

**[Clark County
Department of Air Quality]**



**CONSTRUCTION ACTIVITIES
DUST CONTROL HANDBOOK**

ACKNOWLEDGEMENTS

This Handbook includes the procedures for obtaining a Dust Control Permit and the development of the accompanying Dust Mitigation Plan. This Handbook is included by reference in Section 94 of the Clark County Air Quality Regulations. This Handbook replaces in its entirety the current Construction Activities Notebook that includes the Section 94 Handbook. These documents were produced to facilitate the development of a comprehensive construction activities program within Clark County to address the mitigation of PM₁₀ (particulate matter less than 10 microns in diameter) impacts as the County continues to grow and prosper.

The original Handbook was prepared by the Clark County Health District AQD and Clark County Department of Comprehensive Planning, with the guidance of the Particulate Matter Emissions Control Research Advisory Committee (PM Committee). The Clark County Department of Air Quality (DAQ) has completed this revision of that document. External and internal workshops and meetings were held for both the private and public sectors to develop, revise, and publish these documents. An abbreviated list of contributors to this process is included below.

Allstate Nevada Environmental	Korte-Bellew Construction
American Asphalt	Lake at Las Vegas
Apex Industrial Park	Las Vegas Paving Corporation
Association of General Contractors	Las Vegas Valley Water District
Broadbent & Associates	Meadow Valley Contractors
Chemical Lime Company	Mel Clark, Inc.
City of Boulder City	Meranto Construction
City of Henderson	MGM Grand Hotel & Casino
City of Las Vegas	Nevada Contractors Association
City of North Las Vegas	Nevada Department of Transportation
Clark County Department of Air	Nevada Division of Environmental Protection
Clark County Department of Aviation	Nevada Power Company
Clark County Department of Public Works	Nevada Underground, Inc.
Clark County Health District Environmental	Pentacore Engineering, Inc.
Health Division	Perini Building Company
Clark County Regional Flood Control District	Perma-Built Homes
Clark County School District	Sanders Construction
COLGENCON	Sandia Construction
Concordia	Scientific Applications International Corporation
Conservation District of Southern Nevada	Soil Tech
Converse Consultants	Southern Nevada Homebuilders Association
Copper State Emulsions, Inc.	Southwest Gas Corporation
Creel Farms	Standpark Homes
Del Webb	Underground, Inc.
Envirocon	U.R.S. Corporation
Geotechnical Environmental Services	U.S. Homes
Golden West Industries	Weaver Construction
Goldie, Inc.	
Granite Construction	
J.A. Jones Construction	
J.M.B. Construction	
Kalb Construction	
Kaufman & Broad	
Kerr-McGee	
Kleinfelder	

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ACRONYMS/DEFINITIONS

ASHTO American Association of State Highway Transportation Officials

DAQ Clark County Department of Air Quality

ASTM American Society for Testing and Materials

Bulk material Any material, including but not limited to, earth, rock, silt, sediment, sand, gravel, soil, fill, aggregate less than 2 inches in length or diameter, dirt, mud, demolition debris, cotton, trash, cinders, pumice, saw dust, feeds, grains, fertilizers, and dry concrete, which is capable of producing fugitive dust at an industrial, institutional, governmental, construction, and/or demolition site.

Control Measure An action or practice employed to comply with a Control Requirement.

Control Requirement A summary statement of the regulation requirements pertaining to a particular activity or action.

Dust Palliative Hygroscopic material, non-toxic chemical stabilizer or other dust palliative material which is not prohibited for ground surface application by EPA or NDEP or any applicable law or regulation, as treatment material for reducing fugitive dust emissions.

Dust Suppressant Water, hygroscopic material, solution of water and chemical surfactants, foam, non-toxic chemical stabilizer or any other dust palliative which is not prohibited for ground application by the EPA or NDEP or any applicable law or regulation, as treatment material for reducing fugitive dust emissions.

EPA Environmental Protection Agency

NDEP Nevada Division of Environmental Protection

Freeboard The distance measured from the top of the side of storage area of a truck to the fill line.

Opacity A visual measurement of the density of a particulate matter such as soil dust when suspended in air. Opacity is evaluated using specified test methods.

Optimum Soil Moisture Content The water content at which soil can be compacted to the maximum dry weight by modified compactive effort using ASTM D 1557 for Optimum Soil Moisture Content/Maximum Density.

PEP Particulate Emission Potential

Silhouette Area The area of a shadow produced if a light was shown directly from the opposite side of an object.

Stable, and Stabilized—Stationary soils are considered stable or stabilized when they are in compliance with the standard set forth per Regulation Section 90. Soils that are being actively handled or disturbed by construction related activity or off road construction traffic and vehicle parking are considered stable or stabilized when they are in compliance with the opacity and plume limitations set forth per Regulation Section 94. Unpaved haul roads are considered stable or stabilized when they are in compliance with standards set forth per Regulation Section 91. Test methods for stability are expected to be used when necessary, but are not required to be utilized continuously during active construction activity.

Staging area—Any portion of a construction project used for storing materials, parking vehicles, and equipment; may be a separate area from the main construction project area.

Surfactant—A compound or element that reduces the surface tension of a liquid. The term is used in this document to describe wetting and spray adjuvants designed to promote the economical application of water to hydrophobic soils. Surfactants prevent drifting, decrease run off, increase the penetrating and wetting properties, and promote more even, consistent spray patterns.

Tack coat—An asphaltic material applied as a binder to Type II Aggregate prior to the placement of asphalt during road construction.

Tackifier—A substance mixed with water that binds together mulches, small particles, or other dust palliatives without forming a hard crust. Many dust palliatives, in a more dilute concentration, can be used as tackifiers.

Trackout—Soil on paved roadways deposited from vehicles that have passed from a construction site or from an unpaved access route onto the paved surface.

Type II Material—Base Aggregate as defined in Section 704 of the Uniform Standards Specifications for Public Works' Construction Off-Site Improvements, Clark County Area, Nevada.

Wheel shaker—A device capable of spreading the tread on tires and shaking the wheels and axles of vehicles for the purpose of releasing mud, soil, and rock from the tires and undercarriage to prevent tracking those materials onto paved surfaces.

Wheel washer—A station or device, either temporary or permanent, that utilizes a bath or spray of water for the purpose of cleaning mud, soil, and rock from the tires and undercarriage of vehicles to prevent tracking those materials onto paved surfaces.

Wobbler—Type of sprinkler head designed to minimize evaporation of water by enhancing the horizontal spray pattern.

INTRODUCTION

This Handbook replaces in its entirety the current Construction Activities Notebook that includes the Section 94 Handbook.

The Clark County Department of Air Quality (DAQ) regulates construction activities that disturb soil in Clark County, Nevada. A Dust Control Permit for Construction Activities (Dust Control Permit) is required for most soil disturbing projects.

An approved Dust Control Permit must be obtained before soil is disturbed. Dust Control Permits are valid for one (1) year. If a project continues for more than one year, the permit must be renewed prior to expiration. DAQ must be notified within 10 working days after the completion of a project. Each Dust Control Permit application must have a Dust Mitigation Plan outlining control measures to prevent fugitive dust. Control measures are based upon soil type and project activities. Soil types are classified based upon particulate emission potential (high, moderate high, moderate low, low, and slight). Guidelines and maps are provided within this Handbook.

Fugitive dust emission violations are strictly enforced. Permittees and contractors are responsible for controlling dust on their projects 24 hours a day, 7 days a week; there are no exceptions. Violators may be required to pay penalties or possibly suspend operations until the fugitive dust is mitigated on the construction sites.

This Construction Activities Dust Control Handbook provides a guideline for obtaining a Dust Control Permit and developing a Dust Mitigation Plan. The Construction Activities Dust Control Handbook is included by reference in Section 94 of the Clark County Air Quality Regulations. The Construction Activities Dust Control Handbook has been divided into the following segments:

GENERAL INFORMATION:

- a. Dust Control Permit Requirements (DCP).
- b. General Construction Project Activities (GEN).

BEST MANAGEMENT PRACTICES:

- a. Soil Particulate Emission Determination Charts and Maps.
- b. Best Management Practices (BMP) for Construction Activities.

APPENDACIES:

- a. Appendix A - Dust Control Permit Supplemental Forms.
- b. Appendix B - Supplement to Dust Control Permit Mitigation Plans.

ATTACHMENTS:

- a. Attachment 1 - Dust Control Permit Forms.
- b. Attachment 2 - Dust Suppressant/Palliative/Surfactant Information.
- c. Attachment 3 - California Air Resources Board (CARB) Approved Abrasives Information.
- d. Attachment 4 - Dust Control Permit Signage.
- e. Attachment 5 - Air Quality Regulations.

Dust Control Permit Application Summary**REQUIREMENTS**

- ~~Permit required for soil disturbing projects greater than or equal to 0.25 acres.~~
- ~~Permit required for demolition of any structure greater than or equal to 1,000 sq. ft.~~
- ~~Permit required for trenching operations greater than or equal to 100 feet in length.~~
- ~~Construction BMP Control Requirements must be addressed by Control Measures~~
- ~~Construction BMP Control Measures must be followed for every soil disturbing or construction activity.~~

CONTROL MEASURES

1. ~~A Dust Control Permit is required for projects with the following dimensions:~~
 - a. ~~Soil disturbing or construction projects greater than or equal to 0.25 acres;~~
 - b. ~~Trenching projects greater than or equal to 100 feet in length; or~~
 - c. ~~Mechanical demolition of any structure larger than or equal to 1,000 square feet.~~
2. ~~Dust Control Permits may be issued to the following persons:~~
 - a. ~~Property owner or authorized designee; or~~
 - b. ~~Representative of a municipality that owns the property.~~
3. ~~Dust Control Permit requirements:~~
 - a. ~~Submit a complete application that includes project vicinity and assessor's parcel maps (see Attachment 1: Dust Control Permit Application Form DCP01). Permit applications should be submitted to the DAQ offices at 4701 W. Russell Rd., Suite 200, Las Vegas, NV 89118-2231.~~

DUST CONTROL PERMIT APPLICATION SUMMARY

(continued)

DCP 01

b. For soil disturbing or construction projects greater than or equal to 0.25 acres, a *Dust Mitigation Plan* using the Best Management Practices in the Construction Activities Dust Control Handbook must be submitted. Control Measures must be selected to meet all Control Requirements. Consider project conditions and logistics when identifying and selecting Best Management Practices and Control Measures (see Attachment 1: Dust Control Permit Forms).

A *Supplement to the Dust Mitigation Plan* is required for soil disturbing or construction projects 10 acre or larger in size, trenching activities one (1) mile or more in length and structural demolition using implosive or explosive techniques (see Appendix B: Supplement to Dust Control Permit Mitigation Plans). This required supplement will detail the Dust Mitigation Plan and include the Project Description, Control Measures drawn from Construction Activities Best Management Practices, Site Plan, Soil Stabilization Measures, and Employee Dust Control Training and Compliance.

c. Any construction project having more than 50 acres of actively disturbed soil at any given time is required to have a Dust Control Monitor as described in Section 94.7.5.

d. The construction site superintendent(s), foremen or other designated on-site representative(s) of the project developer, as well as the water truck/pull driver(s) for each construction site, are required to successfully complete a DAQ Dust Control Class and possess a current Dust Control Card.

4. A Dust Control Permit sign must be conspicuously posted on every construction site (see Attachment 4: Dust Control Permit Signage).

5. Copies of the Dust Control Permit, including the Dust Mitigation Plan and related maps, must be supplied to all contractors and subcontractors. A complete copy must be kept at the construction site at all times.

6. Notifications:

a. Notify DAQ of any proposed modifications to the Dust Control Permit, including the Dust Mitigation Plan. Submit an Application For Dust Control Permit Modification form DCP06 (see Attachment 1: Dust Control Permit Forms); and,

**DUST CONTROL PERMIT APPLICATION SUMMARY
(continued)**

DCP 01

- b. Inform DAQ within 10 working days of project completion and final site stabilization. Submit a Certificate of Completion form DCP08. (See Attachment 1: Dust Control Permit Forms).
- 7. DAQ typically issues Dust Control Permits for Construction Activities within 10 working days of receipt of complete application. Adequate time for application processing must be provided. Emergency measures are exempt from permitting requirements, but are not exempt from the application of dust mitigation measures or the use of Best Management Practices.

DAQ Dust Control Class**REQUIREMENTS**

- ~~The construction site superintendent(s), foremen and other designated on-site representative(s) must attend Dust Control Class.~~
- ~~The water truck/pull driver(s) for each project must attend Dust Control Class.~~

CONTROL MEASURES

1. ~~The construction site superintendent(s), foremen and other designated on-site representative(s) of the project developer, as well as the water truck/pull driver(s) for each construction site, are required to successfully complete a Clark County Department Air Quality & Environmental Management Dust Control Class or possess a current Dust Control Card.~~
2. ~~Dust Control Card must be renewed every three (3) years.~~
3. ~~The content of the Dust Control Class includes information on completing Dust Mitigation Plans, health effects of particulates, Clark County Air Quality Regulations, enforcement, and pertinent dust mitigation measures.~~
4. ~~The Dust Control Class, including a written exam, typically lasts three to four hours. Contact DAQ at (702) 455-5942 to register for a class time. Evening and Saturday classes may be arranged through DAQ to provide instruction for larger groups. This service is provided to any group, including contractors and subcontractors, wishing to certify more than 15 employees at one time.~~

DAQ Dust Control Permit Signage**REQUIREMENTS**

- The Dust Control Permit sign must be placed in a conspicuous place on the project site prior to commencement of construction activities.
- The “Dust Control Matters” phone numbers posted on the Dust Control Permit sign must be for a person who can be reached during evening and weekend hours.

CONTROL MEASURES

1. The Dust Control Permit sign must be placed on the project site and must be conspicuous to the public. The “Dust Control Matters” phone number posted on the Dust Control Permit sign must be for a person who can be reached during evening and weekend hours.
2. Each Dust Control Permit aggregating from 0.25 acres up to and equal to 10 acres must install a sign on the property prior to the commencement of construction. This sign must measure, at minimum, four (4) feet wide by four (4) feet high, conforming to DAQ policy on Dust Control Permit Design and Posting of Signage (see Attachment 4: Dust Control Permit Design and Posting of Signage).
3. For each Dust Control Permit aggregating more than 10 acres, a sign must be installed on the property prior to the commencement of construction. This sign must measure, at minimum, eight (8) feet wide by four (4) feet high, conforming to DAQ policy on Dust Control Permit Design and Posting of Signage (see Attachment 4).
4. Projects less than two (2) weeks in duration may request a waiver of the requirement of posting a Dust Control Permit sign.

Dust Control Permit Modifications**REQUIREMENTS**

- ~~Modifications must be made on a Dust Control Permit Modification form and submitted to DAQ for approval.~~
- ~~If the modification is in response to a CAO, it must be noted on the modification form, and corrective action must take place as directed.~~

CONTROL MEASURES

1. ~~Modifications to the Dust Control Permit can be made with DAQ approval.~~
2. ~~A Dust Control Permit Modification application form must be submitted to the DAQ (see Attachment 1: Dust Control Permit Forms).~~
3. ~~If the parcel changes ownership or you wish to change the permittee during the lifetime of a Dust Control Permit, an APPLICATION FOR MODIFICATION OF A DUST CONTROL PERMIT — TRANSFER OF PERMIT AND/OR CHANGE OF OWNER form DCP 11 (see Attachment 1) must be submitted and approved, proof of ownership must be provided with the Application. This modification does not change the expiration date of the permit.~~
4. ~~The Dust Control Permit Modification application form must be signed by the permittee or written designee. If a modification is requested for revision of project acreage due to long term stabilization of a portion of a project with a dust palliative, a Dust Palliative Information Form must be included with the modification form (Attachment 1: Dust Control Permit Forms).~~
5. ~~If the modification is in response to a Corrective Action Order (CAO) issued by the Control Officer or their representative, this should be noted on the modification form. The corrective action must take place as directed. All other permit requirements remain in effect while the modification is being processed.~~
6. ~~If selected control measures are inadequate to meet the requirements of Section 94.8, Soil Stabilization Standards, of the Air Quality regulations, additional or more stringent standards must be selected. A Dust Control Permit Modification form must be submitted.~~
7. ~~If the modification adds acreage to the permit, the fees for the added acreage must be included with the application.~~
8. ~~A modification does not change the expiration date of the permit.~~

Dust Control Permit Closure/Renewal**REQUIREMENTS**

- Within 10 working days of the completion of the project, the site must be stabilized and a Certificate Of Project Completion form submitted to DAQ.
- Dust Control Permits are valid for one (1) year. If a project is not completed in that time, the Dust Control Permit must be renewed.

CONTROL MEASURES**Dust Control Permit Closure**

Within 10 working days of the completion of the project, a Certificate Of Project Completion form DCP08 must be submitted to DAQ (see Attachment 1: Dust Control Permit Forms). A site visit will be conducted to determine if the parcel is properly stabilized. Upon verification of stabilization, the permit will be closed. If the parcel has not been properly stabilized, the permit holder will be notified of the deficiencies with a Corrective Action Order outlining corrective measures and timelines. Another Dust Control Permit Closure form must be submitted and another site visit will be conducted.

