

CITY OF COCKBURN

ON SITE DRAINAGE REQUIREMENTS (RESIDENTIAL LOTS)

The requirement of the City for stormwater disposal is that all stormwater falling within the lot boundaries is contained within the lot, either through soakwells or other approved methods.

Property owners also have a statutory obligation under common law precedents and section 3.25 (1) of the Local Government Act 1995 to confine stormwater within their boundaries.

The City requires the on-site storage capacity for residential lots be designed to contain the 1 in 20 year storm of 5 minutes duration. This is based on the requirements for gutter & downpipe sizing by Building Codes of Australia. Please note this requirement is based on the assumption that lot levels are higher than surrounding road levels and overland flow path exists in case of a bigger rain event (above 1 in 20 ARI). If not, on-site storage for 1 in 100 year, 24 hour duration rain event will be required similar to the requirement for commercial/industrial lots.

The resulting formula for calculating the storage volume required is:

$$V = A \div 80$$

Where A = impervious area of a catchment measured in square metres; m²

V = required storage volume of the catchment measured in cubic metres; m³

The required number of soakwells can be calculated as follows:

$$N = V/S$$

Where N is the number of soakwells and

S is the volume of a single soakwell

Notes:

1. The number of soakwells to be rounded up to the nearest whole number
2. Where N is greater than 1 and the soakwells within the catchment are linked together by the drainage pipes, the diameter of which shall not be less than 100mm.

City has developed Table 1 below to calculate the roof area (m²) that will be served by different sized soakwells. An example of a simple calculation to obtain number of soakwells is as follows:

The rooftop area is 15.24 × 36.50m = 556m²

Select 1200mm diameter × 1200mm deep soakwell

Table 1 shows that this soakwell will serve 108.56 m² of roof area.

The required number of soakwells is 556/108.56 = 5 soakwells

Table 1: Roof Area (m²) served for 1 in 20 yr 5 minutes storm

		Diameter of Soakwell in Millimetres							
		300	600	900	1200	1500	1800	2100	2400
Depth of Soakwell in Millimetres	300	1.68	6.8	15.3	27.12	42.4	61.04	83.12	108.56
	600	3.36	13.6	30.56	54.32	84.8	122.16	166.24	217.12
	900	5.12	20.32	45.84	81.44	127.2	183.2	249.36	325.76
	1200	6.8	27.12	61.04	108.56	169.68	244.32	332.48	434.32
	1500	8.48	33.92	76.32	135.68	212.08	305.36	415.6	542.88
	1800	10.16	40.72	91.6	162.88	254.48	366.4	498.72	651.44
	2100	11.84	47.52	106.88	190	296.88	427.52	581.92	760
	2400	13.6	54.32	122.16	217.12	339.28	488.56	665.04	868.56

Please note this requirement to retain 1:20 year for residential lots are

This information sheet is a guide only. At time of preparation it was deemed to be correct but may be updated without notice.