

Sediment Controls



'Do it right on site' is a project to help the construction industry protect the environment and achieve the many benefits that come from doing so.

Sediment Control What is it?

These are a range of products installed across drainage flows to filter sediment out of water and enable its deposition by slowing down water flow. They include sediment fences, straw bales, grass/vegetation strips and sediment traps/basins. Other controls may be available and advice should be sought from suppliers of Sediment Control Equipment.

Why is it important?

Sediment on building sites causes problems not only for the environment but also for builders. A dirty site causes difficulties in wet weather; increases costs from having to replace stockpiles that are washed away; increases clean up costs, penalties and potential damage to your company's reputation if fined for polluting.

The environmental impact of sediment such as mud and dirt is significant. They smother animals and plants that live on the bottom of creek beds. They settle and make the creeks shallower. Many native plants and animals can not survive this and die. Even though mud and dirt are natural they are still serious pollutants that must be prevented from entering our waterways.

What do I need to do?

Before building commences:

Prepare a soil and water management plan, also known as a sediment control plan. This will be required by Council prior to issuing a construction certificate (either at DA stage or as a condition of consent) and should outline the methods you will use to prevent pollution of the stormwater system throughout the life of the development. There may be different controls needed as the site develops due to changes in drainage patterns and vegetation. This should be thought through and shown on your plans. Council can provide you with sample plans, however it is important that you develop a plan specifically for your site.

Remember the more erosion you can prevent the less sediment will need to be captured! The easiest way to prevent erosion is to leave shrubs and grass in place. This has the dual effect of holding the soil and dirt together as well as filtering and slowing down water flows enabling sediment to settle out.

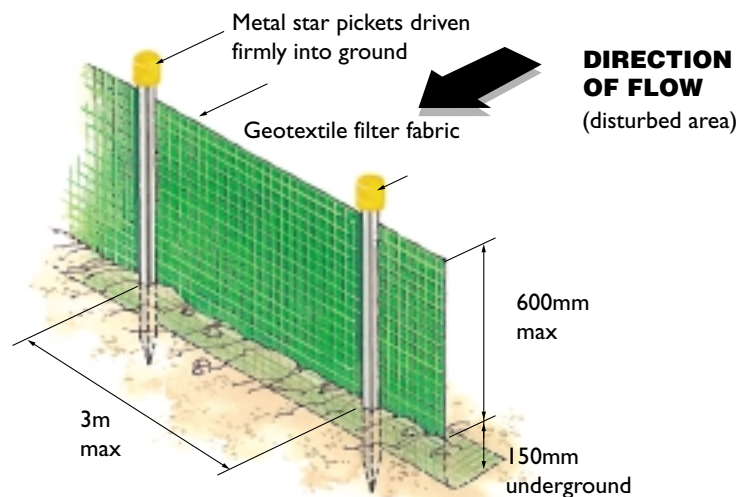
If vegetation needs to be removed try not to do it until immediately before works commence or stage the works to limit the amount of the site that is disturbed at any given time. As you move into a new area, revegetate the finished area. Another way to minimise erosion is to ensure that you only have small amounts of sand, soil and other stockpiles on site at any time. Ensure stockpiles are stored in ways to reduce erosion - see Fact Sheet 8 on *Protected Stockpiles*.

Installing the controls:

The sediment controls need to be in place prior to the commencement of building works. Remember that the sediment controls will need to be altered as construction occurs and the sites drainage patterns change.

