

Land Fact 2

Sediment Management Erosion Control

Introduction

Erosion and sedimentation, although tightly linked, are not the same at all. *Erosion* is the action of wind and water wearing away exposed soils. Sediment is the product of this action and *sedimentation* is the result once this sediment gets into waterways. So by reducing erosion in the first place, sediment runoff is prevented or at least reduced.

Why control erosion?

Auckland soils are mostly fine grained silts and clays which take a very long time to settle in water compared with larger silt and sand particles. The soils remain suspended, clouding the water, and if they do eventually settle are easily re-suspended. This means sediment control measures that try to detain sediment or remove it from water are not always very successful.

Sediment control methods such as sediment retention ponds, decanting earth bunds and silt fences become less effective as sediment builds up.

Therefore, controlling erosion makes the job of controlling sediment much easier – the less soil eroded, the less sediment there is to treat and discharge into waterways.

How can erosion be minimised?

Simple planning combined with a few practical tools can greatly reduce the amount of erosion on a site.



Erosion Control – Tracking

Erosion control – Geotextiles.



TIMING

Work within the driest season

- Plan projects within Auckland's earthworks season and allow plenty of time for changes.
- Coordinate with other services (roading, gas, power, telephone, drainage) and put protection measures in place on areas not affected by future service works.

STAGING

Staging work is an important tool for erosion control

- Expose earth a little at a time.
- Revegetate along the way by mulching or topsoiling and grassing.
- Sow vegetation areas early to get a good strike rate. This saves time and money – having to reseed is costly.
- Fit land development and land capability / use the "low impact design" approach.
- Stabilise areas that won't be worked for a while by revegetating or by using geotextiles.

TOOLS

When earth is exposed use a combination of erosion and sediment control methods

- **Erosion control** – prevent the generation of sediment by using diversion channels; contour drains; topsoil bunds; check dams flumes/ down drains; surface roughening; revegetation and/ or geotextile on slopes.
- **Sediment controls** – minimise sediment from leaving exposed areas by using vegetative buffer strips at exposed boundaries; silt fences; decanting earth bunds and sediment detention structures (e.g. ponds)

The key tool to successful erosion and sediment control is to stop erosion before it happens. Refer to TP90 for further information.

Further Information

The Auckland Regional Council has a number of technical publications and fact sheets relating to sediment management. For further information please call the contact centre or the Stormwater/Sediment Management Team on (09) 366 2000.