



AGENDA

April 20, 2023 Standards Committee Meeting

MEMORANDUM

April 3, 2023

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Agenda for the April 20, 2023 Standards Committee Meeting

A Standards Committee meeting is scheduled for 09:00 a.m. on April 20, 2023 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

OLD BUSINESS

(No items on this agenda)

NEW BUSINESS

1. Approval of the Minutes from the [February 16, 2023](#) meeting

B. CONCEPTUAL PROPOSAL

(No items on this agenda)

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

OLD BUSINESS

(No items on this agenda)

NEW BUSINESS

[Item No. 1 \(2022 SS\)](#) [Mr. Reilman](#) [pg. 3](#)

Recurring Special Provision:
609-B-311

RCBA SLAB OPTION FOR USE WITH SHORT
TERM CLOSURES

[Item No. 2 \(2022 SS\)](#) [Mr. Novak](#) [pg. 8](#)

Recurring Special Provision:
105-C-247

BRIDGE INSPECTION COORDINATION

[Item No. 3 \(2022 SS\)](#) [Mr. Novak](#) [pg. 12](#)

2022 Standard Specifications:

711.32
711.32(a)
711.32(b)
711.32(c)

Welds
AWS Requirements
~~Welding of High Performance Steel~~*Blank*
Field Welding

[Item No. 4 \(2022 SS\)](#) [Mr. Reilman](#) [pg. 18](#)

2022 Standard Specifications:

504.03
504.06
508.06

Finishing and *Surface Texturing*
Basis of Payment
~~Texturing~~*Tining* Equipment

[Item No. 5 \(2022 SS\)](#) [Mr. Boruff](#) [pg. 24](#)

2022 Standard Specifications:

801.17
801.18

Method of Measurement
Basis of Payment

[Item No. 6 \(2022 SS\)](#) [Mr. Reilman](#) [pg. 28](#)

2022 Standard Specifications:

207.02

Materials

cc: Committee Members
FHWA
ICI

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The RSP 609-B-311 for RCBA short term closures is limited to portland cement. Other options are also possible.

PROPOSED SOLUTION: To increase options, add CSA cement as an option to the 609-B-311 concrete for RCBA short term closure RSP.

APPLICABLE STANDARD SPECIFICATIONS: None

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: 609-B-311

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc: Mike Nelson, Jim Reilman, Pete White

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
remains the same as it currently is for this provision

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: (317) 522-9692

Date: 3/8/23

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? N/A

Congestion/travel time? N/A

Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? N/A

Will this item improve safety:

For motorists? N/A

For construction workers? Yes

Will this proposal improve quality for:

Construction procedures/processes? N/A

Asset preservation? N/A

Design process? N/A

Will this change provide the contractor more flexibility? Yes

Will this proposal provide clarification for the Contractor and field personnel? N/A

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 SPECIAL PROVISIONS

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

(Note: Proposed changes shown highlighted gray)

Basis for Use
As approved by the Bridge Design Director .

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

(Revised 03-18-21)

The Standard Specifications are revised as follows:

SECTION 609, BEGIN LINE 15, DELETE AS FOLLOWS:

Concrete, Class A C	702
Curing Materials.....	912.01
Geotextile for Pavement and Subgrade.....	918.02
Joint Materials.....	906.02(a)1
<i>Rapid Hardening Hydraulic Cement</i>	<i>901.01(d)</i>
Reinforcing Bars, Epoxy Coated.....	910.01

SECTION 609, AFTER LINE 22, INSERT AS FOLLOWS:

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

Citric acid shall be marked "food grade" on the packaging.

SECTION 609, AFTER LINE 32, INSERT AS FOLLOWS:

If rapid hardening hydraulic cement is used, citric acid may be used as a retardant. The maximum content of citric acid shall be 1% of the cement weight.

SECTION 609, BEGIN LINE 37, INSERT AS FOLLOWS:

609.05 Joints

Longitudinal construction joints will only be allowed as shown on the plans. *If rapid hardening hydraulic cement is used, longitudinal construction joints in accordance with 702.15(a) will be allowed at lane lines and shoulder lane lines.* The type I-A joint shall be constructed as shown on the plans.

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

609.10 Curing and Sealing

When rapid hardening hydraulic cement is used in the RCBA, it shall be water cured in accordance with 702.22(a)1 for a minimum of 3 h. After which, liquid membrane forming curing compound shall be applied as described below.

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.

REVISION TO SPECIAL PROVISIONS

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

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 112, INSERT AS FOLLOWS:

The RCBA~~s~~ 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.

