

Shire of Boddington
Local Planning Policy No. 17 – Stormwater Management

1. Policy Statement

This Policy seeks to ensure that proponents undertaking planning/development proposals effectively manage stormwater. The Policy promotes sound water management practices to assist in the sustainable use and management of water resources.

2. Background and Issues

Various State Government documents provide context to this Policy including *State Planning Policy 2 Environment and Natural Resources Policy* by the Western Australian Planning Commission and the Department of Water's *Better Urban Water Management* and the *Stormwater Management Manual for Western Australia*.

Subdivision/development and associated stormwater management, if not appropriately located and designed, can create issues on and off site including flooding, erosion, property damage and reduced water quality.

3. Definitions

Definitions are as per the *Shire of Boddington Local Planning Scheme No. 2* or as set out in *Better Urban Water Management* or the *Stormwater Management Manual for Western Australia*.

"Bioretention" means the process in which contaminants i.e. nutrients are removed from stormwater runoff through a treatment train consisting of option(s) such as, chemical treatment, soil amendments and use of nutrient adsorbing plants.

"Detention/detain" means the process of reducing the rate of off-site stormwater discharge by temporarily holding rainfall runoff, to the design Average Recurrence Interval (ARI) event, and then releasing it slowly to reduce the impact on downstream water bodies and to attenuate urban runoff peaks for flood protection of downstream areas.

"Infiltration" means the process by which water on the ground surface enters the soil.

"Retention/retain" means the process of preventing rainfall runoff from being discharged into receiving water bodies by holding it in a storage area. The water may then infiltrate into groundwater, evaporate or be removed by evapotranspiration of vegetation. Retention systems are designed to prevent off-site discharges of surface water runoff up to the design ARI event. It is the difference between total precipitation and total runoff.

"Run-off" means the portion of rainfall on a drainage area or surface that is discharged from the drainage area to drainage.

"Stormwater" means all surface water runoff from rainfall, predominantly in urban and rural living catchments.

4. Objectives

The objectives of this Policy are to:

- minimise stormwater run-off and maximise the capture of rainwater for re-use at or near the source;
- ensure that stormwater infiltration and run-off rates post development have no more of an off-site impact than pre-development run-off rates;
- promote water quality through adopting water sensitive urban design;
- prevent flood and stormwater damage to the natural and built environment;
- identify typical design or detention/retention requirements for subdivision/development to ensure peak flows can be managed by the local government's stormwater system; and
- better integrate land and water planning and achieve improved water management outcomes.

5. Application of the Policy

This Policy applies throughout the municipality.

6. Links to Local Planning Scheme and other Documents

This Policy relates to various requirements set in *Local Planning Scheme No. 2*, the *Shire of Boddington Local Planning Strategy*, the *National Construction Code (Building Code of Australia)*, the *Residential Design Codes of Western Australia* and various Local Planning Policies.

7. Policy Provisions

7.1 Detaining and retaining stormwater on site

The Council requires:

- all new subdivision/development to detain stormwater and wherever possible retain stormwater on site;
- ensure that stormwater infiltration and run-off rates post development have no more of an off-site impact than pre-development run-off rates;
- proponents to ensure that stormwater is appropriately addressed including property drainage, infiltration, conveyance and overflow as relevant to the proposal;
- that the design and management of stormwater should not have an adverse effect on the environment, on amenity, on the health and safety of the community and should not increase on-site or off-site flooding; and
- proponents to justify their proposal, including providing appropriate technical evidence which may be from a professional engineer, and to justify any variations to this Policy.

Unless otherwise agreed to by the local government, the Council requires:

- the 1 in 1 year, 1 hour average recurrence interval (ARI) storm event is detained and treated on site;
- stormwater design and management should appropriately address water quality and quantity prior to reaching a receiving water body. The stormwater system should effectively address pollution control (using appropriate bioretention where site conditions dictate), re-use, environmental amenity, ecological integrity and flood

control. To achieve these outcomes, the Council encourages water sensitive urban design through the application of best management practices; and

- proponents/landowners to maximise the capture of rainwater for re-use at or near the source.

Acceptable on site storage systems (detention/retention) include rainwater tanks, below ground pipes, below ground culverts, below ground tanks and soakwells.

Some infiltration systems may be unsuitable for sites containing predominately clay soils and sites with a high ground water level. In such cases, there may be a requirement to fill the site subject to local government approval and/or slow infiltration systems (including bioretention) being adopted.

7.2 Connection to local government stormwater system

Should stormwater not be able to be retained on site in major rainfall events, the local government will consider a connection to the local government stormwater system where there is sufficient capacity in the stormwater system. Any connection to the local government's stormwater system requires the approval and is to be to the satisfaction of the local government.

The Council may require a contribution toward the upgrading and/or construction of the local government's stormwater system prior to connection to prevent localised flooding, to minimise other amenity impacts and to address environmental considerations.

For lots on the lower side of roads, the proponent may need to negotiate with landowner's downslope to obtain access through their land (ideally secured by an easement) for connection to the local government's stormwater system.

