

Grouped Building Lots

Controlling Stormwater Pollution

Fact Sheet 8

Your Building Site

Regional Controls

Regional controls are sediment traps that are either installed during the initial development of a subdivision or developed by Council as a form of regional pollution control for completed urban developments. Examples of regional sediment control measures include permanent sediment traps, gross pollutant traps and constructed wetlands (also known as stormwater quality improvement devices).

Regional controls are designed to manage stormwater pollution from completed estates. Use of these as a substitute for site based erosion and sediment control is generally not acceptable and is far less effective than managing soil erosion and sediment pollution at the site based level.

Most regional controls are primarily aimed at trapping coarse sediment such as sand and coarse silt. But, the existence of regional controls downstream of a building site does not remove the need for adequate drainage and erosion and sediment control measures within each building site. Only through effective on site drainage and erosion control can clays and fine silts be prevented from harming downstream environments.

If a builder proposes to use regional sediment traps as a form of sediment control, or if sediment controls are proposed to be installed outside the property boundaries, Council must be consulted for relevant approval. While regional controls for sediment control may exist, site-based erosion and sediment control measures are preferred during building and construction phases. Regional controls are designed to control only the levels of sediment entering stormwater from a completed estate.

Erosion and Sediment Control Programs



An Erosion and Sediment Control (ESC) program should be prepared for all developments involving combined-lot sediment control structures (refer to Council's *Erosion and Sediment Control Management Plans – Fact Sheet 9*) and will require approval from the developer and relevant council officer.

Further Details:

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Sediment fence and best practice building site

These fact sheets are based on those produced by the South East Queensland Healthy Waterways Partnership

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The Whitsunday Regional Council has developed this erosion and sediment control fact sheet to assist in its goal to protect, enhance and promote its natural assets. Soil erosion, sediment and litter from building sites can be major sources of stormwater pollution and can cause significant harm to our sensitive marine environments like the Great Barrier Reef.

Grouped Building Lots

When more than one building lot is controlled by the builder, then combined-lot sediment control structures may be placed down-slope of these lots if:

- the combined sediment control measures provide a level of protection at least equal to that provided by individual lot protection
- Suitable drainage and erosion control measures are applied to each building lot
- The builder accepts responsibility for the ongoing monitoring and maintenance of sediment control measures
- A suitable sign (where required) is placed in a prominent location outside each lot and/or at the entrance to the estate (if all lots within the estate are subject to combined-lot controls)
- The sign must indicate that combined-lot sediment controls apply to this property.

**COMBINED-LOT SEDIMENT
CONTROLS ARE IN OPERATION
AT THIS BUILDING SITE**

For example, the above wording may be used.

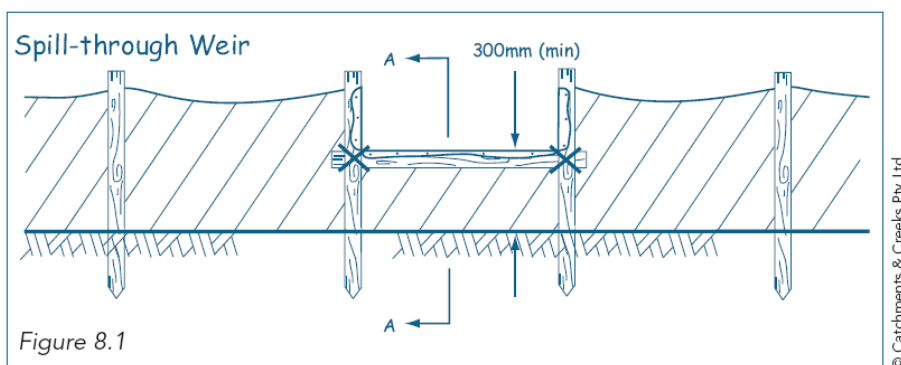
Examples of Combines-lot Sediment Control Measures

Street Sweeping

On multiple lot developments, regular street sweeping can be used to remove coarse sediment from roadways (for example at the end of each working day). However, street sweeping should not be used as an alternative to the placement of rock pads at the entry to each building site. Street sweeping may not capture some clays, and there will always be a small amount of sediment left on the road, especially on road surfaces with a coarse texture. If the remaining sediment is likely to cause a safety hazard, then the material should be washed from the road into a temporary dam formed from porous material (e.g. gravel-filled bags or clean aggregate).