Sediment Fence

A sediment or silt fence is the most widely used strategy. It is constructed from heavy duty geofabric. Although a sediment fence looks like shade cloth it is very different and is not interchangeable. A sediment fence is specifically designed to allow the free passage of water and trap sediment



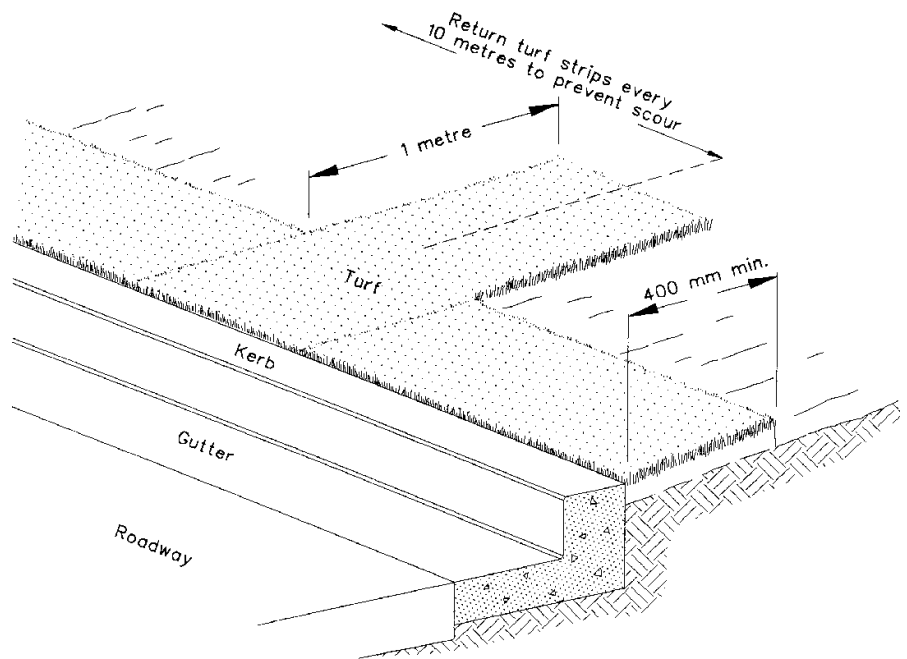
Sediment Fence (continued)

Construction Notes:

1. construct the sediment fence as close as possible to parallel to the contours of the site
2. drive 1.5m long star picket into ground, 3m apart
3. dig a 150mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched
4. backfill trench over the base of fabric (where the sediment barrier has to be located on hard pavement that cannot be trenched, a gravity system held firm by its weight eg: gravel sausage can be used.)
5. fix self supporting geotextile to upslope side of posts with wire ties or as recommended by geotextile manufacturer
6. join sections of fabric at a support post with a 150mm overlap

Grass Strip Filters

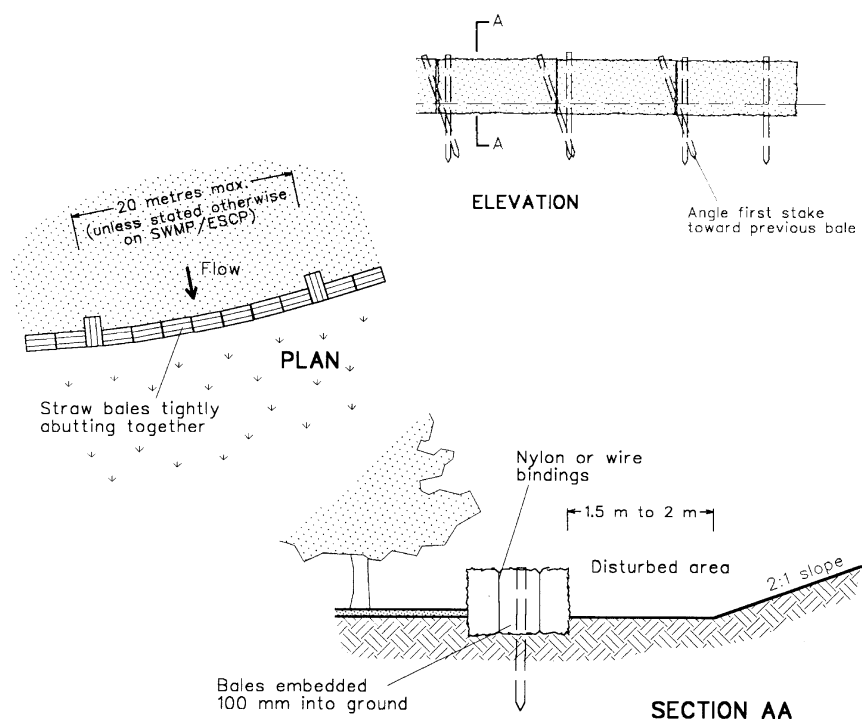
These are strips of undisturbed vegetation or grass planted down slope from earthworks. They provide a simple method of trapping coarse sediment. The flatter and wider the strips are, the more effective they become. They are only suitable on low grades. A 400mm wide grass strip between the kerb and the footpath can be a good last resort sediment control, filtering the water before it enters the stormwater system.



