

**SECTION 94: PERMITTING AND DUST CONTROL FOR CONSTRUCTION AND TEMPORARY COMMERCIAL ACTIVITIES AND FUGITIVE DUST CONTROL FOR STATIONARY SOURCES**

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## 94.1 Applicability

- (a) Section 94 applies to:
  - (1) All construction and temporary commercial activities that disturb or have the potential to disturb soils and/or emit or have the potential to emit particulate matter into the atmosphere.
  - (2) All stationary sources that disturb or have the potential to disturb soils and/or emit or have the potential to emit particulate matter into the atmosphere. Sections 94.12 through 94.14 shall apply to the control of fugitive dust emissions. Applicable control measures, emission standards, and soil stabilization standards shall be incorporated into the terms and conditions of the stationary source permit.
- (b) This regulation does not apply to:
  - (1) Normal farm cultural practices and equestrian facilities that are in compliance with zoning requirements.
  - (2) Emergency activities, as defined in Section 0, that may disturb the soil performed or ordered under a directive by any utility or government agency in order to prevent public injury or restore critical utilities to functional status.
  - (3) Temporary commercial activities outside of Hydrographic Areas 212 (Las Vegas Valley), 216 (Garnet Valley), and 217 (Hidden Valley North).

## 94.2 Definitions

Unless the context requires otherwise, the following terms shall have the meanings set forth below for the purposes of Section 94. When a term is not defined, it shall have the meaning provided in Section 0 of the Clark County Air Quality Regulations (AQRs), Chapter 445B of the Nevada Revised Statutes, the federal Clean Air Act (42 U.S.C. 7401 et seq.), or common usage, in that order of priority.

“Best Available Control Measures” and “BACM” means those control measures that are the best available with current technology for reducing or eliminating the release of particulate matter into the atmosphere from construction activities. These include, but are not limited to, all measures listed as Best Management Practices and any other control measures required by the Control Officer.

“Best Management Practice” or “BMP” means methods that have been determined to be the most effective and practical means of preventing or reducing emissions of fugitive dust as provided in Appendix 1 to this section.

“Clean gravel” means a mineral or rock aggregate ranging in size from 0.25 to 3 inches on its longest dimension that is either natural or the product of a mineral processing operation and contains no more than 6% silt by weight.

“Common control” means having power or control, directly or indirectly, of the management decisions of another construction project by ownership, contract, or other means.

“Construction activities” means the following activities: commercial and residential construction, flood control construction, and highway construction, as defined in Section 0. These activities may include, but are not limited to, the following:

- (1) Land clearing, maintenance, change of grade, and land cleanup using machinery;
- (2) Soil and rock excavation or removal;
- (3) Soil or rock hauling (import/export);
- (4) Soil or rock crushing or screening;
- (5) Filling, compacting, and/or stockpiling;
- (6) Grading;
- (7) Explosive blasting;
- (8) Demolition;
- (9) Implosion;
- (10) Handling of building materials capable of entrainment in air (e.g., sand, cement powder);
- (11) Abrasive blasting;
- (12) Concrete, block, stone, asphalt, and tile cutting;
- (13) Mechanized trenching;
- (14) Initial or replacement landscaping;
- (15) Driving vehicles on a construction site;
- (16) Establishing and/or using staging areas, material storage areas, or unpaved parking areas in support of a construction project;
- (17) Establishing and/or using unpaved access routes to or from a construction project;

- (18) Paving roadways and alleyways; and
- (19) Flood control maintenance.

“Contiguous” means being in actual contact along a boundary or a point. Properties that are separated by public roadways are considered in actual contact.

“Department” means the Clark County, Nevada, Department of Environment and Sustainability, and “DAQ” means the Department’s Division of Air Quality.

“Dust Control Operating Permit” and “Permit” mean a single permit that authorizes the Permittee to perform soil-disturbing, construction, demolition, or temporary commercial activities that may result in fugitive dust becoming airborne.

“Dust Mitigation Plan” means an attachment to a Dust Control Operating Permit that lists all the construction activities that may occur and the BMPs that shall be used to mitigate dust at a permitted site. Upon approval of the application, the Dust Mitigation Plan becomes an enforceable part of the Dust Control Operating Permit.

“Grading” means any excavation, filling, rough grading, and/or stockpiling for the purpose of altering the natural ground surface or its elevation.

“Maintenance” means the upkeep or restoration of property to its intended use.

“Notice of Non-Compliance” means a document of notification intended to provide the findings that identify deficiencies through inspection where failure to comply with terms and conditions of the permit or AQRs has been observed.

“Responsible Official” means the person who is authorized by the owner or operator to oversee the construction activities related to the project, to sign all documents, and to make all decisions that:

- (1) Govern the operation at the construction site;
- (2) Initiate and direct measures to assure compliance with air quality laws and regulations; and
- (3) Ensure actions are taken to gather complete and accurate information for permitting, recordkeeping, and reporting requirements.

“Temporary Commercial Activities” means activities that are limited to less than 90 days including special events, holiday activities (e.g., pumpkin patches, Christmas tree lots), and festivals, including associated unpaved parking areas and have the potential to disturb soils.

“Trackout” means soil, mud, or dirt on paved surfaces, including curbs, gutters, and sidewalks, that has come from a construction site or an unpaved access route onto the paved surface.

### **94.3 Activities Exempt from Permitting**

All the following activities are required to control dust, but are exempt from the requirement to obtain a Dust Control Operating Permit. However, soils shall be kept moist during all activities and crusted at the completion of the project.

- (a) Landscaping conducted by an individual(s) at their place of residence.
- (b) Emergency (as defined in Section 0) maintenance activities conducted by government agencies on publicly maintained roads, road shoulders, rights-of-way, and public flood control facilities.
- (c) Weed and trash removal activities and dust palliative, clean gravel, or recycled asphalt product (for road shoulders only) applications conducted solely for the purpose of compliance with weed and/or trash abatement wherein no grade elevation changes, no soil or rock is imported or exported, and/or no cut and fill operations occur.
- (d) Application of dust palliatives, clean gravel, or other approved materials to stabilize soils and prevent fugitive dust to comply with Section 90 vacant land regulations wherein no grade elevation changes, no clearing and grubbing activities, and/or no cut and fill operations occur.

### **94.4 Permit Applications**

#### **94.4.1 Duty to Apply for a Dust Control Operating Permit**

- (a) Except as provided in Section 94.3, no Person shall commence any construction activities or temporary commercial activities except in compliance with a permit that authorizes such activities.
- (b) A permit shall be required for any of the following:
  - (1) Construction activities that disturb soils 0.25 acres or greater in overall area.
  - (2) Mechanized trenching 100 feet or greater in total length.
  - (3) Mechanical demolition of any structure 1,000 square feet or greater.
  - (4) Temporary commercial activities 0.25 acres or greater in overall area.

#### **94.4.2 Complete Application**

- (a) Application for issuance, renewal, or revision of a permit shall be submitted on a form and in a manner prescribed by the Control Officer.
- (b) The Control Officer shall notify the Responsible Official if a permit application is incomplete, and may request additional information that is needed.
- (c) If the Responsible Official fails to comply within 14 calendar days of the notice, the application may be denied and all applicable fees forfeited.

#### **94.4.3 Application Content**

- (a) All applications for a Dust Control Operating Permit shall include a Dust Mitigation Plan with appropriate control measures for every construction activity to be conducted. Other control measures that are at least as effective as approved control measures may be implemented with the approval of the Control Officer.
- (b) The application shall include a detailed supplement to the Dust Mitigation Plan for a construction project 10 acres or more in area, trenching activities one mile or greater in length, or structure demolition using implosive or explosive blasting techniques. A permit for temporary commercial activities is exempt from this requirement.
  - (1) The supplement shall be a written report and, at minimum, detail the project description, the area and schedule of the phases of land disturbance, the control measures, the contingency measures to be used for all construction activities, and a statement of the authority and training of personnel who will ensure compliance on-site.
  - (2) The supplement shall be signed by the Responsible Official.
- (c) An appropriate supplemental form shall be included with the application if the project includes explosive blasting.
- (d) The application shall identify the highest particulate emission potential (PEP) for the total project area, identified from the Particulate Emission Potential Maps provided in Appendix 2 to this section. The PEP identified for the project shall be used to determine the BMPs for the Dust Mitigation Plan.
- (e) The application shall be signed by the Responsible Official.

- (f) The application, Dust Mitigation Plan, and related maps and forms shall become part of the permit.

