

Robert Clark Associates					Page 1																																																																																																																																																																																																																			
Willow Cottage Herne Lane Rustington BN16 3EE			99 Victoria Drive Bognor Regis Permeable paving																																																																																																																																																																																																																					
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Summary of Results for 10 year Return Period (+40%) Half Drain Time : 326 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>6.716</td><td>0.056</td><td>0.4</td><td>4.8</td><td>O K</td></tr><tr><td>30 min Summer</td><td>6.738</td><td>0.078</td><td>0.4</td><td>6.7</td><td>O K</td></tr><tr><td>60 min Summer</td><td>6.760</td><td>0.100</td><td>0.4</td><td>8.5</td><td>O K</td></tr><tr><td>120 min Summer</td><td>6.780</td><td>0.120</td><td>0.4</td><td>10.3</td><td>O K</td></tr><tr><td>180 min Summer</td><td>6.790</td><td>0.130</td><td>0.4</td><td>11.1</td><td>O K</td></tr><tr><td>240 min Summer</td><td>6.794</td><td>0.134</td><td>0.4</td><td>11.5</td><td>O K</td></tr><tr><td>360 min Summer</td><td>6.799</td><td>0.139</td><td>0.4</td><td>11.8</td><td>O K</td></tr><tr><td>480 min Summer</td><td>6.800</td><td>0.140</td><td>0.4</td><td>12.0</td><td>Flood Risk</td></tr><tr><td>600 min Summer</td><td>6.801</td><td>0.141</td><td>0.4</td><td>12.0</td><td>Flood Risk</td></tr><tr><td>720 min Summer</td><td>6.800</td><td>0.140</td><td>0.4</td><td>12.0</td><td>Flood Risk</td></tr><tr><td>960 min Summer</td><td>6.796</td><td>0.136</td><td>0.4</td><td>11.7</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>6.786</td><td>0.126</td><td>0.4</td><td>10.7</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>6.767</td><td>0.107</td><td>0.4</td><td>9.2</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>6.750</td><td>0.090</td><td>0.4</td><td>7.7</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>6.724</td><td>0.064</td><td>0.4</td><td>5.5</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>6.710</td><td>0.050</td><td>0.4</td><td>4.2</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>6.703</td><td>0.043</td><td>0.3</td><td>3.7</td><td>O K</td></tr><tr><td>8640 min 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Summer	6.738	0.078	0.4	6.7	O K	60 min Summer	6.760	0.100	0.4	8.5	O K	120 min Summer	6.780	0.120	0.4	10.3	O K	180 min Summer	6.790	0.130	0.4	11.1	O K	240 min Summer	6.794	0.134	0.4	11.5	O K	360 min Summer	6.799	0.139	0.4	11.8	O K	480 min Summer	6.800	0.140	0.4	12.0	Flood Risk	600 min Summer	6.801	0.141	0.4	12.0	Flood Risk	720 min Summer	6.800	0.140	0.4	12.0	Flood Risk	960 min Summer	6.796	0.136	0.4	11.7	O K	1440 min Summer	6.786	0.126	0.4	10.7	O K	2160 min Summer	6.767	0.107	0.4	9.2	O K	2880 min Summer	6.750	0.090	0.4	7.7	O K	4320 min Summer	6.724	0.064	0.4	5.5	O K	5760 min Summer	6.710	0.050	0.4	4.2	O K	7200 min Summer	6.703	0.043	0.3	3.7	O K	8640 min Summer	6.699	0.039	0.3	3.3	O K	10080 min Summer	6.695	0.035	0.3	3.0	O K	15 min Winter	6.725	0.065	0.4	5.6	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	76.214	0.0	18	30 min Summer	50.290	0.0	33	60 min Summer	31.908	0.0	62	120 min Summer	19.755	0.0	122	180 min Summer	14.804	0.0	180	240 min Summer	12.028	0.0	238	360 min Summer	8.957	0.0	294	480 min Summer	7.262	0.0	358	600 min Summer	6.168	0.0	424	720 min Summer	5.396	0.0	492	960 min Summer	4.369	0.0	634	1440 min Summer	3.241	0.0	906	2160 min Summer	2.402	0.0	1296	2880 min Summer	1.942	0.0	1672	4320 min Summer	1.437	0.0	2340	5760 min Summer	1.161	0.0	3000	7200 min Summer	0.983	0.0	3744	8640 min Summer	0.859	0.0	4416	10080 min Summer	0.766	0.0	5152	15 min Winter	76.214	0.0	18
