

Paul Basham Associates					Page 1																																																																																																																																																																																																																			
Lancaster Court Fareham Hampshire, PO15 5TU			108.5009 EASTERGATE PERMEABLE PAVING 1:10+40%CC																																																																																																																																																																																																																					
Date 29/10/2021 13:30 File PERMEABLE PAVING SIZING...			Designed by RD Checked by AJS																																																																																																																																																																																																																					
Innovyze			Source Control 2020.1.3																																																																																																																																																																																																																					
Summary of Results for 10 year Return Period (+40%) Half Drain Time : 7 minutes. <table><thead><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></thead><tbody><tr><td>15 min Summer</td><td>16.733</td><td>0.149</td><td>2.2</td><td>1.1</td><td>O K</td></tr><tr><td>30 min Summer</td><td>16.750</td><td>0.166</td><td>2.5</td><td>1.4</td><td>O K</td></tr><tr><td>60 min Summer</td><td>16.751</td><td>0.167</td><td>2.5</td><td>1.4</td><td>O K</td></tr><tr><td>120 min Summer</td><td>16.731</td><td>0.147</td><td>2.2</td><td>1.1</td><td>O K</td></tr><tr><td>180 min Summer</td><td>16.713</td><td>0.129</td><td>1.9</td><td>0.9</td><td>O K</td></tr><tr><td>240 min Summer</td><td>16.698</td><td>0.114</td><td>1.7</td><td>0.7</td><td>O K</td></tr><tr><td>360 min Summer</td><td>16.677</td><td>0.093</td><td>1.4</td><td>0.4</td><td>O K</td></tr><tr><td>480 min Summer</td><td>16.663</td><td>0.079</td><td>1.2</td><td>0.3</td><td>O K</td></tr><tr><td>600 min Summer</td><td>16.653</td><td>0.069</td><td>1.0</td><td>0.2</td><td>O K</td></tr><tr><td>720 min Summer</td><td>16.645</td><td>0.061</td><td>0.9</td><td>0.2</td><td>O K</td></tr><tr><td>960 min Summer</td><td>16.634</td><td>0.050</td><td>0.7</td><td>0.1</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>16.627</td><td>0.043</td><td>0.6</td><td>0.1</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>16.621</td><td>0.037</td><td>0.4</td><td>0.1</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>16.617</td><td>0.033</td><td>0.3</td><td>0.1</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>16.613</td><td>0.029</td><td>0.2</td><td>0.0</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>16.610</td><td>0.026</td><td>0.2</td><td>0.0</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>16.608</td><td>0.024</td><td>0.2</td><td>0.0</td><td>O K</td></tr><tr><td>8640 min 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Date 29/10/2021 13:30 File PERMEABLE PAVING SIZING...		Designed by RD Checked by AJS				
Innovyze		Source Control 2020.1.3				
Summary of Results for 10 year Return Period (+40%)						
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	
30 min Winter	16.759	0.175	2.6	1.6	O K	
60 min Winter	16.750	0.166	2.5	1.4	O K	
120 min Winter	16.720	0.136	2.0	1.0	O K	
180 min Winter	16.696	0.112	1.7	0.7	O K	
240 min Winter	16.679	0.095	1.4	0.5	O K	
360 min Winter	16.657	0.073	1.1	0.3	O K	
480 min Winter	16.644	0.060	0.9	0.2	O K	
600 min Winter	16.635	0.051	0.8	0.1	O K	
720 min Winter	16.631	0.047	0.7	0.1	O K	
960 min Winter	16.627	0.043	0.5	0.1	O K	
1440 min Winter	16.621	0.037	0.4	0.1	O K	
2160 min Winter	16.616	0.032	0.3	0.1	O K	
2880 min Winter	16.612	0.028	0.2	0.0	O K	
4320 min Winter	16.608	0.024	0.2	0.0	O K	
5760 min Winter	16.606	0.022	0.1	0.0	O K	
7200 min Winter	16.604	0.020	0.1	0.0	O K	
8640 min Winter	16.603	0.019	0.1	0.0	O K	
10080 min Winter	16.602	0.018	0.1	0.0	O K	
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)			
30 min Winter	50.290	0.0	23			
60 min Winter	31.908	0.0	40			
120 min Winter	19.755	0.0	70			
180 min Winter	14.804	0.0	100			
240 min Winter	12.028	0.0	130			
360 min Winter	8.957	0.0	188			
480 min Winter	7.262	0.0	248			
600 min Winter	6.168	0.0	308			
720 min Winter	5.396	0.0	368			
960 min Winter	4.369	0.0	494			
1440 min Winter	3.241	0.0	714			
2160 min Winter	2.402	0.0	1100			
2880 min Winter	1.942	0.0	1448			
4320 min Winter	1.437	0.0	2184			
5760 min Winter	1.161	0.0	2992			
7200 min Winter	0.983	0.0	3672			
8640 min Winter	0.859	0.0	4280			
10080 min Winter	0.766	0.0	4960			
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Innovyze Source Control 2020.1.3		

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	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) 0.021

Time (mins)	Area
From:	To: (ha)
0	4 0.021

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Innovyze Source Control 2020.1.3																										
<u>Model Details</u> Storage is Online Cover Level (m) 17.294 <u>Porous Car Park Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.30852</td> <td>Width (m)</td> <td>11.5</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>18.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>57.5</td> <td>Slope (1:X)</td> <td>30.0</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Depression Storage (mm)</td> <td>5</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Evaporation (mm/day)</td> <td>3</td> </tr> <tr> <td>Invert Level (m)</td> <td>16.584</td> <td>Membrane Depth (m)</td> <td>190</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.30852	Width (m)	11.5	Membrane Percolation (mm/hr)	1000	Length (m)	18.0	Max Percolation (l/s)	57.5	Slope (1:X)	30.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	16.584	Membrane Depth (m)	190
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