Dust Control Permit Renewal

Dust Control Permits are valid for up to one (1) year. If a project will not be completed before the Dust Control Permit expires, the Dust Control Permit must be renewed. Submit an Application For Renewal Of A Dust Control Permit, form DCP10 (see Attachment 1: Dust Control Permit Forms), to the DAQ prior to expiration of the original permit. The number of acres for the renewal will only include those acres that will be disturbed throughout the rest of the project. Acreage that has been verified by DAQ to be stable or areas that no longer contain disturbed soil need not be included in the renewal. Unpaved staging areas must still be included in the project acreage submitted for permitting.

Dust Control Permit Compliance**REQUIREMENTS**

- ~~Comply with all Control Measures as required by Air Quality regulations.~~
- ~~Comply with all Control Measures as directed by an Enforcement Officer in a Corrective Action Order.~~
- ~~Comply with all Control Measures listed in the Dust Mitigation Plan of the Dust Control Permit.~~
- ~~Employ BACM in all phases of construction activities.~~
- ~~Comply with Best Management Practices requirements~~

CONTROL MEASURES**Section 94 Regulation Overview**

1. ~~All permittees, contractors, owners, operators, or other persons involved in construction activities must employ Control Measures as set forth in the Dust Control Handbook.~~
2. ~~One or a combination of the following methods must be used to maintain dust control on all disturbed soils and Construction Sites, including all access routes and staging areas:~~
 - (a) ~~The soil shall be maintained in a sufficiently damp condition to prevent loose grains of soil from becoming dislodged; or~~
 - (b) ~~The soil shall be crusted over by application of water; or~~
 - (c) ~~The soil shall be completely covered with clean gravel or treated with an approved Dust Suppressant.~~
3. ~~The following circumstances constitute a violation of the Clark County Air Quality Regulations:~~
 - (a) ~~Failure to obtain an approved Dust Control Permit before engaging in activities that disturb or have the potential to disturb soils and/or cause or have the potential to cause Fugitive Dust to enter the air.~~

DUST CONTROL PERMIT COMPLIANCE (Continued)

DCP 06

- (b) Failure to obtain an approved Dust Control Permit for all areas subject to Construction Activities.
- (c) Failure by an Owner or a permittee to include in his Construction contract with his prime contractor and/or his subcontractors a monetary allowance for any dust control options specified in either the Dust Control Permit or the Dust Mitigation Plan.
- (d) Conducting a Construction Activity as defined by Section 94.2 for which no specified control option is indicated in the approved Dust Control Permit or the Dust Mitigation Plan.
- (e) Failure to perform any duty to allow or carry out an inspection, entry, or monitoring activity required by the Department of Air Quality & Environmental Management.
- (f) Failure to renew or obtain a new permit, prior to a Dust Control Permit expiring, provided the site does not meet the exemption requirements for a Dust Control Permit as defined in Subsection 94.4.2.
- (g) Failure to implement any item that is listed as a "Requirement" in the Best Management Practices section of the Construction Activities Dust Control Handbook for an applicable Construction Activity.
- (h) Failure to implement any Best Management Practice listed in an approved Dust Control Permit or Dust Mitigation Plan.
- (i) Failure to maintain static (not actively worked) project soils with adequate surface crusting to prevent wind erosion as measured by test method "Soil Crust Determination (The Drop Ball Test)" contained in Subsection 94.12, "Test Methods", or alternative control measures approved in the Dust Mitigation Plan.
- (j) Failure to comply with any record keeping or miscellaneous requirements of this Section.
- (k) Failure to maintain project haul routes or haul roads in a stable condition as measured by the test methods outlined in Section 91.

DUST CONTROL PERMIT COMPLIANCE (Continued)

DCP-06

- (l) Failure to have a Dust Control Monitor in place, per Subsection 94.7.5, for a Construction project.
- (m) Allowing FUGITIVE DUST emissions to exceed the standards set forth in Subsection 94.11.1 through 94.11.3.
- (n) Using a dry rotary brush or blower device without sufficient water to limit emissions per Subsection 94.11.4.
- (o) Allowing mud or dirt to be tracked out onto a paved road that exceed the standards set forth in Subsection 94.11.5.
- (p) Failure to comply with any other provision of this section.

Corrective Action Order (CAO)

When a Compliance Officer observes a potential violation of Section 94 regulations, Permitting, or Dust Control for Construction Activities, a CAO may be issued to the permittee and/or persons conducting the activity. Corrective action should be taken as directed. If the corrective action is intended to be a permanent change to the methods for dust mitigation on site, a modification to the Dust Control Permit must be filed by the permittee to incorporate the control measures specified by the CAO as a condition of the permit.

Notice of Violation (NOV)

If a NOV is received, it will be accompanied by a form entitled "Option Letter." The following choices will be presented:

- a. **Contest neither the "facts alleged" nor the "penalty;"**
- b. **Contest the facts alleged in the NOV and request an appearance before the Air Quality Hearing Officer.** This option should be selected if the alleged facts of the NOV can be reasonably disputed. Proper and complete documentation of fugitive dust mitigation measures should be submitted with the option letter; or
- c. **Contest the penalty assessed.** In this instance, the alleged facts are not contested. Only the penalty is considered inappropriate. When appearing before the Hearing Officer the testimony should be focused on the factors regarding the penalty.

DUST CONTROL PERMIT COMPLIANCE (continued)

DCP-06

Appealing a Notice of Violation

~~If the Hearing Officer rules on the NOV, and you are not satisfied with the results, you may appeal to the Air Quality Hearing Board. The Hearing Board will hear your appeal *de novo*. Therefore, any information you wish to be considered must be brought to the Hearing Board assuming they have no prior knowledge of the alleged facts or penalty.~~

~~There is a time limit in which to appeal to the Hearing Board and a "Request for Hearing Before the Air Quality Hearing Board" form must be submitted to DAQ. You will receive an "Order to Pay" from the Hearing Officer. Enclosed with that Order will be the information for the appeal process.~~

Penalty Structure

~~Penalties are assessed for:~~

- ~~— violations of permit conditions;~~
- ~~— failure to maintain soils in a damp, crusted, or stabilized condition, or to clean track out from paved roads; and~~
- ~~— fugitive dust emissions.~~
- ~~— non-compliance with a CAO.~~

~~Penalties are listed in Section 9 of the Air Quality Regulations.~~

~~The maximum penalties can reach \$10,000.00 per day, per offense.~~

Project Phasing**CONTROL MEASURES**

1. The Dust Control Permit and Dust Mitigation Plan must address all phases and stages of the construction project. For projects with large cut and fill requirements, the land not active after the cut and fill must be stabilized using a palliative or other approved control measure and vehicle access must be prevented. Permittees should also limit the area disturbed at any one time.
2. The construction project may consist of a single phase or be divided into as many phases as the permittee chooses. Each phase must have distinct physical boundaries to make it easily identifiable. Construction project activities are to be further divided, whenever applicable, into the following six stages of project activities: (1) offsite utility and street development; (2) site preparation and earthwork; (3) forms construction and pouring; (4) subgrade preparation and paving; (5) building; and (6) landscaping.
3. When project stages are identified, the following information must be provided for each project stage:
 - a. Stage number and title;
 - b. Amount of acreage included in stage;
 - c. Control Requirements for activity; and
 - d. Best Management Practice Control Measures to be implemented to meet Control Requirements.

4. ~~Project phase planning for dust control is a cost effective method for reducing potential emissions on a construction site. Project planning may include the following procedures:~~
 - a. Reducing the size of the staging area;
 - b. Disturbing only a portion of the overall site at one time;
 - c. Paving roadways as soon as possible;
 - d. Constructing block walls as soon as possible;
 - e. Planting perimeter vegetation with greater than 50 percent silhouette areas at the beginning of the project;
 - f. Limiting the number of ingress and egress points;
 - g. Paving parking lots as soon as possible;
 - h. For large cut and fill projects, stabilizing the portion of the construction site not being actively worked for the period of time it is vacant; or
 - i. Confine import haul traffic to compacted or paved routes, where possible, to avoid picking up soil and rock in tire treads.

Recording Dust Control Measures**REQUIREMENTS**

- ~~Record Use of Dust Palliatives~~
- ~~Record Trackout Conditions and Cleanup~~
- ~~Notify DAQ when project is complete~~
- ~~Record verification of compliance with all applicable Dust Control Measures~~
- ~~Notify DAQ of compliance with CAOs~~
- ~~Retain project records~~

CONTROL MEASURES

1. ~~Document all use of dust palliatives on the Dust Palliative Information form DCP07 (see Attachment 1: Dust Control Permit Forms).~~
2. ~~Record Trackout conditions daily and document cleanup measures taken.~~
3. ~~Record other dust control measures taken, including date, time, and amount of water applied for dust control purposes.~~
4. ~~Notify DAQ of compliance with any CAOs issued.~~
5. ~~Notify DAQ upon completion of project.~~
6. ~~Retain all project records for one year or six months beyond project completion, whichever is greater.~~

Weather Conditions**REQUIREMENTS**

- ~~Monitor current weather conditions and weather predictions from National Weather Service~~
- ~~Cease all construction activities if fugitive dust exceeds 20% opacity or visible plume restrictions and cannot be controlled.~~

CONTROL MEASURES

1. ~~When winds occur that cause fugitive dust emissions, despite adhering to all Best Management Practices, all construction activities must cease immediately, except water trucks/pulls which should continue to operate.~~
2. ~~Water trucks/pulls should continue to operate under these circumstances unless wind conditions are such that continued operation of watering equipment cannot reduce fugitive dust emissions or visibility is limited to an extent that it is hazardous to continue operating equipment.~~

BEST MANAGEMENT PRACTICES FOR DUST CONTROL

~~Best Management Practices are site specific dust control measures that are based on each project soil type, specific construction activities, phases and stages. These practices must be included in each Dust Mitigation Plan and are established to meet the goal of reducing particulate emissions from construction sites. Additionally, some practices are designed for the purpose of reducing the amount of water needed for dust control.~~

1. Soil Type Categories

~~Soil types are classified into five categories (high, moderately high, moderately low, low, and slight) based on their particulate emission potential (PEP). The fifth category, "slight", is created solely to identify areas of bedrock outcrops. PEP is determined by soil silt content (measured by the soil percentage that will pass through a 200 mesh sieve) and optimum moisture content (measured by the percent of moisture necessary to compact soils).~~

~~Figure 1 depicts a "decision flowchart" using these parameters. A graph, which plots measured optimum moisture content vs. silt content for Las Vegas Valley soils, is used to classify PEP and is included as Figure 2. If optimum moisture content or silt content is not known for a specific project location, maps of Clark County and Las Vegas Valley delineating the five soil type categories are provided as Figures 3 and 4, respectively.~~

~~Soil type category maps are to be used as a guideline. The actual measured silt content and moisture content for maximum compaction shall take precedence over any mapped soil type categories. Permit holders shall immediately modify their Dust Control Permit if construction site soils are found to be different than mapped categories.~~

2. Best Management Practices

~~The following subsections list the current Best Management Practices (BMPs) developed and approved for use in Clark County for dust mitigation for construction activities. The BMPs are organized alphabetically by construction activity.~~

~~The Control Requirements of each construction activity category to be conducted on the construction project must be met through implementation of Control Measures. Within most construction activity categories, there are choices of Control Measure(s) to be selected from to meet the Control Requirements. Control Requirements are stated for each construction activity. All Control Measures that will be used to meet the Control Requirements on the construction project must be identified in the Dust Mitigation Plan for each construction activity.~~

~~Control Measures are presented by soil type category where applicable. Some Control Measures apply to construction activities regardless of soil type. The Control Measures selected to meet Control Requirements must address the soil type for the area in which the construction project is permitted (see Figures 3 and 4).~~

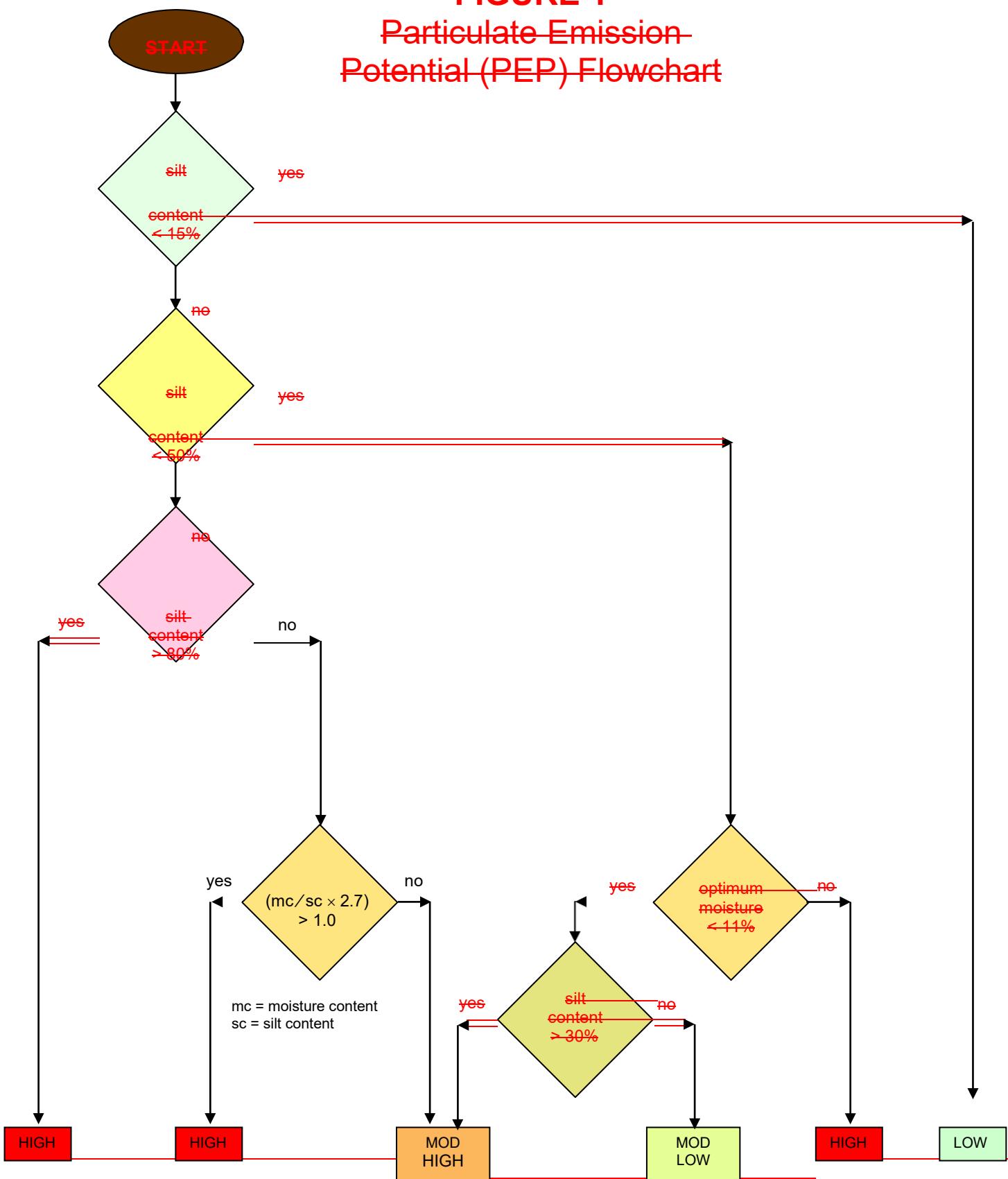
~~Control Measures not currently listed in the Dust Control Handbook may be proposed in a Dust Mitigation Plan. Such unlisted Control Measures will be reviewed by DAQ staff and may require additional information regarding their effectiveness. Any unlisted Control Measure must clearly meet the Control Requirements for an activity category.~~

~~The DAQ will apply the following minimum criteria when evaluating any unlisted Control Measures that are proposed to meet the Control Requirements for a BMP:~~

- ~~1. The Control Measure technique is a new or alternative technology that is demonstrated to be equally or more effective in meeting the Control Requirement than the existing Control Measures; or~~
- ~~2. Site logistics do not practically allow for implementation of a listed Control Measure as written (e.g. road width or pre-existing barriers limit the size or width of a gravel pad); or~~
- ~~3. The owner/operator demonstrates that a listed Control Measure is technically infeasible due to site specific or material specific conditions, such that implementation of the Control Measure will not provide a benefit in reducing fugitive dust (e.g. pre-soaking screened, washed rock when handling).~~

~~Permit deviations from specific soil type BMPs in the form of a "downgrade" to the BMPs listed for a soil type with a lower PEP, or applying a Control Measure listed for all soil types in lieu of a specific soil type BMP, are not approvable unless demonstrated to meet at least one of the above criteria.~~