#### **94.5 Permit Requirements**

- (a) Any person engaging in construction activities on a site having a permit shall be subject to all conditions set forth in the permit. Failure to comply with any condition set forth in the permit shall be a violation of the AQRs.
- (b) Issuance or renewal of each permit shall require payment of the applicable permit fee(s) in accordance with Section 18. A permit for temporary commercial activities is exempt from this requirement.
- (c) A complete copy of the current permit must be kept on the project site at all times that construction activities occur and be made available upon request of the Control Officer.
- (d) Any additional control measure requirements resulting from adjudicated corrective orders by the Control Officer or Hearing Officer shall become a part of the permit's Dust Mitigation Plan.
- (e) The Control Officer may waive permit fees for public agency maintenance projects performed by the agency's own employees.
- (f) No person shall:
  - (1) Refuse access if the Control Officer requests entry for inspection and presents appropriate credentials.
  - (2) Obstruct, hamper or interfere with an inspection.
- (g) The Responsible Official shall:
  - (1) Ensure that all contractors, subcontractors, and other persons on the construction site abide by the conditions of the permit and the AQRs.
  - (2) Supply complete copies of the permit, including the Dust Mitigation Plan, to all project contractors and subcontractors.
  - (3) Ensure compliance with all permit conditions until a permit closure form has been submitted to and approved by the Control Officer.
- (h) The Control Officer may determine when construction projects that are under common control and are contiguous may be required to obtain and operate under a single permit.



- (i) The Control Officer may determine when more than one construction activity less than 0.25 acres in area or trenching activities less than 100 feet, can be treated as a single activity and the construction project is required to obtain a permit due to the properties being (1) under common control; (2) contiguous; or (3) separated only by a roadway and cumulatively equal to or exceeding 0.25 acres.
- (j) A permit shall be required for routine, public agency road maintenance, road shoulder maintenance, flood control facility maintenance, and maintenance activities that disturb soil and are capable of causing fugitive dust. Such permits shall:
  - (1) Require that records be maintained based upon written annual schedules of work for routine maintenance activities;
  - (2) Include a Dust Mitigation Plan listing all the activities to be performed that may disturb the soil and BMPs for all these activities; and
  - (3) Include conditions requiring that miles and acres be quantified for maintenance activities to be performed.
- (k) A permit shall be valid for up to 365 days from the effective date of the permit. A permit issued for temporary commercial activities shall be valid for up to 90 days from the effective date of the permit.
- (l) If a renewal application is submitted within 30 days prior to the permit's expiration date, the effective date of the renewed permit will reflect one day after the expiration date of the current permit. If a renewal application is submitted more than 30 days before the permit's expiration date, the permit's effective date will change to the new issuance date. If a renewal application is submitted after the permit's expiration date, the effective date of the renewed permit will reflect one day after the expiration date of the current permit. Applications submitted after the expiration of the permit will be subject to a late fee.
- (m) A permit issued for temporary commercial activities is not renewable.
- (n) The Responsible Official shall:
  - (1) Notify the Control Officer in writing within 10 days following the cessation of active operations on all or part of a construction site when cessation will extend 30 days or longer. Stabilization shall also be implemented within 10 days, in accordance with BMP 11.
  - (2) Complete and submit a Dust Control Operating Permit Closure Form for approval to the department within 10 days following the completion of a construction project and/or expiration of the Dust

Control Operating Permit. Prior to the submittal of the closure form, the Responsible Official shall:

- (A) Implement a control method for long-term stabilization, as described in BMP 11, on all disturbed areas that are not built out, landscaped or paved.

#### **94.6 General and Administrative Standards**

- (a) New, renewed, or revised permits shall not be issued to a person having outstanding unpaid department fees and/or penalties that have been adjudicated.
- (b) As part of the adjudication of the third Notice of Violation by the Hearing Officer, the Control Officer may, within any 180-day period and for the same project for which the permit was issued, recommend suspension or revocation of the permit.
  - (1) Upon the Hearing Officer issuing such order:
    - (A) All activities that are authorized by the permit shall cease.
    - (B) The Hearing Officer Order shall be posted conspicuously on the property involved, stating the reasons and indicating the date of suspension and/or revocation.
    - (C) The suspension or revocation shall remain in effect until such time as rescinded by the Hearing Officer.
  - (2) Upon Hearing Officer approval:
    - (A) If suspended, the permit may be reinstated.
    - (B) If revoked, an application for a new permit must be submitted and fees paid in accordance with Section 18.
  - (3) The Permittee may file a written Notice of Appeal to the Hearing Board within 10 days of the date of the Hearing Officer's order, except as otherwise provided by law.
- (c) Nothing in this section limits the Control Officer's authority to suspend and/or revoke a permit for cause.
- (d) Any person aggrieved by a decision of the Control Officer pursuant to this section may appeal in accordance with Section 7 of the AQRs.

#### **94.7 Notices of Non-Compliance and Notices of Violation**

- (a) Whenever the Control Officer finds that any provision of a permit or Dust Mitigation Plan has been violated, the Control Officer may issue a Notice of Non-Compliance to the Responsible Official for the alleged violation in accordance with Section 4.3 of the AQRs. The notice shall specify:
  - (1) The permit and/or plan provision(s) alleged to be violated;
  - (2) The facts alleged to constitute the violation; and
  - (3) Direction to correct the observed non-compliance.
- (b) Regardless of whether a Notice of Non-Compliance has been issued, the Control Officer may issue a Notice of Violation upon determination that the Permittee has violated any provision(s) of the permit, the Dust Mitigation Plan, or other applicable requirements. Such Notice of Violation shall be adjudicated in accordance with Section 7.3 of the AQRs.
- (c) Nothing herein prevents the Control Officer from making efforts to obtain voluntary compliance through warning, conference, or other appropriate means.

#### **94.8 Dust Control Monitor**

- (a) The Control Officer shall require a Dust Control Monitor for:
  - (1) Any construction project that has 50 acres or more of disturbed soil at any given time.
  - (2) Individually permitted projects that have less than 50 acres of disturbed soil at any given time when two or more projects are under common control, are contiguous, and total 50 acres or more.
- (b) The Control Officer may require a dust control monitor for any construction project with documented non-compliance issues.
- (c) The Control Officer may require additional Dust Control Monitors due to the size of a project and/or non-compliance issues.
- (d) The requirement for a Dust Control Monitor shall not apply to a construction project that meets all of the following:
  - (1) The area of actively disturbed soil becomes less than 50 acres;
  - (2) The previously disturbed areas have been stabilized as required by BMP 11; and
  - (3) The Control Officer has verified and approved the stabilization.

- (e) A Dust Control Monitor cannot be assigned to more than one non-contiguous permitted construction site unless the Control Officer approves in advance.
- (f) The Responsible Official shall provide full authority to the Dust Control Monitor to ensure that effective Dust Control Measures are implemented. This person's name must be included on the "Construction Site Dust Control Monitor" form and submitted with the Dust Control Operating Permit application, as applicable. The authority of the Dust Control Monitor shall include all of the following:
  - (1) Conduct site inspections and monitor current activities on site;
  - (2) Deploy resources to maintain compliance with the permit; and
  - (3) Be able to shut down or regulate construction activities to maintain compliance as needed.
- (g) The Dust Control Monitor shall be present and available at all times construction activities occur on the project site and shall devote the majority of his/her time specifically to managing dust prevention and control on the site.
- (h) The Dust Control Monitor may temporarily operate a water truck for monitoring and resolving dust issues, but may not support construction Activities unless approved by the Control Officer.
- (i) No employee with responsibilities other than ensuring dust control measures are implemented on a construction site (such as a supervisor or foreman) may be assigned as the Dust Control Monitor.
- (j) A person shall be certified as a Dust Control Monitor upon complying with all of the following:
  - (1) Successfully completing the Clark County Air Quality Dust Control Monitor Class within the past three years.
  - (2) Successfully completing a course approved by the Control Officer and becoming certified in Visual Emissions Evaluation (VEE) within the past three years.

#### **94.9 Dust Control Monitor Recordkeeping**

- (a) On a site having a Dust Control Operating Permit, a written record of self-inspection shall be made at least twice each day on which soil-disturbing work is conducted. The "Record of Daily Dust Control" form, or other written record that provides at a minimum the same information, shall be completed.

- (b) Records of construction site self-inspections shall be kept for a minimum of one year or for six months beyond project duration, whichever is longer. Self-inspection records shall include daily inspections for crusted or damp soil, trackout conditions and cleanup measures, daily water usage, dust suppressant application records, etc.

