



APPROVED MINUTES

December 17, 2021 Standards Committee Meeting

(AS REVISED). Added changes to Items 3 and 4 are shown highlighted **yellow**.

See approval notes from the [January 21, 2022 SC meeting](#)).

January 28, 2022

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Minutes from the December 17, 2021 Standards Committee Meeting

The Standards Committee meeting was called to order by Mr. Novak, sitting in for Mr. Pankow, Chair, at 09:02 a.m. on December 17, 2021, and was held virtually via *Teams* (Microsoft application). The meeting was adjourned at 11:38 a.m.

The following committee members were in attendance:

Joseph Novak*, Chairman, Director, Construction Management
Steve Duncan**, Contract Administration Division
John Wooden (except first 2 items), Contract Administration Division
Dave Boruff, Traffic Engineering
Peter White, Bridge Engineering
Derrick Hauser***, Construction Management
Pankaj Patel****, Pavement Engineering
Jim Reilman, Materials and Tests Division
Michael Koch, District Construction, Fort Wayne District
Mark Orton, Highway Engineering
Kurt Pelz, Construction Technical Support
Anne Rearick, Engineering and Asset Management

*Proxy for Gregory Pankow

**Proxy for John Wooden (first 2 items)

***Proxy for Joseph Novak

****Proxy for Kumar Dave

Also, presence of the following throughout the meeting was captured by the *Microsoft Teams*:

Bazlamit, Subhi, INDOT	McNutt, Donald, guest
Blanchard, Jacob, INDOT	Mouser, Elizabeth, INDOT
Fisher, Steve, INDOT	Nelson, Mike, INDOT
Harris, Tom, INDOT	Nantung, Tommy, INDOT
Leffel, Victoria, INDOT	Osborn, Dan, ICI
Lesh, Jim, INDOT	Patterson, Patrick, INDOT
Duncan, Thomas, FHWA	Patrick, Long, guest
Ritter, John, INDOT	Pinkstaff, Andrew, INDOT
Russell, Melissa, INDOT	Podorvanova, Lana, INDOT
Siddiki, Nayyar, INDOT	Sturgeon, Dan, INDOT
Smart, Steve, guest	Thomas, Elizabeth, INDOT
Smutzer, Katherine, INDOT	Trammell, Scott, INDOT
Spreen, Jason, INDOT	Duncan, Steve, INDOT

The following items were discussed at the meeting:

A. GENERAL BUSINESS ITEMS

OLD BUSINESS

(No items were listed)

NEW BUSINESS

1. [Approval of the Minutes from the October 21, 2021 meeting](#)
(**Note:** Effective date for RSP 401-R-577 INERTIAL PROFILER WITH SMOOTHNESS PAY ADJUSTMENTS FOR HMA, FIXED INTERVAL (item 8, sponsor Mr. Novak) has been revised from March 1, 2022 to December 1, 2021).

Mr. Novak requested a motion to approve the Minutes from the October 21, 2021 meeting.

Motion: Mr. Boruff
Second: Mr. Koch
Ayes: 9
Nays: 0
FHWA: YES

ACTION:

PASSED AS REVISED

2. *Approval of the Schedule of the Standards Committee meetings, proposals submittals, and distributions of the Agendas and the Minutes in 2022 (Mr. Trammell) [pg 7](#).*

Mr. Reilman motioned to approve the schedule, seconded by Mr. Boruff.
Motion approved.

3. *Discussion on changes to the Letting Prep Schedule. (Ms. Mouser).*
Mr. White suggested adding a note to the schedule for clarification. Ms. Mouser agreed.
4. Mr. Pelz addressed the committee informing them that RSP 201-R-021 and 201-R-179 will be discontinued regarding issues concerning open burning, and will be moved to USPs.
Mr. Pelz motioned that these RSPs be converted to USPs and Mr. Boruff seconded that motion. The motion was approved by the committee.

B. CONCEPTUAL PROPOSAL ITEMS

OLD BUSINESS

(No items were listed)

NEW BUSINESS

(No items were listed)

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

OLD BUSINESS

Item No. 1 (Item 3, 5/20/21)	Mr. Reilman	pg 7
2022 Standard Specifications		
101.01	Abbreviations	
503.02	Materials	
503.03	Joints	
503.05	Sealing Cracks and Joints	
503.07	Method of Measurement	
507.02	Materials	
507.04	Joints	
507.10	Method of Measurement	
507.11	Basis of Payment	
906.02	Joint Sealing Materials	

ACTION: PASSED AS REVISED

NEW BUSINESS

[Item No. 1](#) [Mr. Reilman](#) [pg 18](#)

2022 Standard Specifications

203.22	Embankment Over Existing Roadbeds
203.27	Method of Measurement
203.28	Basis of Payment

ACTION: WITHDRAWN

[Item No. 2](#) [Mr. Reilman](#) [pg 26](#)

2022 Standard Specifications

901.01(d)	Rapid Hardening Hydraulic Cement
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ACTION: PASSED AS SUBMITTED

[Item No. 3](#) [Mr. Novak](#) [pg 30](#)

2022 Standard Specifications

101.41.1	<i>Project Work Zone</i>
801.10	Temporary Traffic Barriers
801.17	Method of Measurement
801.18	Basis of Payment

ACTION: PASSED AS SUBMITTED

[Item No. 4](#) [Mr. Reilman](#) [pg 39](#)

2022 Standard Specifications

731.02	General Design Requirements
731.03	Design Criteria
731.05	Materials
731.07	Foundation Preparation
731.11	Backfill Placement

ACTION: PASSED AS REVISED

[Item No. 5](#) [Mr. Reilman](#) [pg 47](#)

2022 Standard Specifications

101.01	Abbreviations
702.03	Materials
702.05	Proportioning
702.13	Forms
706.03	Concrete Railing
707.02	Materials

ACTION: PASSED AS SUBMITTED

[Item No. 6](#) [Mr. Reilman](#) [pg 56](#)
Recurring Special Provision
738-B-297
WARRANTED POLYMER OVERLAY SYSTEM FOR
BRIDGE DECK SURFACES AND POLYMER OVERLAY
SYSTEM FOR NON-BRIDGE DECKS (new version)

ACTION: PASSED AS REVISED

[Item No. 7](#) [Mr. Reilman](#) [pg 80](#)
2022 Standard Specifications
902.01
Asphalt

ACTION: PASSED AS SUBMITTED

[Item No. 8](#) [Mr. Reilman](#) [pg 85](#)
2022 Standard Specifications
603.02
710.02
802.02
901.08
Materials
Materials
Materials
Packaged, Dry, Combined Materials
for Mortar and Concrete

ACTION: PASSED AS REVISED

[Item No. 9](#) [Mr. Reilman](#) [pg 91](#)
2022 Standard Specifications
918.04
Geocell Confinement System

ACTION: WITHDRAWN

[Item No. 10](#) [Mr. Novak](#) [pg 95](#)
2022 Standard Specifications
616.13
Basis of Payment

ACTION: PASSED AS SUBMITTED

[Item No. 11](#) [Mr. Pelz](#) [pg 100](#)
2022 Standard Specifications
207.06
Basis of Payment

ACTION:

WITHDRAWN

cc: Committee Members
FHWA
ICI

SCHEDULE OF MEETINGS, SUBMITTALS AND DISTRIBUTIONS FOR 2022

Standards Committee Meeting Date	Agenda Items Due ⁽¹⁾	Agenda Distributed and Published	First Draft Minutes Distributed	Comments Due for Draft Minutes	Final Draft Minutes Distributed	Approved Minutes Published
Friday, December 17, 2021	Monday, November 22, 2021	Monday, November 29, 2021	Wednesday, December 22, 2021	Wednesday, December 29, 2021	Thursday, January 06, 2022	Thursday, January 27, 2022
Thursday, January 20, 2022	Monday, December 27, 2021	Monday, January 03, 2022	Wednesday, January 26, 2022	Wednesday, February 02, 2022	Thursday, February 10, 2022	Thursday, February 24, 2022
Thursday, February 17, 2022	Monday, January 24, 2022	Monday, January 31, 2022	Wednesday, February 23, 2022	Wednesday, March 02, 2022	Thursday, March 10, 2022	Thursday, March 24, 2022
Thursday, March 17, 2022	Monday, February 21, 2022	Monday, February 28, 2022	Wednesday, March 23, 2022	Wednesday, March 30, 2022	Thursday, April 07, 2022	Thursday, April 21, 2022
Thursday, April 21, 2022	Monday, March 28, 2022	Monday, April 04, 2022	Wednesday, April 27, 2022	Wednesday, May 04, 2022	Thursday, May 12, 2022	Thursday, June 02, 2022
Thursday, May 19, 2022	Monday, April 25, 2022	Monday, May 02, 2022	Wednesday, May 25, 2022	Wednesday, June 01, 2022	Thursday, June 09, 2022	Thursday, June 23, 2022
Thursday, June 16, 2022	Monday, May 23, 2022	Tuesday, May 31, 2022	Wednesday, June 22, 2022	Wednesday, June 29, 2022	Thursday, July 07, 2022	Thursday, July 21, 2022
Thursday, July 21, 2022	Monday, June 27, 2022	Tuesday, July 05, 2022	Wednesday, July 27, 2022	Wednesday, August 03, 2022	Thursday, August 11, 2022	Thursday, September 01, 2022
Thursday, August 18, 2022	Monday, July 25, 2022	Monday, August 01, 2022	Wednesday, August 24, 2022	Wednesday, August 31, 2022	Thursday, September 08, 2022	Thursday, September 22, 2022
Thursday, September 15, 2022	Monday, August 22, 2022	Monday, August 29, 2022	Wednesday, September 21, 2022	Wednesday, September 28, 2022	Thursday, October 06, 2022	Thursday, October 27, 2022
Thursday, October 20, 2022	Monday, September 26, 2022	Monday, October 03, 2022	Wednesday, October 26, 2022	Wednesday, November 02, 2022	Thursday, November 10, 2022	Wednesday, November 23, 2022
Thursday, November 17, 2022	Monday, October 24, 2022	Monday, October 31, 2022	Wednesday, November 23, 2022	Wednesday, November 30, 2022	Thursday, December 08, 2022	Thursday, December 22, 2022
Thursday, December 15, 2022	Monday, November 21, 2022	Monday, November 28, 2022	Wednesday, December 21, 2022	Wednesday, December 28, 2022	Thursday, January 05, 2023	Thursday, January 26, 2023
Notes:	Agenda items must be submitted by the due date shown and be accompanied by a Proposal sheet. The February meeting is the last opportunity for the approval of the Standard Drawings effective on September 1, 2022. Shaded dates are exceptions to the regular schedule.					

