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One Little London Chichester Sussex PO19 1PP	ELM GROVE HAYLING ISLAND BOX CULVERT STORAGE	
Date JAN. 2023 File ELM GROVE BOX CULVERT ST...	Designed By PF Checked By	
Micro Drainage	Source Control W.11.2	

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

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	3.2	3.2	5.5322	0.2822	63.5	0 K
30 Summer	3.7	3.7	5.6227	0.3727	83.8	0 K
60 Summer	4.2	4.2	5.7112	0.4612	103.7	0 K
120 Summer	4.5	4.5	5.7827	0.5327	119.9	0 K
180 Summer	4.6	4.6	5.8057	0.5557	125.1	0 K
240 Summer	4.6	4.6	5.8118	0.5617	126.4	0 K
360 Summer	4.6	4.6	5.8173	0.5672	127.6	0 K
480 Summer	4.6	4.6	5.8152	0.5652	127.2	0 K
600 Summer	4.6	4.6	5.8087	0.5587	125.7	0 K
720 Summer	4.6	4.6	5.7992	0.5492	123.6	0 K
960 Summer	4.5	4.5	5.7767	0.5267	118.5	0 K
1440 Summer	4.2	4.2	5.7282	0.4782	107.6	0 K
2160 Summer	3.9	3.9	5.6637	0.4137	93.1	0 K
2880 Summer	3.6	3.6	5.6112	0.3612	81.2	0 K
4320 Summer	3.2	3.2	5.5337	0.2837	63.8	0 K
5760 Summer	2.8	2.8	5.4802	0.2302	51.8	0 K
7200 Summer	2.6	2.6	5.4428	0.1927	43.3	0 K
8640 Summer	2.3	2.3	5.4143	0.1642	37.0	0 K
10080 Summer	2.2	2.2	5.3938	0.1438	32.3	0 K
15 Winter	3.4	3.4	5.5662	0.3162	71.2	0 K
30 Winter	3.9	3.9	5.6687	0.4187	94.2	0 K
60 Winter	4.4	4.4	5.7692	0.5192	116.9	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
15 Summer	131.85	22
30 Summer	88.57	36
60 Summer	56.71	64
120 Summer	35.00	122
180 Summer	25.97	180
240 Summer	20.88	210
360 Summer	15.37	272
480 Summer	12.34	338
600 Summer	10.40	408
720 Summer	9.04	476
960 Summer	7.24	612
1440 Summer	5.28	882
2160 Summer	3.85	1276
2880 Summer	3.07	1648
4320 Summer	2.23	2380
5760 Summer	1.77	3112
7200 Summer	1.48	3824
8640 Summer	1.28	4504
10080 Summer	1.14	5248
15 Winter	131.85	22
30 Winter	88.57	36
60 Winter	56.71	64

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120 Winter	4.8	4.8	5.8533	0.6033	135.7	0 K
180 Winter	4.9	4.9	5.8828	0.6328	142.3	0 K
240 Winter	4.9	4.9	5.8898	0.6398	144.0	0 K
360 Winter	4.9	4.9	5.8908	0.6408	144.2	0 K
480 Winter	4.9	4.9	5.8848	0.6348	142.8	0 K
600 Winter	4.9	4.9	5.8723	0.6223	140.0	0 K
720 Winter	4.8	4.8	5.8563	0.6063	136.4	0 K
960 Winter	4.7	4.7	5.8208	0.5708	128.4	0 K
1440 Winter	4.3	4.3	5.7487	0.4987	112.2	0 K
2160 Winter	3.9	3.9	5.6577	0.4077	91.7	0 K
2880 Winter	3.5	3.5	5.5877	0.3377	76.0	0 K
4320 Winter	2.9	2.9	5.4922	0.2422	54.5	0 K
5760 Winter	2.5	2.5	5.4338	0.1838	41.3	0 K
7200 Winter	2.2	2.2	5.3958	0.1458	32.8	0 K
8640 Winter	1.9	1.9	5.3708	0.1208	27.1	0 K
10080 Winter	1.7	1.7	5.3523	0.1023	23.1	0 K

Storm Duration (mins)	Rain (mm/hr)	Time-Peak (mins)
120 Winter	35.00	120
180 Winter	25.97	176
240 Winter	20.88	230
360 Winter	15.37	286
480 Winter	12.34	362
600 Winter	10.40	438
720 Winter	9.04	514
960 Winter	7.24	662
1440 Winter	5.28	942
2160 Winter	3.85	1344
2880 Winter	3.07	1732
4320 Winter	2.23	2468
5760 Winter	1.77	3176
7200 Winter	1.48	3888
8640 Winter	1.28	4584
10080 Winter	1.14	5336

Rainfall Details

Region	ENG+WAL	Shortest Storm (mins)	15
Return Period (years)	100	Longest Storm (mins)	10080
M5-60 (mm)	20.000	Summer Storms	Yes
Ratio-R	0.350	Winter Storms	Yes
Cv (Summer)	0.750	Climate Change %	+40
Cv (Winter)	0.840		

Time / Area Diagram

Total Area (ha) = 0.266

Time from:	(mins) to:	Area (ha)	Time from:	(mins) to:	Area (ha)
0	4	0.130	4	8	0.136

Tank/Pond Details

Invert Level (m) 5.250 Ground Level (m) 6.400

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.00	225.0	0.40	225.0	0.80	225.0	1.20	225.0
0.20	225.0	0.60	225.0	1.00	225.0	1.40	225.0

Orifice Outflow Control

Diameter (m) 0.055 Invert Level (m) 5.250
 Discharge Coefficient 0.600