

Mountbatten House
 Basing View
 Basingstoke RG21 4HJ

Area 1
 P.Paving
 30yr Rainfall Event

Date 03/05/2016
 File Area 1 Permeable Paving Design 30 year OP 400mm ...

Designed by UKLXB334
 Checked by MW



Micro Drainage

Source Control 2015.1

Summary of Results for 30 year Return Period

Half Drain Time : 99 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	99.598	0.098	0.0	2.7	0.0	2.7	19.4	O K
30 min Summer	99.617	0.117	0.0	3.3	1.0	4.3	24.9	O K
60 min Summer	99.626	0.126	0.0	3.5	3.7	7.2	27.3	O K
120 min Summer	99.629	0.129	0.0	3.5	4.8	8.4	28.2	O K
180 min Summer	99.628	0.128	0.0	3.5	4.6	8.2	28.1	O K
240 min Summer	99.627	0.127	0.0	3.5	4.0	7.5	27.6	O K
360 min Summer	99.624	0.124	0.0	3.4	2.9	6.4	26.7	O K
480 min Summer	99.621	0.121	0.0	3.4	2.0	5.4	25.9	O K
600 min Summer	99.618	0.118	0.0	3.3	1.3	4.6	25.1	O K
720 min Summer	99.616	0.116	0.0	3.3	0.7	4.0	24.4	O K
960 min Summer	99.609	0.109	0.0	3.1	0.0	3.1	22.4	O K
1440 min Summer	99.596	0.096	0.0	2.6	0.0	2.6	18.6	O K
2160 min Summer	99.583	0.083	0.0	2.1	0.0	2.1	14.9	O K
2880 min Summer	99.574	0.074	0.0	1.8	0.0	1.8	12.4	O K
4320 min Summer	99.563	0.063	0.0	1.4	0.0	1.4	9.3	O K
5760 min Summer	99.556	0.056	0.0	1.1	0.0	1.1	7.2	O K
7200 min Summer	99.550	0.050	0.0	1.0	0.0	1.0	5.8	O K
8640 min Summer	99.546	0.046	0.0	0.9	0.0	0.9	4.9	O K
10080 min Summer	99.543	0.043	0.0	0.8	0.0	0.8	4.3	O K
15 min Winter	99.608	0.108	0.0	3.1	0.0	3.1	22.3	O K
30 min Winter	99.627	0.127	0.0	3.5	4.0	7.5	27.6	O K
60 min Winter	99.633	0.133	0.0	3.6	6.8	10.4	29.5	O K
120 min Winter	99.634	0.134	0.0	3.6	7.0	10.7	29.6	O K
180 min Winter	99.631	0.131	0.0	3.6	5.9	9.5	28.8	O K
240 min Winter	99.628	0.128	0.0	3.5	4.6	8.2	28.1	O K
360 min Winter	99.624	0.124	0.0	3.4	2.9	6.4	26.8	O K
480 min Winter	99.621	0.121	0.0	3.4	2.0	5.4	25.8	O K
600 min Winter	99.618	0.118	0.0	3.3	1.1	4.5	24.9	O K
720 min Winter	99.614	0.114	0.0	3.3	0.4	3.6	24.0	O K
960 min Winter	99.604	0.104	0.0	3.0	0.0	3.0	21.1	O K
1440 min Winter	99.589	0.089	0.0	2.4	0.0	2.4	16.6	O K
2160 min Winter	99.575	0.075	0.0	1.8	0.0	1.8	12.6	O K
2880 min Winter	99.566	0.066	0.0	1.5	0.0	1.5	10.0	O K
4320 min Winter	99.554	0.054	0.0	1.1	0.0	1.1	6.8	O K
5760 min Winter	99.546	0.046	0.0	0.9	0.0	0.9	5.0	O K
7200 min Winter	99.542	0.042	0.0	0.7	0.0	0.7	4.1	O K
8640 min Winter	99.539	0.039	0.0	0.6	0.0	0.6	3.5	O K
10080 min Winter	99.537	0.037	0.0	0.6	0.0	0.6	3.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Overflow Volume (m³)	Time-Peak (mins)
15 min Summer	77.297	0.0	21.2	0.0	24
30 min Summer	49.920	0.0	28.8	0.7	35
60 min Summer	30.811	0.0	36.7	4.5	50
120 min Summer	18.462	0.0	44.8	7.4	82
180 min Summer	13.543	0.0	49.7	7.8	114
240 min Summer	10.827	0.0	53.2	7.6	146
360 min Summer	7.872	0.0	58.2	6.3	212
480 min Summer	6.278	0.0	62.0	4.7	278
600 min Summer	5.265	0.0	65.1	3.0	344
720 min Summer	4.558	0.0	67.6	1.4	412
960 min Summer	3.628	0.0	71.6	0.0	546
1440 min Summer	2.628	0.0	77.5	0.0	794
2160 min Summer	1.902	0.0	83.3	0.0	1156
2880 min Summer	1.511	0.0	87.3	0.0	1528
4320 min Summer	1.091	0.0	92.6	0.0	2252
5760 min Summer	0.866	0.0	95.9	0.0	2984
7200 min Summer	0.724	0.0	98.0	0.0	3680
8640 min Summer	0.625	0.0	99.3	0.0	4408
10080 min Summer	0.552	0.0	100.1	0.0	5144
15 min Winter	77.297	0.0	24.4	0.0	24
30 min Winter	49.920	0.0	32.9	3.1	33
60 min Winter	30.811	0.0	41.6	8.5	50
120 min Winter	18.462	0.0	50.8	12.0	84
180 min Winter	13.543	0.0	56.3	12.2	118
240 min Winter	10.827	0.0	60.2	11.3	150
360 min Winter	7.872	0.0	65.9	8.9	218
480 min Winter	6.278	0.0	70.2	6.1	284
600 min Winter	5.265	0.0	73.6	3.3	356
720 min Winter	4.558	0.0	76.4	1.0	432
960 min Winter	3.628	0.0	81.0	0.0	568
1440 min Winter	2.628	0.0	87.7	0.0	816
2160 min Winter	1.902	0.0	94.4	0.0	1188
2880 min Winter	1.511	0.0	99.1	0.0	1560
4320 min Winter	1.091	0.0	105.5	0.0	2276
5760 min Winter	0.866	0.0	109.5	0.0	3000
7200 min Winter	0.724	0.0	112.3	0.0	3744
8640 min Winter	0.625	0.0	114.2	0.0	4400
10080 min Winter	0.552	0.0	115.5	0.0	5136

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Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.000 Winter Storms Yes Shortest Storm (mins) 15
 Return Period (years) 30 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) 0.180

Time (mins)		Area	Time (mins)		Area	Time (mins)		Area
From:	To:	(ha)	From:	To:	(ha)	From:	To:	(ha)
0	4	0.060	4	8	0.060	8	12	0.060

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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)	99.500	Depression Storage (mm)	5
Max Percolation (l/s)	266.9	Width (m)	31.0	Evaporation (mm/day)	3
Safety Factor	2.0	Length (m)	31.0	Cap Volume Depth (m)	0.000

Orifice Outflow Control

Diameter (m) 0.075 Discharge Coefficient 0.600 Invert Level (m) 99.500

Weir Overflow Control

Discharge Coef 0.544 Width (m) 1.200 Invert Level (m) 99.611