

MJA Consulting			Page 1																																																																																																																																																																																																																			
Monarch House Barton Lane OX14 3NB		Westergate & Eastergate Single Permeable Driveway 1:100+40%cc																																																																																																																																																																																																																				
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<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 186 minutes. <table><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr><tr><td>15 min Summer</td><td>99.420</td><td>0.420</td><td>0.5</td><td>4.8</td><td>O K</td></tr><tr><td>30 min Summer</td><td>99.528</td><td>0.528</td><td>0.5</td><td>6.3</td><td>O K</td></tr><tr><td>60 min Summer</td><td>99.624</td><td>0.624</td><td>0.5</td><td>7.6</td><td>O K</td></tr><tr><td>120 min Summer</td><td>99.681</td><td>0.681</td><td>0.5</td><td>8.4</td><td>O K</td></tr><tr><td>180 min Summer</td><td>99.679</td><td>0.679</td><td>0.5</td><td>8.4</td><td>O K</td></tr><tr><td>240 min Summer</td><td>99.665</td><td>0.665</td><td>0.5</td><td>8.2</td><td>O K</td></tr><tr><td>360 min Summer</td><td>99.637</td><td>0.637</td><td>0.5</td><td>7.8</td><td>O K</td></tr><tr><td>480 min Summer</td><td>99.605</td><td>0.605</td><td>0.5</td><td>7.4</td><td>O K</td></tr><tr><td>600 min Summer</td><td>99.574</td><td>0.574</td><td>0.5</td><td>6.9</td><td>O K</td></tr><tr><td>720 min Summer</td><td>99.542</td><td>0.542</td><td>0.5</td><td>6.5</td><td>O K</td></tr><tr><td>960 min Summer</td><td>99.480</td><td>0.480</td><td>0.5</td><td>5.7</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>99.367</td><td>0.367</td><td>0.5</td><td>4.1</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>99.238</td><td>0.238</td><td>0.5</td><td>2.4</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>99.158</td><td>0.158</td><td>0.5</td><td>1.3</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>99.111</td><td>0.111</td><td>0.4</td><td>0.6</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>99.090</td><td>0.090</td><td>0.3</td><td>0.4</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>99.076</td><td>0.076</td><td>0.3</td><td>0.3</td><td>O K</td></tr><tr><td>8640 min 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Summer</td><td>10.302</td><td>0.0</td><td>392</td></tr><tr><td>720 min Summer</td><td>8.963</td><td>0.0</td><td>458</td></tr><tr><td>960 min Summer</td><td>7.189</td><td>0.0</td><td>590</td></tr><tr><td>1440 min Summer</td><td>5.257</td><td>0.0</td><td>840</td></tr><tr><td>2160 min Summer</td><td>3.836</td><td>0.0</td><td>1192</td></tr><tr><td>2880 min Summer</td><td>3.063</td><td>0.0</td><td>1524</td></tr><tr><td>4320 min Summer</td><td>2.226</td><td>0.0</td><td>2204</td></tr><tr><td>5760 min Summer</td><td>1.773</td><td>0.0</td><td>2936</td></tr><tr><td>7200 min Summer</td><td>1.487</td><td>0.0</td><td>3672</td></tr><tr><td>8640 min Summer</td><td>1.289</td><td>0.0</td><td>4400</td></tr><tr><td>10080 min Summer</td><td>1.142</td><td>0.0</td><td>5064</td></tr><tr><td>15 min Winter</td><td>127.204</td><td>0.0</td><td>18</td></tr></table>					Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	99.420	0.420	0.5	4.8	O K	30 min Summer	99.528	0.528	0.5	6.3	O K	60 min Summer	99.624	0.624	0.5	7.6	O K	120 min Summer	99.681	0.681	0.5	8.4	O K	180 min Summer	99.679	0.679	0.5	8.4	O K	240 min Summer	99.665	0.665	0.5	8.2	O K	360 min Summer	99.637	0.637	0.5	7.8	O K	480 min Summer	99.605	0.605	0.5	7.4	O K	600 min Summer	99.574	0.574	0.5	6.9	O K	720 min Summer	99.542	0.542	0.5	6.5	O K	960 min Summer	99.480	0.480	0.5	5.7	O K	1440 min Summer	99.367	0.367	0.5	4.1	O K	2160 min Summer	99.238	0.238	0.5	2.4	O K	2880 min Summer	99.158	0.158	0.5	1.3	O K	4320 min Summer	99.111	0.111	0.4	0.6	O K	5760 min Summer	99.090	0.090	0.3	0.4	O K	7200 min Summer	99.076	0.076	0.3	0.3	O K	8640 min Summer	99.066	0.066	0.2	0.2	O K	10080 min Summer	99.059	0.059	0.2	0.2	O K	15 min Winter	99.466	0.466	0.5	5.5	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	127.204	0.0	18	30 min Summer	85.821	0.0	33	60 min Summer	55.250	0.0	62	120 min Summer	34.307	0.0	120	180 min Summer	25.552	0.0	158	240 min Summer	20.570	0.0	190	360 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960 min Winter	99.486	0.486	0.5	5.7	O K																																																																																																																																																																																											
1440 min Winter	99.314	0.314	0.5	3.4	O K																																																																																																																																																																																											
2160 min Winter	99.148	0.148	0.5	1.1	O K																																																																																																																																																																																											
2880 min Winter	99.112	0.112	0.4	0.7	O K																																																																																																																																																																																											
4320 min Winter	99.082	0.082	0.3	0.4	O K																																																																																																																																																																																											
5760 min Winter	99.066	0.066	0.2	0.2	O K																																																																																																																																																																																											
