

Eastwood & Partners			Page 1																																																																																																																																																																																																
St Andrew's House 23 Kingfield Road Sheffield S11 9AS		Newett Homes Thurlstone HSA2 - 820m2																																																																																																																																																																																																	
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Summary of Results for 100 year Return Period (+30%) Half Drain Time : 18 minutes. <table><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><tr><td>15 min Summer</td><td>229.020</td><td>1.920</td><td>9.4</td><td>13.5</td><td>O K</td></tr><tr><td>30 min Summer</td><td>229.302</td><td>2.202</td><td>10.8</td><td>15.5</td><td>Flood Risk</td></tr><tr><td>60 min Summer</td><td>229.371</td><td>2.271</td><td>11.1</td><td>16.0</td><td>Flood Risk</td></tr><tr><td>120 min Summer</td><td>229.170</td><td>2.070</td><td>10.1</td><td>14.6</td><td>O K</td></tr><tr><td>180 min Summer</td><td>228.940</td><td>1.840</td><td>9.0</td><td>13.0</td><td>O K</td></tr><tr><td>240 min Summer</td><td>228.750</td><td>1.650</td><td>8.1</td><td>11.6</td><td>O K</td></tr><tr><td>360 min Summer</td><td>228.470</td><td>1.370</td><td>6.7</td><td>9.7</td><td>O K</td></tr><tr><td>480 min Summer</td><td>228.281</td><td>1.181</td><td>5.8</td><td>8.3</td><td>O K</td></tr><tr><td>600 min Summer</td><td>228.141</td><td>1.041</td><td>5.1</td><td>7.3</td><td>O K</td></tr><tr><td>720 min Summer</td><td>228.034</td><td>0.934</td><td>4.6</td><td>6.6</td><td>O K</td></tr><tr><td>960 min Summer</td><td>227.878</td><td>0.778</td><td>3.8</td><td>5.5</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>227.694</td><td>0.594</td><td>2.9</td><td>4.2</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>227.544</td><td>0.444</td><td>2.2</td><td>3.1</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>227.459</td><td>0.359</td><td>1.8</td><td>2.5</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>227.362</td><td>0.262</td><td>1.3</td><td>1.9</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>227.309</td><td>0.209</td><td>1.0</td><td>1.5</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>227.275</td><td>0.175</td><td>0.9</td><td>1.2</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>227.251</td><td>0.151</td><td>0.7</td><td>1.1</td><td>O K</td></tr></table> <table><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr><tr><td>15 min Summer</td><td>117.331</td><td>0.0</td><td>14</td></tr><tr><td>30 min Summer</td><td>78.355</td><td>0.0</td><td>23</td></tr><tr><td>60 min Summer</td><td>49.937</td><td>0.0</td><td>40</td></tr><tr><td>120 min Summer</td><td>30.753</td><td>0.0</td><td>72</td></tr><tr><td>180 min Summer</td><td>22.834</td><td>0.0</td><td>104</td></tr><tr><td>240 min Summer</td><td>18.364</td><td>0.0</td><td>134</td></tr><tr><td>360 min Summer</td><td>13.448</td><td>0.0</td><td>196</td></tr><tr><td>480 min Summer</td><td>10.781</td><td>0.0</td><td>256</td></tr><tr><td>600 min Summer</td><td>9.076</td><td>0.0</td><td>316</td></tr><tr><td>720 min Summer</td><td>7.880</td><td>0.0</td><td>376</td></tr><tr><td>960 min Summer</td><td>6.301</td><td>0.0</td><td>500</td></tr><tr><td>1440 min Summer</td><td>4.589</td><td>0.0</td><td>736</td></tr><tr><td>2160 min Summer</td><td>3.335</td><td>0.0</td><td>1104</td></tr><tr><td>2880 min Summer</td><td>2.656</td><td>0.0</td><td>1468</td></tr><tr><td>4320 min Summer</td><td>1.924</td><td>0.0</td><td>2200</td></tr><tr><td>5760 min Summer</td><td>1.529</td><td>0.0</td><td>2936</td></tr><tr><td>7200 min Summer</td><td>1.278</td><td>0.0</td><td>3672</td></tr><tr><td>8640 min Summer</td><td>1.104</td><td>0.0</td><td>4400</td></tr></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	229.020	1.920	9.4	13.5	O K	30 min Summer	229.302	2.202	10.8	15.5	Flood Risk	60 min Summer	229.371	2.271	11.1	16.0	Flood Risk	120 min Summer	229.170	2.070	10.1	14.6	O K	180 min Summer	228.940	1.840	9.0	13.0	O K	240 min Summer	228.750	1.650	8.1	11.6	O K	360 min Summer	228.470	1.370	6.7	9.7	O K	480 min Summer	228.281	1.181	5.8	8.3	O K	600 min Summer	228.141	1.041	5.1	7.3	O K	720 min Summer	228.034	0.934	4.6	