STORMWATER DRAINAGE INFORMATION SHEET

GENERAL REQUIREMENTS

All developments within the City of Melville (*the City*) are required to contain all stormwater runoff resulting from prescribed rainfall events within their boundaries. Stormwater management systems need to be designed such that each lot manages and disposes of stormwater without unduly impacting neighbouring lots or the City's drainage infrastructure. A stormwater drainage plan must be approved by the City for all developments.

The stormwater disposal system may vary depending on the site conditions; however, the following are the City's preferred stormwater disposal systems:

- On-site retention via soil infiltration
- On-site detention via underground and/or above ground tanks for re-use
- Deep aquifer recharge, suitable for large developments or sites with high water tables

STORMWATER DISPOSAL METHOD

On-Site Disposal

Within the City of Melville, most developments are suitable for on-site retention of stormwater via soil infiltration. The required volume capacity of soakwells and/or drainage cells can be determined using the City of Melville stormwater drainage design calculator available from the City's website.

Off-Site Disposal (Connection to the City's drainage system)

The City of Melville generally ***does not permit*** connection to the City's road stormwater drainage networks.

GENERAL SUBMISSION GUIDELINES

1. All Development plans submitted shall include the following minimum key drainage details within a site plan:
   - 1.1 Existing ground levels or contours
   - 1.2 Proposed finished floor level(s) and levels of paved/concrete areas
   - 1.3 Details of proposed drainage systems for roof and paved/concrete area runoff
   - 1.4 Size and locations of all volume management devices
   - 1.5 Size and locations of all proposed stormwater conveyance pipes/devices
   - 1.6 Unless the system is designed and/or certified by a suitably qualified drainage engineer, a filled copy of the City's stormwater drainage design calculator must be submitted showing the proposed volume of storage is not less than the required volume of retention for each storm duration for the proposed development.

2. The following *General Conditions* shall apply for all Developments:
   - 2.1 All stormwater run-off resulting from the prescribed storm events shall be retained/detained and disposed of on-site

2.2 All soakwells installed within pavement areas subject to vehicular loading shall be provided with an appropriate base to prevent subsidence of the well liners and trafficable lids made accessible for maintenance purposes

2.3 Soakwells shall be positioned a minimum of 1.2m or depth of soakwell (whichever is greater) from any proposed or existing footings and lot boundaries

2.4 The base of any soakage devices shall have a minimum 0.5m vertical clearance to the maximum seasonal groundwater table level for the site

2.5 It is recommended that all soakage devices be wrapped in a geotextile fabric to prevent ingress of soil over time

2.6 Downpipe routing shall be configured such that the roof and pavement area catered is proportional to the volume of the retention device connected to it (i.e. all soakwells fill at the same rate if the system is not interconnected)

2.7 All plumbing work to be in accordance with the current version of AS 3500 Plumbing & Drainage, the Building Code of Australia (BCA) and the National Construction Code (NCC)

2.8 All retention/detention devices shall be sourced from an accredited supplier

2.9 It is the owner's responsibility to regularly clean and maintain their on-site drainage system to ensure its ongoing functionality

2.10 No run-off resulting from the prescribed design storm events generated within the property, including driveways, may enter onto the verge

3. The following Design Conditions shall apply for all Developments:

3.1 All drainage systems for commercial, industrial & mixed-use multi-level developments shall be designed by a registered Professional Engineer or certified by a Certificate of Design Compliance issued by a registered Professional Engineer.

3.2 The appointed design Engineer shall, amongst other design criteria, consider the lot geographical location, soil geotechnical conditions, topography and applicable critical rainfall intensities and storm durations in the design of the stormwater management system.

3.3 The design and installation of the systems shall conform to the requirements of the City, Australian Rainfall & Runoff (ARR) guidelines and the Stormwater Management Manual for Western Australia.

3.4 The City requires the following minimum design criteria for the sizing of all stormwater management systems. Any deviation thereof, will need to be supported by a Certificate of Design Compliance by a registered Professional Engineer:

a) Commercial, industrial & mixed-use multi-level developments shall have a stormwater disposal system designed to cater for a 1% AEP storm event of a critical duration.

b) Residential developments **without an overland flow path** from the dwelling(s) shall have a stormwater disposal system designed to cater for a 1% AEP storm event of a critical duration.

c) Residential developments (single & double storey dwellings only) **with an overland flow path** from the dwelling(s) shall have a stormwater disposal system designed to cater for a 5% AEP storm event of a critical duration.

Note: An overland flow path is considered as the provision of a 300mm vertical clearance from the road gutter level to the finished sand pad level.

CALCULATING DRAINAGE CAPACITY

All developments are required to provide drainage infrastructure with sufficient capacity to contain all run-off generated by the design storm events prescribed above, within their lot boundaries. The City has provided a calculator which can be used as a guide for the sizing of soakwells and/or drainage cells which is available on the City of Melville website.

In general, where a development is required to provide for a 1% AEP storm event, a stormwater management plan shall be prepared, and drainage systems shall be designed and/or certified by a suitably qualified drainage engineer.

For further information, please contact the City of Melville's Senior Design Engineer on 9364 0681.