7200 min Winter	99.055	0.055	0.2	0.2	O K																																																																																																																																																																																											
8640 min Winter	99.049	0.049	0.2	0.1	O K																																																																																																																																																																																											
10080 min Winter	99.046	0.046	0.1	0.1	O K																																																																																																																																																																																											
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																													
30 min Winter	85.821	0.0	32																																																																																																																																																																																													
60 min Winter	55.250	0.0	60																																																																																																																																																																																													
120 min Winter	34.307	0.0	118																																																																																																																																																																																													
180 min Winter	25.552	0.0	172																																																																																																																																																																																													
240 min Winter	20.570	0.0	220																																																																																																																																																																																													
360 min Winter	15.173	0.0	276																																																																																																																																																																																													
480 min Winter	12.206	0.0	352																																																																																																																																																																																													
600 min Winter	10.302	0.0	428																																																																																																																																																																																													
720 min Winter	8.963	0.0	498																																																																																																																																																																																													
960 min Winter	7.189	0.0	636																																																																																																																																																																																													
1440 min Winter	5.257	0.0	882																																																																																																																																																																																													
2160 min Winter	3.836	0.0	1188																																																																																																																																																																																													
2880 min Winter	3.063	0.0	1496																																																																																																																																																																																													
4320 min Winter	2.226	0.0	2204																																																																																																																																																																																													
5760 min Winter	1.773	0.0	2936																																																																																																																																																																																													
7200 min Winter	1.487	0.0	3632																																																																																																																																																																																													
8640 min Winter	1.289	0.0	4328																																																																																																																																																																																													
10080 min Winter	1.142	0.0	5040																																																																																																																																																																																													
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MJA Consulting		Page 3
Monarch House Barton Lane OX14 3NB	Westergate & Eastergate Single Permeable Driveway 1:100+40%cc	
Date 07/03/2018 File TYPICAL SINGLE PERMEABL...	Designed by C.Pendle Checked by	
Innovyze	Source Control 2017.1.2	

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)	19.500	Shortest Storm (mins)	15
Ratio R	0.342	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.022

Time (mins)	Area
From:	To: (ha)
0	4 0.022

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Monarch House Barton Lane OX14 3NB	Westergate & Eastergate Single Permeable Driveway 1:100+40%cc	
Date 07/03/2018 File TYPICAL SINGLE PERMEABL...	Designed by C.Pendle Checked by	
Innovyze	Source Control 2017.1.2	

Model Details

Storage is Online Cover Level (m) 100.000

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.07200	Width (m)	3.5
Membrane Percolation (mm/hr)	1000	Length (m)	13.0
Max Percolation (l/s)	12.6	Slope (1:X)	100.0
Safety Factor	2.0	Depression Storage (mm)	0
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	99.000	Cap Volume Depth (m)	0.800

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