

CITY OF SAN ANGELO**ITEM 316****SURFACE TREATMENT****316.1 DESCRIPTION.**

This Item shall govern for the construction of a surface treatment composed of a single, double or triple application of asphaltic material, each covered with aggregate, constructed on existing pavements or on the prepared base course or surface in accordance with these specifications. Quantities for the different types of surfaces and materials will be shown on the Basis of Estimate in the Plans.

316.2 MATERIALS.

All materials shall be of the type and grade shown on the Plans and shall conform to the pertinent material requirements of the following Items:

Item 300, "Asphalts, Oils, and Emulsions"

Item 302, "Aggregate for Surface Treatments"

TxDOT Item 303, "Aggregate for Surface Treatments (Lightweight)"

316.3 EQUIPMENT.

(1) Distributor. The distributor shall be a self-propelled pressure type, equipped with an asphaltic material heater and a distributing pump capable of pumping the material at the specified rate through the distributor spray bar. The distributor spray bar shall be capable of fully circulating the asphaltic material. In order to prevent streaking or irregular distribution of asphaltic material, the distributor spray bar shall contain nipples and valves so constructed that the nipples will not become partially plugged with congealing asphaltic material. Distributor equipment shall include a tachometer, pressure gauges, volume measuring devices, and a thermometer for reading the temperature of tank contents.

The distributor tank when used for pay purposes, shall have been calibrated within three (3) years from the date it is first used on this project. The tank calibration procedure shall be in accordance with Test Method Tex-922-K, Part 1, and shall be signed and sealed by a registered professional engineer. Unless otherwise shown on the Plans, the Contractor shall provide the tank calibration record prior to beginning the work. The City may at any time verify calibration accuracy in accordance with Test Method Tex-922-K, Part II, and may perform the required re-calibration if the calibration is found to be in error.

When a uniform application of asphaltic material is not being achieved, the City may require that the spray bars on the distributor be controlled by an operator riding in such a position at the rear of the distributor that operation of all sprays is in full view.

(2) **Aggregate Spreader.** A self-propelled continuous-feed aggregate spreader shall be used which will uniformly spread aggregate at the rate specified by the City.

(3) **Rollers.** Rolling equipment shall meet the governing specifications for Item 210, "Rolling (Flat Wheel)" and Item 213, "Rolling (Pneumatic Tire)".

(4) **Broom.** The broom shall be a rotary, self-propelled power broom for cleaning existing surfaces.

(5) **Asphalt Storing and Handling Equipment.** All equipment used in storing or handling asphaltic material shall be kept clean and in good operating condition at all times and shall be operated in such a manner that there will be no contamination of the asphaltic material. The Contractor shall provide and maintain a recording thermometer to continuously indicate the temperature of the asphaltic material at the storage heating unit when storing of asphalt is permitted.

(6) Vehicles used for hauling aggregate shall be of uniform capacity unless otherwise authorized by the City.

316.4 CONSTRUCTION METHODS.

(1) **General.** Temporary stockpiling of aggregates on the right-of-way will be permitted, provided that the stockpiles are so placed as to allow for the safety of the traveling public and not obstruct traffic or sight distance, and do not interfere with access from abutting property, nor with roadway drainage.

The aggregate placement sites will be subject to the City. Location of stockpiles shall be either a minimum of 30 feet from the edge of the travel lanes or shall be signed and barricaded as shown on the Plans.

Surface treatments shall not be applied when the air temperature is below 60° F. and is falling, but may be applied when the air temperature is above 50° F. and is rising, the air temperature being taken in the shade and away from artificial heat. Surface treatments shall not be applied when the temperature of the surface on which the surface treatment is to be applied is below

60° F. When latex modified asphalt cement is specified, surface treatments shall not be applied when the air temperature is below 80° F. and is falling, but may be applied when air temperature is above 70 F. and is rising and shall not be applied when the temperature of the surface on which the surface treatment is to be applied is below 70° F. When cutback asphalt or asphaltic materials designed for cool weather placement are used, application may occur whenever the air and surface temperatures are acceptable to the City. Asphaltic material shall not be placed when general weather conditions, in the opinion of the City, are not suitable.