Mr. Reilman

Date: 12/17/21

[OLD BUSINESS ITEM No. 3 5/20/21]

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO SPECIAL PROVISIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: A new type of portland cement concrete pavement joint sealer, soy methyl ester-polystyrene, is available for use. INDOT does not currently have a specification for this material.

PROPOSED SOLUTION: Create an RSP for soy methyl ester-polystyrene sealer.

APPLICABLE STANDARD SPECIFICATIONS: None

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: create new RSP

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc: Gary Fox, Tommy Nantung, Mike Nelson, Jim Reilman

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
as approved by INDOT Pavement Design

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: (317) 522-9692

Date: 11/16/2021

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO SPECIAL PROVISIONS

IMPACT ANALYSIS REPORT CHECKLIST

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

Does this item appear in any other specification sections? 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? N/A

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? N/A

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

SECTION 101 - DEFINITIONS AND TERMS

101.01 Abbreviations

SECTION 503 – PCCP JOINTS

503.02 Materials; 503.03 Joints; 503.05 Sealing Cracks and Joints; 503.07 Method of Measurement

SECTION 507 – PCCP RESTORATION

507.02 Materials; 507.04 Joints; 507.10 Method of Measurement; 507.11 Basis of Payment

SECTION 906 – JOINT MATERIALS

906.02 Joint Sealing Materials

The Standard Specifications are revised as follows:

SECTION 101, BEGIN LINE 131, INSERT AS FOLLOWS:

SMA stone matrix asphalt
SME soy methyl ester

SECTION 503, BEGIN LINE 9, INSERT AS FOLLOWS:

503.02 Materials

Materials shall be in accordance with the following:

Chemical Anchor System.....	901.05
Concrete, Class A.....	702
Dowel Bars.....	910.01(b)10
Epoxy Coated Reinforcing Bars.....	910.01(b)9
Hot Poured Joint Sealant.....	906.02(a)2
Joint Filler	906.01
Joint Materials.....	906
PCC Sealer/Healers.....	901.06
Reinforcing Bars	910.01
SME-PS Penetrating Sealer	906.02(a)6
Support Devices	910.01(b)9
Threaded Tie Bar Assembly.....	910.01(b)2

SECTION 503, BEGIN LINE 116, DELETE AS FOLLOWS:

(e) Terminal Joints

A terminal joint of the type specified shall be constructed at the locations as shown on the plans. The embankment shall be shaped to the required grade and section, free from all ruts, corrugations, or other irregularities, and uniformly compacted and approved in accordance with 203. The embankment shall be furnished within a tolerance of 1/2 in. from the grade as shown on the plans. The subgrade shall be prepared as shown on the plans and in accordance with 207. The sleeper slab shall be placed on top of the prepared subgrade.

1. Terminal Joint, Type PCCP

Terminal joint, type PCCP, shall consist of a sleeper slab, polyethylene bond breaker, pre-compressed foam joint, and ~~jointed reinforced concrete pavement, JRCP,~~ transition slabs. The polyethylene bond breaker shall be an approved polyethylene sheeting

REVISION TO SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS

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SECTION 906 – JOINT MATERIALS

906.02 Joint Sealing Materials

having a thickness of 6 mils or greater. The portion of the sleeper slab on which the polyethylene bond breaker is to be placed shall be finished to a smooth trowel finish. The pre-compressed foam joint shall be in accordance with 724 and as shown on the plans. The concrete and placement for JRCP transition slabs shall be in accordance with 502 and as shown on the plans. Steel reinforcement shall be epoxy coated and placed in accordance with 703. The metal chairs, spacers, clips, wire, or other mechanical means used for fastening or holding reinforcement in place shall be epoxy coated.

SECTION 503, BEGIN LINE 251, DELETE AND INSERT AS FOLLOWS:

503.05 Sealing Cracks and Joints

All joints and cracks in the PCCP shall be cleaned and sealed with hot poured joint sealant in accordance with the sealant manufacturer's recommendations and this specification. Where there is a conflict, this specification shall govern. Water blasting shall not may be applied under pressure which may damage the concrete in a manner that results in no damage to the concrete. All cracks and joints shall be cleaned and sealed prior to discontinuing work for the winter.

Sealing and filling operations shall not be conducted on a wet surface, when the ambient temperature is below 40°F, or when other unsuitable conditions exist, unless approved by the Engineer. If precipitation occurs within 6 h of application, the SME-PS application shall be repeated in affected areas after precipitation has ended and the joint has dried. Joints may be dried with compressed air prior to re-application of the SME-PS penetrating sealer.

When hot poured joint sealant is specified, it shall be used to fill the joint within 1/4 in. below the surface. A distributor in accordance with 409.03 shall be used with an indirect-heat double boiler kettle and mechanical agitator. The hot poured joint sealant shall be placed utilizing a "V" shaped wand tip, to allow the penetration of the material into the joints. Backer rod shall not be used.

(a) Cracks

Cracks shall be sealed with hot poured joint sealant.

(b) Joints

The concrete surrounding the joint shall be a minimum of 14 days old prior to surface preparation.

REVISION TO SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS

101.01 Abbreviations

SECTION 503 – PCCP JOINTS

503.02 Materials; 503.03 Joints; 503.05 Sealing Cracks and Joints; 503.07 Method of Measurement

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SECTION 906 – JOINT MATERIALS

906.02 Joint Sealing Materials

The joint shall be cleaned to remove all foreign matter from the entire length, width, and depth of the joint. Joints shall be cleaned and dried with compressed air. Air compressors shall be equipped with an oil water separator and shall be capable of producing a minimum air pressure of 100 psi. Joints shall be cleaned with clean compressed air as frequently as necessary for final cleaning and to facilitate drying. A heat lance may be used to accelerate drying as approved by the Engineer. The joint shall be completely clean and dry prior to application of the SME-PS penetrating sealer.

SME-PS penetrating sealer shall be applied to the vertical faces of joints using a low-pressure sprayer at the manufacturer's specified application rate. A small reservoir of sealant shall be created at the bottom of the joint so that sealant can be absorbed into the joint over the following hours. An additional sealing pass shall be applied to the surface extending a minimum of 3 in. on either side of the joint.

A minimum of seven days after applying the SME-PS penetrating sealer, the joint shall be cleaned with compressed air to remove all foreign matter. Hot poured joint sealant shall then be used to fill the joint.

SECTION 503, BEGIN LINE 278, DELETE AND INSERT AS FOLLOWS:

503.07 Method of Measurement

D-1 contraction joints, expansion joint with load transfer, and terminal joints will be measured by the linear foot as measured along the centerline of the joint. The sleeper slab, reinforcing bars, bond breaker, and sealants for the terminal joint will not be measured. When required, removal of an existing terminal joint or sleeper slab will not be measured.

JRCP will be measured by the square yard of the thickness specified. Reinforcing bars, the metal chairs, spacers, clips, wire, or other mechanical means used for fastening or holding reinforcement in place in the JRCP will not be measured.

~~Pre-compressed foam joints will not be measured.~~

Retrofitted tie bars will be measured by the number of units installed.

Pre-compressed foam joints, joint fillers, and joint sealants will not be measured.

REVISION TO SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS

101.01 Abbreviations

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SECTION 507 – PCCP RESTORATION

507.02 Materials; 507.04 Joints; 507.10 Method of Measurement; 507.11 Basis of Payment

SECTION 906 – JOINT MATERIALS

906.02 Joint Sealing Materials

SECTION 507, BEGIN LINE 9, INSERT AS FOLLOWS:

507.02 Materials

Materials shall be in accordance with the following:

Asphalt Binder, PG 64-22	902.01(a)
Dowel Bars.....	910.01(b)10
Fine Aggregates, Size No. 23 or 24	904.02
Joint Sealing Materials.....	906.02
Rapid Setting Patch Materials.....	901.07
SME-PS Penetrating Sealer	906.02(a)6

Dowel bars and dowel bar assemblies shall be in accordance with 503.04.

SECTION 507, BEGIN LINE 65, DELETE AND INSERT AS FOLLOWS:

507.04 Joints

Sealing and filling operations shall not be conducted on a wet surface, when the ambient temperature is below 40°F, or when other unsuitable conditions exist, unless approved by the Engineer. *The concrete surrounding the joint shall be a minimum of 14 days old prior to surface preparation.*

If precipitation occurs within 6 h of application, the SME-PS application shall be repeated in affected areas after precipitation has ended and the joint has dried. Joints may be dried with compressed air prior to re-application of the SME-PS penetrating sealer.

~~(a) Sawing, Cleaning and Sealing~~

Joints in PCCP shall be ~~sawed~~, cleaned, sealed and ~~sealed when specified~~ filled. *Cleaning shall include removal of old sealant, backer rod, and other debris remaining in the joint. No sawing or routing shall be performed. Water may be applied under pressure in a manner to which no damage to the concrete occurs. Joints shall be cleaned and dried with compressed air. Air compressors shall be equipped with an oil water separator and shall be capable of producing a minimum air pressure of 100 psi. Joints shall be cleaned with compressed air as frequently as necessary for final cleaning and to facilitate drying. A heat lance may be used to accelerate drying as approved by the Engineer. The joint shall be completely clean and dry prior to application of the SME-PS penetrating sealer. ~~Water blasting shall not be applied under pressure which may damage the concrete. The existing~~*

REVISION TO SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS

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SECTION 906 – JOINT MATERIALS

906.02 Joint Sealing Materials

~~joints shall be sawed to the width and depth as shown on the plans. Slurry or saw residue remaining in the slot shall be immediately flushed with water. Traffic may be allowed on the PCCP for up to seven calendar days after the saw cutting prior to sealing.~~

Joints shall be sealed with joint sealing materials in accordance with the sealant manufacturer's recommendations *and this specification. Where there is a conflict, this specification shall govern.* Transverse joints and longitudinal joints shall be sealed with hot poured joint sealant, silicone sealant or preformed elastomeric joint sealant SME-PS penetrating sealer in accordance with 503.05(b). Longitudinal joints shall be sealed with hot poured joint sealant or silicone sealants.

A minimum of seven days after applying the SME-PS penetrating sealer, SME-PS penetrating sealer, the joint shall be cleaned with compressed air to remove all foreign matter. Hot poured joint sealant shall then be installed in accordance with 503.05.

Application of asphalt materials shall be completed without covering existing pavement markings. When traffic is to be maintained within the limits of the section, temporary traffic control measures in accordance with 801 shall be used. Treated areas shall not be opened to traffic until the asphalt material has set *and does not track or otherwise pull out of the joint.*

(b) Cleaning and Filling

~~Joints in PCCP shall be cleaned and filled when specified. Cleaning shall include removal of old sealant and backer rod. Air compressors shall be capable of producing a minimum air pressure of 100 psi. Water blasting shall not be utilized.~~

~~Joints shall be filled with hot poured joint sealant in accordance with the manufacturer's recommendations within 1/4 in. below the surface. A distributor in accordance with 409.03 shall be used with an indirect heat double boiler kettle and mechanical agitator. The hot poured joint sealant shall be placed utilizing a "V" shaped wand tip, to allow the penetration of the materials into the joints.~~

SECTION 507, BEGIN LINE 172, INSERT AS FOLLOWS:

Temporary traffic control measures for routing, sealing, or filling of cracks or sawing, sealing, or filling of joints, and profiling will be measured in accordance with 801.17.

