Sample Project Special Provision: 420mfd

Feb-03-11

1

REVISION OF SECTION 420

MEDIA FILTER DRAIN (MFD)

Section 420 of the Standard Specifications is hereby revised for this project to include the following:

Subsection 420.01 shall include the following:

This work consists of the construction of Media Filter Drain (MFD) at locations as shown on the plans.

Subsection 420.02 shall include the following:

1. *Media Filter Drain (MFD) mix*. MFD mix shall be comprised of aggregate, horticultural grade perlite, agricultural grade dolomite, and noncalcined agricultural grade gypsum. MFD mix shall be premixed prior to placement and shall meet the following proportions per cubic yard:

|  |  |
| --- | --- |
| **Material** | **Quantity** |
| Aggregate | 0.75 cubic yards |
| Perlite | 0.25 cubic yards  |
| Dolomite | 2.5 pounds  |
| Gypsum | 0.375 pounds  |

The soil amendments and aggregate shall meet the following requirements prior to mixing:

1. Aggregate*.* Aggregate for MFD Mix shall be manufactured from ledge rock, talus, or gravel and shall meet the following test requirements for quality. The use of recycled material is not permitted.

Los Angeles Wear, 500 Revolutions 35% max.

Degradation Factor 30 min.

Aggregate shall meet the following requirement for grading and quality:

|  |  |
| --- | --- |
| **Sieve Size** | **Percent Passing (by weight)** |
| 12.5 mm (1/2”) | 100 |
|  9.5 mm ( 3/8") | 90-100 |
| 4.75 mm (No. 4) | 30-56 |
| 2.36 mm (No. 8) | 0-10 |
|  75 µm (No. 200) | 0-1.5 |
| % fracture, by weight, min. | 75 |

The fracture requirement shall be at least two fractured faces and will apply to material retained on the 4.75 mm (No. 4) sieve.

Aggregate shall be free from adherent coatings. The presence of a thin, firmly adhering film of weathered rock shall not be considered as coating unless it exists on more than 50 percent of the surface area of any size between successive laboratory sieves.

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REVISION OF SECTION 420

MEDIA FILTER DRAIN (MFD)

1. Horticultural Grade Perlite:

|  |  |
| --- | --- |
| Sieve Size | Percent Passing |
| 1.18 mm (No. 16) | 0 – 30% |
| 600 µm (No. 30) | 0 – 10% |

1. Agricultural Grade Dolomite (calcium magnesium carbonate):

|  |  |
| --- | --- |
| Sieve Size | Percent Passing |
| 1.18 mm (No. 16) | 100% |

1. Noncalcined Agricultural Grade Gypsum (hydrated calcium sulfate):

|  |  |
| --- | --- |
| Sieve Size | Percent Passing |
| 2.36 mm (No. 8) | 100% |
| 1.18 mm (No. 16) | 0% |

The acceptance of the aggregate shall be based on a satisfactory test report for every 1000 tons. Testing of aggregate shall occur prior to mixing with the soil amendments. Horticultural grade perlite, agricultural grade dolomite and noncalcined agricultural grade gypsum will be accepted by catalog cut or bag label.

The finished product shall be clean, uniformly mixed, and free from wood, bark, roots, and other deleterious materials.

1. *Geotextile***.** Geotextile material shall be Class 3 conforming to subsection 712.08
2. *Perforated Pipe Underdrain***.** Pipe shall be 8-inch diameter, perforated pipe underdrain conforming to subsection 712.11.
3. *Filter**Material***.** Filter material shall be Class A conforming to subsection 703.09.
4. *Delineators.* Delineators shall be non-reflective, and shall be placed in 100 foot increments along the MFD, parallel to the roadway surface as shown in the Plans.

Subsection 420.03 shall include the following:

The Contractor shall construct the MFD in accordance with the details in the Plans.

The Contractor shall install the MFD such that the different sections of the media filter drain are not contaminated by other materials during installation. MFD mix shall be loosely placed, and shall not be compacted.

MFD shall be installed after completion of construction of the roadway and shall not be used as a temporary BMP during construction. Construction vehicles shall not be permitted to traverse over the MFD.

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REVISION OF SECTION 420

MEDIA FILTER DRAIN (MFD)

**METHOD OF MEASUREMENT**

Subsection 420.09 shall include the following:

Media Filter Drain will be measured as the actual number of cubic yards of MFD installed and accepted.

**BASIS OF PAYMENT**

Subsection 420.10 shall include the following:

**Pay Item Pay Unit**

Media Filter Drain (Type \_\_) Cubic Yards

Excavation, embankment, MFD mix, perforated pipe underdrain, geotextile, and filter material will not be measured and paid for separately, but shall be included in the work.

Delineators will not be measured and paid for separately, but shall be included in the work.