FIGURE 1
**Particulate Emission
 Potential (PEP) Flowchart**



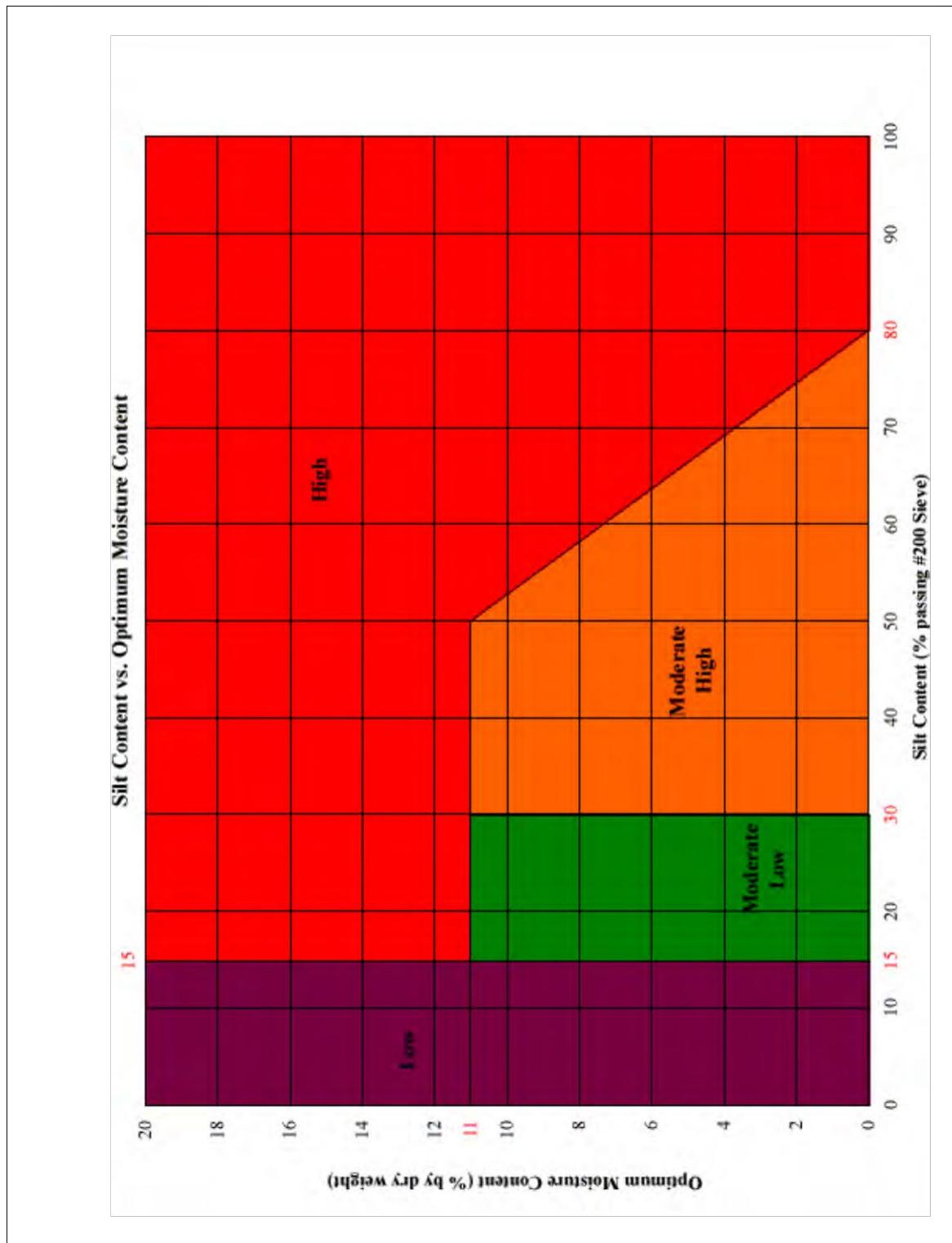
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Dust Control Handbook—20

Clark County Department of Air Quality, Las Vegas, Nevada 89118

Adopted: 3/18/03

FIGURE 2
~~Silt Content vs. Optimum Moisture Content~~



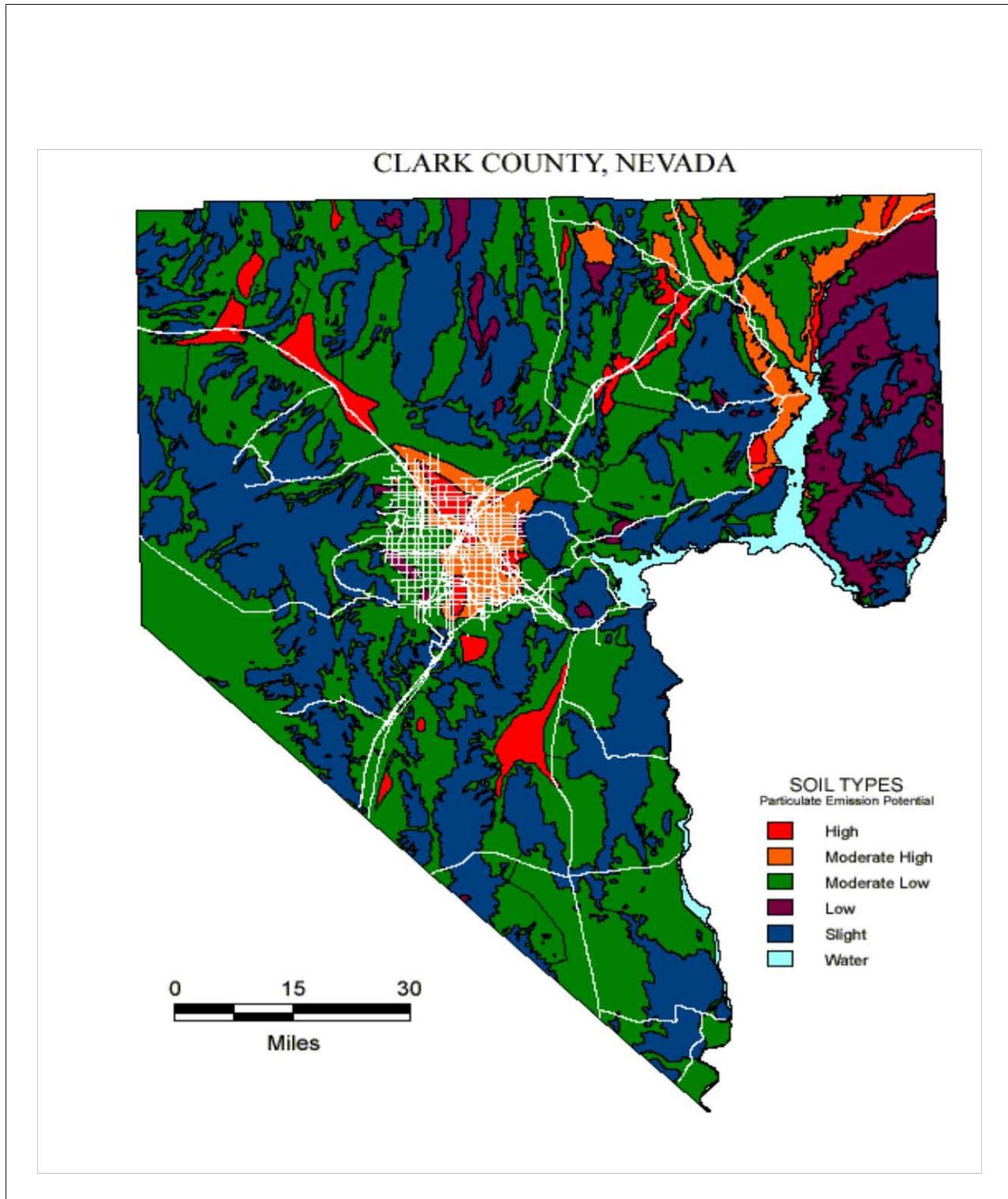
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Dust Control Handbook—22

Clark County Department of Air Quality, Las Vegas, Nevada 89118

Adopted: 3/18/03

FIGURE 3: COUNTY SOIL TYPES MAP



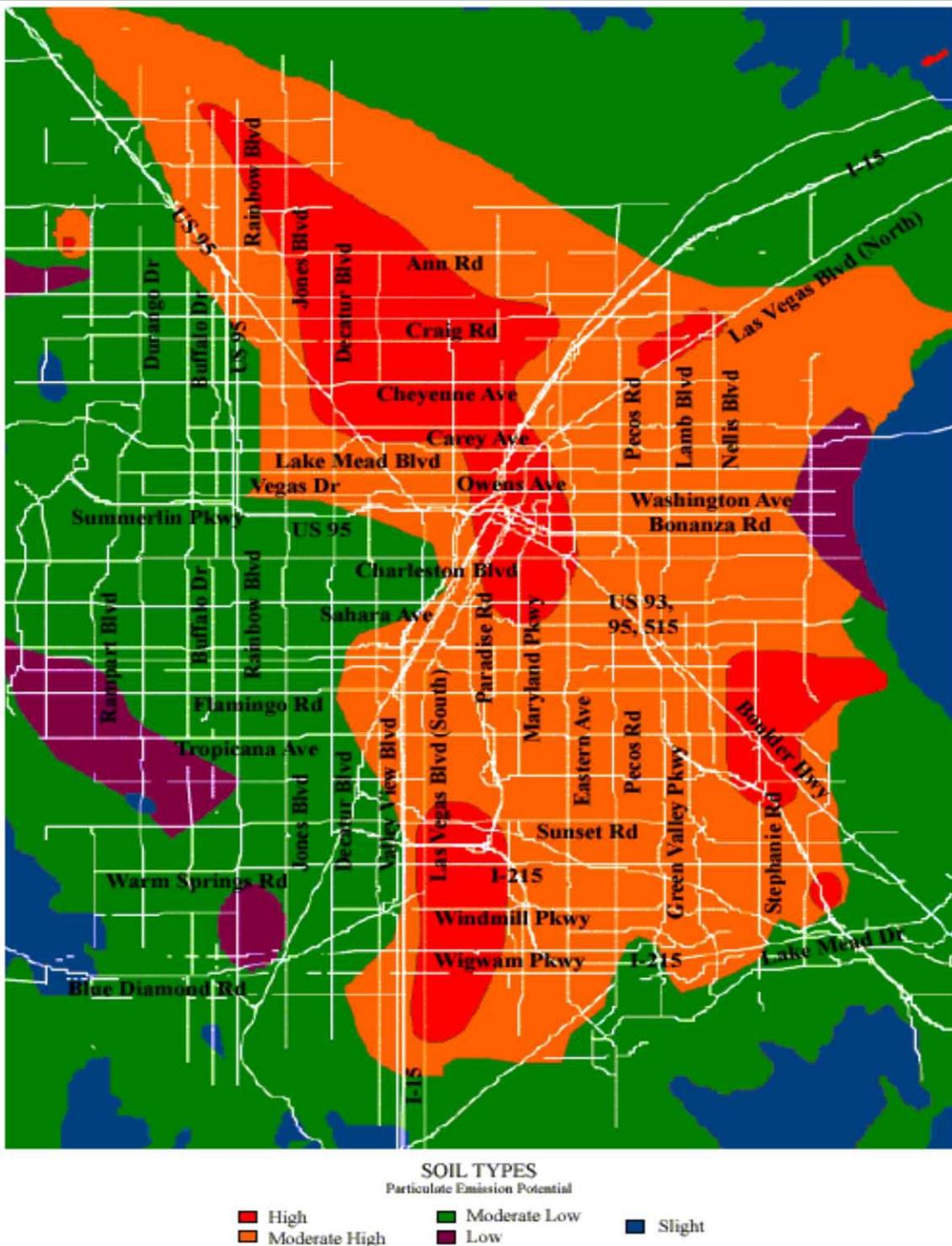
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Dust Control Handbook—24

Clark County Department of Air Quality, Las Vegas, Nevada 89118

Adopted: 3/18/03

FIGURE 4: VALLEY SOIL TYPES MAP Las Vegas Valley



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Dust Control Handbook—26

Clark County Department of Air Quality, Las Vegas, Nevada 89118

Adopted: 3/18/03

~~Definition: Filling area previously excavated or trenched.~~

Requirement: Stabilize backfill material when not actively handling.

- 01-1 ~~Water backfill material to maintain moisture or to form crust when not actively handling.~~
- 01-2 ~~Apply and maintain a dust palliative to backfill material to form crust when not actively handling.~~
- 01-3 ~~Cover or enclose backfill material when not actively handling.~~

Requirement: Stabilize backfill material during handling.

- 01-4 ~~Empty loader bucket slowly and minimize drop height from loader bucket.~~
- 01-5 ~~Dedicate water truck or large hose to backfilling equipment and apply water as needed.~~

Note: ~~Select at least one of the above; in addition the appropriate control measure for your soil type must be selected from the following.~~

- 01-6 ~~L: Mix moist soil with dry soil until the optimum moisture is reached.~~
- 01-7 ~~ML: Apply and mix water into the backfill material until optimum moisture is reached.~~
- 01-8 ~~MH: Apply and mix water and tackifier solution into the backfill material until optimum moisture is reached.~~
- 01-9 ~~H: Apply and mix water and surfactant solution into the backfill material until optimum moisture is reached.~~

Requirement: Stabilize soil at completion of backfilling activity.

- 01-10 ~~Apply water and maintain disturbed soils in a stable condition until permanent stabilization is complete.~~
- 01-11 ~~Apply and maintain a dust palliative on disturbed soils to form a crust following backfilling activity.~~

Requirement: Stabilize material while using pipe padder equipment.

- 01-12 ~~Mix moist soil with dry soil until the optimum moisture is reached.~~
- 01-13 ~~Dedicate water truck or large hose to equipment and apply water as needed.~~

Definition: Sandblasting and/or abrasive blasting.

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- 02-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- 02-2 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will operate.

Requirement: Limit visible emissions to no more than an average of 40% opacity for any period aggregating 3 minutes in any 60-minute period pursuant to Air Quality Regulations.

- 02-3 Hydro blasting, using water as the propellant, must be conducted in a manner to maintain visible emissions within opacity standards.
- 02-4 Dry, unconfined blasting with abrasive material must use only those abrasives that are approved and certified by the California Air Resources Board (CARB) for such use (see Attachment 3: CARB Approved Abrasives Information).

Requirement: Stabilize particulate matter in surrounding area following blasting.

- 02-5 Clean particulate material from surrounding area and water disturbed soils following blasting.
- 02-6 Apply and maintain a dust palliative to surrounding area following blasting.

Recommendation: Abrasive blasting should be conducted within an enclosed structure whenever possible to preclude the release of visible emissions to the atmosphere.

Definition: Explosive blasting of soil and rock.

Requirement: A Blasting Supplemental form must be filled out, submitted and approved by the DAQ prior to any blasting (see Appendix A: Dust Control Permit Supplemental Forms)

Requirement: No blasting within 1,500 feet of a residential area, occupied building or major roadway, when wind direction is toward these structures.

Requirement: Blasting shall be between the hours of 8:00 a.m. and 4:30 p.m., excluding Saturdays, Sundays and holidays unless prior permission is obtained from the Control Officer.

Requirement: No blasting allowed when the National Weather Service forecasts wind gusts above 25 miles per hour (mph).

03-1 Prior to setting explosive charges in holes, document current and predicted weather conditions as provided by the National Weather Service. If the current forecast is for wind gusts of 25 mph or greater or they are forecasted to be 25 mph or greater within the next 24 hours, do not charge any blast holes. When setting explosive charges, monitor weather reports for wind gusts of 25 mph or greater on the National Weather Service Radio and/or Internet sites. If wind gusts above 25 mph are stated, discontinue charging additional blast holes. Limit the blast to holes charged at time the wind report is made.

Requirement: Stabilize surface soils where drills, support equipment and vehicles will operate.

03-2 Pre-water and maintain surface soils in a stabilized condition where drills, support equipment and vehicles will operate.

03-3 Apply and maintain a dust palliative on surface soils where drills, support equipment and vehicles will operate.

(Continued on next page.)

Requirement: Stabilize soil during blast preparation activities.

- 03-4 Limit the blast footprint area to no larger than what can be practically stabilized immediately following the blast.
- 03-5 Maintain surface rock and vegetation where possible to reduce exposure of disturbed soil to wind.

Note: Select at least one of the above; in addition the appropriate control measure for your soil type must be selected from the following.

- 03-6 **L & ML:** Presoak surface soils to depth of the caliche or bedrock with water using water trucks, water pulls, sprinklers or wobblers.
- 03-7 **MH:** Presoak surface soils to depth of the caliche or bedrock with water and tackifier mixture using water trucks, water pulls, sprinklers or wobblers.
- 03-8 **H:** Presoak surface soils to depth of the caliche or bedrock with water and surfactant mixture using water trucks, water pulls, sprinklers or wobblers.

Requirement: Stabilize soil after blasting.

- 03-9 Water disturbed soils to form crust immediately following blast and safety clearance.
- 03-10 Apply and maintain a dust palliative to form crust immediately following blast and safety clearance.

See also: BMP 11: DISTURBED LAND—Long-Term Stabilization, if no continuing activity will occur within 30 days.

CLEARING AND GRUBBING

BMP 04

~~Definition: Clearing and grubbing for site preparation and vacant land cleanup.~~

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- 04-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- 04-2 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will operate.

Requirement: Stabilize soil during clearing and grubbing activities.

