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104 Yorkshire St Rochdale Lancashire OL16 1JY	PLOTS 3 & 4 attenuation myra devs 28 low cudworth	
Date jun 2023 File CALC-T~1.SRC	Designed By ds Checked By	
Micro Drainage	Source Control W.10.4	

Summary of Results for 1 year Return Period


Storm Duration (mins)	Maximum Control (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m <sup>3</sup> )	Status
15 Summer	1.9	1.9	44.8593	0.0593	0.4	O K
30 Summer	1.9	1.9	44.8603	0.0603	0.4	O K
60 Summer	1.8	1.8	44.8458	0.0458	0.3	O K
120 Summer	1.4	1.4	44.8248	0.0247	0.2	O K
180 Summer	1.2	1.2	44.8118	0.0118	0.1	O K
240 Summer	1.0	1.0	44.8038	0.0038	0.0	O K
360 Summer	0.8	0.8	44.8000	0.0000	0.0	O K
480 Summer	0.7	0.7	44.8000	0.0000	0.0	O K
600 Summer	0.6	0.6	44.8000	0.0000	0.0	O K
720 Summer	0.5	0.5	44.8000	0.0000	0.0	O K
960 Summer	0.4	0.4	44.8000	0.0000	0.0	O K
1440 Summer	0.3	0.3	44.8000	0.0000	0.0	O K
2160 Summer	0.2	0.2	44.8000	0.0000	0.0	O K
2880 Summer	0.2	0.2	44.8000	0.0000	0.0	O K
4320 Summer	0.1	0.1	44.8000	0.0000	0.0	O K
5760 Summer	0.1	0.1	44.8000	0.0000	0.0	O K
7200 Summer	0.1	0.1	44.8000	0.0000	0.0	O K
8640 Summer	0.1	0.1	44.8000	0.0000	0.0	O K
10080 Summer	0.1	0.1	44.8000	0.0000	0.0	O K
15 Winter	2.0	2.0	44.8718	0.0718	0.5	O K
30 Winter	1.9	1.9	44.8653	0.0653	0.5	O K
60 Winter	1.7	1.7	44.8403	0.0402	0.3	O K
120 Winter	1.2	1.2	44.8138	0.0138	0.1	O K
180 Winter	1.0	1.0	44.8008	0.0008	0.0	O K
240 Winter	0.8	0.8	44.8000	0.0000	0.0	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	30.99	14
30 Summer	20.21	22
60 Summer	12.80	38
120 Summer	7.94	68
180 Summer	5.98	98
240 Summer	4.88	128
360 Summer	3.65	0
480 Summer	2.96	0
600 Summer	2.51	0
720 Summer	2.20	0
960 Summer	1.78	0
1440 Summer	1.33	0
2160 Summer	0.99	0
2880 Summer	0.80	0
4320 Summer	0.60	0
5760 Summer	0.48	0
7200 Summer	0.41	0
8640 Summer	0.36	0
10080 Summer	0.32	0
15 Winter	30.99	15
30 Winter	20.21	23
60 Winter	12.80	38
120 Winter	7.94	70
180 Winter	5.98	96
240 Winter	4.88	0

Summary of Results for 1 year Return Period

Storm Duration (mins)	Maximum Control (1/s)	Maximum Outflow (1/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m <sup>3</sup> )	Status
360 Winter	0.6	0.6	44.8000	0.0000	0.0	O K
480 Winter	0.5	0.5	44.8000	0.0000	0.0	O K
600 Winter	0.4	0.4	44.8000	0.0000	0.0	O K
720 Winter	0.4	0.4	44.8000	0.0000	0.0	O K
960 Winter	0.3	0.3	44.8000	0.0000	0.0	O K
1440 Winter	0.2	0.2	44.8000	0.0000	0.0	O K
2160 Winter	0.2	0.2	44.8000	0.0000	0.0	O K
2880 Winter	0.1	0.1	44.8000	0.0000	0.0	O K
4320 Winter	0.1	0.1	44.8000	0.0000	0.0	O K
5760 Winter	0.1	0.1	44.8000	0.0000	0.0	O K
7200 Winter	0.1	0.1	44.8000	0.0000	0.0	O K
8640 Winter	0.1	0.1	44.8000	0.0000	0.0	O K
10080 Winter	0.1	0.1	44.8000	0.0000	0.0	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
360 Winter	3.65	0
480 Winter	2.96	0
600 Winter	2.51	0
720 Winter	2.20	0
960 Winter	1.78	0
1440 Winter	1.33	0
2160 Winter	0.99	0
2880 Winter	0.80	0
4320 Winter	0.60	0
5760 Winter	0.48	0
7200 Winter	0.41	0
8640 Winter	0.36	0
10080 Winter	0.32	0

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Rainfall Details

Region	ENG+WAL	Shortest Storm (mins)	15
Return Period (years)	1	Longest Storm (mins)	10080
M5-60 (mm)	20.000	Summer Storms	Yes
Ratio-R	0.400	Winter Storms	Yes
Cv (Summer)	0.750	Climate Change %	+0
Cv (Winter)	0.840		


Pipe Network

Volume in Pipe Network (m <sup>3</sup> )	1	Dia of Outfall Pipe (m)	0.100
Slope of Outfall Pipe (1:x)	100.0	Roughness of Outfall Pipe	0.600

Time / Area Diagram

Total Area (ha) = 0.028

<b>Time</b>	<b>(mins)</b>	<b>Area</b>
<b>from:</b>	<b>to:</b>	<b>(ha)</b>
0	4	0.028

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Tank/Pond Details

Invert Level (m) 44.800 Ground Level (m) 46.000

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	7.0	0.50	7.0	1.00	6.0	1.50	0.4	2.00	0.4	2.50	0.4
0.10	7.0	0.60	6.0	1.10	6.0	1.60	0.4	2.10	0.4		
0.20	7.0	0.70	6.0	1.20	0.4	1.70	0.4	2.20	0.4		
0.30	7.0	0.80	6.0	1.30	0.4	1.80	0.4	2.30	0.4		
0.40	7.0	0.90	6.0	1.40	0.4	1.90	0.4	2.40	0.4		

Depth / Flow Outflow Control

Invert Level of Control 44.750

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	1.9	0.80	2.0	2.00	3.2	4.00	4.5	7.00	6.0
0.20	2.2	1.00	2.3	2.20	3.4	4.50	4.8	7.50	6.2
0.30	2.3	1.20	2.4	2.40	3.5	5.00	5.1	8.00	6.4
0.40	2.3	1.40	2.6	2.60	3.7	5.50	5.3	8.50	6.6
0.50	2.2	1.60	2.9	3.00	3.9	6.00	5.6	9.00	6.8
0.60	2.0	1.80	3.0	3.50	4.3	6.50	5.8	9.50	7.0