

T J Booth Associates		Page 1
104 Yorkshire St Rochdale Lancashire OL16 1JY	pond atten'n & control hoyle developments honresfeld littleborough	
Date may 2025 - rev1 File CALC-T~2.SRC	Designed By ds Checked By	
Micro Drainage	Source Control W.10.4	

Summary of Results for 100 year Return Period (+45%)

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	13.9	13.9	177.8447	0.4447	30.2	FLOOD RISK
30 Summer	14.2	14.2	177.9102	0.5102	35.9	FLOOD RISK
60 Summer	14.4	14.4	177.9367	0.5367	38.4	FLOOD RISK
120 Summer	14.3	14.3	177.9162	0.5162	36.5	FLOOD RISK
180 Summer	14.0	14.0	177.8662	0.4662	32.0	FLOOD RISK
240 Summer	13.8	13.8	177.8112	0.4112	27.4	FLOOD RISK
360 Summer	13.2	13.2	177.7052	0.3052	19.2	O K
480 Summer	12.7	12.7	177.6117	0.2117	12.6	O K
600 Summer	12.3	12.3	177.5342	0.1343	7.6	O K
720 Summer	11.9	11.9	177.4722	0.0723	4.0	O K
960 Summer	11.5	11.5	177.4032	0.0033	0.2	O K
1440 Summer	8.6	8.6	177.4000	0.0000	0.0	O K
2160 Summer	6.4	6.4	177.4000	0.0000	0.0	O K
2880 Summer	5.1	5.1	177.4000	0.0000	0.0	O K
4320 Summer	3.7	3.7	177.4000	0.0000	0.0	O K
5760 Summer	3.0	3.0	177.4000	0.0000	0.0	O K
7200 Summer	2.5	2.5	177.4000	0.0000	0.0	O K
8640 Summer	2.2	2.2	177.4000	0.0000	0.0	O K
10080 Summer	2.0	2.0	177.4000	0.0000	0.0	O K
15 Winter	14.2	14.2	177.9017	0.5017	35.2	FLOOD RISK
30 Winter	14.6	14.6	177.9827	0.5827	42.6	FLOOD RISK
60 Winter	14.7	14.7	178.0042	0.6043	44.8	FLOOD
120 Winter	14.5	14.5	177.9617	0.5617	40.7	FLOOD RISK
180 Winter	14.1	14.1	177.8802	0.4802	33.3	FLOOD RISK
240 Winter	13.7	13.7	177.7947	0.3947	26.1	O K
360 Winter	12.8	12.8	177.6347	0.2347	14.2	O K
480 Winter	12.1	12.1	177.5013	0.1013	5.6	O K
600 Winter	11.6	11.6	177.4102	0.0103	0.5	O K
720 Winter	10.5	10.5	177.4000	0.0000	0.0	O K
960 Winter	8.5	8.5	177.4000	0.0000	0.0	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	89.23	16
30 Summer	61.54	27
60 Summer	40.51	44
120 Summer	25.63	78
180 Summer	19.23	112
240 Summer	15.63	146
360 Summer	11.65	208
480 Summer	9.44	268
600 Summer	8.01	326
720 Summer	7.00	382
960 Summer	5.65	490
1440 Summer	4.17	0
2160 Summer	3.07	0
2880 Summer	2.46	0
4320 Summer	1.81	0
5760 Summer	1.45	0
7200 Summer	1.23	0
8640 Summer	1.07	0
10080 Summer	0.95	0
15 Winter	89.23	16
30 Winter	61.54	29
60 Winter	40.51	48
120 Winter	25.63	86
180 Winter	19.23	120
240 Winter	15.63	154
360 Winter	11.65	216
480 Winter	9.44	272
600 Winter	8.01	318
720 Winter	7.00	0
960 Winter	5.65	0

Summary of Results for 100 year Return Period (+45%)

Storm Duration (mins)	Maximum Control (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m³)	Status
1440 Winter	6.2	6.2	177.4000	0.0000	0.0	O K
2160 Winter	4.6	4.6	177.4000	0.0000	0.0	O K
2880 Winter	3.7	3.7	177.4000	0.0000	0.0	O K
4320 Winter	2.7	2.7	177.4000	0.0000	0.0	O K
5760 Winter	2.2	2.2	177.4000	0.0000	0.0	O K
7200 Winter	1.8	1.8	177.4000	0.0000	0.0	O K
8640 Winter	1.6	1.6	177.4000	0.0000	0.0	O K
10080 Winter	1.4	1.4	177.4000	0.0000	0.0	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
1440 Winter	4.17	0
2160 Winter	3.07	0
2880 Winter	2.46	0
4320 Winter	1.81	0
5760 Winter	1.45	0
7200 Winter	1.23	0
8640 Winter	1.07	0
10080 Winter	0.95	0

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 %	+45
Ratio-R	0.300	Longest Storm (mins)	10080		

Time / Area Diagram

Total Area (ha) = 0.175

Time	(mins)	Area
from:	to:	(ha)
	0	4
		0.175

Tank/Pond Details

Invert Level (m) 177.400 Ground Level (m) 178.000

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	52.0	0.50	89.1	1.00	1000.0	1.50	1000.0	2.00	1000.0	2.50	1000.0
0.10	59.0	0.60	97.3	1.10	1000.0	1.60	1000.0	2.10	1000.0		
0.20	66.0	0.70	1000.0	1.20	1000.0	1.70	1000.0	2.20	1000.0		
0.30	73.4	0.80	1000.0	1.30	1000.0	1.80	1000.0	2.30	1000.0		
0.40	81.1	0.90	1000.0	1.40	1000.0	1.90	1000.0	2.40	1000.0		

Orifice Outflow Control

Diameter (m) 0.075 Discharge Coefficient 0.600 Invert Level (m) 176.400