



# INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue  
Room N758 CM  
Indianapolis, Indiana 46204

[www.in.gov/indot](http://www.in.gov/indot)

**Eric Holcomb, Governor**  
**Mike Smith, Commissioner**

# AGENDA

## May 16, 2024, Standards Committee Meeting

MEMORANDUM

April 30, 2024

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Agenda for the May 16, 2024, Standards Committee Meeting

A Standards Committee meeting is scheduled for 09:00 a.m. on Thursday, May 16, and will be held virtually via *Teams* (Microsoft application). Please contact Scott Trammell ([strammell@indot.in.gov](mailto:strammell@indot.in.gov)) for instructions on how to join this event.

The following items are listed for consideration:

### A. GENERAL BUSINESS

#### OLD BUSINESS

*(No items on this agenda)*

#### NEW BUSINESS

1. *Approval of the Minutes from the [April 18](#) meeting*

### B. CONCEPTUAL PROPOSAL

Editorial change to 2024 Standard Specifications 109.05 Payment for Extra Work:

(b) Force Account.....J. Novak ([pg. 3](#))

### C. STANDARD SPECIFICATIONS, SPECIAL PROVISIONS, AND STANDARD DRAWINGS PROPOSAL

#### OLD BUSINESS

*(No items on this agenda)*

NEW BUSINESS

[Item No. 1](#) [Mr. Novak](#) [pg. 5](#)

Recurring Special Provision:  
112-C-122 STATE FUNDED CONTRACT REQUIREMENTS

[Item No. 2](#) [Mr. Reilman](#) [pg. 17](#)

Recurring Special Provision:  
400-R-780 MSCR BINDER SPECIFICATIONS

[Item No. 3](#) [Mr. Novak](#) [pg. 28](#)

Recurring Special Provision:  
801-T-198 TRAFFIC CONTROL FOR TRAFFIC BREAKS

[Item No. 4](#) [Mr. White](#) [pg. 32](#)

2024 Standard Specifications:

702.03	Materials
702.20	Placing Concrete
706.02	Materials
706.06	Bridge Railing Pedestrian Fence
710.02	Materials
710.03	Patching Concrete Structures
722.03	Materials
722.06	Preparation of the Bridge Floor
722.08	Overlay Dam
722.15	Method of Measurement
722.16	Basis of Payment
727.02	Materials
727.04	Construction Requirements
727.06	Basis of Payment
909.11	Epoxy-Resin-Base System for Bonding Plastic Concrete to Hardened Concrete
909.12	Epoxy Resin Additives for Injection into Concrete

cc: Committee Members  
FHWA  
ICI

CONCEPTUAL PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Force Account specification - INDOT no longer needs or wants to have “triplicate” itemized statements as we continue to move toward electronic storage and communication. A single itemized statement is sufficient.

PROPOSED SOLUTION: Remove “triplicate” from the requirement.

APPLICABLE STANDARD SPECIFICATIONS: 109.05(b)8

APPLICABLE STANDARD DRAWINGS: n/a

APPLICABLE DESIGN MANUAL SECTION: n/a

APPLICABLE SECTION OF GIFE: n/a

APPLICABLE RECURRING SPECIAL PROVISIONS: n/a

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: N/A

IMPACT ANALYSIS (attach report): N/A

Submitted By: Joe Novak

Title: State Construction Engineer

Division: Construction Management

E-mail: jnovak@indot.in.gov

Date: 4/22/24

REVISION TO 2024 STANDARD SPECIFICATIONS

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SECTION 109 – MEASUREMENT AND PAYMENT

109.05(b)88. Statements (with shown editorial change)

(Note: Editorial changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 109, BEGIN LINE 752, DELETE AND INSERT AS FOLLOWS:

**8. Statements**

No payment will be made for work performed on a force account basis until the Contractor has furnished ~~triplicate~~ itemized statements of the cost of such force account work detailed as follows:

AGENDA

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: RSP 112-C-122 (State Funded Contract Requirements) is not consistent with recent changes to the Davis Bacon and related Acts. Also, Basis For Use is not consistent with the **Do Not Use** portion of the BFU for RSP's 100-C-146/147.

PROPOSED SOLUTION: Update RSP 112-C-122 (State Funded Contract Requirements). Revisions include:

1. Removal of references to "trainees" in Section 112.03(d). The DOL no longer has a training program, and it removed references to "trainees" in the DBRA regulations.
2. Revised the appropriate journey worker to apprentice ratio in Section 112.03(d)(1)(b) and (c) to match the updated DBRA regulations.
3. Revised/clarified the definition of site of work in Section 112.03(f) to match the updated DBRA regulations.
4. Updated references to code section and DOL's Wage and Hour Division's web address in Section 112.04.

Update the BFU.

APPLICABLE STANDARD SPECIFICATIONS: n/a

APPLICABLE STANDARD DRAWING: n/a

APPLICABLE DESIGN MANUAL CHAPTER: n/a

APPLICABLE SECTION OF GIFE: n/a

APPLICABLE RECURRING SPECIAL PROVISION OR PLAN DETAILS: RSP 112-C-122 (State Funded Contract Requirements)

PAY ITEMS AFFECTED: n/a

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc: Melissa Beaucaire, John Wooden, Teresa Giller, Joe Novak

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: As determined necessary by **Contract Administration**.

Do not use for maintenance contracts such as: mowing, herbicide, sweeping, light bulb replacement, or tree removal/trimming.

IMPACT ANALYSIS (attach report): none

Submitted By: Joe Novak on behalf of Melissa Beaucaire

Title: State Construction Engineer

Division: Construction Management

E-mail: jnovak@indot.in.gov

Date: 4/17/2024

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 Qualified Products List (QPL)? no

Will this proposal improve:

Construction costs? no

Construction time? no

Customer satisfaction? no

Congestion/travel time? no

Ride quality? no

Will this proposal reduce operational costs or maintenance effort? no

Will this item improve safety:

For motorists? no

For construction workers? no

Will this proposal improve quality for:

Construction procedures/processes? yes

Asset preservation? no

Design process? no

Will this change provide the contractor more flexibility? no

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

Can this item improve/reduce the number of potential change orders? no

Is this proposal needed for compliance with:

Federal or State regulations? yes

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: none

REVISION TO SPECIAL PROVISION

112-C-122 State Funded Contract Requirements

(Note: Proposed changes shown highlighted teal)

112-C-122 STATE FUNDED CONTRACT REQUIREMENTS

(Revised 09-01-05)

The Standard Specifications are revised as follows:

SECTION 112, BEGIN LINE 1, DELETE AND INSERT AS FOLLOWS:

**SECTION 112 – ~~BLANK~~ STATE FUNDED CONTRACT REQUIREMENTS**

**112.01 General Requirements**

*The Contractor shall insert in each subcontract all of the stipulations contained herein, and further shall require their inclusion in each lower tier subcontract or purchase order that may in turn be made. These requirements shall not be incorporated by reference. The Contractor shall be responsible for compliance by each subcontractor or lower tier subcontractor with these requirements.*

**112.02 Payment to Laborers**

*The rate of wages and fringe benefits for all laborers and mechanics employed on the contract shall be in accordance with the General Decision included in the Contract Information book.*

- (a) *“Wages”, “wage rates”, “minimum wages”, and “prevailing wages” shall include the basic hourly rate of pay for laborers and mechanics plus the amount contributed by the Contractor and its subcontractors for certain fringe benefits.*
- (b) *The meaning of “fringe benefits” for purposes of the contract shall be defined by the provisions of the Davis-Bacon Act and the interpretation of the fringe benefits regulations as set forth in 29 CFR 5.20 et seq., which are herein incorporated by reference.*
- (c) *The term “laborer” shall include at least those workers, including apprentices and trainees, whose duties are manual or physical in nature, including those workers who use tools or who are performing the work of a trade, as distinguished from mental or managerial. The term shall not include workers whose duties are primarily administrative, executive, or clerical.*

**112.03 Payment of Predetermined Minimum Wage**

**(a) General Requirements**

1. *All laborers employed or working upon the site of the work shall be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account the full amounts of*

