



Soakaway calculations to BRE Digest 365

Calculation Sheet 01
 Project Eleventh Ave, Llay
 Ref 18056
 Description Area 1 - Front

1 in 100 year return period design

30% allowance for climate change	M5-60min	17	Volumetric Runoff Coefficient		Area
	M5-60min	22.1	Roofs and harstanding	1	97.0
	r	0.3	Roads + Pavements	0.75	249.0
			Green	0.35	44.0

Total Effective Area 299.15

Duration (min)	Z1	M5-D (mm)	Z2	M100-D (mm)	I (mm/hr)	Area (sq m)	Inflow (cu m)	Outflow (cu m)	Storage (cu m)
5.0	0.34	7.51	1.85	13.9	166.8	299.2	4.2	0.2	3.92
10.0	0.495	10.94	1.93	21.1	126.4	299.2	6.3	0.5	5.82
15.0	0.59	13.04	1.96	25.5	102.2	299.2	7.6	0.7	6.92
30.0	0.78	17.24	2.01	34.6	69.2	299.2	10.4	1.4	8.91
60.0	1	22.10	2.02	44.7	44.7	299.2	13.4	2.9	10.48
120.0	1.24	27.40	1.99	54.6	27.3	299.2	16.3	5.8	10.56
240.0	1.55	34.26	1.94	66.3	16.6	299.2	19.8	11.5	8.32
360.0	1.8	39.78	1.89	75.3	12.5	299.2	22.5	17.3	5.23
600.0	2.13	47.07	1.83	86.3	8.6	299.2	25.8	28.8	-2.99
1440.0	2.79	61.66	1.73	106.7	4.4	299.2	31.9	69.1	-37.21
2880.0	3.5	77.35	1.63	126.1	2.6	299.2	37.7	138.3	-100.53

Percolation factor (m/s) 8.49E-05

PCC outflow and storage based on:			PCC outflow and storage based on:		
No. of chambers	(nr)	1.00	No. of chambers	(nr)	1.00
Radius	(m)	0.75	Radius	(m)	1.50
Effective depth	(m)	2.00	Effective depth	(m)	1.00
Eff Area of soakaways at 50%	(sq m)	4.71	Eff Area of soakaways at 50%	(sq m)	4.71
Storage per soakaway	(cu m)	3.53	Storage per soakaway	(cu m)	7.07

Total Eff area 9.4 (sq m)
 Total Storage 10.6 (cu m)



Soakaway calculations to BRE Digest 365

Calculation Sheet 02

1 in 100 year return period design

Project Eleventh Ave, Llay

Ref 18056

Description Area 2 - Rear

30% allowance for climate change

M5-60min 17

M5-60min 22.1

r 0.3

Volumetric Runoff Coefficient

Roofs + Concrete	0.95	140.0
Roads + Pavements	0.75	65.0
Lawns - Flat 2%/1:50	0.15	167.0
Total Effective Area		206.8

Duration (min)	Z1	M5-D (mm)	Z2	M100-D (mm)	I (mm/hr)	Area (sq m)	Inflow (cu m)	Outflow (cu m)	Storage (cu m)
5.0	0.34	7.51	1.85	13.9	166.8	206.8	2.9	0.5	2.36
10.0	0.495	10.94	1.93	21.1	126.4	206.8	4.4	1.0	3.32
15.0	0.59	13.04	1.96	25.5	102.2	206.8	5.3	1.6	3.73
30.0	0.78	17.24	2.01	34.6	69.2	206.8	7.2	3.1	4.05
60.0	1	22.10	2.02	44.7	44.7	206.8	9.2	6.2	3.03
120.0	1.24	27.40	1.99	54.6	27.3	206.8	11.3	12.4	-1.14
240.0	1.55	34.26	1.94	66.3	16.6	206.8	13.7	24.9	-11.14
360.0	1.8	39.78	1.89	75.3	12.5	206.8	15.6	37.3	-21.72
600.0	2.13	47.07	1.83	86.3	8.6	206.8	17.8	62.1	-44.28
1440.0	2.79	61.66	1.73	106.7	4.4	206.8	22.1	149.1	-127.04
2880.0	3.5	77.35	1.63	126.1	2.6	206.8	26.1	298.2	-272.14

Percolation factor (m/s) 1.02E-04

Trench: Outflow and storage based on:

No of trenches	(nr)	1.0
Length of soakaway	(m)	8.5
Width of soakaway	(m)	0.9
Effective depth	(m)	1.8

Eff Area of soakaways at 50% (sq m) 16.9

Storage per soakaway (cu m) 4.131

Total Storage provided (cu m) 4.13