SP-230463
(New)

SPECIAL PROVISIONS
FOR
MICRO MILLING ASPHALT PAVEMENT

Plymouth County
STPN-012-2(052)--2J-75

Sioux County
NHSN-018-1(101)--2R-84

Effective Date
December 15, 2026

THE STANDARD SPECIFICATIONS, SERIES 2023, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SPECIAL PROVISIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

230463.01 DESCRIPTION.

A. This work consists of micro milling an asphalt pavement surface to remove surface irregularities, correct rutting, and restore proper grade, cross slope, and ride quality prior to pavement preservation work. It is intended to remove no more than 2 inches of material from a structurally sound asphalt pavement.

B. The resulting surface shall exhibit a fine, uniform texture suitable for pavement preservation work or temporary traffic prior to pavement preservation work.

C. Preservation work is defined as thin treatments such as microsurfacing, chip seals, scrub seals, slurry seals, and ultra-thin bonded wearing courses. It is not considered a traditional hot mix asphalt overlay.

D. Perform micro milling at the locations shown in the contract documents. Omit PCC surfaces.

E. The work includes furnishing all equipment, labor, and materials necessary to complete micro milling, cleaning, and removal of residues.

230463.02 MATERIALS.

Millings shall become the property of the Contractor and shall be removed from the project. They will be considered unclassified RAP but may be tested according to Materials I.M. 505 to gain classified credits as detailed in 2302.02 C, 6, a, 4.

230463.03 CONSTRUCTION.

A. Equipment.

1. Provide a self-propelled, power-driven cold milling machine of size and shape to process one lane while allowing safe passage of traffic in a lane adjacent to the work.

2. The micro milling machine shall meet the following:
- **a.** A minimum 7 foot micro milling drum that has at least three wraps of teeth. The spacing between each tooth shall not exceed 1/4 inch. Submit a copy of the manufacturer's specifications to the Engineer a minimum of 2 working days prior to the construction of a test section indicating the drum is designated as a micromilling drum meeting the requirements of this specification.
- **b.** Equipped with an automatic grade control system capable of maintaining longitudinal profile and transverse slope to produce the specified results.
- **c.** Equipped with an integral pickup and conveying system capable of immediately removing material being milled and discharging into a truck in one operation.

B. Test Section.

1. Prior to production, select a test area within the project with a minimum length of 300 to 500 linear feet and micro mill a lane width at the production forward speed and drum RPMs. The forward speed of the milling machine shall be a maximum of 50 linear feet per minute and the drum RPMs shall be 120 or greater.

2. The Engineer will review the micro milled surface to ensure a uniform finished surface is provided and the entire surface is substantially free from waves or irregularities with a maximum 1/8 inch variation between ridge contact points as measured with a 10 foot straightedge. Additionally, the Engineer will randomly select four test locations per test area and determine the average mean texture depth (MTD). Ensure the average MTD is a maximum of 0.06 inches as measured in accordance with the requirements of ASTM E965 volumetric technique.
- **a.** A laser profiler may be provided and utilized by the Contractor at no cost to the Engineer.
- **b.** The laser profiler, if used, must be made available to the Engineer upon request.

3. Production micro milling will not be allowed until acceptable results are obtained from a test section.

C. Operations.

1. Perform micro milling to the depth of shown in the contract documents using the settings from an acceptable test section ensuring:
- **a.** A uniform finished surface with constant cross slope is provided that is free from waves or irregularities exceeding 1/8 inch, measured using a 10 foot straight edge.
- **b.** The Engineer may conduct additional testing when:
  - **1)** Changes are made to the micromilling head;
  - **2)** A change in the visible texture of the micromilled surface occurs.
  - **3)** A noticeable change in the speed of the micromilling speed occurs from the test section.
- **c.** There are no visible longitudinal lips between passes. Any lip greater than 1/4 inch in differential shall be milled again to remove the differential.
- **d.** Positive drainage is maintained to prevent water accumulation.
- **e.** The Engineer may verify average MTD is a maximum of 0.06 inches as measured in accordance with the requirements of ASTM E965 volumetric technique.
- **f.** The cutter teeth shall be regularly checked and replaced as necessary to maintain the tolerances in SP-230463.03, A, 2, a.
- **g.** The Engineer may direct additional passes if the surface fails to meet these criteria at no additional cost to the Contracting Authority.

2. Taper transverse edges 10 feet to produce a smooth transition to adjoining pavements and ends of micro milled sections.

3. Ensure longitudinal vertical edges are no greater than 3/4 inch and that operations are conducted to limit the time traffic is exposed to them.

4. Remove dust, residue, and loose milled material from the micro milled surface prior to opening for traffic or conducting pavement preservation work.
   a. Use a rotary broom as described in Article 2001.14 to clean the milled surface.
   b. Use water as necessary to avoid a traffic hazard and a dust nuisance.

230463.04 METHOD OF MEASUREMENT.

A. Measurement of Micro Milling will be in square yards shown in the contract documents.

B. Transition areas required to match existing surfaces will be included in the square yards shown in the contract documents.

C. No separate measurements will be made for additional passes required to achieve an acceptable surface.

230463.05 BASIS OF PAYMENT.

A. Payment for Micro Milling will be at the contract unit price per square yard.

B. Payment is full compensation for furnishing all equipment, labor, and materials necessary to complete the work, including constructing test sections, removing and disposing of millings, cleaning, and maintaining the surface until preservation work.

C. No separate payment will be made for additional passes required to achieve an acceptable surface.