

Minimise Soil Disturbance



What is it?

Minimise soil disturbance to the greatest extent practicable. Earthworks should be kept to a minimum and should be closely linked with the commencement of building and construction work. To minimise risks, preserve native topsoil and natural vegetation and implement suitable sediment and erosion control measures (see other fact sheets in this series). Areas of soil disturbance on slopes should be roughened and terraced to reduce erosion.

Why is it important?

Sediment generated from erosion on building and construction sites can be a major source of pollution to local waterways. Follow the practices discussed in this fact sheet and you will minimise erosion from your site, meet your legal requirements and help protect our waterways.

Fact Sheet 5

WHAT DO I NEED TO DO?

Design considerations:

- 1) Avoid the need for earthworks by working with the natural contours of the site. Limit building or construction on steep inclines. On slopes choose a subfloor method that will minimise excavation.
- 2) Limit the area of soil disturbance (the excavation envelope) to the minimum required, i.e. the house only.
- 3) Identify suitable sediment and erosion control measures for the excavation envelope.
- 4) Staging works. Consider scheduling earthworks in phases throughout the project to reduce erosion potential and rehabilitate exposed areas quickly to reduce the amount of soil exposed at one time.
- 5) Retain as much stripped topsoil as possible for reuse during landscaping and site rehabilitation.

Before starting site works:

- 1) Ensure approval has been granted by council.
- 2) Identify vegetation, including grass buffers, around the construction site to preserve throughout the development. Mark this as a **No Go Area (see Fact Sheet 6)** on all work plans, including the Soil and Water Management Plan (if required) (**see Fact Sheet 3**).
- 3) Install sediment and erosion control measures.
- 4) Ensure the operators of earthmoving equipment are aware of the excavation envelope and where stockpiles will be located.

Once site works have commenced:

- 1) Ensure vegetation buffers are protected.
- 2) Carry out staged excavation and stabilisation (if applicable).
- 3) Maintain sediment and erosion control measures.
- 4) Stabilise soil stockpiles by placing sediment fences around their lower edges, cover with fabric, plastic or vegetation.
- 5) Restrict vehicles and equipment to designated areas.

Soil roughening: when using heavy machinery (i.e. non-wheeled vehicles) on exposed slopes.

Don't smoothly grade slopes with compacted soils. This will increase runoff, is hard to revegetate and is highly susceptible to soil erosion.

Don't track heavy machinery across the slope. The track marks will create furrows that water will flow down when it rains.

Do track machinery (e.g. excavators) up and down the slope to create grooves from the wheels/or tracks that will catch seeds, fertilizer, and rainfall. The grooves will roughen the surface in a way that will slow runoff over the slope (see Figure 5A).

