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STANDARD SPECIFICATION

SECTION 01562

DUST CONTROL

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STANDARD SPECIFICATION

SECTION 01562

DUST CONTROL

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. This specification shall apply to any soil disturbance activities effecting a land area greater than 3/4 acre.
- B. Prior to disturbing, moving or removing soil, the Contractor shall apply for and obtain a Top Soil Disturbance Permit and implement a plan for controlling dust emissions generated by construction activities in accordance with AQCB Regulation No. 8. The Contractor will also comply with applicable City Ordinances and will check with the appropriate City Department regarding special requirements.

1.02 REFERENCES

Albuquerque/Bernalillo County Air Quality Control Board Regulation No. 8, Airborne Particulate Matter.

1.03 DEFINITIONS

Soil Disturbance: Any activity which disrupts, moves, removes or adds to the soil.

PART 2 - MATERIALS

2.01 WATER

Water shall be clean and free of oil, acid, salt or any other substances harmful to plants.

2.02 MULCH

- A. Hay Mulch: Perennial native or introduced grasses of fine-stemmed varieties shall be used unless otherwise specified. At least 65 percent of the herbage by weight of each bale of hay shall be 10 inches in length or longer. Hay with noxious seed and

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plants will not be acceptable. Rotted, brittle, or moldy hay will not be acceptable. March grass or prairie hay composed of native grass of species to be seeded will be acceptable. Tall wheat grass, intermediate wheat grass, switch grass, or orchard hay will be acceptable if cut prior to seed formation. March grass hay shall be composed of mid and tall native, usually tough and wiry grass and grass-like plant found in the lowland areas within the Rocky Mountain region. Hay shall be properly cured and harvested at least 60 days prior to use.

- B. Straw Mulch: Species of straw shall be barley straw mulch. Rotted or moldy straw will not be acceptable.

2.03 FERTILIZER

The fertilizer shall be 16-20-0 applied at 400 pounds per acre.

2.04 SEED

- A. Each bag of seed shall be sealed and labeled by the seed dealer in accordance with Federal Seed Laws and New Mexico Department of Agriculture labeling Laws. This includes: variety, kind of seed, lot number, purity, germination, percent crop, percent inert, percent weed (including noxious weeds), origin, test data and net weight. Federal Seed Laws require that analysis shall be no older than 5 months for seed shipped inter-state and no older than 9 months for seed shipped inter-state.

- B. The seed mix in pounds per acre shall be as follows:

2# pls	galleta plant
3# pls	side oats grama
4# pls	sand drop seed
5# pls	annual rye

2.05 SOD

Sod shall be freshly cut live bluegrass, buffalo grass, or blue gramma, or buffalo and blue gramma sod mixture.

2.06 GRAVEL

Gravel shall be uniformly graded 3/4" processed natural material consisting of hard, durable fragments of stone or gravel. Gravel used on slopes steeper than 5 horizontal to 1 vertical shall be crushed.

2.07 PALLIATIVE

- A. Dust control palliative shall be one of the following products or an equal product approved by the Engineer:

1. Witco Coherex: A resinous petroleum based emulsion. Coherex or equal shall not be harmful to plants.

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2. Southwest Emulsions PEP: A penetration emulsion prime coat based on minimum 38 percent AC-5 asphalt cement.
 3. Chevron USA PDOK: A prime dust oil emulsion based on minimum 50 percent AC-10 asphalt cement.
- B. The formulation, dilution and application rate shall be according to the Manufacturer's or Supplier's written recommendations for the particular soils encountered at the work site.
- C. Prior to submittal of the Soil Disturbance Permit Application to Sandia for approval, the dust palliative to be used shall be applied to a test strip at the work site to determine the suitability of the palliative as a dust control treatment. Suitability of the palliative shall be as inferred by Sandia's Authorized Representative.

PART 3 - EXECUTION

3.01 PERMIT

- A. The Contractor shall obtain and complete a Soil Disturbance Permit Application from the Environmental Health Department, Air Pollution Control Division. The dust control procedures outlined on the Permit Application shall be approved by Sandia's Authorized Representative prior to the submittal of the form to the Department. The Contractor's On-site Representative shall sign the Permit Application in the appropriate space.
- B. The Permit shall be granted by the Environmental Health Department prior to the start of the work.
- C. The Contractor shall implement the plan specified in the Permit to prevent the emission of particulate matter from the construction site.

3.02 DUST CONTROL

- A. The Contractor shall use a method approved by Sandia's Authorized Representative or one method or combination of methods listed below for dust control during the execution of the work:
1. Watering: Using a sprinkler system or water truck with spray boom, water down the disturbed area as required during each day. Water down the area at the end of each day to establish a stabilizing crust. Any stored excavated material shall be watered.
 2. Phasing: Disturb areas less than one acre at one time. Begin construction activities at the west side of the site and proceed toward the east to provide a "buffer area" where shifting soil may be arrested.
 3. Reschedule: Delay grading and other earthworking activities until the wind velocity is 10 mph or less.