REVISION TO SPECIAL PROVISION

112-C-122 State Funded Contract Requirements

*wages and bona fide fringe benefits, or cash equivalents thereof, due at time of payment. The payment shall be computed at wage rates not less than those contained in the General Decision, regardless of any contractual relationship which may be alleged to exist between the Contractor or its subcontractors and such laborers. The General Decision shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this section, contributions made or costs reasonably anticipated for bona fide fringe benefits on behalf of laborers are considered wages paid to such laborers subject to 112.03(c)2. Also, for the purpose of this section, regular contributions made or costs incurred for more than one weekly period, but not less often than quarterly, under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers shall be paid the appropriate wage rate and fringe benefits on the General Decision for the classification of work actually performed, without regard to skill, except as provided in 112.03(d) and 112.03(e).*

2. *Laborers performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.*

**(b) Classification**

1. *The Department's contracting officer will require that each class of laborers employed under the contract, which is not listed in the General Decision, shall be classified in conformance with the General Decision.*
2. *The contracting officer will approve an additional classification, wage rate, and its fringe benefits only when the following criteria have been met:*
  - a. *The work to be performed by the additional classification request is not performed by a classification in the General Decision.*
  - b. *The additional classification is utilized in the area by the construction industry.*
  - c. *The proposed wage rate, including all bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the General Decision.*



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112-C-122 State Funded Contract Requirements

- d. *With respect to helpers, when such a classification prevails in the area in which the work is performed.*
3. *The wage rate, including fringe benefits where appropriate, determined pursuant to the requirements herein shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.*

**(c) Payment of Fringe Benefits**

1. *Whenever the minimum wage rate prescribed in the contract for a class of laborers includes a fringe benefit which is not expressed as an hourly rate, the Contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the General Decision or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.*
2. *If the Contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of each laborer the amount of all costs reasonably anticipated in providing bona fide fringe benefits under a plan or program. The Department may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.*

**(d) Apprentices ~~and Trainees~~ (Programs of the U.S. Department of Labor)**

**1. Apprentices**

- a. *Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, ~~Bureau Office of Apprenticeship and Training~~, or with a State apprenticeship agency recognized by the Department. A person will be permitted to work as an apprentice if employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the ~~Bureau Office of Apprenticeship and Training~~ or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.*
- b. *The allowable ratio of apprentices to journeyman-level employees on the project site in each craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program ~~or the ratio applicable to the locality~~*

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112-C-122 State Funded Contract Requirements

*of the project pursuant to 112.03(d)(1)(c). Each employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the General Decision for the classification of work actually performed. In addition, each apprentice performing work on the project site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the General Decision for the work actually performed.*

*c. Where the Contractor or a subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates, expressed in percentages of the journeyman-level hourly rate, applicable within the locality in which the construction is being performed must be observed. If there is no applicable ratio or wage rate for the locality of the project, the ratio and wage rate specified in the Contractor's or subcontractor's registered program shall be observed.*

*ed. Every apprentice shall be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the General Decision. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices shall be paid the full amount of fringe benefits listed in the General Decision for the applicable classification.*

*de. If the BureauOffice of Apprenticeship and Training, or a State apprenticeship agency recognized by the Department, withdraws approval of an apprenticeship program, the Contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.*

***2. Trainees***

*a. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration, or the Department.*

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112-C-122 State Funded Contract Requirements

~~b. The ratio of trainees to journeyman level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Each employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the General Decision for the classification of work actually performed. In addition, each trainee performing work on the project site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the General Decision for the work actually performed.~~

~~e. Every trainee shall be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman level hourly rate specified in the General Decision. Trainees shall be paid fringe benefits in accordance with 112.03. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the General Decision unless the Administrator of the DOL's Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman level wage rate on the General Decision which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.~~

~~d. If the Employment and Training Administration withdraws approval of a training program, the Contractor or subcontractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.~~

**(e) Apprentices and Trainees**

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation are not subject to the requirements of 112.03(d). The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

**(f) Truck Drivers**

1. The payment of Davis-Bacon wages to truck drivers shall be in accordance with the decision reached in Building and Construction Trades Dept. v. Midway, (D.C. Cir. 1991) 932 F. 2d 985.

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112-C-122 State Funded Contract Requirements

2. *Davis-Bacon wages shall only apply to laborers who work on the site of the construction work, and not laborers employed off-site, such as suppliers, materialmen, and material delivery truck drivers, regardless of their employer.*
3. *For purposes of the contract, the definition of work subject to Davis-Bacon wages shall include transportation between the ~~actual construction location and a facility which is dedicated to such construction~~ and primary construction site(s), the secondary construction site(s), and any adjacent or virtually adjacent dedicated support site(s) which are deemed a part of the site of the work within the meaning of the term “site of the work”, as set forth in the regulations at 29 CFR 5.2 et seq. which are herein incorporated by reference.*
4. *“Site of the work” shall ~~be~~ include the primary construction site which is the physical place or places where the construction called for in the contract will remain when work on it has been completed.*
5. *The “site of work” shall include any secondary construction site(s), where a significant portion of the work is constructed, provided that:*
  - a. *The construction is for specific use in the work and not the manufacture or production of a product made available to the general public; and*
  - b. *The site is either established specifically for the performance of contract or is dedicated exclusively, or nearly so, to the performance of the contract for a specific period of time.*
6. *The “site of the work” shall include any adjacent or virtually adjacent dedicated support sites, which include off-site facilities such as fabrication plants, mobile factories, batch plants, borrow pits, job headquarters, tool yards, etc., provided they are dedicated exclusively, or nearly so, to the performance of the contract work and are so located in proximity to the actual construction location that it would be reasonable to include them.*
67. *The site of the work shall not include permanent home offices, branch plant establishments, fabrication plants, or tool yards of the Contractor or a subcontractor whose locations and continuance in operation are determined wholly without regard to a particular 100% State-funded construction contract or project.*
7. *Fabrication plants, batch plants, borrow pits, job headquarters, tool yards, etc., of a commercial supplier or materialman which are established by a supplier of materials before opening of bids and not on*

REVISION TO SPECIAL PROVISION

112-C-122 State Funded Contract Requirements

*the project site, are not part of the site of the work, even where the operations for a period of time may be dedicated exclusively, or nearly so, to the performance of a contract.*

**(g) Withholding**

*The Department will upon its own action withhold, or cause to be withheld, from the Contractor or subcontractor under this contract or another contract with the Contractor as much of the accrued payments or advances as may be considered necessary to pay laborers, including apprentices, trainees, and helpers, employed by the Contractor or a subcontractor the full amount of wages required by the contract. In the event of failure to pay a laborer, including an apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the Department's contracting officer may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of further payment, advance, or guarantee of funds until such violations have ceased.*

**(h) Overtime Requirements**

*No Contractor or subcontractor contracting for a part of the contract work which may require or involve the employment of laborers, including apprentices, trainees, and helpers described in 112.03(d) and 112.03(e) shall require or permit a laborer in a given workweek in which he/she is employed on such work, to work in excess of 40 h in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one half time his/her basic rate of pay for all hours worked in excess of 40 h in such workweek.*

**(i) Violation: Liability for Unpaid Wages**

*In the event of violation of 112.03(g), the Contractor and each subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages.*

**(j) Withholding for Unpaid Wages**

*The Department will upon its own action withhold, or cause to be withheld, from the monies payable on account of work performed by the Contractor or subcontractor under the contract or another contract with the Contractor, such sums as may be determined to be necessary to satisfy any liabilities of the Contractor or subcontractor for unpaid wages.*

**112.04 Statements and Payrolls**

*(a) Payrolls and basic records relating thereto shall be maintained by the Contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, apprentices, and trainees working at the site of the work.*

*(b) The payroll records shall contain the name of each employee; his or her correct classification; hourly rates of wages paid, including rates of contributions or costs anticipated for bona fide fringe benefits or cash*

## REVISION TO SPECIAL PROVISION

## 112-C-122 State Funded Contract Requirements

equivalent thereof the types described in ~~Section 1(b)(2)(B)40 U.S.C 3141(2)(B)~~ of the Davis-Bacon Act; daily and weekly number of hours worked; deductions made; and actual wages paid. The Contractor and each subcontractor employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.

