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20 Milton Park Abingdon Oxfordshire OX14 4SH	Land North of Green Lane Chesterton Basin 1 (Infiltration)	
Date 28/11/2016 File Basin 1 - Infiltration....	Designed by CA Checked by HSS	
Causeway	Source Control 2014.1.1	

Summary of Results for 100 year Return Period (+30%)

Half Drain Time : 65 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	76.036	0.216	10.0	50.1	O K
30 min Summer	76.080	0.260	11.0	62.5	O K
60 min Summer	76.103	0.283	11.5	69.2	O K
120 min Summer	76.103	0.283	11.5	69.3	O K
180 min Summer	76.091	0.271	11.2	65.9	O K
240 min Summer	76.077	0.257	10.9	61.7	O K
360 min Summer	76.049	0.229	10.3	53.8	O K
480 min Summer	76.024	0.204	9.8	47.0	O K
600 min Summer	76.002	0.182	9.3	41.1	O K
720 min Summer	75.982	0.162	8.9	36.0	O K
960 min Summer	75.948	0.128	8.2	27.7	O K
1440 min Summer	75.900	0.080	7.2	16.7	O K
2160 min Summer	75.868	0.048	6.3	9.8	O K
2880 min Summer	75.859	0.039	5.1	7.9	O K
4320 min Summer	75.849	0.029	3.7	5.8	O K
5760 min Summer	75.843	0.023	2.9	4.6	O K
7200 min Summer	75.840	0.020	2.5	3.9	O K
8640 min Summer	75.837	0.017	2.2	3.4	O K
10080 min Summer	75.835	0.015	1.9	3.0	O K
15 min Winter	76.059	0.239	10.5	56.7	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	128.285	0.0	23
30 min Summer	84.226	0.0	34
60 min Summer	52.662	0.0	56
120 min Summer	31.800	0.0	90
180 min Summer	23.353	0.0	124
240 min Summer	18.644	0.0	158
360 min Summer	13.543	0.0	224
480 min Summer	10.792	0.0	290
600 min Summer	9.043	0.0	354
720 min Summer	7.823	0.0	414
960 min Summer	6.219	0.0	536
1440 min Summer	4.493	0.0	770
2160 min Summer	3.241	0.0	1104
2880 min Summer	2.568	0.0	1472
4320 min Summer	1.847	0.0	2200
5760 min Summer	1.461	0.0	2888
7200 min Summer	1.217	0.0	3624
8640 min Summer	1.048	0.0	4392
10080 min Summer	0.923	0.0	5120
15 min Winter	128.285	0.0	23

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Summary of Results for 100 year Return Period (+30%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
30 min Winter	76.109	0.289	11.6	71.0	O K
60 min Winter	76.136	0.316	12.2	79.2	O K
120 min Winter	76.134	0.314	12.2	78.5	O K
180 min Winter	76.117	0.297	11.8	73.3	O K
240 min Winter	76.096	0.276	11.3	67.1	O K
360 min Winter	76.056	0.236	10.5	55.6	O K
480 min Winter	76.020	0.200	9.7	46.0	O K
600 min Winter	75.989	0.169	9.0	37.9	O K
720 min Winter	75.962	0.142	8.5	31.2	O K
960 min Winter	75.918	0.098	7.6	20.7	O K
1440 min Winter	75.869	0.049	6.4	9.9	O K
2160 min Winter	75.856	0.036	4.7	7.3	O K
2880 min Winter	75.849	0.029	3.7	5.8	O K
4320 min Winter	75.841	0.021	2.7	4.2	O K
5760 min Winter	75.837	0.017	2.2	3.4	O K
7200 min Winter	75.834	0.014	1.8	2.8	O K
8640 min Winter	75.832	0.012	1.5	2.4	O K
10080 min Winter	75.831	0.011	1.4	2.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
30 min Winter	84.226	0.0	35
60 min Winter	52.662	0.0	60
120 min Winter	31.800	0.0	96
180 min Winter	23.353	0.0	134
240 min Winter	18.644	0.0	170
360 min Winter	13.543	0.0	240
480 min Winter	10.792	0.0	306
600 min Winter	9.043	0.0	372
720 min Winter	7.823	0.0	434
960 min Winter	6.219	0.0	552
1440 min Winter	4.493	0.0	750
2160 min Winter	3.241	0.0	1108
2880 min Winter	2.568	0.0	1444
4320 min Winter	1.847	0.0	2204
5760 min Winter	1.461	0.0	2880
7200 min Winter	1.217	0.0	3648
8640 min Winter	1.048	0.0	4408
10080 min Winter	0.923	0.0	5104

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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)	20.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.246

Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From:	To:	From:	To:	From:	To:
0	4	4	8	8	12
	0.082		0.082		0.082

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Model Details

Storage is Online Cover Level (m) 76.820

Infiltration Basin Structure

Invert Level (m) 75.820 Safety Factor 2.0  
 Infiltration Coefficient Base (m/hr) 0.20664 Porosity 1.00  
 Infiltration Coefficient Side (m/hr) 0.20664

Depth (m)	Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )
0.000	195.0	1.200	0.0	2.800	0.0	4.200	0.0
0.200	266.0	1.600	0.0	3.000	0.0	4.400	0.0
0.400	342.0	1.800	0.0	3.200	0.0	4.600	0.0
0.410	422.0	2.000	0.0	3.400	0.0	4.800	0.0
0.600	506.0	2.200	0.0	3.600	0.0	5.000	0.0
0.800	593.0	2.400	0.0	3.800	0.0		
1.000	685.0	2.600	0.0	4.000	0.0		