INDIANA DEPARTMENT OF TRANSPORTATION

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Indianapolis, Indiana 46204

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Eric Holcomb, Governor
Joe McGuinness, Commissioner

AGENDA

March 18, 2021 Standards Committee Meeting

MEMORANDUM

March 3, 2021

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Agenda for the March 18, 2021 Standards Committee Meeting

A Standards Committee meeting is scheduled for 09:00 a.m. on March 18, 2021 will be held virtually via *Teams* (Microsoft application). Please contact Scott Trammell (strammell@indot.in.gov) for instructions on how to join this event.

The following items are listed for consideration:

A. GENERAL BUSINESS ITEMS

OLD BUSINESS

(No items on this agenda)

NEW BUSINESS

1. Approval of the Minutes from the February 18, 2021 meeting

B. CONCEPTUAL PROPOSAL ITEMS

OLD BUSINESS

(No items on this agenda)

NEW BUSINESS

(No items on this agenda)

C. STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS PROPOSED ITEMS

OLD BUSINESS

(No items on this agenda)

NEW BUSINESS

Item No. 1 (2020 SS) Mr. Reilman pg 3

2020 Standard Specifications

609.02	Materials
609.13	Method of Measurement
609.14	Basis of Payment

Recurring Special Provision:

609-B-311	RCBA SLAB OPTION FOR USE WITH SHORT TERM CLOSURES

Item No. 2 (2020 SS) Mr. Reilman pg 10

Recurring Special Provisions:

401-R-417	HMA SPRAY PAVER AND EMULSION
410-R-418	SMA SPRAY PAVER AND EMULSION

cc: Committee Members
FHWA
ICI

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Reinforced concrete bridge approach slabs require a pozzolan and thus surface sealing is no longer needed. Class C concrete is not needed for reinforced concrete bridge approach slabs. The excess cement results in excess shrinkage, cracking, and cost, all of which are not necessary.

PROPOSED SOLUTION: incorporate proposed changes; delete references to surface seal and revert back to class A concrete.

APPLICABLE STANDARD SPECIFICATIONS: 609

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: Yes

APPLICABLE SECTION OF GIFE: TBD

APPLICABLE RECURRING SPECIAL PROVISIONS: create new 609, or alternatively incorporate into 2022 spec book

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad Hoc: Jeremy Hunter, Mike Nelson, Jim Reilman, & Pete White

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT, Office of Materials & Tests

Phone Number: 317-522-9692

Date: 2/16/21

Mr. Reilman
Date: 3/18/21

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? No
Will approval of this item affect the Approved Materials List? No
Will this proposal improve:

Construction costs? Yes

Construction time? N/A

Customer satisfaction? Yes

Congestion/travel time? N/A

Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? Yes

Will this item improve safety:

For motorists? N/A

For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? Yes

Design process? N/A

Will this change provide the contractor more flexibility? N/A

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? N/A

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? NO

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISION

SECTION 609 - REINFORCED CONCRETE BRIDGE APPROACHES
609.02 Materials
609.13 Method of Measurement
609.14 Basis of Payment
609-B-311 RCBA SLAB OPTION FOR USE WITH SHORT TERM CLOSURES

(Note: Proposed changes shown highlighted gray.
Previously approved changes to Section 609
at: July 18, 2019 and November 20, 2019 meetings.)

The Standard Specifications are revised as follows:

SECTION 609, BEGIN LINE 1, DELETE AND INSERT AS FOLLOWS:

SECTION 609 – REINFORCED CONCRETE BRIDGE APPROACHES

609.01 Description

This work shall consist of constructing reinforced concrete bridge approaches, RCBA, and extensions required for bridge railing transitions in accordance with 105.03.

