SECTION 72

MULCHING

72.1 DESCRIPTION

A. General: This work consists of placing a mulch cover on slopes or other designated areas following seeding and fertilizing operations.

B. Related Work:

Section 18	Erosion, Sediment, and Water Pollution Control
Section 70	Seeding
Section 71	Fertilizing
Section 203	Submittals

72.2 MATERIALS

A. Grass Hay or Straw Mulch: Shall be free of noxious weed seeds and objectionable foreign matter. The mulch shall have been baled dry, in bales of approximately equal weight and shall be relatively dry when applied. Materials with noxious weed contamination or materials with characteristics unsuitable for the purpose intended will be rejected and the Contractor shall remove the contaminated material from the project.

Bromegrass is not an acceptable mulch.

B. Fiber Mulch: Shall contain no germination or growth inhibiting factors and shall have the property of becoming evenly dispersed and suspended when agitated in water. Fiber mulch that is blended with recycled paper is not allowed. When sprayed uniformly with hydraulic seeding equipment on the surface of the soil, the fibers shall form a blotter like ground cover, which will readily absorb water and allow infiltration to the underlying soil without restricting emergence of seedlings. Weight specification from suppliers, and for all applications, shall refer only to air dry weight of the fiber, considered to be 10% moisture.

The fiber mulch material shall be supplied in packages marked by the manufacturer to show the air dry weight content. Suppliers shall certify that laboratory and field testing of their product has been accomplished, and that it meets all of the foregoing requirements.

C. Bonded Fiber Matrix: Shall consist of a continuous layer of elongated fiber strands held together by a water resistant bonding agent. The bonded fiber matrix shall be uniformly applied and shall have no gaps between the product and the seeded soil. The product shall be 100% biodegradable and composed of 90% wood fiber, 9% natural binder, and 1% organic and mineral activators (all by weight). The treatment

shall be installed with hydraulic seeding equipment.

D. Fiber Reinforced Matrix: Shall consist of thermally processed fiber, crimped interlocking fibers, cross-linked hydrocolloidal polymer tackifiers, and activators. Fiber reinforced matrix shall form an intimate bond with the soil surface. The fiber reinforced matrix shall form a continuous, flexible, and lofty interlocking matrix that creates air spaces and water absorbing cavities to improve seed germination, reduce the impact of raindrop energy, and minimize soil loss. The treatment shall be installed with hydraulic seeding equipment.

72.3 CONSTRUCTION REQUIREMENTS

A. General: Reapplication in areas damaged from causes beyond the control of the Contractor will be measured and added to the original quantities used.

B. Grass Hay or Straw Mulch:

1. Placing: The mulch shall be placed within 48 hours after the seeding has been completed. Mulching operations shall not be performed during periods of high winds, which preclude the proper placing of the mulch. The placing of mulch shall begin on the windward side of the areas to be covered.

The mulch shall be machine blown to uniformly distribute mulch over the seeded areas. The machine shall blow or eject mulch, by a constant air stream, that controls the amount of mulch. The machine shall cause a minimum of cutting or breakage of the mulch.

Mulch containing excessive moisture, which prevents uniform feeding through the machine, shall not be used.

Mulch shall be placed uniformly over the seeded areas at a rate of 2 tons per acre. Approximately 10% of the soil surface shall be visible through the mulch blanket prior to mulch tiller (punching) operation.

Excessive cover, which will smother seedlings, shall be avoided. The Engineer may order the placement of mulch on any area where protection is necessary to forestall erosion or encourage turf establishment.

2. Punching: Immediately following application, the mulch, shall be punched into the soil by a mulch tiller consisting of a series of dull, flat disks with notched or cutout edges. The disks shall be approximately 20 inches in diameter, 1/4 inch thick, spaced approximately 8 inches apart and fitted with scrapers.

Working width of the tiller shall not exceed 6 feet per member, but may be operated in gangs of not over three members. The tiller shall be operated on contour, except those on slopes 3:1 or steeper diagonal operation will be permitted.

Tiller members shall be ballasted; to push mulch into the soil approximately 3

inches with ends exposed above the soil surface. If punch depth cannot be achieved, the Engineer may require a tackifier or soil stabilizing product be applied.

The mulch tiller shall follow as closely as possible behind the mulcher. Mulch shall not be blown when wind velocity causes appreciable displacement before it can be anchored by the mulch tiller. More than one pass of the mulch tiller may be required to ensure adequate anchoring.

C. Fiber Mulch: Rate of application shall be 2,000 pounds per acre unless otherwise specified in the plans or by the Engineer. Excessive thickness of mulch, which will smother grass seedlings, shall be avoided.

Mulch shall be placed on a given area as soon as possible or within 48 hours after seeding as a separate operation. The Contractor shall allow the fiber mulch to cure a minimum of 18 hours prior to watering.

D. Bonded Fiber Matrix: Rate of application shall be 3,900 pounds per acre and the mix shall consist of 50 pounds bonded fiber matrix to 125 gallons water unless otherwise specified in the plans or by the Engineer. Bonded fiber matrix shall be placed on a given area as soon as possible, or within 48 hours after seeding as a separate operation.

E. Fiber Reinforced Matrix: Shall not be placed in channels. Fiber reinforced matrix shall be placed on a given area as soon as possible and within 48 hours after seeding as a separate operation. Fiber reinforced matrix is effective upon application therefore does not require a curing time.

F. Care during Construction: Traffic, either foot, equipment, or vehicle shall be avoided over the seeded and mulched areas.

Before acceptance of the project, any area on which the original mulch has been displaced shall be remulched.

72.4 METHOD OF MEASUREMENT

Material weight tickets shall be submitted to the Engineer no later than 48 hours after application.

A. Grass Hay or Straw Mulch: Will be measured to the nearest 0.1 ton of mulch applied.

B. Fiber Mulch: Shall be measured to the nearest whole pound or 0.1 ton, as specified in the plans, of mulch applied.

C. Bonded Fiber Matrix: Shall be measured to the nearest whole pound or 0.1 ton, as specified in the plans, of matrix applied.

D. Fiber Reinforced Matrix: Shall be measured to the nearest whole pound or 0.1 ton,

as specified in the plans, of matrix applied.

72.5 BASIS OF PAYMENT

A. Grass Hay or Straw Mulch: Will be paid for at the contract unit price per ton. Payment will be full compensation for furnishing, hauling, placing, punching, and for materials, equipment, labor, tools, and incidentals necessary.

B. Fiber Mulch: Will be paid for at the contract unit price per pound or ton, as specified in the plans. Payment will be full compensation for furnishing, hauling, and placing and for materials, equipment, labor, tools, and incidentals necessary.

C. Bonded Fiber Matrix: Will be paid for at the contract unit price per pound or ton, as specified in the plans. Payment will be full compensation for furnishing, hauling, and placing and for materials, equipment, labor, tools, and incidentals necessary.

D. Fiber Reinforced Matrix: Will be paid for at the contract unit price per pound or ton as specified in the plans. Payment will be full compensation for furnishing, hauling, and placing and for materials, equipment, labor, tools, and incidentals necessary.

END OF SECTION