

Darach House

3949

Stoneyfield Business Park

Braemar Lodge Hotel

Inverness IV2 7PA

Filter Drain

Date 11/05/2023 11:49

Designed by IAW

File 3949 Filter Drain.SRCX

Checked by



Micro Drainage


Source Control 2020.1.3

Summary of Results for 200 year Return Period (+37%)

Half Drain Time : 24 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	9.508	0.508	9.4	15.1	O K
30 min Summer	9.647	0.647	10.9	19.3	O K
60 min Summer	9.730	0.730	11.7	21.7	O K
120 min Summer	9.723	0.723	11.6	21.5	O K
180 min Summer	9.678	0.678	11.2	20.2	O K
240 min Summer	9.628	0.628	10.7	18.7	O K
360 min Summer	9.535	0.535	9.7	15.9	O K
480 min Summer	9.458	0.458	8.9	13.6	O K
600 min Summer	9.395	0.395	8.2	11.7	O K
720 min Summer	9.341	0.341	7.7	10.2	O K
960 min Summer	9.258	0.258	6.8	7.7	O K
1440 min Summer	9.147	0.147	5.7	4.4	O K
15 min Winter	9.579	0.579	10.2	17.2	O K
30 min Winter	9.736	0.736	11.8	21.9	O K
60 min Winter	9.812	0.812	12.6	24.2	O K
120 min Winter	9.760	0.760	12.0	22.6	O K
180 min Winter	9.676	0.676	11.2	20.1	O K
240 min Winter	9.597	0.597	10.3	17.8	O K
360 min Winter	9.466	0.466	9.0	13.9	O K
480 min Winter	9.368	0.368	8.0	10.9	O K
600 min Winter	9.292	0.292	7.2	8.7	O K
720 min Winter	9.231	0.231	6.5	6.9	O K
960 min Winter	9.143	0.143	5.6	4.2	O K
1440 min Winter	9.049	0.049	4.6	1.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	92.275	0.0	15
30 min Summer	68.145	0.0	24
60 min Summer	47.296	0.0	42
120 min Summer	31.344	0.0	76
180 min Summer	24.371	0.0	108
240 min Summer	20.338	0.0	140
360 min Summer	15.699	0.0	202
480 min Summer	13.042	0.0	264
600 min Summer	11.287	0.0	326
720 min Summer	10.027	0.0	386
960 min Summer	8.319	0.0	508
1440 min Summer	6.387	0.0	750
15 min Winter	92.275	0.0	15
30 min Winter	68.145	0.0	25
60 min Winter	47.296	0.0	44
120 min Winter	31.344	0.0	80
180 min Winter	24.371	0.0	114
240 min Winter	20.338	0.0	146
360 min Winter	15.699	0.0	210
480 min Winter	13.042	0.0	274
600 min Winter	11.287	0.0	334
720 min Winter	10.027	0.0	396
960 min Winter	8.319	0.0	514
1440 min Winter	6.387	0.0	734

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Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	200	Cv (Summer)	0.750
Region	Scotland and Ireland	Cv (Winter)	0.840
M5-60 (mm)	15.000	Shortest Storm (mins)	15
Ratio R	0.200	Longest Storm (mins)	1440
Summer Storms	Yes	Climate Change %	+37

Time Area Diagram

Total Area (ha) 0.121

Time (mins)		Area
From:	To:	(ha)
0	4	0.121

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Model Details

Storage is Online Cover Level (m) 10.000

Infiltration Trench Structure

Infiltration Coefficient Base (m/hr)	0.30000	Trench Width (m)	0.8
Infiltration Coefficient Side (m/hr)	0.30000	Trench Length (m)	124.0
Safety Factor	2.0	Slope (1:X)	0.0
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	9.000	Cap Infiltration Depth (m)	0.000