

Soakaway Design

Job No.:
Job Name: Lovedean Lane

Site Areas
Driveway 225 m2

Area 225 m2
Run off Coeff 1 m2
225 m2

100 year return period + 40% climate change

100 year return period + 40% climate change		Storm duration (Min.)	T	N	r	Climate allowance 30%	
R5	0.03242	m	5	0.08 hrs	0.083333333	0.1	0.023154
R10	0.04017	m	10	0.17 hrs	0.166666667	0.1	0.028694
R15	0.04546	m	15	0.25 hrs	0.25	0.1	0.032473
R30	0.05603	m	30	0.50 hrs	0.5	0.1	0.040022
R60	0.06888	m	60	1.00 hrs	1	0.1	0.0492
R120	0.08450	m	120	2.00 hrs	2	0.1	0.060356
R240	0.10348	m	240	4.00 hrs	4	0.1	0.073917
R360	0.11643	m	360	6.00 hrs	6	0.1	0.083168
R600	0.13500	m	600	10.00 hrs	10	0.1	0.096432
R1440	0.17376	m	1440	24.00 hrs	24	0.1	0.124113

Inflow to attenuation system

I5 7.293 m3
I10 9.039 m3
I15 10.229 m3
I30 12.607 m3
I60 15.498 m3
I120 19.012 m3
I240 23.284 m3
I360 26.198 m3
I600 30.376 m3
I1440 39.095 m3

Outflow from Tank

f 4.11E-06 m3/s (Worst case test result on site)

Soakaway dims:

Area 225 m
0 m
Depth 0.25 m (below invert depth of inlet pipe)

As50 112.5 (50% base area)

Void ratio 30 %

Outflow from Tank:

O5 0.14 m3
O10 0.28 m3
O15 0.42 m3
O30 0.83 m3
O60 1.66 m3
O120 3.33 m3
O240 6.66 m3
O360 9.99 m3
O600 16.65 m3
O1440 39.96 m3

Storage required:

Storage required:	Time to drain:
S5 7.15 m3	ts50 2.15 hours
S10 8.76 m3	ts50 2.63 hours
S15 9.81 m3	ts50 2.95 hours
S30 11.77 m3	ts50 3.54 hours
S60 13.83 m3	ts50 4.15 hours
S120 15.68 m3	ts50 4.71 hours
S240 16.62 m3	ts50 4.99 hours
S360 16.21 m3	ts50 4.87 hours
S600 13.73 m3	ts50 4.12 hours
S1440 -0.86 m3	ts50 -0.26 hours

Storage provided 16.9 m3

Critical storm = S240

Storage required = 16.62

Time to discharge= 4.99 Hours (Should be less than 24 hours)

Soakaway size proposed is satisfactory

Lower Swanwick

HOLE 1

Building Regulation Type Test

Hole size (at invert depth)

Width 300 mm
Length 300 mm
Depth 300 mm 150 mm

	Test 1	Test 2	Test 3	
0	0	0	0	9
75 Time to drop 75mm	3600 secs	3600 secs	4000 secs	3
120	6192	7920	8500	
150 Time to drop 150mm	7920 secs	10800 secs	11500 secs	
170	9658.66667	12186.66667	13033.33333	
225 Time to drop 225mm	14440 secs	16000 secs	17250 secs	
300	18000 secs	22750 secs	24500 secs	
Time between 75mm & 150mm	10840 secs	12400 secs	13250 secs	
Vp	72.26667	82.6666667	88.33333	

Ave. Vp = 81.09 (Used for septic tank drainage fields)

Soil infiltration rate, f = 4.11E-06 (Used for soakaway design)