Straw Bale Filters

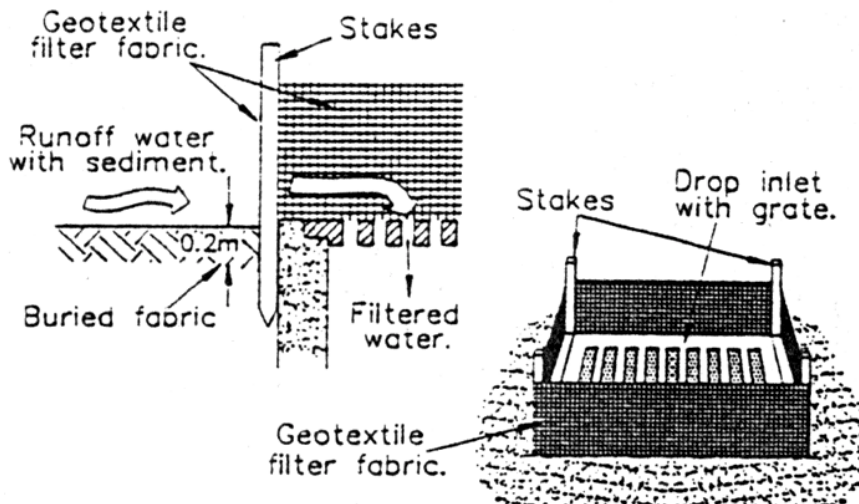
These are straw bales tightly abutted together and partially buried into the ground. They are only suitable for low flows. Filter fabric can be placed in front of them adding to the sediment stoppage. It is recommended that at least 4 bales are used as during a storm any less result in the water simply hitting the bales and flowing around them. This defeats the purpose of using them, which is to slow the water and have it filter through the bales with the sediment settling out.

Straw bales are usually used incorrectly. Seek Council guidance if unsure.

