SECTION 02513

ASPHALTIC CONCRETE PAVING

PART 1 GENERAL

1.01 WORK INCLUDED

A. Mixing, spreading, compacting and finishing of bituminous pavements for base, leveling and surface courses on roads, parking lots, and other areas.

1.02 RELATED WORK

A. Section 02110: Clearing and Grubbing

B. Section 02210: Grading and Excavation

C. Section 02516: Cement Base Course

D. Section 02577: Pavement Marking

PART 2 PRODUCTS

A. Mineral aggregate shall meet the general requirements of TDOT specifications for the type of mix selected.

B. Furnish test reports for aggregate and bituminous materials to be approved for quality by the Engineer prior to incorporation into the mix.

C. The Engineer may require samples of aggregate, bituminous material, or the plant mixed material for testing by an independent laboratory.

D. All methods of sampling and testing will be in accordance with current AASHTO methods for use on highway materials.

E. Submit a job-mix formula for approval by the Engineer, for each mix to be used on the project.

F. The job-mix formula, shall be within the range established by TDOT for each type mix.

G. Submit a new job-mix formula if a change in materials is made or if an unsatisfactory mixture results.

H. Bituminous mixing plants, either batch or continuous, sufficiently equipped and coordinated to provide paving mixes in an amount necessary for orderly prosecution of the work and to:

1. Produce a uniform mixture having complete and uniform coating of all aggregate and a uniform distribution of the bituminous material in the mix.
2. Accurately proportion each size aggregate and bituminous material required by the job-mix formula.

I. Haul mix in trucks equipped with:

1. Clean, tight, smooth metal beds, which have been coated to prevent the material from adhering to the beds. Use Paraffin oil, Hydrated lime solution, or other as approved by TDOT.
2. A canvas cover, or cover of suitable material, to protect the mix during transit.
3. Insulation, if required, so that the mix can be delivered to the paving machine at the specified temperature or not more than 25° F. less than the discharge temperature at the plant.

J. Do not produce bituminous mixed material when the surface on which the material to be placed is wet or otherwise unsuitable; the air temperature is below 40° F.; or when other conditions would prevent the proper placing and compacting of the mix.

2.02 TESTING

A. For density testing purposes, divide the pavement into lots of approximately 5,000 square yards, or as directed by Town Engineer. Perform five density tests in each lot and compare the average results with the project requirements.

B. Acceptance testing required by Town Engineer will be performed and furnished as per TDOT Standard Specifications for road and bridge construction with latest revisions.

PART 3 EXECUTION

3.01 PREPARATION

A. Construct bases and subgrades in conformance with Section 02210.

B. Obtain approval of Engineer for the mix and surface to be treated prior to placing any materials.

C. Protect all adjacent trees, surfaces and structures from the bituminous material during construction.

D. Prepare all receiving surfaces in reasonably close conformity with the lines, grades and cross-sections shown on the drawings.

3.02 SPREADING AND FINISHING HOT MIX PAVEMENTS

Hot mix pavements will be installed as per TDOT specifications or as directed by the Town Engineer.

3.03 JOINTS FOR HOT MIX PAVEMENTS

A. Rollers shall not pass over the unprotected end of a freshly laid mixture unless authorized by the Engineer.

B. Form transverse joints by cutting back on the previous run to expose the full depth of the course.

C. When directed by the Engineer, use a brush coat of bituminous material on contact surfaces of transverse joints just before additional mixture is placed against the previously rolled material.

3.04 PLACING PRIME COAT

A. Seasonal and temperature limitations for applying bituminous prime coat shall conform to the same requirements as those specified for the succeeding stage of construction except the prime may be applied to a surface that is slightly damp, but not wet.

B. Apply bituminous material to the width of the section to be primed with a pressure distributor at a uniform, continuous spread.

C. Correct any areas containing an excess or deficiency of priming material by adding blotter material or bituminous material.

D. If after the bituminous material has been applied, it fails to penetrate before the time that the roadway must be used by traffic, spread dry cover material between 8 and 12 pounds per square yard, to prevent damage to the primed surface. Avoid an excess of cover material.

3.05 PLACING TACK COAT

A. Immediately after cleaning the surface, apply bituminous material with a pressure distributor at a rate not exceeding 0.05 gallon of residual bitumen per square yard for all material except asphalt cement.

B. For asphalt cement AC-20, apply at the rate of 0.05 to 0.10 gallons per square yard.

C. Allow the tacked surface to dry until it is in a proper condition to receive the next course.

D. Apply only so far in advance of the paving operations as is necessary to obtain the proper condition of tackiness.

E. Protect the tack coat from damage until the next course is placed.

END OF SECTION