REVISION TO SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS

101.01 Abbreviations

SECTION 503 – PCCP JOINTS

503.02 Materials; 503.03 Joints; 503.05 Sealing Cracks and Joints; 503.07 Method of Measurement

SECTION 507 – PCCP RESTORATION

507.02 Materials; 507.04 Joints; 507.10 Method of Measurement; 507.11 Basis of Payment

SECTION 906 – JOINT MATERIALS

906.02 Joint Sealing Materials

507.10 Basis of Payment

Routing and sealing of cracks, filling of cracks, sawing and sealing of joints and filling of joints will be paid for by the linear foot, complete in place. The accepted quantities of retrofit load transfer will be paid for at the contract unit price per each assembly installed, complete in place. PCCP patching will be paid for in accordance with 506.14. PCCP joint repair will be paid for in accordance with 509.19. Profiling will be paid for by the square yard. Undersealing and drilled holes will be paid for in accordance with 612.08.

The cost of temporary traffic control measures for routing, sealing, or filling of cracks or joints, and profiling will be paid for in accordance with 801.18.

SECTION 906, AFTER LINE 98, INSERT AS FOLLOWS:

6. SME-PS Penetrating Sealer

SME-PS penetrating sealer shall start from pure SME and then be mixed with polystyrene, PS. The resulting SME-PS penetrating sealer shall be in accordance with the following:

<i>Active Ingredients</i>	<i>Method</i>	<i>Requirement</i>
<i>SME, by mass of total solids</i>	---	95% - 98%
<i>PS, by mass of total solids</i>	---	2% - 5%
<i>Viscosity @ 23°C</i>	ASTM D445	7.000 cP – 10.00 cP

The SME-PS PCC sealer shall be delivered to the jobsite in unopened containers with the manufacturer’s numbered seal intact.

A Type B certification in accordance with 916 shall be provided for the SME-PS penetrating sealer. The limits of the test values listed above shall be provided on the certification. In addition, the certification shall also include a statement from the manufacturer that before mixing with polystyrene, the starting point is a pure SME.

COMMENTS AND ACTION

101.01 Abbreviations

503.02 Materials; 503.03 Joints; 503.05 Sealing Cracks and Joints; 503.07 Method of Measurement

507.02 Materials; 507.04 Joints; 507.10 Method of Measurement; 507.11 Basis of Payment

906.02 Joint Sealing Materials

DISCUSSION:

This item was introduced and presented by Mr. Reilman who stated that a new type of portland cement concrete pavement joint sealer, soy methyl ester-polystyrene, is available for use. INDOT does not currently have a specification for this material.

Mr. Reilman therefore proposed to create an RSP for soy methyl ester-polystyrene sealer.

Mr. Koch pointed out that, in accordance with 501 and 502, joints are to be sealed prior to opening to traffic. The proposed language requires concrete to be a minimum of 14 days old prior to cleaning and applying SME-PS and an additional 7 days of cure time before the hot pour could be installed. Unless restricted by a manufacturer's recommendation, we did not have long duration hold points previously.

Are we ok with this?

Mr. Reilman replied that, Yes. The 14 days should probably be longer, but we went with 14 for now.

Mr. Reilman stated that this RSP should never be used or inserted in a contract that has 506 pay items.

Mr. Koch stated that we are concerned with the cure time for the SME-PS prior to a rain event and not the hot pour joint sealant. During our dialog a few months ago we clarified 503, for consistence should 507 read similar to 503?

Mr. Reilman agreed. The proposed revisions are as shown above. The words "the SME-PS" was added to 507 so that 507 now reads exactly as 503 does, for consistency.

Mr. Patel concurred with these revisions. Mr. Reilman revised his motion which was seconded by Mr. Koch. There was no further discussion and this item passed as revised.

COMMENTS AND ACTION

101.01 Abbreviations
 503.02 Materials; 503.03 Joints; 503.05 Sealing Cracks and Joints; 503.07 Method of Measurement
 507.02 Materials; 507.04 Joints; 507.10 Method of Measurement; 507.11 Basis of Payment
 906.02 Joint Sealing Materials

[CONTINUED]

<p>Motion: Mr. Reilman Second: Mr. Orton Ayes: 9 Nays: 0 FHWA Approval: YES</p>	<p>Action: <input type="checkbox"/> Passed as Submitted <input checked="" type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected: 503 begin pg 433; 507 begin pg 458; 906 pg 1015.</p>	<p><input type="checkbox"/> 2024 Standard Specifications <input type="checkbox"/> Revise Pay Items List <input checked="" type="checkbox"/> Create RSP (No. <u>503-R-xxx</u>) Effective: <u>June 1, 2022</u> RSP Sunset Date:</p>
<p>Recurring Special Provision references in: NONE</p>	<p><input type="checkbox"/> Revise RSP (No. <u> </u>) Effective: RSP Sunset Date:</p>
<p>Standard Drawing affected: NONE</p>	<p><input type="checkbox"/> Standard Drawing Effective:</p>
<p>Design Manual Sections affected: NONE</p>	<p><input type="checkbox"/> Create RPD (No. <u> </u>) Effective:</p>
<p>GIFE Sections cross-references: NONE</p>	<p><input type="checkbox"/> GIFE Update <input checked="" type="checkbox"/> Frequency Manual Update <input checked="" type="checkbox"/> SiteManager Update</p>

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The guidance provided in Sec 203.22 is not clear. It has caused construction delays and project reconstruction in some instances.

PROPOSED SOLUTION: The proposed revisions to section 203.22 should provide clearer direction to construct embankment over an existing road.

APPLICABLE STANDARD SPECIFICATIONS: 203.22

APPLICABLE STANDARD DRAWINGS: NA

APPLICABLE DESIGN MANUAL SECTION:

APPLICABLE SECTION OF GIFE:

APPLICABLE RECURRING SPECIAL PROVISIONS: incorporate into existing 203-R-726 RSP

PAY ITEMS AFFECTED: NA

APPLICABLE SUB-COMMITTEE ENDORSEMENT: ICI, Material and Test, Pavement and Geotechnical

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
all contracts with any 203, 207, 215, 301, 302, or 303 pay item.

IMPACT ANALYSIS (attach report): NA

Submitted By: Jim Reilman for Nayyar Siddiki

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317 522 9692

Date: 11/5/2021

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

IMPACT ANALYSIS REPORT CHECKLIST

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

Does this item appear in any other specification sections? n/a

Will approval of this item affect the Approved Materials List? no

Will this proposal improve:

Construction costs? NA

Construction time? NA

Customer satisfaction? Yes

Congestion/travel time? NA

Ride quality? Yes

Will this proposal reduce operational costs or maintenance effort? Yes

Will this item improve safety:

For motorists? N/A

For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? yes

Asset preservation? yes

Design process? yes

Will this change provide the contractor more flexibility? NA

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? No

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

REVISION TO STANDARD SPECIFICATIONS

SECTION 203 - EXCAVATION AND EMBANKMENT

203.22 Embankment Over Existing Roadbeds; 203.27 Method of Measurement; 203.28 Basis of Payment

The Standard Specifications are revised as follows:

SECTION 203, BEGIN LINE 930, DELETE AND INSERT AS FOLLOWS:

203.22 Embankment Over Existing Roadbeds

~~If embankment for new pavement is to be placed over an area where a rigid pavement or any pavement having a concrete base is in place, or in other cases when required, the upper surface of which is 1 ft or less below the subgrade elevation of the proposed new pavement, the existing old pavement, including any concrete base, shall be removed. The method of removal, disposal, and basis of payment shall be in accordance with 202.05 and 202.14.~~

~~If embankment for new pavement is to be placed over an area where an existing rigid pavement is in place, the upper surface of which is more than 1 ft but less than 3 ft below the subgrade elevation of the proposed new pavement, or in other cases when required, the existing pavement shall be broken. Pavement shall be broken so the area of any individual unbroken slab does not exceed 1 sq yd.~~

~~If embankment for new pavement is to be placed over an area where an asphalt filled brick type or an asphalt type surface on a concrete base is in place, and such existing surface is more than 1 ft but less than 3 ft below the subgrade elevation of the proposed new pavement, or in other cases when required, the brick and cushion material, or the asphalt courses, shall be removed and the concrete base broken. Removal of the surfacing material, breaking the base, disposal of removed material, and basis of payment shall be in accordance with 202.05 and 202.14.~~

~~If embankment for new pavement is to be placed over an area where a flexible type pavement is in place, the top of which is at the approximate elevation of, or is 1 ft or less below the required subgrade elevation of the proposed new pavement, the existing pavement shall be loosened to the depth directed, but no less than 1 ft. This loosened material shall be spread uniformly over the full width of the subgrade plus 1 ft on each side and compacted. No direct payment will be made for this loosening, spreading, and compacting, the cost thereof to be included in the various pay items of the contract.~~

~~If embankment for new pavement is to be placed over an existing macadam, the surface of which is more than 1 ft but less than 3 ft below the subgrade elevation of the proposed new pavement, the existing macadam shall be loosened to a depth sufficient to prevent possible trapping of water above the existing surface. No direct payment will be made for this loosening, the cost thereof to be included in the various pay items of the contract.~~

~~Where the existing roadbed is too narrow, except as otherwise herein provided, new pavement shall not be placed partly on old and partly on new embankment. If the fill supporting an existing roadbed is 1 ft or more in depth, and is too narrow to carry the entire~~

REVISION TO STANDARD SPECIFICATIONS

SECTION 203 - EXCAVATION AND EMBANKMENT

203.22 Embankment Over Existing Roadbeds; 203.27 Method of Measurement; 203.28 Basis of Payment

~~width of the proposed new pavement, the existing width of roadbed shall be taken down to include the new roadbed width and rebuilt from the lowest elevation of the disturbed old roadbed to the required new width. This rebuilding shall be in accordance with these specifications for constructing embankment and as directed. For the necessary tearing down of the existing embankment, payment will be made at the contract unit price per cubic yard for the class or classes of excavation encountered.~~

