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SECTION 300 AGGREGATE BASE COURSE

301 DESCRIPTION

The work to be performed under this section shall consist of furnishing, placing and compacting one or more courses of base or sub-base material to provide a firm foundation for subsequent construction.

302 MATERIAL

The aggregate for the base or sub-base course material shall be composed of crushed stone, crushed slag, crushed gravel, or natural gravel which conforms to the quality requirements of AASHTO M-147 (latest revision). This material shall also conform to the following gradation requirements:

% BY WEIGHT PASSING			
Sieve Size	Sub-base	Base Course	
	Class 2	Class 5	Class 6
4"	100	--	--
3"	95 - 100	--	--
1-1/2"	--	100	--
1"	--	95 - 100	--
3/4"	--	--	100
No. 4	--	30 - 70	30 - 65
No. 8	--	--	25 - 55
*No.200	3-15	3-15	3-12
Liquid Limit AASHTO T-89	35 MAX	30 MAX	30 MAX
Plasticity Index AASHTO T-90	6 MAX	6 MAX	6 MAX
* AASHTO T-11			

The aggregate shall have a Los Angeles Abrasion Test (AASHTO T-96) percentage of wear not exceeding 45% (excluding Class 2). Class 2 material shall have a minimum "R" value of (69), or a minimum CBR of (40), when tested in accordance with AASHTO T-190 or T-193, respectively. Class 5 and 6 material shall have a minimum "R" value of (77), or a minimum CBR of (60).

303 CONSTRUCTION METHODS

303.01 Hauling and Placing

Care shall be exercised in the hauling and placing of base/sub-base course materials so as to avoid segregation of the coarse and fine materials. The base/sub-base course material shall be placed on the previously prepared subgrade in lifts of sufficient quantity to conform to the thickness specified on the approved plan and profile. If the required compacted depth of the base/sub-base course material exceeds eight (8) inches, it shall be constructed in two (2) or more layers of approximately equal thickness. The maximum compacted thickness of any one layer shall not exceed eight (8) inches.

For composite asphalt concrete pavement sections, the minimum base course thickness on streets and alleys shall be six (6) inches. Four (4) inches of base course may be specified, but only when overlaid by a minimum of three (3) inches of asphalt concrete. The required thickness of the base course may be reduced by increasing the amount of asphalt concrete pavement thickness at a rate of three and one-half (3-1/2) inches of aggregate base course equals one (1) inch of asphalt concrete pavement. Class 5 and 6 material shall be classified as base course. Class 2 material shall be classified as sub-base course and used only when the base course requirement is greater than six (6) inches.

All base and sub-base course material shall be mechanically compacted to a minimum of 95% of its maximum Modified Proctor dry density (AASHTO T-180, ASTM D-1557), or 100% of its maximum Standard Proctor dry density (AASHTO T-99, ASTM D-698). Water shall be uniformly applied during placement, in an amount necessary to achieve proper compaction.

303.02 Surface and Thickness Tolerances

The surface of the prepared base course material shall be free from depressions exceeding one-quarter (1/4) inch in ten (10) feet when measured with a straight edge. The surface shall be smooth and true to the established crown and grade. Any areas not complying with these tolerances shall be reworked. Blue top staking shall be required for all crowns as designated by the Engineer. The required compacted thickness shall be as specified on the construction drawings.

304 QUALITY CONTROL

304.01 Plant Site Testing

All samples and tests described herein shall be made in accordance with approved ASTM/AASHTO procedures. The owner/developer shall provide for all testing laboratory services in connection with tests verifying conformance of proposed materials with project requirements. The owner/developer shall also provide for testing laboratory services in connection with tests on materials after incorporation into the project, on a first time basis only. The costs of any retesting, as required, shall be borne by the Contractor. Prior to installation of base or sub-base course materials, the Contractor shall provide the Engineer with a copy of the R-value test results, gradation analysis, Atterberg Limits (LL/PI), and moisture/density curve for the proposed base or sub-base course materials. Laboratory testing should be completed on samples taken from the plant site or proposed borrow. Testing should be completed on a monthly basis during the construction season. If, in the opinion of the Engineer, the material being used on the jobsite is not at any time in conformance with approved laboratory mix designs or test reports, conformance tests shall be run. If this material does not meet the specifications, the Contractor shall pay for such testing and remedy the problem at his expense.

304.02 Minimum Project Testing

During placement of aggregate base and/or sub-base, testing shall be completed on a regular basis to verify specification compliance. Required laboratory testing shall be completed on samples secured from the jobsite.

1. Gradation Analysis 1/4000 Tons or 1 /project site
2. Atterberg Limits (LL/PI)..... 1/4000 Tons or 1 /project site
3. Moisture/Density Curve 1 /source per month
4. In-place density tests.....1/2000 Tons or 1/500 L.F. of paving (AASHTO T-191, 205, 238) Includes thickness measurement

305 MEASUREMENT AND PAYMENT

Base/sub-base course material placed that is accepted by the Engineer will be measured by the square yard, and paid by the square yard for the thickness required by the approved plan and profile and/or as set forth in the Bid Proposal. This payment shall be full compensation for all materials, tools, equipment, and labor necessary to complete the work under this section in accordance with the plans and specifications.