0.302	0.0	2.1	O K
30 min Summer	8.427	0.427	0.1	2.9	O K
60 min Summer	8.575	0.575	0.1	3.9	O K
120 min Summer	8.741	0.741	0.1	5.1	O K
180 min Summer	8.839	0.839	0.1	5.7	O K
240 min Summer	8.903	0.903	0.1	6.2	O K
360 min Summer	8.977	0.977	0.1	6.7	O K
480 min Summer	9.022	1.022	0.1	7.0	O K
600 min Summer	9.048	1.048	0.1	7.2	O K
720 min Summer	9.063	1.063	0.1	7.3	O K
960 min Summer	9.083	1.083	0.1	7.4	O K
1440 min Summer	9.096	1.096	0.1	7.5	O K
2160 min Summer	9.080	1.080	0.1	7.4	O K
2880 min Summer	9.048	1.048	0.1	7.2	O K
4320 min Summer	8.977	0.977	0.1	6.7	O K
5760 min Summer	8.912	0.912	0.1	6.2	O K
7200 min Summer	8.852	0.852	0.1	5.8	O K
8640 min Summer	8.796	0.796	0.1	5.4	O K
10080 min Summer	8.746	0.746	0.1	5.1	O K
15 min Winter	8.302	0.302	0.0	2.1	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	93.237	0.0	19
30 min Summer	66.524	0.0	34
60 min Summer	45.415	0.0	64
120 min Summer	30.048	0.0	122
180 min Summer	23.229	0.0	182
240 min Summer	19.181	0.0	242
360 min Summer	14.497	0.0	362
480 min Summer	11.886	0.0	480
600 min Summer	10.176	0.0	600
720 min Summer	8.956	0.0	658
960 min Summer	7.312	0.0	776
1440 min Summer	5.477	0.0	1038
2160 min Summer	4.088	0.0	1452
2880 min Summer	3.315	0.0	1872
4320 min Summer	2.463	0.0	2684
5760 min Summer	1.998	0.0	3512
7200 min Summer	1.699	0.0	4320
8640 min Summer	1.489	0.0	5096
10080 min Summer	1.332	0.0	5848
15 min Winter	93.237	0.0	19

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
30 min Winter	8.427	0.427	0.1	2.9	O K
60 min Winter	8.575	0.575	0.1	3.9	O K
120 min Winter	8.743	0.743	0.1	5.1	O K
180 min Winter	8.841	0.841	0.1	5.8	O K
240 min Winter	8.905	0.905	0.1	6.2	O K
360 min Winter	8.982	0.982	0.1	6.7	O K
480 min Winter	9.029	1.029	0.1	7.0	O K
600 min Winter	9.058	1.058	0.1	7.2	O K
720 min Winter	9.075	1.075	0.1	7.3	O K
960 min Winter	9.087	1.087	0.1	7.4	O K
1440 min Winter	9.094	1.094	0.1	7.5	O K
2160 min Winter	9.062	1.062	0.1	7.3	O K
2880 min Winter	9.011	1.011	0.1	6.9	O K
4320 min Winter	8.906	0.906	0.1	6.2	O K
5760 min Winter	8.812	0.812	0.1	5.6	O K
7200 min Winter	8.729	0.729	0.1	5.0	O K
8640 min Winter	8.654	0.654	0.1	4.5	O K
10080 min Winter	8.588	0.588	0.1	4.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
30 min Winter	66.524	0.0	33
60 min Winter	45.415	0.0	62
120 min Winter	30.048	0.0	120
180 min Winter	23.229	0.0	180
240 min Winter	19.181	0.0	238
360 min Winter	14.497	0.0	352
480 min Winter	11.886	0.0	466
600 min Winter	10.176	0.0	576
720 min Winter	8.956	0.0	682
960 min Winter	7.312	0.0	798
1440 min Winter	5.477	0.0	1094
2160 min Winter	4.088	0.0	1556
2880 min Winter	3.315	0.0	2016
4320 min Winter	2.463	0.0	2892
5760 min Winter	1.998	0.0	3696
7200 min Winter	1.699	0.0	4536
8640 min Winter	1.489	0.0	5352
10080 min Winter	1.332	0.0	6144

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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)	16.200	Shortest Storm (mins)	15
Ratio R	0.256	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.009

Time (mins)		Area
From:	To:	(ha)
0	4	0.009

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Model Details

Storage is Online Cover Level (m) 10.000

Cellular Storage Structure

Invert Level (m) 8.000 Safety Factor 2.0  
 Infiltration Coefficient Base (m/hr) 0.03077 Porosity 0.95  
 Infiltration Coefficient Side (m/hr) 0.03077

Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )
0.000	7.2	7.2	1.261	0.0	21.2
1.260	7.2	21.2			