#### **94.10 Clark County Air Quality Dust Control Class**

- (a) The following individuals are required to successfully complete the Dust Control Class:
  - (1) Construction site superintendent and all others designated as on-site representatives of the Permittee.
  - (2) All construction supervisors and foremen of on-site contractors and subcontractors.
  - (3) Water truck and water pull driver(s) for each construction project.
- (b) Each of the individuals listed in (a) above are required to attend and successfully complete the Dust Control Class at least once every three years.
- (c) The Control Officer may require any personnel affiliated with a permitted site to attend a Dust Control Class as a remedial or corrective measure.
- (d) A permit issued for temporary commercial activities is exempt from this requirement.

#### **94.11 Signage Requirements**

- (a) Projects required to obtain a Dust Control Operating Permit shall install signage prior to commencing construction activities.
  - (1) Exemptions from this requirement include:
    - (A) Projects with a duration of 14 calendar days or less.
    - (B) Permits issued for temporary commercial activities.
- (b) The sign shall:
  - (1) Measure, at minimum, four feet wide by four feet high.
  - (2) Conform to the Department Guidance on the Design and Posting of Signage, as provided in Appendix 3 to this section. The signage must include current permit information.

- (3) Be located near the main entrance to the project, and be visible and legible to the public.

#### **94.12 Soil Stabilization Standards**

- (a) The Responsible Official shall ensure that all contractors, operators, and other persons involved in construction activities or activities at a stationary source that cause or may cause fugitive dust emissions employ effective control measures.
- (b) One or more of the following methods shall be implemented to maintain dust control on all disturbed soils at construction sites, staging areas and stationary sources to the extent necessary to pass the Drop Ball Test described in Section 94.15.5:
  - (1) Maintained in a sufficiently damp condition to prevent loose particles of soil from becoming dislodged.
  - (2) Crusted over by application of water.
  - (3) Completely covered with clean gravel.
  - (4) Treated with a dust suppressant.
  - (5) Treated using another method approved in advance by the Control Officer.

#### **94.13 Best Available Control Measures**

- (a) Any person who engages in a construction activity or temporary commercial activity, with or without a permit, or in activities at a stationary source that cause or may cause fugitive dust emissions shall employ BACM and comply with soil stabilization standards (Section 94.12) and emissions standards (Section 94.14).
- (b) Control measures that are listed in a dust control operating permit, and other measures as needed for the purpose of maintaining dust control, shall be implemented 24 hours a day, seven days a week, until the permit is closed in accordance with Section 94.5(n)(2). Control measures that are incorporated into a stationary source permit shall be implemented 24 hours a day, seven days a week.
- (c) All construction activities that contribute to emissions, even when BACM is implemented, shall immediately cease when wind conditions cause fugitive dust:
  - (1) In excess of 20% opacity using the:

- (A) Time Averaged Method (Section 94.15.2); or
  - (B) Intermittent Emissions Method (Section 94.15.3).
- (2) In excess of 50% opacity using the Instantaneous Method (Section 94.15.4).
  - (3) Resulting in a dust plume 100 yards in length.
  - (4) Water trucks and water pulls shall continue to operate under these circumstances until wind conditions are such that the continued operation of this equipment poses a safety hazard.

#### **94.14 Emission Standards**

- (a) Any person who engages in construction activities, with or without a permit, or operates a stationary source, shall not cause or allow the handling, transport, or storage of any material in a manner that allows visible emissions of particulate matter to:
  - (1) Exceed 20% opacity using the Time Averaged Method or the Intermittent Emissions Method.
  - (2) Exceed 50% opacity using the Instantaneous Method.
  - (3) Extend more than 100 feet.
  - (4) Cross a property line.
- (b) The use of blower devices and dry rotary brushes for the removal of deposited mud, dirt, or rock from a paved surface is prohibited except when the use of water is not technically feasible and only with prior approval by the Control Officer.
- (c) Rotary brushes may be used for removal of deposited mud, dirt or rock when sufficient water is applied to limit the visible emissions consistent with the visible emission standards in Section 94.14(a)(1), (2), or (3). Dry rotary brushes may only be used when the Control Officer grants prior approval due to technical infeasibility issue(s).
- (d) Mud or dirt shall not be allowed to accumulate on a paved surface where trackout extends greater than 50 feet in cumulative length or accumulates to a depth greater than 0.25 inches.
- (e) Trackout, including trackout less than 50 feet in length or 0.25 inches in depth, shall be cleaned immediately and maintained to eliminate emissions of fugitive dust by removing all accumulations of mud or dirt

on curbs, gutters, sidewalks, or paved surfaces, that causes one or more of the following:

- (1) An exceedance of 20% opacity using the Time Averaged Method or the Intermittent Emissions Method.
  - (2) An exceedance of 50% opacity using the Instantaneous Method.
  - (3) A dust plume to extend more than 100 feet, horizontally or vertically.
  - (4) A dust plume to cross a property line.
- (f) Except as required in 94.14(d) and (e), all trackout shall be cleaned up by the end of the workday or evening shift regardless of length or depth.
- (g) No stockpiles over eight feet high shall be located within 100 yards of occupied buildings unless the buildings are occupied by the permittee or are otherwise approved by the Control Officer. Stockpiles authorized to be over eight feet high must have a road bladed to the top to allow water truck access or must demonstrate another means to provide effective dust control at the top of the stockpile.

## **94.15 Test Methods**

### **94.15.1 Visual Determination of Emission Opacity from Sources of Visible Emissions**

- (a) **Applicability:** This method is applicable for determining the opacity of emissions from sources of visible emissions.
- (1) The Time Averaged Method requires averaging visible emission readings over a specific time period to determine the opacity of the emissions. It is used for continuous emissions sources.
  - (2) The Intermittent Emissions Method requires averaging a set number of visible emissions readings to determine the opacity of visible emissions. It is used for intermittent emissions sources.
  - (3) The Instantaneous Method sets an opacity limit that shall not be exceeded at any time. It can be used with any emissions source and is a non-federal requirement.
- (b) **Principle:** The opacity of emissions from a source of visible emissions is determined visually by an observer with a current certification, approved by the Control Officer, as a qualified Visible Emissions Evaluator using EPA Method 9.



- (c) Procedures: A qualified Visible Emissions Evaluator shall use the procedures set forth in Sections 94.15.2, 94.15.3, and 94.15.4 for visually determining the opacity of emissions.

### **94.15.2 Time Averaged Method**

The procedure in this section is for evaluating and determining the opacity of continuous fugitive dust emissions by a qualified observer. Sources of these emissions include activities that produce emissions continuously during operations, such as earthmoving, grading, and trenching. Emissions from these types of activities are considered continuous even though the speed of the activity may vary and emissions may be controlled to 100%, producing no visible emissions, during parts of the operation. The qualified observer should do the following:

- (a) Position: Stand at a position at least 20 feet from the fugitive dust source to provide a clear view of the emissions, with the sun oriented in the 140-degree sector to the back. Consistent as much as possible with maintaining this stance, make opacity observations from a position such that the line of sight is approximately perpendicular to the plume and wind direction. The observer may follow the fugitive dust plume generated by mobile earthmoving equipment as long as the sun remains oriented in the 140-degree sector to the back. As much as possible, do not include more than one plume in the line of sight at one time.
- (b) Field Records: Record the site name, fugitive dust source type (e.g., earthmoving, grading, trenching), method of control used (if any), observer's name, certification data and affiliation, and a sketch of the observer's position relative to the fugitive dust source. Also, record the time, estimated distance to the fugitive dust source location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), observer's position relative to the fugitive dust source, color of the plume, and type of background on the visible emission observation form when opacity readings are initiated and completed.
- (c) Observations: Make opacity observations, to the extent possible, using a contrasting background that is perpendicular to the line of sight. Observe at a point just beyond where material is no longer being deposited out of the plume (normally three feet above the surface from which the plume is generated). The initial observation should begin immediately after a plume has been created above the surface involved. Do not look continuously at the plume, but instead observe the plume momentarily at 15-second intervals. For fugitive dust from earthmoving equipment, make opacity observations at a point just beyond where material is not being deposited out of the plume (normally three feet above the mechanical equipment generating the plume).

- (d) **Recording Observations:** Record the opacity observations to the nearest 5% every 15 seconds on an observational record sheet. Each momentary observation recorded represents the average opacity of emissions for a 15-second period. If multiple plumes exist at the time of an observation, do not record an opacity reading; mark an “x” for that reading. If the equipment generating the plume travels outside the field of observation, resulting in an inability to maintain sun orientation within the 140-degree sector, or if the equipment ceases operating, mark an “x” for the 15-second interval reading. Readings identified as “x” shall be considered interrupted readings.
- (e) **Data Reduction For Time-Averaged Method:** For each set of 12 or 24 consecutive readings, calculate the appropriate average opacity. Sets shall consist of consecutive observations; however, readings immediately preceding and following interrupted readings shall be deemed consecutive. In no case shall two sets overlap, resulting in multiple violations.

