

Collingwood Bldgs
Collingwood Street
Newcastle Upon Tyne



Date
File Phase1only.SRC

Designed By
Checked By
Source Control W.9.4

Micro Drainage

Summary of Results for 100 year Return Period

Storm Duration (mins)	Maximum Control (m3/s)	Maximum Outflow (m3/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m3)	Status
15 Summer	0.0505	0.0505	100.3155	0.3155	3157.6	O K
30 Summer	0.0624	0.0624	100.4215	0.4215	4216.6	O K
60 Summer	0.0681	0.0681	100.5345	0.5345	5344.7	O K
120 Summer	0.0699	0.0699	100.6475	0.6475	6478.3	O K
180 Summer	0.0699	0.0699	100.7085	0.7085	7089.8	O K
240 Summer	0.0699	0.0699	100.7475	0.7475	7474.5	O K
360 Summer	0.0699	0.0699	100.7995	0.7995	7997.3	O K
480 Summer	0.0699	0.0699	100.8305	0.8305	8307.9	O K
600 Summer	0.0699	0.0699	100.8495	0.8495	8495.8	O K
720 Summer	0.0699	0.0699	100.8605	0.8605	8603.0	O K
960 Summer	0.0699	0.0699	100.8675	0.8675	8671.6	O K
1440 Summer	0.0699	0.0699	100.8675	0.8675	8674.8	O K
2160 Summer	0.0699	0.0699	100.8515	0.8515	8517.0	O K
2880 Summer	0.0699	0.0699	100.8255	0.8255	8250.4	O K
4320 Summer	0.0699	0.0699	100.7595	0.7595	7596.3	O K
5760 Summer	0.0699	0.0699	100.6915	0.6915	6915.5	O K
7200 Summer	0.0699	0.0699	100.6295	0.6295	6294.3	O K
8640 Summer	0.0692	0.0692	100.5765	0.5765	5761.3	O K
10080 Summer	0.0680	0.0680	100.5305	0.5305	5301.2	O K
15 Winter	0.0553	0.0553	100.3535	0.3535	3537.6	O K
30 Winter	0.0655	0.0655	100.4725	0.4725	4727.0	O K
60 Winter	0.0699	0.0699	100.5995	0.5995	5998.4	O K
120 Winter	0.0699	0.0699	100.7285	0.7285	7286.0	O K
180 Winter	0.0699	0.0699	100.7985	0.7985	7986.1	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	94.18	26
30 Summer	63.26	41
60 Summer	40.51	70
120 Summer	25.00	130
180 Summer	18.55	188
240 Summer	14.91	248
360 Summer	10.98	366
480 Summer	8.82	484
600 Summer	7.43	602
720 Summer	6.46	722
960 Summer	5.17	896
1440 Summer	3.77	1124
2160 Summer	2.75	1516
2880 Summer	2.19	1912
4320 Summer	1.59	2728
5760 Summer	1.26	3520
7200 Summer	1.06	4256
8640 Summer	0.92	5016
10080 Summer	0.81	5752
15 Winter	94.18	26
30 Winter	63.26	41
60 Winter	40.51	70
120 Winter	25.00	128
180 Winter	18.55	186

Summary of Results for 100 year Return Period

Storm Duration (mins)	Maximum Control (m3/s)	Maximum Outflow (m3/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m3)	Status
240 Winter	0.0699	0.0699	100.8435	0.8435	8432.0	O K
360 Winter	0.0699	0.0699	100.9045	0.9045	9047.8	O K
480 Winter	0.0699	0.0699	100.9425	0.9425	9426.7	O K
600 Winter	0.0699	0.0699	100.9675	0.9675	9669.8	O K
720 Winter	0.0699	0.0699	100.9825	0.9825	9824.2	O K
960 Winter	0.0699	0.0699	100.9965	0.9965	9962.6	O K
1440 Winter	0.0699	0.0699	100.9875	0.9875	9870.1	O K *
2160 Winter	0.0699	0.0699	100.9585	0.9585	9587.1	O K
2880 Winter	0.0699	0.0699	100.9155	0.9155	9153.7	O K
4320 Winter	0.0699	0.0699	100.8115	0.8115	8115.0	O K
5760 Winter	0.0699	0.0699	100.7075	0.7075	7070.5	O K
7200 Winter	0.0699	0.0699	100.6155	0.6155	6150.9	O K
8640 Winter	0.0683	0.0683	100.5415	0.5415	5412.1	O K
10080 Winter	0.0662	0.0662	100.4825	0.4825	4824.6	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
240 Winter	14.91	244
360 Winter	10.98	360
480 Winter	8.82	476
600 Winter	7.43	590
720 Winter	6.46	702
960 Winter	5.17	924
1440 Winter	3.77	1314
2160 Winter	2.75	1644
2880 Winter	2.19	2100
4320 Winter	1.59	2948
5760 Winter	1.26	3760
7200 Winter	1.06	4536
8640 Winter	0.92	5272
10080 Winter	0.81	5952

