

MINIMISE SOIL DISTURBANCE

WHAT IS THIS?

The less ground you disturb, the lower the risk of generating sediment, and the less controls and treatment you will need to do, saving you time and money. Timing ground disturbance with the commencement of building and construction work reduces the time that soil is exposed to the risk of erosion. Remember to check your site for dispersive soil (see page 36).

WHAT DO I NEED TO DO?

Design considerations:

- Limit earthworks by working with the natural contours of the site and avoiding construction on steep slopes. If building on a slope, choose a subfloor design and method that will minimise excavation.
- Limit the area of soil disturbance to the minimum required.
- Staging works - schedule earthworks in phases throughout the project to reduce erosion potential and rehabilitate or at least cover exposed areas quickly to reduce the amount of soil exposed at one time.
- Include specific drainage, erosion, and sediment controls for the excavation area in your approved ESCP (see page 17).
- Retain stripped topsoil in a protected stockpile for reuse as the top layer during landscaping and site rehabilitation.
- Areas of soil disturbance on slopes are more likely to erode and should be stabilised as soon as possible - roughen and terrace correctly to reduce erosion, and cover with erosion control blankets, mats, turf, mulch, or appropriate temporary soil stabilisers (see pages 41 & 44).

Before starting site works:

- You must NOT do any site disturbance before all permits, licences, and approvals have been obtained and you are ready to start work.
- Install drainage, erosion, and sediment controls early, as per your approved ESCP.
- Identify vegetation, including grass buffers, around the construction site to preserve throughout the development. Mark these as No-Go-Areas (see page 38) on all work plans, including the ESCP.
- As part of their site induction, ensure the operators of earthmoving equipment are aware of the excavation area limitations, where No-Go-Areas and stockpile areas are, and their maintenance requirements.

Once site works have commenced:

- Ensure all ESCP drainage, erosion, and sediment controls are maintained.
- Ensure vegetation buffers are protected.
- Carry out staged clearing/excavation and stabilisation.
- Stabilise and protect stockpiles with secured geofabric, plastic, or vegetation (see page 47), a diversion drain above (see page 26), and a sediment fence below (see page 67).
- Include an explanation of the function and maintenance schedule of controls in all site inductions.

Soil roughening

When using heavy machinery with continuous track propulsion (e.g. excavators) on exposed slopes:

- ❌ DO NOT smoothly grade slopes with compacted soils. This will increase runoff, is hard to revegetate, and is highly susceptible to soil erosion.
- ❌ DO NOT run tracked heavy machinery across the slope. Track marks will create furrows that water will flow down when it rains.
- ✅ DO run tracked heavy machinery up and down the slope to create grooves from the tracks that will catch seeds, fertiliser, and rain. The grooves will roughen the surface in a way that will slow runoff over the slope (Figure 7).

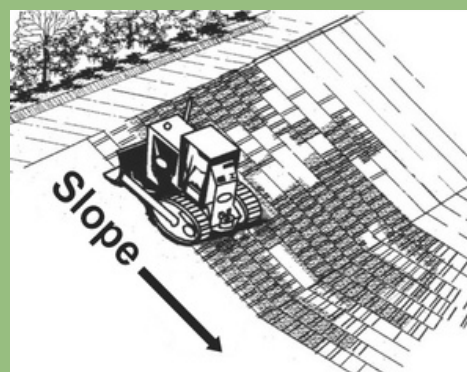


Figure 7: When using heavy machinery running on tracks (e.g. excavators), surface roughening should occur up and down the slope, not across. *Figure from Environment Canterbury Regional Council.*

Maintaining the controls:

If topsoil has been removed, replace it from where it was stockpiled - this will facilitate more rapid revegetation and stabilisation of the site (Figure 8).

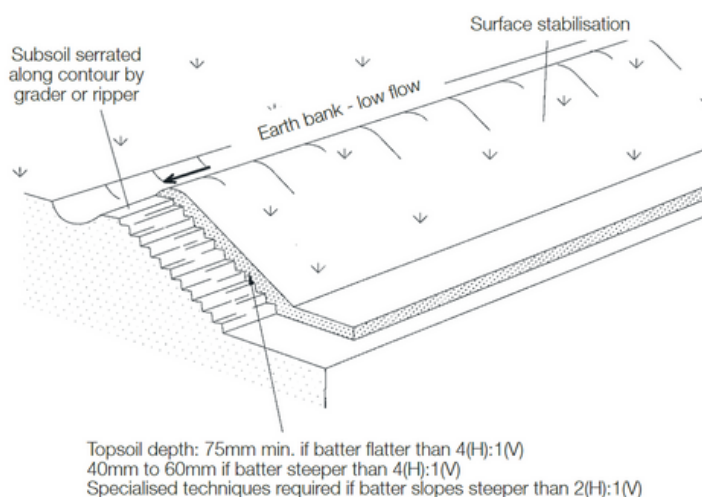


Figure 8: Before topsoil is replaced on slopes, the subsurface must be serrated along the contour by grading or ripping. Once replaced, topsoil should be stabilised using erosion control blankets and vegetation. *Figure from Landcom 2004 'Soils & Construction Volume 1 Managing Urban Stormwater (4th edition)'.*