

PRP

Page 1

Catherine House
Old Harborough Road
Brixworth NN6 9BX

Date 27/01/2022
File 81270 - SOAKAWAY BASIN ...

Micro Drainage

Shades Farm - 81270
1 in 30 year storm

Designed by AGS
Checked by DE

Source Control 2018.1.1

Micro Drainage

Summary of Results for 30 year Return Period

Half Drain Time : 454 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	110.402	0.102	1.5	0.0	1.5	27.5	O K
30 min Summer	110.433	0.133	1.5	0.0	1.5	35.8	O K
60 min Summer	110.465	0.165	1.5	0.0	1.5	44.5	O K
120 min Summer	110.497	0.197	1.5	0.0	1.5	53.4	O K
180 min Summer	110.516	0.216	1.5	0.0	1.5	58.6	O K
240 min Summer	110.529	0.229	1.5	0.0	1.5	62.0	O K
360 min Summer	110.545	0.245	1.5	0.0	1.5	66.4	O K
480 min Summer	110.555	0.255	1.5	0.0	1.5	69.2	O K
600 min Summer	110.561	0.261	1.5	0.0	1.5	70.9	O K
720 min Summer	110.565	0.265	1.6	0.0	1.6	72.0	O K
960 min Summer	110.568	0.268	1.6	0.0	1.6	72.8	O K
1440 min Summer	110.565	0.265	1.6	0.0	1.6	72.1	O K
2160 min Summer	110.557	0.257	1.5	0.0	1.5	69.9	O K
2880 min Summer	110.548	0.248	1.5	0.0	1.5	67.3	O K
4320 min Summer	110.529	0.229	1.5	0.0	1.5	62.1	O K
5760 min Summer	110.511	0.211	1.5	0.0	1.5	57.2	O K
7200 min Summer	110.494	0.194	1.5	0.0	1.5	52.7	O K
8640 min Summer	110.479	0.179	1.5	0.0	1.5	48.4	O K
10080 min Summer	110.464	0.164	1.5	0.0	1.5	44.4	O K
15 min Winter	110.414	0.114	1.5	0.0	1.5	30.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	73.219	0.0	112.1	23
30 min Summer	47.686	0.0	120.1	38
60 min Summer	29.711	0.0	224.2	68
120 min Summer	17.979	0.0	233.5	126
180 min Summer	13.265	0.0	239.2	186
240 min Summer	10.647	0.0	243.3	246
360 min Summer	7.777	0.0	248.9	364
480 min Summer	6.223	0.0	251.6	484
600 min Summer	5.232	0.0	251.6	602
720 min Summer	4.539	0.0	251.4	722
960 min Summer	3.626	0.0	250.9	960
1440 min Summer	2.638	0.0	249.2	1216
2160 min Summer	1.918	0.0	473.0	1584
2880 min Summer	1.528	0.0	479.4	1992
4320 min Summer	1.109	0.0	487.0	2812
5760 min Summer	0.883	0.0	791.6	3632
7200 min Summer	0.739	0.0	797.5	4464
8640 min Summer	0.639	0.0	802.5	5192
10080 min Summer	0.565	0.0	806.9	5960
15 min Winter	73.219	0.0	115.3	23

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PRP		Page 3
Catherine House Old Harborough Road Brixworth NN6 9BX	Shades Farm - 81270 1 in 30 year storm	
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Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	30	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.300	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.199

Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)
0 4	0.100	4 8	0.099

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PRP		Page 4
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Model Details

Storage is Online Cover Level (m) 111.000

Infiltration Basin Structure

Invert Level (m) 110.300 Safety Factor 2.0

Infiltration Coefficient Base (m/hr) 0.03816 Porosity 1.00

Infiltration Coefficient Side (m/hr) 0.03816

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	268.0	0.700	288.0

Pipe Outflow Control

Diameter (m) 0.150 Entry Loss Coefficient 0.500

Slope (1:X) 150.0 Coefficient of Contraction 0.600

Length (m) 4.000 Upstream Invert Level (m) 110.660

Roughness k (mm) 0.600

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