- 04-3 ~~L & ML: Apply water during clearing and grubbing activities.~~
- 04-4 ~~MH: Apply water and tackifier mixture during clearing and grubbing activities.~~
- 04-5 ~~H: Apply water and surfactant mixture during clearing and grubbing activities.~~

Requirement: Stabilize disturbed soil immediately after clearing and grubbing activities.

- 04-6 Water disturbed soils to form crust immediately following clearing and grubbing activities.
- 04-7 Apply and maintain a dust palliative on disturbed soils to form crust immediately following clearing and grubbing activities.

Recommendations: Maintain live perennial vegetation and desert pavement where possible.

See also: ~~BMP 11: DISTURBED LAND – Long-Term Stabilization, if no continuing activity will occur within 30 days.~~

Definition: Clearing and cleaning of forms, foundations and slabs.

Requirement: Limit visible emissions to no more than an average of 20% opacity for any period aggregating 3 minutes in any 60-minute period pursuant to Air Quality Regulations.

05-1 Use single stage pours, unless prohibited by engineering design or building code, to minimize clearing.

Note: At least one of the following must be selected.

05-2 Use water spray to clear forms, foundations and slabs.

05-3 Use sweeping and water spray to clear forms, foundations and slabs.

05-4 Use industrial vacuum to clear forms, foundations and slabs prior to the use of high pressure air to blow soil and debris.

05-5 Use industrial vacuum to clear forms, foundations and slabs.

Recommendations: Verify Building Code Restrictions for use of water on slabs.

Avoid use of high pressure air to blow soil and debris from forms, foundations and slabs.

~~Definition: Crushing of construction and demolition debris, rock and soil.~~

~~**Requirement: Obtain the appropriate Operating Permit for powered crushers prior to engaging in crushing activity. Comply with permit conditions.**~~

~~**Requirement: Stabilize surface soils where support equipment and vehicles will operate.**~~

- ~~06-1 Pre water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.~~
- ~~06-2 Apply and maintain a dust palliative to surface soils where support equipment and vehicles will operate.~~

~~**Requirement: Stabilize material before crushing.**~~

- ~~06-3 Pre water material prior to loading into crusher.~~
- ~~06-4 Test material to determine moisture content and silt loading, crush only material that is at optimum moisture content.~~

~~**Requirement: Stabilize material during crushing.**~~

- ~~06-5 Apply water to stabilize material so as to remain in compliance with opacity standards and permit conditions, during crushing.~~
- ~~06-6 Monitor emissions opacity. Make adjustments to remain in compliance with opacity standards and permit conditions.~~

~~**Requirement: Stabilize material after crushing.**~~

- ~~06-7 Water crushed material to form crust immediately following crushing.~~
- ~~06-8 Apply and maintain a dust palliative to crushed material.~~

~~See also: BMP 19. STOCKPILING~~

~~Definition: Cut and/or fill soils for site-grade preparation.~~

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- 07-1 ~~Pre water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.~~
- 07-2 ~~Apply and maintain a dust palliative to surface soils where support equipment and vehicles will operate.~~

Requirement: Pre-water soils.

- 07-3 ~~Dig a test hole to depth of cut or equipment penetration to determine if soils are moist at depth. Continue to pre-water if not moist to depth of cut.~~
- 07-4 ~~L & ML: Pre-water with sprinklers or wobblers to allow time for penetration.~~
- 07-5 ~~L & ML: Pre-water with water trucks or water pulls to allow time for penetration.~~
- 07-6 ~~MH: Pre-water with a water and tackifier mixture using sprinklers or wobblers to allow time for penetration.~~
- 07-7 ~~MH: Pre-water with a water and tackifier mixture using water trucks or water pulls to allow time for penetration.~~
- 07-8 ~~H: Pre-water with a water and surfactant mixture using sprinklers or wobblers to allow time for penetration.~~
- 07-9 ~~H: Pre-water with a water and surfactant mixture using water trucks or water pulls to allow time for penetration.~~

Requirement: Stabilize soil during cut activities.

- 07-10 ~~Apply water, using water truck or water pull, to depth of cut prior to subsequent cuts.~~
- 07-11 ~~No cut activities fill only.~~

Requirement: Stabilize soil after cut and fill activities.

- 07-12 ~~Water disturbed soils to form crust following fill and compaction.~~
- 07-13 ~~Apply and maintain a dust palliative on disturbed soils to form crust following fill and compaction.~~

See also: ~~BMP 11: DISTURBED LAND – Long-Term Stabilization if no continuing activity will occur within 30 days.~~

Definition: Implosive blasting demolition of structure.

Requirement: A Demolition Supplemental form (see Appendix A) and a Supplement To The Dust Mitigation Plan (see Appendix B) must be filled out, submitted and approved by the Control Officer prior to implosion.

Requirement: An asbestos survey must be conducted on any facility before demolition can commence.

Requirement: A complete Clark County NESHAP Notification form must be submitted to the DAQ at least ten working days prior to demolition. The asbestos survey must be attached to this notification.

Requirement: All friable and non-friable asbestos containing material must be removed from the facility prior to implosion.

Requirement: Confine blasting to times when wind direction is away from closest residential areas, occupied buildings and major roadways.

Requirement: Implosion time must be pre-approved by the Control Officer.

Requirement: Monitor and document current weather conditions and weather predictions from National Weather Service.

08-1 Prior to setting explosive charges, obtain and document current and predicted weather conditions as provided by the National Weather Service. If wind advisory (over 20 miles per hour gusts or average wind speed of 10 miles per hour) is current or forecasted for blast period, do not set charges and do not blast. Maintain a calibrated anemometer and log ambient air velocity and direction within 1,000 feet of the implosion site, beginning at least 1 (one) hour prior to and 15 minutes after the implosion.

(Continued on next page)

Requirement: Stabilize surface area where support equipment and vehicles will be operated.

08-2 Restrict support equipment and vehicles to existing paved and/or stable areas.

Note: You must select one of the following if paved and/or stable areas do not already exist and you have not selected 08-2.

08-3 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.

08-4 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will be operated.

Requirement: Stabilize demolition debris immediately following blast and safety clearance.

08-5 Apply water to debris immediately following blast and safety clearance.

08-6 Apply and maintain a dust palliative to debris immediately following blast and safety clearance.

Requirement: Stabilize and clean surrounding area immediately following blast and safety clearance.

08-7 Water all disturbed soil surfaces to establish crust and prevent wind erosion of soil.

08-8 Thoroughly clean blast debris from paved and other surfaces following blast and safety clearance.

See also: BMP 23: TRUCK LOADING.

Definition: Mechanical and manual demolition of walls, stucco, concrete, freestanding structures, buildings, load-bearing walls and removal of transite pipe

Requirement: For renovation or demolition of a structure, a Demolition Supplemental form (see Appendix A) must be filled out, submitted and approved by the Control Officer prior to commencing demolition.

Requirement: An asbestos survey must be conducted on any facility or structure that is subject to NESHAP requirements before demolition can commence.

Requirement: A complete Clark County NESHAP Notification form must be submitted to the DAQ at least ten working days prior to demolition. The asbestos survey must be attached to this notification.

Requirement: Stabilize surface soils where support equipment and vehicles will operate.

- 09-1 Pre water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- 09-2 Apply and maintain a dust palliative to surface soils where support equipment and vehicles will operate.
- 09-3 Area where support equipment and vehicles will operate is completely covered with paving or concrete.

Requirement: Stabilize demolition debris during handling.

- 09-4 Apply water to demolition debris during handling.

Requirement: Stabilize debris following demolition.

- 09-5 Apply water to stabilize demolition debris.
- 09-6 Apply a dust palliative to stabilize demolition debris.

Requirement: Stabilize surrounding area following demolition.

- 09-7 Apply water to stabilize surrounding area following demolition.
- 09-8 Apply and maintain a dust palliative to stabilize surrounding area following demolition.

See also: BMP 23: TRUCK LOADING.

~~Definition: Disturbed soil throughout project including between structures.~~

~~Requirement: For each non-linear project to be permitted for 5 acres or less, install perimeter wind barrier 3 feet or more in height made of material with a porosity of 50% or less.~~

~~Requirement: Limit vehicle traffic and disturbance of soils where possible.~~

10-1 ~~Limit vehicle traffic and disturbance of soils with the use of fencing, barriers, barricades, and/or wind barriers.~~

~~Requirement: Stabilize and maintain stability of all disturbed soil throughout construction site.~~

~~Note: You must choose one or more of the following.~~

10-2 ~~Apply water to stabilize disturbed soils. Soils must be kept in a sufficiently damp, crusted or covered condition.~~

10-3 ~~Apply and maintain a dust palliative based on soil type and future plans.~~

~~Requirement: Soil conditions, including preventive and corrective measures, must be recorded every day the construction project is active.~~

10-4 ~~Record soil conditions and dust control actions in daily project records.~~

~~Recommendations: If interior block walls are planned, install as early in the construction as possible.~~

~~See also: BMP 11: DISTURBED LAND—Long Term Stabilization, if no continuing activity will occur within 30 days.~~

DISTURBED LAND – Long-Term Stabilization

BMP 11

Definition: Large tracts of disturbed land that will not have continuing activity for more than 30 days.

Requirement: Stabilize soil to meet standards required by Air Quality Regulation Section 90.

- 11-1 Apply and maintain a dust palliative on disturbed soils for long-term stabilization.
- 11-2 Stabilize disturbed soil with vegetation for long-term stabilization.
- 11-3 Pave or apply surface rock for long-term stabilization.
- 11-4 Use wind breaks in accordance with a site-specific plan approved by the Control Officer and Region IX Administrator of the EPA.
- 11-5 Apply water and maintain soils in a visible damp or crusted condition for temporary stabilization.

Requirement: Prevent access to limit soil disturbance.

- 11-6 Prevent access by fencing, ditches, vegetation, berms or other suitable barrier or means approved by the Control Officer.

Recommendations: Plant perimeter vegetation early. Use of native and drought-tolerant plants with greater than 50 % silhouette area is encouraged.

See also: BMP 12: DUST SUPPRESSANT, DUST PALLIATIVE AND SURFACTANT Selection and Use.

DUST PALLIATIVE – Selection and Use

BMP 12

~~Definition: Selection and use of chemical and organic dust suppressing agents and other dust palliatives.~~

~~Requirement: Follow AQD “Interim Policy on Dust Palliatives Use In Clark County, Nevada”.~~

~~Requirement: Record use of suppressants and dust palliatives and retain records.~~

~~Requirement: Follow applicable federal and state regulations.~~

~~Requirement: Select method of long-term stabilization taking into consideration future land use.~~

- 12-1 For traffic area applications use Table 1: Traffic Area Application Requirements, Appropriate Use of Liquid Dust Palliatives and Application Rates, from the Interim Policy on Dust Palliatives Use In Clark County, Nevada.
- 12-2 For non-traffic area applications use Table 2: Non-Traffic Area Application Requirements, Appropriate Use of Liquid Dust Palliatives and Application Rates, from the Interim Policy on Dust Palliatives Use In Clark County, Nevada.

IMPORTING/EXPORTING SOIL, ROCK AND OTHER BULK MATERIAL

BMP 13

Definition: Importing or exporting of soil, aggregate, decorative rock, debris, Type II and other bulk material.

Requirement: Limit visible dust opacity from vehicular operations.

- 13-1 Apply water and limit vehicle speeds to 15 mph on the work site.
- 13-2 Apply and maintain dust suppressant on haul routes.

Requirement: Check belly dump truck seals regularly and remove any trapped rocks to prevent spillage.

Requirement: Maintain 3-6 inches of freeboard to minimize spillage.

Requirement: Stabilize materials during transport on site.

- 13-3 Use tarps or other suitable enclosures on haul trucks.
- 13-4 Stabilize materials with water.

Requirement: Clean wheels and undercarriage of haul trucks prior to leaving construction site.

Recommendations: Verify State and local laws, concerning the hauling of bulk materials on public roadways.

See also: BMP 20: TRACKOUT PREVENTION AND CLEANUP.

BMP 23: TRUCK LOADING.

~~Definition: Installation of sod, decorative rock, desert or other landscape material.~~

Requirement: Stabilize soils, materials and slopes during handling.

- 14-1 ~~L & ML: Apply water prior to leveling or any other earth moving activity to keep the soil moist throughout the process.~~
- 14-2 ~~MH: Apply a water and tackifier mixture prior to leveling or any other earth moving activity to keep the soil moist throughout the process.~~
- 14-3 ~~H: Apply a water and surfactant mixture prior to leveling or any other earth moving activity to keep the soil moist throughout the process.~~

Requirement: Stabilize soils, materials and slopes at completion of activity.

- 14-4 ~~Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slope.~~
- 14-5 ~~Apply water and maintain sloping surfaces in a crusted condition.~~
- 14-6 ~~Maintain effective cover over materials.~~

Definition: Subgrade preparation for paving streets, parking lots, etc.

Requirement: Stabilize soils prior to activities.

15-1 Pre water subgrade surface until optimum moisture content is reached and maintained.

Requirement: Stabilize soils during activities.

15-2 Maintain at least 70% of optimum moisture content for Type II material while aggregate is being applied.

Requirement: Stabilize soils following activities.

15-3 Place tack coat on Type II aggregate base immediately after it is applied.

15-4 Apply water to Type II aggregate base immediately after it is applied.

Requirement: Stabilize adjacent disturbed soils following paving activities.

15-5 Stabilize adjacent disturbed soils following paving activities by crusting with water.

15-6 Stabilize adjacent disturbed soils following paving activities by applying a dust palliative.

15-7 Stabilize adjacent disturbed soils following paving activities with immediate landscaping activity or installation of vegetative or rock cover.

15-8 There are no soils adjacent to paving activities.

SAWING/CUTTING MATERIALS

BMP 16

Definition: ~~Sawing or cutting materials such as concrete, asphalt, block or pipe.~~

Requirement: ~~Limit visible emissions to no more than an average of 20% opacity, pursuant to Air Quality Regulations.~~

16-1 ~~Use water to control dust when cutting materials.~~

16-2 ~~Use a vacuum to collect dust when cutting materials.~~

~~Definition: Screening of rock, soil or construction debris.~~

~~**Requirement: If using a powered screen, obtain the appropriate Operating Permit for powered screens prior to engaging in screening activity. Comply with permit conditions.**~~

~~**Requirement: Drop material through the screen slowly and minimize drop height.**~~

~~**Requirement: Stabilize surface soils where support equipment and vehicles will operate.**~~

- ~~17.1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.~~
- ~~17.2 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will operate.~~

~~**Requirement: Pre-treat material prior to screening.**~~

- ~~17.3 Apply sufficient water to obtain at least 70% optimum moisture in material prior to screening.~~
- ~~17.4 Apply a dust suppressant to material prior to screening.~~

~~**Requirement: Stabilize material during screening.**~~

- ~~17.5 Dedicate water truck or large hose to screening operation and apply water as needed to prevent dust.~~
- ~~17.6 Apply water to material as it is being dropped through the screen.~~
- ~~17.7 Install wind barrier upwind of screen as high as the screen drop point and made of material with a porosity of 50% or less.~~

~~**Requirement: Stabilize material and surrounding area immediately after screening.**~~

- ~~17.8 Apply water to stabilize screened material and surrounding area after screening.~~
- ~~17.9 Apply and maintain a dust palliative to stabilize screened material and surrounding area after screening.~~

~~See also: BMP 19: STOCKPILING~~

Definition: Staging areas, equipment storage and material storage areas.

Requirement: Limit visible dust opacity from vehicular operations.

- 18-1 Limit vehicle speeds to 15 mph in the staging area and on all unpaved access routes.
- 18-2 Apply and maintain dust suppressant on all vehicle traffic areas in the staging areas and unpaved access routes.

Requirement: Stabilize staging area soils during use.

- 18-3 Pre water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.
- 18-4 Apply and maintain a dust palliative to surface soils where support equipment and vehicles will be operated.

Requirement: Stabilize staging area soils at project completion.

- 18-5 Apply a dust palliative.
- 18-6 Apply screened or washed Type II aggregate.
- 18-7 Use wind breaks in accordance with a site specific plan approved by the Control Officer and Region IX Administrator of the EPA.
- 18-8 Pave with thin paving.
- 18-9 Completed project will cover staging area with buildings, paving, and/or landscaping.
- 18-10 Apply water to form adequate crust and prevent access.

Recommendations: Limit size of staging areas.

Limit ingress and egress points.