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Robert Clark Associates					Page 2	
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Date 15 July 2020 File Permeable Paving.SRCX			Designed by RC Checked by			
Micro Drainage			Source Control 2016.1			
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	6.750	0.090	0.4	7.7	O K	
60 min Winter	6.775	0.115	0.4	9.8	O K	
120 min Winter	6.798	0.138	0.4	11.8	O K	
180 min Winter	6.810	0.150	0.4	12.8	Flood Risk	
240 min Winter	6.816	0.156	0.4	13.3	Flood Risk	
360 min Winter	6.820	0.160	0.4	13.7	Flood Risk	
480 min Winter	6.821	0.161	0.4	13.7	Flood Risk	
600 min Winter	6.820	0.160	0.4	13.7	Flood Risk	
720 min Winter	6.818	0.158	0.4	13.5	Flood Risk	
960 min Winter	6.811	0.151	0.4	12.9	Flood Risk	
1440 min Winter	6.793	0.133	0.4	11.3	O K	
2160 min Winter	6.763	0.103	0.4	8.8	O K	
2880 min Winter	6.737	0.077	0.4	6.6	O K	
4320 min Winter	6.708	0.048	0.3	4.1	O K	
5760 min Winter	6.700	0.040	0.3	3.4	O K	
7200 min Winter	6.694	0.034	0.2	2.9	O K	
8640 min Winter	6.690	0.030	0.2	2.5	O K	
10080 min Winter	6.686	0.026	0.2	2.3	O K	
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)			
30 min Winter	50.290	0.0	33			
60 min Winter	31.908	0.0	62			
120 min Winter	19.755	0.0	120			
180 min Winter	14.804	0.0	176			
240 min Winter	12.028	0.0	232			
360 min Winter	8.957	0.0	338			
480 min Winter	7.262	0.0	384			
600 min Winter	6.168	0.0	460			
720 min Winter	5.396	0.0	536			
960 min Winter	4.369	0.0	690			
1440 min Winter	3.241	0.0	980			
2160 min Winter	2.402	0.0	1380			
2880 min Winter	1.942	0.0	1732			
4320 min Winter	1.437	0.0	2332			
5760 min Winter	1.161	0.0	3048			
7200 min Winter	0.983	0.0	3752			
8640 min Winter	0.859	0.0	4488			
10080 min Winter	0.766	0.0	5240			
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Robert Clark Associates		Page 3
Willow Cottage Herne Lane Rustington BN16 3EE	99 Victoria Drive Bognor Regis Permeable paving	
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Micro Drainage Source Control 2016.1		

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) 0.045

Time (mins)	Area
From: To:	(ha)
0 4	0.045

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Robert Clark Associates		Page 4																								
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<u>Model Details</u> Storage is Online Cover Level (m) 7.100 <u>Porous Car Park Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.01824</td> <td>Width (m)</td> <td>15.0</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>19.0</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>79.2</td> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Safety Factor</td> <td>4.0</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>6.660</td> <td>Membrane Depth (m)</td> <td>0</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.01824	Width (m)	15.0	Membrane Percolation (mm/hr)	1000	Length (m)	19.0	Max Percolation (l/s)	79.2	Slope (1:X)	0.0	Safety Factor	4.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	6.660	Membrane Depth (m)	0
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