

Mountbatten House  
 Basing View  
 Basingstoke RG21 4HJ

Area 2  
 P.Paving  
 10yr Rainfall Event

Date 03/05/2016  
 File Area 2 Permeable Paving Design 10 year OP 400mm ...

Designed by UKLXB334  
 Checked by MW



Micro Drainage

Source Control 2015.1

Summary of Results for 10 year Return Period

Half Drain Time : 177 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	99.373	0.123	0.0	3.8	0.0	3.8	47.3	O K
30 min Summer	99.397	0.147	0.0	4.4	0.0	4.4	61.9	O K
60 min Summer	99.418	0.168	0.0	4.8	0.0	4.8	74.8	O K
120 min Summer	99.432	0.182	0.0	5.0	0.0	5.0	83.3	O K
180 min Summer	99.436	0.186	0.0	5.1	0.0	5.1	85.4	O K
240 min Summer	99.437	0.187	0.0	5.1	0.0	5.1	86.3	O K
360 min Summer	99.437	0.187	0.0	5.1	0.0	5.1	86.1	O K
480 min Summer	99.434	0.184	0.0	5.1	0.0	5.1	84.5	O K
600 min Summer	99.430	0.180	0.0	5.0	0.0	5.0	82.2	O K
720 min Summer	99.426	0.176	0.0	4.9	0.0	4.9	79.6	O K
960 min Summer	99.417	0.167	0.0	4.8	0.0	4.8	74.1	O K
1440 min Summer	99.400	0.150	0.0	4.4	0.0	4.4	63.8	O K
2160 min Summer	99.380	0.130	0.0	4.0	0.0	4.0	51.8	O K
2880 min Summer	99.366	0.116	0.0	3.7	0.0	3.7	43.3	O K
4320 min Summer	99.350	0.100	0.0	3.0	0.0	3.0	33.4	O K
5760 min Summer	99.339	0.089	0.0	2.5	0.0	2.5	27.0	O K
7200 min Summer	99.332	0.082	0.0	2.2	0.0	2.2	22.7	O K
8640 min Summer	99.326	0.076	0.0	2.0	0.0	2.0	19.5	O K
10080 min Summer	99.321	0.071	0.0	1.8	0.0	1.8	17.2	O K
15 min Winter	99.384	0.134	0.0	4.1	0.0	4.1	54.3	O K
30 min Winter	99.412	0.162	0.0	4.7	0.0	4.7	70.9	O K
60 min Winter	99.436	0.186	0.0	5.1	0.0	5.1	85.5	O K
120 min Winter	99.453	0.203	0.0	5.4	0.0	5.4	95.7	O K
180 min Winter	99.456	0.206	0.0	5.4	0.0	5.4	97.7	O K
240 min Winter	99.456	0.206	0.0	5.4	0.0	5.4	98.0	O K
360 min Winter	99.454	0.204	0.0	5.4	0.0	5.4	96.4	O K
480 min Winter	99.448	0.198	0.0	5.3	0.0	5.3	93.1	O K
600 min Winter	99.442	0.192	0.0	5.2	0.0	5.2	89.1	O K
720 min Winter	99.435	0.185	0.0	5.1	0.0	5.1	84.8	O K
960 min Winter	99.421	0.171	0.0	4.8	0.0	4.8	76.3	O K
1440 min Winter	99.397	0.147	0.0	4.4	0.0	4.4	61.7	O K
2160 min Winter	99.371	0.121	0.0	3.8	0.0	3.8	46.1	O K
2880 min Winter	99.356	0.106	0.0	3.3	0.0	3.3	37.1	O K
4320 min Winter	99.339	0.089	0.0	2.5	0.0	2.5	26.5	O K
5760 min Winter	99.328	0.078	0.0	2.1	0.0	2.1	20.5	O K
7200 min Winter	99.320	0.070	0.0	1.7	0.0	1.7	16.8	O K
8640 min Winter	99.315	0.065	0.0	1.5	0.0	1.5	14.2	O K
10080 min Winter	99.310	0.060	0.0	1.3	0.0	1.3	12.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Overflow Volume (m³)	Time-Peak (mins)
15 min Summer	60.901	0.0	50.2	0.0	25
