



Wisconsin Department of Transportation

October 31, 2016

Division of Transportation Systems Development

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NOTICE TO ALL CONTRACTORS:

Proposal #14: 9030-03-70, WISC 2016 349
Merrill - Rhinelander
STH 64 – North Junction CTH G
STH 17
Lincoln County

Letting of November 8, 2016

This is Addendum No. 03, which provides for the following:

Special Provisions

Revised Special Provisions	
Article No.	Description
12	Prepare Existing Pavement for Seal Coat Special, Item SPV.0125.01

The responsibility for notifying potential subcontractors and suppliers of these changes remains with the prime contractor.

Sincerely,

Mike Coleman

Proposal Development Specialist
Proposal Management Section

ADDENDUM NO. 03

9030-03-70

October 31, 2016

Special Provisions

12. Prepare Existing Pavement for Seal Coat Special, Item SPV.0125.01.

Replace entire article language with the following:

A Description

This special provision describes the work necessary to prepare the existing pavement surface prior to application of the seal coat special. Work includes routing, cleaning, drying, sealing, and re-sealing primary cracks and joints along their entire length of HMA pavements.

A1. Rout and Seal

Primary cracks are defined as those cracks greater than or equal to 1/8 inches. Primary cracks shall be routed, cleaned, and sealed. Routing is required for all transverse, centerline, and longitudinal primary cracks less than or equal to 1/2 inches. Hairline cracks will not be sealed.

A2. Re-Seal

Previously sealed cracks that exhibit signs of failure allowing water to penetrate the crack such as missing or loss of existing sealant material, cracking of the existing sealant, loss of adhesion to existing pavement and overband wear (where routing is not practical) shall be cleaned of foreign and loose material and filled without routing.

A3. Rumble Strips

Longitudinal cracks intersecting milled rumble strips along the centerline or paved shoulder shall be cleaned of foreign and loose material and may be filled without routing at the department's discretion and decided prior to quote. Care shall be taken to minimize puddling of sealant in the depressions of the rumble strips.

B Materials

B1. Sealant Material

Furnish sealant material that conforms to the requirements of the standard specification for joint and crack sealants, hot applied, for concrete and asphalt pavements, ASTM designation: D 6690, Type II or Type IV, and compatible with seal coat special. If the sealant is more than 12 months old from the delivery date of the product, the manufacturer's recommendations shall be used to determine if the product shall be used.

B4. Sealant Requirements

Deliver the sealant in the manufacturer's original sealed container legibly marked with the following information:

- Manufacturer's name
- Trade name of sealant
- Manufacturer's batch or lot number
- ASTM designation

- Minimum application temperature
- Maximum (or safe) heating temperature

Before applying the sealant, submit a manufacturer's certificate of compliance certifying that the compound meets the requirements of this specification and a copy of the manufacturer's recommendations on heating, re-heating, and applying the sealant.

The temperature of the sealant in the field application equipment shall not exceed the safe heating temperature recommended by the manufacturer. Temperatures above the safe heating temperature will result in rejection of the sealant material and will require disposal of the sealant material.

Do not place sealant if the temperature of the material is below the manufacturer's recommended minimum application/pouring temperature.

Mixing of different manufacturer's brands or different types of sealants is prohibited.

Document locations where the material from each lot number of sealant is placed.

C Construction Methods

C1. Weather Limitations

Sealant materials shall only be placed during a period of rising temperature after the air and surface temperature in the shade and away from artificial heat sources has reached 40° F and indications are for a continued rise in temperature. During a period of falling temperatures, which may fall below 40° F, placement of the sealant material shall be suspended until the above conditions are met.

Do not place sealant material if weather conditions are raining or wet. Should the sealant be placed and rain should fall before the sealant has properly cured, remove and replace the wet/contaminated sealant.

C2. Equipment

Furnish all equipment necessary to complete the routing, cleaning, preparing and sealing of cracks in accordance with the requirements specified. Equipment required for this operation includes the following:

1. Mechanical router capable of routing the asphaltic pavement to provide a depth to width ratio of all routed cracks of 1:1.
2. High pressure air equipment capable of blowing sand and other foreign materials from a crack.
3. Pressure distributor for applying sealing material through a hand-operated wand or nozzle in accordance with the sealant manufacturer's instructions.

The use of a high capacity torch to clean and dry routed cracks is optional. The high capacity torch should not remain stationary over one spot but should be kept moving to ensure that the asphalt pavement is not overheated.

Furnish, for use by the engineer, an infrared temperature measuring gun accurate to 1°F at 400°F. The engineer may check the pouring temperature of the sealant at the point of discharge into the reservoir. If the sealant falls below the recommended application/pouring temperature, all production shall stop at the melting kettle until the recommended application/pouring temperature is obtained. Should the sealant temperature at the point of discharge exceed the maximum safe heating temperature, the melting kettle shall be emptied of all sealant, and the sealant shall be legally disposed of in an environmentally safe method.

C3. Preparation, Cleaning and Conditioning

C3.1 Preparation

Primary cracks and joints measuring less than or equal to $\frac{3}{4}$ " wide shall be routed to a width and depth of $\frac{3}{4}$ ". The router shall at all times exhibit the capability of cutting the desired reservoir in one easy pass. Change cutters when it is evident the reservoir configuration specified is not being achieved. Demonstrate the cutters capability of following meandering cracks and maintaining centering of the reservoir over the crack within $\pm\frac{1}{4}$ ". The resulting reservoir shall have vertical sidewalls and a uniform flat bottom. Anytime the contractor cannot meet these requirements, the production of the cutter shall cease until the requirements can be met.

