Illinois Department of Transportation
2300 South Dirksen Parkway / Springfield, Illinois / 62764

June 7, 2018

SUBJECT: FAP Route 824 & FAS Route 1671 (US 45)
Project STP-GLF9(811)
Section (20 RS-4)(21X)RS-2,21 RS-5
Douglas County
Contract No. 70786
Item No. 42, June 15, 2018 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS:

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

1. Revised Schedule of Prices
2. Revised the Table of Contents to the Special Provisions
3. Added pages 75 - 77 to the Special Provisions
4. Revised sheets 4, 7 and 17 of the Plans

Prime contractors must utilize the enclosed material when preparing their bid and must include any changes to the Schedule of Prices in their bid.

Very truly yours,

Jack A. Elston, P.E.
Bureau Chief, Design and Environment

By: Ted B. Walschleger, P. E.
Engineer of Project Management

cc: Kensil Garnett, Region 3, District 5; Tim Kell

JW/ck

Revised 6-7-18

HOT-MIX ASPHALT – FULL LANE SEALANT (EXPERIMENTAL FEATURE)

Description. This experimental feature will evaluate the performance of hot-mix asphalt (HMA) overlays constructed using a full lane sealant (FLS) as compared to a traditional tack coat.

FLS is a highly polymerized asphalt which is hot applied between lifts of HMA. FLS distributes and flows well and cools to a track free condition in less than five minutes. When the FLS is overlaid the heat from the HMA mixture reduces the viscosity of the FLS causing it to migrate up into the HMA layer being paved. The migration of the FLS into the above layer of HMA serves to improve density, flexibility, bond between the layers of HMA, and decrease the water permeability of the resultant pavement.

The experiment involves constructing five ¼ mile test sections with FLS applied on the leveling binder at varying residual rates, constructing five ¼ mile control sections with SS-1h tack coat applied on the leveling binder at a single residual rate, and collecting core samples of the work.

The application of SS-1h tack coat in the control sections shall be performed according to Section 406 of the Standard Specifications at a residual rate of 0.05 lb/sq ft.

The application of the FLS in the test sections shall be according the following:

Materials. The FLS shall be according to Articles 1032.01 – 1032.03 of the Standard Specifications and the following.

Full lane sealant will be accepted according to the current Bureau of Materials and Physical Research Policy Memorandum, “Performance Graded Asphalt Binder Acceptance Procedure” with the following exceptions. Articles 3.1.9 and 3.4.1.4 of the policy memorandum will be excluded. The bituminous material used for the full lane sealant shall be according to the following table. Elastomers shall be added to a base asphalt and shall be either a styrene-butadiene diblock or triblock copolymer without oil extension, or a styrene-butadiene rubber. Air blown asphalt and acid modification will not be allowed.

Test	Test Requirement	Test Method
Dynamic shear @ 88°C (unaged), G*/sin δ, kPa	1.00 min.	AASHTO T 315
Creep stiffness @ -18°C (unaged), Stiffness (S), MPa m-value	300 max. 0.300 min.	AASHTO T 313
Elastic Recovery, 100 mm elongation, cut immediately, 25°C, %	70 min.	ASTM D 6084 (Procedure A)
Separation of Polymer, Difference in °C of the softening point (ring and ball)	3 max.	ITP Separation of Polymer from Asphalt Binder”

Added 6-7-18

Equipment. Equipment shall be according to the following.

(a) Regenerative Air Vacuum Sweeper. The regenerative air vacuum sweeper shall blast re-circulated, filtered air through a vacuum head having a minimum width of 6.0 feet at a minimum rate of 20,000 cu ft/min.

(b) Pressure Distributor with Mixing. When a pressure distributor with mixing is used to apply the full lane sealant, the distributor shall be equipped with a heating and recirculating system along with a functioning auger agitating system or vertical shaft mixer in the hauling tank to prevent localized overheating.

(c) Pressure Distributor without Mixing. When a pressure distributor without mixing is used to apply the full lane sealant, the distributor shall be according to Article 406.03(f).

Test/Control Sections. The ¼ mile test/control sections will be one lane wide and in the same direction. The exact stationing of the test/control sections will be determined by the Engineer.

Construction Requirements

Cleaning. The leveling binder shall be cleaned of all dust, debris, and any substance that will prevent the FLS from adhering. Cleaning shall be accomplished by sweeping to remove all large particles and air blasting to remove dust. As an alternate to air blasting, vacuum sweeping may be performed using a regenerative air vacuum sweeper to remove dust.

Weather. The leveling binder shall be dry for 24 hours prior to application of the FLS and no rain in the forecast for 24 hours following application. If rain is anticipated but cannot be avoided, the FLS shall be covered immediately following its application with fine aggregate mechanically spread at a uniform rate of 2 to 4 lb/sq yd (1 to 2 kg/sq m).

Placement. The FLS shall be applied on the test sections after the level binder has been constructed. The FLS shall be applied in a single pass with a pressure distributor at a material temperature range sufficient to provide even coverage and at a rate that will provide the residual rate specified in the following table.

Section	Length	Applied Material	Residual Rate
Control Section 1	¼ mile	SS-1h	0.05 lb/sq ft
Test Section 1	¼ mile	FLS Tack	0.13 lb/sq ft
Control Section 2	¼ mile	SS-1h	0.05 lb/sq ft
Test Section 2	¼ mile	FLS Tack	0.17 lb/sq ft
Control Section 3	¼ mile	SS-1h	0.05 lb/sq ft
Test Section 3	¼ mile	FLS Interlayer	0.20 lb/sq ft
Control Section 4	¼ mile	SS-1h	0.05 lb/sq ft
Test Section 4	¼ mile	FLS Interlayer	0.25 lb/sq ft
Control Section 5	¼ mile	SS-1h	0.05 lb/sq ft
Test Section 5	¼ mile	FLS Interlayer	0.30 lb/sq ft

Added 6-7-18

The FLS shall fully cure in less than five minutes. The HMA surface course may be placed after five minutes. If after five days, loss of FLS is evident prior to covering with HMA, additional FLS shall be placed as determined by the Engineer at no additional cost to the Department.

The residual asphalt rates of the FLS will be verified once per test section. The test will be according to the "Determination of Residual Asphalt in Prime and Tack Coat Materials" test procedure.

The Contractor shall furnish to the Engineer a bill of lading for each tanker supplying material to the project.

Production Sampling and Testing. Three 6-in. diameter, full-depth cores shall be collected from each FLS test section and one control section. The three cores shall be taken from the center portion of the lane and at the midpoint of each section and submitted to the Engineer. The Engineer will coordinate delivery of the samples to the Central Bureau of Materials for testing.

Method of Measurement. Bituminous material for FLS will be measured for payment as specified in Section 1032.

Basis of Payment. The work of applying the full lane sealant in the test sections and collecting core samples will be paid for at the contract unit price per pound (kilogram) of residual asphalt for BITUMINOUS MATERIALS (FULL LANE SEALANT).

The application of the tack coat in the control sections will be paid for separately according to Article 406.14.

Added 6-7-18