- (c) The Contractor and each subcontractor shall furnish, each week in which contract work is performed, to the Engineer a payroll of wages paid each of its employees, including apprentices and trainees, described in 112.03(d) and 112.03(e), and watchers and guards engaged on work during the preceding weekly payroll period. The payroll submitted shall set out accurately and completely all of the information required to be maintained in accordance with 112.04(b). This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be ~~purchased from the Superintendent of Documents as Federal stock number 029 005 0014 1, U.S. Government Printing Office, Washington, D.C. 20402~~ obtained from the Department of Labor's Wage and Hour Division's website at <https://www.dol.gov/sites/dolgov/files/WHD/legacy/files/wh347.pdf> or its successor website. The Contractor shall be responsible for the submission of copies of payrolls by all subcontractors.
- (d) Each payroll submitted shall be accompanied by a "Statement of Compliance", signed by the Contractor or subcontractor or its agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:
1. That the payroll for the payroll period contains the information required to be maintained under 112.04(b) and that such information is correct and complete.
  2. That each laborer, including each apprentice and trainee, employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR 3.
  3. That each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- (e) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for

REVISION TO SPECIAL PROVISION

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112-C-122 State Funded Contract Requirements

*submission of the “Statement of Compliance” required by 112.04 requirement (d).*

- (f) The Contractor or subcontractor shall make the records required under 112.04 requirement (b) available for inspection, copying, or transcription by authorized representatives of the Department, and shall permit such representatives to interview employees during work hours on the project site. If the Contractor or subcontractor fails to submit the required records or to make them available, the Department, after written notice to the Contractor, may take such actions as may be necessary to cause the suspension of further payment, advance, or guarantee of funds.*
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AGENDA

COMMENTS AND ACTION

112-C-122 State Funded Contract Requirements

DISCUSSION:

<p>Motion: Second: Ayes: Nays: FHWA Approval:</p>	<p><b>Action:</b>   <input type="checkbox"/> Passed as Submitted  <input type="checkbox"/> Passed as Revised  <input type="checkbox"/> Withdrawn</p>
<p>2024 Standard Specifications Sections: Section 112 – BLANK</p>	<p><input type="checkbox"/> 2026 Standard Specifications  <input type="checkbox"/> Revise Pay Items List  <input type="checkbox"/> Notification to Designers if change is <u>not</u> addressed by RSP</p>
<p>Recurring Special Provisions or Plan Details: 112-C-122 State Funded Contract Requirements</p>	<p><input type="checkbox"/> Create RSP (No. __) Effective:</p>
<p>Standard Drawing affected: NONE</p>	<p><input type="checkbox"/> Revise RSP (No. __) Effective:</p>
<p>Design Manual Chapter: NONE</p>	<p><input type="checkbox"/> Standard Drawing Effective:</p>
<p>GIFE Section: NONE</p>	<p><input type="checkbox"/> Create RPD (No. __) Effective:   <input type="checkbox"/> GIFE Update  <input type="checkbox"/> Frequency Manual Update  <input type="checkbox"/> SiteManager Update</p>



PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: There are many procedures for HMA that are contained in directives and should exist in the spec for more visibility. The binder testing language in 902.01(a) does not match current procedures

PROPOSED SOLUTION: Update RSP 400-R-780 to include language from directives and update section 902.01(a)

APPLICABLE STANDARD SPECIFICATIONS: 401, 410, 902

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: Section 13.5

APPLICABLE RECURRING SPECIAL PROVISIONS: 400-R-780

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: N/A

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: Same as previous

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Division: Materials and Tests

E-mail: jreilman@indot.in.gov

Date: 4/24/24

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 Qualified Products List (QPL)? Yes, but already being addressed

Will this proposal improve:

Construction costs? no

Construction time? no

Customer satisfaction? no

Congestion/travel time? no

Ride quality? no

Will this proposal reduce operational costs or maintenance effort? no

Will this item improve safety:

For motorists? no

For construction workers? no

Will this proposal improve quality for:

Construction procedures/processes? yes

Asset preservation? no

Design process? no

Will this change provide the contractor more flexibility? yes

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

Can this item improve/reduce the number of potential change orders? no

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: mostly just clarification or statements of existing policies/procedures

REVISION TO SPECIAL PROVISIONS

400-R-780 MSCR BINDER SPECIFICATIONS

(**Note:** Proposed changes shown highlighted gray.)

**Basis for Use:** Required for all contracts with any 401, 402, 406, 408, 410, or 414 pay items.)

400-R-780 MSCR BINDER SPECIFICATIONS

(Adopted 10-19-23)

The Standard Specifications are revised as follows:

~~SECTION 401, BEGIN LINE 36, DELETE AND INSERT AS FOLLOWS:~~

**401.04 Design Mix Formula**

A DMF shall be prepared in accordance with 401.05 and submitted in a format acceptable to the Engineer one week prior to use. The DMF shall be based on the ESAL category identified in the pay item and shall state the mixture designation and maximum particle size in the mixture. No mixture shall be used until the DMF has been assigned a mixture number by the DTE. *The mixture number will be assigned for each calendar year. Assigning of a mixture number shall not in any way be construed as acceptance in conjunction with 401.19.*

The DMF shall state the binder content, the  $\Delta P_b$  as determined in accordance with ITM 591, and the MAF. The DMF shall state the source, type, and dosage rate of any stabilizing additives.

~~SECTION 401, BEGIN LINE 47, DELETE AND INSERT AS FOLLOWS:~~

The ESAL category identified in the pay item correlates to the following ESAL ranges.

ESAL Category	ESAL
2 <sup>*</sup>	< 3,000,000
3	3,000,000 to < 10,000,000
4 <sup>*</sup>	$\geq$ 10,000,000
<i>* A category 2 mixture shall replace a category 1 mixture and a category 4 mixture shall replace a category 5 mixture.</i>	

*A category 4 mixture meeting all the requirements of a category 3 mixture may be used in lieu of a category 3 mixture.*

The plant discharge temperature for any mixture shall not be more than 315°F whenever PG 64-2258S-28 or PG 70-2258H-28 binders are used or not more than 325°F whenever PG 76-2258E-28 binder is used. QC/QA HMA may be produced using a water-injection foaming device. The DMF shall list the minimum and maximum plant discharge temperatures as applicable to the mixture.

**401.05 Volumetric Mix Design**

The DMF shall be determined for each mixture from a volumetric mix design by a

REVISION TO SPECIAL PROVISIONS

400-R-780 MSCR BINDER SPECIFICATIONS

design laboratory selected from the Department's list of Qualified QPL of HMA Mix Design Laboratories. A laboratory will be considered for inclusion on the QPL by following the procedure in ITM 574. A volumetric mixture shall be designed in accordance with AASHTO R 35 and the respective AASHTO reference as listed below.

All loose mixtures shall be conditioned for 4 h in accordance with AASHTO R 30 prior to testing, *except as follows:*

(a) *Mixtures shall be conditioned for 4 hours.*

(b) *Dense graded mixtures shall be conditioned at 300 ±5°F and open graded mixtures shall be conditioned at 260 ±5°F.*

[moved to a separate paragraph] Steel furnace slag coarse aggregate, when used in an intermediate or base mixture application, shall have a deleterious content less than 4.0% as determined in accordance with ITM 219.

SECTION 401, BEGIN LINE 82, INSERT AS FOLLOWS:

Dust/Calculated Effective Binder Ratio *for dense graded mixtures* shall be 0.6 to 1.4. The Dust/Calculated Effective Binder Ratio for 4.75 mm mixtures shall be 1.0 to 2.0.

