

PRP

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Catherine House
Old Harborough Road
Brixworth NN6 9BX

82639

Date 28/03/2023
File 82639 TANK & PUMP 1 IN ...

Designed by NN
Checked by MS

Micro Drainage

Source Control 2020.1.3

Micro Drainage

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

Half Drain Time : 750 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	99.175	0.815	0.0	2.0	2.0	73.6	O K
30 min Summer	99.420	1.060	0.0	2.0	2.0	95.6	O K
60 min Summer	99.659	1.299	0.0	2.0	2.0	117.2	O K
120 min Summer	99.872	1.512	0.0	2.0	2.0	136.5	O K
180 min Summer	99.970	1.610	0.0	2.0	2.0	145.3	O K
240 min Summer	100.016	1.656	0.0	2.0	2.0	149.5	O K
360 min Summer	100.049	1.689	0.0	2.0	2.0	152.5	O K
480 min Summer	100.043	1.683	0.0	2.0	2.0	151.9	O K
600 min Summer	100.014	1.654	0.0	2.0	2.0	149.2	O K
720 min Summer	99.981	1.621	0.0	2.0	2.0	146.3	O K
960 min Summer	99.918	1.558	0.0	2.0	2.0	140.6	O K
1440 min Summer	99.799	1.439	0.0	2.0	2.0	129.9	O K
2160 min Summer	99.634	1.274	0.0	2.0	2.0	115.0	O K
2880 min Summer	99.481	1.121	0.0	2.0	2.0	101.2	O K
4320 min Summer	99.207	0.847	0.0	2.0	2.0	76.5	O K
5760 min Summer	98.979	0.619	0.0	2.0	2.0	55.9	O K
7200 min Summer	98.800	0.440	0.0	2.0	2.0	39.7	O K
8640 min Summer	98.667	0.307	0.0	2.0	2.0	27.7	O K
10080 min Summer	98.575	0.215	0.0	2.0	2.0	19.4	O K
15 min Winter	99.275	0.915	0.0	2.0	2.0	82.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	138.153	0.0	75.3	19
30 min Summer	90.705	0.0	98.9	34
60 min Summer	56.713	0.0	123.8	64
120 min Summer	34.246	0.0	149.5	122
180 min Summer	25.149	0.0	164.6	182
240 min Summer	20.078	0.0	175.3	242
360 min Summer	14.585	0.0	191.0	362
480 min Summer	11.622	0.0	202.9	480
600 min Summer	9.738	0.0	212.5	582
720 min Summer	8.424	0.0	220.6	622
960 min Summer	6.697	0.0	233.8	744
1440 min Summer	4.839	0.0	253.5	998
2160 min Summer	3.490	0.0	274.2	1408
2880 min Summer	2.766	0.0	289.7	1816
4320 min Summer	1.989	0.0	312.6	2592
5760 min Summer	1.573	0.0	329.6	3296
7200 min Summer	1.311	0.0	343.2	3968
8640 min Summer	1.129	0.0	354.6	4664
10080 min Summer	0.994	0.0	364.5	5248
15 min Winter	138.153	0.0	84.4	19

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Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.291

Time (mins)	Area
From:	To: (ha)
0	4 0.291

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Model Details

Storage is Online Cover Level (m) 101.150

Cellular Storage Structure

Invert Level (m) 98.360 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	95.0	0.0	2.010	0.0	0.0
2.000	95.0	0.0			

Pump Outflow Control

Invert Level (m) 98.318

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.200	2.0000	1.800	2.0000	3.400	2.0000	5.000	2.0000
0.400	2.0000	2.000	2.0000	3.600	2.0000	5.200	2.0000
0.600	2.0000	2.200	2.0000	3.800	2.0000	5.400	2.0000
0.800	2.0000	2.400	2.0000	4.000	2.0000	5.600	2.0000
1.000	2.0000	2.600	2.0000	4.200	2.0000	5.800	2.0000
1.200	2.0000	2.800	2.0000	4.400	2.0000	6.000	2.0000
1.400	2.0000	3.000	2.0000	4.600	2.0000		
1.600	2.0000	3.200	2.0000	4.800	2.0000		

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