### **94.15.3 Intermittent Emissions Method**

The procedure in this section is for evaluating and determining intermittent fugitive dust emissions by a qualified observer. Sources of intermittent fugitive dust emissions include activities that produce emissions intermittently, such as screening, dumping, and stockpiling, where predominant emissions are produced intermittently. The qualified observer should do the following:

- (a) **Position:** Stand at a position at least 20 feet from the fugitive dust source to provide a clear view of the emissions, with the sun oriented in the 140-degree sector to the back. Consistent as much as possible with maintaining this stance, make opacity observations from a position such that the line of sight is approximately perpendicular to the plume and wind direction. As much as possible, do not include more than one plume in the line of sight at one time.
- (b) **Field Records:** Record the site name, fugitive dust source type (e.g., pile, material handling, transfer, loading, sorting), method of control used (if any), observer’s name, certification data and affiliation, and a sketch of the observer’s position relative to the fugitive dust source. Also, record the time, estimated distance to the fugitive dust source location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), observer’s position relative to the fugitive dust source, color of the plume, and type of background on the visible emission observation form when opacity readings are initiated and completed.

- (c) Observations: Make opacity observations, to the extent possible, using a contrasting background that is perpendicular to the line of sight. Observe at a point just beyond where material is no longer being deposited out of the plume (normally three feet above the surface from which the plume is generated). Make two observations per plume at the same point, beginning with the first reading at zero seconds and the second reading at five seconds. The zero-second observation should begin immediately after a plume has been created above the surface involved.
- (d) Recording observations: Record the opacity observations to the nearest 5% on an observational record sheet. Each momentary observation recorded represents the average opacity of emissions for a five-second period.
- (e) Repeat Sections 94.15.3(c) and (d) until a total of 12 consecutive opacity readings have been recorded. This will occur once six intermittent plumes on which the observer is able to take proper readings have been observed. The 12 consecutive readings must be taken within the same period of observation, but must not exceed 1 hour. Observations immediately preceding and following interrupted observations can be considered consecutive.
- (f) Average the 12 opacity readings together. If the average opacity reading equals 20% or lower, the source is in compliance with the averaged method opacity standard described in this section.

#### **94.15.4 Instantaneous Method**

This is a non-federal procedure for evaluation of fugitive dust emissions. It provides a method for instantaneous determination of the opacity of fugitive dust emissions by a qualified observer. This method is a Clark County local requirement and has not been submitted as part of the Nevada State Implementation Plan. The qualified observer should do the following:

- (a) Position: Stand at a position at least 20 feet from the fugitive dust source to provide a clear view of the emissions, with the sun oriented in the 140-degree sector to the back. Consistent as much as possible with maintaining this stance, make opacity observations from a position such that the line of sight is approximately perpendicular to the plume and wind direction. The observer may follow the fugitive dust plume generated by mobile earthmoving equipment as long as the sun remains oriented in the 140-degree sector to the back. As much as possible, do not include more than one plume in the line of sight at one time.

- (b) **Field Records:** Record the site name, fugitive dust source type (e.g., earthmoving, grading, storage pile, material handling, transfer, loading, sorting), method of control used (if any), observer's name, certification data and affiliation, and a sketch of the observer's position relative to the fugitive dust source. Also record the time, estimated distance to the fugitive dust source location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), observer's position relative to the fugitive dust source, color of the plume, and type of background on the visible emission observation form when opacity readings are initiated and completed.
- (c) **Observations:** Make opacity observations, to the extent possible, using a contrasting background that is perpendicular to the line of sight. Observe at a point just beyond where material is no longer being deposited out of the plume (normally three feet above the surface from which the plume is generated).
- (d) **Recording Observations:** Record the opacity observations to the nearest 5%.

#### **94.15.5 Soil Crust Determination (Drop Ball Test)**

- (a) Drop a steel ball with a diameter of 0.625 (5/8<sup>th</sup>) inches and a mass ranging from 0.56 to 0.60 ounces from a distance of one foot directly above the soil surface. If blowsand is present, clear the blowsand from the surfaces on which the soil crust test method is conducted. ("Blowsand" is defined as thin deposits of loose uncombined grains covering less than 50% of a project site that have not originated from the representative surface being tested.) If material that is not blowsand covers a visible crust, apply the test method in AQR Section 90.4.1.3 ("Determination of Threshold Friction Velocity") to the loose material to determine whether the surface is stable.

A sufficient crust is defined under the following conditions: once a ball has been dropped according to AQR Section 90.4.1.1, the ball does not sink into the surface, where it would be partially or fully surrounded by loose grains; and, upon removing the ball, the surface upon which it fell has not been pulverized, where loose grains would be visible.

- (b) Randomly select each representative disturbed surface for the drop ball test by using a blind "over the shoulder" toss of a throwable object (e.g., a metal weight with survey tape attached). Using the point of fall as the lower left hand corner, measure a 1-foot-square area. Drop the ball three times within the 1-foot by 1-foot square, using a consistent pattern across the survey area. The survey area shall be considered to have passed the Soil Crust Determination Test if the results meet the criteria of AQR Section 90.4.1.1(a) at least two out of the three

times the ball was dropped. Select at least two other survey areas that represent a random portion of the overall disturbed conditions of the site and repeat the procedure. If the results meet the criteria of AQR Section 90.4.1.1(a) in all the survey areas tested, the site shall be considered to have passed the Soil Crust Determination Test and shall be considered sufficiently crusted.

- (c) At any given site, the existence of a sufficient crust covering one portion of the site may not represent the existence or protectiveness of a crust on another portion of the site. Repeat the soil crust test as often as necessary on each portion of the overall site using the random selection method set forth in AQR Section 90.4.1.1(b) for an accurate assessment.

## Appendix 1: BEST MANAGEMENT PRACTICES (BMPs)

BMPs are site-specific Dust Control Measures that are based on project soil type, specific construction activities, and project phases/stages. These practices are established to reduce particulate emissions from construction sites. Some practices are also designed to reduce 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 PEP. The fifth category, “slight,” was created solely to identify areas of bedrock outcrops. PEP is determined by soil silt content (measured by the percent of soil that will pass through a 200-mesh sieve) and optimum moisture content (measured by the percent of moisture necessary to compact soils).

### 2. BMPs

The following sections list the current BMPs developed and approved for use in Clark County to mitigate dust during construction activities. The BMPs are organized alphabetically by construction activity.

The control requirements of each construction activity category to be conducted on the project must be met through implementation of control measures. Within most construction activity categories, there are choices of control measures to select to meet control requirements. Control requirements are stated for each construction activity.

Table 1 provides the required control measures to be implemented for each soil type based on PEP. Some control measures apply to construction activities regardless of soil type. The control measures implemented must address the PEP for the area in which the construction project is permitted.

**Table 1: Soil Types**

| <b>Particulate Emission Potential (PEP)</b> | <b>Control Measure</b>   |
|---|--|
| <b>Low</b>                                  | Apply water and mix moist soil with dry soil until optimum moisture content is reached to meet emission and soil stabilization standards.                          |
| <b>Moderate Low</b>                         | Apply and mix water into soil and/or material until optimum moisture content is reached to meet emission and soil stabilization standards.                         |
| <b>Moderate High</b>                        | Apply and mix water and surfactant solution into soil and/or material until optimum moisture content is reached to meet emission and soil stabilization standards. |

|             |  |
|-------------|--|
| <b>High</b> | Apply and mix water and surfactant solution into soil and/or material until optimum moisture content is reached to meet emission and soil stabilization standards. |
|-------------|--|

Control measures not currently listed in the BMPs 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.

DAQ will apply the following minimum criteria when evaluating any unlisted control measures a permittee proposes to meet the control requirements for a BMP:

- a. The control measure technique is a new or alternative technology demonstrated to be equally or more effective in meeting the control requirement than existing control measures;
- b. Site logistics do not practically allow for implementation of a listed control measure as written (e.g., road width prevents truck entry or preexisting barriers limit the size or width of a gravel pad); or
- c. 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., presoaking screened, washed rock when handling).

## **BMP 01 BACKFILLING (Filling area previously excavated or Trenched)**

### **01 Requirement**

- (a) Maintain optimum moisture content in backfill material and operate equipment in a manner that limits fugitive dust to comply with the AQRs before, during, and after handling of material and during storage until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water surface soils where support equipment and vehicles will operate, and maintain in a stabilized condition.
  - (2) Dedicate an adequate water source to backfilling equipment and apply water as needed to minimize dust.
  - (3) Empty loader bucket slowly and minimize drop height from loader bucket.
  - (4) Ensure backfill material is moist or crusted at all times.