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Rainfall Details

Region	ENG+WAL	Cv (Winter)	0.840
Return Period (years)	100	Shortest Storm (mins)	15
M5-60 (mm)	20.000	Longest Storm (mins)	10080
Ratio-R	0.350	Summer Storms	Yes
Cv (Summer)	0.750	Winter Storms	Yes

Time / Area Diagram

Total Area (ha) = 18.105

Time (mins) from:	Time (mins) to:	Area (ha)	Time (mins) from:	Time (mins) to:	Area (ha)	Time (mins) from:	Time (mins) to:	Area (ha)
0	4	6.000	4	8	6.000	8	12	6.105

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Storm Duration (mins)	Maximum Control (m3/s)	Maximum Outflow (m3/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m3)	Status
15 Summer	0.1526	0.1526	100.6125	0.6125	6128.6	O K
30 Summer	0.1674	0.1674	100.8185	0.8185	8181.4	O K
60 Summer	0.1696	0.1696	101.0355	1.0355	10358.5	O K
120 Summer	0.1696	0.1696	101.2505	1.2505	12506.3	O K
180 Summer	0.1696	0.1696	101.3615	1.3615	13618.8	O K
240 Summer	0.1696	0.1696	101.4285	1.4285	14284.9	O K
360 Summer	0.1696	0.1696	101.5125	1.5125	15123.8	O K
480 Summer	0.1696	0.1696	101.5545	1.5545	15543.2	O K
600 Summer	0.1696	0.1696	101.5725	1.5725	15721.7	O K
720 Summer	0.1696	0.1696	101.5755	1.5755	15758.9	O K
960 Summer	0.1696	0.1696	101.5745	1.5745	15742.8	O K
1440 Summer	0.1696	0.1696	101.5475	1.5475	15474.6	O K
2160 Summer	0.1696	0.1696	101.4765	1.4765	14761.0	O K
2880 Summer	0.1696	0.1696	101.3895	1.3895	13892.4	O K
4320 Summer	0.1696	0.1696	101.2085	1.2085	12086.2	O K
5760 Summer	0.1696	0.1696	101.0435	1.0435	10434.0	O K
7200 Summer	0.1685	0.1685	100.9085	0.9085	9085.6	O K
8640 Summer	0.1671	0.1671	100.8005	0.8005	8008.4	O K
10080 Summer	0.1609	0.1609	100.7195	0.7195	7191.0	O K
15 Winter	0.1584	0.1584	100.6875	0.6875	6871.8	O K
30 Winter	0.1686	0.1686	100.9185	0.9185	9185.2	O K
60 Winter	0.1696	0.1696	101.1645	1.1645	11644.5	O K
120 Winter	0.1696	0.1696	101.4085	1.4085	14088.5	O K
180 Winter	0.1696	0.1696	101.5375	1.5375	15370.6	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	94.18	29
30 Summer	63.26	43
60 Summer	40.51	72
120 Summer	25.00	130
180 Summer	18.55	188
240 Summer	14.91	248
360 Summer	10.98	366
480 Summer	8.82	482
600 Summer	7.43	600
720 Summer	6.46	680
960 Summer	5.17	788
1440 Summer	3.77	1040
2160 Summer	2.75	1452
2880 Summer	2.19	1852
4320 Summer	1.59	2644
5760 Summer	1.26	3408
7200 Summer	1.06	4112
8640 Summer	0.92	4840
10080 Summer	0.81	5544
15 Winter	94.18	29
30 Winter	63.26	43
60 Winter	40.51	72
120 Winter	25.00	128
180 Winter	18.55	186

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240 Winter	0.1696	0.1696	101.6145	1.6145	16149.7	O K
360 Winter	0.1712	0.1712	101.7155	1.7155	17157.8	O K
480 Winter	0.1723	0.1723	101.7695	1.7695	17697.9	O K
600 Winter	0.1728	0.1728	101.7975	1.7975	17973.4	O K
720 Winter	0.1731	0.1731	101.8085	1.8085	18081.1	O K
960 Winter	0.1728	0.1728	101.7986	1.7986	17987.6	O K
1440 Winter	0.1719	0.1719	101.7505	1.7505	17504.5	O K
2160 Winter	0.1699	0.1699	101.6425	1.6425	16421.6	O K
2880 Winter	0.1696	0.1696	101.5095	1.5095	15094.7	O K
4320 Winter	0.1696	0.1696	101.2335	1.2335	12335.5	O K
5760 Winter	0.1695	0.1695	100.9895	0.9895	9899.0	O K
7200 Winter	0.1672	0.1672	100.8075	0.8075	8074.6	O K
8640 Winter	0.1580	0.1580	100.6825	0.6825	6821.8	O K
10080 Winter	0.1500	0.1500	100.5905	0.5905	5905.7	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
240 Winter	14.91	244
360 Winter	10.98	358
480 Winter	8.82	472
600 Winter	7.43	584
720 Winter	6.46	694
960 Winter	5.17	900
1440 Winter	3.77	1116
2160 Winter	2.75	1580
2880 Winter	2.19	2020
4320 Winter	1.59	2856
5760 Winter	1.26	3584
7200 Winter	1.06	4256
8640 Winter	0.92	4944
10080 Winter	0.81	5648