



## RESIDENTIAL STORMWATER DISPOSAL

### CLAY / SILTY SANDY SOIL SITES      SITES WITH A LOT CONNECTION REFER TO STANDARD DRAWING ES 41

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

On-site detention facilities provide temporary storage of stormwater runoff and restrict the discharge from the developed site, at a rate which the existing drainage system is capable of accommodating, mimicking pre-development conditions. Please read these guidelines in conjunction with Standard drawing ES 41. Refer to the following standard advice notes and requirements when constructing stormwater detention systems specific to lots with predominantly clayey sand or silty sand soil conditions and poor infiltration potential. Variation to these requirements can occur, based on site location, soil environmental conditions, where there are specific subdivisional requirements and should be discussed with the City's Technical Service Branch. Please contact them on 9397 3000.

1. In general, the detention system design is to be based on retaining at least a 1 in 100 year storm event on site. Pre-development conditions for the purpose of this application refer to an undeveloped natural site. Required capacities should be calculated from the spreadsheet available on the City's website. A printout of the completed spreadsheet is to be included with the building application
2. A design engineer is to be engaged when subsoil drains are considered necessary due to high groundwater levels or re-active soils
3. All sites are to have interconnected pits with minimum 100mm diameter pipes connecting the pits within an area. Where the pipes are placed under the house foundation pad and between areas they should be a minimum 150mm diameter Type SN 8 Sewer Class UPVC
4. Pits and pipes must be designed and graded to completely drain after storm events, so as to provide full storage capacity within the next 24 hours
5. Outlets are to be at the base of all pits, allowing for sufficient pipe grades
6. Grated inlets are to be installed at the base of all downpipes (see detail A on drawing ES 41)
7. An overland overflow via the driveway or similar route is required in combination with a low level controlled outlet to the City's drainage system
8. 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
9. Where overland flow path is not possible, pumping may be required. Liaise with CoG technical services for this situation
10. A silt pit is required on site - see drawing ES 50 - lot connection pit, prior to connection to the City's drainage system
11. All clearances from footings and boundaries are to meet Building Code of Australia and geotechnical requirements
12. The house foundation pad must not be cut into the existing finished lot level nor should it be left lower than the remaining part of the lot
13. No topsoil to be buried onsite. Maximum 100mm topsoil depth
14. The option of rainwater tanks should be considered to compliment stormwater detention and for not-potable use of rainwater. Dispose overflow into stormwater pits
15. Designs are to be checked and approved by the City of Gosnells before construction.