SECTION 321216

ASPHALT PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Work shall consist of the construction of all asphalt paving and related work, as indicated on the Contract Drawings and as specified herein. Limits of each type of pavement are shown on the Contract Drawings. Work shall include, but not be limited to the following:

1. Subgrade preparation.

2. Construction of subbase for driveways.

3. Construction of bituminous stabilized base course.

4. Construction of bituminous concrete surface course for driveways, parking areas and walkways.

5. Pavement markings.

1.3 RELATED SECTIONS

A. Section 310000 – Earthwork.

1.4 REFERENCES

A. The current specifications of the New York State Department of Transportation, as amended and supplemented herein, shall be followed for all pavement work and materials.

B. The compacted subgrade and subbase will be subject to testing by the ENGINEER to assure proper compaction as described in Section 02200.

1.5 SUBMITTALS

A. Mix Formula: The Contractor shall supply to the OWNER, prior to construction, a State-approved mix formula for the type of bituminous concrete specified. The Contractor shall certify to the OWNER that the source of his bituminous concrete is a State-approved plant and that the bituminous concrete provided meets the state specifications.

PART 2 - MATERIALS

2.1 SUBGRADE MATERIAL

A. Non-organic Soil and rock or rubble free of wood, metal or other deleterious materials obtained from on- or off-site sources. All materials shall be subject to approval by the Architect.

2.2 PAVEMENT MATERIALS

Driveway and Parking Areas:

A. Subbase: Crushed stone Type 5A shall consist of quarry processed stone in conformance with the requirements of the NYSDOT Standard Specifications.

B. Bituminous Stabilized Base Course: The bituminous stabilized base course material shall be bituminous concrete 25M64 in accordance with the requirements of NYSDOT Standard Specifications.

C. Bituminous Concrete Surface Course: The bituminous concrete surface course material shall be bituminous concrete 9.5M64 in accordance with the requirements of NYSDOT Standard Specifications. Submit mix design to provide aggregates with high albedo (light reflecting) characteristics.

Pedestrian Trails:

A. Subbase: Crushed stone Type 5A shall consist of quarry processed stone in conformance with the requirements of Section 901 of the NYSDOT Standard Specifications.

B. Bituminous Concrete Surface Course: The bituminous concrete surface course material shall be bituminous concrete 9.5M64 in accordance with the requirements of NYSDOT Standard Specifications. Submit mix design to provide aggregates with high albedo (light reflecting) characteristics.

PART 3 - EXECUTION

3.1 PREPARATION OF SUBGRADE

A. The Contractor shall fine grade the subgrade to within 0.05 ft of the lines and grades shown on the Contract Drawings. The Contractor is alerted to the fact that special care must be taken in areas where utilities may be at a minimum cover.

B. After the subgrade has been fine graded, the top 12 inches of the subgrade shall be compacted with a minimum of 4 passes using a minimum 5-ton static weight vibratory roller. The subgrade shall be compacted to not less than 95% of maximum dry density as determined by the Modified Proctor Test ASTM D1557. The water content of the top 12 inches shall be adjusted by adding water or drying to +/-2% of the optimum water content. All grading and compaction shall be done in such a manner as to produce a smooth, uniform subgrade surface. Any soils which exhibit weaving or pumping under the compactor or construction equipment shall be excavated and replaced with compacted fill.

C. The subgrade shall be prepared after all utilities and other subsurface structures have been placed and the backfill has been properly placed and compacted.

D. The subgrade shall not be prepared during freezing weather or when frozen, or when it is unstable because of excessive moisture.

E. When completed, the subgrade shall be at the proper grade and contour, firm, even and free from depressions that may form water pockets, and shall be so maintained until the pavement is placed.

3.2 CONSTRUCTION OF SUBBASE

A. Subbase shall not be constructed when the subgrade is frozen or when it is soft or unstable. Subbase shall not be constructed during rainy or freezing weather or with frozen material.

B. The subbase shall be spread, compacted, and graded to within + 1/2 inch of the sections and grades shown on the Contract Drawings.

C. The subbase shall be compacted with a minimum of 5 passes using a minimum 5-ton static weight vibratory compactor or other approved equipment and procedures. The subbase shall be compacted to not less than 95% of the maximum dry density as determined by the Modified Proctor Compaction Test, ASTM D1557.

D. If, in the opinion of the ENGINEER, the moisture content is excessive or deficient, the Contractor shall make adjustments to the satisfaction of the ENGINEER and as required for the specified density.

