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K</td></tr><tr><td>360 min Summer</td><td>9.350</td><td>0.000</td><td>0.0</td><td>1.1</td><td>1.1</td><td>0.0</td><td>O K</td></tr><tr><td>480 min Summer</td><td>9.350</td><td>0.000</td><td>0.0</td><td>0.9</td><td>0.9</td><td>0.0</td><td>O K</td></tr><tr><td>600 min Summer</td><td>9.350</td><td>0.000</td><td>0.0</td><td>0.7</td><td>0.7</td><td>0.0</td><td>O K</td></tr><tr><td>720 min Summer</td><td>9.350</td><td>0.000</td><td>0.0</td><td>0.7</td><td>0.7</td><td>0.0</td><td>O K</td></tr><tr><td>960 min Summer</td><td>9.350</td><td>0.000</td><td>0.0</td><td>0.5</td><td>0.5</td><td>0.0</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>9.350</td><td>0.000</td><td>0.0</td><td>0.4</td><td>0.4</td><td>0.0</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>9.350</td><td>0.000</td><td>0.0</td><td>0.3</td><td>0.3</td><td>0.0</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>9.350</td><td>0.000</td><td>0.0</td><td>0.2</td><td>0.2</td><td>0.0</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>9.350</td><td>0.000</td><td>0.0</td><td>0.2</td><td>0.2</td><td>0.0</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>9.350</td><td>0.000</td><td>0.0</td><td>0.2</td><td>0.2</td><td>0.0</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>9.350</td><td>0.000</td><td>0.0</td><td>0.1</td><td>0.1</td><td>0.0</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>9.350</td><td>0.000</td><td>0.0</td><td>0.1</td><td>0.1</td><td>0.0</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>9.350</td><td>0.000</td><td>0.0</td><td>0.1</td><td>0.1</td><td>0.0</td><td>O K</td></tr><tr><td>15 min Winter</td><td>9.507</td><td>0.157</td><td>0.0</td><td>2.0</td><td>2.0</td><td>0.5</td><td>O K</td></tr></table> <table><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Discharge Volume (m³)</th><th>Time-Peak (mins)</th></tr><tr><td>15 min Summer</td><td>99.754</td><td>0.0</td><td>1.4</td><td>12</td></tr><tr><td>30 min Summer</td><td>72.068</td><td>0.0</td><td>2.1</td><td>20</td></tr><tr><td>60 min Summer</td><td>49.937</td><td>0.0</td><td>2.9</td><td>36</td></tr><tr><td>120 min Summer</td><td>33.188</td><td>0.0</td><td>3.9</td><td>64</td></tr><tr><td>180 min Summer</td><td>25.481</td><td>0.0</td><td>4.5</td><td>0</td></tr><tr><td>240 min Summer</td><td>21.086</td><td>0.0</td><td>5.0</td><td>0</td></tr><tr><td>360 min Summer</td><td>16.085</td><td>0.0</td><td>5.7</td><td>0</td></tr><tr><td>480 min Summer</td><td>13.239</td><td>0.0</td><td>6.3</td><td>0</td></tr><tr><td>600 min Summer</td><td>11.366</td><td>0.0</td><td>6.8</td><td>0</td></tr><tr><td>720 min Summer</td><td>10.024</td><td>0.0</td><td>7.2</td><td>0</td></tr><tr><td>960 min Summer</td><td>8.207</td><td>0.0</td><td>7.8</td><td>0</td></tr><tr><td>1440 min Summer</td><td>6.169</td><td>0.0</td><td>8.8</td><td>0</td></tr><tr><td>2160 min Summer</td><td>4.625</td><td>0.0</td><td>9.9</td><td>0</td></tr><tr><td>2880 min 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Summer	9.350	0.000	0.0	1.1	1.1	0.0	O K	480 min Summer	9.350	0.000	0.0	0.9	0.9	0.0	O K	600 min Summer	9.350	0.000	0.0	0.7	0.7	0.0	O K	720 min Summer	9.350	0.000	0.0	0.7	0.7	0.0	O K	960 min Summer	9.350	0.000	0.0	0.5	0.5	0.0	O K	1440 min Summer	9.350	0.000	0.0	0.4	0.4	0.0	O K	2160 min Summer	9.350	0.000	0.0	0.3	0.3	0.0	O K	2880 min Summer	9.350	0.000	0.0	0.2	0.2	0.0	O K	4320 min Summer	9.350	0.000	0.0	0.2	0.2	0.0	O K	5760 min Summer	9.350	0.000	0.0	0.2	0.2	0.0	O K	7200 min Summer	9.350	0.000	0.0	0.1	0.1	0.0	O K	8640 min Summer	