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. If rapid hardening hydraulic cement is used, silica fume shall not be added to the concrete mix.

SECTION 609, BEGIN LINE 122, 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 indicates the concrete has attained a modulus of rupture of ~~550~~500 psi or greater. ~~When rapid hardening hydraulic cement is used, the 3 h water curing period shall also have elapsed in addition to achieving the 500 psi minimum modulus of rupture stated above.~~

SECTION 609, BEGIN LINE 157, 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-B-311 RCBA SLAB OPTION FOR USE WITH SHORT TERM CLOSURES

DISCUSSION:

<p>Motion:</p> <p>Second:</p> <p>Ayes:</p> <p>Nays:</p> <p>FHWA Approval:</p>	<p>Action:</p> <p>— Passed as Submitted</p> <p>— Passed as Revised</p> <p>— Withdrawn</p>
<p>2022 Standard Specifications Sections referenced and/or affected: 609 begin pg. 520.</p> <p>Recurring Special Provisions or Plan Details: 609-B-311 RCBA SLAB OPTION FOR USE WITH SHORT TERM CLOSURES</p> <p>Standard Drawing affected: NONE</p> <p>Design Manual Sections affected: NONE</p> <p>GIFE Sections cross-references: NONE</p>	<p>— 2026 Standard Specifications Revise Pay Items List</p> <p>— Create RSP (No. __) Effective:</p> <p>— Revise RSP (No. __) Effective:</p> <p>— Standard Drawing Effective:</p> <p>— Create RPD (No. __) Effective:</p> <p>— GIFE Update</p> <p>— Frequency Manual Update</p> <p>— SiteManager Update</p>

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Existing RSP 105-C-247 “Bridge Inspection Coordination” does not include language for notification to Bridge Inspection personnel.

PROPOSED SOLUTION: Add instruction within the RSP to assist with communication of the notifications. Editorial changes are also proposed.

APPLICABLE STANDARD SPECIFICATIONS: n/a

APPLICABLE STANDARD DRAWINGS: n/a

APPLICABLE DESIGN MANUAL SECTION: n/a

APPLICABLE SECTION OF GIFE: Propose new section 5.29 Bridge Inspection Coordination

APPLICABLE RECURRING SPECIAL PROVISIONS: RSP 105-C-247

PAY ITEMS AFFECTED: n/a

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc: Joe Novak, Anne Rearick

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
Same as current: Required for any “B” or “R” contracts.

IMPACT ANALYSIS (attach report): yes

Submitted By: Joe Novak

Title: State Construction Engineer

Division: Construction Management and District Support

E-mail: jnovak@indot.in.gov

Date: 3/9/23

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

105-C-247 BRIDGE INSPECTION COORDINATION

(Note: Proposed changes shown highlighted gray)

Basis for Use
Required for any "B" or "R" contracts.

105-C-247 BRIDGE INSPECTION COORDINATION

(Adopted 01-21-16)

The following ~~routine, fracture critical, underwater, or special~~ bridge inspections are due to be performed by the Department's Bridge Inspection Office, or its authorized representative, on each bridge within the construction limits of the contract.

Structure Number	NBI Number	Location	Inspection Type	Last Inspection Date (MM/DD/YY)	Frequency (Mos.)	First Scheduled Inspection (MM/YY)	Second Scheduled Inspection (MM/YY)

Each bridge inspection shall be ~~identified~~*included* in the schedule of work in accordance with 108.04. Portions of each bridge replaced, reconstructed, or repaired and subsequently used for maintenance of traffic will ~~be inspected within 90~~*receive an initial inspection within 60* days of being opened to traffic.

The Department's onsite Engineer will notify the Department's Bridge Inspection Office by email when construction is complete for each bridge included in the contract. This notification will assist the Department's Bridge Inspection office schedule an initial bridge inspection. The email notification will be directed to inbridgeshelp@indot.in.gov. The email notification will include the Contract Number, DES Number, NBI Number and Structure Number in the subject line.

Notice will be given no less than seven days prior to each bridge inspection. Access, coordination, and cooperation for the required bridge inspections shall be in accordance with 105.05.

