

The Civil Engineering Practice					Page 1																																																																																																																																																																																																																			
11 Tungsten Building George Street Fishersgate BN41 1RA			Manor Nursery Angmering West Sussex																																																																																																																																																																																																																					
Date 23/09/2020 File Soakaway 6 Factor Safet...			Designed by S Burgess Checked by SRD																																																																																																																																																																																																																					
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Summary of Results for 100 year Return Period (+40%) Half Drain Time : 508 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>13.791</td><td>0.591</td><td>1.2</td><td>28.6</td><td>O K</td></tr><tr><td>30 min Summer</td><td>13.986</td><td>0.786</td><td>1.2</td><td>38.1</td><td>O K</td></tr><tr><td>60 min Summer</td><td>14.188</td><td>0.988</td><td>1.2</td><td>47.9</td><td>O K</td></tr><tr><td>120 min Summer</td><td>14.375</td><td>1.175</td><td>1.2</td><td>56.9</td><td>O K</td></tr><tr><td>180 min Summer</td><td>14.461</td><td>1.261</td><td>1.2</td><td>61.1</td><td>O K</td></tr><tr><td>240 min Summer</td><td>14.502</td><td>1.302</td><td>1.2</td><td>63.1</td><td>O K</td></tr><tr><td>360 min Summer</td><td>14.534</td><td>1.334</td><td>1.2</td><td>64.6</td><td>O K</td></tr><tr><td>480 min Summer</td><td>14.537</td><td>1.337</td><td>1.2</td><td>64.8</td><td>O K</td></tr><tr><td>600 min Summer</td><td>14.532</td><td>1.332</td><td>1.2</td><td>64.6</td><td>O K</td></tr><tr><td>720 min Summer</td><td>14.523</td><td>1.323</td><td>1.2</td><td>64.1</td><td>O K</td></tr><tr><td>960 min Summer</td><td>14.493</td><td>1.293</td><td>1.2</td><td>62.6</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>14.411</td><td>1.211</td><td>1.2</td><td>58.7</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>14.275</td><td>1.075</td><td>1.2</td><td>52.1</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>14.144</td><td>0.944</td><td>1.2</td><td>45.7</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>13.924</td><td>0.724</td><td>1.2</td><td>35.1</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>13.769</td><td>0.569</td><td>1.2</td><td>27.6</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>13.683</td><td>0.483</td><td>1.2</td><td>23.4</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>13.633</td><td>0.433</td><td>1.1</td><td>21.0</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>13.594</td><td>0.394</td><td>1.0</td><td>19.1</td><td>O K</td></tr><tr><td>15 min Winter</td><td>13.863</td><td>0.663</td><td>1.2</td><td>32.1</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>128.238</td><td>0.0</td><td>21</td></tr><tr><td>30 min Summer</td><td>86.178</td><td>0.0</td><td>35</td></tr><tr><td>60 min Summer</td><td>55.250</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>34.177</td><td>0.0</td><td>124</td></tr><tr><td>180 min Summer</td><td>25.410</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>20.436</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>15.037</td><td>0.0</td><td>360</td></tr><tr><td>480 min Summer</td><td>12.081</td><td>0.0</td><td>414</td></tr><tr><td>600 min 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Summer	13.986	0.786	1.2	38.1	O K	60 min Summer	14.188	0.988	1.2	47.9	O K	120 min Summer	14.375	1.175	1.2	56.9	O K	180 min Summer	14.461	1.261	1.2	61.1	O K	240 min Summer	14.502	1.302	1.2	63.1	O K	360 min Summer	14.534	1.334	1.2	64.6	O K	480 min Summer	14.537	1.337	1.2	64.8	O K	600 min Summer	14.532	1.332	1.2	64.6	O K	720 min Summer	14.523	1.323	1.2	64.1	O K	960 min Summer	14.493	1.293	1.2	62.6	O K	1440 min Summer	14.411	1.211	1.2	58.7	O K	2160 min Summer	14.275	1.075	1.2	52.1	O K	2880 min Summer	14.144	0.944	1.2	45.7	O K	4320 min Summer	13.924	0.724	1.2	35.1	O K	5760 min Summer	13.769	0.569	1.2	27.6	O K	7200 min Summer	13.683	0.483	1.2	23.4	O K	8640 min Summer	13.633	0.433	1.1	21.0	O K	10080 min Summer	13.594	0.394	1.0	19.1	O K	15 min Winter	13.863	0.663	1.2	32.1	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	128.238	0.0	21	30 min Summer	86.178	0.0	35	60 min Summer	55.250	0.0	64	120 min Summer	34.177	0.0	124	180 min Summer	25.410	0.0	182	240 min Summer	20.436	0.0	242	360 min Summer	15.037	0.0	360	480 min Summer	12.081	0.0	414	600 min Summer	10.185	0.0	476	720 min Summer	8.854	0.0	536	960 min Summer	7.093	0.0	670	1440 min Summer	5.178	0.0	940	2160 min Summer	3.772	0.0	1344	2880 min Summer	3.009	0.0	1732	4320 min Summer	2.184	0.0	2464	5760 min Summer	1.738	0.0	3120	7200 min Summer	1.455	0.0	3816	8640 min Summer	1.260	0.0	4504	10080 min Summer	1.115	0.0	5248	15 min Winter	128.238	0.0	21
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11 Tungsten Building George Street Fishersgate BN41 1RA		Manor Nursery Angmering West Sussex			
Date 23/09/2020 File Soakaway 6 Factor Safet...		Designed by S Burgess Checked by SRD			
Innovyze		Source Control 2020.1			
<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	14.084	0.884	1.2	42.8	O K
60 min Winter	14.313	1.113	1.2	53.9	O K
120 min Winter	14.528	1.328	1.2	64.4	O K
180 min Winter	14.631	1.431	1.2	69.3	O K
240 min Winter	14.683	1.483	1.2	71.8	O K
360 min Winter	14.732	1.532	1.2	74.2	O K
480 min Winter	14.740	1.540	1.2	74.6	O K
600 min Winter	14.725	1.525	1.2	73.9	O K
720 min Winter	14.707	1.507	1.2	73.0	O K
960 min Winter	14.662	1.462	1.2	70.8	O K
1440 min Winter	14.536	1.336	1.2	64.7	O K
2160 min Winter	14.324	1.124	1.2	54.5	O K
2880 min Winter	14.124	0.924	1.2	44.8	O K
4320 min Winter	13.810	0.610	1.2	29.5	O K
5760 min Winter	13.666	0.466	1.2	22.6	O K
7200 min Winter	13.600	0.400	1.0	19.4	O K
8640 min Winter	13.551	0.351	0.9	17.0	O K
10080 min Winter	13.514	0.314	0.8	15.2	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	86.178	0.0	35		
60 min Winter	55.250	0.0	64		
120 min Winter	34.177	0.0	122		
180 min Winter	25.410	0.0	180		
240 min Winter	20.436	0.0	236		
360 min Winter	15.037	0.0	350		
480 min Winter	12.081	0.0	458		
600 min Winter	10.185	0.0	554		
720 min Winter	8.854	0.0	576		
960 min Winter	7.093	0.0	726		
1440 min Winter	5.178	0.0	1026		
2160 min Winter	3.772	0.0	1452		
2880 min Winter	3.009	0.0	1848		
4320 min Winter	2.184	0.0	2516		
5760 min Winter	1.738	0.0	3168		
7200 min Winter	1.455	0.0	3888		
8640 min Winter	1.260	0.0	4584		
10080 min Winter	1.115	0.0	5344		
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11 Tungsten Building
George Street
Fishersgate BN41 1RA