~~If an embankment is to be widened, due precautions shall be taken to ensure a firm foundation. After all sod and other perishable material has been removed, the existing shoulders shall be plowed down 2 ft out from the existing pavement. This material shall be used for widening. Benches, a minimum of 4 ft wide, shall be cut into the slope of the old embankment, unless otherwise directed. The materials from plowing down the shoulders and benching the slopes shall be deposited, spread, and compacted as set out herein for embankment, after which any remaining required embankment shall be finished with additional material, deposited and compacted in like manner. No direct payment will be made for benching, plowing, spreading, and compacting, the cost thereof to be included in the various pay items of the contract. When a new pavement is to be constructed over an existing pavement, treatment of the existing pavement depends on the depth of the existing pavement below the new pavement. The depth shall be the vertical distance from the top of the subgrade elevation of the new pavement section to the top of the existing pavement section. Treatment shall be as follows.~~

(a) Existing Pavement 3 ft or Less Below New Subgrade Elevation

~~All existing pavement shall be removed in accordance with 202.~~

1. Asphalt Pavement

~~Asphalt pavement shall be removed in accordance with 202.~~

2. Concrete Pavement

~~Concrete pavement shall be rubblized in accordance with 305.04(d).~~

3. Composite Pavement

~~When composite pavement is encountered, the asphalt portion shall be removed by milling in accordance with 306. The underlying concrete pavement shall be rubblized in accordance with 305.04(d).~~

~~The embankment and subgrade shall be constructed with coarse aggregate No. 53 in accordance with 301203 and 207.~~

(b) Existing Pavement Greater than 3 ft Below New Subgrade Elevation

~~The existing pavement may either shall remain in place. or be removed at the Contractor's discretion. If the existing pavement remains in place, a layer of geotextile for pavement and subgrade in accordance with 918.02 shall be placed on top of the existing~~

REVISION TO STANDARD SPECIFICATIONS

SECTION 203 - EXCAVATION AND EMBANKMENT

203.22 Embankment Over Existing Roadbeds; 203.27 Method of Measurement; 203.28 Basis of Payment

pavement. The embankment and subgrade shall then be constructed in accordance with 203.23 and 207.

(c) Widening an Existing Embankment

When an embankment is to be widened, precautions shall be taken to ensure a firm foundation in accordance with 203.09. All sod and other perishable material shall be removed. Benches shall be cut a minimum of 4 ft wide into the slope of the old embankment, unless otherwise directed. Compaction shall be performed in accordance with 203.23.

The Engineer shall be notified if water seeps from the bench cut of the existing embankment. The Engineer will then contact the Geotechnical Engineering Division.

SECTION 203, BEGIN LINE 1259, INSERT AS FOLLOWS:

203.27 Method of Measurement

~~Milling existing asphalt pavement will be measured in accordance with 306.10. Rubblization of concrete pavement will be measured in accordance with 305.06. Existing asphalt pavement which is removed will be measured in accordance with 202.13.~~

(a) Contract Quantity

The quantities of excavation for which payment will be made will be those shown in the Schedule of Pay Items for the pay items, provided the project is constructed to the lines and grades shown on the plans.

SECTION 203, AFTER LINE 1401, INSERT AS FOLLOWS:

(l) Measurement of Geotextiles

Geotextiles used in 203.09, 203.20(a), ~~203.23.1, 203.22(b)~~, or 203.25 applications will be measured in accordance with 214.05. Geotextiles used in 203.22(b) applications will be measured in accordance with 616.12 as geotextiles used under riprap. Geotextiles used in 203.09, 203.18, and 203.23.1 applications will not be measured.

SECTION 203, BEGIN LINE 1496, INSERT AS FOLLOWS:

If a type of excavation for which no pay item exists is required and the new type of excavation requires additional traffic control not shown on the plans or results in traffic control being required for an additional period of time, all cost involved in providing the additional traffic control will be included in a change order developed in accordance with 109.05 and paid for as additional maintaining of traffic.

When tearing down an existing embankment as shown on the plans, payment will be made at the contract unit price per cubic yard for the class or classes of excavation encountered. ~~Milling existing asphalt pavement will be paid for in accordance with 306.11. Rubblization of concrete pavement will be paid for in accordance with 305.07. Existing asphalt pavement which is removed will be paid for in accordance with 202.14. Geotextiles used in 203.09, 203.20(a), ~~203.23.1, 203.22(b)~~, or 203.25 applications will be paid for in accordance with 214.06. Geotextiles used in 203.22(b) applications will be paid for in~~

REVISION TO STANDARD SPECIFICATIONS

SECTION 203 - EXCAVATION AND EMBANKMENT

203.22 Embankment Over Existing Roadbeds; 203.27 Method of Measurement; 203.28 Basis of Payment

accordance with 616.13 as geotextiles for riprap.

Coal ash used as borrow will be paid for at the contract unit price for borrow.

SECTION 203, BEGIN LINE 1574, INSERT AS FOLLOWS:

The cost of geotextiles *used in 203.18 , and 203.23.1 applications* shall be included in the cost of other pay items *in this section.*

Payment for benching, plowing, spreading, and compacting shall be included in the cost of the other pay items in this section.

The costs for the use of coal ash in embankment construction, including, but not limited to testing of the material, encasement, additional erosion and sediment control measures, lateral underdrains and all incidentals shall be included in the cost of other pay items in this section.

APPROVED MINUTES

COMMENTS AND ACTION

203.22 Embankment Over Existing Roadbeds

203.27 Method of Measurement

203.28 Basis of Payment

DISCUSSION:

Mr. Reilman introduced and presented this item stating that the guidance provided in 203.22 is not clear, and has caused construction delays and project reconstruction in some instances.

Mr. Reilman proposed to revise 203.22 in an effort to provide clearer direction to construct embankment over an existing road.

Mr. Koch stated that 203.22(a) seems overly complicated. Could we simply state that the existing pavement structure shall be removed avoiding method language? Asphalt/brick removal would be paid for by the 'common excavation' and concrete by 'pavement removal' pay items. Also, the proposed language in 203.22(a)3. requires coarse aggregate #53 in accordance with 301, yet we are requiring concrete pavement to be rubblized, which may conflict with the subgrade treatment.

Mr. Koch also stated that this proposal incorporates other sections of work within the method of measurement of 203. It seems as though this should be design guidance and not contractor options for payment. For example, if a contract is let with items to remove asphalt pavement are we opening ourselves up to claims if a contractor removes the pavement with a mill? That said (written), the proposed specification may create Designer confusion as they attempt to determine what is needed. I worry this will lead to change order after change order. Ideally, we should avoid dictating removal methods.

Mr. Koch asked if we could please address how geotextiles, in accordance with 203.22(b), should be paid. If the contractor elects to use coal ash (203.23.1) as a fill material, should they include the associated costs in their process, no additional payment for geotextiles?

Additional revisions were made before the meeting and are shown in these Minutes. Mr. Reilman chose to withdraw this item pending further review and stated that comments are welcome.

COMMENTS AND ACTION

203.22 Embankment Over Existing Roadbeds

203.27 Method of Measurement

203.28 Basis of Payment

[CONTINUED]

<p>Motion: Mr. Reilman Second: Mr. Ayes: Nays: FHWA Approval:</p>	<p>Action: ___ Passed as Submitted ___ Passed as Revised X Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected:</p>	<p>___ 2024 Standard Specifications</p>
<p>203.22 begin pg 170</p>	<p>___ Revise Pay Items List</p>
<p>Recurring Special Provision: 203-R-726 EXCAVATION AND EMBANKMENT</p>	<p>___ Create RSP (No. __) Effective: RSP Sunset Date:</p>
<p>Standard Drawing affected: NONE</p>	<p>___ Revise RSP (No. ____) Effective: June 2022 RSP Sunset Date:</p>
<p>Design Manual Sections affected: NONE</p>	<p>___ Standard Drawing Effective:</p>
<p>GIFE Sections: TBD</p>	<p>___ Create RPD (No. __) Effective:</p>
	<p>___ GIFE Update ___ Frequency Manual Update ___ SiteManager Update</p>

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED:

Section 901.01(d) references an incorrect procedure for adding rapid hardening hydraulic cement sources to the qualified product list.

PROPOSED SOLUTION:

Revise section 901.01(d) to reference the correct specification.

APPLICABLE STANDARD SPECIFICATIONS: 901.01(d)

APPLICABLE STANDARD DRAWINGS: none

APPLICABLE DESIGN MANUAL SECTION: none

APPLICABLE SECTION OF GIFE: none

APPLICABLE RECURRING SPECIAL PROVISIONS: NA

PAY ITEMS AFFECTED: none

APPLICABLE SUB-COMMITTEE ENDORSEMENT: N/A

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

NA

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT Office of Materials Management

Phone Number: 317-522-9692

Date: 11/5/21

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

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? Yes

Will this proposal improve:

Construction costs? N/A

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? No

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? N/A

Design process? N/A

Will this change provide the contractor more flexibility? No

Will this proposal provide clarification for the Contractor and field personnel? No

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: N/A

REVISION TO STANDARD SPECIFICATIONS

SECTION 901 - PCC MATERIALS

901.01(d) Rapid Hardening Hydraulic Cement

SECTION 901, BEGIN LINE 154, DELETE AND INSERT AS FOLLOWS:

(d) Rapid Hardening Hydraulic Cement

Rapid hardening hydraulic cement shall be calcium sulfoaluminate, CSA, cement furnished from a manufacturer or manufacturer/distributor on the Department's list QPL of Cement Sources. A source may be added to the QPL by completing the requirements of ITM 806, Procedure U901.01(b)2b or 901.01(b)2c.

APPROVED MINUTES

COMMENTS AND ACTION

901.01(d) Rapid Hardening Hydraulic Cement

DISCUSSION:

This item was introduced and presented by Mr. Reilman who explained that 901.01(d) references an incorrect procedure for adding rapid hardening hydraulic cement sources to the qualified product list.

Mr. Reilman proposed to revise 901.01(d) to reference the correct specification.

There were no comments or discussion, and this item passed as submitted.

Mr. Reilman stated that this revision can wait for the 2024 spec book, and a RSP is not necessary.

<p>Motion: Mr. Reilman Second: Mr. Koch Ayes: 10 Nays: 0 FHWA Approval: YES</p>	<p>Action: <input checked="" type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected: 901.01(d) pg 964.</p>	<p><input checked="" type="checkbox"/> 2024 Standard Specifications <input type="checkbox"/> Revise Pay Items List</p>
<p>Recurring Special Provision: NONE</p>	<p><input type="checkbox"/> Create RSP (____) Effective: _____ RSP Sunset Date:</p>
<p>Standard Drawing affected: NONE</p>	<p><input type="checkbox"/> Revise RSP (No. __) Effective: RSP Sunset Date:</p>
<p>Design Manual Sections affected: NONE</p>	<p><input type="checkbox"/> Standard Drawing Effective:</p>
<p>GIFE Sections: NONE</p>	<p><input type="checkbox"/> Create RPD (No. __) Effective:</p>
	<p><input type="checkbox"/> GIFE Update <input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update</p>

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Current INDOT specifications call for payment of Construction Zone energy absorbing terminals (CZ) per the linear foot when used with type 2 barrier wall. When CZ's are used with type 1 and type 3 wall the unit is paid for by each. The use of multiple wall types on contracts has resulted in confusion to both bidders and inspectors regarding appropriate payment of the CZ's.

