SECTION 306

BITUMINOUS STABILIZED BASE AND SURFACING

306.1 GENERAL

Bituminous stabilized base and surfacing shall consist of a mixture of aggregate and emulsified or liquid asphalt.

306.2 REFERENCES

306.2.1 AASHTO:
T 116 T 176

306.2.2 This publication:
SECTION 115

306.3 AGGREGATES

306.3.1 The aggregates shall consist of soil or mineral aggregates or blends thereof, which, when stabilized with asphalt and allowed to cure, will meet the specified requirements for stability. A representative sample of minus No. 4 material taken from the proposed mixture of aggregates and soil material shall yield a sand equivalent of 40 or more when tested in accordance with AASHTO T 176. The CONTRACTOR shall notify the ENGINEER if he intends to import material in sufficient time to allow for the testing thereof to determine the suitability of the material and quantity of stabilizer required.

306.3.2 Gradation will be the same as specified for Classes I or II, Section 302.3.2.

306.4 ADVANCE TESTS

When mixing is to be done on the site, a representative sample of the aggregates shall be taken from each 10,000 square feet to be stabilized. When mixing is done in a central mixing plant, samples which are representative of the aggregates to be used shall be taken for tests. The stabilizer and aggregates for the work shall meet the requirements of the Supplementary Specifications. The quantity of stabilizer shall be as specified. In the case of emulsified asphalt, the ENGINEER will determine the quantity of water to be added.

306.5 MIXING

The aggregate and asphalt shall be thoroughly mixed in a central pugmill-type mixing plant (blade mixing shall not be used). The mixture shall be uniform and contain the percent, by weight or volume, of dry aggregate and asphalt as specified. If necessary, water shall be added to the aggregate in a quantity sufficient to completely disperse the emulsified asphalt and produce a plastic mixture free from balled fines or balled asphalt.

306.5.1 CENTRAL PLANT MIXING: Bituminous stabilized base shall be placed on prepared subgrade, subbase, or base course as provided. Base course aggregate and bituminous materials shall be processed in a stationary mixing plant conforming to the requirements of Section 115, Asphalt Concrete, except that base course aggregate may not be placed in one stockpile. The base course aggregate shall be separated into not less than two bins.

306.5.2 TRAVEL MIXING:

306.5.2.1 The travel mixing machine shall be of the pug type or auger type. The traveling mixer shall have provision for introducing the asphalt and water at the time of mixing through a metering device or other approved method. Both the asphalt and the water shall be applied by means of separate controls which will supply a uniform ratio of asphalt and/or water to the amount of aggregate passing through the mixer and produce a complete mixture with a uniform moisture content. Leakage of asphalt and/or water from equipment will not be permitted and care shall be exercised to avoid the addition of asphalt or water by spilling or any other means. Prior to mixing in the traveling mixer, the aggregate shall be placed in such a manner that all the material will be passed through the mixing machine in one mixing operation. If aggregate is brought to the site in separate sizes, each of the sizes in proper amount shall be deposited by means of approved spreading device equipped with a readily adjustable strike-off device.

306.5.2.2 The rate of movement of the mixing machine, the amount of material mixed, and the amount of mixing shall be so regulated that a mix satisfactory to the ENGINEER shall result. The material shall be mixed so that a uniform mixture of unchanging appearance is obtained and all particles of aggregate are coated with asphalt.

306.6 PLACING AND MIXTURE

The mixed base material shall be laid to the thickness shown on the plans in layers not to exceed 6 inches in compacted thickness. Laydown of the bituminous stabilized base shall be accomplished with the use of an approved laydown machine.

306.7 COMPACTING THE MIXTURE

Rolling of the mixture shall commence immediately after it has been placed on the subgrade.

Compaction shall be accomplished with the use of pneumatic rollers, steel wheel rollers, or vibratory rollers, as approved by the ENGINEER. After the specified compaction has been secured in the top layer with the pneumatic-tired rollers, the roadway shall be thoroughly rolled with self-propelled tandem rollers with smooth steel wheels. Rolling shall commence at the outer edge of the base course and progress toward the center. Each base course layer shall be rolled until it is compacted and true to grade and cross section. Areas inaccessible to the roller shall be compacted by power tamping until as well compacted as the rolled portion. The surface of each layer shall be clean prior to placing the succeeding layer of material.

306.8 DENSITY AND TOLERANCES

Rolling shall be continued until at least 96 percent relative compaction is obtained as per AASHTO T 116. The thickness of stabilized base compacted in place may deviate not more than plus or minus 1/2 inch from that specified, provided such variations are compensating. The surface shall not show any deviations in excess of 3/8 inch when tested with a 10 foot straightedge applied parallel with the centerline of the roadway.

306.9 MEASUREMENT AND PAYMENT

306.9.1 Bituminous stabilized base will be measured horizontally by the square yard. Payment will be as specified in the Bid Proposal.

306.9.2 Asphalt binder material will be measured by the gallon or ton. Unit of payment will be as specified in the Bid Proposal.