

Dust on construction sites can come from a number of activities including earthworks, driving on haul roads, concrete saws and sanding. In this fact sheet, we focus on dust caused by soil particles blown into the air from exposed soil areas or dust generated by vehicles, and dust from mulching operations.

Issues

Dust is a problem for the following reasons:

- human health, particularly people with respiratory problems;
- environmental pollution;
- reduced visibility;
- damage to private property;
- creation of unsafe working conditions; and
- cost of clean-up especially on private properties.



Solutions

In summer and on any windy days are when the success of dust controls is most visible. Every site and project is different. Using the correct method can save a lot of time and money. Most options, excluding permanent revegetation, provide only short-term benefits. Utilising one or more at the same time may produce better results and be more cost efficient than one alone. The effectiveness and durability of most options depends on the soil type, weather conditions and the frequency of disturbance (eg traffic movements).

Some options are:

- water application

Most sites rely on water application with limited success. In warm and especially windy weather, it is quickly evident that water alone is inefficient due to fast evaporation and before you know it, the water cart is watering down the same area again, sometimes less than one hour after the previous pass.

- watering during mulching;
- reduce vehicle speed and/or restrict driving to stabilised areas;
- progressive disturbance of areas as needed;
- temporary erosion control with fabrics or plastics (short term only), vegetation or polymers (long term controls);

At any stage, disturbed areas can be stabilised to prevent wind erosion. This may be before predicted windy weather, at the end of top soil removal, bulk earthworks, final shaping, or due to short (days or weeks) or long term (months or years) cessation on all or part of the site. Measures include polymers, mulching, fabrics and plastics. Oil or oil-treated subgrade should not be used as this may migrate offsite into downstream watercourses.

- surface roughening; and
- wind barrier fencing.



Photo by Michael Frankcombe

Costs

Utilising one or more at the same time may produce a better results and be more cost efficient than one alone.

Water carts cost about \$1000 per day and due to weather conditions may result in ineffective dust control. There are environmental and economic benefits of using methods other than water for dust suppression.

The use of polymers on haul roads can significantly reduce dust emissions for weeks. If no new material is deposited on the road, a water cart is not required resulting in a significant saving. There is also no sediment laden runoff to contend with.

Polymers and correctly applied mulches (with preferably non-rewettable binders) can stabilise disturbed areas to control wind and water erosion immediately. The focus can be then on construction works saving time and money.

For actual costs, contact product suppliers.



Environmental legislation and Council Development Consents

Under the *Protection of the Environment Operations Act 1997* (POEO), allowing sediment or sediment laden water to enter any waterway including street gutters, stormwater drains, swales or creek lines (flowing or not) is considered to be water pollution. Penalties and notices can apply including fines of up to \$5 million.

Council will enforce the POEO Act where necessary, however we endeavour to provide information about erosion and sediment control and encourage you to help us protect the Lake by reducing water pollution.

Non-compliance with the conditions of a Development Consent is a breach of the *Environmental Planning and Assessment Act 1979* and may also attract fines.

Further information

- **Council's website;**
- the **"Blue Book"** - *Managing Urban Stormwater: Soils and Construction*, Landcom (2004) 4th Ed.;
- International Erosion Control Association (Australasia)(IECA) (free downloads) **www.austieca.com.au**;
- Call Council's Erosion and Sediment Control Officer on **4921 0333**; or
- *Builders Pocket Guide* **www.bpg.co.nz** (be aware that some practices outlined are not permitted in Lake Macquarie City Council area).

Acknowledgements and disclaimer:

This fact sheet contains information from *No Dust, No Fuss – Guidelines for controlling dust from construction sites*. NSW EPA., and *Best Practice Erosion and Sediment Control*. IECA, November 2008.

This fact sheet is for general information only and is not intended to cover every situation. It is not a regulatory document. Obtain your own independent professional advice.

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