C3.2 Cleaning

For all cracks to be sealed, immediately prior to conditioning, the cracks shall be thoroughly cleaned with a minimum of one pass of the air wand not more than 2 inches from each face of the reservoir/crack. Cleaning shall continue until the reservoir/crack is dry and all dirt, dust, or deleterious matter is removed. If the air compressor produced dirt or other residue, the contractor will be required to re-clean the reservoir/crack. Routing may be required on "Re-seal" cracks to remove old sealant.

C3.3 Conditioning

For all cracks to be sealed, immediately prior to the placement of the crack sealant, the surfaces of a routed reservoir, as well as the adjacent pavement on either side of the reservoir or a crack shall be conditioned with hot compressed air from a high-capacity torch. The high-capacity torch shall be placed within 3 inches of each sidewall of the reservoir or crack. This treatment shall continue until the affected areas are conditioned. The high-capacity torch shall not scorch the routed reservoir, crack, or adjacent pavement surface. The engineer reserves the right to randomly spot check the reservoirs/cracks to verify they are clean and dry. Anytime the engineer determines this requirement is not being met, modify operation to meet these requirements.

Provide protective screening if preparation, cleaning, and conditioning operations should cause damage to or interference with traffic in adjacent lanes.

C4. Crack Sealing Operations

The crack sealant shall be placed immediately after the completion of the preparation, cleaning, and conditioning with the high-capacity torch. Cracks shall be sealed when the sealant material is at the application/pouring temperature recommended by the manufacturer.

For "Rout and Seal" cracks completely fill the reservoirs/cracks as per manufacturer's instructions, using multiple passes if necessary. Fill the crack with a thin layer of sealant flush to the top of the pavement allowing the material to spread on the surface of the road to approximately three times the width of the routed crack. The width of the overband, including the routed reservoir, should be about 3.0 inches wide with a maximum film thickness of the overband limited to 1/8 inches thick. The contractor may be required to use a squeegee to force the sealant material into narrow cracks if the sealant material is not flowing into the crack properly.

For "Re-seal" cracks, sealant shall be applied as per manufacturer's instructions, using an application wand followed by a "V" shaped squeegee or using a round application head having a concave underside or other methods to meet the requirements for size and shape. The maximum width of the application head shall be 3 inches for standard coverage and 6 inches for multi-crack locations. The maximum film thickness of the overband is limited to 1/8 inches thick.

Care shall be taken in the sealing of the cracks so the cracks are not overfilled and the final appearance shall present a neat, fine line. At locations where crack sealant settles into the crack opening more than $\frac{1}{4}$ inch below the pavement, apply additional material to meet the filling requirement above. The applicator wand shall be returned to the machine and the joint sealant material re-circulated immediately upon completion of each crack sealing.

Sealants shall not be removed from their packaging until immediately before it is placed in the melter. Feed additional sealant into the melter at a rate equal to or less than the rate of placement of the sealant in the reservoirs/cracks.

After the sealant has been placed and cured and prior to opening the road to traffic, any additional debris left on the roadway surface shall be removed. Any method used to complete this work shall not damage the newly placed sealant; repair any damage to the sealant. The contractor may apply toilet paper or a light coating of sand, dust, or an approved de-tacking agent for use with the specified sealant to the surface of the newly placed sealant if traffic results in tracking of the crack sealing material. Repair any damage by traffic to treated pavement areas.

C5. Documentation

Melting kettle production data sheets shall be developed, completed, and submitted daily for each kettle on the project with the following information.

- Date, county, highway route number, and highway segment.
- Weather conditions at morning, mid-day, and afternoon intervals.
- Kettle number, ambient air and pavement temperature in °F at the beginning, mid-day and end of the day.
- Kettle temperature in °F once an hour during working production
- Sealant material temperature in °F at the wand once an hour during working production.
- Beginning and ending locations on project for the day, including lane and direction.
- The amount of materials used for the day in pounds, including lot numbers.
- Unique or atypical situations on the project which may affect the placement or performance of the sealed cracks.
- The contractor's authorized signature.

C6. Workmanship

During crack sealing operations, the engineer may review the sealant temperatures at the melting kettle intermittently. If the temperatures are above the manufacturer's specified safe heating temperature, the sealant will be rejected. Empty the kettle of the over-heated material and legally dispose of it in an environmentally safe method.

Asphalt cracks, whether sealed by the "Rout and seal" or "Re-seal" method, will be observed on a crack-by-crack basis for acceptable workmanship. Unsealed cracks shall be sealed before re-opening the roadway to traffic.

Sealed cracks shall be rejected if there is evidence of poor workmanship or obvious defects, including, but not limited to:

1. Routed reservoir not filled completely.
2. Lack of bond to the sidewalls of the joint reservoir, crack, or asphalt pavement.
3. Excessive debris or moisture in the joint reservoir or crack.
4. Contamination of the sealant.
5. Excessive pools of sealant on the pavement or shoulder surface.
6. Excessively wide or thick sealant overbanding.

Rejected sealed cracks shall be repaired, the sealant removed and disposed of in a legal and appropriate manner, and the cracks resealed as necessary.

D Measurement

The department will measure Prepare Existing Pavement for Asphaltic Seal Coat installation by the mile acceptably completed. A mile is defined as a linear measurement taken along the centerline to the nearest tenth of a mile and will include the sealing of asphalt cracks in the traffic lanes, auxiliary lanes, and paved shoulders as well as preparing the existing pavement marking for adhesion of the Seal Coat Special.

For a divided highway the mile will be measured separately in each direction.

E Payment

The department will pay for measured quantities at the contract unit price under the following bid item:

ITEM NUMBER	DESCRIPTION	UNIT
SPV.0125.01	Prepare Existing Pavement for Asphaltic Seal Coat Special	MI

Payment is full compensation for completing all work detailed in this section, and for furnishing all materials.

END OF ADDENDUM