

BIDDING ADDENDA
Section 00 91 13 / Rev: August 2021

Date: November 18, 2024

Addendum Number: Two (02)

Project Number: 9002418

Agency Name: Arkansas Department of Parks, Heritage, and Tourism

The proposed contract documents for this work are modified as follows:

1 INVITATION TO BID

N/A

2 SPECIFICATIONS

1. 32 12 16 - Asphalt Paving
 - a. Part 2, Section 2.2, Part A. - Asphalt Bitumen for Binder Course and Surface Course: AASHTO M320, PG 64-22

3 DRAWINGS

N/A

Attachments:

32 12 16 Asphalt Paving

SECTION 321216 - ASPHALT PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Hot-mix asphalt paving.

B. Related Sections:

1. Section 321123 "Aggregate Base Course" for aggregate subbase and base courses.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include technical data and tested physical and performance properties.

1. Job-Mix Design: For each job mix proposed for the Work.

1.3 INFORMATIONAL SUBMITTALS

A. Material Certificates:

1. For each paving material, from manufacturer

1.4 QUALITY ASSURANCE

A. Allowable Tolerances:

1. Subgrade after fine grading:
 - a. Shall not vary more than 0.05 feet from plan elevation.
2. Aggregate base:
 - a. Shall not vary more than 0.05 feet from plan elevation.
3. Asphalt concrete hot mix binder course:
 - a. Shall not vary more than 0.04 feet from the plan elevation.
 - b. Shall not vary more than 0.04 feet from specified thickness.
4. Asphalt concrete hot mix wearing course:

- a. Shall not vary more than 0.03 feet from the plan elevation.
 - b. Shall not vary more than 0.02 feet from specified thickness.
 - c. Shall not vary more than 0.015 feet from the edge of a 10 foot straight edge laid thereon parallel to or at right angles to the direction of paving.
5. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.
- a. Test and Design Mix Criteria:
 - 1) Contractor, at his expense, shall employ the services of an independent testing laboratory to perform tests and design mixes. Materials and mix designs shall be approved at least 10 days before starting of construction
 - a) Aggregate tests (Aggregate Base Course):
 - b) The material to be used for the aggregate base course shall conform to Section 321123, Aggregate Base Course.
 - c) Preliminary job mix formula (Asphalt Concrete Hot Mix Surfacing):
 - d) A preliminary job mix formula shall be developed for the asphalt concrete hot mix surfacing material in accordance with AASHTO MP 2.
 - e) Resubmit a new job mix formula for OWNER'S approval if it becomes necessary to change the source of aggregates or when unsatisfactory results or other conditions warrant a change in mixture requirements.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:
1. Tack Coat: Minimum surface temperature of 60 deg F.
 2. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at time of placement.
 3. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.

PART 2 - PRODUCTS

2.1 AGGREGATES

- A. Coarse Aggregate: ASTM D692/D692M, sound; angular crushed stone, crushed gravel, or cured, crushed blast-furnace slag.
- B. Fine Aggregate: AASHTO M 29, sharp-edged natural sand or sand prepared from stone, gravel, cured blast-furnace slag, or combinations thereof.
- C. Mineral Filler: AASHTO M 17, rock or slag dust, hydraulic cement, or other inert material.

2.2 ASPHALT MATERIALS

- A. Asphalt Bitumen for Binder Course and Surface Course: AASHTO M 320, PG 64-22
- B. Bituminous Track Coat: CSS-1, CSS-1h, RC-70, MC-250, or OWNER approved equal.

2.3 MIXES

- A. Hot-Mix Asphalt: Each mix design shall be prepared by laboratory analysis. Each mix design will establish a mix gradation for the aggregates (based on the weight of material passing specified screen sizes), an optimum asphalt binder content (expressed as a percentage of the total mix weight), an optimum laboratory mixing temperature, and an optimum laboratory compaction temperature. Optimum laboratory mixing and compaction temperatures shall be established based on temperature-viscosity curves of the asphalt binder to be used in the mix. The optimum asphalt content is the asphalt binder content at 4% Air Voids (AV) for PG 76-22 mixes and 4.5% Air Voids (AV) for PG 64-22 and PG 70-22 mixes. The mix design will be designed in accordance with the volumetric mix design procedures contained in AASHTO MP 2 and its referenced standards.

PART 3 - EXECUTION

3.1 SUBGRADE PREPARATION

- A. Fine grade and compact subgrade to the plan cross section. Compaction shall be as specified in Section 312000.
- B. After compaction, cut-out soft spots and unstable areas in the subgrade and fill with granular fill as defined in Section 312000 and compact as specified in Section 312000.

3.2 AGGREGATE BASE

- A. Where required, construct the aggregate base as shown on Drawings on the prepared subgrade as soon as possible after final shaping and compaction of the subgrade is completed.
- B. Construction requirements shall be compacted to a density of at least 95 percent as defined by ASTM D1557 (Modified Proctor).
- C. Density tests shall be taken as specified in Section 312000 and no bituminous layer shall be applied on the aggregate base course until it is approved by OWNER.

3.3 BITUMINOUS TACK COAT

- A. Apply a bituminous tack coat to an existing bituminous surface if it has been dirtied by traffic or by other means just before constructing another bituminous course. The face of all concrete surfaces to which the bituminous surface will come in contact with shall be sprayed or painted with tack oil.

3.4 BITUMINOUS BINDER COURSE

- A. Construct a plant mixed bituminous binder course as shown on Drawings using a mechanical paver.

3.5 BITUMINOUS WEARING COURSE

- A. Construct a plant mixed bituminous wearing course as shown on Drawings using a mechanical paver.

3.6 FIELD QUALITY CONTROLS

- A. From time to time during progress of the work and/or upon completion of the work, OWNER may require that testing be performed to determine that materials provided for the work and its installation meets the specified requirements.

3.7 DEFECTIVE WORK

- A. When tests and inspections of the aggregate base and/or bituminous work indicate non-compliance with the Specification, Contractor and OWNER shall mutually agree on the number and location of additional tests to define and/or verify the deficiency. If the average of the tests for a given area indicate non-compliance, the area is considered defective and Contractor shall:
 - 1. Remove and replace defective work at no cost to OWNER;
 - 2. Correct the work at no cost to OWNER in a manner acceptable to OWNER; or
 - 3. Give OWNER a credit towards the Contract Price if said credit is acceptable to OWNER.

3.8 JOINTS

- A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.
 - 1. Clean contact surfaces and apply tack coat to joints.
 - 2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.
 - 3. Offset transverse joints, in successive courses, a minimum of 24 inches.
 - 4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method in accordance with AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."

3.9 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.

1. Complete compaction before mix temperature cools to 185 deg F.
- B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
 1. Average Density, Rice Test Method: 92 percent of reference maximum theoretical density in accordance with ASTM D2041/D2041M, but not less than 90 percent or greater than 96 percent.
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.
- F. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- G. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

3.10 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Replace and compact hot-mix asphalt where core tests were taken.

END OF SECTION