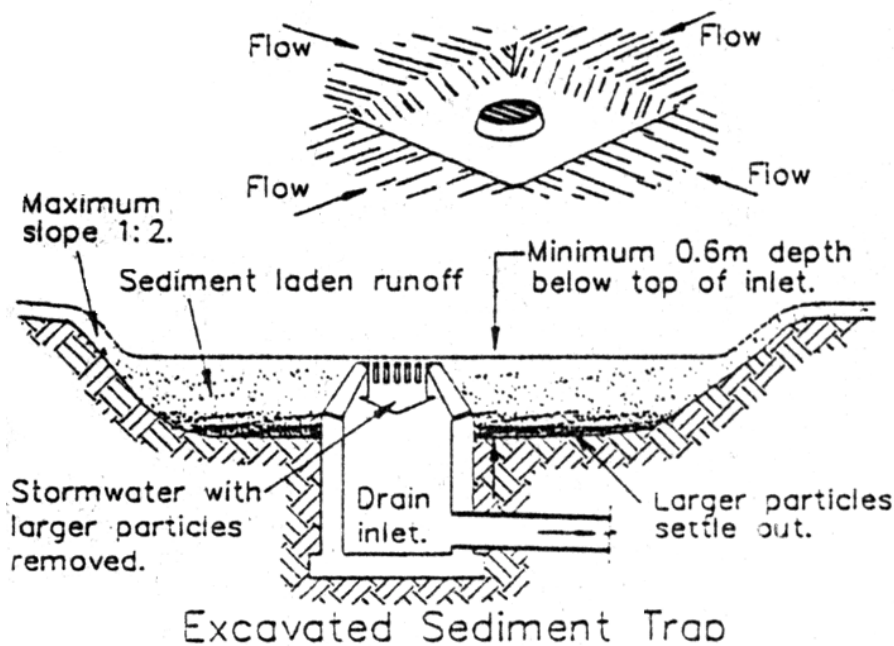


Sediment Traps / Ponds

These are basins designed to capture a concentrated sediment laden flow and store it under still conditions enabling the silt to deposit at the bottom of the trap. The effectiveness of the traps to remove fine particles may be improved by the placement of filter fabric along the uphill face of the embankment.



Geotextile Filter Fabric Drop Inlet Sediment Trap.



Maintenance of the sediment controls:

Sediment controls will naturally fill up with sediment and need to be maintained to stay effective. This involves removing the built up sediment as well as ensuring that they are still in good working condition.

Often sediment controls will be moved during works and they should be checked daily to ensure they have been put back in place properly.

Straw bales deteriorate and can end up polluting waterways. Their average life is 3 months and should be inspected regularly. Enclosing bales in sediment fence reduces this risk. At the end of their life they can be used as mulch on gardens. Sediment fences should also be checked regularly for holes.

Some Councils do not allow straw bales to be used, so check with them when planning your controls.

Soil and water controls should be kept in place until works are completed. If landscaping is not completed prior to handover ensure that the new owners are aware of their responsibility to prevent pollution from entering the stormwater system.



Suppliers of Sediment Control Equipment

There are a large number of companies that supply sediment control equipment listed in Outdoor Design Source and the Yellow Pages. While we do not necessarily endorse any particular company or product we thought it useful to list some company details as a starting point for you:

Total Erosion and Pollution ph: 02 9524 0155

GSE Lining Technology ph: 02 9821 2977

Hardware House

Maccaferri Pty Ltd ph: 02 9648 3800

Mulch Mat Products ph: 02 9905 5344

Naturelink Environmental ph: 02 4578 4588

Polyfabrics Australia Pty Ltd ph: 02 9829 5599

Spraygrass Landscapes ph: 02 9627 4352

List of fact sheets available from Council:

1. Diversion of Upslope Water
2. Dust Control
3. Early installation of Roof Drainage
4. Excavation Pump Out
5. Protected Concrete, Brick and Tile Cutting
6. Protected Concrete Delivery
7. Protected Service Trenches
8. Protected Stockpiles
9. Protected Wash Areas
10. Protected Waste Management and Chemical Storage
11. Protecting Vegetation
12. Protection of Gutter and Street Stormwater Drains
13. Protection of Site Stormwater Pits

14. Sediment Controls

15. Soil and Water Management Plans
16. Stabilised Site Access

For further information on preventing pollution from building and construction sites contact your local council:

Remember:

Everyone has a responsibility to protect the environment. The site supervisor is required to make sure that all workers, including sub-contractors are doing the right thing and all workers are required to notify their supervisors and Council if they see pollution occurring.

It is illegal for any substance other than rainwater to enter the stormwater system. If you do have an accident and pollution occurs you are required by law to notify the Council so that they can work with you to minimise any harm to the environment.

Penalties for polluting the stormwater system range from \$750 on the spot fines to \$1 million and seven years in gaol. Both companies and individuals can be fined.

Council Officers and the EPA enforce the environmental legislation and do routine inspections of building sites. They can issue notices to make companies clean up sites, change the way they are managing the sites and if necessary, cease work. They will attempt to work with you but penalties will be issued if a satisfactory environmental outcome is not achieved.

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THE DRAIN IS JUST FOR RAIN



Southern Sydney Regional
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