MATERIALS

609.02 Materials

Materials shall be in accordance with the following:

Coarse Aggregate, Class D or Higher, Size No. 53 904
Concrete, Class ~~C*~~*A* 702
Curing Materials 912.01
Joint Materials ..... 906.02(a)1
Reinforcing Bars, Epoxy Coated 910.01
Support Devices ..... 910.01(b)9
~~Surface Seal ..... 709.02~~
Threaded Tie Bar Assembly ..... 910.01(b)2

~~* Coarse Aggregate shall be Class AP, Size No. 8~~

SECTION 609, BEGIN LINE 128, DELETE AS FOLLOWS:

609.13 Method of Measurement

Reinforced concrete bridge approaches, including extensions required for bridge railing transitions, will be measured by the square yard. Dense graded subbase will be measured in accordance with 302.08. Reinforcing bars will be measured in accordance with 703.07. Threaded tie bar assemblies will be measured in accordance with 703.07. ~~Surface seal will be measured in accordance with 709.07.~~

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISION

SECTION 609 - REINFORCED CONCRETE BRIDGE APPROACHES
609.02 Materials
609.13 Method of Measurement
609.14 Basis of Payment
609-B-311 RCBA SLAB OPTION FOR USE WITH SHORT TERM CLOSURES

SECTION 609, BEGIN LINE 139, DELETE AS FOLLOWS:

609.14 Basis of Payment

Reinforced concrete bridge approaches, including extensions required for bridge railing transitions, will be paid for at the contract unit price per square yard. Dense graded subbase will be paid for in accordance with 302.09. Reinforcing bars will be paid for in accordance with 703.08. Threaded tie bar assemblies will be paid for in accordance with 703.08. ~~Surface seal will be paid for in accordance with 709.08.~~

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISION

SECTION 609 - REINFORCED CONCRETE BRIDGE APPROACHES
609.02 Materials
609.13 Method of Measurement
609.14 Basis of Payment
609-B-311 RCBA SLAB OPTION FOR USE WITH SHORT TERM CLOSURES

(Note: Proposed changes shown highlighted gray and are with 2022 Standard Specifications. Line references will be revised as soon as 2022 SS finalized and ready for print.)

609-B-311 RCBA SLAB OPTION FOR USE WITH SHORT TERM CLOSURES

(Revised 11-20-19)

The Standard Specifications are revised as follows:

SECTION 609, BEGIN LINE 14, DELETE AND INSERT AS FOLLOWS:

Concrete, Class ~~A~~*C* 702

SECTION 609, AFTER LINE 22, INSERT AS FOLLOWS:

The cement content used in the Class C concrete for the RCBAs may be increased to 752 lbs/cu yd.

SECTION 609, BEGIN LINE 88, DELETE AND INSERT AS FOLLOWS:

609.10 Curing *and Sealing*

RCBA ~~shall be wet cured in accordance with 702 or~~ shall have liquid membrane forming curing compound applied to exposed surfaces ~~within 30 minutes~~ after the finishing operations have been completed*, as specified below*. The edges of the RCBA shall be cured immediately upon removal of the forms. The edge shall be covered with curing materials equal to the material used on the surface or banked with soil 12 in. wide or greater.

SECTION 609, BEGIN LINE 100, INSERT AS FOLLOWS:

Liquid membrane forming curing compound shall be applied *to the RCBA* in a continuous uniform film at a rate not less than 1 gal./150 sq ft of concrete surface and shall be applied to provide a uniform, solid, white opaque coverage on all surfaces, similar to a white sheet of paper. *The curing compound shall be mixed thoroughly within 1 h before use. All concrete cured by this method shall receive two applications of the curing compound. The first application shall be applied immediately after surface water has disappeared and surface texturing has been applied. The second application shall be applied after the first application has set.* Additional applications, if needed, shall follow the previous application within 30 minutes. The curing compound may be warmed in a water bath during cold weather at a temperature not exceeding 100°F. Thinning with solvents will not be allowed. Non-uniform film rates will result in the discontinuance of that application method.

SECTION 609, AFTER LINE 110, INSERT AS FOLLOWS:

The RCBAs may be covered with an insulating material during the curing period. Insulating materials are not a substitute for curing and liquid membrane forming curing compound shall be applied prior to placing insulating materials.

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISION

SECTION 609 - REINFORCED CONCRETE BRIDGE APPROACHES
609.02 Materials
609.13 Method of Measurement
609.14 Basis of Payment
609-B-311 RCBA SLAB OPTION FOR USE WITH SHORT TERM CLOSURES

Concrete sealer shall not be used on the RCBA. The concrete mix design shall use the silica fume option in accordance with 709.05(c). Slag cement shall not be used.

SECTION 609, BEGIN LINE 120, DELETE AND INSERT AS FOLLOWS:

609.12 Opening to Traffic

The RCBA may be opened to equipment and traffic when *the flexural strength of the* test beams indicate ~~a modulus of rupture of 550 psi~~*the concrete has attained a modulus of rupture of 500 psi* or greater.