The area to be treated shall be cleaned of dirt, dust or other deleterious matter by sweeping or other approved methods. If it is found necessary by the City, the surface shall be lightly sprinkled with water just prior to the application of asphaltic material. The rates shown on the Plans for asphalt and aggregate are for estimating purposes only. The rates may be varied as directed by the City.

The City will select the temperature of application within the limits recommended in Item 300, "Asphalts, Oils and Emulsions". The Contractor shall apply the asphalt at a temperature within 15° F. of the temperature selected.

The width of each application of asphaltic material shall be such to allow uniform application and immediate covering with aggregate. The Contractor shall be responsible for uniform application of asphaltic material at the junction of distributor loads. Paper or other suitable material shall be used to prevent overlapping of transverse joints. Longitudinal joints shall match lane lines unless otherwise authorized by the City. Application of asphaltic material will be measured as necessary to determine the rate of application.

The Contractor shall clear the finished surface of any surplus aggregate by sweeping or other approved methods after all rolling is completed.

Prior to final acceptance of the project, aggregate stockpiles deemed undesirable by the City shall be removed by the Contractor. The temporary stockpile areas shall be left in a neat condition satisfactory to the City.

When plans include "Aggregate (Stockpiled)", aggregate of the type and grade specified shall be stockpiled within the limits of the project at sites designated by the City.

(2) One-Course Surface Treatments or First Course of a Multiple Surface Treatment. Asphaltic material shall be applied by an approved distributor so operated as to distribute the material under a pressure necessary for uniform distribution.

The Contractor shall protect the existing raised pavement markers by any means acceptable to the City for one-course surface treatments, unless otherwise shown on the Plans.

Aggregates shall be immediately and uniformly applied and spread by the specified aggregate spreader, unless otherwise authorized by the City.

After applying the aggregate, the entire surface shall then be broomed, bladed or raked as required by the City and shall be thoroughly rolled with the type or types of rollers specified herein or as shown on the Plans.

The Contractor shall be responsible for the maintenance of the surface treatment until the City accepts the work. All holes or failures in the surface shall be repaired by use of additional asphalt and aggregate. All fat or bleeding surfaces shall be covered with approved cover material in such a manner that the asphaltic material will not adhere to or be picked up by the wheels of vehicles.

(3) Two Course or Three Course Surface Treatments. It is the intent of this specification that the application of asphalt and aggregate for multiple courses be applied within the same day or immediately thereafter and prior to opening the roadway to traffic.

The asphaltic material for each course of the surface treatment shall be applied and covered with aggregate in the same manner specified for the first application. Each surface shall then be broomed, bladed or raked as required by the City and thoroughly rolled as specified for the first course. Asphaltic material and aggregate for each course shall be applied at the rates directed by the City.

The Contractor shall be responsible for the maintenance of each course until covered by the succeeding course or until the work is accepted by the City. All holes or failures in the surface shall be repaired by use of additional asphalt and aggregate. All fat or bleeding surface shall be covered with approved cover material in such a manner that the asphaltic material will not adhere to or be picked up by the wheels of vehicles.

316.5 MEASUREMENT.

(1) Asphalt Material. Asphaltic material will be measured as follows and as specified on the Plans.

(a) Volume. Asphaltic material will be measured at point of application on the road in gallons at the applied temperature. The quantity to be measured for payment shall be the number of gallons used, as directed, in the accepted surface treatment.

(2) Aggregates. Aggregate will be measured by the cubic yard in vehicles as applied on the road.

316.6 PAYMENT.

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit prices bid for "Asphalt" and "Aggregate", of the type and grade specified. These prices shall each be full compensation for cleaning and sprinkling the existing surface; for furnishing, preparing, hauling, and placing all materials; for protecting existing pavement markers; for rolling, removing excess aggregate, and cleaning up stockpiles; for all freight and heating involved; and for all manipulations, labor, tools, equipment, and incidentals necessary to complete the work.