

8 Sediment control

Coarse sediment barrier

Covering the exposed soil on your site (i.e. erosion control) is the best way to stop sediment pollution. Where this is not possible across the entire site, an effective sediment barrier will be needed.

Sediment barriers trap coarse sediments such as sand and gravel. They are not as effective as erosion control measures (such as soil cover), which stop both coarse and fine sediment. Therefore simply putting up a sediment barrier, such as a sediment fence, may not be sufficient to prevent erosion or stop sediment pollution.

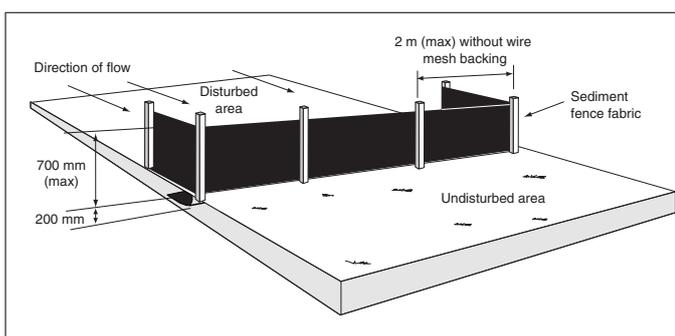
If you are uncertain about whether you have sufficient soil cover you should install a sediment barrier or talk to your local council.

How they work

A sediment barrier acts like a small dam to slow water and allow sediment to settle to the ground. To do this, it needs to be 'returned' at the ends as shown in the diagram below.

A common mistake when installing a sediment barrier is to put it in a straight line without 'returning' it. If the barrier is not 'returned', water will flow around the ends of the barrier instead of ponding behind it.

Slowing down and ponding the water is important as this allows the coarse sediment to drop out of the water.

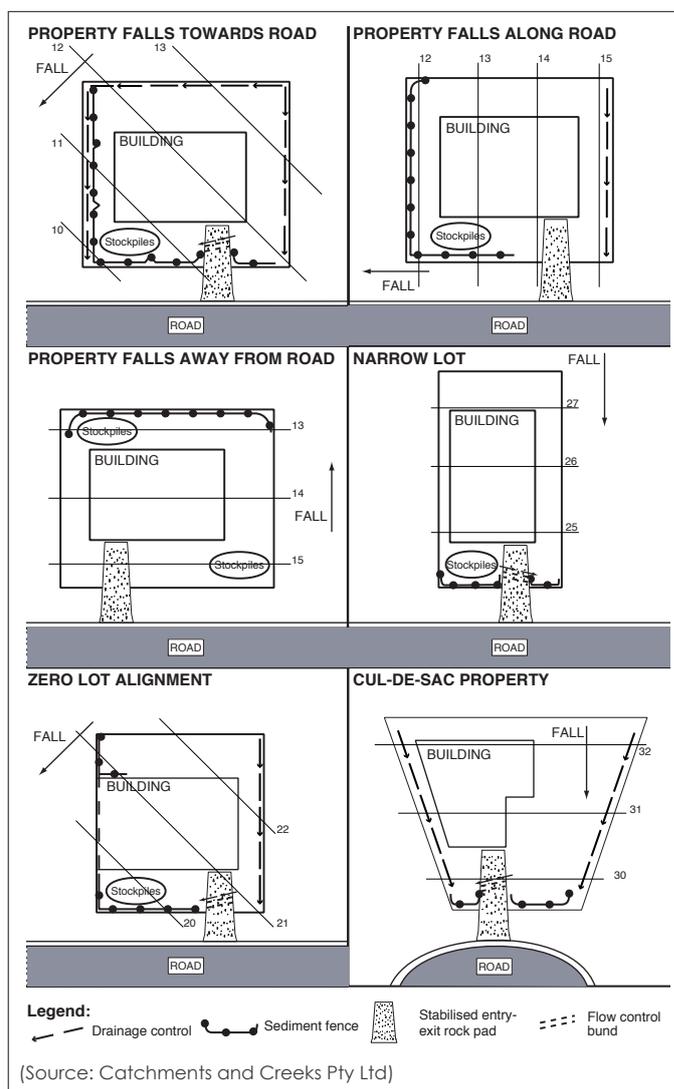


Typical sediment fence installation detail showing 'returns'.
(Source: Catchments and Creeks Pty Ltd)

Location

- Install on the downslope side of the disturbed area and, where possible, parallel to the contour (along a line of constant land level).
- Make sure the sediment barrier is within your lot boundary.

Use the diagrams below as a guide to work out where to put the sediment barrier on your site.



ESC tip

Install returns at each end of the barrier e.g. at the corners of the lot and the driveway entrance. The returns should be at least 1.5 metres long and placed in an up-slope direction to catch water.

Find out more at waterbydesign.com.au/esc

Sediment barrier types

All sites are different in some way. The size, steepness and direction your site slopes will affect which type of sediment barrier best suits your site.

If your site is small and flat (i.e. less than 2% slope and less than 500m² in area), then the following sediment barrier types can be considered:

- Mulch berms - formed from tub-ground wood mulch to form a continuous barrier.
- Rock berms - made from 20–40mm diameter 'clean' aggregate to form a continuous barrier.
- Sediment socks/fibre rolls - permeable tubes filled with a filter media such as gravel, compost or other organic fibres such as straw and placed to form a continuous barrier.
- Low sediment fences - small, flat sites (i.e. less than 500m²) usually have less run-off so a lower height sediment fence (at least 300mm high) may be an option if not considered a trip hazard.

If installed and maintained correctly, these sediment barriers may be used effectively on your site. Be aware that some of these sediment barrier types can be easily damaged and require regular maintenance.

If in doubt, check with your local council.

Sediment fences

Sediment fences are the most common coarse sediment barrier. If your site is steeper than a 2% slope, is more than 500m² in area, or slopes towards one corner of the site - a sediment fence is recommended. This also applies in high rainfall areas where there is more run-off to manage.

Sediment fence installation

1. Dig a trench 200mm deep where you want the sediment fence to go – don't forget the returns. Place the excavated soil on the upslope side of the trench so it is easier to backfill the trench later on.
2. Install support posts along the downslope side of the trench using 40mm square hardwood. The posts should be no more than 2 metres apart and driven at least 300 – 400mm into the ground.
3. Attach the fabric to the support posts using heavy duty staples or tie-wire, starting at one end of the fence line and ensuring that the lower 300mm of fabric lays down into the trench. Ensure that the fabric is drawn taught between each post as it is secured.
Tie and use one continuous roll of sediment fence

fabric to avoid joins and gaps that can let water flow through. The finished height of a sediment fence should be at least 450mm above ground level.

4. Backfill the trench to cover the bottom of the fabric with soil and compact as needed to firmly anchor the fabric to stop water flowing under the sediment fence.



Typical sediment fence.
(Source: Healthy Land and Water)

Maintenance

All sediment barriers need to be regularly checked and properly maintained in full working order to remain effective. If they are moved, damaged, become compacted or fill up with sediment then you need to reinstate them ready for the next rain event.



Mulch berm with upslope 'return' being used on small, flat house lots.
(Source: Catchments and Creeks Pty Ltd)

Did you know...

In all cases the barrier must be high enough to trap the likely amount of coarse sediment from the site when it rains. Note that many of these alternative sediment barriers can be easily damaged by equipment and foot traffic, and will require regular inspection. If these barriers are not well maintained then your site could face a fine.

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