SECTION 401, BEGIN LINE 97, DELETE AND INSERT AS FOLLOWS:

The percent draindown of open graded mixtures shall not exceed 0.30% in accordance with AASHTO T 305. Open graded mixtures may incorporate recycled materials and fibers. The recycled materials shall be in accordance with 401.06. The fiber type and minimum dosage rate shall be in accordance with AASHTO M 325. The binder for open graded mixtures may have ~~the upper temperature classification reduced by 6°C from the specified binder grade~~ a traffic loading designation of H if fibers are incorporated into the mixture or if 3.0% reclaimed asphalt shingles RAS by weight of the total mixture is used.

SECTION 401, BEGIN LINE 114, DELETE AND INSERT AS FOLLOWS:

A PG binder grade or source change will not require a new mix design. If the ~~upper temperature classification~~ traffic loading designation of the PG binder is lower than the original PG grade, a new TSR value is required.

SECTION 401, AFTER LINE 173, INSERT AS FOLLOWS:

*If a pay item is designated as PG 58S-28 and a surface mixture, the binder grade used shall be PG 58H-28 when the Binder Replacement is less than or equal to 15.0%.*

SECTION 401, BEGIN LINE 232, DELETE AND INSERT AS FOLLOWS:

The Engineer will randomly select the location within each subplot for sampling in accordance with ITM 802. The first 300 t of the first subplot of the first lot for each ~~mixture~~ original contract pay item in a calendar year will not be sampled. An acceptance sample will consist of plate samples obtained in accordance with ITM 802 and ITM 580. The Engineer will take immediate possession of the samples.

REVISION TO SPECIAL PROVISIONS

400-R-780 MSCR BINDER SPECIFICATIONS

SECTION 401, BEGIN LINE 404, DELETE AND INSERT AS FOLLOWS:

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 ~~64-2258S-28~~ or PG ~~70-2258H-28~~ binders are used or not more than 325°F whenever PG ~~76-2258E-28~~ 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, BEGIN LINE 1004, DELETE AND INSERT AS FOLLOWS:

QC/QA-HMA, \_\_\_\_\_, 58 \_\_\_\_\_, \_\_\_\_\_ mm ....TON  
 (ESAL<sup>(1)</sup>) (PG<sup>(2)</sup>) (Course<sup>(3)</sup>) (Mix<sup>(4)</sup>)

- (1) ESAL Category as defined in 401.04
- (2) Number represents the high temperature binder grade. Letter represents traffic loading designation. Low temperature grades are - ~~2228~~
- (3) Surface, Intermediate, or Base
- (4) Mixture Designation

SECTION 402, BEGIN LINE 36, DELETE AND INSERT AS FOLLOWS:

The DMF will be based on the ESAL and mixture designation as follows:

Mixture Type	Type B <sup>*</sup>	Type C	Type D
Design ESAL	< 3,000,000	3,000,000 to < 10,000,000	≥ 10,000,000
Surface	4.75 mm	4.75 mm	4.75 mm
	9.5 mm	9.5 mm	9.5 mm
	12.5 mm	12.5 mm	12.5 mm
Surface – PG Binder	<del>64-2258S-28</del>	<del>70-2258H-28</del>	<del>70-2258E-28</del>
Intermediate	9.5 mm	9.5 mm	9.5 mm
	12.5 mm	12.5 mm	12.5 mm
	19.0 mm	19.0 mm	19.0 mm
	25.0 mm	25.0 mm	25.0 mm
Intermediate – PG Binder	<del>64-2258S-28</del>	<del>64-2258H-28</del>	<del>70-2258E-28</del>
Base	19.0 mm	19.0 mm	19.0 mm
	25.0 mm	25.0 mm	25.0 mm
Base – PG Binder	<del>64-2258S-28</del>	<del>64-2258S-28</del>	<del>64-2258S-28</del>
<i>*A Type B mixture shall replace a Type A mixture.</i>			

A Type C mixture may be used in lieu of a Type B mixture. A Type D mixture may be used in lieu of a Type C or a Type B mixture.

Surface 4.75 mm mixtures shall not be used when the required lay rate shown on the plans is greater than 100 lb/sq yd. Surface 12.5 mm mixtures shall not be used when the required lay rate shown on the plans is less than 195 lb/sq yd.

The plant discharge temperature for any mixture shall not be more than 315°F

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whenever PG ~~64-2258S-28~~ or PG ~~70-2258H-28~~ binders are used *or not more than 325°F whenever 58E-28 binder is used*. HMA may be produced using a water-injection foaming device. The DMF shall list the minimum and maximum plant discharge temperatures as applicable to the mixture.

SECTION 402, BEGIN LINE 180, DELETE AND INSERT AS FOLLOWS:

The temperature of each mixture at the time of spreading shall be less than 315°F whenever ~~64-2258S-28~~ or PG ~~70-2258H-28~~ binders are used *or not more than 325°F whenever 58E-28 binder is used*. The temperature of each mixture at the time of spreading shall not be less than 245°F. No mixture shall be placed on a previously paved course that has not cooled to less than 175°F.

SECTION 406, BEGIN LINE 9, DELETE AND INSERT AS FOLLOWS:

**406.02 Materials**

The type and grade of asphalt material shall be in accordance with the following:

- Asphalt Emulsion, SS-1h, AE-NT .....902.01(b)
- PG Asphalt Binder, PG ~~64-2258S-28~~.....902.01(a)

SECTION 408, BEGIN LINE 12, DELETE AND INSERT AS FOLLOWS:

**408.02 Materials**

Materials shall be in accordance with the following:

- Asphalt Binder, PG ~~64-2258S-28~~\* .....902.01(a)
- Asphalt Emulsion for Crack Filling, AE-90S .....902.01(b)
- Fine Aggregates, No. 23 or No. 24 .....904.02
- Joint Sealing Materials.....906.02(a)2

\* A PG ~~64-2258S-28~~ asphalt binder shall be used to fill cracks on a surface that is milled in accordance with 306, and polypropylene fibers shall be used only in conjunction with warranted micro-surfacing.

SECTION 410, BEGIN LINE 21, DELETE AND INSERT AS FOLLOWS:

**410.03 Materials**

Materials shall be in accordance with the following:

- Asphalt Materials
- PG Binder, PG ~~76-22~~, PG ~~70-22~~, ~~58E-28~~..... 902.01(a)

SECTION 410, BEGIN LINE 30, DELETE AND INSERT AS FOLLOWS:

**410.04 Design Mix Formula**

A DMF shall be prepared in accordance with 410.05 and submitted in a format acceptable to the Engineer one week prior to use. The DMF shall state the maximum particle size in the mixture. The DMF shall state the calibration factor, test temperature and absorption factors to be used for the determination of binder content using the ignition oven in accordance with ITM 586, the binder content by extraction in accordance with ITM 571, ΔPb, determined in accordance with ITM 591, the aggregate degradation loss value in accordance with ITM 220 and a Mixture Adjustment Factor, MAF. The DMF shall state

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the source, type dosage rate of any stabilizing additives. The DMF ~~will~~ shall be based on the ESAL and mixture designation. No mixture shall be used until the DMF has been assigned a mixture number by the DTE. *The mixture number will be assigned for each calendar year. Assigning of a mixture number shall not in any way be construed as acceptance in conjunction with 401.19.*

The ESAL category ~~identified in the pay item correlates to the following ESAL ranges:~~ shall be ESAL Category 4 corresponding to greater than or equal to 10,000,000 ESALs.

ESAL Category	ESAL
2*	< 3,000,000
3	3,000,000 to < 10,000,000
4*	≥ 10,000,000
* A category 2 mixture shall replace a category 1 mixture and a category 4 mixture shall replace a category 5 mixture.	

The plant discharge temperature for any mixture shall not be more than 315°F ~~whenever PG 70-22 binder is used or not more than 325°F whenever PG 76-22 binder is used.~~ SMA may be produced using a water-injection foaming device. The DMF shall list the minimum and maximum plant discharge temperatures as applicable to the mixture.

