

Rodgers Leask Limited				Page 1																																																																																																																																																																																																																			
St James House St Mary's Wharf Mansfield Road Derby DE1 3TQ																																																																																																																																																																																																																							
Date 29/07/2019 09:42 File SOAKAWAY SIZING FOR SOU...																																																																																																																																																																																																																							
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Micro Drainage			Source Control 2016.1.1																																																																																																																																																																																																																				
Summary of Results for 10 year Return Period Half Drain Time : 712 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>38.541</td><td>0.191</td><td>0.8</td><td>28.2</td><td>O K</td></tr><tr><td>30 min Summer</td><td>38.596</td><td>0.246</td><td>0.8</td><td>36.2</td><td>O K</td></tr><tr><td>60 min Summer</td><td>38.649</td><td>0.299</td><td>0.8</td><td>44.1</td><td>O K</td></tr><tr><td>120 min Summer</td><td>38.699</td><td>0.349</td><td>0.8</td><td>51.5</td><td>O K</td></tr><tr><td>180 min Summer</td><td>38.725</td><td>0.375</td><td>0.8</td><td>55.2</td><td>O K</td></tr><tr><td>240 min Summer</td><td>38.740</td><td>0.390</td><td>0.8</td><td>57.4</td><td>O K</td></tr><tr><td>360 min Summer</td><td>38.753</td><td>0.403</td><td>0.8</td><td>59.3</td><td>O K</td></tr><tr><td>480 min Summer</td><td>38.755</td><td>0.405</td><td>0.8</td><td>59.7</td><td>O K</td></tr><tr><td>600 min Summer</td><td>38.752</td><td>0.402</td><td>0.8</td><td>59.2</td><td>O K</td></tr><tr><td>720 min Summer</td><td>38.748</td><td>0.398</td><td>0.8</td><td>58.6</td><td>O K</td></tr><tr><td>960 min Summer</td><td>38.738</td><td>0.388</td><td>0.8</td><td>57.1</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>38.716</td><td>0.366</td><td>0.8</td><td>53.9</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>38.683</td><td>0.333</td><td>0.8</td><td>49.0</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>38.650</td><td>0.300</td><td>0.8</td><td>44.1</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>38.588</td><td>0.238</td><td>0.8</td><td>35.1</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>38.535</td><td>0.185</td><td>0.8</td><td>27.2</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>38.491</td><td>0.141</td><td>0.8</td><td>20.7</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>38.455</td><td>0.105</td><td>0.8</td><td>15.5</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>38.429</td><td>0.079</td><td>0.8</td><td>11.7</td><td>O K</td></tr><tr><td>15 min Winter</td><td>38.565</td><td>0.215</td><td>0.8</td><td>31.7</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>56.254</td><td>0.0</td><td>26</td></tr><tr><td>30 min Summer</td><td>36.350</td><td>0.0</td><td>41</td></tr><tr><td>60 min Summer</td><td>22.549</td><td>0.0</td><td>70</td></tr><tr><td>120 min Summer</td><td>13.645</td><td>0.0</td><td>128</td></tr><tr><td>180 min Summer</td><td>10.094</td><td>0.0</td><td>186</td></tr><tr><td>240 min Summer</td><td>8.129</td><td>0.0</td><td>246</td></tr><tr><td>360 min Summer</td><td>5.971</td><td>0.0</td><td>364</td></tr><tr><td>480 