



NO DUST NO FUSS

Guidelines for Controlling Dust
from Construction Sites



NO DUST! NO FUSS!





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Introduction

Sydney suburbs now extend over an area of approximately 2000 square kilometres and a wide range of development types exist, from city centre commercial development to residential dwellings. High levels of dust can be generated by the construction of these developments, which can cause reductions in air quality, health problems, environmental degradation and loss of amenity for residents and businesses.

The aim of this guide is to outline methods that can be implemented to reduce dust levels on construction sites.

Who is this guide for?

This guide has been developed for construction companies, owner-builders, Local Council officers and anyone involved in the land development or approval process. The Australian Bureau of Statistics (ABS 1997) estimates that there are 194,300 businesses operating in the construction industry, employing close to half a million people. Of these businesses, 94% employ less than five staff and fewer than 1% employ more than 20 staff. Given the ratio of smaller businesses, this guide focuses on inexpensive, cost-effective measures to help reduce the impacts of dust.

Why has this guide been developed?

This guide has been developed as part of the New South Wales Government's Clean Air Fund to improve local air quality through the reduction of dust emissions from construction sites.



DID YOU KNOW?

Construction in residential areas makes up about 39% of all construction, with engineering construction at 36% and non-residential construction at 25% (ABS 2003). This highlights the potential for dust to cause problems in residential areas.

Benefits of effective dust control

What are the benefits of effective dust control?

There are a number of benefits associated with effective dust control on your construction site, including:

To the Builder:

- _ Enhanced business reputation
- _ Better working conditions for staff
- _ Better working relationships with clients and the community
- _ Improvements in relations with regulatory authorities, eg. Local Government

To the Owner:

- _ Reduced risk of damage to property
- _ Improved relationships with future neighbours
- _ Knowledge of contribution to environment protection
- _ More attractive environment

To the Neighbours and Community:

- _ Fewer disruptions to everyday living
- _ Reduction of health risks resulting from air pollution
- _ Reduced risk of damage to property and belongings
- _ Less cleaning!

To the Environment:

- _ Reduction in air pollution
- _ Reduction in water pollution
- _ Fewer disturbances to existing flora and fauna habitats



Community Viewpoint

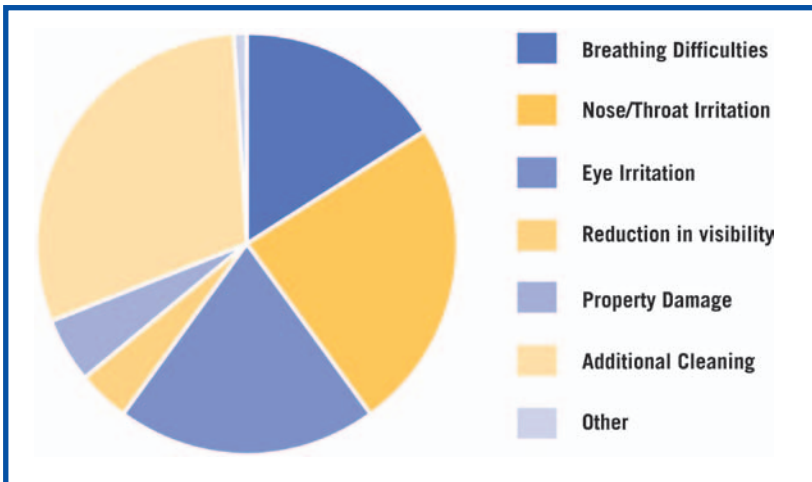
How does the community view dust from construction sites?

To gauge the impact of construction dust on nearby residents, Parramatta City Council conducted surveys near construction sites within the Parramatta Local Government Area. The construction sites ranged from single dwellings to industrial developments.

Overall, resident responses indicated that the level of problems experienced were influenced by:

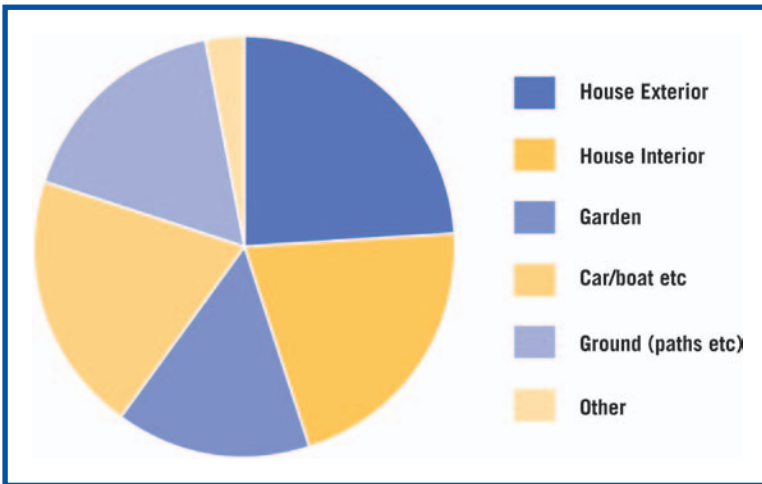
- weather
- the size and scale of the development
- topography and location
- the actions of site workers

The main problems experienced were:



Community Viewpoint

The residents were also asked to nominate where they felt the dust caused the most problems:



It is recognised that Sydney has recently experienced extremely dry weather conditions, which may have worsened dust problems overall.