**410.05 SMA Mix Design**

The DMF shall be determined for each mixture from a SMA mix design by a design laboratory selected from the ~~Department's list of Qualified~~ QPL of HMA Mix Design Laboratories. *A laboratory will be considered for inclusion on the QPL by following the procedure in ITM 574.* A SMA mixture shall be designed in accordance with ITM 220, AASHTO M 325 and AASHTO R 46 except the design gyrations shall be 75 for all ESAL categories.

**[moved to a separate paragraph]** All loose mixtures shall be conditioned ~~for 4 h~~ in accordance with AASHTO R 30 prior to testing, *except as follows:*

- (a) *Mixtures shall be conditioned for 4 hours.*
- (b) *SMA mixtures shall be conditioned at 300 ±5°F.*

**[moved to a separate paragraph]** Steel furnace slag coarse aggregate, when used in an intermediate mixture application, shall have a deleterious content less than 4.0% as determined in accordance with ITM 219.

SECTION 410, BEGIN LINE 99, DELETE AS FOLLOWS:

A PG binder ~~grade or~~ source change will not require a new mix design. ~~If the upper temperature classification of the PG binder is lower than the original PG grade, a new TSR value is required.~~

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 400-R-780 MSCR BINDER SPECIFICATIONS

SECTION 410, BEGIN LINE 257, DELETE AS FOLLOWS:

**410.14 Spreading and Finishing**

The mixture shall be placed upon an approved surface by means of a paver or other mechanical devices in accordance with 409.03. 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, BEGIN LINE 525, DELETE AND INSERT AS FOLLOWS:

Payment will be made under:

Pay Item	Pay Unit Symbol
Joint Adhesive, _____ course type	LFT
QC/QA - HMA, <u>4</u> , <u>58E</u> , _____ mm, - SMA (ESAL <sup>(1)</sup> )(PG <sup>(2)</sup> )(Course <sup>(3)</sup> )(Mix <sup>(4)</sup> )	TON
Quality Assurance Adjustment	DOL

(1) ESAL Category as defined in 410.04  
 (2) Number represents the high temperature binder grade. *Letter represents traffic loading designation.* Low temperature grades is - 2228  
 (3) Surface or Intermediate  
 (4) Mixture Designation

SECTION 414, BEGIN LINE 19, DELETE AND INSERT AS FOLLOWS:

Asphalt Materials  
 PG Binder, PG ~~64-2258S-28~~, PG ~~76-2258E-28~~.....902.01(a)

SECTION 414, BEGIN LINE 28, DELETE AND INSERT AS FOLLOWS:

**(b) Asphalt Materials**

The PG binder grade shall be selected based on the following requirements:

PG Binder	ESAL
<del>64-2258S-28</del>	< 10,000,000
<del>76-2258E-28</del>	≥ 10,000,000

Additional requirements for the ~~PG 76-22 binder~~ as follows:

Characteristic	Test Method	Min.	Max.
<del>Separation, % prepared by ASTM D 7173</del>	<del>AASHTO T 53</del>		<del>6°C</del>
<del>Elastic Recovery, @ 39°F (4°C), %</del>	<del>AASHTO T 301</del>	60	



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400-R-780 MSCR BINDER SPECIFICATIONS

SECTION 902, BEGIN LINE 3, DELETE AND INSERT AS FOLLOWS:

**902.01 Asphalt**

Asphalt is defined as a cementitious material obtained from petroleum processes. Asphalts shall be sampled and tested in accordance with the applicable requirements of 902.02.

**(a) Performance Graded Asphalt Binders**

~~Performance graded asphalt~~PG binders shall be from a supplier on the QPL of Performance-Graded Asphalt Binder Suppliers. A PG binder will be considered for inclusion on the QPL by following ITM 581.

~~Performance graded, PG asphalt binders shall be in accordance with the following:~~

GRADE	58-28	64-22	64-28	70-22	70-28	76-22
ORIGINAL BINDER						
Flash Point, minimum, °C	230					
Viscosity, maximum, 3 Pa·s, Test Temp, °C	135					
DSR, $G^*/\sin \delta$ (delta), minimum, 1.00 kPa, Test Temp. @ 10 rad/s, °C	58	64	64	70	70	76
ROLLING THIN FILM OVEN RESIDUE						
Mass Loss, maximum, %	1.00					
DSR, $G^*/\sin \delta$ (delta), minimum, 2.20 kPa, Test Temp. @ 10 rad/s, °C	58	64	64	70	70	76
PRESSURE AGING VESSEL (PAV) RESIDUE						
PAV Aging Temperature, °C	100 (Note 1)					
DSR, $G^*\sin \delta$ (delta), maximum, 5,000 kPa, Test Temp. @ 10 rad/s, °C (Note 3)	19	25	22	28	25	31
Physical Hardening	Report (Note 2)					
Creep Stiffness, S, maximum, 300 MPa, m-value, minimum, 0.300, Test Temp. @ 60 s, °C	-18	-12	-18	-12	-18	-12
Notes: 1. Oven temperature tolerance shall be $\pm 0.5^\circ\text{C}$ .						
2. Physical Hardening is performed on a set of asphalt beams according to AASHTO T 313, Section 12.1, except the conditioning time is extended to 24 h $\pm 10$ minutes at 10°C above the minimum performance temperature. The 24 h stiffness and m value are reported for information purposes only.						
3. Binders that have a $G^*\sin \delta$ (delta) of 5,001 to 6,000 Kpa will be considered acceptable if the phase angle is 42 degrees or greater.						

A PG 58-28 or PG 64-22 binder may be modified by in-line blending with styrene butadiene rubber, SBR, polymer latex at the HMA plant in accordance with ITM 581. A PG 58-28 may be modified to a PG 64-28 and a PG 64-22 may be modified to a PG 70-22. A Type A certification in accordance with 916 shall be provided for SBR polymer latex. The results of the following shall be shown on the certification.

Property	Requirements
Total Polymer Solids, % by weight	60-72
Butadiene, % by weight, min.	68

REVISION TO SPECIAL PROVISIONS

400-R-780 MSCR BINDER SPECIFICATIONS

Residual Styrene, % by weight, max.	0.1
Ash, % of total polymer solids by weight, max.	3.5
pH	9-11
Viscosity, Brookfield model RVF, Spindle No. 2 @ 20 rpm @ 25°C, max.	2,000

~~The minimum SBR polymer latex content shall be 2.5 %. The SBR polymer latex content may be reduced below the minimum content provided, if the following requirements are met:~~

- ~~1. An AASHTO accredited laboratory shall blend the PG binder and SBR polymer latex at the proposed SBR polymer latex content and test and grade the modified PG binder in accordance with AASHTO M 320.~~
- ~~2. The laboratory test results verifying the blend and compliance with 902.01(a) shall be submitted to the Engineer for approval.~~
- ~~3. The source of the PG Binder or SBR polymer latex shall not be changed.~~

~~PG binders shall be in accordance with AASHTO M 332 and in accordance with the elastic response requirements in AASHTO R 92.~~

### **1. Sampling**

An acceptance sample and backup sample shall be taken from the asphalt delivery system at the HMA plant. A copy of a load ticket identifying the binder source shall be submitted with the samples. The Engineer will take immediate possession of the samples.

### **2. PG Binder Testing**

The Department will perform complete testing in accordance with AASHTO M 320332. Complete PG binder testing will consist of RTFO DSR and PAV BBR testing. *Elastic response in accordance with AASHTO R 92 will also be tested and reported.* Rotational viscosity and flashpoint tests are not required. If the material is not in accordance with the specifications, the material will represent one week of HMA production and be adjudicated as a failed material in accordance with 105.03.

