Storm Water Disposal

Contents

1. Scope

This Policy applies:

- to all new development that requires consent from Council on private land, and
- that requires On-Site Detention (OSD).

2. Purpose

This policy has been developed in order to clearly communicate Council's requirements for development with respect to:

- When an On Site Detention system is required
- On Site Detention system design, and
- On Site Detention discharge

3. Policy

3.1 Objectives of the Policy

The objectives of this policy are:

- that OSD design and the method of discharge are appropriate to the site and its surroundings and consistent with Council design requirements
- that OSD systems are integrated into the overall design of the development
- that all development sites manage and drain stormwater adequately to avoid or minimise local area flooding and associated damage to downstream properties and Council assets

Stormwater Disposal Policy		
Owner Manager Development & Traffic Services	Area: DTSU	POL No: 340
Date of Commencement: 2015	Approval Authority: Council	Date Approved: 10 July 2017
Amendment 2	Date of Next Review:2019	Review Period: every 2 years

- the long-term viability of stormwater management measures within the Parramatta Local Government Area;
- the long-term viability of natural watercourses, ecosystems and habitats in Parramatta and beyond
- that Council's existing stormwater infrastructure is augmented where necessary
- the maintenance and/or enhancement of the landscape and environment of Parramatta
- an urban environment with a high standard of residential amenity and safety.
- the consistent and timely assessment of development proposals through the lodgement of OSD plans and documentation that are of a high standard and meet all environmental, planning and Council requirements.

3.2 Fundamental Principles of the Policy

- Stormwater management is to be considered in a cumulative and long term context to maintain and improve the flow of stormwater.

- On-site Detention (OSD) of stormwater helps reduce downstream flooding and avoids or minimises adverse impact upon natural and constructed drainage assets.

- Stormwater system design must provide an appropriate balance between engineering, landscaping and general planning amenity principles.

- Stormwater management may determine whether a site can realise development potential.

- Flood affectation and management may affect and determine on site stormwater management.

- Stormwater management must maintain an appropriate level of safety for persons and property.

- Stormwater runoff must not adversely impact surrounding properties and Council infrastructure and assets through the diversion and concentration of flows.

- Overland flow is to be considered and managed in designing an on-site stormwater system.

- Where applicable, water sensitive urban design principles are to be integrated into stormwater management and design.

- Stormwater management is a fundamental component of development and must be considered as early as possible by the proponent in the evolution of projects.

3.3 Fundamental Design Principles of the Policy

- On site detention is required for all multi-unit residential development, including dual occupancies, all commercial development and all community focused facilities, such as places of worship, community centres, childcare centres and the like, unless it can be demonstrated that OSD will increase flooding of that site. In these circumstances alternate stormwater management is to be considered in line with Water sensitive Urban Design (WSUD) principles set out in the relevant sections of the relevant Development Control Plan.

- Above ground OSD basins are not allowed for residential development, unless excepted by the provisions below.

- On Site Detention is to be in the form of below ground tanks for all dual occupancy and other forms of multi-unit residential and/or mixed use residential development; however, where circumstances exist which physically prevent all volume being detained in a below ground tank,*

    - An OSD system can be a *combination* of above *and* below ground detention tanks (**not basins**), provided:

        - The below ground tank holds a minimum 60% of the site's required storage volume, and
        - the above ground tank is located behind the front building line and away from rear yard outdoor recreation areas, where the design is as recessive and slimline as possible, and
        - the tank is engineered for a product lifecycle matching that of the dwelling/s on site, and
        - the design parameters set out in Council design and development guidelines are fully complied with, and
        - storage volume as calculated using the UPRCT On Site Detention Handbook (for areas covered by the Handbook) or, other applicable methodology, is fully achieved, and

- in addition to that provided for the underground detention tank, any above ground storage tank must include an orifice plate, discharge control pit and overflow and any other design requirements for OSD tanks required under Council design and development guidelines and for applicable areas, the UPRCT OSD Handbook,
- a registered and experienced hydraulic/civil engineer designs any OSD system, and
- all relevant LEP and DCP planning and landscaping requirements, including building envelope controls and soft and deep soil coverages are complied with, without exception.

- For residential development on flat sitesonly, above ground basins up to a maximum depth of 300mm can be considered for ground level drainage. Other detention options set out in this Policy could be considered for flat sites in conjunction with detention basins if needed to achieve appropriate detention volume.
- Above ground OSD basins can be considered for non residential developments, provided the ponding depth of any above ground basin does not exceed 300mm.

- All On Site Detention systems must discharge by gravity to Council's stormwater infrastructure.

- Stormwater is to be discharged in the general direction as determined by the topography of the site and within its natural catchment/sub-catchment.

- Where discharge of OSD by gravity to the street frontage of a site is not possible, an inter-allotment drainage easement/s will be required. Where the available drainage point is through Council land and is not permitted by Council due to classification of that land, applications will be assessed on individual merits and environmental constraints.

- OSD design parameters are to be in accordance with:

    - Council design and development guidelines

    - for applicable areas, the Upper Parramatta River Catchment Trust Handbook and council design and development guidelines.