9.350	0.000	0.0	0.1	0.1	0.0	O K	10080 min Summer	9.350	0.000	0.0	0.1	0.1	0.0	O K	15 min Winter	9.507	0.157	0.0	2.0	2.0	0.5	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	15 min Summer	99.754	0.0	1.4	12	30 min Summer	72.068	0.0	2.1	20	60 min Summer	49.937	0.0	2.9	36	120 min Summer	33.188	0.0	3.9	64	180 min Summer	25.481	0.0	4.5	0	240 min Summer	21.086	0.0	5.0	0	360 min Summer	16.085	0.0	5.7	0	480 min 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<u>Summary of Results for 100 year Return Period (+30%)</u>							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	9.497	0.147	0.0	1.9	1.9	0.4	O K
60 min Winter	9.411	0.061	0.0	1.9	1.9	0.2	O K
120 min Winter	9.350	0.000	0.0	1.6	1.6	0.0	O K
180 min Winter	9.350	0.000	0.0	1.2	1.2	0.0	O K
240 min Winter	9.350	0.000	0.0	1.0	1.0	0.0	O K
360 min Winter	9.350	0.000	0.0	0.8	0.8	0.0	O K
480 min Winter	9.350	0.000	0.0	0.6	0.6	0.0	O K
600 min Winter	9.350	0.000	0.0	0.5	0.5	0.0	O K
720 min Winter	9.350	0.000	0.0	0.5	0.5	0.0	O K
960 min Winter	9.350	0.000	0.0	0.4	0.4	0.0	O K
1440 min Winter	9.350	0.000	0.0	0.3	0.3	0.0	O K
2160 min Winter	9.350	0.000	0.0	0.2	0.2	0.0	O K
2880 min Winter	9.350	0.000	0.0	0.2	0.2	0.0	O K
4320 min Winter	9.350	0.000	0.0	0.1	0.1	0.0	O K
5760 min Winter	9.350	0.000	0.0	0.1	0.1	0.0	O K
7200 min Winter	9.350	0.000	0.0	0.1	0.1	0.0	O K
8640 min Winter	9.350	0.000	0.0	0.1	0.1	0.0	O K
10080 min Winter	9.350	0.000	0.0	0.1	0.1	0.0	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)			
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<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FSR</td> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Region</td> <td>England and Wales</td> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>M5-60 (mm)</td> <td>19.000</td> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Ratio R</td> <td>0.229</td> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> <td>Climate Change %</td> <td>+30</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.008 <table> <thead> <tr> <th colspan="2">Time (mins)</th> <th>Area</th> </tr> <tr> <th>From:</th> <th>To:</th> <th>(ha)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4</td> <td>0.008</td> </tr> </tbody> </table>			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)	19.000	Shortest Storm (mins)	15	Ratio R	0.229	Longest Storm (mins)	10080	Summer Storms	Yes	Climate Change %	+30	Time (mins)		Area	From:	To:	(ha)	0	4	0.008
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M5-60 (mm)	19.000	Shortest Storm (mins)	15																																
Ratio R	0.229	Longest Storm (mins)	10080																																
Summer Storms	Yes	Climate Change %	+30																																
Time (mins)		Area																																	
From:	To:	(ha)																																	
0	4	0.008																																	
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CB3 Consult Ltd		Page 4
7 St James Crescent Swansea Wales SA1 6DP	Proposed Housing Development 26 Alfred Street Neath	
Date 13/08/2020 File C1616 - Porous Paving_2...	Designed by IH Checked by DH	
XP Solutions Source Control 2019.1		

Model Details

Storage is Online Cover Level (m) 9.700

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	3.1
Membrane Percolation (mm/hr)	1000	Length (m)	3.1
Max Percolation (l/s)	2.7	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	9.350	Cap Volume Depth (m)	0.350

Orifice Outflow Control

Diameter (m) 0.030 Discharge Coefficient 0.600 Invert Level (m) 8.410

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