30 min Summer	39.040	0.0	67.2	0.0	38
60 min Summer	24.003	0.0	84.8	0.0	66
120 min Summer	14.387	0.0	103.5	0.0	120
180 min Summer	10.582	0.0	115.0	0.0	152
240 min Summer	8.487	0.0	123.5	0.0	184
360 min Summer	6.204	0.0	136.0	0.0	250
480 min Summer	4.965	0.0	145.4	0.0	318
600 min Summer	4.175	0.0	152.9	0.0	388
720 min Summer	3.622	0.0	159.3	0.0	454
960 min Summer	2.895	0.0	169.6	0.0	588
1440 min Summer	2.109	0.0	184.6	0.0	844
2160 min Summer	1.535	0.0	200.0	0.0	1216
2880 min Summer	1.225	0.0	211.1	0.0	1564
4320 min Summer	0.891	0.0	226.3	0.0	2296
5760 min Summer	0.711	0.0	236.4	0.0	3008
7200 min Summer	0.596	0.0	243.5	0.0	3744
8640 min Summer	0.517	0.0	248.7	0.0	4488
10080 min Summer	0.458	0.0	252.4	0.0	5152
15 min Winter	60.901	0.0	57.4	0.0	25
30 min Winter	39.040	0.0	76.4	0.0	38
60 min Winter	24.003	0.0	96.2	0.0	66
120 min Winter	14.387	0.0	117.2	0.0	120
180 min Winter	10.582	0.0	130.1	0.0	170
240 min Winter	8.487	0.0	139.7	0.0	194
360 min Winter	6.204	0.0	153.7	0.0	270
480 min Winter	4.965	0.0	164.3	0.0	344
600 min Winter	4.175	0.0	172.8	0.0	418
720 min Winter	3.622	0.0	180.0	0.0	488
960 min Winter	2.895	0.0	191.6	0.0	626
1440 min Winter	2.109	0.0	208.7	0.0	888
2160 min Winter	1.535	0.0	226.4	0.0	1256
2880 min Winter	1.225	0.0	239.2	0.0	1616
4320 min Winter	0.891	0.0	257.0	0.0	2340
5760 min Winter	0.711	0.0	269.2	0.0	3056
7200 min Winter	0.596	0.0	278.0	0.0	3760
8640 min Winter	0.517	0.0	284.6	0.0	4504
10080 min Winter	0.458	0.0	289.7	0.0	5240

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Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.000 Winter Storms Yes Shortest Storm (mins) 15  
 Return Period (years) 10 Ratio R 0.420 Cv (Summer) 0.750 Longest Storm (mins) 10080  
 Region England and Wales Summer Storms Yes Cv (Winter) 0.840 Climate Change % +0

Time Area Diagram

Total Area (ha) 0.529

Time (mins)		Area	Time (mins)		Area	Time (mins)		Area
From:	To:	(ha)	From:	To:	(ha)	From:	To:	(ha)
0	4	0.176	4	8	0.176	8	12	0.176

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Model Details

Storage is Online Cover Level (m) 100.000

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.30	Slope (1:X)	500.0
Membrane Percolation (mm/hr)	1000	Invert Level (m)	99.250	Depression Storage (mm)	5
Max Percolation (l/s)	562.5	Width (m)	45.0	Evaporation (mm/day)	3
Safety Factor	2.0	Length (m)	45.0	Cap Volume Depth (m)	0.000

Orifice Outflow Control

Diameter (m) 0.080 Discharge Coefficient 0.600 Invert Level (m) 99.250

Weir Overflow Control

Discharge Coef 0.544 Width (m) 1.200 Invert Level (m) 99.463