

Sheet1

$f=v/a*t$

v= 0.5*0.5*1.2

a= 0.125
0.5*0.5*0.6 *45 0.125
37.5 0.003333333

t= 45

polystorm cube

1 0.5 0.4 0.2 190 LITRES 0.19

2.4 1 0.4 0

10yr Soakaway Calculation

Soil infiltration rate

Width of trail pit	0.5	mm		
Length of trail pit	0.5	mm		
Depth of trial pit below invert	1.2	mm		
75% depth of pit	0.9	mm		
50% depth of pit	0.6	mm		
25% depth of pit	0.3	mm		
Test time 75 – 25% depth	45	min		
Test time 75 – 25% depth	47	min		
Test time 75 – 25% depth	48	min		
Longest time to fall 75 – 25% depth	48	min		
Storage volume from 75 – 25% depth	Vp 75	15	m ³	
Internal surface area to 50% depth	Ap 50	1.45	m ²	
Surface area of soakaway to 50% depth	As 50	1.2	m ²	
Soil infiltration rate	f	0.215517241	m/s	

Pit Length	2.5	m		
Pit Width	2	m		
Pit depth below invert	1.5	m		
Free Volume	0.3	%		
Return period	10	years		
Ratio of 60min to 2 day rainfall BRE 365 Table 1 Values for Factor Z1	0.4	r		
Impermeable Area	136	m ²		
Soil infiltration rate	0.21551724			

Surface area of soakaway to 50% storage depth	5.4	m ²		
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10yr Soakaway Calculation

Outflow factor		0.25862069	m ³ /s
Required storage volume	S=	2.1	m ³
Soakaway storage volume	S=	2.25	m ³
Time for emptying soakaway to half volume		01:26:24	

Adopt minimum 2.5 x 2.5 x 1.5m deep below pipe invert
with Polystorm Lite modular cell system or equal wrapped in permeable geomembrane
assuming located in garden space pedestrain loading with minimum 500mm soil cover

System to be installed in conjunction with grey water recycling tank with high level overflow
direct to designed soakaway

Actual layout on site to provide three separate soakaways with 2.0m³ capacity each
where rainwater discharge is split front and rear

Volume each 2.5 x 1.0 x 0.8 deep	x3	6	m ³
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30 yr Soakaway Calculation_2

Soil infiltration rate

Width of trail pit	0.5	mm		
Length of trail pit	0.5	mm		
Depth of trial pit below invert	1.2	mm		
75% depth of pit	0.9	mm		
50% depth of pit	0.6	mm		
25% depth of pit	0.3	mm		
Test time 75 – 25% depth	45	min		
Test time 75 – 25% depth	47	min		
Test time 75 – 25% depth	48	min		
Longest time to fall 75 – 25% depth	48	min		
Storage volume from 75 – 25% depth	Vp 75	15	m ³	
Internal surface area to 50% depth	Ap 50	1.45	m ²	
Surface area of soakaway to 50% depth	As 50	1.2	m ²	
Soil infiltration rate	f	0.215517241	m/s	
Pit Length	2.5	m		
Pit Width	2	m		
Pit depth below invert	1.5	m		
Free Volume	0.3	%		
Return period	30	years		
Ratio of 60min to 2 day rainfall BRE 365 Table 1 Values for Factor Z2	0.4	r		
Impermeable Area	136	m ²		
Soil infiltration rate	0.21551724			
Surface area of soakaway to 50% storage depth		5.4	m ²	
Outflow factor		0.25862069	m ³ /s	

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30 yr Soakaway Calculation_2

Required storage volume	S=	2.6	m ³
Soakaway storage volume	S=	2.25	m ³
Time for emptying soakaway to half volume		00:38:24	

Adopt minimum 3.0 x3.0m x 1.5m deep below pipe invert
with Polystorm Lite modular cell system or equal wrapped in permeable geomembrane
assuming located in garden space pedestrain loading with minimum 500mm soil cover

System to be installed in conjunction with grey water recycling tank with high level overflow
direct to designed soakaway

Actual layout on site to provide three separate soakaways with 2.0m³ capacity each
where rainwater discharge is split front and rear

Volume each 2.5 x 1.0 x 0.8 deep	X 3	6	m ³
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100 yr Soakaway Calculation 3

Soil infiltration rate

Width of trial pit	0.5	mm		
Length of trial pit	0.5	mm		
Depth of trial pit below invert	1.2	mm		
75% depth of pit	0.9	mm		
50% depth of pit	0.6	mm		
25% depth of pit	0.3	mm		
Test time 75 – 25% depth	45	min		
Test time 75 – 25% depth	47	min		
Test time 75 – 25% depth	48	min		
Longest time to fall 75 – 25% depth	48	min		
Storage volume from 75 – 25% depth	Vp 75	15	m ³	
Internal surface area to 50% depth	Ap 50	1.45	m ²	
Surface area of soakaway to 50% depth	As 50	1.2	m ²	
Soil infiltration rate	f	0.215517241	m/s	

Pit Length	2.5	m
Pit Width	2	m
Pit depth below invert	1.5	m
Free Volume	0.3	%
Return period	100	years

Hydraulic volume storage ratio	1.12	r
Impermeable Area	136	m ²
Soil infiltration rate	0.21551724	

Surface area of soakaway to 50% storage depth	5.4	m ²
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100 yr Soakaway Calculation 3

Outflow factor		0.25862069	m ³ /s
Required storage volume	S=	2.6	m ³
Soakaway storage volume	S=	2.52	m ³
Time for emptying soakaway to half volume		00:38:24	

Adopt minimum 3.0 x3.0m x 1.5m deep below pipe invert
with Polystorm Lite modular cell system or equal wrapped in permeable geomembrane
assuming located in garden space pedestrain loading with minimum 500mm soil cover

System to be installed in conjunction with grey water recycling tank with high level overflow
direct to designed soakaway

Actual layout on site to provide three separate soakaways with 2.0m³ capacity each
where rainwater discharge is split front and rear

Volume each 2.5 x 1.0 x 0.8 deep X 3 6 m³

100 yr Soakaway Calculation 3

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100 yr Soakaway Calculation 3

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