- Minimal landform modification, such as excavation (other than for below ground storage) and/or fill, is to be incorporated into any stormwater management system

- Pump out systems cannot be used in lieu of OSD or to drain On-Site Detention systems wholly or in part*

- Absorption trenches or similar cannot be used in lieu of OSD or to drain On-Site Detention systems wholly or in part

- For developments with a total site discharge greater than 30 l/s, discharge must be to Council's piped street system.

  *Note Pump-out is allowed for the drainage of basements only.

- The dedicated air space only of rainwater tanks may be considered as a partial offset for detention volume requirements in line with calculations and design requirements under the Upper Parramatta River Catchment Trust Handbook 4th edition.

3.4 Alternatives to the above Policy

In exceptional circumstances and only for an individual development, Council may revise this Policy on a one off basis and require or allow variations to the proposed stormwater management system if it can be shown to Council's satisfaction that:

- implementing the normal requirements for OSD would adversely affect flooding or would cause other environmental harm, or increased risks to persons or property, and/or
- Council has imposed restrictions that prevent normal implementation of OSD policy (such as not permitting construction of a drainage pipeline though a Council reserve).

In such cases Council may require an alternative approach to the development's stormwater management system based on Water Sensitive Urban Design principles set out in the relevant Development Control Plan and including increased rainwater harvesting and integration of the engineering and landscape designs to improve stormwater outcomes.

3.5 Information to be provided when submitting a Development Application (including s96 & s82A)

- A survey plan prepared and signed by a registered surveyor with all levels to Australian Height Datum and site boundaries defined by survey.

- Concept OSD design submission (including summary and volume calculations) and stormwater drainage design plan in accordance with relevant documentation referred to in this Policy to be prepared by a registered Civil/Hydraulic engineer
- A completed Council stormwater/OSD checklist signed by the design engineer.

- Where a site adjoins Crown land (such as a rail corridor, Sydney Water stormwater channel) and/or proposes discharge to a State owned asset, the approval of the asset owner must be obtained prior to lodgement of a Development Application (incl. s96 and s82A applications).

- Where an inter-allotment drainage easement/s is required, the consent of downstream property owner/s agreeing to the easement/s must be obtained prior to lodgement of a Development Application (incl. s96 and s82A applications).

Definitions

On-Site Detention (OSD) – a stormwater management system designed to collect and detain water before releasing it at a controlled flow rate by gravity to Council's stormwater infrastructure. The sole purpose of OSD is to reduce flooding.

Upper Parramatta River Catchment Trust (UPRCT) On Site Detention Handbook – A publication of the Trust which specifies the design parameters for calculating storage and design requirements for OSD systems.

OSD tank– the OSD is located in an engineered tank located above or below ground.

Above Ground OSD basins – the OSD system is located above ground in an open basin configuration.

Below Ground OSD tanks – the OSD system is located below ground.

Inter-allotment drainage easement – a reservation of land over public or private downstream property/ies to enable a pipe to be laid to drain OSD by gravity from a development site to Council drainage infrastructure.

Discharge control rate – a rate of water flow measured in litres per second which is calculated based on the site area of an allotment and not the rate at which water is discharged from an OSD system. The Discharge control rate is used to determine the type of connection of the private system to Council's stormwater system i.e discharge to kerb or Council pit/pipe.

WSUD – Water Sensitive Urban Design addresses the environmental management of stormwater and may work in conjunction with OSD. WSUD promotes rainwater harvesting, pollution control and integration of landscape and engineering to manage stormwater.

Associated documents

This policy provides further guidance and direction on how On Site Detention systems are to be designed and discharged and is in addition to the following documents which must also be considered and satisfied when designing a site based on site detention system:

- SEPP BASIX
- Parramatta Local Environmental Plan 2007 and 2011
- Parramatta Development Control Plan 2011
- Australian Rainfall & Runoff
- Council's Design and Development Guidelines (as referred to in DCP 2011)
- Upper Parramatta River Catchment Trust On-Site Detention Handbook editions 3 and 4.

This Policy prevails to the extent of any inconsistency with the Upper Parramatta River Catchment Trust On Site Detention Handbook.

Footnote

Pump Out Systems

- **Pump out systems can only be considered for draining driveways and basement car parks**
- **Pump out cannot be used in lieu of OSD or to drain On-Site Detention systems wholly or in part because:**

- **Pump out is not in line with recognised engineering industry best practice**
- **Do not work in the advent of power failure**
- **Prone to circuit mortality**
- **Require routine maintenance and testing**
- **Create unacceptable liability for Council**
- **Implications for Council asset, pipe/pit capacity**

Absorption Trenches

- **In general, absorption trenches cannot be used in lieu of OSD or to drain On-Site Detention systems wholly or in part because:**
  - **They are reliant on appropriate soil conditions and much of Parramatta comprises clay soils**
  - **Result in overland flow**
  - **Have limited longevity and efficacy**
  - **Have limited capacity**

Above Ground Tanks

- **An OSD system comprising of only above ground tanks is not allowed as:**
  - **Above ground tanks can only capture roof area and surface water cannot be captured**
  - **The size of above ground tanks to accommodate the site storage requirements will necessitate large structurally designed tanks located in areas where amenity, site function and landscaping are compromised.**