

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

DUST CONTROL ON UNPAVED ROADS AND SURFACES

(Sq. Ft.)
Code 373



DEFINITION

Controlling direct particulate matter emissions produced by vehicle and machinery traffic or wind action from unpaved roads and other surfaces by applying a palliative on the surface.

PURPOSES

This practice may be applied as part of a conservation management system to control dust from unpaved roads and other surfaces which is generated by vehicle or machinery traffic, and/or wind.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to any non-vegetated, unpaved surface where vehicle movement or wind action would normally occur, such as an unpaved road, traffic area, parking lot, staging or assembly area, equipment storage lot, runway, or loading/unloading area. It does not apply to paved surfaces, vegetated areas, rangeland or cropland, or to surfaces that are normally subject to animal activity, such as pens and corrals.

CRITERIA

General Criteria Applicable To All Purposes

Laws and regulations. Apply the practice by following all label directives in accordance with all

Federal, state, and local laws, rules, and regulations.

Evaluate and avoid or minimize impact to cultural resources, wetlands and Federal and state protected species to the extent practicable during planning, design and implementation of this conservation practice in accordance with established National and Florida policy, General Manual (GM) Title 420-Part 401; Title 450-Part 401, Title 190-Parts 410.22 and 410.26, National Planning Procedures Handbook (NPPH) Florida Supplements to Parts 600.1 and 600.6, National Cultural Resources Procedures Handbook (NCRPH), National Food Security Act Manual (NFSAM), and the National Environmental Compliance Handbook (NECH).

Specify the dust control product to be one of the following:

- Water
- Water absorbing suppressant (hygroscopic palliative)
- Adhesive
- Petroleum emulsion
- Polymer emulsion
- Clay Additive
- Petroleum-based road oil (bituminous palliative)

The dust control product chosen shall be appropriate for to the site conditions (topography and soils). Obtain a sieve analysis of the upper layer of the unpaved surface to determine percent fines less than 75 μm (200 sieve) or other soils test as required to determine the appropriate product for the site.

When determining an appropriate product to use, do not select products that have a “poor” rating for the specific location and situation.

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

Grade and/or smooth the surfaces to be treated as needed and prescribed by the product guidance before the dust control product is applied.

Treat the area to achieve a minimum of 50% dust control at time of application of material. The amount of dust control achieved will be determined by standardized emission reduction factors for the various materials.

Re-treat the area if it is heavily disturbed by grading or other major disturbance after prior treatment.

If continued effectiveness of the product is warranted after natural weathering has reduced its effectiveness to the point where airborne particulate matter from the surface is visible, re-apply the dust control product.

Where dust control for more than 12 hours is needed, do not use water as a dust control product unless it is reapplied.

Where drainage from the treated surface may directly impact a nearby water body, do not use petroleum based palliatives.

CONSIDERATIONS

Consider additional activities like speed control or vehicle exclusion on unpaved roads to help control dust.

When there is concern over possible runoff of sediments from the unpaved area to a water body, consider using additional practices or activities like buffers strips on the side of the road or unpaved area to minimize runoff of the palliative to the water body.

Where practical, use other dust suppression techniques, such as the use mulching, establishment of vegetation, or the installation of windbreaks. Refer to Florida conservation practice standards , Mulching, Code 484, Critical Area Planting, Code 342, and Windbreak/Shelterbelt Establishment, Code 380 respectively.

PLANS AND SPECIFICATIONS

Prepare specifications for installation of Dust Control on Unpaved Roads and Surfaces for each site or planning unit according to the criteria. Record the specifications by using Florida NRCS developed specification sheets, job sheets, practice requirement sheets, and narrative statements in conservation plans.

Engineering plans and specifications shall include, but not limited, to the following:

1. Location of area to be treated.
2. Length and width of area to be treated.
3. Details of all component practices.
4. Identification and description of the type and amount of material being used for dust control
5. Method of application.
6. Specifications on grading and reshaping, if required.
7. Specifications for any re-applications of materials.
8. Identification of any adjacent sensitive areas (e.g. fish spawning areas and nearby water bodies).
9. List of criteria to follow during application.
10. List of items to consider during application.
11. Vegetative requirements.
12. Location of utilities and notification requirements.
13. Identification and requirements of any additional practices used in conjunction with the palliative.

OPERATION AND MAINTENANCE

Develop an operation and maintenance (O&M) plan that is consistent with the purposes of this practice, its intended life, safety requirements, and the criteria used for its design. The O&M plan shall include but not limited to the following requirements:

- Re-application of dust control materials, as needed, and including any additional grading and reshaping requirements.
- Maintenance of any mitigating practices.
- Documentation requirements for emissions reduction.

REFERENCES

- Bolander, P. and A. Yamada, 1999. "Dust Palliative Selection and Application Guide" Project Report 9977-1207-SDTDC San Dimas Technology Development Center, U.S. Dept. of Agriculture, Forest Service, San Dimas, CA.
- Florida NRCS Conservation Practice Standards Critical Area Planting, Code 342

Mulching, Code 486

Windbreak/Shelterbelt Establishment, Code
380

General Manual

Title 420-Part 401

Title 450-Part401

Title 190-Parts410.22 and 410.26

National Cultural Resources Procedures
Handbook

National Environmental Compliance Handbook

National Food Security Act Manual

National Planning Procedures Handbook

San Joaquin Valley Air Pollution Control District,
2002. Products available for controlling dust.