

ITEM 156.03

WASHED NO. 3 STONE

CUBIC YARD

GENERAL

The work under this item shall consist of furnishing, placing, and compacting Washed No. 3 Stone at locations specified on the Plans and as required by the Engineer.

Submittals

Submit a list of materials proposed to be provided for work under this Section including the name and address of the materials producer and the location from which the materials are to be obtained.

Submit certificates, signed by the materials producer, stating that materials meet or exceed the specified requirements.

Quality Assurance

Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work in this Section.

Codes and Standards - All materials, methods of construction and workmanship shall conform to applicable requirements of MassDOT Standard Specifications for Highways and Bridges and AASHTO Standards, unless otherwise specified.

References

Annual Book of ASTM Standards, latest edition; American Society for Testing and Materials, Philadelphia PA.

Massachusetts Department of Transportation Standard Specifications for Highways and Bridges (current edition and supplements).

Standards of the American Association of State Highway and Transportation Officials (AASHTO), latest edition.

MATERIALS

Aggregates shall be clean and thoroughly washed and shall meet the following:

Maximum Wash Loss of 0.5% (ASTM C117)

Minimum Durability Index of 35 (ASTM D3744)

L.A. abrasion loss, 30% maximum. (ASTM C131 and C535)

Aggregate shall be 100% crushed material.

Fractured Faces, 1 side 95% minimum, 2 sides 90% minimum (ASTM D5821).

Unless otherwise approved by the Engineer, crushed stone shall conform to ASTM C33 and the gradation requirements of ASTM D448 No. 3\*.

U.S. Standard Sieve Size	Percent Passing
2 1/2"	100
2"	90-100
1 1/2"	35-70
1"	0-15
1/2"	0-5

\* If the gradation (ASTM size No. 3) specified is not readily available, alternative gradations are acceptable if they meet the requirements set forth above, provide a minimum voids content of 40 percent by volume (tested according to ASTM C29 or equivalent), and provide a stable platform for paving.

## CONSTRUCTION METHODS

### General

The Engineer shall be notified at least 24 hours prior to all work. Percolation of the subgrade shall be confirmed according to Item 191.62 Percolation Testing, and the Contractor shall report findings to the Engineer.

### Excavation Below Grade

Subgrade shall be unfrozen, firm, and stable with no standing water, mud, or muck. Temporary dewatering and drainage systems (if necessary) shall be in place and operational prior to beginning excavation.

If the Contractor fails to maintain the subgrade properly, the Contractor shall remove the unsuitable material at no additional cost to the City. If the bottom of any excavation is taken out below the limits shown on the Plans, it shall be restored at the Contractor's expense with six-inch (6") layers of ASTM #3 aggregate to the elevations shown in the Plans. Compacted earthen fill is not acceptable.

If in the opinion of the City and/or the Engineer, the undisturbed natural subgrade, at or below the normal grade of the excavation as indicated on the Plans, is unsuitable for construction, it shall be removed to such depth and width and be replaced with suitable material as required by the City and/or the Engineer. These activities, once authorized, shall be paid for at the prices bid for excavation and/or aggregate backfill.

Excavation shall be accomplished by methods which preserve the undisturbed state of subgrade soils. The existing subgrade shall not be compacted or subject to excessive construction equipment prior to placement of geotextile and stone. If it is essential that equipment be used in the excavated area of infiltration facilities, all equipment must be approved by the City and/or the Engineer. Use of equipment with narrow tracks or tires, rubber tires with large lugs, or high-pressure tires that will cause excessive compaction shall not be permitted within the excavation.

### Subgrade Preparation and Grading

Subgrade shall be level: Plus or minus one-half inch (+/- 1/2") is acceptable as level.

Grading shall be performed to the lines and grades shown on the Plans. All objectionable material encountered within the limits indicated shall be removed and disposed of by the Contractor.

In excavation faces, all loose or protruding rocks shall be barred loose or otherwise removed to line or finished grade of slope. All cut and fill slopes shall be uniformly dressed to the slope, cross-section, and alignment shown on the Plans or as directed by the City and/or the Engineer.

### Installation of Stone

Non-woven geotextile shall be placed on the bottom and sides of the trench immediately after approval of subgrade preparation as indicated on the Plans. Subgrades shall not be subject to compaction during excavation or during installation of geotextile and stone. Subgrades shall be scarified to a minimum depth of 6 inches (or as directed by the Engineer) along the bottoms of infiltration systems prior to geotextile and stone placement. Any accumulation of debris or sediment which has taken place after approval of subgrade shall be removed prior to installation of non-woven geotextile at no extra cost to the City.

Geotextile shall be placed in accordance with the special provisions for non-woven geotextile fabric. Secure non-woven geotextile and take steps necessary to prevent any runoff or sediment from entering the trench.

Install stone in six inch (6") maximum lifts. Lightly compact each layer with equipment, keeping equipment movement on bed subgrades to a minimum. Install stone to grades indicated on the Plans.

### METHOD OF MEASUREMENT

Washed No. 3 Stone will be measured for payment by the cubic yard, complete in place.

### BASIS OF PAYMENT

Washed No. 3 Stone will be paid for at the at the Contract unit price per cubic yard, which price shall include all labor, materials, equipment, and incidental costs required to complete the work. No separate payment will be made for excavation support, grading, re-use of any existing excavated material, and furnishing, backfilling and compacting stone.

No payment shall be made for the stone used for excavations beyond the limits as shown on the Plans.

Excavation will be paid for separately under Item 120.1, Unclassified Excavation.

Non-Woven Geotextile will be paid for separately under Item 698.3, Non-Woven Geotextile Fabric.

Percolation Testing will be paid for separately under 191.62, Percolation Testing.