

Topping Engineers Ltd					Page 1																																																																																																																																																																																																																			
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<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 19 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>98.247</td><td>0.247</td><td>6.0</td><td>8.4</td><td>O K</td></tr><tr><td>30 min Summer</td><td>98.311</td><td>0.311</td><td>6.2</td><td>10.7</td><td>O K</td></tr><tr><td>60 min Summer</td><td>98.344</td><td>0.344</td><td>6.3</td><td>11.8</td><td>O K</td></tr><tr><td>120 min Summer</td><td>98.333</td><td>0.333</td><td>6.3</td><td>11.4</td><td>O K</td></tr><tr><td>180 min Summer</td><td>98.296</td><td>0.296</td><td>6.2</td><td>10.1</td><td>O K</td></tr><tr><td>240 min Summer</td><td>98.251</td><td>0.251</td><td>6.0</td><td>8.6</td><td>O K</td></tr><tr><td>360 min Summer</td><td>98.173</td><td>0.173</td><td>5.7</td><td>5.9</td><td>O K</td></tr><tr><td>480 min Summer</td><td>98.115</td><td>0.115</td><td>5.5</td><td>3.9</td><td>O K</td></tr><tr><td>600 min Summer</td><td>98.075</td><td>0.075</td><td>5.3</td><td>2.6</td><td>O K</td></tr><tr><td>720 min Summer</td><td>98.052</td><td>0.052</td><td>5.3</td><td>1.8</td><td>O K</td></tr><tr><td>960 min Summer</td><td>98.042</td><td>0.042</td><td>4.4</td><td>1.5</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>98.032</td><td>0.032</td><td>3.4</td><td>1.1</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>98.024</td><td>0.024</td><td>2.5</td><td>0.8</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>98.020</td><td>0.020</td><td>2.1</td><td>0.7</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>98.015</td><td>0.015</td><td>1.5</td><td>0.5</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>98.012</td><td>0.012</td><td>1.2</td><td>0.4</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>98.010</td><td>0.010</td><td>1.1</td><td>0.3</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>98.009</td><td>0.009</td><td>1.0</td><td>0.3</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>98.008</td><td>0.008</td><td>0.9</td><td>0.3</td><td>O K</td></tr><tr><td>15 min Winter</td><td>98.283</td><td>0.283</td><td>6.1</td><td>9.7</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>94.384</td><td>0.0</td><td>17</td></tr><tr><td>30 min Summer</td><td>67.583</td><td>0.0</td><td>27</td></tr><tr><td>60 min Summer</td><td>46.318</td><td>0.0</td><td>44</td></tr><tr><td>120 min Summer</td><td>30.734</td><td>0.0</td><td>78</td></tr><tr><td>180 min Summer</td><td>23.775</td><td>0.0</td><td>112</td></tr><tr><td>240 min Summer</td><td>19.626</td><td>0.0</td><td>142</td></tr><tr><td>360 min Summer</td><td>14.865</td><td>0.0</td><td>204</td></tr><tr><td>480 min Summer</td><td>12.201</td><td>0.0</td><td>262</td></tr><tr><td>600 min 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Summer	98.311	0.311	6.2	10.7	O K	60 min Summer	98.344	0.344	6.3	11.8	O K	120 min Summer	98.333	0.333	6.3	11.4	O K	180 min Summer	98.296	0.296	6.2	10.1	O K	240 min Summer	98.251	0.251	6.0	8.6	O K	360 min Summer	98.173	0.173	5.7	5.9	O K	480 min Summer	98.115	0.115	5.5	3.9	O K	600 min Summer	98.075	0.075	5.3	2.6	O K	720 min Summer	98.052	0.052	5.3	1.8	O K	960 min Summer	98.042	0.042	4.4	1.5	O K	1440 min Summer	98.032	0.032	3.4	1.1	O K	2160 min Summer	98.024	0.024	2.5	0.8	O K	2880 min Summer	98.020	0.020	2.1	0.7	O K	4320 min Summer	98.015	0.015	1.5	0.5	O K	5760 min Summer	98.012	0.012	1.2	0.4	O K	7200 min Summer	98.010	0.010	1.1	0.3	O K	8640 min Summer	98.009	0.009	1.0	0.3	O K	10080 min Summer	98.008	0.008	0.9	0.3	O K	15 min Winter	98.283	0.283	6.1	9.7	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	94.384	0.0	17	30 min Summer	67.583	0.0	27	60 min Summer	46.318	0.0	44	120 min Summer	30.734	0.0	78	180 min Summer	23.775	0.0	112	240 min 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960 min Winter	98.031	0.031	3.2	1.1	O K																																																																																																																																																																																														
1440 min Winter	98.023	0.023	2.4	0.8	O K																																																																																																																																																																																														
2160 min Winter	98.017	0.017	1.8	0.6	O K																																																																																																																																																																																														
2880 min Winter	98.014	0.014	1.5	0.5	O K																																																																																																																																																																																														
4320 min Winter	98.011	0.011	1.1	0.4	O K																																																																																																																																																																																														
5760 min Winter	98.009	0.009	0.9	0.3	O K																																																																																																																																																																																														
7200 min Winter	98.007	0.007	0.8	0.3	O K																																																																																																																																																																																														
8640 min Winter	98.007	0.007	0.7	0.2	O K																																																																																																																																																																																														
10080 min Winter	98.006	0.006	0.6	0.2	O K																																																																																																																																																																																														
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)																																																																																																																																																																																																
30 min Winter	67.583	0.0	28																																																																																																																																																																																																
60 min Winter	46.318	0.0	48																																																																																																																																																																																																
120 min Winter	30.734	0.0	84																																																																																																																																																																																																
180 min Winter	23.775	0.0	118																																																																																																																																																																																																
240 min Winter	19.626	0.0	150																																																																																																																																																																																																
360 min Winter	14.865	0.0	208																																																																																																																																																																																																
480 min Winter	12.201	0.0	248																																																																																																																																																																																																
600 min Winter	10.454	0.0	308																																																																																																																																																																																																
720 min Winter	9.207	0.0	366																																																																																																																																																																																																
960 min Winter	7.524	0.0	492																																																																																																																																																																																																
1440 min Winter	5.642	0.0	728																																																																																																																																																																																																
2160 min Winter	4.216	0.0	1104																																																																																																																																																																																																
2880 min Winter	3.421	0.0	1488																																																																																																																																																																																																
4320 min Winter	2.548	0.0	2168																																																																																																																																																																																																
5760 min Winter	2.070	0.0	2800																																																																																																																																																																																																
7200 min Winter	1.763	0.0	3680																																																																																																																																																																																																
8640 min Winter	1.547	0.0	4488																																																																																																																																																																																																
10080 min Winter	1.386	0.0	5024																																																																																																																																																																																																
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Topping Engineers Ltd		Page 3
Aire House 12 Victoria Avenue Harrogate, HG1 1ED		
Date 5/5/2022 08:43 File 22045 - Source Control.SRCX	Designed by TomA Checked by	
Innovyze Source Control 2020.1		

Model Details

Storage is Online Cover Level (m) 100.000

Cellular Storage Structure

Invert Level (m) 98.000 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 1.01400 Porosity 0.95
Infiltration Coefficient Side (m/hr) 1.01400

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	36.0	36.0	0.500	0.0	46.4
0.400	36.0	46.4			

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