7.3 Address considerations early in the planning/design process

The Council requires that proponents/landowners consider the approach to stormwater management and water re-use early on in the planning/design process to achieve water sensitive urban design. This is generally at the scheme amendment and structure planning stages which are refined at the subdivision, development and building permit stages.

Proposals should be supported with relevant technical studies to address stormwater management. Further details are outlined in section 7.6.

7.4 Structure plans, scheme amendments and subdivisions

The Council will have regard to relevant State Government publications in assessing proposals including *Better Urban Water Management* or associated updates. This includes the requirement for proponents to prepare and implement Local Water Management Strategies and Urban Water Management Plans.

The Council will:

- promote water sensitive urban design and require that environmental assets are appropriately considered;

- require proponents undertaking structure plans, scheme amendments and subdivisions to take account of the 1 in 1 year ARI, 1 in 5 year ARI and the 1 in 100 ARI storm events as appropriate to the proposal and site conditions;
- require the preservation of the 1 year, 1 hour ARI peak flow and discharge volume from the (sub) catchment to reduce downstream flood and erosion risks and to contain stormwater runoff so road serviceability is maintained. As part of this, stormwater is to be retained/detained as high in the catchment as possible through the minor conveyance system (including pipe/swale stormwater system);
- require proponents to ensure the major conveyance system (generally overland flow) is preserved for the 1 in 100 year ARI peak flow rate from the (sub) catchment. This is to reduce downstream flood and erosion risks and to contain the stormwater runoff so downstream properties are protected from flooding and emergency exit routes are trafficable; and
- require subdividers to appropriately address and implement stormwater management systems for all proposed lots prior to the creation of new titles. All proposed lots are required to be capable of accommodating proposed development. Additionally, the design and implementation of the stormwater management system is to ensure that neighbouring or properties lower in the catchment are not impacted as a result of stormwater management measures and associated subdivision works.

7.5 Property drainage

As outlined in section 7.1, all stormwater systems should ensure that stormwater is adequately detained and ideally retained on the lot for at least the 1 in 1 year, 1 hour ARI stormwater event.

The Council will require proponents to ensure that stormwater from buildings and structures are appropriately managed so as not to create undesirable impacts to adjoining/nearby properties. Stormwater management systems should be designed to avoid the potential for erosion, damage or any other defects to the property or adjoining properties caused by stormwater.

All premises should be provided with gutters, downpipes or other associated drainage features to ensure effective stormwater disposal away from buildings and other impervious surfaces.

Where stormwater cannot be retained on site, and subject to section 7.2 of this Policy, stormwater should be directed to a local government stormwater legal point of discharge.

7.6 Hydrological/hydraulic studies and civil engineering designs

A hydrological/hydraulic study and associated civil engineering design plans may be required to be prepared and certified by a professional engineer. This may include:

- demonstrating that there are no adverse effects including the diversion of overland flow paths and flooding of upstream, downstream and adjoining properties;
- identifying whether the existing minor and major stormwater systems (both within and downstream of the proposal site) have the capacity to manage runoff from areas proposed to be subdivided/developed; and
- assessing the capacity of the stormwater system to manage runoff generated from impervious areas. If the capacity could be or will be exceeded, setting out options

and a preferred strategy to mitigate the risk including upgrading the stormwater system, installing additional detention infrastructure and/or mandating additional lot retention/detention.

8. Administration

8.1 Matters to be addressed prior to formally lodging the Proposal or Application

Proponents are encouraged to discuss stormwater management designs and systems that seek to vary Policy requirements with the Shire administration early on in the planning/design process and prior to the formal lodgement of any proposal or application.

8.2 Proposal or application requirements

The level of detail associated with addressing stormwater management will depend on what stage the proposal is at in the planning/development process (e.g. Local Water Management Strategy, Urban Water Management Plan or Stormwater Drainage Plan) along with the risks associated with the proposal, the land use, the site's location and the site's features.

8.3 Assessing the proposal or application

Where a proposal or application is made that does not comply with the requirements set out in this Policy, the proposal/application may be referred to adjoining/nearby landowners, State Government agencies or other stakeholders for comment. The local government may also seek advice from the community and other stakeholders depending on the risks associated with the proposal, the land use, the site's location and the site's features.

Proposals/applications will be assessed on a case by case basis subject to Local Planning Scheme No. 2, this Policy, other Local Planning Policies, the *Residential Design Codes of Western Australia*, other State Planning Policies, relevant State Government publications on stormwater management, information provided by the proponent and any submissions received.

The Council may refuse its consent or grant its consent with or without conditions.

Related Policies	<i>LPP 3 Urban Drainage Contribution LPP 6 Development in Flood Affected Areas LPP 15 Buildings and Structures in and near Drainage Easements LPP 18 Cut, Fill and Retaining Walls Works and Services Stormwater Management and Connection Policy</i>
Related Procedures and Documents	
Delegation Level	Chief Executive Officer, Works Manager, Principal Environmental Health Officer/Building Surveyor
Adopted	19 August 2014