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104 Yorkshire St Rochdale Lancashire OL16 1JY	1800 SW soakaway khan - kings road rochdale	
Date dec 2023 File CALC-T~2.SRC	Designed By ds Checked By	
Micro Drainage	Source Control W.10.4	

Summary of Results for 1 year Return Period

Half Drain Time : 61 minutes

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	0.5	0.5	147.1662	0.1662	1.9	O K
30 Summer	0.5	0.5	147.2177	0.2177	2.5	O K
60 Summer	0.5	0.5	147.2578	0.2577	2.9	O K
120 Summer	0.5	0.5	147.2827	0.2827	3.2	O K
180 Summer	0.5	0.5	147.2883	0.2882	3.3	O K
240 Summer	0.5	0.5	147.2847	0.2847	3.2	O K
360 Summer	0.5	0.5	147.2677	0.2677	3.1	O K
480 Summer	0.5	0.5	147.2477	0.2477	2.8	O K
600 Summer	0.5	0.5	147.2272	0.2272	2.6	O K
720 Summer	0.5	0.5	147.2068	0.2067	2.4	O K
960 Summer	0.5	0.5	147.1702	0.1702	1.9	O K
1440 Summer	0.5	0.5	147.1107	0.1108	1.3	O K
2160 Summer	0.4	0.4	147.0592	0.0593	0.7	O K
2880 Summer	0.4	0.4	147.0457	0.0457	0.5	O K
4320 Summer	0.3	0.3	147.0358	0.0357	0.4	O K
5760 Summer	0.3	0.3	147.0293	0.0292	0.3	O K
7200 Summer	0.2	0.2	147.0258	0.0257	0.3	O K
8640 Summer	0.2	0.2	147.0228	0.0227	0.3	O K
10080 Summer	0.2	0.2	147.0208	0.0207	0.2	O K
15 Winter	0.5	0.5	147.1893	0.1892	2.2	O K
30 Winter	0.5	0.5	147.2487	0.2487	2.8	O K
60 Winter	0.5	0.5	147.2972	0.2972	3.4	O K
120 Winter	0.5	0.5	147.3237	0.3237	3.7	O K
180 Winter	0.5	0.5	147.3248	0.3247	3.7	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	28.17	20
30 Summer	19.18	33
60 Summer	12.80	56
120 Summer	8.41	90
180 Summer	6.56	126
240 Summer	5.47	160
360 Summer	4.21	228
480 Summer	3.50	294
600 Summer	3.03	360
720 Summer	2.70	422
960 Summer	2.25	544
1440 Summer	1.73	782
2160 Summer	1.33	1124
2880 Summer	1.11	1468
4320 Summer	0.85	2204
5760 Summer	0.71	2944
7200 Summer	0.61	3672
8640 Summer	0.54	4400
10080 Summer	0.49	5096
15 Winter	28.17	20
30 Winter	19.18	33
60 Winter	12.80	60
120 Winter	8.41	96
180 Winter	6.56	134

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Summary of Results for 1 year Return Period

Storm Duration (mins)	Maximum Filtration (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
240 Winter	0.5	0.5	147.3138	0.3137	3.6	O K
360 Winter	0.5	0.5	147.2813	0.2812	3.2	O K
480 Winter	0.5	0.5	147.2457	0.2457	2.8	O K
600 Winter	0.5	0.5	147.2117	0.2117	2.4	O K
720 Winter	0.5	0.5	147.1797	0.1797	2.0	O K
960 Winter	0.5	0.5	147.1243	0.1243	1.4	O K
1440 Winter	0.4	0.4	147.0538	0.0537	0.6	O K
2160 Winter	0.4	0.4	147.0403	0.0402	0.5	O K
2880 Winter	0.3	0.3	147.0332	0.0332	0.4	O K
4320 Winter	0.2	0.2	147.0258	0.0257	0.3	O K
5760 Winter	0.2	0.2	147.0213	0.0212	0.2	O K
7200 Winter	0.2	0.2	147.0188	0.0188	0.2	O K
8640 Winter	0.1	0.1	147.0168	0.0168	0.2	O K
10080 Winter	0.1	0.1	147.0148	0.0148	0.2	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
240 Winter	5.47	172
360 Winter	4.21	244
480 Winter	3.50	314
600 Winter	3.03	380
720 Winter	2.70	444
960 Winter	2.25	568
1440 Winter	1.73	768
2160 Winter	1.33	1100
2880 Winter	1.11	1464
4320 Winter	0.85	2168
5760 Winter	0.71	2896
7200 Winter	0.61	3664
8640 Winter	0.54	4416
10080 Winter	0.49	5144

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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	0.300	Winter Storms	Yes
Cv (Summer)	0.750	Climate Change %	+0
Cv (Winter)	0.840		

Pipe Network

Volume in Pipe Network (m ³)	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) = 0.045

Time	(mins)	Area
from:	to:	(ha)
0	4	0.045

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Lined Soakaway Details

Infil Coef - Base (m/hr)	0.150000	Pit Multiplier	2.5
Infil Coef - Sides (m/hr)	0.150000	Number Required	1
Safety Factor	2.0	Invert Level (m)	147.000
Porosity	0.50	Cover Level (m)	149.500
Ring Diameter (m)	1.8		