



BEST PRACTICES GUIDE FOR DUST MANAGEMENT IN ALBERTA QUICK REFERENCE GUIDE

Context

This is a summary of information from the Clean Air Strategic Alliance's (CASA's) *Best Practices Guide for Dust Management in Alberta* (the Guide) and Technical Documentation. Please refer to the full documents for additional detail and context: <https://www.casahome.org/past-projects/best-practices-guide-dust-management-alberta-61/>.

This document and the associated Guide and Technical Documentation provide information on best practices and considerations for dust management in Alberta and do not revise or replace any regulatory requirements. Following the best practices within does not equate to or guarantee compliance.

Purpose and Audience

The Guide and Technical Documentation are the result of a “*Best Practices Guide for Dust Management in Alberta*” project undertaken by CASA.

The Guide and Technical Documentation are intended to assist municipalities and provincial regulators and be a resource for industry and other stakeholders in improving dust management in the province.

Municipalities, industry, Indigenous communities, regulatory bodies, health and environmental non-government organizations, and other groups or individuals that are interested in, or impacted by, dust should find value in the materials.

Uses of the Guide and Technical Documentation may include preparing and updating dust management plans and supporting the preparation of *Environmental Protection and Enhancement Act* approvals and registration applications.

What is Dust?

For the purposes of the Guide, dust is defined as:

“Small, dry, solid particles projected into the air by natural forces, such as wind, volcanic eruption, and by mechanical or man-made processes. Dust particles are usually in the size range from about 1 to 100 μm (micrometers) in diameter.” (IUPAC, 1990).

There can be significant variations in the properties of dust particles depending on the nature of the dust source. Dust sources and their associated particles can range in size, chemical

compositions, and aerodynamic properties all of which determine how dust particles are dispersed and deposited in the environment. Understanding each dust source’s properties allows better understanding of the associated dust emissions’ likely behaviour, which assists in identifying appropriate management options.

Refer to the Guide and Technical Documentation for additional information on dust characteristics and dust control requirements in Alberta.

Dust Management Planning Cycle

The Guide contains a series of sections, organized to provide guidance and information that readers can use to develop a site-specific dust management plan.

While dust management planning is a site- and facility-specific process that will differ for each operation or activity, the overall steps (as illustrated in Figure 1 below) may be relevant to most dust planning processes. Users of the Guide may need to adapt their approach based on the information, resources, and tools available to them.

It should be noted that the steps are interconnected; the steps may proceed in order as well as concurrently or involve iterative checking between two or more steps. For dust management, steps that could be iterative together are dust controls and monitoring; for example, dust monitoring results may indicate that dust controls should be improved.





Figure 1: Elements of dust management planning.

Best Management Practices by Source

The Guide and Technical Documentation list major dust sources, common and effective methods to manage dust from those sources, and considerations for implementing management actions. The major dust sources are unpaved roads, construction and demolition, wind erosion, paved roads, and material handling.

While the documentation focuses on major dust sources, the dust management approach described in the Guide applies broadly, including dust sources that are not specifically mentioned.