

T J Booth Associates		Page 1
104 Yorkshire St Rochdale Lancashire OL16 1JY	attenuation pond morris 1 wildhouse ct milnrow	
Date nov 2025 - rev0 File calc-tjba-morris-1 wildhouse ct-pon...	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 (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
15 Summer	1.7	1.7	173.8873	0.0873	2.4	O K
30 Summer	1.9	1.9	173.9017	0.1018	2.8	O K
60 Summer	2.1	2.1	173.9108	0.1108	3.1	O K
120 Summer	2.0	2.0	173.9078	0.1078	3.0	O K
180 Summer	1.9	1.9	173.9008	0.1008	2.8	O K
240 Summer	1.8	1.8	173.8932	0.0933	2.6	O K
360 Summer	1.6	1.6	173.8828	0.0828	2.2	O K
480 Summer	1.4	1.4	173.8757	0.0758	2.0	O K
600 Summer	1.3	1.3	173.8703	0.0703	1.9	O K
720 Summer	1.2	1.2	173.8663	0.0662	1.8	O K
960 Summer	1.0	1.0	173.8603	0.0602	1.6	O K
1440 Summer	0.8	0.8	173.8522	0.0522	1.4	O K
2160 Summer	0.6	0.6	173.8448	0.0447	1.2	O K
2880 Summer	0.5	0.5	173.8398	0.0397	1.0	O K
4320 Summer	0.4	0.4	173.8338	0.0337	0.9	O K
5760 Summer	0.3	0.3	173.8313	0.0312	0.8	O K
7200 Summer	0.3	0.3	173.8293	0.0292	0.7	O K
8640 Summer	0.3	0.3	173.8282	0.0282	0.7	O K
10080 Summer	0.2	0.2	173.8262	0.0262	0.7	O K
15 Winter	1.9	1.9	173.8968	0.0968	2.7	O K
30 Winter	2.1	2.1	173.9113	0.1113	3.1	O K
60 Winter	2.1	2.1	173.9158	0.1158	3.2	O K
120 Winter	2.0	2.0	173.9057	0.1058	2.9	O K
180 Winter	1.8	1.8	173.8938	0.0938	2.6	O K
240 Winter	1.7	1.7	173.8842	0.0843	2.3	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	28.17	14
30 Summer	19.18	22
60 Summer	12.80	40
120 Summer	8.41	72
180 Summer	6.56	102
240 Summer	5.47	134
360 Summer	4.21	192
480 Summer	3.50	252
600 Summer	3.03	314
720 Summer	2.70	374
960 Summer	2.25	492
1440 Summer	1.73	736
2160 Summer	1.33	1100
2880 Summer	1.11	1468
4320 Summer	0.85	2200
5760 Summer	0.71	2936
7200 Summer	0.61	3568
8640 Summer	0.54	4328
10080 Summer	0.49	5136
15 Winter	28.17	15
30 Winter	19.18	24
60 Winter	12.80	42
120 Winter	8.41	76
180 Winter	6.56	106
240 Winter	5.47	136

T J Booth Associates		Page 2
104 Yorkshire St Rochdale Lancashire OL16 1JY	attenuation pond morris 1 wildhouse ct milnrow	
Date nov 2025 - rev0 File calc-tjba-morris-1 wildhouse ct-pon...	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 (l/s)	Maximum Outflow (l/s)	Maximum Water Level (m OD)	Maximum Depth (m)	Maximum Volume (m ³)	Status
360 Winter	1.4	1.4	173.8733	0.0733	2.0	O K
480 Winter	1.2	1.2	173.8658	0.0658	1.7	O K
600 Winter	1.0	1.0	173.8607	0.0607	1.6	O K
720 Winter	0.9	0.9	173.8568	0.0567	1.5	O K
960 Winter	0.8	0.8	173.8508	0.0507	1.3	O K
1440 Winter	0.6	0.6	173.8432	0.0432	1.1	O K
2160 Winter	0.5	0.5	173.8363	0.0362	0.9	O K
2880 Winter	0.4	0.4	173.8327	0.0327	0.8	O K
4320 Winter	0.3	0.3	173.8293	0.0292	0.8	O K
5760 Winter	0.2	0.2	173.8273	0.0272	0.7	O K
7200 Winter	0.2	0.2	173.8248	0.0247	0.6	O K
8640 Winter	0.2	0.2	173.8233	0.0232	0.6	O K
10080 Winter	0.2	0.2	173.8223	0.0223	0.6	O K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
360 Winter	4.21	196
480 Winter	3.50	256
600 Winter	3.03	316
720 Winter	2.70	376
960 Winter	2.25	500
1440 Winter	1.73	744
2160 Winter	1.33	1100
2880 Winter	1.11	1472
4320 Winter	0.85	2204
5760 Winter	0.71	2936
7200 Winter	0.61	3672
8640 Winter	0.54	4288
10080 Winter	0.49	5152

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		

Time / Area Diagram

Total Area (ha) = 0.059

Time	(mins)	Area
from:	to:	(ha)
0	4	0.059

Tank/Pond Details

Invert Level (m) 173.800 Ground Level (m) 174.500

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	25.0	0.50	50.0	1.00	50.0	1.50	50.0	2.00	50.0	2.50	50.0
0.10	30.0	0.60	50.0	1.10	50.0	1.60	50.0	2.10	50.0		
0.20	34.0	0.70	50.0	1.20	50.0	1.70	50.0	2.20	50.0		
0.30	39.0	0.80	50.0	1.30	50.0	1.80	50.0	2.30	50.0		
0.40	44.0	0.90	50.0	1.40	50.0	1.90	50.0	2.40	50.0		

Orifice Outflow Control

Diameter (m)0.060
Invert Level (m)173.800

Discharge Coefficient0.580