On multi-location contracts there can be much uncertainty on the estimated pay quantity for Temporary Traffic Barrier (TTB)/anchored temporary traffic barrier (ATTB) and CZ units depending on if the TTB/ATTB and/or CZ units are moved from 1 location to another or all locations are worked at the same time.

PROPOSED SOLUTION: Change the method of measurement and basis of payment for energy absorbing terminals (CZ) that are used with temporary barrier type 2 to an each unit of measurement and payment.

Designate and define each project location and pay for the total length of TTB/ATTB and number of CZ units used at each location.

APPLICABLE STANDARD SPECIFICATIONS: 101.42 (2022 Spec), 801.17, and 801.18

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: 7-4.13 Temporary Traffic Barrier (TTB)

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: None

PAY ITEMS AFFECTED: Energy Absorbing Terminal, CZ, TL - _____ Each, Temporary Traffic Barrier, _____ LFT, Temporary Traffic Barrier, Anchored, _____ LFT

APPLICABLE SUB-COMMITTEE ENDORSEMENT: This proposal has been reviewed by ICI

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

All contracts with the pay item Energy Absorbing Terminal, CZ, TL - _____ Each, Temporary Traffic Barrier, _____ LFT, Temporary Traffic Barrier, Anchored, _____ LFT

IMPACT ANALYSIS (attach report): Yes

Submitted By: Joe Novak
Title: State Construction Engineer
Organization: INDOT
Phone Number:

Date: 8/13/21

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

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? 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? Yes

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: This proposal will help clarify the length of Temporary Traffic Barrier (TTB) and anchored temporary traffic barrier (ATTB), and the number of Energy Absorbing Terminal, CZ, that will be paid on a contract.

REVISION TO STANDARD SPECIFICATIONS

~~SECTION 101 - TERMS AND DEFINITIONS~~

~~101.41.1 Project Work Zone~~

SECTION 801 - TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS

801.10 Temporary Traffic Barriers; 801.17 Method of Measurement; 801.18 Basis of Payment

The Standard Specifications are revised as follows:

~~SECTION 101, BEGIN LINE 369, INSERT AS FOLLOWS:~~

101.41 Project

The specific section of the highway where work is to be performed under the contract.

~~**101.41.1 Project Work Zone**~~

~~A segment of highway from the "Road Construction Ahead" sign to the "End Construction" sign.~~

SECTION 801, BEGIN LINE 353, DELETE AND INSERT AS FOLLOWS:

Type 1

Type 1 temporary traffic barriers shall be used to separate two-way traffic and shall be precast concrete in accordance with applicable requirements of 707 and 602 and as shown on the plans. Type 1 barriers may also be used to separate traffic from the work **zone** area. The surfaces of individual precast units shall vary no more than 1/4 in. in 10 ft from the specified cross section, as measured from a longitudinal straightedge. The maximum variation in the vertical and horizontal alignment of adjacent units shall be 1/4 in. across the joint, as measured from a 10 ft longitudinal straightedge. Sections that have obvious defects or visual cracks shall not be used. Sections that develop any of these conditions during the contract shall be repaired with concrete or replaced within a reasonable amount of time.

Type 1 barrier units precast prior to 2003 shall not be used after January 1, 2012. Units precast after March 1, 2003 shall be clearly marked with the name or trademark of the manufacturer, the year of manufacture, and "INDOT". The markings shall be indented on an end or on the top of each barrier section. Units precast after January 1, 2007 shall be from the QPL of Certified Precast Concrete Producers.

Type 2

Type 2 barriers may be used to separate traffic from the work **zone** area. Type 2 temporary traffic barriers shall meet the appropriate test level 2 or 3 MASH or NCHRP 350 crash test standards and shall be approved for use by the FHWA. A copy of the MASH or NCHRP 350 crash test FHWA eligibility letter shall be provided to the Engineer prior to placing the unit. The unit selected shall be appropriate for the location considering the maximum posted speed limit on the project and the allowable area for deflection. The unit shall be installed according to the manufacturer's recommendations.

SECTION 801, BEGIN LINE 932, DELETE AND INSERT AS FOLLOWS:

Temporary traffic barrier will be measured by the linear foot per the type specified. Anchored traffic barrier will be measured by the linear foot, separately from unanchored

REVISION TO STANDARD SPECIFICATIONS

SECTION 101 - TERMS AND DEFINITIONS

101.41.1 Project Work Zone

SECTION 801 - TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS

801.10 Temporary Traffic Barriers; 801.17 Method of Measurement; 801.18 Basis of Payment

temporary concrete barrier per the type specified. End treatments, *other than construction zone energy absorbing terminals, CZ*, used on ~~at type 1, type 2, or type 4~~ type 3 temporary traffic barrier will be measured by the linear foot as part of the barrier. *All end treatments used on type 4 temporary traffic barrier will be measured by the linear foot as part of the barrier.*

Construction zone energy absorbing terminals, CZ, used on type 1, *or type 2*, ~~and~~ type 3 temporary traffic barriers will be measured by the number of terminals placed.

Temporary crossovers type A and type B will be measured per each crossover. The refurbishing of temporary crossovers will be measured per each type of crossover refurbished. HMA mixtures for temporary crossovers will be measured by the ton in accordance with 109.01(b). Initial resurfacing and initial patching of refurbished crossovers will be measured in accordance with 402.19. Temporary drainage pipe for temporary crossovers will be measured by the linear foot. Seeding and sodding placed due to the construction and removal or refurbishing and closing of temporary crossovers, will be measured in accordance with 621.13. Removal and subsequent replacement of permanent pavement markings and snowplowable raised pavement markers for temporary crossovers will be measured in accordance with 808.12. Removal and resetting of guardrail, if required for temporary crossovers, will be measured in accordance with 601.13.

Flashing arrow signs will be measured by the number of calendar days each unit is operated.

Patroller will be measured by the number of calendar days during the phase or phases of traffic control, as shown on the plans or as otherwise directed, that require the patroller's presence. Each portion of a day will be measured as a whole day.

Temporary pavement message markings will be measured by the number of each type placed. Longitudinal and transverse temporary pavement markings will be measured by the linear foot of material actually placed. Temporary buzz strips will be measured by the linear foot for each 8 in. strip placed, without regard to the number of passes required to attain the specified height.

Removal, when necessary, of any type of non-removable temporary pavement markings will be measured in accordance with 808.12. Removal of removable temporary pavement markings will not be measured for payment.

Where temporary pavement markings are to be placed on a pavement which has existing markings, removal of existing markings which conflict with the temporary markings will be measured in accordance with 808.12. Where conflicting markings are

REVISION TO STANDARD SPECIFICATIONS

SECTION 101 - TERMS AND DEFINITIONS

101.41.1 Project Work Zone

SECTION 801 - TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS

801.10 Temporary Traffic Barriers; 801.17 Method of Measurement; 801.18 Basis of Payment

covered with black temporary tape Type I, the black temporary tape will be measured by the linear foot of markings covered.

The removal and replacement of prismatic reflectors on existing snowplowable raised pavement markers will be measured in accordance with 808.12.

Compacted aggregate No. 73 used for shoulder material will be measured in accordance with 303.09. Excavation of the existing earth shoulder will not be measured for payment.

Cones and tubular markers will not be measured for payment. Permanent tubular markers will be measured per each.

Temporary illumination, fixed temporary signals, portable signals, and maintaining traffic will not be measured for payment.

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, 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.

Temporary traffic barrier and anchored temporary traffic barrier will be paid for at the contract unit price per linear foot per the type specified. Payment will be made only once, regardless of the number of times the barrier is moved to accommodate different phases of traffic maintenance or construction operations as shown in the contract within ~~each Project project Work Zone~~. Payment will be made for Temporary Traffic Barrier placed in, or relocated to, a separate ~~Project project Work Zone~~.

End treatments, other than construction zone energy absorbing terminal, CZ, used on ~~at type 1, type 2, or type 4 temporary traffic barrier~~ type 3 will be paid for on a linear basis as part of the barrier. All end treatments used on type 4 temporary traffic barrier will be paid for on a linear basis as part of the barrier.

Construction zone energy absorbing terminal, CZ, ~~when~~ used with type 1, or type 2, or type 3 temporary traffic barriers will be paid for at the contract unit price per each for energy absorbing terminal, CZ, of the test level placed. Each unit will be paid for only once regardless of how many times it is moved: ~~within each Project project Work Zone~~.

REVISION TO STANDARD SPECIFICATIONS

SECTION 101 - TERMS AND DEFINITIONS

101.41.1 Project Work Zone

SECTION 801 - TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS

801.10 Temporary Traffic Barriers; 801.17 Method of Measurement; 801.18 Basis of Payment

~~Construction zone energy absorbing terminal, CZ, when used with type 2 or type 4 temporary traffic barriers will be paid for at the contract unit price per linear foot of type 2 or type 4 temporary traffic barrier. Payment will be made for construction zone energy absorbing terminal, CZ placed in, or relocated to, a separate Project project Work Zone.~~ Back-up units will be paid for as energy absorbing terminal, CZ, of the test level placed, if they are placed in service due to non-repairable damage to the units already in service.

The accepted quantities of temporary crossovers will be paid for at the contract unit price per each for the type specified. The accepted quantities of refurbishing existing temporary crossovers will be paid for at the contract unit price per each for the type specified. The accepted quantities of HMA for temporary crossovers will be paid for as HMA for temporary pavement at the contract unit price per ton in accordance with 402.20. Temporary drainage pipe for temporary crossovers will be paid for at the contract unit price per linear foot. Sodding and seeding for temporary crossovers will be paid for in accordance with 621.14. Removal and subsequent replacement of permanent pavement markings and snowplowable raised pavement markers for temporary crossovers will be paid for in accordance with 808.13. Removal and resetting of guardrail, if required for temporary crossovers, will be paid for in accordance with 601.14.

If more than one construction sign is mounted on a common support with the messages facing opposite directions, the largest sign will be paid for at the contract unit price of the sign, and each additional sign will be paid for at half the unit price of the sign if it had been erected independently.

Temporary panel signs will be paid for at the contract unit price per square foot as shown on the plans. Temporary panel sign supports will be paid for at the contract unit price per linear foot, complete and in place.

A temporary worksite speed limit sign assembly for continuous use includes two signs; each will be paid for at the contract unit price for construction sign.