### **3. Appeals**

~~If the Contractor does not agree with the acceptance test results, a request may be made in writing for additional testing. The appeal shall be submitted within 15 calendar days of receipt of the Department's written results. The basis of the appeal shall include complete AASHTO M 320332 test results.~~

COMMENTS AND ACTION

400-R-780 MSCR BINDER SPECIFICATIONS

DISCUSSION:

Motion: Second: Ayes: Nays: FHWA Approval:	<b>Action:</b> <input type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn
2024 Standard Specifications Sections: 401 begins pg. 301 – 330; 402 begins pg. 330 – 339, 410 begins pg. 351 – 365; and 902.01 pg. 986.	<input type="checkbox"/> 2026 Standard Specifications <input type="checkbox"/> Revise Pay Items List <input type="checkbox"/> Notification to Designers if change is <u>not</u> addressed by RSP
Recurring Special Provisions or Plan Details: <a href="#">400-R-780 MSCR BINDER SPECIFICATIONS</a>	<input type="checkbox"/> Create RSP (No. __) Effective:  <input type="checkbox"/> Revise RSP (No. __) Effective:
Standard Drawing affected: NONE	<input type="checkbox"/> Standard Drawing Effective:
Design Manual Chapter: NONE	<input type="checkbox"/> Create RPD (No. __) Effective:
GIFE Section: NONE	<input type="checkbox"/> GIFE Update <input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: There continues to be confusion and general lack of follow through on routinely getting needed IHCP exceptions for some projects where rolling slowdowns (outside the specific approval methods outlined in the IHCP (policy)) or 20 minute stoppages are occurring. When not identified by designers (which sometimes occurs), it is left to the contractor and/or project engineer to understand that an exception is regularly needed on interstate events.

PROPOSED SOLUTION: Add language to the existing RSP to clarify this need. Also, due to changes over time in safety measures related to queue protection, language was added to include reference those measures.

APPLICABLE STANDARD SPECIFICATIONS: 801.16(c)

APPLICABLE STANDARD DRAWING: n/a

APPLICABLE DESIGN MANUAL CHAPTER: n/a

APPLICABLE SECTION OF GIFE: n/a

APPLICABLE RECURRING SPECIAL PROVISION OR PLAN DETAILS: 801-T-198

PAY ITEMS AFFECTED: n/a

APPLICABLE SUB-COMMITTEE ENDORSEMENT: ad hoc Jim Poturalski, Mischa Kachler, Joe Novak

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: Same as existing – All contracts.

IMPACT ANALYSIS (attach report): attached.

Submitted By: Joe Novak

Title: State Construction Engineer

Division: Construction Management

E-mail: jnovak@indot.in.gov

Date: 4/26/24

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 Qualified Products List (QPL)? no

Will this proposal improve:

Construction costs? no

Construction time? no

Customer satisfaction? no

Congestion/travel time? yes

Ride quality? no

Will this proposal reduce operational costs or maintenance effort? no

Will this item improve safety:

For motorists? yes

For construction workers? yes

Will this proposal improve quality for:

Construction procedures/processes? yes

Asset preservation? no

Design process? no

Will this change provide the contractor more flexibility? no

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

Can this item improve/reduce the number of potential change orders? no

Is this proposal needed for compliance with:

Federal or State regulations? yes

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 SPECIAL PROVISION

801-T-198 TRAFFIC CONTROL FOR TRAFFIC BREAKS

(**Note:** Proposed changes shown highlighted gray.)

**Basis for Use:** Required for all contracts.)

801-T-198 TRAFFIC CONTROL FOR TRAFFIC BREAKS

(Revised 05-20-23)

The Standard Specifications are revised as follows:

SECTION 801, BEGIN LINE 868, DELETE AND INSERT AS FOLLOWS:

**801.16 Temporary Traffic Control Zone**

A temporary traffic control zone is a work zone with frequently changing operation, a maximum duration of seven calendar days; mobile operation; or a temporary traffic stoppagebreak.

SECTION 801, BEGIN LINE 903, DELETE AND INSERT AS FOLLOWS:

**(c) Traffic Control for Temporary Traffic StoppageBreaks**

Traffic shall not be allowed to pass directly beneath personnel or equipment working on an overhead structure. *Traffic breaks, when approved by the Engineer in coordination with the District Traffic Engineer, may be implemented for moving equipment or materials over the traveled way. Traffic breaks shall be accomplished by temporary stoppage, rolling slowdown or other approved method.* Traffic stoppagebreaks during an overhead operation shall not exceed 20 minutes at one time. There shall be enough time between consecutive stoppagesbreaks to allow traffic to return to normal flow.

Three working days prior to commencing work which necessitates temporary stoppagebreaks of traffic, written notice shall be given to the Department and the Indiana State Police that highway traffic shall be stopped, *slowed or diverted* temporarily at a specific location, time, and date to accomplish specified work. Traffic shall be safely controlled during the stoppagebreak. The following minimum requirements shall be met.

**1. On Multi-Lane Divided Highways**

Advance warning signs, *back of queue protection, and pilot vehicles* shall be located as specified or as otherwise directed. ~~For each direction of road closure two flaggers shall be located at the site of the work and a minimum of two additional flaggers shall be used to warn approaching traffic.~~

**2. On Non-Divided Highways**

Advance warning signs shall be located as specified or as otherwise directed. For each direction of road closure, *a minimum of one flagger* shall be located at the site of the work and a minimum of one additional flagger shall be used to warn approaching traffic.

COMMENTS AND ACTION

801-T-198 TRAFFIC CONTROL FOR TRAFFIC BREAKS

DISCUSSION:

<p>Motion:          Second:          Ayes:          Nays:          FHWA Approval:</p>	<p><b>Action:</b>  <input type="checkbox"/> Passed as Submitted  <input type="checkbox"/> Passed as Revised  <input type="checkbox"/> Withdrawn</p>
<p>2024 Standard Specifications Sections:          801 pg. 886 and 887.</p>	<p><input type="checkbox"/> 2026 Standard Specifications  <input type="checkbox"/> Revise Pay Items List  <input type="checkbox"/> Notification to Designers if change is <u>not</u>          addressed by RSP</p>
<p>Recurring Special Provisions or Plan          Details:          801-T-198 TRAFFIC CONTROL FOR TRAFFIC          BREAKS</p>	<p><input type="checkbox"/> Create RSP (No. __)          Effective:</p>
<p>Standard Drawing affected:          NONE</p>	<p><input type="checkbox"/> Revise RSP (No. __)          Effective:</p>
<p>Design Manual Chapter:          NONE</p>	<p><input type="checkbox"/> Standard Drawing          Effective:</p>
<p>GIFE Section:          NONE</p>	<p><input type="checkbox"/> Create RPD (No. __)          Effective:   <input type="checkbox"/> GIFE Update  <input type="checkbox"/> Frequency Manual Update  <input type="checkbox"/> SiteManager Update</p>

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Section 727 currently refers to the material used to cover the surface of cracks during the epoxy injection process as surface sealant. This may cause confusion since Section 709 PCC Sealers are often referred to as surface seal, but are very different products than those used to seal cracks during epoxy injection. There are also inconsistencies in the terms used in various sections for epoxy resin intended to bond new concrete to existing, and epoxy resin intended to be used for concrete crack repair by epoxy injection.

PROPOSED SOLUTION: Revise sections 727 and 909.12 to clarify the intent and type of material to use used for capping cracks during epoxy injection.

APPLICABLE STANDARD SPECIFICATIONS: 702.03, 702.20(a), 706.02, 706.06, 710.02, 710.03(c), 722.03, 722.07, 722.08, 722.15, 722.16, 727.02, 727.04, 727.06, 909.11, 909.12

APPLICABLE STANDARD DRAWING: N/A

APPLICABLE DESIGN MANUAL CHAPTER: 412 (no changes required)

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISION OR PLAN DETAILS: N/A

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc committee consisting of Jim Reilman, Mike Nelson, and Lana Podorvanova.