- (5) Apply water or surfactant to maintain disturbed soils in a stable condition to limit fugitive dust.

**Note:** The appropriate control measure for the project soil type must be selected from Table 1.

## **BMP 02 BLASTING – Abrasive (sandblasting, abrasive blasting, and/or hydro-blasting)**

### **02 Requirements**

- (a) Ensure soil moisture is maintained to limit fugitive dust where support equipment and vehicles will operate until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water surface soils and maintain in a stabilized condition.
  - (2) If water is not effective, apply and maintain a surfactant and/or dust palliative on surface soils as needed.
- (b) Limit visible emissions to no more than an average of 40% opacity for any period totaling 3 minutes in any 60-minute period, or to no more than 50% instantaneous opacity, pursuant to the AQRs.
- (c) Hydro-blasting (using water as the propellant) must be conducted in a manner that maintains visible emissions within opacity standards.
- (d) Stabilize particulate matter in the surrounding area following blasting.
  - (1) Clean particulate matter from the surrounding area and water disturbed soils after blasting.
  - (2) If water is not effective, apply and maintain a surfactant and/or dust palliative on the surrounding area following blasting.

**Note:** Whenever possible, abrasive blasting should be conducted within an enclosed structure to limit the release of visible emissions to the atmosphere.

## **BMP 03 BLASTING – Soil and Rock (Explosive blasting of soil and rock)**

### **03 Requirements**

- (a) Maintain optimum moisture content in soil where drills, support equipment, and vehicles will operate to prevent unstable soil conditions and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.



- (1) Pre-water surface soils where drills, support equipment, and vehicles will operate, and maintain in a stabilized condition.
  - (2) If water is not effective, apply and maintain a surfactant and/or dust palliative on surface soils as needed.
- (b) A Blasting Supplemental form must be filled out, submitted, and approved by DAQ prior to any blasting.
  - (c) No blasting may be conducted within 1,500 feet of a residential area, occupied building, or major roadway when the wind direction is toward these structures.
  - (d) Blasting shall take place 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.
  - (e) No blasting is allowed when the National Weather Service forecasts wind gusts above 25 miles per hour (mph).
  - (f) Before setting explosive charges in holes, document current and predicted weather conditions according to the National Weather Service. If the forecast is for wind gusts of 25 mph or more, do not load explosives or blast holes. If wind conditions are forecasted to be 25 mph or more during a future scheduled blast, do not load explosives or blast holes.
  - (g) If DAQ issues a Construction Notice or Dust Advisory when a blast has been scheduled, do not load explosives or blast holes during the time period listed on the notice/advisory. If holes were loaded before the notices were issued, call a DAQ Compliance Supervisor or Manager for permission to blast.
  - (h) Maintain the optimum moisture content in soil before, during, and after blasting activities to limit emissions until the long-term stabilization requirements listed in BMP 11 are achieved.
    - (1) Limit the blast area to what can be stabilized immediately following the blast.
    - (2) Limit disturbed areas by maintaining natural rock and vegetation.
    - (3) Presoak surface soils to the depth of caliche or bedrock with water or surfactant to limit fugitive dust.

- (4) Apply water, surfactant, tackifier, and/or dust palliative on disturbed soils to form a crust immediately following blasting activities until the long-term stabilization requirements listed in BMP 11 are achieved.

**Note:** The appropriate control measure for the project soil type must be selected from Table 1.

## **BMP 04 CLEARING AND GRUBBING (Definition: Clearing and grubbing for site preparation and vacant land cleanup)**

### **04 Requirement**

- (i) Maintain optimum moisture content in soil before, during, and after clearing and grubbing activities to prevent unstable soil conditions and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water surface soils where support equipment and vehicles will operate, and maintain in a stabilized condition.
  - (2) Apply water or surfactant during clearing and grubbing activities to prevent unstable soil conditions and limit fugitive dust.
  - (3) Apply water, surfactant, tackifier, and/or dust palliative on disturbed soils to form a crust immediately following clearing and grubbing activities until the long-term stabilization requirements listed in BMP 11 are achieved.

**Note:** The appropriate control measure for the project soil type must be selected from Table 1.

## **BMP 05 CLEARING FORMS, FOUNDATIONS AND SLABS (Clearing and cleaning of forms, foundations and slabs)**

### **05 Requirement**

- (a) Limit visible emissions before, during, and after the clearing of forms, foundations, and slabs to no more than an average of 20% opacity for any period totaling 3 minutes in any 60-minute period, or to no more than 50% instantaneous opacity, pursuant to the AQRs.
  - (1) Avoid the use of high pressure air to blow soil and/or debris from forms, foundations, and slabs.
- (b) At least one of the following must be used to clear forms, foundations, and slabs:
  - (1) Water spray.

- (2) Sweeping and water spray.
- (3) Industrial vacuum.

## **BMP 06 CRUSHING (Crushing of Construction and demolition debris, rock, and soil)**

### **06 Requirements**

- (a) Maintain optimum moisture content in soil where support equipment and vehicles will operate to prevent unstable soil conditions and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water surface soils where support equipment and vehicles will operate, and maintain in a moist condition.
  - (2) If water is not effective, apply and maintain a surfactant and/or dust palliative on surface soils as needed.
- (b) Maintain optimum moisture content in material before, during, and after crushing activities to limit emissions.
  - (1) Pre-water material before loading it into the crusher.
  - (2) Apply water to material during crushing to ensure compliance with opacity standards and permit conditions.
  - (3) Monitor emissions opacity. Make adjustments to ensure compliance with opacity standards and permit conditions.
  - (4) Apply water to crushed material immediately following crushing.

**Note:** If required, obtain the appropriate operating permit for powered crushers prior to engaging in crushing activity and comply with permit conditions.

## **BMP 07 CUT AND FILL (Cut and/or fill soils for site grade preparation)**

### **07 Requirement**

- (a) Maintain optimum moisture content in soil where support equipment and vehicles will operate to prevent unstable soil conditions and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water surface soils where support equipment and vehicles will operate, and maintain in a moist condition.
  - (2) If water is not effective, apply and maintain a surfactant and/or dust palliative on surface soils.

- (b) Maintain optimum moisture content in soils before, during, and after cut and fill activities to limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water to cut depth and maintain surface soils in a stabilized condition.
  - (2) Rip soil and add water and/or surfactant as needed to reach moisture throughout the cut depth.
  - (3) During cut and fill activities, apply water or surfactant to ensure moisture content is maintained to cut depth.
  - (4) Immediately following cut and fill activities, apply water, surfactant, and/or dust palliative to disturbed soils to form a crust until the long-term stabilization requirements listed in BMP 11 are achieved.

**Note:** The appropriate control measure for the project soil type must be selected from Table 1.

## **BMP 08 DEMOLITION – Implosion (Implosive blasting demolition of structure)**

### **08 Requirements**

- (a) A Demolition Supplemental Form and a Supplement to the Dust Mitigation Plan must be filled out, submitted to, and approved by the Control Officer prior to implosion.
- (b) An asbestos survey must be conducted on any facility before demolition can commence.
- (c) A separate, complete Clark County NESHAP Demolition Notification Form must be submitted to DAQ for each structure at least 10 working days prior to demolition. The asbestos survey must be attached to this notification.
- (d) All friable and non-friable asbestos-containing material must be removed from the facility prior to implosion.
- (e) Blasting must be confined to times when the wind direction is away from the closest residential areas, occupied buildings, and major roadways.
- (f) Implosion time must be preapproved by the Control Officer.
- (g) Current weather conditions and weather predictions from the National Weather Service must be monitored and documented.

- (1) Prior to setting explosive charges, obtain and document current and predicted weather conditions from the National Weather Service.
  - (2) If a wind advisory (over 20 mph gusts or average wind speed of 10 mph) is current or forecasted for the blast period, do not set charges and do not blast.
  - (3) 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.
- (h) Maintain optimum moisture content in soil where support equipment and vehicles will operate to prevent unstable soil conditions and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
- (1) Restrict support equipment and vehicles to existing paved and/or stable areas.
  - (2) Pre-water surface soils where support equipment and vehicles will operate, and maintain in a moist condition.
  - (3) If water is not effective, apply and maintain a surfactant and/or dust palliative on surface soils as needed.
- (i) Maintain optimum moisture content in demolition debris before, during, and after implosion activities to limit emissions.
- (1) Apply water to debris immediately following blast and safety clearance, and maintain optimum moisture content in debris throughout cleanup and exporting activities.
  - (2) If water is not effective, apply and maintain a surfactant to debris immediately following blast and safety clearance.
  - (3) Clean and stabilize surrounding areas immediately following blast and safety clearance by applying water to all disturbed soil surfaces to establish a crust.
  - (4) Thoroughly clean blast debris from paved and other surfaces following blast and safety clearance.