SECTION 609, BEGIN LINE 159, DELETE AND INSERT AS FOLLOWS:

The cost of finishing, furnishing, ~~and~~ placing curing materials*, silica fume, insulating materials, and additional cement used* shall be included in the cost of the RCBA.

COMMENTS AND ACTION

609.02 Materials
609.13 Method of Measurement
609.14 Basis of Payment
609-B-311 RCBA SLAB OPTION FOR USE WITH SHORT TERM CLOSURES

DISCUSSION:

Motion: Second: Ayes: Nays: FHWA Approval:	Action: ___ Passed as Submitted ___ Passed as Revised ___ Withdrawn
Standard Specifications Sections referenced and/or affected: 609 begin pg 480. Recurring Special Provision affected: 609-B-311 RCBA SLAB OPTION FOR USE WITH SHORT TERM CLOSURES Standard Drawing affected: TBD Design Manual Sections affected: yes GIFE Sections affected: TBD	___ 2022 Standard Specifications ___ Revise Pay Items List ___ Create RSP (No.___) Effective: RSP Sunset Date: ___ Revise RSP (No.___) Effective: RSP Sunset Date: ___ Standard Drawing Effective: ___ Create RPD (No. ___) Effective: ___ GIFE Update ___ SiteManager Update

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO SPECIAL PROVISIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: confusion on spray paver usage when the plans dictate the shoulder to be placed simultaneously with mainline pavement

PROPOSED SOLUTION: Clarify specifications for when HMA is exempted from spray paver use.

APPLICABLE STANDARD SPECIFICATIONS: 401, 410

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: RSP 401-R-417 and 410-R-418

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT:

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317-522-9692

Date: 2/26/21

Mr. Reilman
Date: 3/18/21

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO SPECIAL PROVISIONS

IMPACT ANALYSIS REPORT CHECKLIST

Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.

Does this item appear in any other specification sections? N

Will approval of this item affect the Approved Materials List? N

Will this proposal improve:

Construction costs? N

Construction time? N

Customer satisfaction? N

Congestion/travel time? N

Ride quality? N

Will this proposal reduce operational costs or maintenance effort? N

Will this item improve safety:

For motorists? N

For construction workers? N

Will this proposal improve quality for:

Construction procedures/processes? Y

Asset preservation? N

Design process? Y

Will this change provide the contractor more flexibility? N

Will this proposal provide clarification for the Contractor and field personnel? Y

Can this item improve/reduce the number of potential change orders? N

Is this proposal needed for compliance with:

Federal or State regulations? N

AASHTO or other design code? N

Is this item editorial? N

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

REVISION TO SPECIAL PROVISIONS

401-R-417 HMA SPRAY PAVER AND EMULSION
410-R-418 SMA SPRAY PAVER AND EMULSION

(Note: Proposed changes shown highlighted gray)

401-R-417 HMA SPRAY PAVER AND EMULSION

(Adopted 05-21-20)

The Standard Specifications are revised as follows:

SECTION 401, BEGIN LINE 21, INSERT AS FOLLOWS:

401.03 Materials

Materials shall be in accordance with the following:

Asphalt Emulsion	*902.01(b)2*
Asphalt Materials	
PG Binder	902.01(a)
Coarse Aggregates	904
Base Mixtures – Class D or Higher	
Intermediate Mixtures – Class C or Higher	
Surface Mixtures* – Class B or Higher	
Fibers	AASHTO M 325
Fine Aggregates	904

*Surface aggregate requirements are listed in 904.03(d).

SECTION 401, BEGIN LINE 360, DELETE AND INSERT AS FOLLOWS:

Rubblized concrete pavements shall be primed in accordance with 405. PCCP, milled asphalt surfaces, and ~~asphalt surfaces~~*new and existing asphalt surfaces* shall be tacked in accordance with 406*, except surfaces shall be tacked in accordance with 401.14 when mixture is placed with paving equipment in accordance with 409.03(c)4.* Contact surfaces of curbing, gutters, manholes, and other structures shall be tacked in accordance with 406.