See also: BMP 20: TRACKOUT PREVENTION AND CLEANUP

STOCKPILING

BMP 19

~~Definition: Stockpiling of materials, such as Type II, rock or debris, for future use or export.~~

~~Requirement: To the extent possible, maintain stockpile to avoid steep sides or faces.~~

~~Requirement: Stockpile location and height must be maintained pursuant to Air Quality Regulations. Stockpiles located within 100 yards of occupied buildings must not be constructed over 8 feet in height.~~

- ~~19-1 Stockpiles will not be constructed over 8 feet in height.~~
- ~~19-2 Stockpiles will be constructed over 8 feet high and must have a road bladed to the top to allow water truck access or must have a sprinkler irrigation system installed, used and maintained~~

~~Requirement: Stabilize surface soils where support equipment and vehicles will operate.~~

- ~~19-3 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate.~~
- ~~19-4 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will operate.~~

~~Requirement: Stabilize stockpile materials during handling.~~

- ~~19-5 Maintain stockpile materials with at least 70% optimum moisture content.~~
- ~~19-6 Remove material from the downwind side of the stockpile, when safe to do so.~~

~~Note: Select at least one of the above; in addition the appropriate control measure for your soil type must be selected from the following.~~

- ~~19-7 L & ML: Apply water during stacking, loading and unloading operations.~~
- ~~19-8 MH: Apply a water and tackifier mixture during stacking, loading and unloading operations.~~
- ~~19-9 H: Apply a water and surfactant mixture during stacking, loading and unloading operations.~~

~~(Continued on next page)~~

Requirement: Stabilize stockpiles at completion of activity.

- 19-10 Water stockpiles to form a crust immediately at the completion of activity.
- 19-11 Apply and maintain a dust palliative to all outer surfaces of the stockpiles.
- 19-12 Provide and maintain wind barriers on 3 sides of the pile, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and made of material with a porosity of 50% or less.
- 19-13 Apply a cover or screen to stockpiles.

TRACKOUT PREVENTION AND CLEANUP

BMP 20

~~Definition: Prevention and cleanup of mud, silt and soil tracked out onto paved roads.~~

~~Requirement: In soils that have a PEP classification of "High", pave construction activities roadways as early as possible.~~

~~Requirement: Use of soil to create a ramp for vehicle access over a curb is prohibited.~~

~~Requirement: Trackout conditions, including preventive and corrective measures, must be recorded daily for every day that the construction project access is used by vehicles.~~

20-1 Record soil conditions and dust control actions in daily project records.

~~Requirement: Prevent dust from trackout.~~

20-2 Immediately clean trackout from paved surfaces to maintain dust control. Trackout must not extend 50 feet or more.

20-3 Maintain dust control during working hours and clean trackout from paved surfaces at the end of the work shift/day. Trackout must not extend 50 feet or more and must be cleaned daily, at minimum.

~~Requirement: Install and maintain trackout control devices in effective condition at all access points where paved and unpaved access or travel routes intersect.~~

20-4 Install gravel pad(s) consisting of 1" to 3" rough diameter, clean, well-graded gravel or crushed rock. Minimum dimensions must be 30 feet wide by 3 inches deep, and, at minimum, 50' or the length of the longest haul truck, whichever is greater. Re-screen, wash or apply additional rock in gravel pad to maintain effectiveness.

20-5 Install wheel shakers. Clean wheel shakers on a regular basis to maintain effectiveness.

20-6 Install wheel washers. Maintain wheel washers on a regular basis to maintain effectiveness.

20-7 Install wheel shakers in the event that trackout cannot be controlled with gravel pads.

20-8 Install wheel washer in the event that trackout cannot be controlled with gravel pads and wheel shakers.

20-9 Motorized vehicles will only operate on paved surfaces.

(Continued on next page)

Requirement: All exiting traffic must be routed over selected trackout control device(s).

- 20-10 Clearly establish and enforce traffic patterns to route traffic over selected trackout control device(s).
- 20-11 Limit site accessibility to routes with trackout control devices in place by installing effective barriers on unprotected routes.

TRAFFIC – Unpaved Routes and Parking Areas

BMP 21

~~Definition: Construction related traffic on unpaved interior and/or access roads and unpaved employee/worker parking areas.~~

Requirement: Limit visible dust opacity from vehicular operations.

- 21-1 Limit vehicle speeds to 15 mph on all unpaved routes and parking areas.
- 21-2 Apply and maintain dust palliative on all vehicle travel areas.

Requirement: Stabilize all haul routes.

- 21-3 Apply water to haul routes and maintain in a stabilized condition.
- 21-4 Apply a dust palliative to haul routes and maintain in a stabilized condition.
- 21-5 Apply gravel to haul routes and maintain in a stabilized condition.
- 21-6 Supplement dust palliative or aggregate applications with watering, if necessary.

Requirement: Stabilize all off road and parking areas.

- 21-7 Apply water to off road traffic and parking areas and maintain in a stabilized condition.
- 21-8 Apply gravel to off road traffic and parking areas and maintain in a stabilized condition.
- 21-9 Apply recycled asphalt (or other suitable material) to off road traffic and parking areas and maintain in a stabilized condition.
- 21-10 Apply and maintain a dust palliative (designed for vehicle traffic) to off road traffic and parking areas and maintain in a stabilized condition.

~~Recommendations: Use of bumps or dips for speed control is encouraged.~~

~~Apply paving as soon as possible to all future roadway areas for PEP categories other than “High”.~~

~~Definition: Trenching with track or wheel mounted excavator, shovel, backhoe or trencher.~~

~~Requirement: Stabilize surface soils where trenching equipment, support equipment and vehicles will operate.~~

- ~~22-1 Pre-water and maintain surface soils in a stabilized condition where trenching equipment, support equipment and vehicles will operate.~~
- ~~22-2 Apply and maintain a dust palliative to surface soils where trenching equipment, support equipment and vehicles will operate.~~

~~Requirement: Presoak soils prior to trenching activities.~~

- ~~22-3 Pre-water surface, pre-trench to 18" depth, soak soils via pre-trench prior to deep trenching.~~
- ~~22-4 L & ML: Presoak soil with water using sprinklers or wobblers.~~
- ~~22-5 L & ML: Presoak with water, using water truck and/or water pull.~~
- ~~22-6 MH: Presoak soil with a water and tackifier mixture using water pulls and/or water trucks.~~
- ~~22-7 MH: Presoak soil with a water and tackifier mixture using sprinklers or wobblers.~~
- ~~22-8 H: Presoak soil with a water and surfactant mixture using water pulls and/or water trucks.~~
- ~~22-9 H: Presoak soil with a water and surfactant mixture using sprinklers or wobblers.~~

~~Requirement: Stabilize soil during trenching activities.~~

- ~~22-10 L & ML: Complete trenching with a dedicated water truck or large hose maintaining water as needed to prevent dust.~~
- ~~22-11 L & ML: Use spray nozzles mounted on trenching machine.~~
- ~~22-12 MH: Complete trenching with a dedicated water truck or large hose maintaining a water and tackifier mixture as needed to prevent dust.~~
- ~~22-13 H: Complete trenching with a dedicated water truck or large hose maintaining a water and surfactant mixture as needed to prevent dust.~~

(Continued on next page)

Requirement: Stabilize soils at the completion of trenching activities.

- 22-14 Use water to form crust on excavated soil windrow as it is formed.
- 22-15 Use dust palliative to form crust on excavated soil windrow as it is formed.

Recommendations: Wash mud and soil from equipment at completion of trench to prevent crusting and drying of soil on equipment.

See also: BMP 01: BACKFILLING, if applicable.

TRUCK LOADING

BMP 23

~~Definition: Loading trucks with materials including construction and demolition debris, rock and soil.~~

~~Requirement: Ensure all loads are covered prior to leaving the construction site and traveling on public roadways.~~

~~Requirement: Stabilize surface soils where loaders, support equipment and vehicles will operate.~~

- ~~23-1 Pre-water and maintain surface soils in a stabilized condition where loaders, support equipment and vehicles will operate.~~
- ~~23-2 Apply and maintain a dust palliative on surface soils where loaders, support equipment and vehicles will operate.~~

~~Requirement: Stabilize material during loading.~~

- ~~23-3 Empty loader bucket slowly and keep loader bucket close to the truck to minimize the drop height while dumping.~~

~~Note: You must selected 23-3 if PEP is greater than LOW, in addition one of the following must be selected.~~

- ~~23-4 L & ML: Mix material with water prior to loading.~~
- ~~23-5 L & ML: Spray material with water while loading.~~
- ~~23-6 MH: Mix material with a water and tackifier mixture prior to loading.~~
- ~~23-7 MH: Spray material with a water and tackifier mixture while loading.~~
- ~~23-8 H: Mix material with a water and surfactant mixture prior to loading.~~
- ~~23-9 H: Spray material with a water and surfactant mixture while loading.~~

APPENDIX A

DUST CONTROL PERMIT SUPPLEMENTAL FORMS

1. Blasting Supplemental
2. Demolition Supplemental
3. Record of Daily Dust Control



CLARK COUNTY DEPARTMENT OF AIR QUALITY

4701 W. Russell Rd., Suite 200, Las Vegas Nevada 89118-2231
Office (702) 455-5942 · Fax (702) 383-9994

BLASTING SUPPLEMENTAL

Each blasting contractor working under a Dust Control Permit must complete a separate Blasting Supplemental Form and submit applicable fees prescribed in Section 18 of the Air Quality Regulations.

1. PERMIT INFORMATION:

Permit Number: _____

Applicant/Permittee: _____

Project Name: _____

Project Address/Location: _____

2. BLASTING CONTRACTOR INFORMATION:

Blasting Company: _____

Address: _____

Contact Person: _____

Phone #: _____ Cellular #: _____ Fax #: _____

3. BLASTING DETAILS:

Attach selected Control Measures for BMP 03: BLASTING—Soil and Rock.

Monitor and record weather conditions using a suitable source such as the website <http://www.wrh.noaa.gov/Lasvegas/>, Las Vegas Weather - Local Forecast.

Duration of Blasting: _____ Start Date: _____ Finish Date: _____

Hours during which blasting will occur: _____ a.m. to _____ p.m.
(Hours other than 8:00 a.m. through 4:00 p.m., Monday through Friday, excluding holidays, require Control Officers prior review and approval.)

Description of material to be blasted: _____

Total number of acres to be blasted: _____ acres Depth: _____

Distance: To nearest residence: _____ To commercial facility: _____

Have nearby residents been informed? Yes No

4. SUBMITTED BY:

Name: _____ Title: _____

Company Name: _____

Signature: _____ Date: _____



CLARK COUNTY DEPARTMENT OF AIR QUALITY

4701 W. Russell Rd., Suite 200, Las Vegas Nevada 89118-2231
Office (702) 455-5942 · Fax (702) 383-9994

DEMOLITION SUPPLEMENTAL

NESHAP notifications must be submitted with renovation/demolition applications regardless of age and/or size of the building.

Permit Number: _____
(If known, otherwise to be completed by DAQ)

1. PERMIT INFORMATION:

Applicant/Permittee: _____

Project Name: _____

Project Address/Location: _____

2. DEMOLITION CONTRACTOR:

Company Name: _____ Responsible Person: _____ Address: _____

_____ Phone #: _____

_____ Cellular #: _____ FAX #: _____

3. DEMOLITION INFORMATION:

Describe demolition to take place: _____

Size of building: _____ ft² Date of building construction: _____

Total Number of buildings on site: _____ Number of buildings to be demolished: _____

4. BEFORE A DUST CONTROL PERMIT CAN BE ISSUED ON SITES REQUIRING AN ASBESTOS SURVEY, THE FOLLOWING IS REQUIRED:

A. If Regulated Asbestos Containing Material (RACM) is present, a NESHAP notification must be submitted to DAQ and an Asbestos Waste Certificate must be issued before the asbestos can be removed and disposed.

B. Once the RACM has been abated, submit a final clearance letter from a certified asbestos consultant along with a copy of the license of the individual that cleared the site.

C. Has Asbestos Waste Certificate been received from DAQ?

No: Yes: , Certificate #: _____

5. SUBMITTED BY:

Name: _____ Title: _____

Company Name: _____

Signature: _____ Date: _____



CLARK COUNTY

DEPARTMENT OF AIR QUALITY

4701 W. Russell Rd., Suite 200, Las Vegas Nevada 89118-2231
Office (702) 455-5942 -- Fax (702) 383-9994

RECORD OF DAILY DUST CONTROL FOR CONSTRUCTION ACTIVITIES

Permit Number: _____

Applicant/Permittee: _____

Project Name: _____

~~Record inspections results and corrective actions taken daily at minimum.~~

~~Construction Site Dust Control Records are required by Clark County Air Quality Regulations, Section 94. Records must be retained and made available for inspection by the Department of Air Quality & Environmental Management.~~

APPENDIX B

SUPPLEMENT TO THE DUST CONTROL PERMIT MITIGATION PLANS

**Instructions for completing a Supplement to a Dust Mitigation Plan
for projects 10 acres and larger.**

4701 W. Russell Rd., Suite 200, Las Vegas Nevada 89118-2234
Office (702) 455-5942 · Fax (702) 383-9994

**INSTRUCTIONS FOR COMPLETING
A SUPPLEMENT TO THE DUST MITIGATION PLAN
FOR PROJECTS 10 ACRES OR LARGER**

1. ~~A supplement to the Dust Mitigation Plan is required to be submitted for the following activities:~~
~~(a) Soil disturbing construction activities 10 acres or greater in size.~~
~~(b) Trenching one mile or more.~~
~~(b) Structural demolition using implosive or explosive blasting.~~
2. ~~Upon approval by the Control Officer, this supplement to the Dust Mitigation Plan will become part of the Dust Control Permit as an enforceable permit condition. The applicant for the Dust Control Permit must sign this supplement to the Dust Mitigation Plan.~~
3. ~~For a project 50 acres or greater in size the determination of the Particulate Emission Potential (PEP) must be calculated using an actual soils analysis of the entire project. If the soils analysis for the project identifies two or more soil types, the area of each soil type shall be shown on a map of the project. A copy of the map shall be included in the application for the Dust Control Permit. The soils analysis shall utilize at least one (1) sample taken from the top one (1) foot of soil for each soil type identified. The soils analysis shall use the appropriate ASTM test to determine the silt content and optimum moisture of the sample(s). The application for the Dust Control Permit shall contain the particulate emission potential (PEP) for each soil type identified calculated from the results of the soils analysis and the Silt Content vs. Optimum Moisture Content Chart (figure 2). The choice of Best Management Practices for the Dust Mitigation Plan may be different for each soil type area, if not, the highest PEP identified on the project shall be used.~~
4. ~~This supplement is required in addition to the Dust Control Permit Application and Dust Mitigation Plan for All Projects. If you are preparing and submitting this supplement it must include all of the following information:~~
~~(a) Project Description: This section of the supplement must provide a complete description of the project, a development plan, a schedule of activities, and a time frame for project completion. List any contractors and/or subcontractors known. In addition, this section should contain an estimated proposed expenditure for the total project dust control budget. For projects 50 acres or more, the total acreage that will be disturbed during each stage of the project.~~

Appendix B-1

(b) Site Plan: This section must include one or more maps showing the following information:

- (1) Number, description, and estimated duration of project phases,
- (2) Location of project construction offices and access routes, and
- (3) Areas to be treated with dust palliatives, suppressants or stabilizers.
- (4) If soil samples are taken to determine PEP, location of each sample.

(c) Additional Explanation of Control Measures: This section shall include a description of fugitive dust control during non-working hours and an explanation of trackout cleaning and maintenance on adjacent paved roadways. The trackout cleaning description should include the method of street cleaning and the frequency with which it will be accomplished.

(d) Contingency Plan: This section must include a description of the contingency measures to be implemented if a primary control measure fails to adequately control dust emissions. Contingency measures should also be denoted by checking the Contingency Measure box and listing the measure on the Control Measure Identification form (DCP 03). This section must describe the steps that will be taken to verify that a dust control measure is working and, upon discovery of an inadequacy, the steps that will be taken to initiate a contingency measure.

(e) Soil Stabilization Measures: This section must include a description of the method of soil stabilization along with the type of stabilization product, application rate, and frequency of application for traffic and non-traffic areas. Documentation as to the stabilizer efficiency and reapplication time is necessary. Record keeping and evaluation of environmental impacts of the dust suppressant applied are required to be maintained for the duration of the project. For linear projects state the method of final stabilization and the means of access prevention upon completion of the project, if applicable.

(f) Employee Dust Control Training and Compliance: This section must include a statement of the authority and training of personnel who will insure the construction site remains in compliance with the Site Specific Dust Mitigation Plan. This section must list the responsible parties that are in addition to those listed in the Dust Control Permit Application. For projects having 50 or more acres of actively disturbed soil at any time, list the person that will be the designated Dust Control Monitor and complete form DCP 09: Construction Site Dust Control Monitor, found in attachment 1.

(g) The supplement to the Dust Mitigation Plan must be signed.

Appendix B-2

ATTACHMENT 1

~~DUST CONTROL PERMIT FORMS~~

~~SEE
CLARK COUNTY
AIR QUALITY WEBSITE
FOR LATEST FORMS~~

ATTACHMENT 2

**~~DUST SUPPRESSANT, PALLIATIVE
AND SURFACTANT INFORMATION~~**

Interim Policy On Dust Palliative Use In Clark County, Nevada

Environmental / Regulatory Requirements

General Use Requirements

Application Guidelines - Traffic Area Applications

Application Guidelines - Non-Traffic Area Applications

Glossary of Terms and Definitions

GLOSSARY OF TERMS AND DEFINITIONS⁴

Application rate For liquid suppressants, the volume of mixed solution (concentrate plus water) applied per unit area of land. Typical application rates range from 0.10 to 1.00 gallons of mixed solution per square yard (gallon/yd²) of land.