Sediment Fence

A sediment fence can be installed along the lower edge of a combined building site similar to those on single building sites. If the total catchment area exceeds 1500 m², then a spill-through weir should be installed at a low point along the sediment fence. Erosion control matting may be required downslope of this weir to control scouring (refer Figures 8.1 and 8.2).



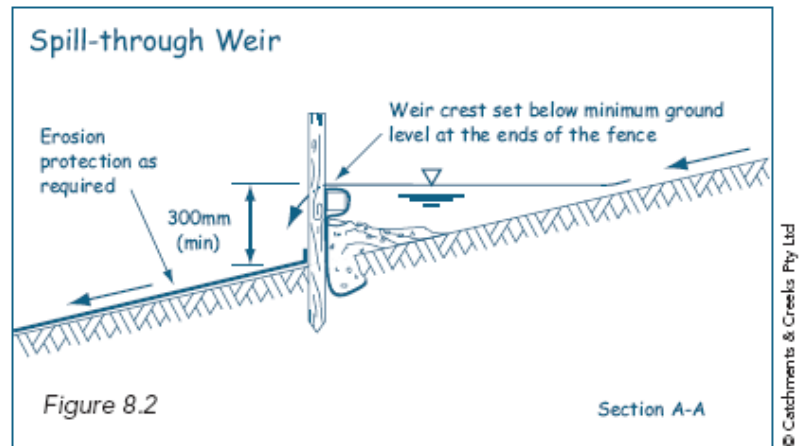
Sediment fence design for combined or grouped sites

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If the catchment area exceeds 1500 m² and spill-through weirs are not installed, then the sediment fence may need extra support to prevent it from failing during storms. Extra support can be provided by cross bracing or by installing the sediment fence up against a permanent property fence. However, the fence should always be turned slightly up the slope at its lower end(s) to help pond water and prevent the water from simply flowing around the ends of the fence (refer to Fact Sheet 4).



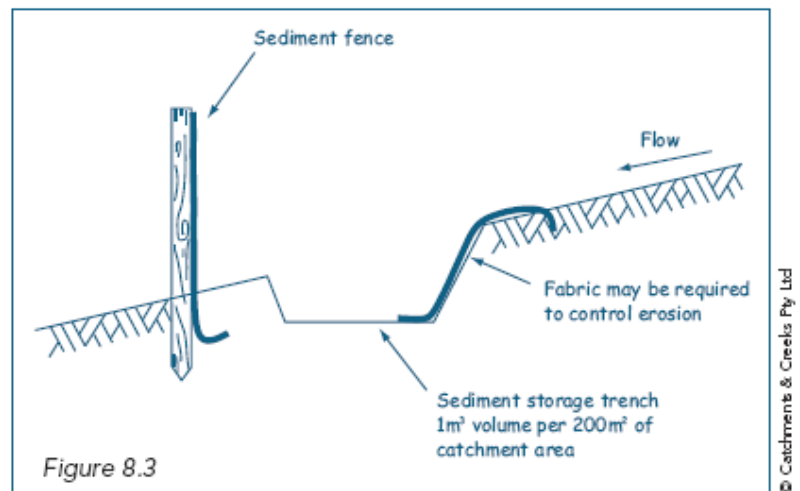
Spill-through weir (Cross-section A-A)

Sediment fences on such sites will require more maintenance than those on smaller sites because of the increased quantity of sediment that is likely to be trapped by the fence. To minimise maintenance, a small sediment collection trench can be excavated up-slope of the fence.

Sediment Trench

A sediment trench is a long trench excavated along the down-slope side of a work site. Where practicable, the sediment storage volume of the trench should be at least 1 m³ for every 200 m² of catchment area flowing to the trench (refer Figure 8.3).

The purpose of the trench is to capture the bulk of the sediment before it reaches the sediment fence. This reduces sediment build-up next to the fence and reduces maintenance of the sediment fence (refer Figure 8.4).