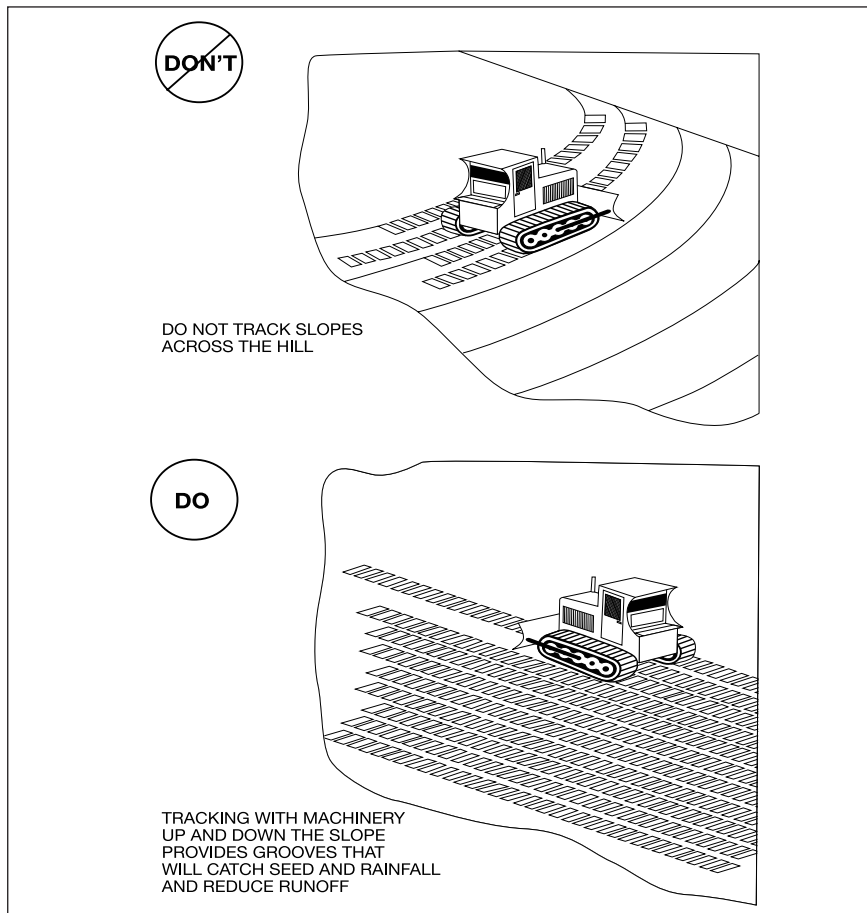


Figure 5A: Avoid moving tracked vehicles across the slope, unless the final pass involves tracking up and down the slope.

Maintaining control measures:

If topsoil has been removed it will need to be replaced (see Figure 5B).

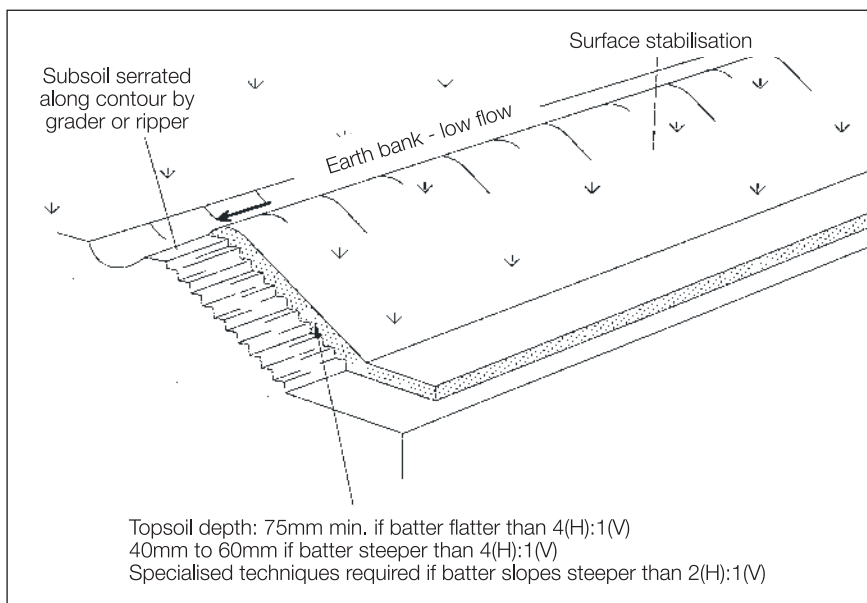


Figure 5B: Replacing Topsoil.

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4. Dispersive Soils – High Risk of Tunnel Erosion
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6. Preserve Vegetation
7. Divert Up-slope Water
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10. Early Roof Drainage Connection
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14. Sediment Fences & Fibre Rolls
15. Protection of Stormwater Pits
16. Manage Concrete, Brick & Tile Cutting
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18. Dust Control
19. Site Revegetation

Remember:

Everyone working on building and construction sites has a responsibility to prevent pollution. If you do have an accident and pollution occurs you are required by law to notify the site supervisor. If the site supervisor cannot be contacted, workers should immediately notify the local council so they can work with you to minimise any harm to the environment.

Acknowledgement:

Figure 5A after California Regional Water Quality Control Board 1999 "Erosion & Sediment Control Field Manual". Figure 5B from Landcom 2004 "Soils & Construction Volume I Managing Urban Stormwater (4th edition)". Text in this brochure has been obtained and modified from the "Do It Right On Site" brochure series, kindly provided by the Southern Sydney Regional Organisation of Councils.

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