## **BMP 09 DEMOLITION - Mechanical/Manual (Mechanical and manual demolition of walls, stucco, concrete, free-standing structures, buildings, and load-bearing walls)**

### **09 Requirements**

- (a) An asbestos survey must be conducted on any facility or structure subject to NESHAP requirements before demolition can commence.
- (b) A separate, complete Clark County NESHAP Demolition Notification Form must be submitted to DAQ for each structure at least 10 working days prior to demolition. The asbestos survey must be attached to this notification.
- (c) Maintain optimum moisture content in soil where support equipment and vehicles will operate to prevent unstable soil conditions and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water surface soils where support equipment and vehicles will operate, and maintain in a moist condition.
  - (2) If water is not effective, apply and maintain a surfactant and/or dust palliative on surface soils as needed.
- (d) Maintain optimum moisture content in demolition debris before, during, and after demolition activities to limit emissions.
  - (1) Apply water to demolition debris during handling.
  - (2) Apply water to stabilize demolition debris immediately following demolition.
  - (3) If water is not effective, apply and maintain a dust palliative to demolition debris immediately following demolition.
- (e) Stabilize surrounding area immediately following demolition by applying water and/or dust palliative to all disturbed soil surfaces.

**BMP 10 DISTURBED SOIL (Disturbed soil throughout project, including between structures)**

**10 Requirement**

- (a) Maintain optimum moisture content in soils before, during, and after all construction activities to prevent unstable soils and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Limit vehicle traffic and disturbance of soils to areas not being immediately developed using fencing, barriers, and/or barricades.
  - (2) Pre-water surface soils where support equipment and vehicles will operate, and maintain in a moist condition.

- (3) Apply water or surfactant during construction activities to prevent unstable soil conditions and limit fugitive dust.
  - (4) Apply water, surfactant, and/or dust palliative to disturbed soils to form a crust immediately following construction activities until the long-term stabilization requirements listed in BMP 11 are achieved.
- (b) If interior block walls are planned, install walls as early as possible in the construction project.

**BMP 11 LONG-TERM STABILIZATION (Applies to disturbed land that is not built out, landscaped, or Paved at Permit closure)**

**11 Requirements**

- (a) Stabilize all disturbed land within 10 days of the completion of a project, or when active operations on all or part of the construction site will cease for 30 days or more. Restrict access to these areas to prevent soil disturbance and maintain long-term stabilization. The Control Officer must approve the control method selected by the Permittee before its implementation. The Permittee shall select one or more of the following control methods:
- (1) Pave.
  - (2) Apply clean gravel.
  - (3) Install permanent metal or wood fencing and/or a post and cable at least 3 feet high, or other similar barrier approved by the Control Officer, and stabilize soil with one of the following to create adequate crust:
    - (A) Water,
    - (B) Tackifier, or
    - (C) Dust palliative.
  - (4) Install a dirt berm at least 4 feet high, or a similar barrier approved by the Control Officer, and stabilize soil with one of the following to create adequate crust:
    - (A) Water,
    - (B) Tackifier, or
    - (C) Dust palliative.

- (b) Installation of signs, as described below, is required if a dirt berm or similar barrier is used or if clean gravel is applied.
  - (1) Install orange “No Parking/Trespassing” signs with black lettering, at least 24 inches wide by 18 inches high, every 50 feet or as approved by the Control Officer (Table 2).
  - (2) Construct the sign(s) from materials capable of withstanding Clark County’s harsh environment (e.g., wood, metal, plastic).
  - (3) Attach the sign(s) to a sturdy post, such as metal or wood, placed securely in the ground, or attach the sign(s) to a fence, barricade, or other stable object that is clearly visible.
  - (4) Post on or near the property boundary, the property corners, and at all access points; post no further than 50 feet apart.
- (c) New construction or modification of paved roads must be stabilized consistent with Section 93 before the Dust Control Operating Permit (DCOP) is closed.
  - (1) Roads with vehicular traffic equal to 3,000 vehicles or fewer per day shall have a 4 foot paved road shoulder or be stabilized with clean gravel, recycled asphalt, or traffic-rated dust palliative.
  - (2) Roads with vehicular traffic greater than 3,000 vehicles per day shall have an 8 foot paved road shoulder or be stabilized with clean gravel, recycled asphalt, or traffic-rated dust Palliative.
  - (3) All disturbed areas outside the road shoulder boundaries must be treated for long-term stabilization.

**BMP 12 DUST PALLIATIVE – Selection and Use (Selection and use of chemical and organic dust suppressing agents and other dust palliatives)**

**12 Requirement**

The selection and use of chemical and organic dust suppressing agents and other dust palliatives shall adhere to all local, State, and federal regulations as well as all manufacturer specifications.

**BMP 13 IMPORTING/EXPORTING OF BULK MATERIAL (Importing or exporting of soil, aggregate, decorative rock, debris, Type II, and other bulk material)**

**13 Requirement**



- (a) Maintain optimum moisture content in surface soils and bulk material before, during, and after all importing/exporting activities to prevent unstable soils and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water surface soils where importing/exporting activities occur, including haul routes, and maintain in a moist condition.
  - (2) If water is not effective, apply and maintain a surfactant and/or dust palliative, or clean gravel, on surface soils where importing/exporting activities occur, including haul routes.
  - (3) Limit vehicle speeds to 15 mph on the work site.
  - (4) Maintain 3–6 inches of freeboard to prevent spillage.
  - (5) Apply tarps or other suitable enclosures that completely cover the load on haul trucks before they exit the project onto public roads, and maintain throughout transport. Tarps must be well-maintained and serviceable at all times.
- (b) Clean the wheels and undercarriage of haul trucks before they leave the construction site.
- (c) Check belly/end dump truck seals regularly, and remove trapped rocks to prevent spillage.

**BMP 14 LANDSCAPING (Installation of sod, decorative rock, desert or other landscape material)**

**14 Requirement**

- (a) Maintain optimum moisture content in soils and landscaping material before, during, and after landscaping activities to limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
- (b) Apply water or surfactant to maintain disturbed soils and landscaping material in a stable condition until the long-term stabilization requirements listed in BMP 11 are achieved.

**Note:** The appropriate control measure for the project soil type must be selected from Table 1.

**BMP 15 SUBGRADE PREPARATION FOR PAVING (Subgrade preparation for paving streets, parking lots, etc.)**

**15 Requirement**

- (a) Maintain optimum moisture content in soils before, during, and after all paving/subgrade preparation activities to prevent unstable soils and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water subgrade surfaces until optimum moisture content is reached.
  - (2) Maintain optimum moisture content in material while aggregate is being applied.
  - (3) Place tack coat on aggregate base.

## **BMP 16 SAWING/CUTTING MATERIALS (Sawing or cutting materials such as concrete, asphalt, block or pipe)**

### **16 Requirement**

- (a) Limit visible emissions to no more than an average of 20% opacity for any period totaling 3 minutes in any 60-minute period, or to no more than 50% instantaneous opacity, pursuant to the AQRs. One of the following two control methods must be used when sawing/cutting materials:
  - (1) Use water to control dust.
  - (2) Use a vacuum to collect dust.

## **BMP 17 SCREENING (Screening of rock, soil, or Construction debris)**

### **17 Requirements**

- (a) Maintain optimum moisture content in soil where support equipment and vehicles will operate to prevent unstable soil conditions and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water surface soils where support equipment and vehicles will operate, and maintain in a moist condition.
  - (2) If water is not effective, apply and maintain a surfactant and/or dust palliative on surface soils as needed.
- (b) Maintain optimum moisture content in material before, during, and after screening activities to limit emissions until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Apply sufficient water or a dust suppressant prior to screening.

- (2) Drop material through the screen slowly; minimize drop height.
- (3) Dedicate an adequate water source to the screening operation, and apply water as needed to minimize dust.
- (4) Monitor visible emissions; make adjustments to Control Measures to ensure compliance with opacity standards and Permit conditions.
- (5) Apply water, surfactant, or dust palliative to screened material and surrounding areas following screening activities until long-term stabilization is achieved.

**Note:** If required, obtain the appropriate operating permit for powered screens before engaging in screening activity and comply with permit conditions.

## **BMP 18 STAGING AREAS (Staging areas and equipment/material storage areas)**

### **18 Requirement**

- (a) Maintain optimum moisture content in soils before, during, and after all staging area activities to prevent unstable soils and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water surface soils where support equipment and vehicles will operate, and maintain in a moist condition.
  - (2) If water is not effective, apply and maintain a surfactant and/or dust palliative on surface soils as needed.
  - (3) Limit vehicle speed to 15 mph in staging area(s) and on all unpaved access routes.
  - (4) Apply water, clean gravel, recycled asphalt, or dust palliative to staging area soils for the duration of the project.