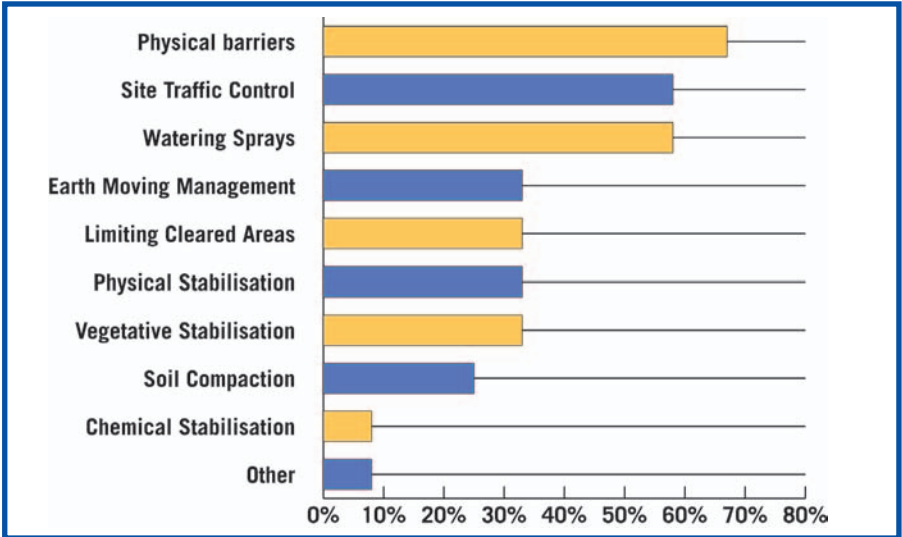
However, many residents were able to directly attribute certain dust problems to the nearby construction sites.

Industry Viewpoint

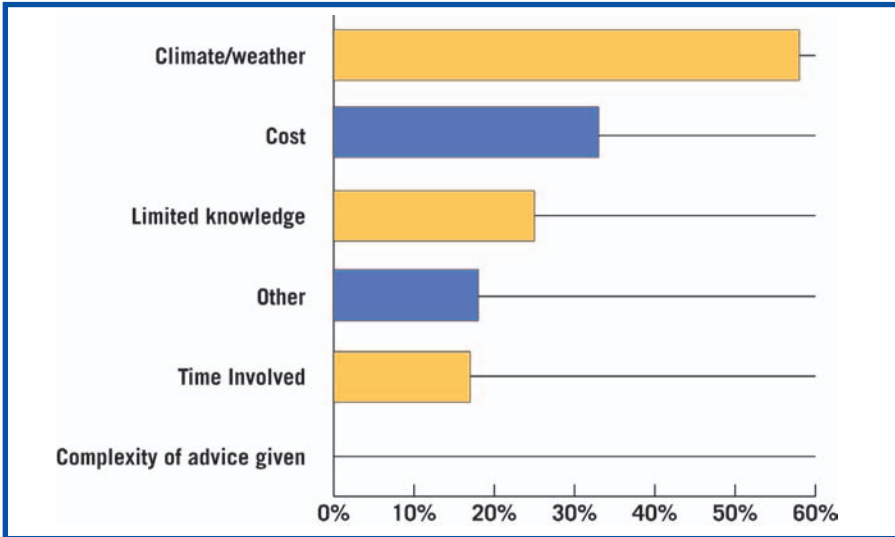
How does the industry view dust from construction sites?

Parramatta City Council also conducted a survey of various construction companies, ranging from large corporations to sole operators. The survey focussed on the main dust control measures adopted by companies and the constraints involved in implementing various control measures.

Dust control measures used include:



Constraints to effective dust control were seen as:





Dust Issues

Why is dust a problem?

Airborne dust from construction sites is a problem for a number of reasons. It can:

- create health problems, particularly for those with respiratory problems
- cause environmental degradation, including air and water pollution
- create problems with visibility
- damage or dirty property and belongings
- create unsafe working conditions
- increase costs associated with the loss of materials or additional work involved

How is it caused?

Dust can become airborne when soil is exposed or left uncovered. Wind then picks up the exposed soil and carries it off-site.