E. The Contractor shall be responsible for the protection of adjacent structures in or above the proposed subgrade to preclude any damages during placement or compaction.

F. Should the subbase material become contaminated or for any reason become unsuitable prior to placement of the pavement, the Contractor shall correct or replace the subbase material with satisfactory subbase material at no additional expense.

3.3 BITUMINOUS STABILIZED BASE COURSE

A. The base course shall be placed on the subbase in accordance with the requirements of NYSDOT Standard Specifications as soon as stable conditions are achieved. This shall be done so as not to interfere with existing and construction traffic patterns. Prior to placing the surface course, any failed areas in the base shall be patched by excavating both the bituminous base and subbase course and replaced with additional bituminous base to meet required elevations for stability.

B. The thickness of the compacted asphaltic concrete shall not vary more than 1/8 inch from the thickness shown on the Contract Drawings.

C. A tack coat is required between the base course and surface course. The surface shall be broom cleaned and a coat of tack coat shall be applied at a rate of 1/10 gal per square yard (or per manufacturers recommendations) immediately prior to placement of the surface course.

3.4 BITUMINOUS CONCRETE SURFACE COURSE

A. The bituminous concrete shall be applied in a single course thickness with a self-propelled paving machine in accordance with NYSDOT Standard Specifications.

B. The surface of the base course or existing pavement upon which the bituminous concrete pavement is to be placed shall be clean, dry and free from frost when the paving operations are about to start and shall be maintained in that condition. The ENGINEER may permit, in the case of a sudden rain, the placing of mixture in transit from the plant, if laid at proper temperature and if the roadbed is free of standing water.

C. Bituminous concrete mixtures shall be laid when the combinations of laydown and base surface temperatures are within the limits shown in the following table.

Minimum Laydown Temperature (Degrees F)
Course Thickness

| Base Temp. | 1" | 2" | 3" & Greater |
|---|---|---|---|
| 20 - 30 | - | - | 285 |
| 33 - 40 | - | - | 280 |
| 41 - 50 | 310 | 285 | 275 |
| 51 - 60 | 300 | 280 | 270 |
| 61 - 70 | 290 | 275 | 265 |
| 71 - 80 | 285 | 270 | 265 |
| 81 - 90 | 275 | 165 | 260 |
| 91 & over | 270 | 260 | 265 |

A. Contact surfaces of curbing, gutters, manholes, and other structures shall be painted with a thin uniform coating of cut-back asphalt, Grade RC-70 just prior to the placing of the bituminous concrete mixture against them.

B. When bituminous concrete is laid on existing bituminous concrete or newly constructed bituminous concrete on which traffic has been maintained, the paved surface shall be given an application of tack coat material at the rate of 0.10 gallons per square yard as directed by the ENGINEER, prior to placing the new surface. Equipment for applying the tack coat shall be power operated pressure spraying or distributing equipment suitable for the materials to be applied. Bituminous pavements shall be thoroughly cleaned prior to application of tack coat material.

F. The bituminous concrete shall be compacted at proper temperatures using a 10-ton steel-wheeled roller or other approved procedures.

G. The thickness of the compacted asphaltic concrete shall not vary more than 1/4 inch from the thickness shown on the Contract Drawings.

H. The finished pavement shall have a smoothness such that no point varies more than 1/4 inch under a 20-ft straight edge applied parallel to the flow line of the pavement. Low spots or "bird baths" which hold water will be repaired by the Contractor by patching.

3.5 PAVEMENT MARKING

A. Prior to any pavement marking, the surface of the pavement shall be thoroughly cleaned and all dust, dirt, and other foreign materials removed.

B. The markings or striping shall be completed as shown on the Contract Drawings.

C. No markings shall be done until the surface of the pavement has been in place for a minimum of 2 weeks.

D. The Contractor shall be responsible for protecting the work until the paint has sufficiently dried.

E. The Contractor shall be responsible for removing tracking marks, spilled paint or paint not meeting the requirements of the Specifications at no additional cost to the OWNER.

PART 4 – MESUREMENT & PAYMENT

A. The Driveway Asphalt Sections as indicated on the Contract Drawings shall be measured in price per square yard and will include the 2" HMA 9.5 M64 Surface course, 4" HMA 25 M64 Base course, 6" dense graded aggregate, and subgrade under one item.

B. The Pedestrian Asphalt Trail Sections as indicated on the Contract Drawings shall be measured in price per square yard and will include the 2" HMA 9.5 M64 Surface course, 6" dense graded aggregate, and subgrade under one item.

END OF SECTION