SECTION 401, BEGIN LINE 381, INSERT AS FOLLOWS:

401.14 Spreading and Finishing

The mixture placed on a shoulder, approach, taper, or gore area that is not placed simultaneously with a travel lane, turn lane, auxiliary lane, or ramp, shall be placed by means of laydown equipment in accordance with 409.03(c)1, 409.03(c)2, or 409.03(c)3 and tacked in accordance with 406 and 409.03(a). No additional payment will be made if the Contractor elects to use equipment and materials in accordance with 409.03(c)4 and 902.01(b)2.

The mixture *placed on all travel lanes, turn lanes, auxiliary lanes, and ramps* shall be placed upon an approved surface by means of laydown equipment in accordance with 409.03(c)*4.*

REVISION TO SPECIAL PROVISIONS

401-R-417 HMA SPRAY PAVER AND EMULSION
410-R-418 SMA SPRAY PAVER AND EMULSION

The spray paver emulsion, in accordance with 902.01(b)2, shall be applied at a temperature recommended by the emulsion supplier and applied uniformly across the entire width of pavement to be overlaid. Equipment shall not operate on the applied emulsion before the asphalt mix is placed.

The asphalt emulsion spray bar affixed to the spray paver shall not be turned off while applying the HMA except when passing over the plate sampling area. The plate sampling area shall be defined as 3.0 ft or less from the first edge of the plate sample encountered going upstream and continuing to 3.0 ft or less from the last edge of the plate sample encountered going upstream. This shall include any contractor plate samples. Tack coat will not be required in the plate sampling area.

The application rates of the spray paver emulsion are shown in the table below.

Spray Paver Emulsion Application Rate and Adjustment Factors for Surface Conditions			
Mixture Designation	*19.0 mm or 25.0 mm*	*12.5 mm*	*9.5 mm*
Tack Emulsion Application Rate, gal./sq yd	*0.25*	*0.20*	*0.17*
Existing Surface Condition	*Adjustment to application rate, gal./sq yd*		
PCCP, smooth or polished	*-0.03*	*-0.03*	*-0.03*
PCCP, broomed or textured	*0*	*0*	*0*
Flushed asphalt concrete surface	*-0.02*	*-0.03*	*-0.03*
Dense, unaged asphalt concrete surface	*0*	*0*	*0*
Open textured, dry, aged or oxidized asphalt concrete surface	*+0.02*	*+0.01*	*+0.01*
Milled asphalt concrete surface	*+0.02*	*+0.01*	*+0.01*

A pre-paving meeting between the Engineer and the Contractor shall be held on-site prior to beginning work. The following shall be reviewed:

(a) work schedule
(b) traffic control plan
(c) equipment calibrations and adjustments
(d) inspection and evaluation of the condition and adequacy of equipment, including units for transport of materials
(e) design mix formula
(f) the Contractor's proposed emulsion and mix application rates
(g) QCP in accordance with ITM 803
(h) the Contractor's authorized representative.

REVISION TO SPECIAL PROVISIONS

401-R-417 HMA SPRAY PAVER AND EMULSION
410-R-418 SMA SPRAY PAVER AND EMULSION

Prior to paving, both the planned quantity and lay rate shall be adjusted by multiplying by the MAF. When mixture is produced from more than one DMF for a given pay item, the MAF will be applied to the applicable portion of the mixture for each. The temperature of each mixture at the time of spreading shall be less than 315°F whenever PG 64-22 or PG 70-22 binders are used or not more than 325°F whenever PG 76-22 binder is used. *No mixture shall be placed on a previously paved course that has not cooled to below 175°F. For mixtures compacted in accordance with 402.15, the temperature of each mixture at the time of spreading shall not be less than 245°F.*

SECTION 401, AFTER LINE 404, INSERT AS FOLLOWS:

HMA mainline and HMA shoulders which are 8 ft or more in width shall be placed with paving equipment in accordance with 409.03(c)1 *or 409.03(c)4*.

SECTION 401, AFTER LINE 869, INSERT AS FOLLOWS:

Spray paver emulsion will be measured by the ton.

SECTION 401, AFTER LINE 886, INSERT AS FOLLOWS:

The accepted quantities of spray paver emulsion will be paid for at the contract unit price per ton, complete in place.