6.6	O K	960 min Summer	227.878	0.778	3.8	5.5	O K	1440 min Summer	227.694	0.594	2.9	4.2	O K	2160 min Summer	227.544	0.444	2.2	3.1	O K	2880 min Summer	227.459	0.359	1.8	2.5	O K	4320 min Summer	227.362	0.262	1.3	1.9	O K	5760 min Summer	227.309	0.209	1.0	1.5	O K	7200 min Summer	227.275	0.175	0.9	1.2	O K	8640 min Summer	227.251	0.151	0.7	1.1	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	117.331	0.0	14	30 min Summer	78.355	0.0	23	60 min Summer	49.937	0.0	40	120 min Summer	30.753	0.0	72	180 min Summer	22.834	0.0	104	240 min Summer	18.364	0.0	134	360 min Summer	13.448	0.0	196	480 min Summer	10.781	0.0	256	600 min Summer	9.076	0.0	316	720 min Summer	7.880	0.0	376	960 min Summer	6.301	0.0	500	1440 min Summer	4.589	0.0	736	2160 min Summer	3.335	0.0	1104	2880 min Summer	2.656	0.0	1468	4320 min Summer	1.924	0.0	2200	5760 min Summer	1.529	0.0	2936	7200 min Summer	1.278	0.0	3672	8640 min Summer	1.104	0.0	4400
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St Andrew's House 23 Kingfield Road Sheffield S11 9AS		Newett Homes Thurlstone HSA2 - 820m2			
Date April 19 File HSA2.srcx		Designed by CH Checked by			
Micro Drainage		Source Control 2016.1			
Summary of Results for 100 year Return Period (+30%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
10080 min Summer	227.234	0.134	0.7	0.9	O K
15 min Winter	229.253	2.153	10.5	15.2	Flood Risk
30 min Winter	229.528	2.428	11.9	17.1	Flood Risk
60 min Winter	229.506	2.406	11.8	17.0	Flood Risk
120 min Winter	229.155	2.055	10.1	14.5	O K
180 min Winter	228.847	1.747	8.6	12.3	O K
240 min Winter	228.610	1.510	7.4	10.7	O K
360 min Winter	228.291	1.191	5.8	8.4	O K
480 min Winter	228.090	0.990	4.8	7.0	O K
600 min Winter	227.951	0.851	4.2	6.0	O K
720 min Winter	227.848	0.748	3.7	5.3	O K
960 min Winter	227.707	0.607	3.0	4.3	O K
1440 min Winter	227.548	0.448	2.2	3.2	O K
2160 min Winter	227.428	0.328	1.6	2.3	O K
2880 min Winter	227.362	0.262	1.3	1.8	O K
4320 min Winter	227.290	0.190	0.9	1.3	O K
5760 min Winter	227.251	0.151	0.7	1.1	O K
7200 min Winter	227.226	0.126	0.6	0.9	O K
8640 min Winter	227.209	0.109	0.5	0.8	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
10080 min Summer	0.976	0.0	5128		
15 min Winter	117.331	0.0	15		
30 min Winter	78.355	0.0	24		
60 min Winter	49.937	0.0	42		
120 min Winter	30.753	0.0	76		
180 min Winter	22.834	0.0	108		
240 min Winter	18.364	0.0	140		
360 min Winter	13.448	0.0	200		
480 min Winter	10.781	0.0	262		
600 min Winter	9.076	0.0	322		
720 min Winter	7.880	0.0	382		
960 min Winter	6.301	0.0	502		
1440 min Winter	4.589	0.0	738		
2160 min Winter	3.335	0.0	1104		
2880 min Winter	2.656	0.0	1468		
4320 min Winter	1.924	0.0	2188		
5760 min Winter	1.529	0.0	2928		
7200 min Winter	1.278	0.0	3672		
8640 min Winter	1.104	0.0	4328		
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Micro Drainage		Source Control 2016.1			
<u>Summary of Results for 100 year Return Period (+30%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
10080 min Winter	227.197	0.097	0.5	0.7	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
10080 min Winter	0.976	0.0	5056		
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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)	19.000	Shortest Storm (mins)	15
Ratio R	0.364	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.082

Time (mins)	Area
From:	To: (ha)
0	4 0.082

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Micro Drainage Source Control 2016.1																						
<u>Model Details</u> Storage is Online Cover Level (m) 229.550 <u>Lined Soakaway Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.00000</td> <td>Ring Diameter (m)</td> <td>2.40</td> </tr> <tr> <td>Infiltration Coefficient Side (m/hr)</td> <td>2.44800</td> <td>Pit Multiplier</td> <td>1.5</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Number Required</td> <td>1</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Cap Volume Depth (m)</td> <td>0.000</td> </tr> <tr> <td>Invert Level (m)</td> <td>227.100</td> <td>Cap Infiltration Depth (m)</td> <td>0.000</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.00000	Ring Diameter (m)	2.40	Infiltration Coefficient Side (m/hr)	2.44800	Pit Multiplier	1.5	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	0.000	Invert Level (m)	227.100	Cap Infiltration Depth (m)	0.000
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