

Applying Water Sensitive Design Provisions of the Great Lakes Development Control Plan

WHERE DOES THIS APPLY AND HOW DOES IT WORK?

The Water Sensitive Design provisions (WSD Chapter) of the Great Lakes Development Control Plan (DCP) applies across the Great Lakes Local Government area and covers new and infill residential, rural residential, industrial and commercial development (including complying development). The WSD Chapter is divided into two sections - large scale development (greater than 2000m²) and small scale development (less than 2000m²).

For large scale development, a stormwater strategy is prepared by the applicant. This outlines how the water quality and flow targets are to be achieved within the development. The focus of the stormwater strategy will be on building water quality treatments on future public land. Once a stormwater strategy is agreed, the DCP does not need to be applied again when an individual comes to build their house, factory or shops.

For small scale residential development, the rule of thumb is that a combination of a rainwater tank, supplying at least the toilet and laundry, plus roof overflows and other hardstand flowing to a raingarden gives the best overall outcome in terms of pollutant removal.

With this in mind, there are two ways to work out what will be required to meet the water quality targets in the DCP. There is the 'deemed to comply' option which is a table which stipulates the size of a rain water tank and the size of a rain garden to filter the overflow from the tank. There is also the flexibility to design your own treatments using the Small Scale Stormwater Quality Tool. This excel based tool is useful when it is difficult for the applicant to construct a raingarden on their block. The tool gives more treatment options such as the use of infiltration and swales. The tool is available from Council on request.

SMALL SCALE DEVELOPMENT: WHAT WOULD A TYPICAL HOUSE NEED TO MEET THE REQUIREMENTS OF WATER SENSITIVE DESIGN?

The type of soil the house is being built on will influence the type of stormwater treatments available to meet the water quality targets. On sandy sites where there are no issues of elevated ground water, the tank that is required by BASIX would likely have its overflow directed to a defined infiltration area and the cross fall of the driveway would be directed to landscaped areas.



Example of small scale water quality garden

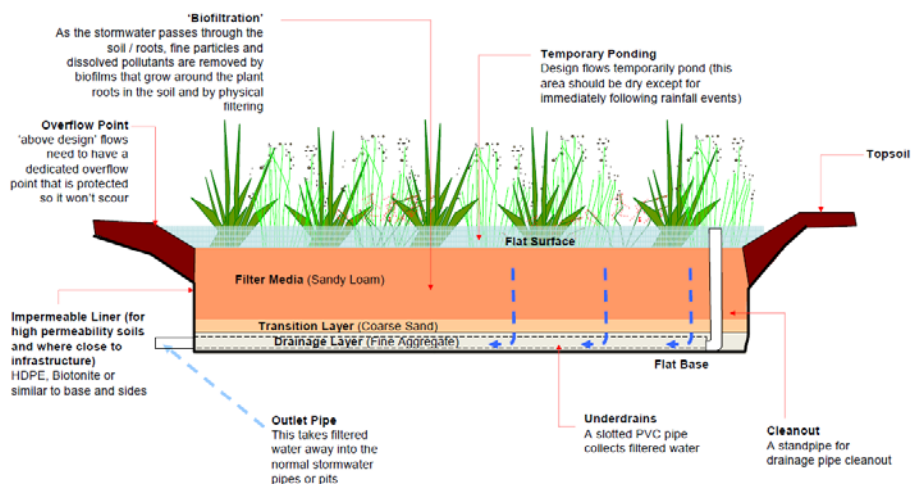
On sites where clay is present, the overflow from the BASIX tank would be directed to a raingarden. As an example, a house on a 600m² block with a roof area of 300m² would require a 3KL tank and 8m² raingarden. Where raingardens are required, it is important to make sure that there is enough elevation for the water to filter through the garden and drain to the street (approximately 800mm from the inlet to the outlet at the street).

There may be situations when the site constraints (eg elevation, rocky substrate, elevation) mean that it is not possible to meet the water quality targets in the DCP. In these situations, applicants will be asked to explain why they could not meet the targets and what treatments have been explored. The applicant would be required to do as much as possible towards improving water quality. This could include increasing the area of roof draining to a tank, increasing the size of the BASIX tank and creating a cross fall from the driveway to landscaped areas.

WHAT IS A RAINGARDEN AND WHAT ARE THE KEY CONSIDERATIONS WHEN BUILDING THEM?

Raingardens (also known as biofilters) are one of the water quality treatments that are very good at removing nitrogen. These gardens are referred to when using the 'deemed to comply' table in the WSD Chapter of the DCP. The gardens are designed with a filter (sandy loam material) and particular plants that are specifically selected to remove nutrients. In sandy soils these gardens need to be lined at the sides and then the stormwater can filter into the ground (not out the sides). On sites where soils are not free draining, underlying drains need to be constructed so that treated water can exit to the stormwater system.

Raingarden



LARGE SCALE DEVELOPMENT: WHAT WOULD BE REQUIRED BY THE GREAT LAKES DCP IF MY PROPERTY IS GREATER THAN 2,000m²?

A full stormwater strategy is required for any development classified as large scale development. The stormwater strategy outlines the water saving and stormwater management measures required to meet the water quality and flow targets outlined in the DCP. If your property is zoned rural residential, then the type of development (eg small or large scale) is determined by the size of the development footprint.

To develop the stormwater strategy, the size and type of treatments are identified by using stormwater models such as MUSIC (Model for Urban Stormwater Improvement Conceptualisation). Council's preference is for the treatments to be included at the subdivision scale with minimal treatment on individual lots.

When applying the DCP, the proposed development can not be broken into stages so that each stage is less than 2000m².

More information on how the WSD Chapter of the DCP can be applied is available in other Great Lakes Council Fact Sheets.

DISCLAIMER: The material contained in this fact sheet is general information only. It should not be relied upon without discussing the specifics of your particular circumstance with an appropriate Council officer. This document is subject to change without notice.