CITY OF SAN ANGELO

ITEM 301

ASPHALT ANTISTRIPPING AGENTS

301.1 DESCRIPTION.

This Item shall govern for furnishing and incorporating lime or liquid antistripping agents in the production of asphaltic concrete pavement mixtures and/or asphalt stabilized base mixtures.

301.2 MATERIALS.

(1) Lime. The Lime shall meet the requirements of Item 264, “Lime and Lime Slurry”.

(2) Liquid Antistripping Agent. The antistripping agent shall be a uniform liquid with no evidence of crystallization, settling or separation of components. Prior to delivery, a sample of the antistripping agent proposed for use shall be furnished to the City. Information to be provided with the sample includes the material safety data sheet, the specific gravity of the agent at the manufacturer's recommended addition temperature, the manufacturer's recommended dosage range and handling and storage instructions. The liquid antistripping agent shall be delivered in properly labeled containers, unopened as shipped from the manufacturer, or in sealed tank trucks properly invoiced.

301.3 MIXTURE DESIGN EVALUATION.

Laboratory mixtures of the proposed asphaltic pavement or base will be evaluated during mixture designing.

Hot-placed mixtures, except for Item 342, "Plant Mix Seal" surfacing mixture, will be evaluated for moisture susceptibility as follows, unless otherwise shown on the Plans. Test Method Tex-531-C will be the evaluation procedure, and a minimum tensile strength ratio of 0.70 is required. Laboratory mixture meeting this requirement will be tested in accordance with Test Method Tex-530-C to establish the maximum stripping to be allowed during production verification testing.

Cold-placed mixtures and Item 342, "Plant Mix Seal”, surfacing mixture will be evaluated as follows, unless otherwise shown on the Plans. Test Method Tex-530-C will be the evaluation procedure, and a maximum stripping of ten (10) percent is allowed.

If the proposed mixture does not comply with the specified resistance to moisture damage, the Contractor shall make changes in the combination of materials or add an antistripping agent in order to provide a mixture that will comply with the specified resistance to moisture damage.

When lime is used as an antistripping agent, the selected amount shall be in the range of 0.5 to 2.0 percent by weight of the individual aggregate being treated.

When a liquid antistripping agent is used, the selected amount of agent shall be from 0.3 to 1.0 percent by weight of the asphalt in the mixture but shall not exceed the amount recommended by the manufacturer.

When shown on the Plans, a limited number of addition rates will be evaluated for a given antistripping agent.

301.4 CONSTRUCTION METHODS.

(1) General. The Contractor shall provide all the necessary equipment for mixing, handling, metering and dispensing the asphalt antistripping agent.

The produced asphaltic mixture will be evaluated to verify resistance to moisture damage in accordance with Test Method Tex-530-C, unless otherwise shown on the Plans. When Test Method Tex-531-C is the required evaluation procedure during mixture design, the produced mixture shall not strip more than the percentage established during mixture design correlation testing with Test Method Tex-530-C. When Test Method Tex-530-C is the required evaluation procedure during mixture design, a maximum stripping of ten (10) percent is allowed in the produced mixture, unless otherwise shown on the Plans. If testing indicates that the required level of resistance to moisture damage is not being achieved in the plant mixture, production shall cease until trial production indicates that the problem has been corrected.

(2) Lime. Lime shall be added in slurry or dry form. It shall be added between the plant cold feeds and the dryer during mixture production, unless otherwise shown on the Plans. Whether added in slurry or dry form, the method of application shall be such that the lime is thoroughly mixed with the aggregates being treated.

The lime shall be applied to the aggregate at the required rate by means of a metering device. The Contractor shall demonstrate that the metering equipment will properly deliver the required rate of lime. The City must approve the metering equipment and location of lime application.

When lime is added in dry form, Type A hydrated lime shall be used. It shall be mixed with wet aggregate in a suitable pugmill mixer. Additional water shall be introduced into the mixer. If necessary to insure that the aggregate contains at least two (2) percent by weight moisture above the saturated surface dry condition.

(3) Liquid Antistripping Agent. Handling of liquid antistripping agent shall at all times be in accordance with the manufacturer's recommendations. The agent shall not show evidence of any separation or non-uniformity at time of use. For agents which have a high viscosity at normal ambient temperatures, the Contractor shall warm the material by suitable means to the application temperature recommended by the additive manufacturer so that proper consistency for accurate metering is assured. The agent shall be added to the asphalt line at the required rate by means of an in-line-metering device just prior to introduction of the asphalt into the mixing plant. The Contractor shall demonstrate that the meter meets the requirements of TxDOT Item 520, "Weighing and Measuring Equipment". A blending device is required to disperse the additive in the asphaltic material. The City must approve the metering and blending equipment and location.

301.5 MEASUREMENT AND PAYMENT.

The work performed, materials furnished and all labor, tools, equipment and incidentals necessary to complete the work under this Item will not be measured or paid for directly, but will be considered subsidiary to the appropriate construction Item of the contract.