

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 171 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	11.104	0.377	10.4	115.3	O K
30 min Summer	11.201	0.474	11.5	150.3	O K
60 min Summer	11.283	0.556	12.4	181.2	O K
120 min Summer	11.310	0.583	12.7	192.2	O K
180 min Summer	11.308	0.581	12.7	191.3	O K
240 min Summer	11.300	0.573	12.6	187.9	O K
360 min Summer	11.274	0.547	12.3	178.0	O K
480 min Summer	11.244	0.517	12.0	166.4	O K
600 min Summer	11.215	0.488	11.6	155.2	O K
720 min Summer	11.186	0.459	11.3	144.7	O K
960 min Summer	11.135	0.408	10.7	126.1	O K
1440 min Summer	11.046	0.319	9.7	95.4	O K
2160 min Summer	10.942	0.215	8.5	61.9	O K
2880 min Summer	10.868	0.141	7.7	39.5	O K
4320 min Summer	10.785	0.058	6.8	15.7	O K
5760 min Summer	10.769	0.042	5.6	11.5	O K
7200 min Summer	10.763	0.036	4.8	9.7	O K
8640 min Summer	10.759	0.032	4.2	8.6	O K
10080 min Summer	10.756	0.029	3.9	7.8	O K
15 min Winter	11.146	0.419	10.8	130.0	O K
30 min Winter	11.253	0.526	12.1	169.8	O K
60 min Winter	11.345	0.618	13.2	206.0	O K
120 min Winter	11.382	0.655	13.6	221.3	O K
180 min Winter	11.378	0.651	13.5	219.7	O K
240 min Winter	11.368	0.641	13.4	215.6	O K
360 min Winter	11.335	0.608	13.0	202.1	O K
480 min Winter	11.294	0.567	12.6	185.7	O K
600 min Winter	11.253	0.526	12.1	169.7	O K
720 min Winter	11.214	0.487	11.6	154.9	O K
960 min Winter	11.142	0.415	10.8	128.7	O K
1440 min Winter	11.021	0.294	9.4	87.3	O K
2160 min Winter	10.887	0.160	7.9	45.1	O K
2880 min Winter	10.800	0.073	7.0	19.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	155.031	0.0	25
30 min Summer	103.610	0.0	38
60 min Summer	66.309	0.0	64
120 min Summer	39.790	0.0	118
180 min Summer	29.273	0.0	146
240 min Summer	23.457	0.0	180
360 min Summer	17.069	0.0	248
480 min Summer	13.516	0.0	316
600 min Summer	11.245	0.0	384
720 min Summer	9.661	0.0	452
960 min Summer	7.594	0.0	584
1440 min Summer	5.379	0.0	840
2160 min Summer	3.783	0.0	1200
2880 min Summer	2.943	0.0	1560
4320 min Summer	2.060	0.0	2212
5760 min Summer	1.611	0.0	2936
7200 min Summer	1.358	0.0	3664
8640 min Summer	1.197	0.0	4408
10080 min Summer	1.089	0.0	5088
15 min Winter	155.031	0.0	25
30 min Winter	103.610	0.0	38
60 min Winter	66.309	0.0	64
120 min Winter	39.790	0.0	118
180 min Winter	29.273	0.0	154
240 min Winter	23.457	0.0	190
360 min Winter	17.069	0.0	268
480 min Winter	13.516	0.0	342
600 min Winter	11.245	0.0	414
720 min Winter	9.661	0.0	486
960 min Winter	7.594	0.0	624
1440 min Winter	5.379	0.0	884
2160 min Winter	3.783	0.0	1244
2880 min Winter	2.943	0.0	1564

Betts Associates Limited		Page 2
6 Old Marsh Farm Barns Welsh Road Sealand CH5 2LY	Rossett Road, Rossett Basin 02	
Date 23/06/2021	Designed by CP	
File INITIAL DESIGN SIZING - BASIN 0...	Checked by RDN	
XP Solutions	Source Control 2020.1	

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
4320 min Winter	10.766	0.039	5.2	10.6	O K
5760 min Winter	10.758	0.031	4.1	8.3	O K
7200 min Winter	10.753	0.026	3.5	7.0	O K
8640 min Winter	10.750	0.023	3.1	6.2	O K
10080 min Winter	10.748	0.021	2.8	5.6	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
4320 min Winter	2.060	0.0	2208
5760 min Winter	1.611	0.0	2928
7200 min Winter	1.358	0.0	3672
8640 min Winter	1.197	0.0	4416
10080 min Winter	1.089	0.0	4968

Model Details

Storage is Online Cover Level (m) 11.727

Infiltration Basin Structure

Invert Level (m) 10.727 Infiltration Coefficient Side (m/hr) 0.16810 Porosity 1.00
 Infiltration Coefficient Base (m/hr) 0.16810 Safety Factor 2.0

Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	265.2	1.000	509.7

Rainfall Details

Rainfall Model	FEH	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
FEH Rainfall Version	2013	Cv (Winter)	0.840
Site Location	GB 337307 357080 SJ 37307 57080	Shortest Storm (mins)	15
Data Type	Point	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.433

Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)	From: To:	(ha)
0 4	0.144	4 8	0.144	8 12	0.144

Earthworks ×