Application rate For fibers and mulches, the mass of solids in pounds applied per unit area of land. Typical application rates range from 500 pounds per acre to 6,000 pounds per acre.

Brine Solution of salt in water. Strength of brine measured by percent solids by mass. For example; a 40% magnesium chloride brine has 40% solids by mass.

Deliquescent salts Calcium chloride and magnesium chloride salts are deliquescent (readily drawing moisture from the atmosphere and melting). Calcium chloride is available as flake or brine. Magnesium chloride is available as brine. Brine solids contents are variable.

Dilution ratio The ratio of the volume of concentrate to volume of water. Example; 1:4 means 1 volume of concentrate is to be mixed with 4 volumes of water, or 100 gallons of concentrate would be mixed with 400 gallons of water.

Dust Palliative A hygroscopic material, non-toxic chemical stabilizer or other dust palliative which is not prohibited for ground surface application by the EPA or the Nevada Division of Environmental Protection (NDEP) or any applicable law or regulation, as a treatment material for reducing fugitive dust emissions. Water, solutions of water and chemical surfactants, and foam are not dust palliatives for the purpose of these Regulations.

Dust Suppressant Water, hygroscopic material, solution of water and chemical surfactants, foam, non-toxic chemical stabilizer or any other dust palliative which is not prohibited for ground surface application by the EPA or the Nevada Division of Environmental Protection (NDEP) or any applicable law or regulation, as a treatment material for reducing fugitive dust emissions.

Fibers/mulches Blends of wood fiber or paper mulch with binder and or tackifier in water. Fibers and mulches are usually blended on-site. Formulation types and concentrations are often proprietary and depend on soil conditions and intended use.

Hygroscopic Readily drawing moisture from the atmosphere but not melting. Dry sodium chloride is hygroscopic.

Lignosulfonate By product of sulfite paper making process. Available as 10-25% volumetric residual solution, as a 50% volumetric residual solution, or as powdered solid to be mixed with water. May have high initial BOD (biological oxygen demand).

Organic non-petroleum products Tallow; Distilled product of kraft (sulfate) paper-making process. Available as a 40-50% volumetric residual concentrate to be diluted with water.

⁴Principal source: Bolander and Ymada, Dust Palliative Selection and Application Guide—US Department of Agriculture, November, 1999.

Organic non-petroleum products Vegetable oils; typical sources include canola oil, cottonseed oil, linseed oil and soybean oil. Applied full strength at 0.25-0.50 gallon/yd².

Organic petroleum products Available as cutback asphalt, asphalt emulsions, modified asphalt emulsions and other emulsified oils. Application rates highly variable, depending on road surface conditions, product type and dilution.

Synthetic polymers By products of adhesive manufacturing process. Available as 40-50% volumetric residual concentrate (40-60% solids by mass) in water, then diluted for application.

Tackifier A substance used with water to hold together mulches and other dust palliatives. A tackifier binds small particles together without forming a hard crust. Many dust palliatives can be used in a dilute form as a tackifier.

Topical Liquid dust suppressant application technique using a hose, spray bay or spray cannon.

Windrow Method of making a temporary road surface. A 4 to 6 inch thick layer of soil is scraped off the surface. The surface is treated with dust suppressant. The windrow is scraped back onto the surface and another treatment of dust suppressant is applied. A compaction step may be necessary.

ENVIRONMENTAL / REGULATORY REQUIREMENTS

Policy Background

The objective of this Interim Policy On Dust Palliative Use In Clark County is to facilitate the implementation of air quality fugitive dust controls in a manner that prevents human exposure to harmful constituents and protects soil and water resources while achieving air quality objectives. This interim policy was based on current state and federal regulations that are applicable to soil contamination, groundwater contamination, and surface water contamination. Some requirements are also incorporated based on information currently available in the scientific literature.

This policy document has been drafted to provide guidance on the use of dust palliatives and suppressants. The document lists applicable state regulations that may be applicable to the manufacture and application of dust palliatives. This interim policy includes guidelines and requirements for the use of dust palliative products based on conditions in the Las Vegas Valley.

This policy document is intended to serve as an interim policy until permanent regulations can be developed based on more complete scientific data. It is envisioned that the permanent regulations will be more comprehensive in scope.

Regulatory Basis For Interim Guidance

- NAC 445A.2272 Contamination of soil: Establishment of action levels
- NAC 445A.22735 Contamination of groundwater: Establishment of action levels
- NAC 445A.2275 Contamination of surface water
- NRS 444.8565 "Hazardous Waste" defined
- NRS 444.861 "Used Oil" defined

- ~~NRS 444.8632~~ Compliance with federal regulations adopted by reference.
- ~~NRS 444.8682~~ Requirements for managing and disposing of mixtures of used oil and hazardous waste or other products
- ~~NRS 444.8683~~ Regulation of mixtures of used oil with wastes determined not to be hazardous
- ~~NRS 444.8681~~ Mixing of used oil with hazardous waste or products

COMPLIANCE

~~Application of dust palliatives may be subject to sample collection and testing for compliance with applicable regulations of the Nevada Administrative Code and the Nevada Revised Statues, and with the prohibited materials requirements and pH requirements set forth in this interim policy. Sample collection may be conducted by enforcement staff of the Clark County Department of Air Quality & Environmental Management or the Nevada Division of Environmental Protection.~~

~~The requirements of this policy are applicable to Dust Control Permits and Dust Mitigation Plans submitted under the requirements of Section 94 of the Air Quality Regulations. These requirements are also applicable where soil surface stabilization is performed to comply with a Corrective Action Order issued under Sections 90, 91, 92, and 93 of the Air Quality Regulations.~~

Prohibited Materials

~~The materials and compounds listed on the following pages are not permitted in any dust suppressant product at detectable levels:~~

1) Banned Pesticides:²

- aldrin
- chlordane
- DDT
- DDE
- DDD
- Methoxychlor
- Dieldrin/endrin
- Heptachlor
- Hexachlorobenzene

² ~~References:~~ a) United States Environmental Protection Agency

Office of Pesticide Programs

<http://www.epa.gov/oppfead1/international/pielist.htm>

b) The Merck Index, eleventh edition, Merck and company, Rahway, N. J., 1989

c) Environmental Chemistry, Manahan, S. Lewis Publisher, 1994.

d) Hazardous Wastes, Watts, R. Wiley Interscience, 1997.

e) Hazardous Waste Management, La Grega, M. McGraw Hill, 1994.

- Lindane ((γ -BHC)
- 4, 2,3,4,5 Bis(2-butylene)tetrahydro-2-furaldehyde (Repellent-11)
- bromoxynil butyrate
- cadmium compounds
- calcium arsenate
- carbon tetrachloride
- chloranil
- chlordecone (kepone)
- chlorinated camphene [Toxaphene]
- chloromethoxypropylmercuric acetate (CPMA)
- copper arsenate
- DBCP
- Di(phenylmercury)dodecenylsuccinate (PMDS)
- EPN
- ethyl hexleneglycol (6-12)
- lead arsenate
- leptophos
- mevinphos
- mirex
- nitrofen (TOK)
- OMPA (octamethylpyrophosphoramido)
- phenylmercury acetate (PMA)
- phenylmercuric oleate (PMO)
- potassium 2,4,5-trichlorophenate (2,4,5-TCP)
- pyriminil (Vacer)
- safrole
- silvex
- sodium arsenite
- TDE
- Terpene polychlorinates (Strobane)
- thallium sulfate
- vinyl chloride

2) ~~Severely Restricted Pesticides~~³

- arsenic trioxide
- carbofuran (granular only)
- daminozide/alar

~~3) References:~~ a) ~~United States Environmental Protection Agency~~

~~Office of Pesticide Programs~~

~~<http://www.epa.gov/oppfeed1/international/piclist.htm>~~

~~b) The Merck Index, eleventh edition, Merck and company, Rahway, N. J., 1989~~

~~c) Environmental Chemistry, Manahan, S. Lewis Publisher, 1994.~~

~~d) Hazardous Wastes, Watts, R. Wiley Interscience, 1997.~~

~~e) Hazardous Waste Management, La Grega, M. McGraw Hill, 1994.~~

- sodium arsenate
- tributyltin compounds

- 3) Dioxins
- 4) Asbestos
- 5) PCBs

pH Limits

~~All dust suppressant products shall have a pH value of not less than four (pH = 4) or greater than nine (pH = 9) as applied.~~

GENERAL USE REQUIREMENTS

~~Open Bodies of Water and Drinking Water Well Heads:~~

~~Organic petroleum products, deliquescent/hygroscopic salts, and lignin-based palliatives may not be used within twenty (20) yards of open bodies of water, including lakes, streams, and canals, within twenty (20) yards of a drinking water well head. This buffer zone is intended to prevent leachate from these palliatives from reaching an open body of water or a ground water aquifer.~~

~~Natural Washes and Flood Control Channels:~~

~~Organic petroleum products, deliquescent/hygroscopic salts, and lignin-based palliatives may not be used within twenty (20) yards of any natural wash or flood control channel. This buffer zone is intended to prevent leachate from these palliatives from reaching a natural wash or flood channel, and subsequently being flushed into surface waters or drinking water supplies during a rain event~~

~~Surfactants:~~

~~Surfactants may not contain phosphates. Surfactants by themselves are not allowed for use as a dust palliative because they do not form a durable soil surface. Non-phosphate surfactants may be combined with dust palliatives to assist penetration of dust palliatives into hydrophobic soils.~~

~~Pesticide Application With Dust Palliatives:~~

~~Any person who applies any pesticide material with a dust palliative is required to hold a valid pesticide applicators license issued by the State of Nevada.~~

~~Dust Palliative Dilution and Tank Cleaning:~~

~~Dust palliative applicators should be aware that use of water tainted with any of the above listed prohibited or severely restricted chemicals, or with other compounds that would result in a violation of applicable codes and regulations for the dilution of dust palliatives could result in a palliative mixture that would not comply with applicable~~

~~environmental regulations or the pH requirements for dust palliatives set forth in this policy.~~

~~Only potable water supplies or reclaimed water, meaning wastewater that, as a result of appropriate treatment, is suitable for subsequent beneficial use, may be used as a diluent for dust suppressants. Application or transport tanks that have been used for other purposes, such as pesticide use, must be cleaned in accordance with applicable regulations before being used to transport, mix, or apply a dust palliative.~~

~~Traffic Area Applications:~~

- ~~1. Fiber mulch products are not allowed for use as a dust palliative in traffic areas. These products do not hold up well for traffic use.~~
- ~~2. Non phosphate surfactants may be combined with dust palliatives to assist penetration of into hydrophobic soils. Surfactants by themselves are not allowed for use as a dust palliative because they do not form a durable soil surface. Surfactants may not contain phosphates because phosphates adversely impact water quality.~~
- ~~3. Use of deliquescent/hygroscopic salts are limited to magnesium chloride and only allowed for short term (less than one year) stabilization of unpaved roads. Treated unpaved roads must be periodically maintained with additional applications of water and magnesium chloride as needed to maintain effectiveness. Magnesium chloride is not effective, even with product reapplication, for periods of more than one year. Magnesium chloride may not be used on trafficked areas within twenty (20) yards of an open body of water, a drinking water well head, natural or artificial drainage channel, or other surface water feature.~~

TABLE 1
TRAFFIC AREA APPLICATION REQUIREMENTS
Appropriate Use of Liquid Dust Palliatives and Application Rates

~~(Traffic Area: Any land area upon which vehicular traffic is reasonably expected to occur due to location, topography or access)~~

~~Dust palliative materials must conform to all applicable Environmental / Regulatory Policies and General Use Requirements~~

Product Type	Use/Treatment	Dilution Ratio-Range	Application Rate gallon/yd ²	Notes
Synthetic polymers: polyvinyl acetate-vinyl acrylic	Topical Road or parking lot Topical Road shoulder Windrow Road surfaces	1:12-1:4 1:12-1:4 1:12-1:4	1:9 1:9 1:9	0.50 0.50 0.25/0.25/0.50
Organic petroleum products: modified & unmodified asphalt emulsions	Topical Road or parking lot Topical Road shoulder Windrow Road surfaces	1:8 1:10 1:8	4:4 4:7 4:4	0.50 0.25 0.40
Magnesium chloride only. Other deliquescent/hygroscopic salts, including calcium chloride and sodium chloride are not permitted	Topical Road or parking lot Topical Road shoulder-not Allowed Windrow Road surfaces		0.50 0.25/0.25	1,2,3,4,6,8,9 1,2,3,4,6,8,9, 10 1,2,3,4,6,8,9
Fibers/Mulches	Not Allowed Unpaved Road and other Traffic Applications		Not Applicable	12
Lignin-Based Types (Lignosulfonate)	Topical Road or parking lot Topical Road shoulder Windrow Road surfaces	1:1 1:7-1:4 1:1	1:1 1:4 1:1	0.50 to 1.00 0.15 to 0.20 0.25/0.25 to 50/0.50
Organic non-petroleum products: animal fats, molasses/sugar-beet, tall-oil emulsions, vegetable oils	Topical Road or parking lot Topical Road shoulder Windrow Road surfaces	1:10-1:2 1:10-1:2 1:2-1:1	1:5 1:5 1:1	1.00 1.00 0.15/0.15
Other	As approved by Control Officer			

Non Traffic Area Applications:

1. ~~Organic petroleum products, including modified and unmodified asphalt emulsions, are not permitted on non-traffic areas. These palliatives are subject to NAC 445A.2272(b) and may discolor the land surface and produce unpleasant odors.~~
2. ~~Deliquescent/hygroscopic salts are not allowed for non-traffic stabilization. These salts require frequent re-watering to be effective in the Las Vegas Valley, are not effective for periods of more than one year, and tend to leach chlorides when precipitation occurs.~~
3. ~~Lignin-based palliatives are not allowed for non-traffic stabilization. Surface binding action of lignin-based palliatives may be reduced or completely destroyed when heavy rains occur. The decreased binding action of these products following heavy rains renders areas treated with lignin-based palliatives vulnerable to wind erosion after rain occurs. Leachate from lignin-based palliatives may also adversely impact the quality of storm water runoff.~~
4. ~~Non-phosphate surfactants may be combined with dust palliatives to assist penetration of into hydrophobic soils. Surfactants by themselves are not allowed for use as a dust palliative because they do not form a durable soil surface. Surfactants may not contain phosphates because phosphates adversely impact water quality.~~

TABLE 2
NON-TRAFFIC AREA APPLICATION REQUIREMENTS
Appropriate Use of Liquid Dust Palliatives and Application Rates

~~(Non Traffic Area: Any land area upon which no vehicular traffic is reasonably expected to occur due to site specific conditions; e.g., remoteness, fencing or other access controls)~~

~~Dust palliative materials must conform to all applicable Environmental / Regulatory Requirements and General Use Requirements.~~

Product Type	Use/Treatment	Dilution Ratio- Range Typical	Application Rate gallon/yd ²	Notes
Synthetic polymers: Polyvinyl acetate- Vinyl acrylic	Topical Vacant Land	1:12-1:4-1:9	0.50	1,2,3,4
Organic petroleum- products: modified & unmodified Asphalt emulsions	Not Allowed Vacant Land	Not Applicable	Not Applicable	10
Deliquescent/ Hygroscopic salts: Magnesium chloride Brine, calcium- chloride brine or flakes, sodium chloride	Not Allowed Vacant Land	Not Applicable	Not Applicable	10
Lignin-Based Types- (Lignosulfonate)	Not Allowed Vacant Land	Not Applicable	Not Applicable	10
Fibers/Mulches	Topical Vacant Land	As prepared	500-6000	1,2,3,4,11
Organic non- petroleum products: animal fats, molasses/sugar beet, tall oil emulsions, vegetable oils	Topical Vacant Land	1:10-1:2-1:5	1.00	1,2,3,4,5
Other	As approved by Control Officer			

NOTES: (See last column in preceding Application Guideline tables)

1. Topical application rates shown are to obtain $\frac{1}{2}$ to 1 inch of penetration. Higher application rates should be used if greater penetration is needed. Windrow rate shown is to give sufficient penetration to form a 4-6 inch thick temporary travel surface.
2. The dilution ratio (concentrate: water) is variable, and shall be appropriate for the intended use, and local soil and weather conditions, as proposed by the Contractor and agreed upon by the Control Officer. Warranty conditions in Note 4 apply.'
3. Application rate of mixed solution at the typical dilution ratio. Lifetime conditions in Note 4 apply. For windrow applications, the rates separated by slash marks indicate the first/second/third application. First application is after removal of windrow. Second application is after replacement of windrow. Third application, if needed, is after second application.
4. Application of diluted suppressant shall be sufficient to achieve a minimum warranted lifetime of one year from date of application.
5. These palliatives are subject to NAC 445A.2272(b) and may discolor the land surface and produce unpleasant odors.
6. Must be periodically maintained with additional applications of water and salt as needed to maintain effectiveness. Allowed only for short term (< 1 year) stabilization of unpaved roads. May not be used on trafficked areas within twenty (20) yards of a drinking water well head, natural or artificial drainage channel or other surface water feature unless approved by the Control Officer.
7. Surfactants may be added to assist penetration of water and dust palliative into hydrophobic soils. Surfactants by themselves are not allowed for use as dust palliatives. Phosphates not allowed as surfactant constituents.
8. Brine strength may vary as supplied from manufacturer, but is typically in the range of 20-40% solids by mass. Maximum and minimum allowable strengths to be set by the Control Officer.
9. Sodium chloride (NaCl) not allowed for any application, because it is ineffective at ambient relative humidity below 76%. Relative humidity above 50% seldom occurs in the Las Vegas Valley.
10. Deliquescent/hygroscopic salts are not allowed for use on vacant lands or on road shoulders near surface waters or surface drainage because of adverse water quality impacts, including elevated chloride concentrations in storm water runoff and in groundwater.
11. Application rate in pounds per acre at the on-site blended strength.
12. Fiber mulches are not effective for traffic applications.

