

Job No.: 424861
Job Name: Pevensey Road

Average soil infiltration rate
For carpark and roof design soakaway blanket

Test	Result
1	4.19E-06
2	4.19E-06
3	4.19E-06
Min	4.19E-06
FOS	3.00
Use infiltration rate	1.40E-06 Min

TABLE 25.2 Suggested factors of safety, F, for use in hydraulic design of infiltration systems (designed using Bettess (1996). Note: not relevant for BRE method)

Size of area to be drained	Consequences of failure		
	No damage or inconvenience	Minor damage to external areas or inconvenience (eg surface water on car parking)	Damage to buildings or structures, or major inconvenience (eg flooding of roads)
< 100 m²	1.5	2	10
100–1000 m²	1.5	3	10
> 1000 m²	1.5	5	10

Soakaway Design

Job No.:
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Car park + driveway + roofs

Area	599 m2
Run off Coeff	1 m2
	599 m2

1000 year return period

		Storm duration (Min.)	T	N	r
R5	0.04661 m	5	0.083333	0.01	0.046609
R10	0.05721 m	10	0.166667	0.01	0.057207
R15	0.06444 m	15	0.25	0.01	0.064436
R30	0.07888 m	30	0.5	0.01	0.078877
R60	0.09643 m	60	1	0.01	0.096432
R120	0.11777 m	120	2	0.01	0.117772
R240	0.14371 m	240	4	0.01	0.143714
R360	0.16141 m	360	6	0.01	0.16141
R600	0.18678 m	600	10	0.01	0.186783
R1440	0.23973 m	1440	24	0.01	0.239733

Inflow to attenuation system

I5	27.919 m3
I10	34.267 m3
I15	38.597 m3
I30	47.247 m3
I60	57.763 m3
I120	70.546 m3
I240	86.085 m3
I360	96.684 m3
I600	111.883 m3
I1440	143.600 m3

Outflow from Tank

f	1.40E-06 m3/s	(From site investigation)
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Soakaway dims:

Plan area	280 m (Area of driveway to be used as storage blanket)
	1 m
Depth	0.4 m (below invert depth of inlet pipe)

As50 280 (Base area only)

Void ratio 95 % (Permavoid or simiar system)

Outflow from Tank:

O5	0.12 m3		
O10	0.23 m3		
O15	0.35 m3		
O30	0.70 m3		
O60	1.41 m3		
O120	2.82 m3		
O240	5.63 m3		
O360	8.45 m3		
O600	14.08 m3		
O1440	33.79 m3	0.000391 m3/s	0.391067 L/s

Storage required:

S5	27.80 m3	ts50	9.87 hours
S10	34.03 m3	ts50	12.09 hours
S15	38.25 m3	ts50	13.58 hours
S30	46.54 m3	ts50	16.53 hours
S60	56.35 m3	ts50	20.01 hours
S120	67.73 m3	ts50	24.05 hours
S240	80.45 m3	ts50	28.57 hours
S360	88.24 m3	ts50	31.34 hours
S600	97.80 m3	ts50	34.74 hours
S1440	109.81 m3	ts50	39.00 hours

Storage provided	106.4 m3	Additional flood water storage mitigation volume	
		35.0 m3	

Critical storm =	S1440		
Storage required =	144.81	Overflow required to culvert	0.391 L/s
Time to discharge=	39.00	Hours (Should be less than 24 hours)	

Exceedance volume = 38.41m3

38.41