


Denis Wilson Partnership		Page 1
89 Priory Road Peterborough PE3 9EE	Catchment 3B Cellular 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 (+20%)**

Half Drain Time : 4542 minutes

Storm Duration (mins)	Maximum Control (l/s)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
15 Summer	15.0	0.0	15.0	100.6237	0.6238	1888.9	O K
30 Summer	14.9	0.0	14.9	100.8183	0.8183	2476.6	O K
60 Summer	15.7	0.0	15.7	101.0188	1.0188	3083.5	O K
120 Summer	17.2	0.0	17.2	101.2183	1.2183	3688.8	O K
180 Summer	17.9	0.0	17.9	101.3297	1.3297	4026.0	O K
240 Summer	18.4	0.0	18.4	101.4027	1.4027	4246.6	O K
360 Summer	19.0	0.0	19.0	101.5012	1.5012	4545.3	O K
480 Summer	19.5	0.0	19.5	101.5677	1.5677	4746.2	O K
600 Summer	19.7	0.0	19.7	101.6142	1.6142	4886.8	O K
720 Summer	19.9	0.0	19.9	101.6477	1.6477	4988.2	O K
960 Summer	20.2	0.0	20.2	101.6892	1.6892	5114.2	O K
1440 Summer	20.4	0.0	20.4	101.7152	1.7152	5192.9	O K
2160 Summer	20.2	0.0	20.2	101.6922	1.6922	5123.7	O K
2880 Summer	20.0	0.0	20.0	101.6617	1.6617	5031.3	O K
4320 Summer	19.6	0.0	19.6	101.5927	1.5927	4821.3	O K
5760 Summer	19.2	0.0	19.2	101.5192	1.5192	4599.7	O K
7200 Summer	18.7	0.0	18.7	101.4472	1.4472	4380.9	O K
8640 Summer	18.2	0.0	18.2	101.3787	1.3787	4173.3	O K
10080 Summer	17.8	0.0	17.8	101.3132	1.3132	3976.2	O K
15 Winter	14.6	0.0	14.6	100.6993	0.6993	2117.0	O K
30 Winter	14.9	0.0	14.9	100.9168	0.9168	2775.7	O K
60 Winter	16.6	0.0	16.6	101.1418	1.1418	3456.6	O K
120 Winter	18.2	0.0	18.2	101.3672	1.3672	4138.6	O K
180 Winter	19.0	0.0	19.0	101.4932	1.4932	4520.4	O K
240 Winter	19.5	0.0	19.5	101.5762	1.5762	4771.8	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	98.68	33
30 Summer	64.79	47
60 Summer	40.51	76
120 Summer	24.46	134
180 Summer	17.96	194
240 Summer	14.34	254
360 Summer	10.42	372
480 Summer	8.30	492
600 Summer	6.96	610
720 Summer	6.02	730
960 Summer	4.78	968
1440 Summer	3.46	1446
2160 Summer	2.49	1928
2880 Summer	1.98	2284
4320 Summer	1.42	3040
5760 Summer	1.12	3872
7200 Summer	0.94	4696
8640 Summer	0.81	5536
10080 Summer	0.71	6360
15 Winter	98.68	33
30 Winter	64.79	47
60 Winter	40.51	76
120 Winter	24.46	134
180 Winter	17.96	192
240 Winter	14.34	250

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Storm Duration (mins)	Maximum Control (l/s)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
360 Winter	20.2	0.0	20.2	101.6892	1.6892	5114.6	O K
480 Winter	20.7	0.0	20.7	101.7667	1.7667	5348.4	O K
600 Winter	21.0	0.0	21.0	101.8217	1.8217	5514.8	O K
720 Winter	21.2	0.0	21.2	101.8622	1.8622	5637.3	O K
960 Winter	21.5	0.0	21.5	101.9152	1.9152	5797.4	O K
1440 Winter	21.7	0.0	21.7	101.9577	1.9577	5926.3	O K
2160 Winter	21.7	0.0	21.7	101.9467	1.9467	5893.6	O K
2880 Winter	21.4	0.0	21.4	101.9002	1.9002	5752.8	O K
4320 Winter	20.9	0.0	20.9	101.8152	1.8152	5496.1	O K
5760 Winter	20.4	0.0	20.4	101.7162	1.7162	5195.6	O K
7200 Winter	19.8	0.0	19.8	101.6147	1.6147	4888.8	O K
8640 Winter	19.1	0.0	19.1	101.5167	1.5167	4592.1	O K
10080 Winter	18.5	0.0	18.5	101.4232	1.4232	4309.5	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
360 Winter	10.42	366
480 Winter	8.30	484
600 Winter	6.96	600
720 Winter	6.02	718
960 Winter	4.78	948
1440 Winter	3.46	1402
2160 Winter	2.49	2052
2880 Winter	1.98	2396
4320 Winter	1.42	3252
5760 Winter	1.12	4168
7200 Winter	0.94	5112
8640 Winter	0.81	5976
10080 Winter	0.71	6864

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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 %	+20
Ratio-R	0.400	Longest Storm (mins)	10080		

Time / Area Diagram

Total Area (ha) = 8.580

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
from:	to:	from:	to:	from:	to:
0	4	8	12	16	20
	0.300		3.780		0.300
4	8	12	16		
	2.100		2.100		

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Cellular Storage Details

Infil Coef - Base (m/hr) 0.000000 Porosity 1.00  
 Infil Coef - Sides (m/hr) 0.000000 Invert Level (m) 100.000  
 Safety Factor 2.0 Ground Level (m) 102.500

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> )	Depth (m)	Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )
0.00	3027.4	0.50	3027.4	1.00	3027.4	1.50	3027.4	2.00	3027.4	2.50	3027.4
0.10	3027.4	0.60	3027.4	1.10	3027.4	1.60	3027.4	2.10	3027.4		
0.20	3027.4	0.70	3027.4	1.20	3027.4	1.70	3027.4	2.20	3027.4		
0.30	3027.4	0.80	3027.4	1.30	3027.4	1.80	3027.4	2.30	3027.4		
0.40	3027.4	0.90	3027.4	1.40	3027.4	1.90	3027.4	2.40	3027.4		

Hydro-Brake Outflow Control

Design Head (m) 2.000 Hydro-Brake Type MD4 Invert Level (m) 100.000  
 Design Flow (l/s) 22.0 Diameter (mm) 141

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	3.7	0.60	12.5	1.60	19.7	2.60	25.1	5.00	34.8	7.50	42.6
0.20	11.8	0.80	14.0	1.80	20.9	3.00	26.9	5.50	36.5	8.00	44.0
0.30	15.0	1.00	15.6	2.00	22.0	3.50	29.1	6.00	38.1	8.50	45.3
0.40	13.5	1.20	17.0	2.20	23.1	4.00	31.1	6.50	39.6	9.00	46.6
0.50	12.4	1.40	18.4	2.40	24.1	4.50	33.0	7.00	41.1	9.50	47.9