Flashing arrow signs and patrollers will be paid for at the contract unit price per day per each.

Temporary pavement message markings placed will be paid for at the contract unit price per each, for the message specified. Longitudinal and transverse temporary pavement markings and temporary buzz strips, will be paid for at the contract unit price per linear foot of material, complete in place.

Removal, when necessary, of non-removable temporary pavement lines and message markings will be paid for in accordance with 808.13. The cost of removal of removable temporary pavement markings shall be included in the cost of the pay item for

REVISION TO STANDARD SPECIFICATIONS

SECTION 101 - TERMS AND DEFINITIONS

101.41.1 Project Work Zone

SECTION 801 - TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS

801.10 Temporary Traffic Barriers; 801.17 Method of Measurement; 801.18 Basis of Payment

placement of the markings.

Where temporary pavement markings are to be placed on a pavement which has existing markings, removal of the existing markings which conflict with the temporary markings will be paid for in accordance with 808.13. Where conflicting markings are covered with black temporary tape Type I, the specified width of black temporary tape will be paid for at the contract unit price per linear foot of temporary pavement marking, removable.

Permanent tubular markers and permanent drums will be paid for at the contract unit price per each.

Compacted aggregate used for shoulder material will be paid for as compacted aggregate No. 73 in accordance with 303.10.

The removal and replacement of reflectors on existing snowplowable raised pavement markers will be paid for in accordance with 808.13.

Temporary illumination will be paid for at the contract lump sum price.

All temporary traffic control devices which are specified as separate pay items and used for maintenance of traffic will be paid for as set out in the Schedule of Pay Items. The furnishing, placing, moving, removal, and maintenance of all other temporary traffic control devices will be paid for at the contract lump sum price for maintaining traffic.

The accepted fixed temporary and portable signals, complete in place and later removed as specified, will be paid for at the contract lump sum price.

Payment will be made under:

Pay Item	Pay Unit Symbol
Aries Field Processor for PCMS	EACH
Barricade, _____ type	LFT
Barricade, III, Permanent	LFT
Barrier, Direction Indicator	EACH
Construction Sign, _____ type	EACH
Detour Route Marker Assembly	EACH
Detour Route Marker Assembly, Multiple Routes	EACH
Drum, Permanent	EACH

REVISION TO STANDARD SPECIFICATIONS

SECTION 101 - TERMS AND DEFINITIONS

101.41.1 Project Work Zone

SECTION 801 - TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS

801.10 Temporary Traffic Barriers; 801.17 Method of Measurement; 801.18 Basis of Payment

Energy Absorbing Terminal, CZ, TL - _____ test level	EACH
Fixed Temporary Signal.....	LS
Flashing Arrow Sign.....	DAY
Maintaining Traffic.....	LS
Patroller.....	DAY
Portable Changeable Message Sign.....	EACH
Portable Signal.....	LS
Road Closure Sign Assembly.....	EACH
Road Closure Sign Assembly, Permanent.....	EACH
Temporary Buzz Strips.....	LFT
Temporary Crossover Drainage Pipe.....	LFT
Temporary Crossover, _____ type	EACH
Temporary Crossover, _____, Refurbish..... type	EACH
Temporary Illumination.....	LS
Temporary Panel Sign Supports.....	LFT
Temporary Panel Signs.....	SFT
Temporary Pavement Marking, _____ in. width	LFT
Temporary Pavement Marking, Removable, _____ in. width	LFT
Temporary Pavement Message Marking, _____ description	EACH
Temporary Pavement Message Marking, Removable, _____ description	EACH
Temporary Raised Pavement Marker, _____ grade	EACH
Temporary Traffic Barrier, _____ type	LFT
Temporary Traffic Barrier, Anchored, _____ type	LFT
Temporary Transverse Pavement Marking, _____ in. width	LFT
Temporary Transverse Pavement Marking, Removable, _____ in. width	LFT
Temporary Worksite Speed Limit Sign Assembly.....	EACH
Tubular Marker, Permanent.....	EACH

REVISION TO STANDARD SPECIFICATIONS

SECTION 101 - TERMS AND DEFINITIONS

101.41.1 Project Work Zone

SECTION 801 - TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS

801.10 Temporary Traffic Barriers; 801.17 Method of Measurement; 801.18 Basis of Payment

Each construction sign, barricade, temporary worksite speed limit sign assembly, road closure sign assembly, or flashing arrow sign will be paid for only once regardless of how many times each is moved, replaced, or how many times each is altered to change the sign message within ~~each Project~~ ~~project~~ ~~Work Zone~~. Payment will be made for signs placed in, or relocated to, a separate ~~Project~~ ~~project~~ ~~Work Zone~~. A ~~Project Work Zone~~ is defined as a segment of highway from the "Road Construction Ahead" sign to the "End Construction" sign. Payment will not be made for signs or barricades used for the convenience of the Contractor.

APPROVED MINUTES

COMMENTS AND ACTION

101.41.1 Project Work Zone

801.10 Temporary Traffic Barriers

801.17 Method of Measurement

801.18 Basis of Payment

DISCUSSION:

This item was introduced and presented by Mr. Hauser, sitting in for Mr. Novak, assisted by Mr. Ritter who stated that current Department Standard Specifications call for payment of Construction Zone energy absorbing terminals, CZ, by the linear foot when used with type 2 barrier wall. When CZ's are used with type 1 and type 3 wall, the unit is paid for by each. The use of multiple wall types on contracts has resulted in confusion to both bidders and inspectors regarding appropriate payment of the CZ's.

On multi-location contracts there can be much uncertainty on the estimated pay quantity for Temporary Traffic Barrier, TTB,/anchored temporary traffic barrier, ATTB, and CZ units depending on if the TTB/ATTB and/or CZ units are moved from one location to another, or all locations are worked at the same time.

Mr. Hauser proposed to change the method of measurement and basis of payment for energy absorbing terminals, CZ, that are used with temporary barrier type 2 to a 'per each' unit of measurement and payment. Mr. Hauser also proposed to designate and define each project location and pay for the total length of TTB/ATTB and number of CZ units used at each location.

There was no further discussion and this item passed as submitted.

Motion: Mr. Hauser Second: Mr. Orton Ayes: 10 Nays: 0 FHWA Approval: YES	Action: <input checked="" type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn
Standard Specifications Sections referenced and/or affected: 101 pg 9; 801 pg 882 - 887.	<input checked="" type="checkbox"/> 2024 Standard Specifications <input type="checkbox"/> Revise Pay Items List <input checked="" type="checkbox"/> Create RSP (No. 801-RT¹-xxx (except 801.10 changes. These are editorial for 2024 SS))
Recurring Special Provision references in: NONE	Effective: <u>June 1, 2022</u> RSP Sunset Date: <input type="checkbox"/> Revise RSP (No. __) Effective:
Standard Drawing affected: NONE	RSP Sunset Date: <input type="checkbox"/> Standard Drawing Effective:
Design Manual Sections affected: 7-4.13 Temporary Traffic Barrier (TTB)	<input type="checkbox"/> Create RPD (No. __) Effective: <input type="checkbox"/> GIFÉ Update
GIFÉ Sections: NONE	<input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update

¹ corrected 2/4/2022

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: INDOT doesn't allow integral coping moment slabs on top of MSE wall face panels. Design height in Section 731.03(b)3 to be used in calculations needs clarification as well as the minimum length of reinforcement that is required using the design height at abutment face. Geotextile is required in all areas where coarse aggregates can come in contact with finer soils but the current statement is not clear. Current practice of MSE wall construction requires internal drains at back of the wall. However, the foundation is sloped away from the drains to the front of the wall. Field bending and cutting of MSE wall reinforcements is not allowed according to AASHTO but the current specification is silent.

PROPOSED SOLUTION: Various edits proposed to address issues noted above.

APPLICABLE STANDARD SPECIFICATIONS: 731

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: Figure 409-2G

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: create new 731 RSP

PAY ITEMS AFFECTED: No

APPLICABLE SUB-COMMITTEE ENDORSEMENT: INDOT Retaining Wall Committee.

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
All contracts with 731 pay items

IMPACT ANALYSIS (attach report): N/A

Submitted By: Jim Reilman for Aamir Turk and Nayyar Siddiki

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317-522-9692

Date: 10/22/2021

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

IMPACT ANALYSIS REPORT CHECKLIST

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

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

Construction costs? YES
Construction time? N/A
Customer satisfaction? YES
Congestion/travel time? N/A
Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? YES

Will this item improve safety:

For motorists? N/A
For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? YES
Asset preservation? YES
Design process? YES

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

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

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

Is this proposal needed for compliance with:

Federal or State regulations? NO
AASHTO or other design code? YES

Is this item editorial? No

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

REVISION TO STANDARD SPECIFICATIONS

SECTION 731 - MECHANICALLY STABILIZED EARTH RETAINING WALLS

731.02 General Design Requirements; 731.03 Design Criteria; 731.05 Materials; 731.07 Foundation Preparation; 731.11 Backfill Placement

The Standard specifications are revised as follows:

SECTION 731, BEGIN LINE 43, DELETE AS FOLLOWS:

Where a coping ~~or barrier~~ is utilized, the wall face panel shall extend up into the coping ~~or barrier a minimum of 2 in as shown on the plans~~. The top of the face panels may be level or sloped to meet the top of the face panel line shown. Cast-in-place concrete will not be an acceptable replacement for panel areas indicated by the wall envelope.

Where walls or wall sections intersect with an included angle of 130° or less, a vertical corner element separate from the standard panel face shall abut and interact with the opposing panels. The corner element shall have ground reinforcement connected specifically to that panel. All turn-point locations where the wall forms an angle that are shown on the working drawings shall correspond to those shown on the plans unless otherwise approved in writing by the Engineer.

SECTION 731, BEGIN LINE 128, DELETE AND INSERT AS FOLLOWS:

(b) Height of Wall

The wall limits shall be defined by the wall envelope shown on the plans. For internal stability design purposes, the design height, H_D , of wall shall be as follows:

1. For a wall with a level surcharge, the design height of the wall, H_D , shall be measured from the theoretical top of the leveling pad to the top of the coping or to the gutter line of the traffic barrier. The top of the wall shall be the theoretical top of the face panels only where a coping or barrier is not used.
2. For a wall with a sloping surcharge, the design height of the wall, ZH_D , shall be measured from the theoretical top of the leveling pad to a point above the top of the wall as calculated from the formula as follows:

$$ZH_D = H + \frac{0.3H \tan \beta}{1 - 0.3 \tan \beta}$$

where:

β = surcharge slope angle as measured from the top of the coping, and

H = height of the wall from the theoretical top of the leveling pad to the top of the coping.