ATTACHMENT 3

**~~CALIFORNIA AIR RESOURCES BOARD~~
~~(CARB)~~ - APPROVED ABRASIVES
INFORMATION**

State of California
AIR RESOURCES BOARD

~~EXECUTIVE ORDER G-11-118~~

~~Relating to Certification of Abrasives for Permissible Outdoor Blasting under
California Code of Regulations, Title 17, Section 92530~~

~~WHEREAS, pursuant to California Health and Safety Code section 40901 and following,
the Air Resources Board (ARB) has adopted abrasive blasting standards;~~

~~WHEREAS, in title 17 California Code of Regulations, section 92000 and following, ARB
has established abrasive blasting standards;~~

~~WHEREAS, title 17 Cal. Code Regs., section 92500 (c), provides in part that any
abrasive blasting operation conducted outside a permanent building must use
exclusively wet abrasive blasting, hydroblasting, vacuum blasting, or abrasives certified
by ARB for permissible dry outdoor blasting;~~

~~WHEREAS, Exhibit A to this executive order lists abrasives that have been tested in
accordance with "Method of Test for Abrasive Media Evaluation," Test Method
No. California 371-A, dated May 15, 1975, including the "Visible Emission Evaluation
Test Method for Selected Abrasives Used in Permissible Dry Outdoor Blasting," as
adopted by ARB on April 1, 1991, for some selected abrasives, and all have been found
to comply with the abrasive certification performance standards set forth in title 17 Cal.
Code Regs., section 92530 (b);~~

~~WHEREAS, Exhibit A may be amended periodically to remove abrasives no longer
certified for use and to add new abrasives that have been tested and found to comply
with the abrasive certification performance standards set forth in title 17 Cal. Code
Regs., section 92530 (b); and~~

~~WHEREAS, ARB's Executive Officer, pursuant to California Health and Safety Code
section 39516, issued Executive Order G-02-007 delegating to the Chief of ARB's
Monitoring and Laboratory Division the authority to certify abrasives in accordance with
title 17 Cal. Code Regs., section 92530(a).~~

~~NOW, THEREFORE, I, Alberto Ayala, Chief of ARB's Monitoring and Laboratory
Division, order certified the abrasives listed in Exhibit A for permissible dry outdoor
blasting pursuant to title 17 Cal. Code Regs., section 92530.~~

~~IT IS FURTHER ORDERED~~, pursuant to title 17 Cal. Code Regs., section 92530 (a), that the certifications granted by this executive order will expire on the respective dates listed in Exhibit A and subsequent addenda, and thereafter no previously listed abrasive will be permissible for dry outdoor blasting until recertified in accordance with title 17 Cal. Code Regs., section 92530.

~~IT IS FURTHER ORDERED~~ that Executive Order G-11-075 is superseded by this order.

Executed at Sacramento, California, this 1 day of July, 2012.

ATL
!tJ,f

Alberto Ayala, Ph.D., M.S.E. C.....
Chief, Monitoring and Laboratory Division

Attachment

Exhibit A: Abrasives Certified for Permissible Dry Outdoor Blasting

EXECUTIVE ORDER G-11-118**STATE OF CALIFORNIA
AIR RESOURCES BOARD**

~~ABRASIVES CERTIFIED FOR PERMISSIBLE DRY OUTDOOR BLASTING~~ pursuant to California Code of Regulations, title 17, section 92530. Unless otherwise noted, the cut-point for fineness (cpff) is #70 sieve.

Abrasive Technologies, Inc.

499 Settlers Ridge Parkway
Woodbury, Minnesota 55129

www.ati-blackdiamond.com

Albie Kraemer
(651) 436-6071
Fax: (651) 436-6744

Plant: 499 Settlers Ridge Parkway
Woodbury, Minnesota

Brand Name or Grade:

Black Diamond Grit 20/40

Expires:

8/13/13

Black Diamond Grit 30/60

8/13/13

Black Diamond Grit 12/30

8/13/13

Wicked Sister

8/13/13

Little Fury

8/13/13

Black Piranha

8/13/13

Abrasives, Incorporated

4090 Highway 49
Glen Ullin, North Dakota 58631

www.abrasivesinc.com

Russell Raad
(701) 348-3610
Fax: (701) 348-3615
marketing@abrasivesinc.com

Plant: 4090 Highway 49
Glen Ullin, North Dakota

Brand Name or Grade:

Black Magic 8-20

Expires:

8/31/12

Black Magic 16-40

8/31/12

Black Magic 20-40

8/31/12

Black Magic 40-60

8/31/12

Arden Incorporated DBA
Green Diamond Sands Products

Post Office Box D
Riddle, Oregon 97469

Brian Rebuck
(541) 874-3111x18
Fax: (541) 874-3113
brebuck@greendiamondsand.com

Plant: Corner of 6th and E Street
Riddle, Oregon

Brand Name or Grade: **Expires:**
Green Diamond 1636 8/31/12
Green Diamond 2050 8/31/12

Barton Mines Company, L.L.C.

Six Warren Street
Glens Falls, New York 12801

www.barton.com
Scott Strom
(800) 741-7756
Fax: (518) 798-5728
strom@barton.com

Plant: 17-C Keeraikaranthattu
Tisiayanvilai, Tamil Nadu
India

Brand Name or Grade: **Expires:**
Barton Garnet #36 8/31/12
Barton Garnet #30x40 8/31/12
Barton Garnet #80 8/31/12
(cpff=#100)

Plant: Hudson River Plant Rd.
North River, NY

Brand Name or Grade: **Expires:**
Barton Garnet #36 CG 8/31/12
Barton Garnet #50 HPX 8/31/12
Barton Garnet #80HPX 8/31/12
(cpff=#200)
Barton Garnet #120HPX 8/31/12
(cpff=#270)

Plant: 1960 Diamond Hill Rd.
Chesapeake, VA

Brand Name or Grade: **Expires:**
Barton Garnet #30x60 Plus 8/31/12
(cpff=#100)

Barton Mines Company, L.L.C. con't

Barton Mines Company, L.L.C. con't
 Six Warren Street
 Glens Falls, New York 12801

www.barton.com
 Scott Strom
 (800) 741-7756
 Fax: (518) 798-5728
strom@barton.com

Plant: South Gould Road
 South of Geraldton
 Western Australia

<u>Brand Name or Grade:</u>	<u>Expires:</u>
GMA 80 Mesh Garnet (cpff #140)	8/31/13
GMA 30x60 Garnet (cpff #100)	8/31/13

BCJ Sand & Rock, Incorporated
 3388 Regional Park Way, Suite A
 Santa Rosa, California 95403

www.bciunlimited.com
 Brad Slender
 (707) 544-0303
 Fax: (707) 544-8274
bcj-brad@pacbell.net

Plant: 4970 Slickens Road
 Oroville, California

<u>Brand Name or Grade:</u>	<u>Expires:</u>
BCJ #30	8/31/12
BCJ Unlimited Sand Blasting Sand / Blasting Sand	8/31/12
#30 Blasting Sand	8/31/12
Blasting Sand	8/31/12
30x50 Blasting Sand	8/31/12
20x30 Blasting Sand	8/31/12
Premium Blasting Sand	8/31/12

Bell & MacKenzie Co., Ltd.
 Post Office Box 844, LCD #1
 Hamilton, Ontario L8N 3N9
 Canada

Richard Bell
 (888) 794-5665
 Fax: (888) 794-7263
rick@bellandmackenzie.com

Plant: 500 Sherman Avenue, North
 Hamilton, Ontario
 Canada

<u>Brand Name or Grade:</u>	<u>Expires:</u>
Black Shot II Granulated Slag #12	8/31/13
Black Shot II Granulated Slag #20	8/31/13
Black Shot II Granulated Slag #40	8/31/13

California Silica Products LLC

P.O. Box 4225
Ontario, California 91761

Randall Humphreys
(909) 938-6505
Fax: (909) 947-7929
loveferrais@aol.com

Plant: 12808 Rancho Road
Adelanto, California

<u>Brand Name or Grade:</u>	<u>Expires:</u>
#16 Blast off Sand	8/31/13
#20 Blast off Sand	8/31/13
#30 Blast off Sand	8/31/13
CalSilica # 16	8/31/13
CalSilica #20	8/31/13
CalSilica #30	8/31/13

Carmeuse Industrial Sands

Post Office Box 249
San Juan Capistrano, California 92693

Michael Michlette
(951) 440-0913
Fax: (949) 728-0321
michael.miclette@carmeusena.com

Plant: 31302 Ortega Highway
San Juan Capistrano, California

<u>Brand Name or Grade:</u>	<u>Expires:</u>
Dust Net #12	8/31/12
Dust Net #16	8/31/12
Dust Net #20	8/31/12
Dust Net #30	8/31/12

Cemex USA

Post Office Box 337
Marina, California 93933

Dale Kendall
(831) 883-3709
Fax: (831) 883-3703
dalew.kendall@cemex.com

Plant: Lapis Read
Two miles north of Marina, California

<u>Brand Name or Grade:</u>	<u>Expires:</u>
Lapis Lustre, No. 3	8/31/12
Lapis Lustre, No. 0/30	8/31/12
Lapis Lustre, No. 1/20	8/31/12
Lapis Lustre, No. 1C	8/31/12
Lapis Lustre, No. 2/12	8/31/12
Lapis Lustre, No. 2/16	8/31/12

Disneyland Resort

Environmental Affairs Department
TDA 219N
1313 South Have Boulevard
Anaheim, California 92802

<http://disneyland.disney.go.com/>
Frank Dela Vara
(714) 781-4344
Fax: (714) 781-3564
frank.dela.vara@disney.com

Plant: 1313 South Harbor Boulevard
Anaheim, California

<u>Brand Name or Grade:</u>	<u>Expires:</u>
CO ₂ Dry Ice	8/31/13

E. I. DuPont de Nemours and Company

4641 County Road 230
Starke, Florida 32091

www.titanium.dupont.com
Luther B. Carter
(904) 276-6239
Fax: (904) 276-9329
luther.b.carter-1@usa.dupont.com

Plant: 4641 County Road 230
Starke, Florida

<u>Brand Name or Grade:</u>	<u>Expires:</u>
Starblast® (cpff-#200)	8/31/13
Starblast® XL (cpff-#200)	8/31/13

Energized Substation Maintenance, Incorporated www.esminc.info
Post Office Box 2345
Apple Valley, California 92307
Ronald R. Goss
(800) 959-5589
Fax: (760) 247-2915
esm1@aol.com

Plant: Mt. Pulaski Products
908 North Vine
Mt. Pulaski, Illinois

Brand Name or Grade:

#3 (20/40) Processed Corn Cobs	<u>Expires:</u>
#3 Processed Corn Cobs	8/31/13
(20/40) Processed Corn Cobs	8/31/13
	8/31/13

Environmental Abrasives, LLC www.enviroabrasives.com

4301 Federal Way
Boise, Idaho 83716
Todd Cantrell
(208) 947-1351
Fax: (208) 336-5706
todd@enviroabrasives.com

Plant: 505 E. Amity
Boise, Idaho

Brand Name or Grade:

16 Grit White Lightning	<u>Expires:</u>
24 Grit White Lightning	8/31/13
36 Grit White Lightning	8/31/13
46 Grit White Lightning	8/31/13

Glass Processing Solutions, LLC www.andelaproducts.com

493 State Route 28
Richfield Springs, New York 13439
Brett Wilhelm
(315) 858-0055x231
Fax: 315-858-2669
bwilhelm@glassprocessingsolutions.com

Plant: 493 State Route 28
Richfield Springs, New York

Brand Name or Grade:

SunBlast Extra-Coarse	<u>Expires:</u>
SunBlast Medium	8/31/12
SunBlast Fine	8/31/12
(cpff-#100)	8/31/12

Gordon Sand Company

28310 Industrial Boulevard, Suite F
Hayward, CA 94545

George E. Gordon III
georgeIII@gordonsand.com
Chari P. Borja
chari@gordonsand.com
(510) 782-5640
Fax: (510) 782-5694

Plant: West End of Main Street
Guadalupe, CA 93434

<u>Brand Name or Grade:</u>	<u>Expires:</u>
Golden Flint G-16*	8/31/13
Golden Flint G-20*	8/31/13
Golden Flint G-30*	8/31/13

Harsco Minerals

5000 Ritter Road
Mechanicsburg, Pennsylvania 17055

www.reedmin.com

Anthony J. Budzinski
(717) 506-7157
Fax: (717) 506-7154
bbudzinski@harsco.com

Plant: 240 Baldwin Road
Satsuma, Alabama

<u>Brand Name or Grade:</u>	<u>Expires:</u>
Black Beauty Medium	8/31/13
Black Beauty Fine	8/31/13

Plant: 600-800 Outer Drive
LaCygne, Kansas

<u>Brand Name or Grade:</u>	<u>Expires:</u>
Black Beauty Medium	8/31/12
Black Beauty Fine	8/31/12

Plant: 9001 State Route 176 East
Drakesboro, Kentucky

<u>Brand Name or Grade:</u>	<u>Expires:</u>
Black Beauty Medium	8/31/12
Black Beauty Fine	8/31/12

Harsco Minerals - con't

Harsco Minerals con't5000 Ritter Road
Mechanicsburg, Pennsylvania 17055www.reedmin.com

Anthony J. Budzinski

(717) 506-7157

Fax: (717) 506-7154

bbudzinski@harsco.com**Plant:** Highway 104, Across from Kinkaid Power Station

Pawnee, Illinois

Brand Name or Grade:

Black Beauty Medium

Expires:

8/31/12

Black Beauty Fine

8/31/12

Plant: 7100 West 9th Ave.

Gary, Indiana

Brand Name or Grade:

Black Beauty Medium

Expires:

8/31/12

Black Beauty Fine

8/31/12

Plant: 2170 Plant Road

Memphis, Tennessee

Brand Name or Grade:

Black Beauty Medium

Expires:

8/31/13

Black Beauty Fine

8/31/13

Plant: 13040 A Market Street

Houston, Texas

Brand Name or Grade:

Black Beauty Medium

Expires:

8/31/12

Black Beauty Fine

8/31/12

Plant: Rt 2 South

Moundsville, West Virginia

Brand Name or Grade:

Black Beauty Medium

Expires:

8/31/13

Black Beauty Fine

8/31/13

Industrial Mineral Company
Post Office Box No. 6
Muthiahpuram, Tuticorin 628 005
India

www.supremegarnet.com
Madhavan.K
0091-461-2357221
Fax: 0091-461-2357223
supremegarnet@dataone.in

Plant: Avudaiyalpuram
Vijayapathi Village
Radhapuram Taluk
Tirunelveli District
India

<u>Brand Name or Grade:</u>	<u>Expires:</u>
Garnet Abrasive Grit A (Mesh 12-25)	8/31/12
Supreme Garnet Grade A (Mesh 12-25)	8/31/12
Garnet Abrasive Grit Mesh B (20-40)	8/31/12
Supreme Garnet Grade B (Mesh 20-40)	8/31/12
Garnet Abrasive Grit C (Mesh 30-60)	8/31/12
Supreme Garnet Grade C (Mesh 30-60)	8/31/12

International Materials & Supplies Incorporated

www.optaminerals.com

56, Industrial Park Road
Keeseville, New York 12944

Martin Caouette
(800) 252-9288
Fax: (800) 728-9649
mcaouette@optaminerals.com

Plant: 56, Industrial Park Read
Keeseville, New York

<u>Brand Name or Grade:</u>	<u>Expires:</u>
International Garnet #16	8/31/13
International Garnet #30-60	8/31/13

Kleen Blast Division – CanAm Minerals

50 Oak Court #210
Danville, California 94526

www.kleenblast.com

Fionn O'Neill
(925) 831-9800
Fax: (925) 831-9183
fionn@kleenblast.com

Plant: Pacific Abrasives & Supply, Incorporated
2465 Carson Road
Grand Forks, British Columbia
Canada

Brand Name or Grade:

Kleen Blast #16/30
Kleen Blast #35
Kleen Blast #30/60

Expires:

8/31/12
8/31/12
8/31/12

Plant: 676-B Moss Street
Chula Vista, California

Brand Name or Grade:

Kleen Blast #16-30 15% Blastox
Kleen Blast #35 15% Blastox

Expires:
8/31/13
8/31/13

Les Sables Olimag, Incorporated

163, rue PIE XI Street, C.P. 276
Thetford Mines, Quebec G6G 5T1
Canada

www.olimag.com

Jean Yves Angers
(418) 338-3562
Fax: (418) 338-9100
jy.angers@olimag.com

Plant: 725 Boul Cacouette C.P. 276
Thetford Mines, Quebec
Canada

Brand Name or Grade:

Jetmag 30-60

Expires:
8/31/12

LVH Industries, Incorporated

220 South Hancock Street
McAdoo, Pennsylvania 18237

www.lvhindustriesinc.com

Lori A. VanHoekelen
(570) 366-0950
Fax: (570) 366-0948

Plant: 49 Pinedale Industrial Road
Orwigsburg, Pennsylvania

Brand Name or Grade:

Medium
Coarse

Expires:
8/31/12
8/31/12

Minerals Research & Recovery, Incorporated www.mrrinc.com
4620 South Coach Drive
Tucson, Arizona 85714
Michael D. Vick
(520) 748-9362
Fax: (520) 748-9364
mikev@mrrinc.com

Plant: 1/8 mile from Fire Station
North Side of Highway 85
South of Ajo, Arizona

<u>Brand Name or Grade:</u>	<u>Expires:</u>
Sharpshot 12x30	8/31/12
Sharpshot 20x50	8/31/12
Sharpshot 30x60	8/31/12

Mohawk Garnet Incorporated www.mohawkgarnet.com

808 Highway 17 East
Wahnapitae, Ontario P0M 3C0
Canada
Bob McMurdy
(705) 694-5783
Fax: (705) 694-5575
admin@mohawkgarnet.com

Plant: Street Township (unorganized township)
Off Kukagami Road
City of Greater Sudbury, Ontario
Canada

<u>Brand Name or Grade:</u>	<u>Expires:</u>
Mohawk Garnet XB16	8/31/12
Mohawk Garnet XB30	8/31/12

Nevada Slag, Inc.