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: RSP will likely not be requested, but if it does BFU would be contracts containing pay item '727-90309 EPOXY INJECTION, EPOXY MATERIAL'

IMPACT ANALYSIS (attach report):

Submitted By: Pete White

Title: Design Manager

Division: INDOT Bridge Engineering

E-mail: [pewwhite@indot.in.gov](mailto:pewwhite@indot.in.gov)

Date: April 24, 2024



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? Yes (729.14, no changes required)

Will approval of this item affect the Qualified Products List (QPL)? No

Will this proposal improve:

Construction costs? No

Construction time? No

Customer satisfaction? No

Congestion/travel time? No

Ride quality? No

Will this proposal reduce operational costs or maintenance effort? No

Will this item improve safety:

For motorists? No

For construction workers? No

Will this proposal improve quality for:

Construction procedures/processes? No

Asset preservation? No

Design process? No

Will this change provide the contractor more flexibility? No

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

Can this item improve/reduce the number of potential change orders? No

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? Yes

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

REVISION TO 2024 STANDARD SPECIFICATIONS

SECTION 702 – STRUCTURAL CONCRETE	722.08 Overlay Dam
702.03 Materials	722.15 Method of Measurement
702.20 Placing Concrete	722.16 Basis of Payment
SECTION 706 – BRIDGE RAILINGS	SECTION 727 – STRUCTURAL CONCRETE REPAIR BY EPOXY INJECTION
706.02 Materials	727.02 Materials
706.06 Bridge Railing Pedestrian Fence	727.04 Construction Requirements
SECTION 710 – PATCHING CONCRETE STRUCTURES AND REPOINTING MASONRY IN STRUCTURES	727.06 Basis of Payment
710.02 Materials	SECTION 909 – PAINT AND LIQUID EPOXY
710.03 Patching Concrete Structures	909.11 Epoxy-Resin-Base System for Bonding Plastic Concrete to Hardened Concrete
SECTION 722 – CONCRETE BRIDGE DECK OVERLAYS	909.12 Epoxy Resin Additives for Injection into Concrete
722.03 Materials	
722.06 Preparation of the Bridge Floor	

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 702, BEGIN LINE 34, INSERT AS FOLLOWS:

**702.03 Materials**

Materials shall be in accordance with the following:

Admixtures for Use in Concrete .....	912.03
Castings .....	910.05
Concrete Coarse Aggregate	
For exposed concrete, Class A or Higher .....	ITM 226, 904
For non-exposed concrete, Class B or Higher .....	ITM 226, 904
Curing Materials.....	912.01
Elastomeric Bearings .....	915.04
<i>Epoxy Bonding Adhesive</i> .....	<i>909.11</i>
Fabric for Waterproofing .....	918.06

SECTION 702, BEGIN LINE 982, DELETE AND INSERT AS FOLLOWS:

Where new concrete is to abut existing concrete, the existing concrete surfaces and existing exposed reinforcement shall be cleaned free of dust, chips, and water. Epoxy ~~resin bonding~~ adhesive, in accordance with 909.11, shall be used to coat the existing concrete surfaces. The epoxy coating shall be tacky at the time that the new concrete is placed. If the epoxy coating has cured beyond the obvious tacky condition, it shall be reapplied prior to placing the new concrete.

SECTION 706, BEGIN LINE 11, INSERT AS FOLLOWS:

**706.02 Materials**

Materials shall be in accordance with the following:

Barrier Delineators .....	926.02(c)
Bridge Railing Pedestrian Fence .....	910.18(b)5
<i>Chemical Anchor System</i> .....	<i>901.05</i>
Coarse Aggregate, Class B or Higher, Size No. 8 or No. 9.....	904.03

SECTION 706, BEGIN LINE 120, DELETE AND INSERT AS FOLLOWS:

**706.06 Bridge Railing Pedestrian Fence**

Posts shall be installed plumb. They may be shimmed with an approved metallic

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shim. Base plate anchor bolts shall be galvanized, positioned as shown on the plans, and shall be anchored by means of ~~epoxy adhesive~~ *chemical anchor system in accordance with the manufacturer's recommendations.*

SECTION 710, BEGIN LINE 14, DELETE AND INSERT AS FOLLOWS:

**710.02 Materials**

Materials shall be in accordance with the following:

Coarse Aggregate, Class A or Higher, Size No. 11 .....	904.03
Concrete, Class A.....	702.02
Curing Compound.....	912.01
<del>Epoxy Resin-Base System</del> <i>Bonding Adhesive</i> .....	909.11
Fine Aggregate .....	904.02

SECTION 710, BEGIN LINE 82, DELETE AND INSERT AS FOLLOWS:

Cavities of 1/2 in. depth or greater shall be filled with concrete or a packaged patching product. Cavities of less than 1/2 in. depth shall be filled with mortar or a packaged patching product. When using concrete or mortar patching materials, the surfaces of prepared cavities and all exposed reinforcement within the cavities shall be coated with an epoxy ~~resin bonding~~ adhesive in accordance with 722.07(a)1. When packaged patching products are to be applied, all surface preparation and the use of bonding agents shall be as directed by the manufacturer. The surface shall be in saturated surface damp condition with no standing water on the surface unless otherwise directed by the manufacturer.

SECTION 722, BEGIN LINE 20, DELETE AND INSERT AS FOLLOWS:

**722.03 Materials**

Materials shall be in accordance with the following:

Admixtures.....	912.03
Coarse Aggregate, Class A or Higher, Size No. 11* .....	904.03
Epoxy <del>Resin</del> <i>Bonding</i> Adhesive.....	909.11
Fine Aggregate .....	904
Fly Ash.....	901.02

SECTION 722, BEGIN LINE 354, DELETE AND INSERT AS FOLLOWS:

**1. Patching with Bridge Deck Patching Concrete**

Epoxy ~~resin bonding~~ adhesive shall be used to coat the surfaces of the prepared cavities and all the exposed reinforcing bars within the cavities. The epoxy coating shall

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be tacky at the time that the patching concrete is placed. Where the epoxy coating has cured beyond the obvious tacky condition, it shall be re-applied prior to patching. The coated cavities shall then be filled with the patching concrete to the level of the adjacent deck surface. Curing of the patching concrete shall be as directed.

SECTION 722, BEGIN LINE 423, DELETE AND INSERT AS FOLLOWS:

The surface to be repaired, the reinforcing bars, and the concrete under and around the bars shall be cleaned in accordance with 722.06(c). The cavity shall be coated with an epoxy ~~resin bonding~~ adhesive in accordance with 722.07(a)1, then filled with class C concrete in accordance with 702.

SECTION 722, BEGIN LINE 880, DELETE AND INSERT AS FOLLOWS:

Epoxy ~~resin bonding~~ adhesive and bond coat will not be measured for payment. Blasting, cleaning, finishing, texturing other than the longitudinal grooving, and curing will not be measured for payment.

SECTION 722, BEGIN LINE 982, DELETE AND INSERT AS FOLLOWS:

When hydrodemolition is shown on the plans, the cost of removal of unsound concrete shall be included in the cost of hydrodemolition. Preparation of cavity surfaces, furnishing and applying bond coat or epoxy ~~resin bonding~~ adhesive as required in handchipped locations, furnishing and placing patching material, and necessary incidentals shall be included in the cost of bridge deck overlay for the type of overlay material specified. Additional concrete removal required around exposed bars shall be included in the cost of additional surface preparation.

When hydrodemolition is not shown on the plans, the cost of removal of unsound concrete, preparation of cavity surfaces, furnishing and applying bond coat or epoxy ~~resin bonding~~ adhesive as required, furnishing and placing patching material, and necessary incidentals shall be included in the cost of bridge deck patching, full depth, or bridge deck patching, partial depth.

SECTION 727, BEGIN LINE 10, DELETE AND INSERT AS FOLLOWS:

**727.02 Materials**

Materials shall be in accordance with the following:

Epoxy ~~Resin Additives~~ *Injection Adhesive* .....909.12

SECTION 727, BEGIN LINE 30, DELETE AND INSERT AS FOLLOWS:

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Concrete surfaces adjacent to the cracks shall be cleaned to the extent necessary to achieve adequate bond of the *crack surface sealant* material. Entry ports shall be provided along the crack at intervals determined in the field to ensure full depth penetration of the *epoxy injection resin*. ~~Surface seal shall be applied~~ *The cracks shall be capped with a crack surface sealant between entry ports and on both faces of through cracks, when possible that prevents the epoxy injection resin from leaking from the cracks.*

Epoxy injection shall begin at the lower entry port and continue until there is an appearance of epoxy at the adjacent entry port. Injection shall continue until all cracks are filled. If port to port travel is not apparent, the work shall be stopped immediately. The Engineer shall be notified.

