



RESIDENTIAL STORMWATER DISPOSAL

SANDY SOIL SITES > 350m² WITHOUT A LOT CONNECTION REFER TO STANDARD DRAWING ES 39

Any development brings about an increase in impervious or slow draining areas, when compared to the previous use of the land. This results in an increased stormwater runoff rate and a decreased time for the excess stormwater, which can no longer be infiltrated on the developed site, to reach the City's drainage system. As a result, and given the accumulation of flows, the drainage system may no longer function properly and flooding could occur.

On-site infiltration facilities provide temporary storage for stormwater runoff from developments and restrict the discharge from the site at a rate which the existing drainage system is capable of accommodating, mimicking the pre-development conditions. Please read these guidelines in conjunction with standard drawing ES 39. Refer to the following standard advice notes and requirements when constructing stormwater disposal systems specific to lots greater than 350m², with predominantly sandy soil conditions, room to provide sufficient numbers of soakwells and good infiltration potential. Variation to these requirements can occur based on site location and soil environmental conditions and, specific subdivisional requirements and should be discussed with the City of Gosnells' Technical Service Branch. Please call them on 9397 3000.

1. The soakwell design, is to be based on retaining & infiltrating all runoff resulting from storm events up to and including the critical 1 in 100 year storm event on site, unless otherwise determined by the City of Gosnells' Technical Services branch. Pre-development conditions for the purpose of this application refer to an undeveloped vegetated natural site. Required capacities - accounting for clogging safety factors, should be calculated from the spreadsheet available on the City's website. A printout of the completed spreadsheet should be submitted with the building application
2. Groundwater depth must be taken into consideration when designing the system. Calibrated correction of the groundwater level, should be made for groundwater that is measured in summer, to identify winter peak ground water levels
3. All sites are to have interconnected concrete soakwell pits with minimum 100mm diameter pipes connecting the pits. Where the pipes are placed under the house foundation pad they should be a minimum 150mm diameter Type SN 8 Sewer Class UPVC
4. All soakwell clearances from footings and boundaries are to meet Building Code of Australia or geotechnical report requirements. Typical minimum offset from house footings and other structures to soakwells in free draining sand is 1.5m
5. The base of a soakwell should generally not be deeper than 1.2m. When deeper than 1.2m, step irons must be installed. Allowance must be made for cover and lid depth over soakwells, as this will impact on the usable volume
6. A minimum of 2% grade on all pipes used to interconnect soakwells
7. The lowest lid level in the interconnected system shall be located at the road reserve side of the property and is to have a grated access opening for emergency overflow path to the road via the driveway or alternative City of Gosnells-approved flood path
8. Grated inlets are to be installed at the base of all downpipes (see detail A on drawing ES39)
9. The option of rainwater tanks should be considered to compliment stormwater infiltration systems and for non-potable use of rainwater. Provide overflow into soakwell pits
10. FFL and lot grades should allow for safe overland flow path for storm events greater than 1:100 year ARI to the road or an open drain
11. The house foundation pad must not be cut into the existing finished lot levels nor should it be left lower than the remaining part of the lot
12. Engaging a design engineer should be considered when subsoil drains are thought to be necessary due to high groundwater levels or where low permeability subgrade is present (clayey subgrade/coffee rock).

References: Australian Rainfall and Runoff; Building Codes of Australia.

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