COMMENTS AND ACTION

105-C-247 BRIDGE INSPECTION COORDINATION

DISCUSSION:

	<u>Action:</u>
<p>Motion:</p> <p>Second:</p> <p>Ayes:</p> <p>Nays:</p> <p>FHWA Approval:</p> <hr/> <p>2022 Standard Specifications Sections referenced and/or affected: 105 begin pg. 43.</p> <p>Recurring Special Provisions or Plan Details: 105-C-247 BRIDGE INSPECTION COORDINATION</p> <p>Standard Drawing affected: NONE</p> <p>Design Manual Sections affected: NONE</p> <p>GIFE Sections cross-references: Propose new section 5.29 Bridge Inspection Coordination</p>	<p>— Passed as Submitted</p> <p>— Passed as Revised</p> <p>— Withdrawn</p> <hr/> <p>— 2026 Standard Specifications Revise Pay Items List</p> <p>— Create RSP (No. __) Effective:</p> <p>— Revise RSP (No. __) Effective:</p> <p>— Standard Drawing Effective:</p> <p>— Create RPD (No. __) Effective:</p> <p>— GIFE Update</p> <p>— Frequency Manual Update</p> <p>— SiteManager Update</p>

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: It was brought to the Department's attention by Industry that the current High-Performance Steel (HPS) welding specification is outdated. At some point, 711.32(b) Welding of HPS was developed and implemented using FHWA guidance and recommendations. Later this guidance was discontinued and HPS information was adopted into the AWS Bridge Welding Code (BWC).

It was also determined that the applicable chapters for welder qualifications needed updated as they were reorganized in the BWC.

Further, it was determined that the wording for welding procedures submittals to the Engineer was not clear in 711.32.

In addition, field welding procedures in 711.32(c) are outdated. Field welding is now incorporated in the BWC.

PROPOSED SOLUTION: Delete section 711.32(b), update sections of the BWC to current applicable sections and reword the welding procedure specification submittal document requirement. Also update 711.32(c) to refer to the BWC for field welding requirements.

APPLICABLE STANDARD SPECIFICATIONS: 711.32(a), 711.32(b), & 711.32(c)

APPLICABLE STANDARD DRAWINGS: NA

APPLICABLE DESIGN MANUAL SECTION: NA

APPLICABLE SECTION OF GIFE: NA

APPLICABLE RECURRING SPECIAL PROVISIONS: NA

PAY ITEMS AFFECTED: NA

APPLICABLE SUB-COMMITTEE ENDORSEMENT: NA

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

Required for all contracts with any 711 pay items.

IMPACT ANALYSIS (attach report): Yes

Submitted By: Joe Novak

Title: State Construction Engineer

Division: Construction Management

E-mail: JNovak@indot.in.gov

Date: 3/10/2023

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? Yes

Construction time? Yes

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? NA

AASHTO or other design code? Yes

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 2022 STANDARD SPECIFICATIONS

SECTION 711 - STEEL STRUCTURES

711.32 Welds

711.32(a) AWS Requirements

711.32(b) ~~Welding of High Performance Steel~~Blank

711.32(c) Field Welding

(Note: Proposed changes shown highlighted gray.
Editorials - teal)

The Standard Specifications are revised as follows:

SECTION 711, BEGIN LINE 468, DELETE AND INSERT AS FOLLOWS:

711.32 Welds

Welding of steel shall be done only as shown on the plans or as specified and only with specific approval. Welding may be ~~done~~performed to remedy minor defects, if approved. No temporary or permanent welds, if not shown on the plans or otherwise specified, shall be made without specific written authorization.

(a) AWS Requirements

Welding of steel bridges and bridge components, *including high performance steels*, shall be performed in accordance with AASHTO/AWS D1.5 Bridge Welding Code, hereinafter referred to as the Bridge Welding Code. Welders, welding operators, and tack welders shall be qualified in accordance with Bridge Welding Code, ~~Chapter 5~~Clause 7, Part B.

When welding steel structural or steel non-structural tubing or steel structural supports for highway signs, luminaires, or traffic signals, it shall be performed in accordance with AWS D1.1 Structural Welding Code – Steel, hereinafter referred to as AWS D1.1. Welders, welding operators, and tack welders shall be qualified in accordance with AWS D1.1, ~~Chapter 4~~Clause 6, Part C.

Welding procedure specifications shall be submitted to the Engineer with fully documented and accepted procedure qualification records for approval prior to any production welding.

In general, post weld heat treatment will not be required. The use of such post weld heat treatment will require additional qualification testing.

(b) ~~Welding of High Performance Steel~~Blank

All welding on high performance steel shall be in accordance with the Bridge Welding Code, except as modified herein and by the Guide Specification for Highway Bridge Fabrication with HPS 70W Steel, hereinafter referred to as the Guide.

Only submerged arc welding, SAW, and shielded metal arc welding, SMAW, processes will be allowed. Consumable handling requirements shall be in accordance with the Bridge Welding Code, Sections 12.6.5 and 12.6.6, when using reduced preheat as described in Table 3 of the Guide, except that SAW consumables for matching weld metal shall meet the hydrogen control level of H4 in accordance with Section 12, Article 12.6.2.