Upon completion of the injection, the ~~adhesive~~ *epoxy resin* shall cure for sufficient time to enable removal of *crack surface sealant* without draining or runback of material from the cracks. ~~Surface~~ *Crack surface sealant* material and injection adhesive runs or spills shall be removed from concrete surfaces. The face of the crack shall be finished flush to the adjacent concrete. The face of the concrete shall show no indentations or protrusions caused by the placement of entry ports.

SECTION 727, BEGIN LINE 70, INSERT AS FOLLOWS:

- Epoxy Injection, Crack Preparation .....LFT
- Epoxy Injection, Epoxy Material .....GAL.
- Epoxy Injection, Furnishing Equipment .....LS

*The cost of crack surface sealant shall be included in the pay items in this section.*

SECTION 909, BEGIN LINE 390, DELETE AND INSERT AS FOLLOWS:

**~~909.11 Epoxy-Resin-Base System for Bonding Plastic Concrete to Hardened Concrete~~ *Adhesive***

Two-component, epoxy-resin bonding systems for use in bonding freshly mixed concrete to hardened concrete shall be in accordance with ASTM C881 for Type II, grade 2, and the class consistent with the ambient temperature as follows. Class A for use below 40°F, class B for use between 40°F and 60°F, and class C for use above 60°F. A Type C certification in accordance with 916 shall be provided for the epoxy-resin-base system.

**~~909.12 Epoxy-Resin Additives for Injection into Concrete~~ *Adhesive***

The epoxy ~~resin~~ *injection* adhesive shall be *a resin* of low enough viscosity so it *readily* flows *from the injection port* to the next open port in the surface seal material. The

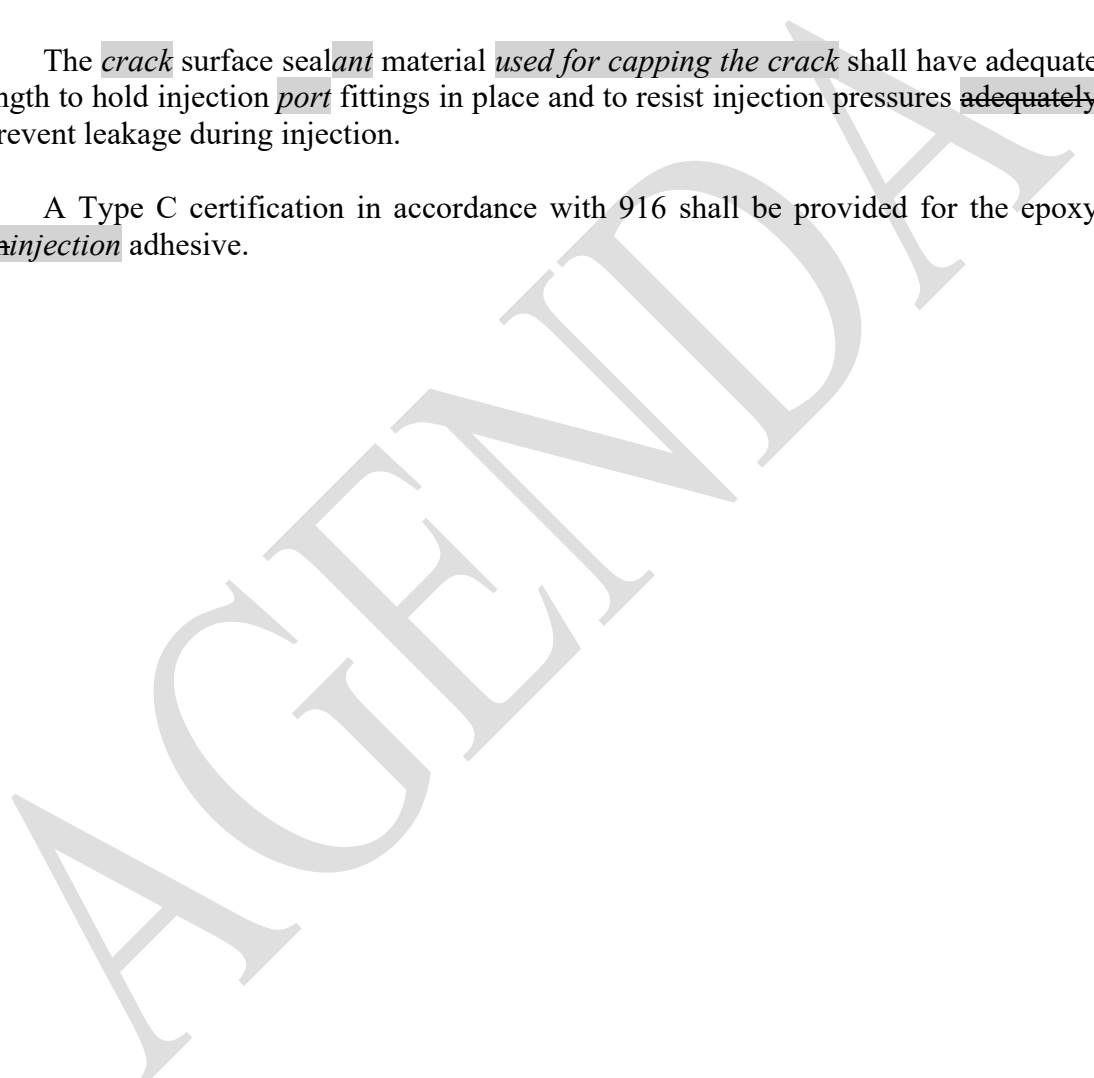
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~~adhesive epoxy~~ shall be capable of penetrating crack widths down to 0.005 in. The ~~adhesive epoxy~~ shall be capable of bonding to dry or damp surfaces. The ~~adhesive epoxy~~ shall exhibit a slant shear strength exceeding the concrete strength when tested fully cured in accordance with AASHTO T 237.

The ~~crack~~ surface sealant material *used for capping the crack* shall have adequate strength to hold injection ~~port~~ fittings in place and to resist injection pressures adequately to prevent leakage during injection.

A Type C certification in accordance with 916 shall be provided for the epoxy ~~resin injection~~ adhesive.



**COMMENTS AND ACTION**

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722.06 Preparation of the Bridge Floor	909.12 Epoxy Resin Additives for Injection into Concrete

**DISCUSSION:**

<p>Motion:</p> <p>Second:</p> <p>Ayes:</p> <p>Nays:</p> <p>FHWA Approval:</p>	<p><b>Action:</b></p> <p><input type="checkbox"/> Passed as Submitted</p> <p><input type="checkbox"/> Passed as Revised</p> <p><input type="checkbox"/> Withdrawn</p>
<p>2024 Standard Specifications Sections:          702.03, 702.20(a), 706.02, 706.06, 710.02,          710.03(c), 722.03, 722.07, 722.08, 722.15,          722.16, 727.02, 727.04, 727.06, 909.11,          909.12</p> <p>Recurring Special Provisions or Plan          Details:                            NONE</p> <p>Standard Drawing affected:                            NONE</p> <p>Design Manual Chapter:                            412 (no changes required)</p> <p>GIFE Section:                            NONE</p>	<p><input type="checkbox"/> 2026 Standard Specifications</p> <p><input type="checkbox"/> Revise Pay Items List</p> <p><input type="checkbox"/> Notification to Designers if change is <u>not</u>          addressed by RSP</p> <p><input type="checkbox"/> Create RSP (No. ___)          Effective:</p> <p><input type="checkbox"/> Revise RSP (No. ___)          Effective:</p> <p><input type="checkbox"/> Standard Drawing          Effective:</p> <p><input type="checkbox"/> Create RPD (No. ___)          Effective:</p> <p><input type="checkbox"/> GIFE Update</p> <p><input type="checkbox"/> Frequency Manual Update</p> <p><input type="checkbox"/> SiteManager Update</p>