3. For an abutment face, the design height of the wall, H_D , shall be measured from the theoretical top of the leveling pad to the top of

REVISION TO STANDARD SPECIFICATIONS

SECTION 731 - MECHANICALLY STABILIZED EARTH RETAINING WALLS

731.02 General Design Requirements; 731.03 Design Criteria; 731.05 Materials; 731.07 Foundation Preparation; 731.11 Backfill Placement

the roadway surface. *The design reinforcement length shall be a minimum of 0.7 times H, where H, for an abutment face, shall be the distance from the top of the leveling pad to the top of the roadway surface, as shown on the plans.*

(c) Ground Reinforcement

The ground reinforcement length shall be the controlling length resulting from the internal or external design. *The minimum ground reinforcement length for an MSE wall shall be the greater of 0.7H_D or 8 ft, where H_D is the design height of the wall.*

SECTION 731, BEGIN LINE 289, DELETE AND INSERT AS FOLLOWS:

731.05 Materials

Materials shall be in accordance with the following:

Admixtures for Concrete.....	912.03
Air Cooled Blast Furnace Slag.....	901.09
Alignment Pins.....	910.07(d)
B Borrow.....	211.02
Coarse Aggregate, Class A or Higher, Size No. 8 or , 91.....	904.03
<i>Coarse Aggregate, Class F or Higher, Size 93PG.....</i>	<i>904.03</i>
Components of MSE Retaining Walls.....	901.10
Concrete, Class A or Class C.....	702
Deformed and Smooth Steel WWR.....	910.01(b)5
Fine Aggregate, Size No. 23.....	904
Fly Ash.....	901.02
Geotextile for Use Under Riprap.....	918.02
Joint Spacers and Joint Covering.....	901.10(b)
Portland Cement.....	901.01(b)
<i>Preformed Expansion Joint Filler.....</i>	<i>906.03</i>
Rapid Setting Patch Materials.....	901.07
Reinforcing Bars.....	910.01
Steel Components.....	910.07
Structure Backfill.....	211.03.1, 904.05
Underdrains.....	718
Underdrains for MSE Walls.....	718.03
Water.....	913.01

MSE wall backfill, and the horizontal bench in front of the wall, shall consist of structure backfill type 3 in the reinforced backfill zone in accordance with 211, except that nominal size aggregate No. 30 shall not be used. Structure backfill in the retained backfill zone shall be type 3 or B borrow as shown on the plans.

REVISION TO STANDARD SPECIFICATIONS

SECTION 731 - MECHANICALLY STABILIZED EARTH RETAINING WALLS

731.02 General Design Requirements; 731.03 Design Criteria; 731.05 Materials; 731.07 Foundation Preparation; 731.11 Backfill Placement

If coarse aggregate No. 5, No. 8, No. 9, or No. 11 *or structure backfill 1 in. or 1/2 in.* is used in the reinforced backfill zone and the Contractor elects to use a different material in the retained backfill zone, geotextiles *Type 2B in accordance with 918.02(a)* shall be installed at the interface between the reinforced and retained backfill zones *except for the interface between No. 4 structure backfill and B borrow*. If the Contractor elects to use coarse aggregate No. 5, No. 8, No. 9, or No. 11 *or structure backfill 1 in. or 1/2 in.* in both the reinforced and retained backfill zones, geotextiles *Type 2B in accordance with 918.02(a)* shall be installed along the interface between the retained backfill zone and the adjacent soil. In addition, geotextiles *Type 2B in accordance with 918.02(a)* shall be installed ~~over the top of the No. 5, No. 8, No. 9, or No. 11 aggregate used in the reinforced or retained backfill zones~~ *at all interfaces of coarse aggregate and finer soils when used in the foundation.*

Concrete for the leveling pad and coping shall be class A. Concrete used in openings to accommodate appurtenances behind, in front of, under, mounted upon, or passing through the wall shall be class C.

The Contractor shall supply the MSE retaining wall components listed above, including tie strips, fasteners, bearing pads, and all necessary incidentals, through a manufacturer listed on the QPL of Retaining Wall Systems.

CONSTRUCTION REQUIREMENTS

731.06 General Requirements

The wall manufacturer's representative shall provide technical instruction, guidance in preconstruction activities including the preconstruction conference, and on-site technical assistance to the Contractor during construction.

731.07 Foundation Preparation

Prior to wall construction, the foundation for the structure shall be graded for a width equal to or exceeding the length of the ground reinforcement or as shown on the plans. The foundation, if not in rock, shall then be compacted in accordance with 203. After the foundation has been compacted, the resulting grade of the foundation shall be 1 in. per foot sloped from the back of the ~~foundation~~ *leveling pad* downward toward the ~~leveling pad~~ *foundation back of the reinforced zone*. The portion of the foundation beneath the leveling pad shall not be sloped. The foundation shall be proofrolled in accordance with 203.26. If unsuitable foundation material is encountered, it shall be removed and replaced with B borrow in accordance with 211.02 and compacted in accordance with 211.04.

SECTION 731, BEGIN LINE 460, DELETE AND INSERT AS FOLLOWS:

731.11 Backfill Placement

Backfill placement shall follow erection of each course of panels and ground

REVISION TO STANDARD SPECIFICATIONS

SECTION 731 - MECHANICALLY STABILIZED EARTH RETAINING WALLS

731.02 General Design Requirements; 731.03 Design Criteria; 731.05 Materials; 731.07 Foundation Preparation; 731.11 Backfill Placement

reinforcement. All sheeting and bracing shall be removed as the backfilling progresses. Backfill shall be placed so as to avoid damage or disturbance to the wall materials or misalignment of the concrete face panels. All material for backfill shall be subject to approval and shall be free from lumps, wood, or other undesirable material. Wall materials that become damaged or disturbed during backfill placement shall be removed and replaced or corrected as directed. All misalignment or distortion of the concrete face panels due to placement of backfill outside the limits described herein shall be corrected as directed.

B borrow and structure backfill type 3 shall be compacted in accordance with 203.23 or 203.24. Compaction equipment shall be in accordance with 409.03(d). For all other structure backfill material used, compaction shall consist of four passes with a vibratory roller and one pass with the same roller in static mode. The vibratory roller shall be equipped with a variable amplitude system and a speed control device. It shall have a minimum vibration frequency of 1,000 vibrations per minute. A roller in accordance with 409.03(d)4 may be used. All displacement or rutting of the aggregate shall be repaired prior to placing subsequent material.

The maximum loose lift thickness shall not exceed 8 in. However, lifts within 3 ft of the wall shall not exceed 5 in. in loose thickness. This lift thickness shall be decreased if necessary, to obtain the specified density.

Compaction within 3 ft of the back face of the concrete face panels shall be achieved by means of a minimum of five passes with a lightweight mechanical tamper, roller, or an alternative vibratory system.

At the end of each day's operation, the last level of backfill shall be sloped away from the wall units. Surface runoff from adjacent areas shall not enter the wall construction site.

Subsurface drainage for the pavement section shall be underdrains for MSE walls and shall be as shown on the plans.

~~Cutting or altering of the basic structural section of ground reinforcement at the site will be prohibited.~~ *in the field shall not be performed unless the cutting is preplanned and detailed on the approved working drawings one of the alternatives in Article 11.10.10.4 of the AASHTO LRFD Bridge Design Specifications is followed and a compensating adjustment is made in the wall design. All adjustments shall be shown on revised working drawings, signed by, and shall bear the seal of a professional engineer, and submitted to the Engineer for approval.*

COMMENTS AND ACTION

731.02 General Design Requirements

731.03 Design Criteria

731.05 Materials

731.07 Foundation Preparation

731.11 Backfill Placement

DISCUSSION:

Mr. Reilman introduced and presented this item stating that the Department doesn't allow integral coping moment slabs on top of MSE wall face panels. Design height in 731.03(b)3 to be used in calculations needs clarification as well as the minimum length of reinforcement that is required using the design height at abutment face. Geotextile is required in all areas where coarse aggregates can come in contact with finer soils, but the current statement is not clear. Current practice of MSE wall construction requires internal drains at the back of the wall. However, the foundation is sloped away from the drains to the front of the wall. Field bending and cutting of MSE wall reinforcements is not allowed according to AASHTO but the current specification is silent.

Mr. Reilman proposed to incorporate various edits to address these issues. As a result of discussion held prior to the meeting, additional revisions are as shown.

Mr. Pelz asked about the language concerning the height 'h' in 731.03, and if it needs to be stated again, since it was previously defined. Mr. White stated that our definition of 'h' is not consistent with AASHTO, so we stated it twice, and that Geotech would like to make sure this is emphasized. Mr. Pelz suggested to clarify by adding "as stated above". Mr. White concurred. Additional revisions are as shown and are subject to review by Geotech.

Mr. Reilman revised his motion and Mr. Pelz seconded. There was no further discussion and this item passed as revised.

COMMENTS AND ACTION

- 731.02 General Design Requirements
- 731.03 Design Criteria
- 731.05 Materials
- 731.07 Foundation Preparation
- 731.11 Backfill Placement

[CONTINUED]

<p>Motion: Mr. Reilman Second: Mr. White Ayes: 10 Nays: 0 FHWA Approval: Yes</p>	<p>Action:</p> <p><input type="checkbox"/> Passed as Submitted <input checked="" type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected:</p> <p style="padding-left: 40px;">731 begin pg 823.</p>	<p><input checked="" type="checkbox"/> 2024 Standard Specifications</p> <p><input type="checkbox"/> Revise Pay Items List</p>
<p>Recurring Special Provision:</p> <p style="padding-left: 40px;">731-R-743 MECHANICALLY STABILIZED EARTH RETAINING WALLS</p>	<p><input type="checkbox"/> Create RSP (No. __) Effective: RSP Sunset Date:</p>
<p>Standard Drawing affected:</p> <p style="padding-left: 40px;">NONE</p>	<p><input checked="" type="checkbox"/> Revise RSP (No. <u>731-R-743</u>) Effective: <u>June 1, 2022</u> RSP Sunset Date:</p>
<p>Design Manual Sections affected:</p> <p style="padding-left: 40px;">Figure 409-2G</p>	<p><input type="checkbox"/> Standard Drawing Effective:</p>
<p>GIFE Sections cross-references:</p> <p style="padding-left: 40px;">NONE</p>	<p><input type="checkbox"/> Create RPD (No. __) Effective:</p> <p><input type="checkbox"/> GIFE Update <input checked="" type="checkbox"/> Frequency Manual Update <input checked="" type="checkbox"/> SiteManager Update</p>

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Section 702.05 requires that class C concrete always include a water reducing admixture. It also requires a retarding admixture based on the ambient temperature and the concrete temperature. The specification contains both minimum and maximum limits on W/C ratio which is the primary concern. It is overly restrictive to always require a water reducing admixture. The current temperature limits for use of a retarding admixture are also causing problems. A retarder is required when either the ambient or concrete temperatures is above 65 degrees. This is triggered in all weather including cold weather conditions because the concrete is heated to around 71 degrees.