REVISION TO 2022 STANDARD SPECIFICATIONS

SECTION 711 - STEEL STRUCTURES

711.32 Welds

711.32(a) AWS Requirements

711.32(b) ~~Welding of High Performance Steel~~Blank

711.32(c) Field Welding

~~Consumable handling requirements shall meet the provisions of the Bridge Welding Code, Section 4, when using the preheat requirements contained in Section 4, except that the diffusible hydrogen level shall never exceed H8. SMAW consumables may meet diffusible hydrogen levels of either H4 or H8 except the higher preheat and interpass temperatures as noted in Table 3 of the Guide shall apply to H8 conditions.~~

~~Filler metals used to make single pass fillet welds for web to flange applications which join HPS 70W steel plates, HPS 70W to grade 50W plates and for attaching stiffeners and connection plates to grade HPS 70W webs and flanges, shall be in accordance with the Bridge Welding Code, Table 4.1 for ASTM A709, grade 50W base metal. Filler metals for single pass 5/16 in. fillet welds need not meet the requirements for exposed bare applications.~~

~~Filler metals used for all complete penetration groove welds joining grade HPS 70W plate to ASTM A709, grade HPS 50W or grade 50W plate shall conform to the requirements for welding grade 50W base metal.~~

~~Filler metals used for all complete penetration groove welds joining grade HPS 70W plates to grade HPS 70W plates shall conform to the requirements for HPS 70W base metal as follows:~~

~~1. Submerged Arc Welding process:~~

~~Wire – LA85 by Lincoln Electric Company~~

~~Flux – MIL800HPNi by Lincoln Electric Company~~

~~2. Shielded Metal Arc Welding process:~~

~~Matching – E9018MR*~~

~~Undermatching – E7018MR*~~

~~* The designator 'MR', for moisture resistant coating, is required for all SMAW electrodes used for welding HPS 70W steels.~~

~~The Contractor may request approval of alternate consumables for matching weld strengths in lieu of the above filler metals for SAW. The request for approval shall include documentation of successful welding and shall also include diffusible hydrogen tests, both in accordance with the Bridge Welding Code.~~

~~All welding procedures shall be qualified in accordance with the Bridge Welding Code Section 5, Qualification. In general, the provisions of Article 5.12 shall apply. Qualification tests shall measure strength, toughness and ductility, with results evaluated~~

REVISION TO 2022 STANDARD SPECIFICATIONS

SECTION 711 - STEEL STRUCTURES

711.32 Welds

711.32(a) AWS Requirements

711.32(b) ~~Welding of High Performance Steel~~Blank

711.32(c) Field Welding

~~in accordance with Article 5.19. If specified on the plans, additional tests shall measure the Charpy V notch toughness of the coarse grained area of the heat affected zone, HAZ. The notch in the specimens shall be carefully located in the coarse grained area of the HAZ, as determined by macro etching the specimens prior to machining and testing. The toughness requirement for the HAZ shall be the same as the weld metal.~~

~~All procedure qualification tests shall be ultrasonically tested in accordance with the requirements of the Bridge Welding Code, Section 6, Part C. Evaluation shall be in accordance with Table 6.3, UT Acceptance — Rejection Criteria — Tensile Stress. Indications found at the interface of the backing bar may be disregarded regardless of the defect rating.~~

~~A representative of the Department will witness all welding procedure qualification tests.~~

~~Results of the welding procedure qualification tests and final welding procedure specifications shall be submitted to the Engineer for review and approval.~~

~~In general, post weld heat treatment will not be required. The use of such post weld heat treatment will require additional qualification testing. [moved to (a)]~~

~~Wherever magnetic particle testing is done, only the yoke technique will be allowed, as described in Section 6.7.6.2 of the Bridge Welding Code, modified to use alternating current only.~~

(c) Field Welding

~~Field welding shall be by the shielded metal arc welding, SMAW, process and shall be in accordance with performed in accordance with the Bridge Welding Code and the requirements herein. Magnetic particle testing will not be required on welded connections that do not carry calculated stresses. All field welding shall be preheated in accordance with Section 4 Clause 6 of the Bridge Welding Code. The Contractor shall provide a copy of the minimum preheat and interpass temperature table to the Engineer prior to beginning welding. Electrodes with a low hydrogen classification shall be used.~~

