

SECTION 321316 - ASPHALT CONCRETE PAVING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Front End Specification Sections, apply to this section.
- B. Georgia Department of Transportation Specifications, latest edition.

1.2 RELATED SECTIONS

- A. Specification Section "Earthwork" for subgrade and aggregate base courses.

1.3 DESCRIPTION OF WORK

- A. Extent of asphalt concrete paving work is shown on the drawings. This work shall include the base and asphaltic concrete paving of the thicknesses and types shown on the drawings for all areas noted on the plans to be paved.

1.4 SUBMITTALS

- A. Material Certificates: Provide copies of materials certificates signed by material producer and Contractor, certifying that each material item complies with, or exceeds, specified requirements.

1.5 JOB CONDITIONS

- A. Base course may be placed when air temperature is above 30 F (-1 C) and rising.
- B. Grade Control: Establish and maintain required lines and elevations.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: Use locally available materials and gradations which exhibit a satisfactory record of previous installations. All materials shall meet Georgia Department of Transportation Specifications.
- B. Base Course: Crushed aggregate base conforming to the Georgia Department of Transportation Specifications.
- C. Asphalt Cement: AASHTO M 226 (ASTM D 3381) for viscosity-graded material and AASHTO M 20 (ASTM D 946) for penetration-graded material.
- D. Prime Coat and Tack Coat: Tack coat shall conform to the Georgia Department of Transportation Specifications.
- E. On Site Parking Stall Marking Paint:
 - 1. Modified acrylic latex emulsion. Federal Specification No. TT-P-1952B.
- F. Crosswalks, stop bars and arrows and all striping on public roadway shall be thermoplastic markings per Georgia D.O.T. Specification Section 653.

2.2 ASPHALT-AGGREGATE MIXTURE

- A. Provide plant-mixed, hot-laid asphalt-aggregate mixture complying with Georgia Department of Transportation Standard Specification Section 400 and the Drawings.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

- A. Compact base course to 100 percent of its maximum dry density as determined by the Modified Proctor ASTM D 1557.
- B. Proof roll prepared base surface to check for unstable areas and areas requiring additional compaction immediately prior to paving.
- C. Notify Engineer of unsatisfactory conditions. Do not begin paving work until deficient base areas have been corrected and are ready to receive paving.
- D. Prime Coat and Tack Coat: Apply in accordance with Ga. Department of Transportation Specification Sections 412 and 413.

3.2 PLACING MIX

- A. Base Course: Place base course on a prepared subgrade in layers of uniform thickness, conforming to indicated cross-section and thickness, maintain optimum moisture content for compacting base material during placement operations.
- B. Asphaltic Concrete: Place asphalt concrete mixture on prepared surface, spread and strike-off. Place inaccessible and small areas by hand. Place each course to required grade, cross-section, and compacted thickness. Placement and compaction shall meet Georgia Department of Transportation Specification Section 402.
- C. Paver Placing: Place in strips not less than 10' wide, unless otherwise acceptable to Engineer. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete base course for a section before placing surface course.
- D. Joints: Make joints between old and new pavements, or between successive days' work, to ensure continuous bond between adjoining work. Construct joints to have same texture, density and smoothness as other sections of asphalt concrete course.

3.3 ROLLING

- A. General: Begin rolling when mixture will bear roller weight without excessive displacement.
- B. The layers shall be rolled in accordance with Georgia Department of Transportation Specification Section 400.
- C. Compact mixture with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.
- D. Breakdown Rolling: Accomplish breakdown or initial rolling immediately following rolling of joints and outside edge. Check surface after breakdown rolling, and repair displaced areas by loosening and filling, if required, with hot material.

- E. Second Rolling: Follow breakdown rolling as soon as possible, while mixture is hot. Continue second rolling until mixture has been thoroughly compacted.
- F. Finish Rolling: Perform finish rolling while mixture is still warm enough for removal of roller marks. Continue rolling until roller marks are eliminated and course has attained maximum density.
- G. Patching: Remove and replace paving areas mixed with foreign materials and defective areas. Cut-out such areas and fill with fresh, hot asphalt concrete. Compact by rolling to maximum surface density and smoothness.
- H. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- I. Erect barricades: to protect paving from traffic until mixture has cooled enough not to become marked.

3.4 TRAFFIC AND LANE MARKINGS

- A. Cleaning: Sweep and clean surface to eliminate material and dust.
- B. Pavement Striping within Parking Area Excluding Crosswalks, Stop Bars and Arrows: Use traffic lane-marking paint, factory-mixed, quick-drying, and non-bleeding (Fed. Spec. No. TT-P-1952B). Striping lanes shall be 4-inches in width.
- C. Color: On-Site Parking & Arrows: White
Handicap Accessible Parking: Blue
Other On-Site Striping: Refer to Drawings for color, size and type
- D. Do not apply traffic and lane markings until layout and placement has been verified with Engineer.
- E. Apply pavement markings with mechanical equipment to produce uniform straight edges. Apply in 2 coats at manufacturer's recommended rates.
- F. Crosswalks, stop bars and arrows and all striping on public roadway shall be thermoplastic markings per Georgia D.O.T. Specification Section 653.

3.5 FIELD QUALITY CONTROL

- A. General: Testing Company shall test aggregate base density and in-place asphalt concrete courses for compliance with requirements for compaction, thickness and surface smoothness. Repair or remove and replace unacceptable paving as directed by Engineer.
- B. Quality Control Testing During Construction: Allow testing service to inspect and approve subgrades before further construction work is performed. An experienced geotechnical engineer shall observe the proof-rolling of the aggregate base immediately prior to paving. One copy of results of all Compaction Test and observations of proof-rolling shall be submitted to Owner, Architect and Engineer.
 - 1. Testing company shall perform field density tests in accordance with ASTM D 2937 (drive cylinder method), ASTM D 2167 (rubber balloon method), as applicable, or nuclear method ASTM D 2922.
 - 2. Pavement Base Material: Make at least one field density test for each 5,000 sq. ft. of pavement base area.

- C. Testing company shall perform a minimum of 10 asphalt core test at locations directed by Engineer.
- D. Thickness: In-place compacted thickness will not be accepted if exceeding following allowable variation from required thickness:
 - 1. Base Course: 1/2"
 - 2. Binder & Surface Course: 1/4"
- E. Surface Smoothness: Test finished surface of each asphalt concrete course for smoothness, using 10' straightedge applied parallel with, and at right angles to centerline of paved area. Surfaces will not be accepted if exceeding the following tolerances for smoothness.
 - 1. Wearing Course Surface: 3/16".
- F. Check surface areas at intervals as directed by Engineer.
- G. Correcting Deficient Paving: If test results determine that the average thickness of base or binder and surface course exceeds the allowable variation, the Contractor shall resurface the entire paving area with surface course materials at no expense to the Owner. The minimum thickness for asphaltic resurfacing shall be 1 inch.

END OF SECTION 321316