BUNDABERG REGIONAL COUNCIL

Stormwater Fact Sheet

Overland Flow & Urban Drainage

This fact sheet provides information about:

- Overland Flow
- Urban Drainage Features and Functions

Overland Flow

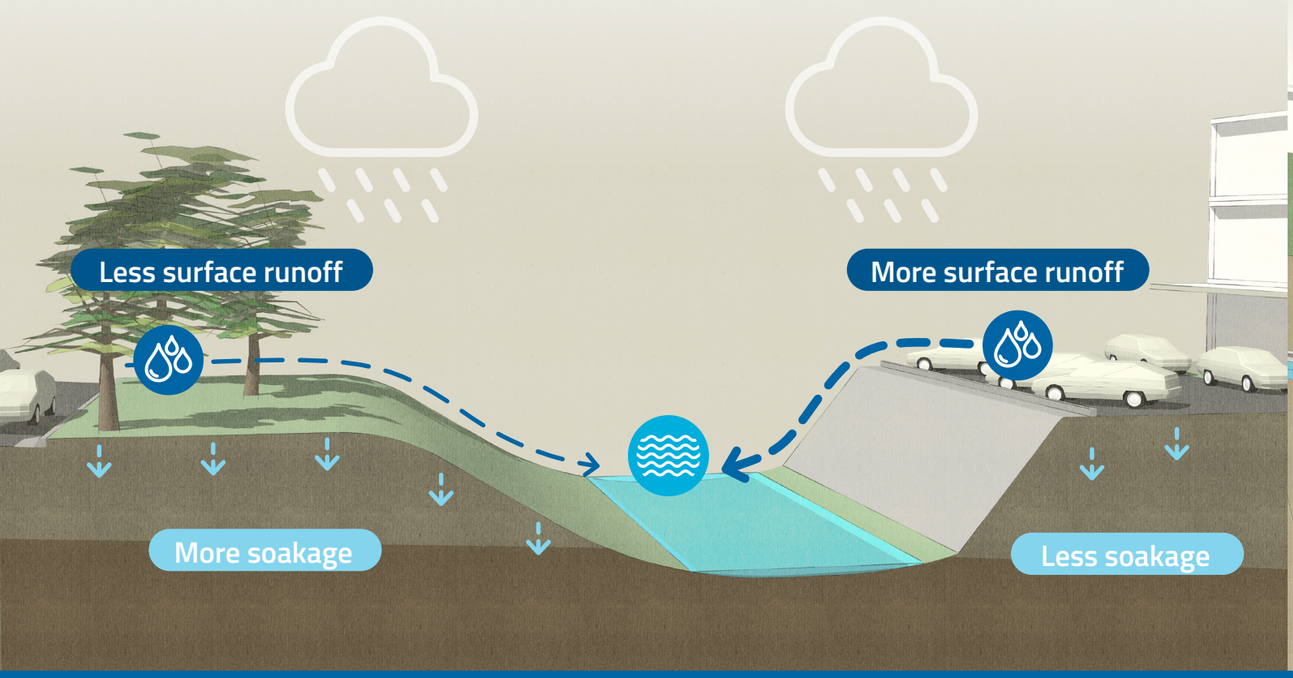
Runoff (overland flow) occurs when rainfall can no longer soak into the soil which occurs when the ground is already saturated. Rainfall runoff (overland flow) occurs when rainfall cannot soak into the ground. This occurs when the ground is already saturated from previous rain or the rain falls on surfaces that do not allow water to soak into the ground (eg. concrete, roads and building roof tops).

As runoff gathers above the ground, it will seek to follow natural or man-made depressions in the landscape. Eventually, this runoff will reach the nearest creek or river and flow into the ocean. In urban or rural areas, overland flow is often directed into stormwater infrastructure, such as stormwater pits, pipes and channels.

Rainfall patterns change over the year, with more rain generally falling in late Spring, Summer and Autumn in the Bundaberg region.

Stormwater that is unable to enter the urban drainage system will find its natural way to the nearest watercourse via overland flow paths. These overland flow paths are typically natural depressions (that often occur through private property), open channels, roadways and the like.

The extents of flooding from runoff varies with the amount of rainfall and efficiency of flow paths. Runoff within these overland flow paths can be blocked or redirected by fences, buildings or debris which can increase the extent of flooding.



Urban Drainage Features & Functions

An urban drainage system is a network of infrastructure that is used to collect stormwater from properties, parks, roads and other environments. Urban drainage is also used to facilitate development by more efficiently capturing and redirecting overland flow. The type and extent of urban drainage infrastructure may vary depending on when the land was developed. Regardless, it usually involves a similar combination of surface and underground infrastructure.

It is also important to recognise that the flat nature of parts of our region may limit what can be done and that installation of hard infrastructure (such as concrete pits and pipes) is not always the right solution.