COMMENTS AND ACTION

- 711.32 Welds
- 711.32(a) AWS Requirements
- 711.32(b) ~~Welding of High Performance Steel~~Blank
- 711.32(c) Field Welding

DISCUSSION:

<p>Motion:</p> <p>Second:</p> <p>Ayes:</p> <p>Nays:</p> <p>FHWA Approval:</p>	<p>Action:</p> <p>— Passed as Submitted</p> <p>— Passed as Revised</p> <p>— Withdrawn</p>
<p>2022 Standard Specifications Sections referenced and/or affected: 711.32 begin pg. 695.</p>	<p>— 2026 Standard Specifications</p> <p>— Revise Pay Items List</p>
<p>Recurring Special Provisions or Plan Details: NONE</p>	<p>— Create RSP (No. __)</p> <p>Effective:</p>
<p>Standard Drawing affected: NONE</p>	<p>— Revise RSP (No. __)</p> <p>Effective:</p>
<p>Design Manual Sections affected: NONE</p>	<p>— Standard Drawing</p> <p>Effective:</p>
<p>GIFE Sections cross-references: NONE</p>	<p>— Create RPD (No. __)</p> <p>Effective:</p>
	<p>— GIFE Update</p> <p>— Frequency Manual Update</p> <p>— SiteManager Update</p>

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Transverse tining on concrete pavement generates unnecessary noise.

PROPOSED SOLUTION: To help reduce noise, change to longitudinal tining and only allow transverse tining in specific situations.

APPLICABLE STANDARD SPECIFICATIONS: 504, 508

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: create 504 RSP

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: INDOT / ACPA-IN

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
all contracts with 501, 502, 506, 509, 609, 704, 706, or 722 pay items.

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: (317) 522-9692

Date: 3/27/23

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? Yes

Will this proposal reduce operational costs or maintenance effort? N/A

Will this item improve safety:

For motorists? N/A

For construction workers? No

Will this proposal improve quality for:

Construction procedures/processes? N/A

Asset preservation? N/A

Design process? N/A

Will this change provide the contractor more flexibility? Yes

Will this proposal provide clarification for the Contractor and field personnel? N/A

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 2022 STANDARD SPECIFICATIONS

SECTION 504 - PCCP FINISHING AND CURING

504.03 Finishing and *Surface Texturing*

504.06 Basis of Payment

SECTION 508 - EQUIPMENT

508.06 ~~Texturing~~*Tining* Equipment

(Note: Proposed changes shown highlighted gray.
Previously approved changes and edits - light red)

The Standard Specifications are revised as follows:

SECTION 504, BEGIN LINE 15, DELETE AND INSERT AS FOLLOWS:

504.03 Finishing and *Surface Texturing*

(a) *Finishing*

PCCP shall be finished with equipment in accordance with 508.04. The operations shall be controlled so that an excess of mortar and water is not worked to the top. Long-handled floats may be used to smooth and fill in open textured areas in the PCCP.

Hand methods of finishing may be used when finishing equipment breaks down or in tight working areas where field conditions limit the use of mechanical devices. Hand placed concrete shall be further finished by means of a longitudinal float or an ~~approved~~ transverse smoothing float in accordance with 508.08(a).

The edges of formed PCCP adjacent to HMA or compacted aggregate shall be tooled. A continuous radius with a uniform smooth dense mortar finish shall be produced.

~~The PCCP surface shall be textured with a double thickness burlap drag or a minimum 4 ft wide turf drag.~~

~~The textured surface of PCCP shall be tined, unless otherwise specified. Tining shall consist of transverse grooves that are between 3/32 and 1/8 in. in width, between 1/8 and 3/16 in. in depth, and be spaced as follows: 5/8 in., 1 in., 7/8 in., 5/8 in., 1 1/4 in., 3/4 in., 1 in., 1 in., 1 in., 1 in., 3/4 in., 7/8 in., 1 3/4 in., 7/8 in., 3/8 in., 1 in., 1 in., 1 1/4 in., 1 1/2 in., 7/8 in., 3/4 in., 7/8 in., 1 in., 7/8 in., 1 in. The grooving pattern shall be repeated across the pavement. The tining grooves shall be formed in the plastic concrete without tearing the surface and without bringing pieces of the coarse aggregate to the top of the surface.~~

~~Texturing and curing operations may be performed by a single machine subject to satisfactory performance.~~

~~Areas of PCCP which are not finished in accordance with these requirements shall be corrected by retexturing.~~

