



Swale Drain in Cambridge North

A Guide to Stormwater Management in Cambridge North

What is Stormwater?

Stormwater is rain that doesn't soak into the ground and instead runs off the surface, or rain that runs off a sealed surface like a road or roof. In Cambridge most stormwater flows into the underground piped stormwater system and to eventually enters lakes, rivers and streams around the Cambridge area.

Why is Stormwater an Issue?

Stormwater can carry contaminants such as litter, dust, vegetation, sediment and oils directly into our natural water resources.

Urban development increases the amount of sealed surfaces meaning less rainfall soaks into the ground and stormwater run-off increases. More stormwater means an increased risk of flooding, erosion, threats to human health and possible deterioration of water entering waterways.

How is Stormwater Managed?

There are a variety of methods to manage stormwater, and these depend on the availability of space, the type of catchment (such as industrial, residential or rural) discharging to the treatment system, the sensitivity of the receiving environment and the amenity value of the system itself.

Some stormwater management systems are used to remove contaminants from the stormwater while other systems act to reduce the flow of stormwater discharging to the receiving environment. Some systems do both.

Examples of stormwater management systems include ponds, wetlands, soakholes and trenches, swale drains and rain tanks.

What Stormwater Management Systems are used in Cambridge North?

The Waipa District Council Structure Plan for the Cambridge North Residential Zone requires that future development within Cambridge North incorporate the following stormwater management systems (where practicable) to minimise effects on the Mangaone Stream:

- Stormwater soakage systems for each lot and all roads;
- Use of swales and detention ponds within each development to remove contaminants from stormwater;
- and
- Deep swales located in buffer reserves designed to act as detention ponds to reduce peak stormwater discharges to the Mangaone Stream.

The swales are also designed to discharge water to ground soakage where practicable.

What are Swale Drains?

A swale is an open drainage channel or depression formed in the ground that is specifically designed to receive stormwater and transport it to a discharge point. The sides of the swale are gently sloped. The swale remains dry most of the time, especially during periods of low rain fall. The soil beneath the swales assists with removing contaminants from the water.

Swales are generally grassed, planted with vegetation, or can have a stone-covered surface as shown in the photo.

What are the Benefits of using Swale Drains?

Swale drains are useful in the treatment of stormwater as they:

- Reduce the peak stormwater flowrate compared to a standard piped system;
 - Assist with the removal of contaminants from the water;
 - Can be incorporated into subdivision design as an aesthetic feature whilst providing a practical benefit;
- and
- Are generally low maintenance.

Where in Cambridge North are the Swale Drains Located?

Deep vegetated swale drains are proposed around most of the borders of the Cambridge North Residential Zone. The first swale drain was constructed east of the residential subdivision on Watkins Road undertaken by Saffron Properties Ltd. Swale drains are also located within the Norfolk Downs residential development.

How will I know if my property is affected by a Swale Drain?

The swale drains run both within Council designated land and individual properties. The Certificate of Title for a property will usually identify whether it is subject to specific stormwater design requirements such as a swale drain. It is also worth checking with Council in the first instance as to whether your site has any specific requirements for dealing with stormwater.

Tips to prevent Stormwater pollution

You can help reduce stormwater pollution and help protect our waterways through the following actions.

- **NEVER pour wastes down the stormwater drain.** The stormwater drains flow into our lakes and rivers. Pouring wastes like paints, chemicals, cleaning products, petrol and oil down the stormwater drain could pollute our waterways and poison fish and wildlife.
- **Report any pollution incidents.** Contact Environment Waikato's Pollution response team on 0800 800 401 if you see any water pollution.
- **Wash your car on a grassed area** rather than on the road to prevent detergents and dirt running down the road and into a stormwater drain.
- **Disposal of garden waste** - An alternative to allowing leaves or garden clippings to accumulate in gutters or driveways is to sweep them up and start a compost heap or use them in your garden as mulch. This way you will prevent them entering the street drain where they can cause pollution.
- **Put litter in a bin** - Make sure all your litter ends up in a bin. Litter dropped in our streets ends up in our street drains and is transported to our waterways following rain.
- **Paint brush cleaning** - Rinse paint brushes in the laundry trough or garden rather than letting the contaminated water flow into the street stormwater drain. Tip or wipe excess paint on brushes onto newspaper or a rag. Allow to dry and then place this waste in a bin.
- **Cleaning the footpath** - Always sweep rather than hose your footpath and place waste in the bin. Hosing with water carries dirt, soil or other waste into the street drains.
- **Pick up dog droppings** - Always clean up after your animals. Dog dropping left in our streets ends up in our street drains and is transported to our waterways following rain.

**LET NOTHING BUT RAIN
DRAIN DOWN THE
STORMWATER DRAIN!**

Disclaimer

This information pamphlet is a guide only. It has no legal status and does not purport to be in any way a replacement of Council's statutory documentation. Waipa District Council accepts no liability for any losses incurred by any person relying upon this pamphlet's completeness or the accuracy of its contents.