

Formpave Limited							Page 1
Tufthorn Avenue, Coleford Gloucestershire GL16 8PR			Flansham Barn, Bognor Regis West Sussex Aquaflow Design - Rev A				
Date 22.07.19 File FSC4195 - AQUAFLOW DES...			Designed by JK Checked by				
Micro Drainage			Source Control 2016.1				
<u>Summary of Results for 100 year Return Period (+40%)</u>							
Half Drain Time : 62 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	9.762	0.122	0.0	0.7	0.7	2.9	O K
30 min Summer	9.797	0.157	0.0	0.7	0.7	3.7	O K
60 min Summer	9.817	0.177	0.0	0.7	0.7	4.2	O K
120 min Summer	9.820	0.180	0.0	0.7	0.7	4.3	O K
180 min Summer	9.812	0.172	0.0	0.7	0.7	4.1	O K
240 min Summer	9.801	0.161	0.0	0.7	0.7	3.8	O K
360 min Summer	9.780	0.140	0.0	0.7	0.7	3.3	O K
480 min Summer	9.761	0.121	0.0	0.7	0.7	2.9	O K
600 min Summer	9.744	0.104	0.0	0.6	0.6	2.5	O K
720 min Summer	9.728	0.088	0.0	0.6	0.6	2.1	O K
960 min Summer	9.702	0.062	0.0	0.6	0.6	1.5	O K
1440 min Summer	9.666	0.026	0.0	0.5	0.5	0.6	O K
2160 min Summer	9.642	0.002	0.0	0.5	0.5	0.0	O K
2880 min Summer	9.640	0.000	0.0	0.4	0.4	0.0	O K
4320 min Summer	9.640	0.000	0.0	0.3	0.3	0.0	O K
5760 min Summer	9.640	0.000	0.0	0.2	0.2	0.0	O K
7200 min Summer	9.640	0.000	0.0	0.2	0.2	0.0	O K
8640 min Summer	9.640	0.000	0.0	0.2	0.2	0.0	O K
10080 min Summer	9.640	0.000	0.0	0.1	0.1	0.0	O K
15 min Winter	9.780	0.140	0.0	0.7	0.7	3.3	O K
30 min Winter	9.821	0.181	0.0	0.7	0.7	4.3	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
15 min Summer	124.633	0.0	3.3	17			
30 min Summer	83.789	0.0	4.6	31			
60 min Summer	53.779	0.0	6.0	54			
120 min Summer	33.337	0.0	7.6	86			
180 min Summer	24.832	0.0	8.5	122			
240 min Summer	20.006	0.0	9.2	156			
360 min Summer	14.706	0.0	10.1	222			
480 min Summer	11.818	0.0	10.9	288			
600 min Summer	9.966	0.0	11.5	352			
720 min Summer	8.665	0.0	12.0	414			
960 min Summer	6.943	0.0	12.8	538			
1440 min Summer	5.071	0.0	14.0	766			
2160 min Summer	3.696	0.0	15.2	1100			
2880 min Summer	2.949	0.0	16.1	0			
4320 min Summer	2.142	0.0	17.4	0			
5760 min Summer	1.705	0.0	18.3	0			
7200 min Summer	1.427	0.0	19.0	0			
8640 min Summer	1.235	0.0	19.5	0			
10080 min Summer	1.093	0.0	20.0	0			
15 min Winter	124.633	0.0	3.8	17			
30 min Winter	83.789	0.0	5.2	31			
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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
60 min Winter	9.847	0.207	0.0	0.8	0.8	4.9	O K
120 min Winter	9.849	0.209	0.0	0.8	0.8	5.0	O K
180 min Winter	9.836	0.196	0.0	0.7	0.7	4.7	O K
240 min Winter	9.820	0.180	0.0	0.7	0.7	4.3	O K
360 min Winter	9.788	0.148	0.0	0.7	0.7	3.5	O K
480 min Winter	9.759	0.119	0.0	0.6	0.6	2.8	O K
600 min Winter	9.734	0.094	0.0	0.6	0.6	2.2	O K
720 min Winter	9.713	0.073	0.0	0.6	0.6	1.7	O K
960 min Winter	9.679	0.039	0.0	0.5	0.5	0.9	O K
1440 min Winter	9.641	0.001	0.0	0.5	0.5	0.0	O K
2160 min Winter	9.640	0.000	0.0	0.3	0.3	0.0	O K
2880 min Winter	9.640	0.000	0.0	0.3	0.3	0.0	O K
4320 min Winter	9.640	0.000	0.0	0.2	0.2	0.0	O K
5760 min Winter	9.640	0.000	0.0	0.2	0.2	0.0	O K
7200 min Winter	9.640	0.000	0.0	0.1	0.1	0.0	O K
8640 min Winter	9.640	0.000	0.0	0.1	0.1	0.0	O K
10080 min Winter	9.640	0.000	0.0	0.1	0.1	0.0	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
60 min Winter	53.779	0.0	6.8	58			
120 min Winter	33.337	0.0	8.5	92			
180 min Winter	24.832	0.0	9.6	132			
240 min Winter	20.006	0.0	10.3	168			
360 min Winter	14.706	0.0	11.4	240			
480 min Winter	11.818	0.0	12.2	308			
600 min Winter	9.966	0.0	12.9	372			
720 min Winter	8.665	0.0	13.4	434			
960 min Winter	6.943	0.0	14.4	556			
1440 min Winter	5.071	0.0	15.7	750			
2160 min Winter	3.696	0.0	17.1	0			
2880 min Winter	2.949	0.0	18.2	0			
4320 min Winter	2.142	0.0	19.6	0			
5760 min Winter	1.705	0.0	20.7	0			
7200 min Winter	1.427	0.0	21.4	0			
8640 min Winter	1.235	0.0	22.1	0			
10080 min Winter	1.093	0.0	22.6	0			
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Micro Drainage		Source Control 2016.1

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)	19.000	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.016

Time (mins)	Area
From: To:	(ha)
0	4 0.016

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Model Details

Storage is Online Cover Level (m) 10.000

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	8.9
Membrane Percolation (mm/hr)	4500	Length (m)	8.9
Max Percolation (l/s)	99.0	Slope (1:X)	10000.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	9.640	Membrane Depth (m)	0

Orifice Outflow Control

Diameter (m) 0.025 Discharge Coefficient 0.600 Invert Level (m) 9.500

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