~~Retexturing shall consist of cutting longitudinal or transverse grooves in the PCCP surface by means of saw blades or other approved devices. The grooves shall be spaced 3/4 in. center to center and be 1/8 in. in width and depth. Alternative patterns may be used, subject to approval. The PCCP surface, after cutting, shall not be polished.~~

REVISION TO 2022 STANDARD SPECIFICATIONS

SECTION 504 - PCCP FINISHING AND CURING

504.03 Finishing and Surface Texturing

504.06 Basis of Payment

SECTION 508 - EQUIPMENT

508.06 Texturing/Tining Equipment

(b) Surface Texturing

The PCCP surface shall be textured with a double thickness burlap drag or a minimum 4 ft wide turf drag followed by tining oriented either longitudinal or transverse to the direction of travel as specified herein, all before the PCCP permanently sets. The PCCP surface of mailbox approaches and private and commercial driveways shall be broom finished before the PCCP permanently sets.

Tining the textured surface shall be completed using a mechanical device in accordance with 508.06. The Contractor shall oversee the tining operation to ensure the forming of straight, uniform grooves in the textured, plastic PCCP surface without tearing the concrete surface, without allowing the tine groove edges to slump at the edges, and without bringing pieces of the coarse aggregate to the top of the PCCP surface. Wander and overlap of the tining, and any wavy pattern in the tining shall be prevented. Presence of wander, overlap, or wavy pattern in the tining will be cause for retexturing.

For tight working areas, form work, and where field conditions such as small or irregularly shaped areas limit the use of mechanical devices, as determined by the Engineer, the Contractor may request to use a hand tool that is in accordance with 508.06 and has tines and spacing in accordance with 504.03(b)1 or 2 below, as applicable for the application.

Tining shall not be performed within 3 in. of longitudinal or transverse pavement edges or longitudinal joints. On facilities with a widened outside PCCP lane, tining shall not be performed on the travel lane portion of the PCCP located within 3 in. of the edge of travel lane or on the PCCP portion located within the limits of the paved shoulder.

Texturing and curing operations may be performed by a single machine subject to satisfactory performance.

1. Longitudinal Tining

Tining shall be in the longitudinal direction, parallel with the direction of travel, on all PCCP that is uniform in width, including mainline and shoulders. Tining shall be completed using a mechanical device in accordance with 508.06 that has 1/8 in. wide tines, spaced at 3/4 in. center-to-center, and produces a uniform, nominal depth tine groove 1/8 in. \pm 1/16 in. deep in the plastic PCCP. The mechanical device shall be able to tine the full width of the PCCP in one operation. String line or other controls for line and grade shall be used to ensure straight tining parallel with the direction of travel.

2. Transverse Tining

Tining shall be in the transverse direction, perpendicular to the direction of travel, on PCCP on all approaches and ramps where the pavement varies in width. Tining shall

REVISION TO 2022 STANDARD SPECIFICATIONS

SECTION 504 - PCCP FINISHING AND CURING

504.03 Finishing and *Surface Texturing*

504.06 Basis of Payment

SECTION 508 - EQUIPMENT

508.06 ~~Texturing~~*Tining* Equipment

be completed using a mechanical device in accordance with 508.06 that has 1/8 in. wide tines, spaced center-to-center as follows: 3/8 in., 9/16 in., 5/8 in., 7/16 in., 3/8 in., 1/2 in., 9/16 in., 5/8 in., 7/16 in., 3/8 in., 13/16 in., 1/2 in., and produces a uniform, nominal depth tine groove 1/8 in. ± 1/16 in. deep in the plastic PCCP. The tining pattern shall be repeated across the PCCP surface perpendicular to the direction of travel.

(c) Retexturing

Areas of PCCP which are not finished and textured in accordance with the requirements herein shall be corrected by retexturing. Retexturing shall be done in the same longitudinal or transverse direction as the orientation of the existing tining. It shall consist of cutting longitudinal or transverse grooves in the PCCP surface by means of saw blades or other approved devices. The grooves shall be spaced in accordance with 504.03(b)1 or 2 above as appropriate. The PCCP surface, after cutting, shall not be polished.

504.04 Curing

Curing materials shall be applied to exposed surfaces and sides of newly placed PCCP within 30 minutes after the finishing operations have been completed, or as soon as marring of the concrete does not occur. Paving operations shall be immediately suspended if sufficient curing materials are not available on site.

