# CITY OF COCKBURN

## ON- SITE DRAINAGE REQUIREMENTS
## (INDUSTRIAL AND COMMERCIAL 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, drainage sumps 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 be designed to contain the 1 in 100 year storm of a 24 hour duration.  The below calculation is based on the Australian Rainfall and Runoff standards.

The resulting formula for calculating the storage volume required is –

**Storage Volume = 1460 x E I A (ha) m$^3$**

Where EIA = Equivalent Impervious Area in hectares (10,000 square metres)

Example, for a lot with an impervious area of 700 m$^2$, the equation would be –

**Storage volume required = 1460 x 700/10000**
**= 102.2 m$^3$**
**(in simplified terms, area (m$^2$) x 0.146)**

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

The enclosed chart illustrates the storage volume provided and the area served by different-sized soakwells. Please note that the chart is based on a soakage area 1.0m radius around the soakwells for infiltration over 24 hours.

| SOAKWELL VOLUMES AND SURFACE AREAS | | | | | |
|---|---|---|---|---|---|
| DIAMETER | DEPTH | VOLUME | SOAKAGE AREA (BASE AND SIDES) | VOL + SOAK AREA (m$^3$) | AREA SERVED FOR 100 YEAR 24 HOUR STORM (m$^2$) |
| 0.6 | 0.6 | 0.17 | 1.41 | 1.58 | 10.89 |
| 0.6 | 0.9 | 0.25 | 1.98 | 2.23 | 15.27 |
| 0.6 | 1.2 | 0.34 | 2.55 | 2.88 | 19.73 |
| 0.9 | 0.9 | 0.57 | 3.18 | 3.75 | 25.68 |
| 0.9 | 1.2 | 0.76 | 4.03 | 4.79 | 32.81 |
| 1.2 | 0.6 | 0.68 | 3.39 | 4.07 | 27.88 |
| 1.2 | 0.9 | 1.02 | 4.52 | 5.54 | 37.94 |
| 1.2 | 1.2 | 1.36 | 5.66 | 7.01 | 48.01 |
| 1.2 | 1.5 | 1.70 | 6.79 | 8.48 | 58.08 |
| 1.2 | 1.8 | 2.04 | 7.92 | 9.95 | 68.15 |
| 1.5 | 1.2 | 2.12 | 7.42 | 9.54 | 65.34 |
| 1.5 | 1.5 | 2.65 | 8.84 | 11.49 | 78.70 |
| 1.5 | 1.8 | 3.18 | 10.25 | 13.43 | 91.99 |
| 1.5 | 2.4 | 4.24 | 13.08 | 17.32 | 118.63 |
| 1.5 | 3 | 5.30 | 15.91 | 21.21 | 145.27 |
| 1.8 | 1.2 | 3.05 | 9.33 | 12.39 | 84.86 |
| 1.8 | 1.5 | 3.82 | 11.03 | 14.85 | 101.71 |
| 1.8 | 1.8 | 4.58 | 12.73 | 17.31 | 118.56 |
| 1.8 | 2.4 | 6.11 | 16.12 | 22.23 | 152.26 |
| 1.8 | 2.7 | 6.87 | 17.82 | 24.69 | 169.10 |
| 2.4 | 1.5 | 6.79 | 15.84 | 22.62 | 154.93 |
| 2.4 | 1.8 | 8.14 | 18.10 | 26.24 | 179.73 |
| 2.4 | 2.4 | 10.86 | 22.62 | 33.48 | 229.31 |

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Although details are not required by Council for Development Approval, thought should be given to the method of stormwater disposal at an early stage.

Calculations need to be submitted with the Building License application. An example of a simple calculation sheet to contain stormwater for a 100 year 24 hour duration storm is as follows:

Site area                           = 1000 m$^2$
Landscaped area                     = 90 m$^2$
Impervious area to be sealed        = 910 m$^2$
Size of soakwells used              = 1800mm dia x 1500 mm deep
Each soakwell caters for            = 101.71 m$^2$
Number of soakwells used            = 9
Total area catered for              = 9 x 101.71 m$^2$
                                    = 915.39 m$^2$

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