

## **GRADED AGGREGATE BASE.**

**(REV 8-8-07) (1-08)**

SECTION 204 (Pages 206-208) is deleted and the following substituted:

### **SECTION 204 GRADED AGGREGATE BASE**

#### **204-1 Description.**

Construct a base course composed of graded aggregate.

#### **204-2 Materials.**

Use graded aggregate material, produced from Department approved sources, which yields a satisfactory mixture meeting the requirements of these Specifications after it has been crushed and processed as a part of the mining or reclamation operations.

**204-2.1: Mined Materials:** Use material of uniform quality throughout that does not contain vegetable matter, shale, or lumps of clay balls in sufficient quantity as to be detrimental to the proper bonding, finishing, or strength of the base. Material shall have a Limerock Bearing Ratio value of not less than 100. Use material retained on the No. 10 sieve composed of aggregate meeting the following requirements:

Soundness Loss, Sodium, Sulfate: AASHTO T 104 ..... 15%

Percent Wear: AASHTO T 96 (Grading A)

Group 1 Aggregates ..... 45%

Group 2 Aggregates ..... 65%

Group 1: This group of aggregates is composed of limestone, marble, or dolomite.

Group 2: This group of aggregates is composed of granite, gneiss, or quartzite.

**204-2.1.1 Gradation:** Meet the following gradation requirements:

| Sieve Size | Percent by Weight Passing |
|------------|---------------------------|
| 2 inch     | 100                       |
| 1 1/2 inch | 95 to 100                 |
| 3/4 inch   | 65 to 90                  |
| 3/8 inch   | 45 to 75                  |
| No. 4      | 35 to 60                  |
| No. 10     | 25 to 45                  |
| No. 50     | 5 to 25                   |
| No. 200    | 0 to 10                   |

**204-2.1.2 Liquid Limits and Plasticity Requirements:** For Group 1 aggregates, ensure that the fraction passing the No. 40 sieve has a Plasticity Index (AASHTO T 90) of not more than 4.0 and a Liquid Limit (AASHTO T 89) of not more than 25, and contains not more than 67% of its weight passing the No. 200 sieve.

For Group 2 aggregates, ensure that the material passing the No. 10 sieve has a sand equivalent (AASHTO T 176) value of not less than 28.

The Contractor may use graded aggregate of either Group 1 or Group 2, but only use one group on any Contract. (Graded aggregate may be referred to hereinafter as “aggregate”.)

**204-2.2 Reclaimed Concrete Aggregate Base Materials:** Use reclaimed concrete aggregate base that meets the requirements of this Section after crushing and processing, that was produced from a source approved by the Department under Rule 14-103, Florida Administrative Code. The reclaimed concrete aggregate base supplier shall have Department of Environmental Protection (DEP) permit requirements section 62-701.730 or be qualified as a clean debris source under DEP rules. The reclaimed concrete aggregate base shall consist of crushed concrete material derived from the crushing of hard Portland cement concrete.

**204-2.2.1 Gradation:** Meet the following gradation requirements:

| Sieve Size | Percent by Weight Passing |
|------------|---------------------------|
| 2 inch     | 100                       |
| 3/4 inch   | 65 to 95                  |
| 3/8 inch   | 40 to 85                  |
| No. 4      | 25 to 65                  |
| No. 10     | 20 to 50                  |
| No. 50     | 5 to 25                   |
| No. 200    | 0 to 10                   |

**204-2.2.2 Plasticity:** Reclaimed concrete aggregate base shall not contain plastic soils such that the minus 0.425 mm (No. 40) sieve material shall be non-plastic.

**204-2.2.3 Limerock Bearing Ratio:** Reclaimed concrete aggregate base shall have a minimum limerock bearing ratio (LBR) of 120.

**204-2.2.4 Deleterious Substances:** Reclaimed concrete aggregate base shall be free of all materials that fall under the category of solid waste or hazardous materials as defined by the state or local jurisdiction. Reclaimed concrete aggregate base shall meet all Department of Environmental Protection permit requirements which pertain to construction, demolition and recycling of these materials. Reclaimed concrete aggregate base shall be substantially free from other deleterious materials which are not classified as solid waste or hazardous materials. Reclaimed concrete aggregate base shall be asbestos free. The following limits shall not be exceeded:

Bituminous Concrete .....1% by weight  
 Bricks .....1% by weight  
 Wood and other organic substances.....0.1% by weight  
 Heavy Metals (except Lead) .....0.1% by weight  
 Lead.....5 parts per million  
 Reinforcing Steel and Welded Wire Fabric .....0.1% by weight  
 Plaster and gypsum board .....0.1% by weight

### **204-3 Equipment.**

Provide equipment meeting the requirements of 200-3.

**204-4 Transporting Aggregate.**

Transport aggregate as specified in 200-4.

**204-5 Spreading Aggregate.**

Spread aggregate as specified in 200-5.

**204-6 Compacting and Finishing Base.**

**204-6.1 General:** Meet the requirements of 200-7.1 with density requirements of 204-6.3.

**204-6.1.1 Single-Course Base:** Construct as specified in 200-6.1.1.

**204-6.1.2 Multiple-Course Base:** Construct as specified in 200-6.1.2.

**204-6.2 Moisture Content:** Meet the requirements of 200-6.2.

**204-6.3 Density Requirements:** Meet the requirements of 200-7.1, except after attaining the proper moisture conditions, uniformly compact the material to a density of not less than 100% of the maximum density as determined by FM 1-T 180. Ensure that the minimum density that will be acceptable at any location outside the traveled roadway (such as intersections, crossovers, turnouts, etc.) is 98% of the maximum density.

**204-6.4 Correction of Defects:** Meet the requirements of 200-6.4.

**204-6.5 Dust Abatement:** Minimize the dispersion of dust from the base material during construction and maintenance operations by applying water or other dust control materials.

**204-7 Testing Surface.**

Test the surface in accordance with the requirements of 200-6.

**204-8 Priming and Maintaining.**

Meet the requirements of 200-8.

**204-9 Thickness Requirements.**

Meet the requirements of 200-6.3.

**204-10 Calculations for Average Thickness of Base.**

Calculations for determining the average thickness of base will be made in accordance with 285-7.

**204-11 Method of Measurement.**

**204-11.1 General:** The quantity to be paid for will be the area, in square yards, completed and accepted.

**204-11.2 Authorized Normal Thickness Base:** The surface area of authorized normal thickness base will be calculated as specified in 9-1.3, omitting any areas not allowed for payment under the provisions of 204-9 and omitting areas which are to be included for payment under 204-11.3. The area for payment, of authorized normal thickness base, will be the surface area determined as provided above, adjusted by adding or deducting, as appropriate, the area of base represented by the difference between the calculated average thickness, determined as provided in 204-10, and the specified normal thickness, converted to equivalent square yards of normal thickness base.

**204-11.3 Authorized Variable Thickness Base:** As specified in 200-10.3.

**204-12 Basis of Payment.**

Price and payment will be full compensation for all work specified in this Section, including dust abatement, correcting all defective surface and deficient thickness, removing cracks and checks and the additional aggregate required for such crack elimination.

Payment will be made under:

Item No. 285- 7- Optional Base - per square yard.