## **BMP 19 STOCKPILING (Stockpiling of materials, such as Type II, rock or debris, for future use or export)**

### **19 Requirement**

- (a) Maintain optimum moisture content in soil where support equipment and vehicles will operate to prevent unstable soil conditions and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.

- (1) Pre-water surface soils where support equipment and vehicles will operate, and maintain in a moist condition.
- (2) If water is not effective, apply and maintain a surfactant and/or dust palliative on surface soils as needed.
- (b) Maintain optimum moisture content in material before, during, and after stockpiling activities to limit fugitive dust until long-term stabilization is achieved.
  - (1) Stockpiles located within 100 yards of occupied buildings shall not ~~exceed constructed over~~ 8 feet in height unless otherwise approved by the Control Officer.
  - (2) Stockpiles located farther than 100 yards from any occupied building ~~and constructed~~ over 8 feet in height must have a road bladed to the top to allow water truck access, or shall demonstrate another means to provide effective dust control.
  - (3) Apply water or surfactant during stockpiling activities to prevent unstable soil conditions and limit fugitive dust.
  - (4) Apply water, surfactant, tackifier, and/or dust palliative to material and surface soils to form a crust immediately following stockpiling activities until the long-term stabilization requirements listed in BMP 11 are achieved.
- (c) All stockpiles must be removed or leveled prior to project completion unless otherwise approved by the Control Officer. Stockpiles approved to be left in place must be in compliance with the long-term stabilization requirements listed in BMP 11.

**Note:** The appropriate control measure for the project soil type must be selected from Table 1.

## **BMP 20 TRACKOUT PREVENTION AND CLEANUP (prevention and cleanup of mud, silt, and soil tracked out onto paved surfaces)**

### **20 Requirements**

- (a) Install and maintain a trackout control device in an effective condition at all access points where paved and unpaved access or travel routes intersect.
  - (1) Install gravel pad(s) consisting of a minimum of 2 inches in rough diameter of clean gravel or crushed rock on a well-graded surface (Type II material is not acceptable). Minimum dimensions must be

30 feet wide by 6 inches deep by 50 feet in length or the length of the longest haul truck, whichever is greater. Re-screen, wash, or apply additional rock to gravel pads to maintain effectiveness.

- (A) Install wheel shakers if gravel pads are not effective in preventing trackout. Clean wheel shakers regularly to maintain their effectiveness.
  - (B) Install wheel washers if wheel shakers are not effective in preventing trackout. Maintain wheel washers regularly to maintain effectiveness.
  - (C) Alternative trackout control devices may be used if approved by the Control Officer.
- (2) All exiting traffic must be routed over selected trackout control device(s) by clearly establishing and enforcing traffic patterns on-site.
- (b) Maintain dust control and clean all trackout from paved surfaces.
- (1) Maintain dust control during working hours and clean all trackout from paved surfaces, including sidewalks and gutters, at the end of each work shift.
  - (2) Immediately clean up trackout that extends 50 feet or more, or more than ¼ inch in depth, from paved surfaces, including sidewalks and gutters, or any amount of trackout that causes one or more of the following:
    - (A) A dust plume that extends more than 100 feet horizontally or vertically.
    - (B) An average of 20% opacity for any period totaling 3 minutes in any 60-minute period, pursuant to the AQRs.
    - (C) 50% instantaneous opacity, pursuant to the AQRs.
  - (3) Use street sweeper(s) in addition to trackout control devices to ensure the cleanup of trackout is maintained. If one street sweeper is not effective in controlling trackout to Air Quality Standards, bring in additional street sweepers.
  - (4) The use of blower devices to remove deposited mud/dirt trackout from a paved road is prohibited.
  - (5) The use of rotary brushes without water is prohibited.

- (6) The use of soil to create a ramp for vehicle access over a curb is prohibited.

**BMP 21 TRAFFIC—Unpaved Routes and parking Areas (Construction-related traffic on unpaved roads and parking areas)**

**21 Requirement**

- (a) Limit visible dust emissions from vehicle operations and stabilize all unpaved routes, including unpaved parking areas.
  - (1) Limit vehicle speeds to 15 mph on all unpaved routes and parking areas.
  - (2) Apply water to unpaved haul routes and off-road traffic areas, including parking areas, and maintain in a stabilized condition.
  - (3) If water is not effective, apply and maintain a surfactant and/or dust palliative on unpaved routes, off-road traffic areas, and parking areas.
  - (4) If water, surfactant, and/or dust palliative is not effective, apply and maintain clean gravel (or other suitable material approved by the Control Officer) on unpaved routes, off-road traffic areas, and parking areas.
  - (5) If a preexisting unpaved road or haul route is being used but is not permitted, it must be maintained in a stabilized condition. These unpaved roads or haul routes must not be changed in any way unless permitted or as approved by the Control Officer.

**BMP 22 TRENCHING (Trenching with track- or wheel-mounted excavator, shovel, backhoe, or trencher)**

**22 Requirement**

- (a) Maintain optimum moisture content in soil where support equipment and vehicles will operate to prevent unstable soil conditions and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water surface soils where support equipment and vehicles will operate, and maintain in a moist condition.
  - (2) If water is not effective, apply and maintain a surfactant and/or dust palliative on surface soils as needed.

- (b) Maintain optimum moisture content in soils before, during, and after Trenching activities to limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water surface soils before trenching.
  - (2) Apply water or surfactant during trenching activities to prevent unstable soil conditions, and limit fugitive dust by dedicating a water truck or large hose.
  - (3) Apply water, surfactant, tackifier, and/or dust palliative to excavated soils to form a crust immediately following trenching activities until the long-term stabilization requirements listed in BMP 11 are achieved.

**Note:** The appropriate control measure for the project soil type must be selected from Table 1.

## **BMP 23 TRUCK LOADING (Loading trucks with materials including construction and demolition debris, rock, and soil)**

### **23 Requirement**

- (a) Maintain optimum moisture content in soil where support equipment and vehicles will operate to prevent unstable soil conditions and limit fugitive dust until the long-term stabilization requirements listed in BMP 11 are achieved.
  - (1) Pre-water surface soils where support equipment and vehicles will operate, and maintain in a moist condition.
  - (2) If water is not effective, apply and maintain a surfactant and/or dust palliative on surface soils as needed.
- (b) Maintain optimum moisture content in material before, during, and after truck loading activities to limit fugitive dust.
  - (3) Mix material with water or surfactant prior to truck loading activities to limit fugitive dust.
  - (4) Empty loader bucket slowly and minimize the drop height while dumping.

