

Priestley Johnson Ltd				Page 1	
Bank House 105-109 New St, Blackrod Bolton BL6 5AG		LINCOLN WAY JAMES ALPE BUILDING 6			
Date 01-Apr-19 File DRAINAGE SOAKAWAY 100 YEA...		Designed by SMJ Checked by			
Micro Drainage		Source Control 2018.1.1			
Summary of Results for 100 year Return Period					
Half Drain Time : 124 minutes.					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	93.317	0.317	6.0	36.1	O K
30 min Summer	93.437	0.437	6.0	49.8	O K
60 min Summer	93.552	0.552	6.0	62.9	O K
120 min Summer	93.623	0.623	6.0	71.1	O K
180 min Summer	93.633	0.633	6.0	72.2	O K
240 min Summer	93.632	0.632	6.0	72.0	O K
360 min Summer	93.613	0.613	6.0	69.9	O K
480 min Summer	93.584	0.584	6.0	66.6	O K
600 min Summer	93.550	0.550	6.0	62.7	O K
720 min Summer	93.512	0.512	6.0	58.4	O K
960 min Summer	93.436	0.436	6.0	49.8	O K
1440 min Summer	93.296	0.296	6.0	33.8	O K
2160 min Summer	93.144	0.144	6.0	16.4	O K
2880 min Summer	93.065	0.065	6.0	7.5	O K
4320 min Summer	93.041	0.041	4.9	4.7	O K
5760 min Summer	93.033	0.033	4.0	3.8	O K
7200 min Summer	93.029	0.029	3.5	3.3	O K
8640 min Summer	93.025	0.025	3.0	2.9	O K
10080 min Summer	93.023	0.023	2.7	2.6	O K
15 min Winter	93.359	0.359	6.0	41.0	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
15 min Summer	77.891	0.0	19		
30 min Summer	55.867	0.0	33		
60 min Summer	38.413	0.0	62		
120 min Summer	25.354	0.0	106		
180 min Summer	19.414	0.0	140		
240 min Summer	16.013	0.0	174		
360 min Summer	12.174	0.0	244		
480 min Summer	9.996	0.0	312		
600 min Summer	8.567	0.0	380		
720 min Summer	7.546	0.0	448		
960 min Summer	6.166	0.0	578		
1440 min Summer	4.622	0.0	824		
2160 min Summer	3.452	0.0	1168		
2880 min Summer	2.812	0.0	1476		
4320 min Summer	2.107	0.0	2200		
5760 min Summer	1.720	0.0	2936		
7200 min Summer	1.473	0.0	3624		
8640 min Summer	1.300	0.0	4328		
10080 min Summer	1.171	0.0	5032		
15 min Winter	77.891	0.0	19		
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Priestley Johnson Ltd					Page 2																																																																																																																																																																																															
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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	0.239	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.285

Time (mins)	Area	Time (mins)	Area
From: To: (ha)		From: To: (ha)	
0 4 0.215		4 8 0.070	

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Priestley Johnson Ltd		Page 4
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Model Details

Storage is Online Cover Level (m) 96.900

Cellular Storage Structure

Invert Level (m) 93.000 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.36000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.36000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	120.0	120.0	1.300	120.0	120.0
0.100	120.0	120.0	1.400	120.0	120.0
0.200	120.0	120.0	1.500	120.0	120.0
0.300	120.0	120.0	1.600	120.0	120.0
0.400	120.0	120.0	1.700	120.0	120.0
0.500	120.0	120.0	1.800	120.0	120.0
0.600	120.0	120.0	1.900	120.0	120.0
0.700	120.0	120.0	2.000	120.0	120.0
0.800	120.0	120.0	2.100	120.0	120.0
0.900	120.0	120.0	2.200	120.0	120.0
1.000	120.0	120.0	2.300	120.0	120.0
1.100	120.0	120.0	2.400	120.0	120.0
1.200	120.0	120.0	2.500	120.0	120.0

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