


Denis Wilson Partnership		Page 1
89 Priory Road Peterborough PE3 9EE	Catchment 1A Pond Kent Int. Gateway 2005-180A	
Date 19 June 2007 File 2007-06-19 rjf catchm...	Designed By RJF Checked By	
Micro Drainage	Source Control W.10.4	

Summary of Results for 100 year Return Period

Storm Duration (mins)	Maximum Control (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
15 Summer	35.3	35.3	100.6718	0.6718	2738.3	O K
30 Summer	35.3	35.3	100.8518	0.8518	3593.9	O K
60 Summer	35.3	35.3	101.0258	1.0258	4471.3	O K
120 Summer	35.3	35.3	101.1888	1.1888	5334.7	O K
180 Summer	35.3	35.3	101.2738	1.2737	5803.5	O K
240 Summer	35.7	35.7	101.3272	1.3272	6101.8	O K
360 Summer	36.6	36.6	101.3947	1.3947	6488.7	O K
480 Summer	37.1	37.1	101.4367	1.4367	6732.1	O K
600 Summer	37.4	37.4	101.4632	1.4632	6887.7	O K
720 Summer	37.7	37.7	101.4802	1.4802	6986.1	O K
960 Summer	37.8	37.8	101.4947	1.4947	7073.2	O K
1440 Summer	37.7	37.7	101.4842	1.4842	7009.0	O K
2160 Summer	37.3	37.3	101.4502	1.4502	6809.6	O K
2880 Summer	36.8	36.8	101.4122	1.4122	6590.0	O K
4320 Summer	35.7	35.7	101.3322	1.3322	6130.6	O K
5760 Summer	35.3	35.3	101.2513	1.2513	5678.9	O K
7200 Summer	35.3	35.3	101.1738	1.1738	5254.0	O K
8640 Summer	35.3	35.3	101.0988	1.0988	4852.2	O K
10080 Summer	35.3	35.3	101.0263	1.0263	4473.5	O K
15 Winter	35.3	35.3	100.7433	0.7433	3071.9	O K
30 Winter	35.3	35.3	100.9398	0.9398	4031.0	O K
60 Winter	35.3	35.3	101.1298	1.1298	5016.1	O K
120 Winter	35.4	35.4	101.3072	1.3072	5990.2	O K
180 Winter	36.7	36.7	101.4007	1.4007	6523.8	O K
240 Winter	37.4	37.4	101.4597	1.4597	6866.3	O K
360 Winter	38.4	38.4	101.5357	1.5357	7317.1	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	98.68	40
30 Summer	64.79	54
60 Summer	40.51	82
120 Summer	24.46	140
180 Summer	17.96	198
240 Summer	14.34	258
360 Summer	10.42	376
480 Summer	8.30	494
600 Summer	6.96	614
720 Summer	6.02	732
960 Summer	4.78	970
1440 Summer	3.46	1378
2160 Summer	2.49	1716
2880 Summer	1.98	2088
4320 Summer	1.42	2912
5760 Summer	1.12	3752
7200 Summer	0.94	4552
8640 Summer	0.81	5368
10080 Summer	0.71	6168
15 Winter	98.68	40
30 Winter	64.79	54
60 Winter	40.51	82
120 Winter	24.46	138
180 Winter	17.96	196
240 Winter	14.34	254
360 Winter	10.42	370

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Summary of Results for 100 year Return Period

Storm Duration (mins)	Maximum Control (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
480 Winter	39.0	39.0	101.5842	1.5842	7607.8	O K
600 Winter	39.4	39.4	101.6157	1.6157	7800.6	O K
720 Winter	39.6	39.6	101.6367	1.6367	7929.6	O K
960 Winter	39.9	39.9	101.6587	1.6587	8066.0	O K
1440 Winter	39.9	39.9	101.6597	1.6597	8070.9	O K
2160 Winter	39.3	39.3	101.6147	1.6147	7794.5	O K
2880 Winter	38.8	38.8	101.5707	1.5707	7525.9	O K
4320 Winter	37.5	37.5	101.4652	1.4652	6899.5	O K
5760 Winter	36.0	36.0	101.3542	1.3542	6254.9	O K
7200 Winter	35.3	35.3	101.2438	1.2438	5634.9	O K
8640 Winter	35.3	35.3	101.1358	1.1358	5048.5	O K
10080 Winter	35.3	35.3	101.0293	1.0293	4488.6	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
480 Winter	8.30	486
600 Winter	6.96	602
720 Winter	6.02	718
960 Winter	4.78	946
1440 Winter	3.46	1386
2160 Winter	2.49	1808
2880 Winter	1.98	2228
4320 Winter	1.42	3156
5760 Winter	1.12	4048
7200 Winter	0.94	4912
8640 Winter	0.81	5800
10080 Winter	0.71	6664

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Rainfall Details

Region	ENG+WAL	Cv (Summer)	0.750	Summer Storms	Yes
Return Period (years)	100	Cv (Winter)	0.840	Winter Storms	Yes
M5-60 (mm)	20.000	Shortest Storm (mins)	15	Climate Change %	+0
Ratio-R	0.400	Longest Storm (mins)	10080		

Time / Area Diagram

Total Area (ha) = 15.050

Time (mins) from:	to:	Area (ha)	Time (mins) from:	to:	Area (ha)	Time (mins) from:	to:	Area (ha)	Time (mins) from:	to:	Area (ha)
0	4	0.500	8	12	3.000	16	20	3.000	24	28	0.500
4	8	1.550	12	16	5.000	20	24	1.500			

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Micro Drainage

Tank/Pond Details

Invert Level (m) 100.000 Ground Level (m) 102.000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.00	3540.7	0.50	4337.2	1.00	5133.8	1.50	5930.7	2.00	6726.9	2.50	6726.9
0.10	3700.1	0.60	4496.5	1.10	5293.3	1.60	6089.8	2.10	6726.9		
0.20	3859.3	0.70	4656.0	1.20	5452.5	1.70	6249.2	2.20	6726.9		
0.30	4018.8	0.80	4815.3	1.30	5611.9	1.80	6408.5	2.30	6726.9		
0.40	4178.1	0.90	4974.7	1.40	5771.3	1.90	6568.0	2.40	6726.9		

Hydro-Brake Outflow Control

Design Head (m) 1.800 Hydro-Brake Type MD4 Invert Level (m) 100.000
Design Flow (l/s) 41.5 Diameter (mm) 199

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.10	4.4	0.60	30.9	1.60	39.2	2.60	49.9	5.00	69.2	7.50	84.8
0.20	16.9	0.80	29.3	1.80	41.5	3.00	53.6	5.50	72.6	8.00	87.6
0.30	29.8	1.00	31.3	2.00	43.8	3.50	57.9	6.00	75.9	8.50	90.3
0.40	35.3	1.20	34.0	2.20	45.9	4.00	61.9	6.50	79.0	9.00	92.9
0.50	33.9	1.40	36.7	2.40	48.0	4.50	65.7	7.00	81.9	9.50	95.4