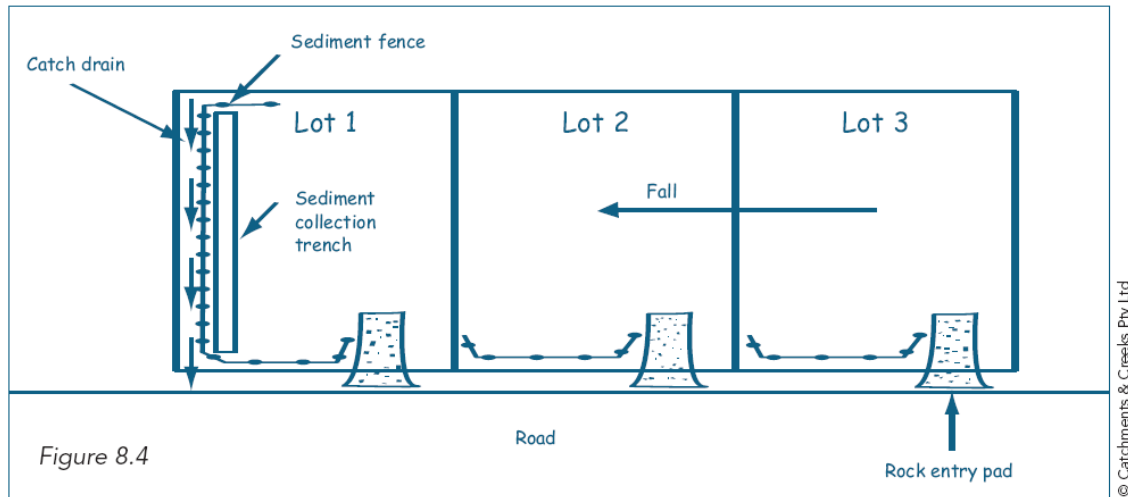
Sediment trench

In most locations, sediment trenches are only suitable if they can drain quickly after a storm so as not to create a safety hazard. Site safety always takes precedence over sediment control. Collected water may either filter through the soil (not suitable for clay soils) or filter through a rock (200 mm) and aggregate (25 mm) filter dam (refer Figure 8.5) installed at a suitable outflow point.

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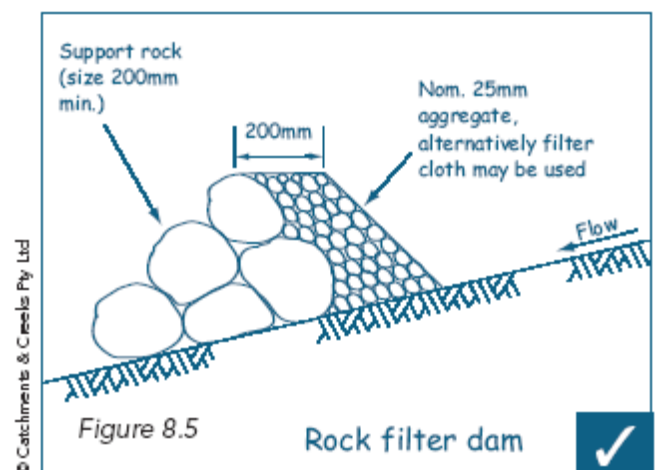