SECTION 504, BEGIN LINE 127, INSERT AS FOLLOWS:

504.06 Basis of Payment

The cost of finishing ~~and the PCCP surface~~ furnishing and placing curing materials shall be included in the cost of the PCCP. *Retexturing shall be at no additional cost to the Department.*

SECTION 508, BEGIN LINE 217, DELETE AND INSERT AS FOLLOWS:

508.06 ~~Texturing~~*Tining* Equipment

~~Mechanical texturing equipment~~*The mechanical device shall be capable of forming transverse have horizontal and vertical controls to ensure the forming of straight grooves of uniform depth and alignment in the plastic PCCP, without tearing the surface. The ~~texturing comb~~ mechanical device shall have a single row of steel tines spaced as specified.*

Hand tools consisting of fluted floats, rakes with spring steel tines, or finned floats with a single row of fins shall produce grooves which conform to the same requirements as those specified for the grooves formed by the mechanical ~~equipment~~*device*.

COMMENTS AND ACTION

504.03 Finishing and *Surface Texturing*
504.06 Basis of Payment
SECTION 508 - EQUIPMENT
508.06 ~~Texturing~~*Tining* Equipment

DISCUSSION:

<p>Motion: Second: Ayes: Nays: FHWA Approval:</p>	<p>Action:</p> <p>— Passed as Submitted — Passed as Revised — Withdrawn</p>
<p>2022 Standard Specifications Sections referenced and/or affected: 504.03 pg. 440, 504.06 pg. 443, and 508.03 pg. 468.</p>	<p>— 2026 Standard Specifications — Revise Pay Items List — Create RSP (No. __) Effective:</p>
<p>Recurring Special Provisions or Plan Details: proposed to create new.</p>	<p>— Revise RSP (No. __) Effective:</p>
<p>Standard Drawing affected: NONE</p>	<p>— Standard Drawing Effective:</p>
<p>Design Manual Sections affected: NONE</p>	<p>— Create RPD (No. __) Effective:</p>
<p>GIFE Sections cross-references: NONE</p>	<p>— GIFE Update — Frequency Manual Update — SiteManager Update</p>

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The Aries field processor was used to connect portable changeable message signs to INDOT's previous advanced traffic management system (ATMS) platform from Iron Mountain Systems. However, with INDOT's current ATMS platform the Aries field processor is obsolete. Due to the frequency of changes with INDOT's ATMS platform, unique special provisions are now used when the Gary or Indianapolis Traffic Management Center need the ability to control or monitor messaging on PCMS.

PROPOSED SOLUTION: Delete the references to Aries field processor in §801.

APPLICABLE STANDARD SPECIFICATIONS: 801

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: Pay Item 801-11598, Aries Field Processor for PCMS, is proposed for deletion and has not been used since 2018.

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Yes, ad hoc review by Traffic Design and ITS Engineering Division

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
As determined necessary by the project manager.

IMPACT ANALYSIS (attach report): Yes

Submitted By: Joe Bruno on behalf of Dave Boruff
Title: Sr. Traffic Engineer, Signals & Markings
Division: Traffic Engineering Division
E-mail: jbruno@indot.in.gov

Date: 3/29/2023

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? Yes

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? Yes

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: N/A

REVISION TO 2022 STANDARD SPECIFICATIONS

DIVISION 800 – TRAFFIC CONTROL DEVICES AND LIGHTING
SECTION 801 – TRAFFIC CONTROLS FOR CONSTRUCTION AND
MAINTENANCE OPERATIONS
801.17 Method of Measurement
801.18 Basis of Payment

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 801, BEGIN LINE 919, DELETE AS FOLLOWS

801.17 Method of Measurement

Construction signs, detour route marker assemblies, detour route marker assemblies-multiple routes, temporary worksite speed limit sign assemblies, road closure sign assemblies, portable changeable message signs, ~~Aries Field Processor for PCMS~~, and temporary raised pavement markers will be measured by the number of units installed, maintained, and removed.

SECTION 801, BEGIN LINE 990, INSERT AND DELETE AS FOLLOWS

801.18 Basis of Payment

The accepted quantities of construction signs, detour route marker assemblies, detour route marker assemblies-multiple routes, temporary worksite speed limit sign assemblies, road closure sign assemblies, permanent road closure sign assemblies and temporary raised pavement markers will be paid for at the contract unit price per each. Payment for temporary worksite speed limit assemblies, ~~and PCMS, and Aries Field Processors~~ will be made for the maximum number of such assemblies in place at any one time during the life of the contract. Type III-A, type III-B, and permanent type III barricades will be paid for at the contract unit price per linear foot.