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4. Vehicle Restriction: Use signing and other traffic control devices to control the speed and access of vehicles on the job site. Vehicles shall be limited to speeds of 10 mph or less. Use access controls to maintain the integrity of previously dust-stabilized areas. Any excavated material shall be kept out of active traffic lanes. Any material deposited in roadways by erosion shall be immediately removed. Earth-moving equipment hauling soil to or from the site shall have loads covered.
 5. Windbreaks: Use snow fences or similar windbreaks upwind, within, and downwind of disturbed areas. Fences shall be placed perpendicular to prevailing winds.
 6. Palliatives: Use a dust palliative to stabilize soils after earthwork operations are completed or in sandy soils where watering is ineffective. Palliative substances that are detrimental to vegetation shall not be used where future landscaping will include plants.
 7. Other Measures: The Contractor shall employ any and all measures necessary to comply with the limitations on particulate emissions required by AQCB Regulation No. 8, paragraph 8.03.2.
- B. When directed in the Contract Documents, the Contractor shall implement the specified measures to permanently stabilize the soil disturbed by grading, excavation or other construction operations. The methods used shall be one or more of the following or another method as designated in the Contract Documents.
1. Seeding: All soils disrupted by construction operations shall be reseeded. Seeding shall be performed in the following manner:
 - a. The criterion for selection of seeding dates will be current Major Land Resources Areas Map and current listing of dates by Resource Areas as published or recommended by the U.S. Department of Agriculture, Soil Conservation Service. Seeding dates shall be indicated on the Contractor's quotation. Seeding shall not be done when soil is too wet, too dry or otherwise untillable.
 - b. The seed bed shall be prepared to a minimum depth of 4 inches by tilling with a disc, harrow or chiseling tools. All competitive vegetation shall be uprooted during seed bed preparation and the soil shall be uniformly worked to a smooth firm surface free of clods, large stones or other foreign material that would interfere with seeding equipment. Tillage shall be performed across the slope when practical. No work shall be done when the moisture content of the soil is unfavorable or the ground is otherwise in a nontillable condition.
 - c. The extent of seed bed preparation shall not exceed the area on which the entire seeding operation can be applied to such prepared seed bed prior to any surfaces crusting or loss of seed and fertilizer due to erosion. If erosion or crusting occurs, the entire area affected shall be reworked beginning with seed bed preparation.
 - d. Fertilizer of the type and formulation and rate of application as indicated above shall be applied uniformly to prepared seed bed.

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- e. All seeded areas shall be mulched. The rate of application of hay mulch shall be a minimum of 2.5 tons per acre of air dry hay. Hay mulch shall have a minimum of 50 percent of fibers exceeding 10 inches in length on the ground after application. The rate of application of straw mulch shall be a minimum of 1.5 tons per acre of air dry straw. The mulch shall be spread uniformly over the area either by hand or with a mechanical mulch spreader. When spread by hand, the bales of mulch shall be torn apart and fluffed before spreading. Mulching will not be permitted when wind velocity exceeds 15 miles per hour.
- f. Mulch placed in the manner noted above shall be anchored into the soil. A heavy disc such as a mulch tiller with flat serrated discs at least 1/4 inch in thickness, having dull edges, spaced no more than 9 inches apart shall be used to anchor the mulch into the soil. The discs shall be of sufficient diameter to prevent the frame of the equipment from dragging the mulch. Mulch anchoring shall be to a minimum depth of 2 inches and shall not be covered with excessive amounts of soil. Anchoring operations shall be across the slope where practical with no more than two passes of the anchoring equipment.
- g. The seed mix and rate shall be as indicated above. The prescribed mix and rate shall be uniformly applied over the area to be seeded.
- h. Broadcast Seeding: Where it is not practical to accomplish the seeding by drilling, the seed shall be mechanically broadcast by use of a hydro mulch slurry blower. The direction of application shall be from toe of the slope, where practical, using the highest pressure and smallest nozzle opening which will accommodate the seed.

A slope harrow or hand raking operation shall follow to loosen the soil and cover the seed. This may be done with two or three passes of a chain harrow.

- i. Drill Seeding: All seeding operations, where practical, shall be accomplished by drilling and shall be across the slope. Seed shall be planted approximately 1/4 inch deep with a maximum depth of 1/2 inch unless otherwise specified on the plans. The distance between the drilled furrows shall not be more than 8 inches. If the furrow openers on the drill exceed 8 inches, the area shall be drilled twice. Seeding shall be done with grass seeding equipment in good working order with double disc openers, depth bands, drop tubes, packer wheels or drag chains, rate control attachments and seed boxes with agitators for trashy seed.
- j. Contractor's vehicles and other equipment shall not travel over the seeded areas. If rain or some other event occurs effecting prepared surfaces prior to seeding which prevents seeding to the proper depth, the Contractor shall again prepare the seed bed without additional compensation.
- k. Watering is a condition determined by the seeding season. If watering is required, seeded areas shall be watered in accordance with these specifications. The Contractor shall provide a temporary water delivery system which may be a sprinkler system, water truck with a spray boom, or any other method satisfactory to distribute a uniform coverage of clean

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water to previously seeded areas. If a temporary sprinkler system is used all pipe connections shall be kept tight to avoid leakage and loss of water and to preclude washing or erosion of growing areas. All sprinklers shall be maintained in proper working order during watering.

1. Trucks with spray systems shall not be driven on seeded areas, and the water force shall not be of such volume or pressure to cause movement of the mulch on the ground.
- m. The Contractor shall be responsible for protecting and caring for seeded areas until final acceptance of the work and shall repair at his expense any damage to seeded areas caused by pedestrian or vehicular traffic.
2. Gravel Cover: All soils disrupted by construction operations shall be covered with a 2 inch thick minimum layer of 3/4 inch gravel.

3.03 PROJECT DELAYS

The Contractor shall bear the costs of any project delays due to the revocation of the Top Soil Disturbance Permit by the Environmental Health Department.

END OF SECTION