P.O. Box 1314
McGill, Nevada 89318
Meloney Roberts
(775) 235-7500
Fax: (775) 235-7119
Email: nevadaslag@att.net

Plant: 55 North 4th Street
McGill, Nevada

<u>Brand Name or Grade:</u>	<u>Expires:</u>
Nevada Black 8/20	8/31/13
Nevada Black 16/30	8/31/13
Nevada Black 30/60	8/31/13

Opta Minerals, Inc.

407 Parkside Drive
Watertown, Ontario L0R 2H0
Canada

www.optaminerals.com

John Papaioannou
(905) 689-6661x335
Fax: (905) 689-3915
johnp@optaminerals.com

Plant: 407 Parkside Drive
Watertown, Ontario
Canada

Brand Name or Grade:
Ebony Grit 14

Expires:
8/31/12

P.W. Gillibrand

4537 Ish Drive
Simi Valley, California 93063

Gary Shockley
(805) 520-8731x416
Fax: (805) 520-0968
gary@pwgcoinc.com

Plant: 5810 Bennett Road
Simi Valley, California

Brand Name or Grade:
Silver Sand #12
Silver Sand #16
Silver Sand #20
Silver Sand #30

Expires:
8/31/12
8/31/12
8/31/12
8/31/12

Servicios Mineros del Noroeste S.A. de C.V.

Reform 1507-A
Col Nueva
Mexicali, BC 91100
Mexico

Robert Mark Anthony
52-686-548-7654
FAX: 52-686-551-9824
rma06@hotmail.com

Plant: Col Mariana
GPE Victoria, BC
Mexico

Brand Name or Grade:
Almandite Garnet 36
Dark Red 20/30
Red 30/40
Almandite Garnet
Select Garnet
Kleen Blast Select Garnet

Expires:
8/31/12
8/31/12
8/31/12
8/31/12
8/31/12
8/31/12
8/31/12

Sierra Silica Resources

650 Georgia Pacific Way
Oroville, California 95966

www.sierrasilica.com

Travis Hoiseth
(916) 214-6885
Fax: (530) 534-9564
Travish@sierrasilica.com

Plant: 650 Georgia Pacific Way
Oroville, California

Brand Name or Grade:
Sierra Silica #30

Expires:
8/31/13

Silica Resources Incorporated

4553 Hammonton Road
Marysville, California 95901

www.sri-sand.com

Dustin Parsons
(530) 741-0290
Fax: (530) 741-3457
Steve@sri-sand.com

Plant: 4553 Hammonton Road
Marysville, California

Brand Name or Grade:
SRI Supreme #12
SRI Supreme #20
SRI Supreme #30

Expires:
8/31/12
8/31/12
8/31/12

Sponge Jet, Inc.

14 Patterson Lane
Newington, New Hampshire 03801

www.spongejet.com

Mr. William F. McLaughlin, Jr.
(603) 610-7950
Fax: (603) 431-6043
Email: bmclaughlin@spongejet.com

Plant: 1230 Bare Valley Rd.
Montrose, Pennsylvania

Brand Name or Grade:
Sponge Jet Silver 16
Sponge Jet Silver 30
Sponge Jet Silver 60
Sponge Jet Silver 80
Sponge Jet Silver 120
Sponge Jet Silver 320

Expires:
8/31/2013
8/31/2013
8/31/2013
8/31/2013
8/31/2013
8/31/2013

Strategic Materials, Incorporated

2323 West 3rd Street
Cleveland, Ohio 44113

www.strategicmaterials.com

Scott Wightman
(216) 771-8274
Fax: (216) 241-4453
swightman@strategicmaterials.com

Plant: 7000 Bandini
Commerce, CA

Brand Name or Grade:

	<u>Expires:</u>
BriteBlast Course	8/31/2013
BriteBlast Medium	8/31/2013
New Age Media® Course	8/31/2013
New Age Media® Medium	8/31/2013
Green Blast® Course	8/31/2013
Green Blast® Medium	8/31/2013
Eco Blast™ Course	8/31/2013
Eco Blast™ Medium	8/31/2013
GlassBlast Course	8/31/2013
GlassBlast Medium	8/31/2013

Plant: 1932 Fairway Dr.
San Leandro, CA

Brand Name or Grade:

	<u>Expires:</u>
BriteBlast Course	8/31/2013
BriteBlast Medium	8/31/2013
New Age Media® Course	8/31/2013
New Age Media® Medium	8/31/2013
Green Blast® Course	8/31/2013
Green Blast® Medium	8/31/2013
Eco Blast™ Course	8/31/2013
Eco Blast™ Medium	8/31/2013
GlassBlast Course	8/31/2013
GlassBlast Medium	8/31/2013

Strategic Materials, Incorporated - con't

Strategic Materials, Incorporated con't

2323 West 3rd Street
Cleveland, Ohio 44113

www.strategicmaterials.com

Scott Wightman
(216) 771-8274
Fax: (216) 241-4453
swightman@strategicmaterials.com

Plant: 825 South West Loop
Houston, TX

Brand Name or Grade:

BriteBlast #1 Coarse
BriteBlast #2 Fast
New Age Media® #1 Coarse
New Age Media® #2 Fast
Green Blast® #1 Coarse
Green Blast® #2 Fast
Eco Blast™ #1 Coarse
Eco Blast™ #2 Fast
GlassBlast #1 Coarse
GlassBlast #2 Fast

Expires:

8/31/2013
8/31/2013
8/31/2013
8/31/2013
8/31/2013
8/31/2013
8/31/2013
8/31/2013
8/31/2013
8/31/2013

Teichert Aggregates

www.teichert.com

8760 Kiefer Boulevard
Sacramento, California 95826

Ron Stickel
(916) 484-3363
Fax: (916) 484-7012
Email: rstickel@teichert.com

Plant: 8760 Kiefer Blvd.
Sacramento, California

Brand Name or Grade:

Black Talon
(cpff#140)

Expires:

8/31/12

TriVitro Corporation

www.trivitro.com

18420 68th Avenue South, #101
Kent, Washington 98032

Christopher H. Freas
(425) 251-8340
Fax: (425) 251-8301
Email: cfreas@trivitro.com

Plant: 18420 68th Avenue South
Kent, Washington

Brand Name or Grade:

Vitro Grit VG #16/30
Vitro Grit VG #30/50

Expires:

8/31/13
8/31/13

U.S. Minerals, Incorporated

2105 North Winds Drive
Dyer, Indiana 46311

www.us-minerals.com

Vincent J. Piccirilli
(219) 864-0909x18

Fax: (219) 864-4675

vpiccirilli@us-minerals.com

Plant: 3860 Peters Road
Harvey, Louisiana

Brand Name or Grade:
Black Magnum

Expires:
8/31/12

Virginia Materials Incorporated.

An Optaminerals Company
407 Parkside Drive
Watertown, Ontario L0R 2H0
Canada

www.optaminerals.com

John Papaioannou
(905) 689-6661x335

Fax: (905) 689-3915

johnp@optaminerals.com

Plant: 3306 Peterson Street
Norfolk, Virginia

Brand Name or Grade:
Indian Garnet
Black Blast
Admirals Garnet
(cpff #140)

Expires:
8/31/12
8/31/12
8/31/12

V. V. Mineral

Ittamozi Road
Keeraikaranthattu
Tisaiyanvilai 627 657
Tamilnadu
India

www.vvmineral.com

00-91-4637-272360

Fax: 00-91-4637-271802

Fax: 00-91-4637-271802

Plant: No.1, M.L.Theri Road
Keeraikaranthattu
Tisaiyanvilai 627 657
Tirunelveli District
Tamilnadu
India

Brand Name or Grade:
Garnet Abrasive Grit Grade B (20-40 mesh)
Sg. Super Garnet Grade B (20-40 mesh)

Expires:
8/31/12
8/31/12

V. V. Mineral - con't

V. V. Mineral con'twww.vvmineral.com

Ittamozh Road
Keeraikaranthattu
Tisaiyanvilai 627 657
Tamilnadu
India

00-91-4637-272360

Fax: 00-91-4637-271802

Fax: 00-91-4637-271802

Plant: No.75,K.Pudur Village
Vallanvilai,Navalady post
Tirunelveli District
Tamilnadu
India

Brand Name or Grade: Expires:

Garnet Abrasive Grit Grade C (30-60 mesh) 8/31/12

Sg. Super Garnet Grade C (30-60 mesh) 8/31/12

WGI Heavy Minerals Inc.www.wgiheavyminerals.com

P. O. Box 190
Fernwood, Idaho 83830

Sandy Stamper

(208) 245-2096

Fax: (208) 245-5309

Email: sandy@wgiheavyminerals.com

Plant: 4 miles south of Fernwood, HWY 3 Idaho

Brand Name or Grade: Expires:

Emerald Creek Garnet # 16 8/31/13

Emerald Creek Garnet # 36 8/31/13

Emerald Creek Garnet # 30/40 8/31/13

Plant: HeLinGe Er County
Huhhot City, Inner Mongolia
China

Brand Name or Grade: Expires:

Western Garnet #20/40 8/31/13

ATTACHMENT 4

~~DESIGN AND POSTING OF
DUST CONTROL PERMIT SIGNAGE~~

Air Quality



POLICY ON DUST CONTROL PERMIT DESIGN AND POSTING OF SIGNAGE

~~Pursuant to Subsection 94.7.7 of the Air Quality Regulations, the Clark County Department of Air Quality (DAQ) has developed this policy to address questions related to the posting of informational signs on construction sites in Clark County, Nevada. Since this policy is referenced in the Regulations, non-compliance may result in a Notice of Violation pursuant to Section 94 of the Air Quality Regulations.~~

~~The following verbiage is excerpted from Section 94 for purposes of convenience:~~

~~94.7.7 Signage Requirements:~~

~~94.7.7.1 For each Dust Control Permit issued where the project site is less than or equal to ten (10) acres, or for trenching projects between one hundred (100) feet and one (1) mile in length, or for demolition of a structure totaling 1000 square feet or more, the applicant shall install a sign on said property prior to commencing construction activity that is visible to the public and measures, at minimum, four (4) feet wide by four (4) feet high, conforming to DAQ policy on Dust Control Permit Design and Posting of Signage.~~

~~94.7.7.2 For each Dust Control Permit aggregating over 10 acres, or for trenching projects aggregating one (1) mile or greater in length, the applicant shall install a sign on said property prior to commencing construction activity that is visible to the public and measures, at minimum, eight (8) feet wide by four (4) feet high, conforming to DAQ policy on Dust Control Permit Design and Posting of Signage.~~

~~In addition to the requirements listed pursuant to subsection 94.7.7, the Dust Control Permit sign shall conform to the following requirements:~~

~~1. The signboard shall be constructed with materials capable of withstanding the harsh environment (e.g., strong winds, intense sunlight) of Clark County.~~

~~(a) For 4'x4' signs, DAQ recommends the following materials:~~

- ~~(i) 3/4" A/C laminated plywood board;~~
- ~~(ii) Two (2) 4"x4" posts;~~
- ~~(iii) Posts should be attached to the edges of the plywood board with a minimum of two (2) carriage bolts on each post; and~~
- ~~(iv) The front surface of the signboard should be painted in the contrasting colors of a white background with black lettering.~~

~~(b) For 4'x8' signs, DAQ recommends the following materials:~~

- ~~(i) 1" A/C laminated plywood board;~~

- (ii) Two (2) 6"x6" posts;
- (iii) Posts should be attached to the 4' edges of the plywood board with at least 2 carriage bolts on each post; and
- (iv) The front surface of the signboard should be painted in the contrasting color of a white background with black lettering.

2. The sign board shall be installed and maintained in a condition such that members of the public can easily view, access, and read the sign at all times.

For all signs, DAQ recommends the following measures:

- (i) The lower edge of the sign board should be mounted a minimum of 2' above the existing ground surface to facilitate ease of viewing;
- (ii) Posts should be set in a hole a minimum of 3' deep with concrete footings to prevent downing by high winds;
- (iii) On the construction site, the sign should be positioned so that it is not obstructed from public view from the primary street access point;
- (iv) For construction projects that are developed in phases, the sign should be relocated to the area that is under active construction; and
- (v) In situations where all phases of the construction project are completed, a Certificate of Project Completion must be submitted to DAQ.

3. The sign board shall contain the following information:

- (a) Project Name;
- (b) Permittee Name;
- (c) Phone Number of Person Responsible for Dust Control Matters;
- (d) Clark County Department Air Quality & Environmental Management Phone Number;
- (e) Dust Control Permit Number;
- (f) Project Acreage;
- (g) Dust Control Permit Expiration Date.

4. The signboard shall be designed to the following alpha and numeric text dimensions (sign boards written in longhand are unacceptable).

(a) For a construction project subject to the 4'x4' signage requirement, DAQ provides the following example:

1" UPPERCASE Letters

1" UPPERCASE Letters

1" Title Case Letters

1" Title Case Letters

1" Title Case Letters

1" Title Case Letters

PROJECT NAME:	(Proj. Name)	3 1/2" Title Case ¹ Bold Letters
PERMITTEE:	(Your Name)	3 1/2" Title Case Bold Letters
Dust Control Matters Phone Number:	(Your Number)	3" Bold Numbers
Clark County Department of Air Quality Phone Number:	385-DUST	3 1/2" Bold Numbers
DUST CONTROL Permit Number:	(Permit Number)	3" Bold Numbers
PROJECT ACREAGE: (≤10)	EXPIRATION Date: (Prmt.Exp)	3" Bold Numbers

1/16" Thickness Underline

1/4" Thickness Border

¹"Title Case" means the first letter of a word is capitalized and subsequent letters are lowercase

(b) For a construction site subject to the 4'x8' signage requirement, DAQ provides the following example:

2" UPPERCASE Letters

2" UPPERCASE Letters

2" Title Case Letters

2" Title Case Letters

2" Title Case Letters

2" Title Case Letters

PROJECT NAME:	(Name from Permit)	
PERMITTEE:	(Applicants Name)	
Dust Control Matters Phone Number:	(Your Phone Number)	
Clark County Department of Air Quality Phone Number:	385-DUST	
Dust Control Permit Number:	(Your Permit Number)	
Project Acreage:	(>10)	Expiration Date:

4" Title Case¹ Bold Letters

4" Title Case Bold Letters

4" Bold Numbers

4 1/2 " Bold Numbers

4" Bold Numbers

4" Bold Numbers

1/16" Thickness Underline

1/4" Thickness Border

ATTACHMENT 5

~~AIR QUALITY REGULATIONS PERTAINING TO DUST CONTROL~~

1. ~~Section 90 - FUGITIVE DUST FROM OPEN AREAS AND VACANT LOTS~~
2. ~~Section 91 - FUGITIVE DUST FROM UNPAVE ROADS, UNPAVED ALLEYS,
AND UNPAVED EASEMENT ROADS~~
3. ~~Section 92 - FUGITIVE DUST FROM UNPAVED PARKING LOTS AND
STORAGE AREAS~~
4. ~~Section 93 - FUGITIVE DUST FROM PAVED ROADS AND STREET
SWEEPING EQUIPMENT~~
5. ~~Section 94 - PERMITTING AND DUST CONTROL FOR CONSTRUCTION
ACTIVITIES~~

~~SEE
CLARK COUNTY
AIR QUALITY WEBSITE
FOR CURRENT REGULATIONS~~