Payment will be made under:

Pay Item	**Pay Unit Symbol**
Joint Adhesive, _____ (course type)	LFT
HMA Spray Paver Emulsion	*TON*
Liquid Asphalt Sealant	LFT
Profilograph, HMA	LS
QC/QA-HMA, _____, _____, _____, _____mm (ESAL[(1)]) (PG[(2)]) (Course[(3)]) (Mix[(4)])	TON

(1) ESAL Category as defined in 401.04
(2) Number represents the high temperature binder grade. Low temperature grades are - 22
(3) Surface, Intermediate, or Base
(4) Mixture Designation

SECTION 409, AFTER LINE 84, INSERT AS FOLLOWS:

4. Spray Paver

The paver shall be in accordance with 409.03(c)1 except as follows:

(a) The paver shall be self-priming, designed and built for applying the HMA and the asphalt emulsion simultaneously. The paver shall have a receiving hopper, feed system, asphalt emulsion storage tank, a calibrated metering system for

REVISION TO SPECIAL PROVISIONS

401-R-417 HMA SPRAY PAVER AND EMULSION
410-R-418 SMA SPRAY PAVER AND EMULSION

measuring the emulsion volume applied, spray bar and a heated, variable width, combination vibratory screed or a combination vibratory-tamping bar screed.

(b) The paver shall be capable of spraying the asphalt emulsion, applying the asphalt mix and leveling the surface of the mat in one pass.

REVISION TO SPECIAL PROVISIONS

401-R-417 HMA SPRAY PAVER AND EMULSION
410-R-418 SMA SPRAY PAVER AND EMULSION

410-R-418 SMA SPRAY PAVER AND EMULSION

(Adopted 05-21-20)

The Standard Specifications are revised as follows:

SECTION 410, BEGIN LINE 21, INSERT AS FOLLOWS:

410.03 Materials

Materials shall be in accordance with the following:

Asphalt Emulsion .....*902.01(b)2*
Asphalt Materials
PG Binder, PG 76-22, PG 70-22.....902.01(a)
Coarse Aggregates, Class AS 904
Fibers.....AASHTO M 325
Fine Aggregates (sand, mineral filler).....904

SECTION 410, BEGIN LINE 238, DELETE AND INSERT AS FOLLOWS:

Milled asphalt surfaces and asphalt surfaces shall be tacked in accordance with 406*, except surfaces shall be tacked in accordance with 401.14 when mixture is placed with paving equipment in accordance with 409.03(c)4.* Contact surfaces of curbing, gutters, manholes, and other structures shall be tacked in accordance with 406.

SECTION 410, BEGIN LINE 251, INSERT AS FOLLOWS:

410.14 Spreading and Finishing

The mixture placed on a shoulder, approach, taper, or gore area that is not placed simultaneously with a travel lane, turn lane, auxiliary lane, or ramp, shall be placed by means of laydown equipment in accordance with 409.03(c)1, 409.03(c)2, or 409.03(c)3 and tacked in accordance with 406 and 409.03(a). No additional payment will be made if the Contractor elects to use equipment and materials in accordance with 409.03(c)4 and 902.01(b)2.

The mixture *placed on all travel lanes, turn lanes, auxiliary lanes, and ramps* shall be placed upon an approved surface by means of laydown equipment in accordance with 409.03(c)*4.*

The spray paver emulsion, in accordance with 902.01(b)2, shall be applied at a temperature recommended by the emulsion supplier and applied uniformly across the entire width of pavement to be overlaid. Equipment shall not operate on the applied emulsion before the asphalt mix is placed.

The asphalt emulsion spray bar affixed to the spray paver shall not be turned off while applying the HMA except when passing over the plate sampling area. The plate sampling area shall be defined as 3.0 ft or less from the first edge of the plate sample encountered going upstream and continuing to 3.0 ft or less from the last edge of the plate

sample encountered going upstream. This shall include any contractor plate samples. Tack coat will not be required in the plate sampling area.

The application rates of the spray paver emulsion are shown in the table below.

