



Design Standards for Residential Developments Engineering Services



Residential Lots Stormwater Management

It is a requirement that storm water is retained on site suitable to accommodate a 1 in 5 year rainfall event (6 minute duration). Overflow storm water must be directed towards Council's road network or drainage system. It is not permitted to allow overflow towards neighboring properties.

It is recommended that lots drain towards the road or drainage network to allow for overland flow. Ideally, stormwater shall be piped into existing drainage system. Applications will be assessed on a case by case basis.

Several options are available for onsite storage of storm water including, but not limited to:

- Soakwells – note that you must consider soil types and design accordingly
- Within landscaping treatments
- Retention basins
- Recycling systems

The Town recommends that the developers consult with an engineer to review their options.

Several options for controlling overflow storm water include, but are not limited to:

- Provide sufficient fall across the site to allow overflow to be directed to the road network or Council's drainage system
- Design a piped system to connect to the road network or Council's drainage system. This may require pumping the storm water if levels are insufficient



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Table below is the Town's drainage calculations which will assist the developers in formulating their drainage requirements.

Soakwells Option

Standard Drainage Calculation for Residential Lots - This example is based on 1m²

| | | | |
|-----------------------------|----------|---------------------------------------|--|
| Co-Efficient of runoff (C)= | 0.85 | | |
| Covered Area (A)= | 1 | m ² | |
| Rainfall Intensity (I)= | 152 | mm/hr (6mins duration, 1in5yr storm) | |
| | 0.152 | m/3600sec | |
| Q =CIA | 0.000036 | m ³ /sec | |
| t= 6mins | 360 | secs | |
| Volume = Qt = | 0.013 | m ³ | need to be retained on site based on 1m ² |

Soakwells Available

| Size: dia x high | Capacity (m ³) | Number required |
|------------------|----------------------------|-----------------|
| 1200x900 mm | 1 | |
| 1200x1200 | 1.36 | |
| 1800x900 | 2.29 | |
| 1800x1200 | 3.05 | |
| 1800x1800 | 4.58 | |