Manor Nursery
Angmering
West Sussex



Date	23/09/2020
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Designed by S Burgess

File Soakaway 6 Factor Safet...

Checked by SRD

Innovyze

Source Control 2020.1

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)	19.500	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.062

Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)
0 4	0.044	4 8	0.018

Time Area Diagram

Total Area (ha) 0.061

Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)
0 4	0.047	4 8	0.014

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<u>Model Details</u> Storage is Online Cover Level (m) 16.000 <u>Infiltration Trench Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.00000</td> <td>Trench Width (m)</td> <td>3.0</td> </tr> <tr> <td>Infiltration Coefficient Side (m/hr)</td> <td>0.89280</td> <td>Trench Length (m)</td> <td>17.0</td> </tr> <tr> <td>Safety Factor</td> <td>4.0</td> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Porosity</td> <td>0.95</td> <td>Cap Volume Depth (m)</td> <td>1.600</td> </tr> <tr> <td>Invert Level (m)</td> <td>13.200</td> <td>Cap Infiltration Depth (m)</td> <td>0.500</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.00000	Trench Width (m)	3.0	Infiltration Coefficient Side (m/hr)	0.89280	Trench Length (m)	17.0	Safety Factor	4.0	Slope (1:X)	0.0	Porosity	0.95	Cap Volume Depth (m)	1.600	Invert Level (m)	13.200	Cap Infiltration Depth (m)	0.500
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