

MJA Consulting				Page 1																																																																																																																																																																																																																			
Monarch House Barton Lane OX14 3NB		Swale 6																																																																																																																																																																																																																					
Date 07/03/2018 12:39 File Swale 6.srcx		Designed by stewart Checked by																																																																																																																																																																																																																					
Innovyze		Source Control 2017.1.2																																																																																																																																																																																																																					
Summary of Results for 100 year Return Period (+40%) Half Drain Time : 210 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>99.600</td><td>1.200</td><td>4.8</td><td>67.3</td><td>O K</td></tr><tr><td>30 min Summer</td><td>99.704</td><td>1.304</td><td>5.7</td><td>87.8</td><td>Flood Risk</td></tr><tr><td>60 min Summer</td><td>99.776</td><td>1.376</td><td>6.3</td><td>106.4</td><td>Flood Risk</td></tr><tr><td>120 min Summer</td><td>99.819</td><td>1.419</td><td>6.5</td><td>118.8</td><td>Flood Risk</td></tr><tr><td>180 min Summer</td><td>99.827</td><td>1.427</td><td>6.5</td><td>121.2</td><td>Flood Risk</td></tr><tr><td>240 min Summer</td><td>99.828</td><td>1.428</td><td>6.5</td><td>121.5</td><td>Flood Risk</td></tr><tr><td>360 min Summer</td><td>99.823</td><td>1.423</td><td>6.5</td><td>120.3</td><td>Flood Risk</td></tr><tr><td>480 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Summer</td><td>99.089</td><td>0.689</td><td>2.7</td><td>29.2</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>98.953</td><td>0.553</td><td>2.5</td><td>21.5</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>98.853</td><td>0.453</td><td>2.3</td><td>15.9</td><td>O K</td></tr><tr><td>15 min Winter</td><td>99.647</td><td>1.247</td><td>5.2</td><td>75.6</td><td>O K</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>134.746</td><td>0.0</td><td>18</td></tr><tr><td>30 min Summer</td><td>90.474</td><td>0.0</td><td>33</td></tr><tr><td>60 min Summer</td><td>57.877</td><td>0.0</td><td>62</td></tr><tr><td>120 min Summer</td><td>35.655</td><td>0.0</td><td>120</td></tr><tr><td>180 min Summer</td><td>26.413</td><td>0.0</td><td>152</td></tr><tr><td>240 min Summer</td><td>21.237</td><td>0.0</td><td>182</td></tr><tr><td>360 min 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Summer	98.853	0.453	2.3	15.9	O K	15 min Winter	99.647	1.247	5.2	75.6	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	134.746	0.0	18	30 min Summer	90.474	0.0	33	60 min Summer	57.877	0.0	62	120 min Summer	35.655	0.0	120	180 min Summer	26.413	0.0	152	240 min Summer	21.237	0.0	182	360 min Summer	15.626	0.0	250	480 min Summer	12.548	0.0	318	600 min Summer	10.575	0.0	386	720 min Summer	9.191	0.0	454	960 min Summer	7.358	0.0	588	1440 min Summer	5.368	0.0	850	2160 min Summer	3.907	0.0	1228	2880 min Summer	3.115	0.0	1588	4320 min Summer	2.259	0.0	2340	5760 min Summer	1.796	0.0	3120	7200 min Summer	1.506	0.0	3824	8640 min Summer	1.304	0.0	4576	10080 min Summer	1.154	0.0	5248	15 min Winter	134.746	0.0	18
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MJA Consulting				Page 2	
Monarch House Barton Lane OX14 3NB		Swale 6			
Date 07/03/2018 12:39 File Swale 6.srcx		Designed by stewart Checked by			
Innovyze		Source Control 2017.1.2			
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	99.748	1.348		6.2 98.9	Flood Risk
60 min Winter	99.824	1.424		6.5 120.6	Flood Risk
120 min Winter	99.874	1.474		6.8 136.1	Flood Risk
180 min Winter	99.883	1.483		6.8 139.1	Flood Risk
240 min Winter	99.882	1.482		6.8 138.6	Flood Risk
360 min Winter	99.874	1.474		6.8 136.2	Flood Risk
480 min Winter	99.859	1.459		6.7 131.3	Flood Risk
600 min Winter	99.840	1.440		6.6 125.4	Flood Risk
720 min Winter	99.820	1.420		6.5 119.2	Flood Risk
960 min Winter	99.779	1.379		6.3 107.4	Flood Risk
1440 min Winter	99.709	1.309		5.8 88.9	Flood Risk
2160 min Winter	99.619	1.219		4.9 70.5	O K
2880 min Winter	99.538	1.138		4.2 58.7	O K
4320 min Winter	99.328	0.928		3.0 42.6	O K
5760 min Winter	99.045	0.645		2.6 26.7	O K
7200 min Winter	98.851	0.451		2.3 15.8	O K
8640 min Winter	98.739	0.339		2.1 9.5	O K
10080 min Winter	98.705	0.305		1.9 7.7	O K
Storm Event		Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	
30 min Winter		90.474	0.0	32	
60 min Winter		57.877	0.0	60	
120 min Winter		35.655	0.0	118	
180 min Winter		26.413	0.0	170	
240 min Winter		21.237	0.0	192	
360 min Winter		15.626	0.0	270	
480 min Winter		12.548	0.0	344	
600 min Winter		10.575	0.0	418	
720 min Winter		9.191	0.0	490	
960 min Winter		7.358	0.0	626	
1440 min Winter		5.368	0.0	894	
2160 min Winter		3.907	0.0	1276	
2880 min Winter		3.115	0.0	1648	
4320 min Winter		2.259	0.0	2468	
5760 min Winter		1.796	0.0	3224	
7200 min Winter		1.506	0.0	3888	
8640 min Winter		1.304	0.0	4416	
10080 min Winter		1.154	0.0	5144	
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MJA Consulting		Page 3
Monarch House Barton Lane OX14 3NB	Swale 6	
Date 07/03/2018 12:39 File Swale 6.srcx	Designed by stewart Checked by	
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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)	20.400	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.279

Time (mins)	Area
From:	To: (ha)
0	4 0.279

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MJA Consulting		Page 4
Monarch House Barton Lane OX14 3NB	Swale 6	
Date 07/03/2018 12:39 File Swale 6.srcx	Designed by stewart Checked by	
Innovyze Source Control 2017.1.2		

Model Details

Storage is Online Cover Level (m) 100.000

Complex Structure

Trench Soakaway

Infiltration Coefficient Base (m/hr) 0.07200	Trench Width (m) 2.5
Infiltration Coefficient Side (m/hr) 0.07200	Trench Length (m) 75.0
Safety Factor 2.0	Slope (1:X) 220.0
Porosity 0.30	Cap Volume Depth (m) 1.000
Invert Level (m) 98.400	Cap Infiltration Depth (m) 1.000

Swale

Infiltration Coefficient Base (m/hr) 0.07200	Length (m) 75.0
Infiltration Coefficient Side (m/hr) 0.07200	Side Slope (1:X) 3.0
Safety Factor 2.0	Slope (1:X) 220.0
Porosity 1.00	Cap Volume Depth (m) 0.000
Invert Level (m) 99.400	Cap Infiltration Depth (m) 0.000
Base Width (m) 2.5	

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