The most common ways that soil is exposed include:

- Demolition activities
- Site preparation activities
- Construction activities
- Vehicle movement
- Uncovered stockpiles

The Law and You

Companies and property owners are legally bound to control dust emissions from construction sites under the Protection of the Environment Operations Act (POEO) 1999, Sections 124 – 126 and 128. Any actions undertaken on site must not contribute to environmental degradation and pollution. Air impurity levels must not exceed the standards. Conditions of Approval on Development Applications relating to dust control as set down by the local council must also be observed.

Dust control measures must be left in place until at least 70% vegetative cover, or other coverage in accordance with council's requirements, has been established. If the site is not rehabilitated before the owners take possession, they need to be made aware that the legal obligations associated with the site now rest with them.

Source: DLWC (2001)

Other Issues

Although not a legal requirement, it is a good idea to let surrounding residents know of the works that are about to take place. A short letter informing them of the date of commencement, the company name and a contact number for any problems will improve neighbourhood relationships. It may also ensure prompt action is taken should any problems or emergencies occur, particularly if the site is unattended.

A sample letter is shown below:

To the Home-owner

ABC Constructions
1 Jones Street
SYDNEY NSW 2000
Ph: 9999 1111
Mob: 0414 111 000

Dear Sir/Madam,

Our company, ABC constructions, is soon to commence construction work at 1 Smith Street, Sydney. We anticipate work will be completed by 1 May 2003.

We will make every effort to ensure that you are not disturbed or inconvenienced during this period. However, if an issue does arise, please contact me as soon as possible so that we can take immediate action.

Yours sincerely,

Gary Brown
Site manager
ABC Constructions

Source: Buildersnet (2002)



Constraints to Dust Control

Climate:

As shown by the previous chart, climate poses an obvious problem for construction companies. This is particularly evident during periods of dry, windy weather when the likelihood of dust being picked up and blown about is increased.

While climate cannot be controlled, three things can be done to minimise climate-generated dust problems:

1. Check weather reports daily; closely observe weather patterns to enable action to be taken immediately if conditions change
2. Implement control measures that ensure dust problems do not occur while the site is unattended, eg. at night or weekends
3. Adopt a site 'shut down and cover up' policy during periods of extreme weather conditions, eg. high winds and low humidity. All site operations should cease and all exposed areas covered or treated to ensure dust does not become airborne

Cost:

Cost was seen as the second major constraint to effective dust control. While some specialised dust control applications can involve substantial costs, the majority of dust control measures require minimal financial outlay (as shown in the following Dust Control Fact Sheets).

Know-how:

Limited knowledge of the measures available was also cited as a constraint and this guide will address this problem by providing simple, easy to follow information and guidelines.

Dust Control Measures

The following control measures have been placed roughly in order of operation. Some may need to be used throughout the entire project, however, the order of operations should follow this outline as far as possible.

Pre-construction Measures

Fact Sheet 1: Dust Management Plan

Site Measures

Fact Sheet 2: Limit Cleared Areas
Fact Sheet 3: Physical Barriers
Fact Sheet 4: Site Traffic Control
Fact Sheet 5: Earth Moving Management
Fact Sheet 6: Watering Sprays
Fact Sheet 7: Soil Compaction
Fact Sheet 8: Vegetative Stabilisation
Fact Sheet 9: Chemical Stabilisation
Fact Sheet 10: Site Completion

Storage Piles/General Material Storage

Fact Sheet 11: Pile Configuration
(also refer to Fact Sheets 3, 6 & 8)

Hauled Materials

Fact Sheet 12: Hauled Material Management
(also refer to Fact Sheet 6)

Paved Road Trackout

Fact Sheet 13: Site Access/Exit Controls
(also refer to Fact Sheets 4 & 7)

Typical Site Layout

The following pictures depict a typical construction site before and after dust control methods are in place.



Source: BMCC (2002)

Further Information

Contact Parramatta City Council for further information on dust control within your construction site on:



*Parramatta City Council
PO Box 32
PARRAMATTA NSW 2124
Ph: (02) 9806 5000
Fax: 9806 5917
Email: council@parracity.nsw.gov.au
Website: <http://www.parracity.nsw.gov.au>*

Other websites with information relating to dust control include:

- Local Council websites
- <http://www.dipnr.nsw.gov.au>
– Department of infrastructure, Planning and Natural Resources
- <http://www.epa.nsw.gov.au>
– Department of Environment and Conservation
- <http://www.ssc.nsw.gov.au/images/upload/2.Dust%20control.pdf>
– South Sydney Council
- <http://www.buildersnet.com.au/> - Builders Net
- <http://www.buildingonline.com.au/> - Housing Industry Association Ltd
- <http://www.masterbuilders.com.au> – Masters Builders Australia Inc.
- <http://www.scapca.org/dust.html> – Spokane County Public Works
- <http://www.leg.wa.gov/wac/index> – Washington Department of Ecology

N.B. The authors do not necessarily endorse these products or services.



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