Sediment trench location for combined or grouped sites

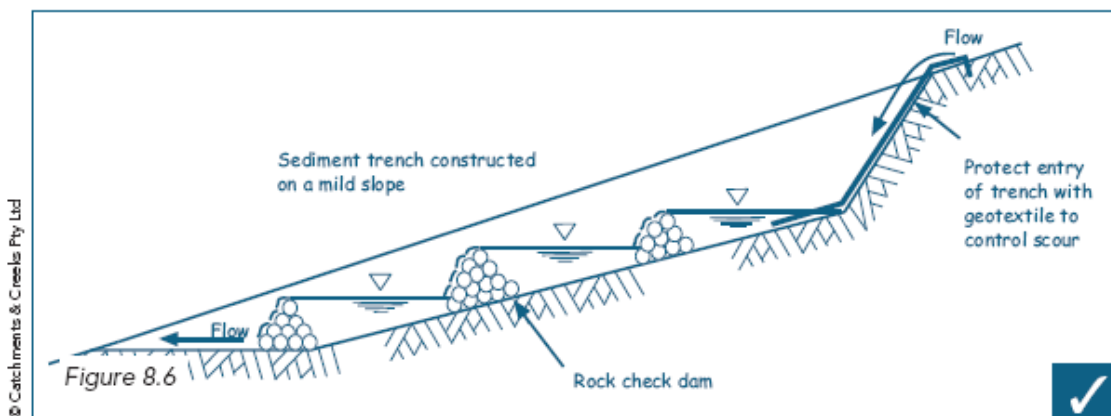
A sediment fence is usually installed immediately down-slope of the trench. Soil excavated from the trench can either be stockpiled away from the trench or placed in mounds between the trench and the sediment fence.

Where possible, the sediment trench should be excavated along the contour.

If the trench is constructed down a slope, then rock or gravelbag filter dams should be installed in the trench to control flow velocities (to prevent scouring) and to help trap sediment along the trench (refer Figure 8.5). A sediment fence may not be required next to the trench in these circumstances (refer Figure 8.6).



Rock or gravel filter dam to slow velocity and help trap sediment



Sediment trench constructed on a slope

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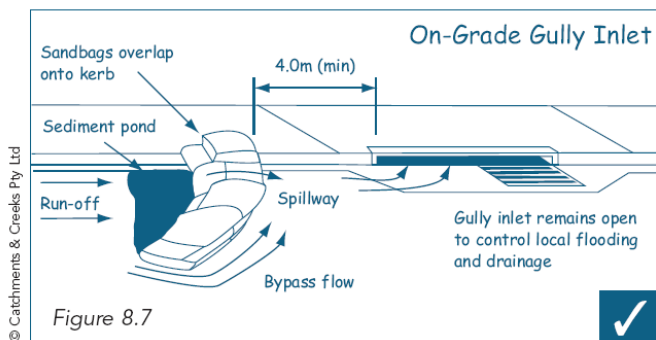
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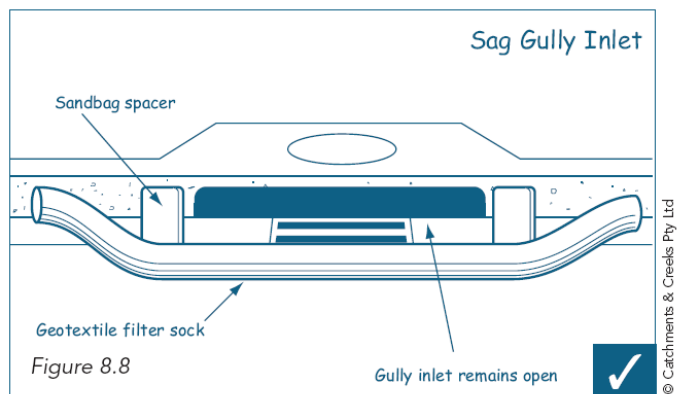
Sediment Barriers Around Roadside Gully Inlets

All reasonable efforts should be taken to fully contain all sediment control measures within the boundaries of the grouped building lots. Where this is not practical and there is the risk of sediment entering a gully inlet, then roadside sediment barriers may be installed if:

- Permission is obtained from the owner of the roadside reserve, usually Council
- All gully inlets can be protected from the soil disturbance to the nearest 'sag' point (lowest point) in the road
- Appropriate 'on-grade' and 'sag' gully inlet sediment barriers are used to protect each type of gully inlet
- The sediment barriers do not pose a traffic safety risk.



A roadside on-grade gully inlet sediment barrier. On a hillside, sediment barriers may consist of a temporary dam constructed from sand or gravel filled bags placed at least 4 metre up-slope from the gully inlet. Fabric should not be placed across the grate or gully inlet.



Roadside sag (low point) gully inlet only. At road sag points, a sediment barrier may be constructed around the gully inlet, but should not block the inlet.