


Summary of Results for 10 year Return Period (+20%)

Half Drain Time : 1 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	98.886	0.286	0.0	4.1	4.1	0.3	O K
30 min Summer	98.893	0.293	0.0	4.1	4.1	0.3	O K
60 min Summer	98.837	0.237	0.0	3.6	3.6	0.2	O K
120 min Summer	98.744	0.144	0.0	2.7	2.7	0.1	O K
180 min Summer	98.701	0.101	0.0	2.1	2.1	0.1	O K
240 min Summer	98.684	0.084	0.0	1.8	1.8	0.1	O K
360 min Summer	98.669	0.069	0.0	1.3	1.3	0.1	O K
480 min Summer	98.660	0.060	0.0	1.1	1.1	0.1	O K
600 min Summer	98.655	0.055	0.0	0.9	0.9	0.1	O K
720 min Summer	98.650	0.050	0.0	0.8	0.8	0.0	O K
960 min Summer	98.643	0.043	0.0	0.6	0.6	0.0	O K
1440 min Summer	98.635	0.035	0.0	0.5	0.5	0.0	O K
2160 min Summer	98.631	0.031	0.0	0.4	0.4	0.0	O K
2880 min Summer	98.628	0.028	0.0	0.3	0.3	0.0	O K
4320 min Summer	98.623	0.023	0.0	0.2	0.2	0.0	O K
5760 min Summer	98.621	0.021	0.0	0.2	0.2	0.0	O K
7200 min Summer	98.619	0.019	0.0	0.1	0.1	0.0	O K
8640 min Summer	98.617	0.017	0.0	0.1	0.1	0.0	O K
10080 min Summer	98.617	0.017	0.0	0.1	0.1	0.0	O K
15 min Winter	98.948	0.348	0.0	4.5	4.5	0.3	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Discharge Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	77.711	0.0	3.2	15
30 min Summer	49.526	0.0	4.1	23
60 min Summer	30.251	0.0	5.0	38
120 min Summer	18.006	0.0	5.9	68
180 min Summer	13.188	0.0	6.5	98
240 min Summer	10.545	0.0	7.0	126
360 min Summer	7.684	0.0	7.6	186
480 min Summer	6.133	0.0	8.1	246
600 min Summer	5.147	0.0	8.5	306
720 min Summer	4.459	0.0	8.8	368
960 min Summer	3.554	0.0	9.4	484
1440 min Summer	2.580	0.0	10.2	732
2160 min Summer	1.871	0.0	11.1	1104
2880 min Summer	1.490	0.0	11.8	1432
4320 min Summer	1.080	0.0	12.8	2148
5760 min Summer	0.859	0.0	13.6	2856
7200 min Summer	0.719	0.0	14.2	3616
8640 min Summer	0.622	0.0	14.8	4408
10080 min Summer	0.550	0.0	15.3	5040
15 min Winter	77.711	0.0	3.6	15

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Broomhouse Lane Edlington Doncaster DN12 1ES	59 Redington Road London Proposed Attenuation - 220m <sup>2</sup>	
Date 29/03/16 File PR201780_BM_MD (220m <sup>2</sup> )....	Designed by BM Checked by	
Micro Drainage	Source Control 2015.1	

Summary of Results for 10 year Return Period (+20%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m <sup>3</sup> )	Status
30 min Winter	98.933	0.333	0.0	4.4	4.4	0.3	O K
60 min Winter	98.814	0.214	0.0	3.4	3.4	0.2	O K
120 min Winter	98.709	0.109	0.0	2.2	2.2	0.1	O K
180 min Winter	98.681	0.081	0.0	1.7	1.7	0.1	O K
240 min Winter	98.670	0.070	0.0	1.4	1.4	0.1	O K
360 min Winter	98.657	0.057	0.0	1.0	1.0	0.1	O K
480 min Winter	98.650	0.050	0.0	0.8	0.8	0.0	O K
600 min Winter	98.645	0.045	0.0	0.7	0.7	0.0	O K
720 min Winter	98.640	0.040	0.0	0.6	0.6	0.0	O K
960 min Winter	98.635	0.035	0.0	0.5	0.5	0.0	O K
1440 min Winter	98.631	0.031	0.0	0.3	0.3	0.0	O K
2160 min Winter	98.626	0.026	0.0	0.2	0.2	0.0	O K
2880 min Winter	98.623	0.023	0.0	0.2	0.2	0.0	O K
4320 min Winter	98.620	0.020	0.0	0.1	0.1	0.0	O K
5760 min Winter	98.618	0.018	0.0	0.1	0.1	0.0	O K
7200 min Winter	98.616	0.016	0.0	0.1	0.1	0.0	O K
8640 min Winter	98.615	0.015	0.0	0.1	0.1	0.0	O K
10080 min Winter	98.614	0.014	0.0	0.1	0.1	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Discharge Volume (m <sup>3</sup> )	Time-Peak (mins)
30 min Winter	49.526	0.0	4.6	23
60 min Winter	30.251	0.0	5.6	38
120 min Winter	18.006	0.0	6.7	66
180 min Winter	13.188	0.0	7.3	94
240 min Winter	10.545	0.0	7.8	126
360 min Winter	7.684	0.0	8.5	186
480 min Winter	6.133	0.0	9.1	248
600 min Winter	5.147	0.0	9.5	302
720 min Winter	4.459	0.0	9.9	366
960 min Winter	3.554	0.0	10.5	480
1440 min Winter	2.580	0.0	11.4	714
2160 min Winter	1.871	0.0	12.4	1088
2880 min Winter	1.490	0.0	13.2	1496
4320 min Winter	1.080	0.0	14.4	2164
5760 min Winter	0.859	0.0	15.2	2976
7200 min Winter	0.719	0.0	16.0	3520
8640 min Winter	0.622	0.0	16.6	4192
10080 min Winter	0.550	0.0	17.1	5056

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Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	21.000	Shortest Storm (mins)	15
Ratio R	0.435	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+20

Time Area Diagram

Total Area (ha) 0.022

Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From:	To:	(ha)	From:	To:	(ha)
0	4	0.007	4	8	0.007
				8	12
					0.007

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Model Details

Storage is Online Cover Level (m) 100.000

Cellular Storage Structure

Invert Level (m) 98.600 Safety Factor 3.0  
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95  
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )
0.000	1.0	1.0	0.500	0.0	2.6
0.400	1.0	2.6			

Orifice Outflow Control

Diameter (m) 0.062 Discharge Coefficient 0.600 Invert Level (m) 98.600