

The Civil Engineering Practice					Page 1																																																																																																																																																																																																																		
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<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 374 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>8.742</td><td>0.142</td><td>0.0</td><td>0.5</td><td>Flood Risk</td></tr><tr><td>30 min Summer</td><td>8.790</td><td>0.190</td><td>0.0</td><td>0.6</td><td>Flood Risk</td></tr><tr><td>60 min Summer</td><td>8.839</td><td>0.239</td><td>0.0</td><td>0.8</td><td>Flood Risk</td></tr><tr><td>120 min Summer</td><td>8.882</td><td>0.282</td><td>0.0</td><td>0.9</td><td>Flood Risk</td></tr><tr><td>180 min Summer</td><td>8.898</td><td>0.298</td><td>0.0</td><td>1.0</td><td>Flood Risk</td></tr><tr><td>240 min Summer</td><td>8.904</td><td>0.304</td><td>0.0</td><td>1.0</td><td>Flood Risk</td></tr><tr><td>360 min Summer</td><td>8.907</td><td>0.307</td><td>0.0</td><td>1.0</td><td>Flood Risk</td></tr><tr><td>480 min 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Summer</td><td>8.688</td><td>0.088</td><td>0.0</td><td>0.3</td><td>0 K</td></tr><tr><td>8640 min Summer</td><td>8.668</td><td>0.068</td><td>0.0</td><td>0.2</td><td>0 K</td></tr><tr><td>10080 min Summer</td><td>8.655</td><td>0.055</td><td>0.0</td><td>0.2</td><td>0 K</td></tr><tr><td>15 min Winter</td><td>8.759</td><td>0.159</td><td>0.0</td><td>0.5</td><td>Flood Risk</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>130.732</td><td>0.0</td><td>22</td></tr><tr><td>30 min Summer</td><td>88.861</td><td>0.0</td><td>36</td></tr><tr><td>60 min Summer</td><td>57.587</td><td>0.0</td><td>66</td></tr><tr><td>120 min Summer</td><td>35.900</td><td>0.0</td><td>124</td></tr><tr><td>180 min Summer</td><td>26.741</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>21.608</td><td>0.0</td><td>240</td></tr><tr><td>360 min 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XP Solutions			Source Control 2016.1			
Summary of Results for 100 year Return Period (+40%)						
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	
30 min Winter	8.814	0.214	0.0	0.7	Flood Risk	
60 min Winter	8.870	0.270	0.0	0.9	Flood Risk	
120 min Winter	8.920	0.320	0.0	1.1	Flood Risk	
180 min Winter	8.940	0.340	0.0	1.1	Flood Risk	
240 min Winter	8.948	0.348	0.0	1.2	Flood Risk	
360 min Winter	8.952	0.352	0.0	1.2	Flood Risk	
480 min Winter	8.950	0.350	0.0	1.2	Flood Risk	
600 min Winter	8.946	0.346	0.0	1.2	Flood Risk	
720 min Winter	8.940	0.340	0.0	1.1	Flood Risk	
960 min Winter	8.924	0.324	0.0	1.1	Flood Risk	
1440 min Winter	8.889	0.289	0.0	1.0	Flood Risk	
2160 min Winter	8.838	0.238	0.0	0.8	Flood Risk	
2880 min Winter	8.795	0.195	0.0	0.6	Flood Risk	
4320 min Winter	8.727	0.127	0.0	0.4	Flood Risk	
5760 min Winter	8.680	0.080	0.0	0.3	0 K	
7200 min Winter	8.652	0.052	0.0	0.2	0 K	
8640 min Winter	8.645	0.045	0.0	0.1	0 K	
10080 min Winter	8.640	0.040	0.0	0.1	0 K	
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)			
30 min Winter	88.861	0.0	36			
60 min Winter	57.587	0.0	64			
120 min Winter	35.900	0.0	122			
180 min Winter	26.741	0.0	178			
240 min Winter	21.608	0.0	234			
360 min Winter	15.995	0.0	338			
480 min Winter	12.897	0.0	382			
600 min Winter	10.903	0.0	458			
720 min Winter	9.500	0.0	536			
960 min Winter	7.635	0.0	688			
1440 min Winter	5.598	0.0	984			
2160 min Winter	4.095	0.0	1408			
2880 min Winter	3.275	0.0	1796			
4320 min Winter	2.386	0.0	2552			
5760 min Winter	1.908	0.0	3232			
7200 min Winter	1.605	0.0	3816			
8640 min Winter	1.393	0.0	4416			
10080 min Winter	1.236	0.0	5152			
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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)	20.300	Shortest Storm (mins)	15
Ratio R	0.326	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.002

Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)
0 4	0.001	4 8	0.001

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Model Details

Storage is Online Cover Level (m) 9.000

Cellular Storage Structure

Invert Level (m) 8.600 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.03312 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.03312

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	3.5	3.5	0.400	3.5	7.1

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