Spray Paver Emulsion Application Rate and Adjustment Factors for Surface Conditions			
Mixture Designation	*19.0 mm*	*12.5 mm*	*9.5 mm*
Tack Emulsion Application Rate, gal./sq yd	*0.25*	*0.20*	*0.17*
Existing Surface Condition	*Adjustment to application rate, gal./sq yd*		
PCCP, smooth or polished	*-0.03*	*-0.03*	*-0.03*
PCCP, broomed or textured	*0*	*0*	*0*
Flushed asphalt concrete surface	*-0.02*	*-0.03*	*-0.03*
Dense, unaged asphalt concrete surface	*0*	*0*	*0*
Open textured, dry, aged or oxidized asphalt concrete surface	*+0.02*	*+0.01*	*+0.01*
Milled asphalt concrete surface	*+0.02*	*+0.01*	*+0.01*

A pre-paving meeting between the Engineer and the Contractor shall be held on-site prior to beginning work. The following shall be reviewed:

(a) work schedule
(b) traffic control plan
(c) equipment calibrations and adjustments
(d) inspection and evaluation of the condition and adequacy of equipment, including units for transport of materials
(e) design mix formula
(f) the Contractor's proposed emulsion and mix application rates
(g) QCP in accordance with ITM 803
(h) the Contractor's authorized representative.

Mixtures in areas inaccessible to mechanical devices may be placed by other methods. The temperature of mixture at the time of spreading shall be no more than 315°F whenever PG 70-22 binder is used or no more than 325°F whenever PG 76-22 binder is used. *The temperature of each mixture shall not be less than 245°F at the time of spreading when placed with paving equipment in accordance with 409.03(c)2 or 409.03(c)3. No mixture shall be placed on a previously paved course that has not cooled to less than 175°F.*

SECTION 410, AFTER LINE 488, INSERT AS FOLLOWS:

Spray paver emulsion will be measured by the ton.

REVISION TO SPECIAL PROVISIONS

401-R-417 HMA SPRAY PAVER AND EMULSION
410-R-418 SMA SPRAY PAVER AND EMULSION

SECTION 410, AFTER LINE 497, INSERT AS FOLLOWS:

The accepted quantities of spray paver emulsion will be paid for at the contract unit price per ton, complete in place.

Adjustments to the contract payment with respect to mixture, density, and smoothness for mixture produced will be included in a quality assurance adjustment pay item. The unit price for this pay item will be $1.00 and the quantity will be in units of dollars. The quantity is the total calculated in accordance with 410.19. A change order developed in accordance with 109.05 will be prepared to reflect contract adjustments.

Payment will be made under:

Pay Item	**Pay Unit Symbol**
Joint Adhesive, _____ (course type)	LFT
SMA Spray Paver Emulsion	*TON*
QC/QA-HMA, _____, _____, _____, _____ mm, - SMA (ESAL[1])(PG[2])(Course[3])(Mix[4])	TON
Quality Assurance Adjustment	DOL

(1) ESAL Category as defined in 410.04
(2) Number represents the high temperature binder grade. Low temperature grades are - 22
(3) Surface or Intermediate
(4) Mixture Designation

SECTION 409, AFTER LINE 84, INSERT AS FOLLOWS:

4. Spray Paver

The paver shall be in accordance with 409.03(c)1 except as follows:

(a) The paver shall be self-priming, designed and built for applying the HMA and the asphalt emulsion simultaneously. The paver shall have a receiving hopper, feed system, asphalt emulsion storage tank, a calibrated metering system for measuring the emulsion volume applied, spray bar and a heated, variable width, combination vibratory screed or a combination vibratory-tamping bar screed.

(b) The paver shall be capable of spraying the asphalt emulsion, applying the asphalt mix and leveling the surface of the mat in one pass.

COMMENTS AND ACTION

401-R-417 HMA SPRAY PAVER AND EMULSION
410-R-418 SMA SPRAY PAVER AND EMULSION

DISCUSSION:

Motion: Second: Ayes: Nays: FHWA Approval:	Action: ___ Passed as Submitted ___ Passed as Revised ___ Withdrawn
Standard Specifications Sections referenced and/or affected: 401 begin pg. 287; 410 begin pg. 336. Recurring Special Provision references in: 401-R-417 HMA SPRAY PAVER AND EMULSION 410-R-418 SMA SPRAY PAVER AND EMULSION Standard Drawing affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	___ 2022 Standard Specifications ___ Revise Pay Items List ___ Create RSP (No.__) Effective: RSP Sunset Date: ___ Revise RSP (No.__) Effective: RSP Sunset Date: ___ Standard Drawing Effective: ___ Create RPD (No. __) Effective: ___ GIFE Update ___ SiteManager Update