

SECTION 02606

MINERAL AGGREGATE BASE

PART 1: GENERAL

1.01 DESCRIPTION

- A. This item shall consist of furnishing and installing base course composed of approved crushed stone together with water. The base shall be mixed and constructed in accordance with these Specifications and in conformity with the lines, grades, and typical cross-sections shown on the Drawings or as directed by the Engineer.

PART 2: MATERIALS

2.01 MINERAL AGGREGATE

- A. Mineral aggregate shall be crushed stone, Class A aggregate as specified in Subsection 903.05 of the Tennessee Department of Transportation, Standard Specifications for Road and Bridge Construction, and shall meet the following gradation:

| <u>Sieve Size</u> | <u>Total Percent Passing By Weight</u> |
|-------------------|--|
| 1-1/2 inch | 100 |
| 1 inch | 85-100 |
| 3/4 inch | 60- 95 |
| 3/8 inch | 50- 80 |
| No. 4 | 40- 65 |
| No. 16 | 20- 40 |
| No. 100 | 9- 18 |

PART 3: EXECUTION

3.01 EQUIPMENT

- A. All equipment necessary or required in connection with this type of construction must be on hand, proven to be first-class working condition, and approved by the Engineer before this construction will be permitted to begin.
- B. Vibrating, tamping, or other type rollers which will produce the specified density and desired results as to finished surface may be used.

3.02 MIXING AND DISTRIBUTION OF MINERAL AGGREGATE

- A. The aggregate and water shall be plant mixed in a stationary machine approved by the Engineer and equipped to apply the water uniformly at the rates and in the quantities specified by the Engineer. The machine shall be capable of producing a thorough and intimate mixture of aggregate and water at a single passage through the machine.
- B. The materials shall be delivered to the road after mixing and shall be spread by mechanical spreaders to the required uniform depth. Compaction shall follow promptly after spreading.
- C. In mixing, handling, and placing the base material, care shall be taken to prevent segregation. The base course material shall be placed on the subgrade in one or more layers, none of which shall measure more than 6 inches compacted depth and each course shall be shaped and immediately compacted by rolling with pneumatic tired rollers or other rollers satisfactory to the Engineer before the succeeding course is placed. Rolling shall extend over the edges of each layer of base material for a distance of 3 feet on the shoulders. When completed, the base course shall be smooth, hard, dense, unyielding and well bonded.
- D. When the material is spread and compacted for the full width of the base section to be completed, the surface of the base, when the initial compaction has been completed, shall be bladed with a motor grader to secure a uniform cross-section. During the blading operation, the surface shall be checked as necessary with a template to assure that the desired cross-section is secured. The loose mulch produced by the blading operation shall be brought to a moisture content which will insure proper compaction and adhesion. The resulting surface shall then be rolled with a pneumatic tired roller until all loose material has been thoroughly compacted and the surface brought to a smooth condition. The rolling shall be supplemented with one or more light blading with a motor grader. The surface blading and rolling shall follow the initial compaction immediately, and shall be completed with minimum delay.
- E. Additional wetting and rolling of each section of base completed in one working day may be required prior to the application of the prime coat.
- F. Compaction of each layer shall continue until a density of not less than 83 percent of the solid volume has been achieved. The density determination will be based on the bulk specific gravity, AASHTO Designations T 84 and T 85, and the dry weight of the aggregate. The compaction of each layer shall be approved before material for the next successive layer is placed. Placing and compacting areas shall be kept separate. The surface of each layer shall be maintained during the compaction

operations in such a manner that a uniform texture is produced and the aggregates firmly keyed. Additional water, when required, shall be uniformly applied over the base materials during compaction in the amount necessary for proper consolidation. Softening of the underlying subgrade resulting from use of excess water is especially to be avoided.

- G. Shoulder material shall be placed for a width of at least 3 feet prior to the spreading of each layer of base material in order to confine the base material to the proper width and permit compaction of the edges of the base. Care shall be exercised to avoid cutting or disturbing the subgrade or any of the compacted layers during machining or manipulation. The base course, when thoroughly compacted and completed, shall conform to the typical cross-section or as specified by the Engineer. Where subgrade conditions warrant thicker sections, in the opinion of the Engineer, additional material will be required to secure the depth of base designated.
- H. Traffic, including construction equipment, shall be distributed over the entire base course in a manner to produce uniform and thorough compaction of the base material.

3.03 MAINTENANCE AND PROTECTION

- A. After the roadway has been satisfactorily completed, it shall be maintained, under travel, smooth and uniform until the base has been completed and accepted.
- B. The maximum speed of trucks when hauling or traveling over any part of the Project under construction shall be 20 miles per hour.

PART 4: MEASUREMENT AND PAYMENT

- A. No separate measurement and payment will be made for back fill or bedding as it is considered to be subsidiary obligation of the Contractor under other bid items to which it relates.
- B. Separate measurement and payment will be made as a unit price per ton for the mineral aggregate base that shall be placed on the access road to the tank and around the perimeter of the tank. A six inch compacted base shall be applied to the access road as instructed by the Engineer.
- C. A separate measurement and payment will be made as a unit price per ton for the mineral aggregate base that shall be placed on the pulloff or access to the pump station, and to the pump station site. Any mineral aggregate used in the above locations shall be applied as instructed by the Engineer.

END OF SECTION