SECTION 801, BEGIN LINE 1082, DELETE AS FOLLOWS

Payment will be made under:

Pay Item	Pay Unit Symbol
Aries Field Processor for PCMS	EACH

COMMENTS AND ACTION

801.17 Method of Measurement
801.18 Basis of Payment

DISCUSSION:

<p>Motion: Second: Ayes: Nays: FHWA Approval:</p>	<p>Action:</p> <p>— Passed as Submitted — Passed as Revised — Withdrawn</p>
<p>2022 Standard Specifications Sections referenced and/or affected: 801.17 pg. 882 and 801.18 pg. 884 and 886.</p> <p>Recurring Special Provisions or Plan Details: NONE</p> <p>Standard Drawing affected: NONE</p> <p>Design Manual Sections affected: NONE</p> <p>GIFE Sections cross-references: NONE</p>	<p>— 2024 Standard Specifications Revise Pay Items List</p> <p>— Create RSP (No. __) Effective:</p> <p>— Revise RSP (No. __) Effective:</p> <p>— Standard Drawing Effective:</p> <p>— Create RPD (No. __) Effective:</p> <p>— GIFE Update — Frequency Manual Update — SiteManager Update</p>

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Confusion on whether recycled concrete pavement can be used in 207 subgrade treatments.

PROPOSED SOLUTION: Add a sentence back into the spec that was removed in previous years to clarify that recycled concrete pavement is not acceptable in 207 subgrade treatment.

APPLICABLE STANDARD SPECIFICATIONS: 207.02

APPLICABLE STANDARD DRAWINGS: none

APPLICABLE DESIGN MANUAL SECTION: noen

APPLICABLE SECTION OF GIFE: yes

APPLICABLE RECURRING SPECIAL PROVISIONS: none

PAY ITEMS AFFECTED: none

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad Hoc: Matt Beeson, Kurt Pelz, Jim Reilman

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

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: (317) 522-9692

Date: 3/30/23

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? N/A

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? N/A

Asset preservation? Yes

Design process? N/A

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? 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 2022 STANDARD SPECIFICATIONS

DIVISION 200 – EARTHWORK
 SECTION 207 – SUBGRADE
 207.02 Materials

(Note: Proposed changes shown highlighted gray.
 Previously approved changes by the Standards Committee are highlighted light red.)

The Standard Specifications are revised as follows:

SECTION 207, BEGIN LINE 9, DELETE AND INSERT AS FOLLOWS:

207.02 Materials

Materials shall be in accordance with the following:

Chemical Modifiers.....	215.02
Coarse Aggregate, Class D or Higher, Size No. 5, 8, 43, 53, or 73.....	904.03
Fly Ash, Class C.....	901.02
Geogrid, Type IB	918.05
Geocell Confinement System.....	214918.04
Geotextile	918.02
Geotextile <i>Properties</i> for Pavement and <i>Subgrade Stabilizations</i>	918.02(c)
Lime.....	913.04(b)
Portland Cement, Type 1.....	901.01(b)
Water	913.01

Air-cooled blast furnace slag shall not be used for subgrade treatment Types ID, IV, and IVA.

Soil Property	Test Method	Requirements
Dry Weight Organic Material	AASHTO T 267	≤ 3%
Max Dry Density	AASHTO T 99	≥ 100 pcf
Liquid Limit	AASHTO T 89	≤ 50
Soluble Sulfate	ITM 510	≤ 1000 ppm
Note: Only soils meeting these requirements will be allowed within the specified thickness of the subgrade treatment in cut sections. Only soils meeting these requirements will be allowed within 24 in. of the finished subgrade elevation in fill sections.		

Recycled concrete pavement processed into aggregate-sized material shall not be used as coarse aggregate in any subgrade treatment types.

CONSTRUCTION REQUIREMENTS

COMMENTS AND ACTION

207.02 Materials

DISCUSSION:

<p>Motion: Second: Ayes: Nays: FHWA Approval:</p>	<p><u>Action:</u></p> <p>— Passed as Submitted — Passed as Revised — Withdrawn</p>
<p>2022 Standard Specifications Sections referenced and/or affected: 207.02 pg. 222.</p> <p>Recurring Special Provisions or Plan Details: 207-R-735 SUBGRADE (incorporated into 2024 SS)</p> <p>Standard Drawing affected: NONE</p> <p>Design Manual Sections affected: NONE</p> <p>GIFE Sections cross-references: NONE</p>	<p>— 2024 Standard Specifications Revise Pay Items List</p> <p>— Create RSP (No. __) Effective:</p> <p>— Revise RSP (No. __) Effective:</p> <p>— Standard Drawing Effective:</p> <p>— Create RPD (No. __) Effective:</p> <p>— GIFE Update — Frequency Manual Update — SiteManager Update</p>