Channels

Channels are a waterway designed to carry stormwater runoff. Channels can be used to carry large volumes of runoff to creeks and may be lined with vegetation or rock to protect the surface from eroding. Vegetated channels also have the added ability to remove pollutants from stormwater before it enters natural creeks and rivers.

Stormwater Pits

Stormwater pits are used to capture runoff and direct flows into stormwater pipes.

Stormwater Pipes

Stormwater pipes carry the runoff captured by stormwater pits to nearby channels or creeks. Stormwater pipes are typically only large enough to carry runoff from minor storm events.

Kerb and Channel

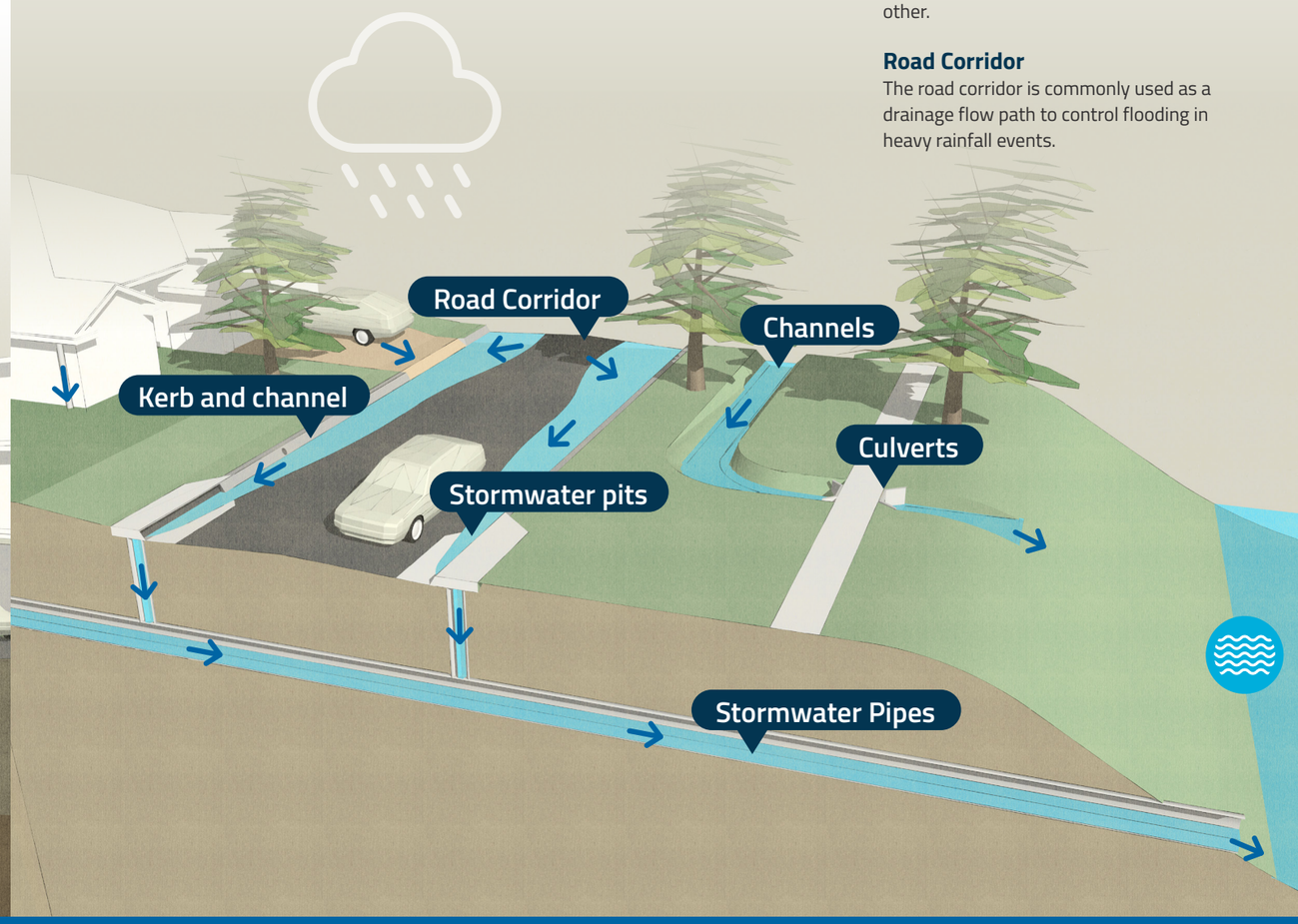
Kerb and channel allows runoff to flow towards stormwater pits within the road. Kerb and channel also provides a connection point for roof downpipes to allow runoff from roofs to flow towards stormwater pits.

Culverts

Culverts are used as 'cross-drainage' to pass flow from one side of a road to the other.

Road Corridor

The road corridor is commonly used as a drainage flow path to control flooding in heavy rainfall events.



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Disclaimer: This fact sheet is for general information purposes only. Council suggests that you obtain your own professional advice specific to your situation.

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