

WALLACEVILLE STORMWATER MANAGEMENT PRINCIPLES

[These provisions apply to Area A and Area B of the Wallaceville Structure Plan Area.](#)

GENERAL SITE DRAINAGE

The general site drainage solutions include:

- Collecting and diverting existing upstream flows across the site and into existing and proposed soakage basins/ wetlands/ ponds; installation of roadside swale drains, infiltration trenches and soakage pits;
- Installation of on-site soakage pits and associated private drainage;
- Protection and enhancement of existing soakage area in Grants Bush; and
- Construction of new flood attenuation basins (which, at resource consent and engineering design phase, may be designed as either a dry pond/ soakage area or an engineered wetland, or a combination of the two)
- The preferred location for the new flood attenuation basins is in the Grant's Bush and the Floodplain Forest Remnant Covenant Area, subject to agreement under the conditions of these covenants.

All primary drainage conveyance systems and individual site disposal areas will be sized for the 4% AEP storm event. All secondary overland flow paths and flood flow storage areas will be sized for the 1% AEP storm event, [including an allowance for climate change effects.](#)

STORMWATER DISPOSAL

Overall site stormwater disposal intentions:

For the treatment of overall site runoff the use of a series of treatment systems is proposed, including onsite low impact devices and larger devices in order to form a treatment train, which will improve the treatment efficiency for the site as a whole. Design of stormwater treatment devices will be in accordance with Greater Wellington Regional Council requirements and will take consideration of ARC TP:10.

At source devices will include swales, rain-gardens and rain tanks, which will also incorporate a soakage component in order to improve treatment efficiency and mitigate increased stormwater volumes, while at the same time, serving to recharge the groundwater network. Grassed/ planted swale drains and infiltration trenches will generally be installed along all roadways to cater for road runoff.

Individual house site stormwater disposal intentions (Wallaceville Living Precinct only):

Stormwater disposal via ground soakage but with the incorporation of a number of options for pre-treatment to safeguard against clogging and silting-up of the soakage pits being:

- Settling Chambers;
- Filter Trenches; and
- Raingardens.
- [Each householder will be made fully aware of the existence and type of stormwater management and disposal system installed on their house site through a consent notice registered on their title. A simple Operation and Maintenance Plan will be attached with the consent notice and will inform the householder of their ongoing requirements to inspect, maintain and ensure the ongoing operation of their privately owned stormwater management system.](#)

High-density or multi-unit development stormwater disposal intentions:

Stormwater disposal via larger shared treatment devices (subject to specific engineering design) including larger Raingardens or proprietary "off the shelf treatment devices".

Where the multi-unit development entails individual fee simple titles on smaller parcels of land, then shared treatment and soakage disposal areas ~~will~~ [may](#) be incorporated on public land, owned and operated by Council (this would be subject to further detailed design and negotiation with Council).

Where the development involves a unit-title development structure, the treatment devices will be on private land / common property and be maintained by a Body Corporate or similar management entity.

FLOOD ATTENUATION

Flood attenuation for the overall site will be achieved through the use of wetlands/ ponds, underground storage devices and increased onsite ponding/flooding. The proposed storage must cater for the storage required for flow attenuation for the increased runoff resulting from development of the site for all storms up to the 1% AEP event including allowance for climate change effects.

STORMWATER SPECIFIC INFORMATION TO BE PROVIDED WITH APPLICATIONS FOR SUBDIVISION AND DEVELOPMENT

- All secondary overland flow paths and flood storage areas shall be designed to accommodate the 1% AEP storm event and the design shall show how overland flowpaths will dissipate flow downstream.
- The design of the system shall demonstrate that the proposed soakage disposal is suitable through permeability tests, that it is a viable long term solution, that silt entry will be minimised.
- The design of the system shall identify any assumptions regarding the maximum area of impermeable surfaces, and whether it is appropriate to restrict the maximum percentage of such impermeable areas in future land use.
- The design shall ensure that the proposed stormwater system shall not result in ponding of stormwater on the ground for more than 48 hours following a 1% AEP storm event, unless the ponding is part of the stormwater treatment systems.
- The design shall identify whether the adoption of a minimum freeboard for habitable buildings is necessary, and if so, the amount of such freeboard.
- The design shall ensure that secondary overflow paths are identified and protected
- Any primary drainage conveyance systems which do not have secondary overland flowpaths shall be designed to accommodate the 1% AEP event
- All primary and secondary drainage conveyance systems shall be designed and constructed to ensure ease of maintenance.
- The design and construction of soakage systems shall give due allowance to long-term pore clogging of the receiving environment, including the adoption of mechanisms to require owners to maintain soakpits if they do become blocked.

In addition, the following further information/ testing/ analysis and calculations must be provided to council for their approval:

- Detailed soakage/ percolation testing across the specific area of the site, being developed, using the council approved testing methodology (to be agreed with council prior to testing occurring).
- Assessments of the effects from stormwater disposal on-site to ground soakage, on groundwater mounding (this may include 'slug' testing).
- Assessment of long-term effects on soakage capability for the site, as it may be affected by seasonal groundwater level changes.
- Assessment of the potential for transport of contaminants within the stormwater discharges from the site, into the groundwater system below and downstream of the site.