

HOMEOWNER'S ENVIRONMENTAL HANDBOOK

Best Practices for
**THE REDUCTION
OF DUST EMISSIONS**
from Construction and
Demolition Activities





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WHO IS THIS HANDBOOK FOR?

This handbook is intended for homeowners starting a renovation project and serves as a general overview for reducing pollutant emissions. Please note that this handbook is only a guide, every project is different and has unique requirements.

WHAT WILL THIS HANDBOOK COVER?

This handbook will discuss key areas to be considered when taking on any outdoor residential construction project. It will outline the basic best practices that homeowners can utilize in order to reduce dust generated from construction and demolition activities.

WHY SHOULD YOU USE THIS BOOK?

As a property owner you are ultimately responsible for any construction project in your control and you must ensure your contractors are implementing the proper controls. Properly managed projects can minimize health and environmental effects associated with dust and other pollutants. Furthermore, you are responsible for determining if there are any hazardous substances present on your property, and if so, you must inform all potential contractors as part of the bidding process.

The most common designated substances found in residential and other types of buildings include:

• Asbestos	Can be found in numerous building materials; however, more common in pipe and building insulation, floor tiles, joint compounds, wall panels, and gaskets.
• Lead	Typically exist in paint and piping.
• Silica	Common in masonry elements such as bricks, blocks and mortar.
• *Mercury	Typically found in electrical equipment such as switches, lighting ballasts and thermostats.

These substances and others can cause cancers, strong allergic reactions, liver and lung problems, and effects on the nervous system. Some projects may therefore be subject to additional regulatory requirements. Please contact the local Ministry of Environment, Conservation and Parks (MECP) for more information.

*Note that a mercury release is relatively low risk for outdoor residential construction projects. Mercury containing products should be handled with care and spills should be cleaned up thoroughly, as directed by environmental control professionals.



Some important benefits achieved by reducing dust and other pollutant emissions include:

- Avoid harmful effects to yourself and the residents in your neighbourhood
- Reduction in injuries or health impacts for contractors
- Avoid involvement with regulators

Air pollutants and associated health impacts

Airborne particulates known as particulate matter (PM) are divided into two groups based on their size and health impacts¹:

- **PM10** are small airborne particulates less than 10 microns in diameter that can be inhaled into the upper respiratory tract where the heart and lungs can be affected.
- **PM2.5** has a diameter of less than 2.5 microns and can be inhaled and absorbed into cells and reach the bloodstream.

Other impacts of dust

Dust can be carried over distances where it can settle and accumulate on surfaces on your neighbour's property, and impair their normal enjoyment of their property.

Examples of residential construction projects that can generate emissions:

- Substantial repairs to a roof
- Building a deck, balcony, garage or other structures
- Making new openings for, or changing the size of, doors and windows
- Installing of interlocking brick, concrete pads or driveways
- Installing an in-ground pool

Main activities that generate dust and/or emissions:

- Cutting, drilling or sanding wood
- Demolition
- Excavation, loading, grading, trenching, hauling, tipping or stockpiling soil and gravel
- Mixing, cutting, drilling or sanding (sandblasting) using materials such as sandstone, mortar and concrete as well as abrasives
- Crushing, drilling, cutting or sanding materials containing limestone, dolomite gypsum, or hard stone such as marble
- Use of leaf blower



What are construction activities?

There are many everyday activities that fall under the definition of construction work. The definition is very broad, however many of the activities on a building or structure are considered construction such as alterations, converting, repairing, upkeep, decorating, maintaining, renovating, demolishing, dismantling, assembling, etc.²

What are demolition activities?

The wrecking or taking out of any load-supporting structural member of a structure or building and related handling operations.

Demolition and deconstruction

- Apply deconstruction (dismantling buildings with the goal of maximizing the reuse potential of its components) techniques rather than demolition
- Minimize drop heights for debris
- Enclose chutes and cover bins
- Use barriers such as curtains or shrouds to prevent dispersion
- Avoid blasting when feasible, noting that in some instances blasting would be the safest manner to take down a structure
- Vacuum debris especially prior to deconstruction
- Wet surfaces (i.e. water cannon rental, see photo bottom right on this page)



Wood cutting

- Sweep up and/or vacuum promptly
- Use a vacuum attachment if possible when cutting
- Avoid cutting wood outdoors on windy days



Tile, Concrete and Stone cutting

- Using wet saws to reduce dust emissions
- Do not cut if a small stream of water is not flowing over the blade and material. Water is essential to keep the blade cool and produce quality cuts. Check to see that all water delivery systems are working correctly before use
- Alternately, a dustless saw with integrated dust control can be considered. The saw contains a vacuum system, a filter system, and dust containment and therefore does not require water



Some other safety Considerations when using wet saws and dustless saw technology

- Wear appropriate protective equipment such as safety goggles, gloves and hearing protection, and an approved respirator or dust mask when exposed to harmful or nuisance dusts
- Keep fingers as far away from the blade as possible to avoid accidents, and do not wear loose clothing or jewellery that could get caught in the blade
- Ensure the blade is sharp enough to do the job safely and that all guards are working
- Keep all cords clear of cutting area

Tarpping or otherwise containing the source of dust

- Using a tarp can prevent stockpiles from being blown or carried off your property by wind or rain
- Store piles and minimize disturbance
- Properly schedule the delivery of landscaping material
- Use silt curtains to prevent run-off onto traffic areas



Wetting the construction material or stockpile with a hose or utilizing wind fences/screens can also reduce dust emissions

Sand and grit blasting and facade cleaning

- Wet processes (e.g. high-pressure water blasting or water blasting supplemented with abrasives) should be used
- Utilize enclosures such as curtains or shrouds (tarpaulins or containment screens) around the blasting operation. Contain debris in dumpsters or drums, secure lids, and dispose of properly



Control mud and dirt trackout and carryout

- Sweep the sidewalk and street at the end of every workday or as needed when excavating, backfilling, or doing heavy cutting of masonry
- Do not use leaf blowers to clear dust



Other contaminants

Although the content of this booklet is focused on reducing/eliminating dust and particulate matter at your worksite, be mindful that construction and other projects have the potential to generate other types of contaminants that can also impact health and the environment.

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