min Summer</td><td>4.796</td><td>0.0</td><td>482</td></tr><tr><td>600 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Summer	38.596	0.246	0.8	36.2	O K	60 min Summer	38.649	0.299	0.8	44.1	O K	120 min Summer	38.699	0.349	0.8	51.5	O K	180 min Summer	38.725	0.375	0.8	55.2	O K	240 min Summer	38.740	0.390	0.8	57.4	O K	360 min Summer	38.753	0.403	0.8	59.3	O K	480 min Summer	38.755	0.405	0.8	59.7	O K	600 min Summer	38.752	0.402	0.8	59.2	O K	720 min Summer	38.748	0.398	0.8	58.6	O K	960 min Summer	38.738	0.388	0.8	57.1	O K	1440 min Summer	38.716	0.366	0.8	53.9	O K	2160 min Summer	38.683	0.333	0.8	49.0	O K	2880 min Summer	38.650	0.300	0.8	44.1	O K	4320 min Summer	38.588	0.238	0.8	35.1	O K	5760 min Summer	38.535	0.185	0.8	27.2	O K	7200 min Summer	38.491	0.141	0.8	20.7	O K	8640 min Summer	38.455	0.105	0.8	15.5	O K	10080 min Summer	38.429	0.079	0.8	11.7	O K	15 min Winter	38.565	0.215	0.8	31.7	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	56.254	0.0	26	30 min Summer	36.350	0.0	41	60 min Summer	22.549	0.0	70	120 min Summer	13.645	0.0	128	180 min Summer	10.094	0.0	186	240 min 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Date 29/07/2019 09:42 File SOAKAWAY SIZING FOR SOU...						
			Designed by james.melbourne Checked by			
Micro Drainage			Source Control 2016.1.1			
<u>Summary of Results for 10 year Return Period</u>						
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	
30 min Winter	38.626	0.276	0.8	40.7	O K	
60 min Winter	38.687	0.337	0.8	49.6	O K	
120 min Winter	38.746	0.396	0.8	58.2	O K	
180 min Winter	38.776	0.426	0.8	62.7	O K	
240 min Winter	38.795	0.445	0.8	65.5	O K	
360 min Winter	38.814	0.464	0.8	68.3	O K	
480 min Winter	38.820	0.470	0.8	69.3	O K	
600 min Winter	38.821	0.471	0.8	69.3	O K	
720 min Winter	38.816	0.466	0.8	68.7	O K	
960 min Winter	38.801	0.451	0.8	66.5	O K	
1440 min Winter	38.772	0.422	0.8	62.2	O K	
2160 min Winter	38.722	0.372	0.8	54.7	O K	
2880 min Winter	38.670	0.320	0.8	47.2	O K	
4320 min Winter	38.575	0.225	0.8	33.1	O K	
5760 min Winter	38.496	0.146	0.8	21.4	O K	
7200 min Winter	38.436	0.086	0.8	12.7	O K	
8640 min Winter	38.402	0.052	0.8	7.7	O K	
10080 min Winter	38.395	0.045	0.7	6.7	O K	
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)			
30 min Winter	36.350	0.0	40			
60 min Winter	22.549	0.0	68			
120 min Winter	13.645	0.0	126			
180 min Winter	10.094	0.0	184			
240 min Winter	8.129	0.0	242			
360 min Winter	5.971	0.0	356			
480 min Winter	4.796	0.0	470			
600 min Winter	4.044	0.0	580			
720 min Winter	3.517	0.0	686			
960 min Winter	2.821	0.0	804			
1440 min Winter	2.065	0.0	1090			
2160 min Winter	1.511	0.0	1540			
2880 min Winter	1.210	0.0	1968			
4320 min Winter	0.885	0.0	2772			
5760 min Winter	0.708	0.0	3472			
7200 min Winter	0.596	0.0	4112			
8640 min Winter	0.517	0.0	4576			
10080 min Winter	0.459	0.0	5160			
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Micro Drainage		Source Control 2016.1.1

Model Details

Storage is Online Cover Level (m) 41.000

Cellular Storage Structure

Invert Level (m) 38.350 Safety Factor 5.0
Infiltration Coefficient Base (m/hr) 0.06190 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.06190

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	155.0	237.0	2.600	0.0	237.0
0.200	155.0	237.0	2.800	0.0	237.0
0.400	155.0	237.0	3.000	0.0	237.0
0.600	155.0	237.0	3.200	0.0	237.0
0.800	155.0	237.0	3.400	0.0	237.0
1.000	0.0	237.0	3.600	0.0	237.0
1.200	0.0	237.0	3.800	0.0	237.0
1.400	0.0	237.0	4.000	0.0	237.0
1.600	0.0	237.0	4.200	0.0	237.0
1.800	0.0	237.0	4.400	0.0	237.0
2.000	0.0	237.0	4.600	0.0	237.0
2.200	0.0	237.0	4.800	0.0	237.0
2.400	0.0	237.0	5.000	0.0	237.0

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