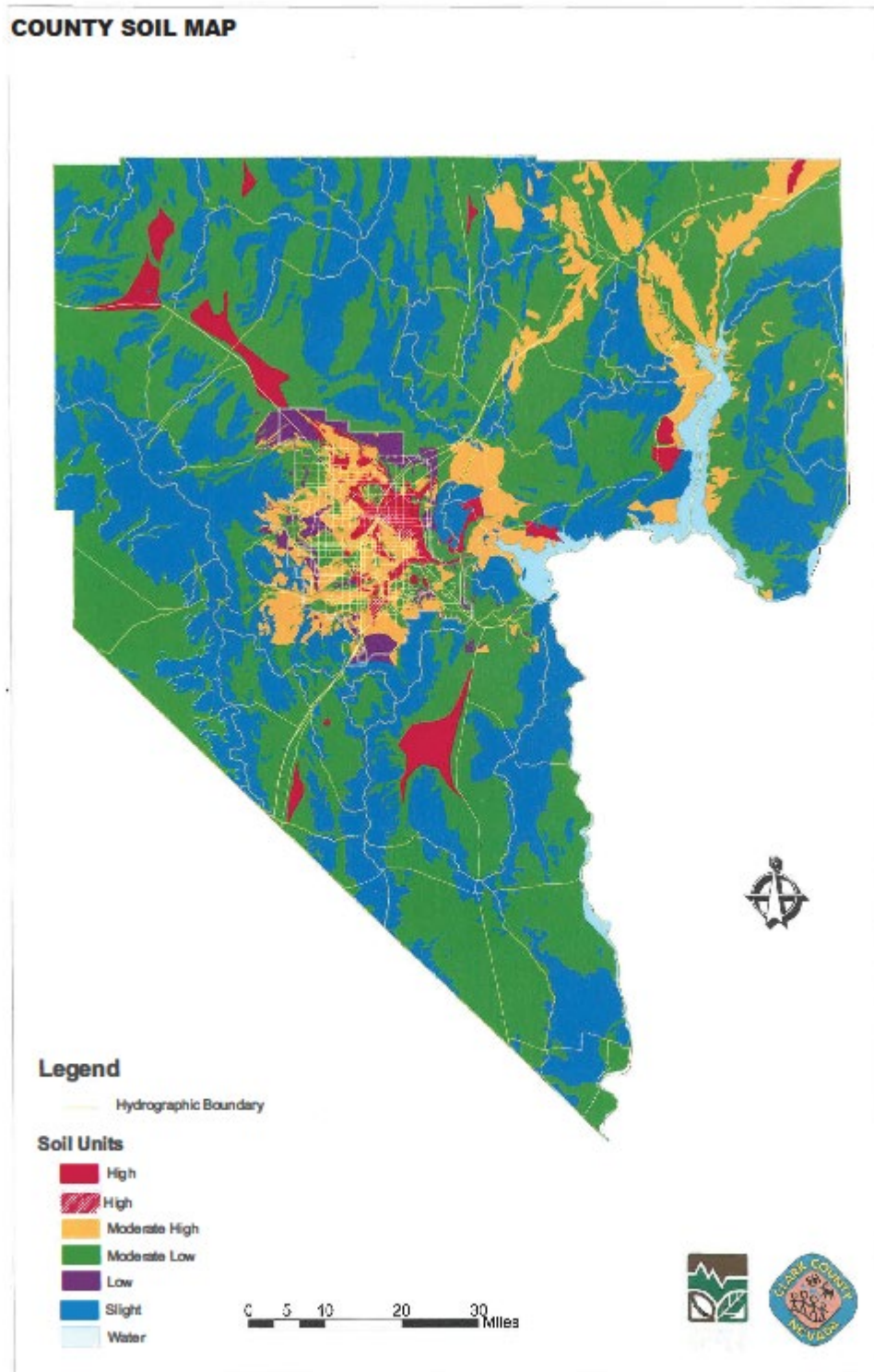
**Note:** The appropriate control measure for the project soil type must be selected from Table 1.

**Figure 1: Examples of Signage**

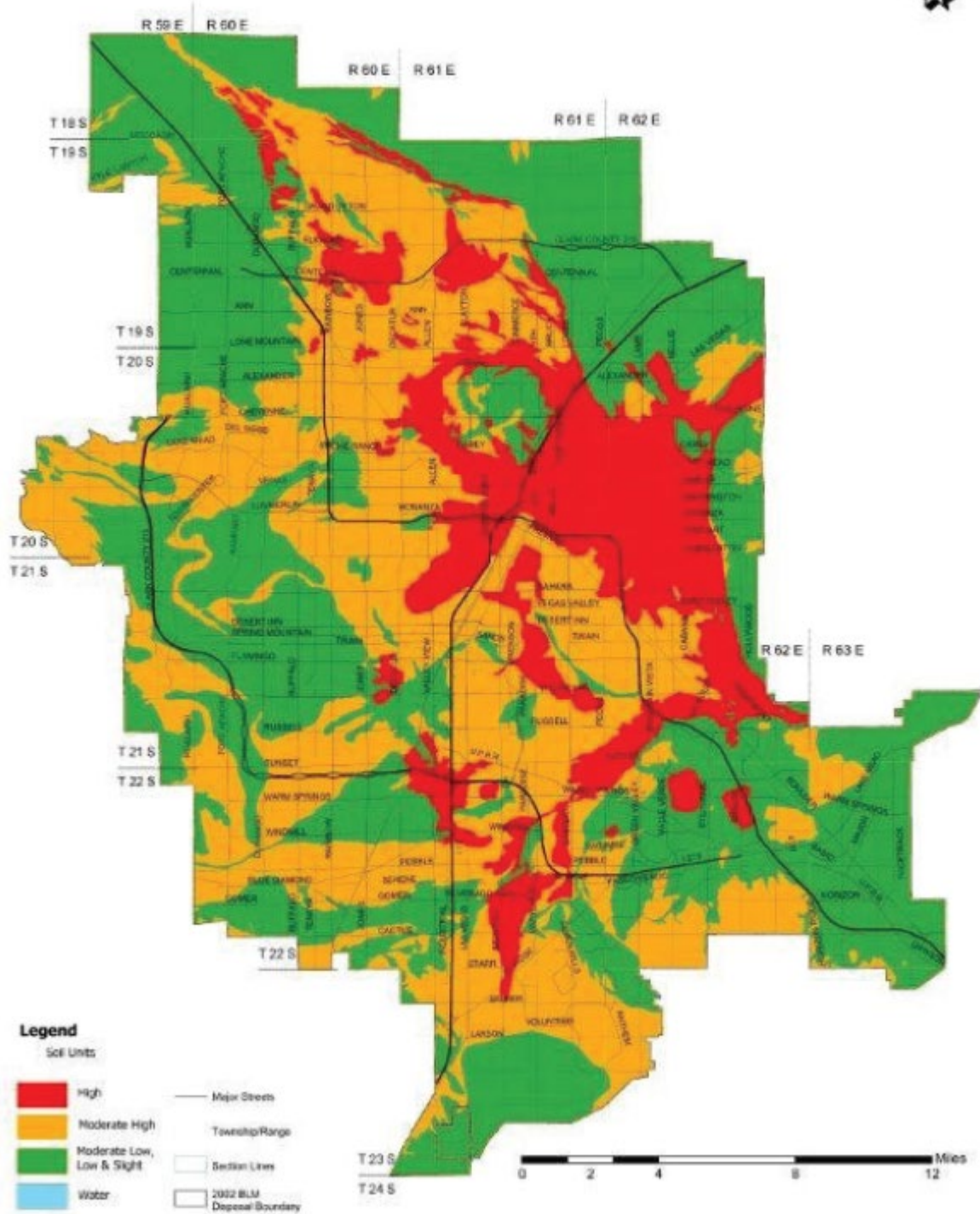




## Appendix 2: Particulate Emission Potential Maps



# LAS VEGAS VALLEY SOIL MAP



## Appendix 3: Guidance on Design and Posting of Dust Control Operating Permit Signage

1. The signboard shall be constructed with materials capable of withstanding the harsh environment (e.g., strong winds, intense sunlight) of Clark County, have a minimum dimension of 4 feet by 4 feet, and be constructed with the following materials:
  - (a)  $\frac{3}{4}$  inch AC laminated plywood board;
  - (b) Two 4 inch x 4 inch posts;
  - (c) Posts should be attached to the edges of the plywood board with a minimum of two carriage bolts on each post; and
  - (d) The front surface of the signboard should be painted in the contrasting colors of a white background with black lettering.
2. The signboard 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:

- (a) The lower edge of the sign board should be mounted at a minimum of 2 feet above the existing ground surface to facilitate ease of viewing;
  - (b) Posts should be set in a hole a minimum of 3 feet deep with concrete footings to prevent downing by high winds;
  - (c) On the construction site, the sign should be positioned so that it is not obstructed from public view from the primary street access point; and
  - (d) For construction projects that are developed in phases, the sign should be relocated to the area that is under active construction.
3. The signboard shall contain the following information:
  - (a) Project Name.
  - (b) Permittee Name.
  - (c) Phone Number of Person Responsible for Dust Control Matters.
  - (d) DAQ Dust Hotline Phone Number.
  - (e) Dust Control Operating Permit Number.
  - (f) Project Acreage.

(g) Dust Control Operating Permit Expiration Date.

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

|                       |  |   |
|-----------------------|--|---|
| 1" UPPERCASE Letters  | PROJECT NAME: <b>(Proj. Name)</b>  | 3 ½" Title Case <sup>1</sup> Bold Letters |
| 1" UPPERCASE Letters  | PERMITTEE: <b>(Your Name)</b>  | 3 ½" Title Case Bold Letters              |
| 1" Title Case Letters | Dust Control Matters<br>Phone Number: <b>(Your Number)</b>                 | 3" Bold Numbers                           |
| 1" Title Case Letters | Clark County<br>Department of Air Quality<br>Phone Number: <b>385-DUST</b> | 3 ½" Bold Numbers                         |
| 1" Title Case Letters | DUST CONTROL<br>Permit Number: <b>(Permit Number)</b>                      | 3" Bold Numbers                           |
| 1" Title Case Letters | PROJECT ACREAGE:      EXPIRATION Date: <b>(Prmt.Exp)</b>                   | 3" Bold Numbers                           |

1/16" Thickness Underline      ¼" Thickness Border

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

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 Amended: November 16, 2000; March 18, 2003; June 3, 2003; July 1, 2004; January 21, 2020;  
 August 3, 2021.