PROPOSED SOLUTION: The requirement to use a water reducing admixture in all class C concrete will be removed. The temperature requirements for the use of a retarding admixture will be modified.

APPLICABLE STANDARD SPECIFICATIONS: 101.01, 702.03,702.05,702.13, 706.03, 707.02

APPLICABLE STANDARD DRAWINGS: NA

APPLICABLE DESIGN MANUAL SECTION: NA

APPLICABLE SECTION OF GIFE:

APPLICABLE RECURRING SPECIAL PROVISIONS: incorporate into existing 702-R-739 RSP

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: IRMCA/INDOT

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
~~continue with the current BFU~~ *All contracts except mowing, herbicide, etc.*

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317 522 9692

Date: 11/22/2021

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

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? N/A

Congestion/travel time? N/A

Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? No

Will this item improve safety:

For motorists? N/A

For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? Yes

Design process? N/A

Will this change provide the contractor more flexibility? Yes

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

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

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

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

REVISION TO STANDARD SPECIFICATIONS

SECTION 101 - DEFINITIONS AND TERMS

101.01 Abbreviations

SECTION 702 – STRUCTURAL CONCRETE

702.03 Materials; 702.05 Proportioning; 702.13 Forms

SECTION 706 – BRIDGE RAILINGS

706.03 Concrete Railing

SECTION 707 – PRECAST AND PRECAST, PRESTRESSED CONCRETE STRUCTURAL MEMBERS

707.02 Materials

The Standard Specifications are revised as follows:

SECTION 101, BEGIN LINE 62, DELETE AS FOLLOWS:

GBF granulated blast furnace slag
~~GGBFS~~ ~~ground granulated blast furnace slag~~
HDB hydrostatic design basis

SECTION 702, BEGIN LINE 23, DELETE 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
Curing-Sealing Materials	912.02
Elastomeric Bearings	915.04
Fabric for Waterproofing	918.06
Fine Aggregate Size No. 23	904
Fly Ash.....	901.02
Geotextile for Use With Underdrains	918.03
Ground Granulated Blast Furnace Slag.....	901.03
High Density Bearing Strips	906.08
Permanent Metal Forms	910.03
Polychloroprene Joint Membrane and Adhesive	906.02(a)4
Preformed Expansion Joint Filler.....	906.03
Portland Cement.....	901.01(b)
Silica Fume.....	901.04
Slag Cement	901.03
Utility Asphalt, UA-1	902.01(d)
Water	913.01

Drainage pipe through concrete masonry shall be in accordance with 715.

Grout material for field drilled holes shall be ~~either a high strength, non-shrink, non-metallic, cementitious grout in accordance with U.S. Army Corps of Engineers~~

REVISION TO STANDARD SPECIFICATIONS

SECTION 101 - DEFINITIONS AND TERMS

101.01 Abbreviations

SECTION 702 – STRUCTURAL CONCRETE

702.03 Materials; 702.05 Proportioning; 702.13 Forms

SECTION 706 – BRIDGE RAILINGS

706.03 Concrete Railing

SECTION 707 – PRECAST AND PRECAST, PRESTRESSED CONCRETE STRUCTURAL MEMBERS

707.02 Materials

~~Specification CRD-C-621 or from the QPL of Chemical Anchor Systems.~~

SECTION 702, BEGIN LINE 96, DELETE AND INSERT AS FOLLOWS:

Fly ash from a qualified source may be used as a partial replacement for portland cement. The substitution of fly ash for portland cement will not be allowed in conjunction with the use of ~~ground granulated blast furnace~~ slag cement or blended cement types IP, IP-A, IS, or IS-A. Mix designs will be based on using a maximum 20% cement reduction with a minimum 1.25:1 ash-to-cement replacement ratio, by weight.

~~Ground granulated blast furnace~~ Slag cement from a qualified source may be used as a partial replacement for portland cement. The substitution of ~~ground granulated blast furnace~~ slag cement for portland cement will not be allowed in conjunction with the use of blended cement types IP, IP-A, IS, or IS-A or fly ash. Mix designs will be based on using a maximum 30% cement substitution with a 1:1 slag-to-cement ratio, by weight.

SECTION 702, BEGIN LINE 132, DELETE AND INSERT AS FOLLOWS:

Class A concrete shall contain a water-reducing admixture. Class C concrete shall contain ~~either a water reducing admixture or both a water reducing admixture and a retarding admixture; when either the air temperature is above 70°F or the concrete temperature is above 80°F, or if~~ The types used shall not be changed during any individual contiguous pour. For class C concrete, the types of admixtures to be used shall be selected based on the expected concrete or air temperature. When either temperature is expected to be 65°F or above, both a water reducing admixture and a retarding admixture shall be used. A water reducing admixture shall be used when both temperatures are expected to be below 65°F unless retardation is required due to the structure design or *due to* the proposed pour sequence such as for the requirements for floor slab pours set out in 704.04. If class C concrete contains ground granulated blast furnace slag, the producer may propose an alternate temperature threshold for including a retarding admixture. If either class A concrete or class C concrete is used in slipformed railings, the requirement to use a water reducing admixture is waived. Air-entraining cements will not be allowed in class C concrete.

~~The manufacturer's data, which relates recommended addition rates to ambient temperatures, shall be furnished. The proposed addition rates and adjustments to the rates, as conditions require, will be reviewed for approval using this data and the anticipated temperature. The addition rate shall not be reduced below the minimum rate recommended by the manufacturer, regardless of the concrete or air temperature. The air entraining admixture and water reducing retarding admixture shall be added to the batch separately.~~

REVISION TO STANDARD SPECIFICATIONS

SECTION 101 - DEFINITIONS AND TERMS

101.01 Abbreviations

SECTION 702 – STRUCTURAL CONCRETE

702.03 Materials; 702.05 Proportioning; 702.13 Forms

SECTION 706 – BRIDGE RAILINGS

706.03 Concrete Railing

SECTION 707 – PRECAST AND PRECAST, PRESTRESSED CONCRETE STRUCTURAL MEMBERS

707.02 Materials

~~The method and equipment for adding water-reducing-retarding admixture shall be as approved.~~

SECTION 702, BEGIN LINE 722, DELETE AND INSERT AS FOLLOWS:

(g) Removal and Re-Use of Forms

The forms for any portion of the structure shall not be removed until the concrete is strong enough to withstand damage. If field operations are not controlled by beam or cylinder tests, the following periods, exclusive of days when the ambient temperature is below 40°F, for removal of forms and supports may be used as a guide.

Centering under beams.....	15 days
Roadway Slabs.....	7 days
Walls, Columns, Sides of Beams, and all other parts	12 h

If high-early strength cement is used, these periods may be reduced as directed. If portland-pozzolan cement, type IP or IP-A, fly ash or ~~ground granulated blast furnace slag cement~~ as a pozzolan is used in the structural concrete, these periods shall not apply and the removal of forms and supports shall be controlled by test beams in accordance with 702.13(h).

SECTION 702, BEGIN LINE 751, DELETE AND INSERT AS FOLLOWS:

(h) Test Beams

When portland-pozzolan cement, type IP or IP-A, is incorporated into the structural concrete elements listed below, when fly ash or ~~ground granulated blast furnace slag cement~~ is incorporated into the structural concrete elements listed below, or when field operations are being controlled by beam tests, the removal of forms will be allowed when the modulus of rupture reaches or exceeds the following values:

SECTION 706, BEGIN LINE 34, DELETE AS FOLLOWS:

706.03 Concrete Railing

Concrete railings shall not be placed until the falsework for all of the spans have been removed and the spans are self supporting. Concrete railings shall be constructed in accordance with 702 and 703.

Forms shall be smooth, tight fitting, held true to line and grade, and be removed without damaging the concrete. These forms shall be made from selected dressed lumber or steel. Moldings, panel work, and bevel strips shall be constructed according to the detail plans with mitered joints, true corners and be sharp, clean-cut, and free from cracks, spalls, or other defects. The forms shall be constructed with a plate at the base of the copings.

REVISION TO STANDARD SPECIFICATIONS

SECTION 101 - DEFINITIONS AND TERMS

101.01 Abbreviations

SECTION 702 – STRUCTURAL CONCRETE

702.03 Materials; 702.05 Proportioning; 702.13 Forms

SECTION 706 – BRIDGE RAILINGS

706.03 Concrete Railing

SECTION 707 – PRECAST AND PRECAST, PRESTRESSED CONCRETE STRUCTURAL MEMBERS

707.02 Materials

Lumber which is 2 in. thick shall be used for coping forms.

Concrete bridge railing shall be built monolithically and continuous from support to support. A joint shall be provided at the end of the bridge between the bridge railing and the railing transition as shown on the plans.

Unless otherwise specified the slip form method may be used as a means to place concrete railing on bridge structures. If the slip form method is chosen, a signed and dated QCP shall be prepared and submitted to the Engineer for acceptance at least 15 days prior to the start of slip form barrier rail placement. The QCP shall include, as a minimum, the Contractor's concrete mix design, including materials sources and admixtures; the Contractor's methods of materials control and testing; the Contractor's proposed method of placement, including finishing and curing; and the corrective action that will be taken when defects are found. The QCP shall also contain documentation that shows the Contractor had a successful trial demonstration of the slip form machine previously and that proper consolidation around the reinforcing bars in the wall was achieved. The slip form paver shall consolidate, screed, and finish the freshly placed concrete in one complete pass in such a manner that a minimum of hand finishing will be necessary to provide a dense and homogeneous railing in conformance with the plans and specifications. ~~The requirement to include a water reducing admixture in accordance with 702.05 will be waived if the railing is both slipformed and the concrete contains silica fume in accordance with 709.05(e).~~ The slump shall be 1 3/4 in. ±3/4 in. The joints may be formed or sawed as long as a satisfactory joint is attained. If joints are to be sawed, the full depth saw cut shall be made before uncontrolled shrinkage cracking occurs and within 48 h of concrete placement. Before full depth sawing, partial depth saw cuts of 2 1/2 in. ±1/2 in. at the joint locations may be made as soon as the concrete has hardened sufficiently to enable sawing without raveling. All saw cuts shall be made at the locations shown on the plans or as directed.

SECTION 707, BEGIN LINE 11, DELETE AND INSERT AS FOLLOWS:

707.02 Materials

Materials shall be in accordance with the following:

Admixtures for Concrete.....	912.03
Backer Rod.....	906.02(b)
Coarse Aggregates, Class A or Higher, Size No. 91.....	904.03
Concrete Curing Materials	912
Elastomeric Bearings	915.04

REVISION TO STANDARD SPECIFICATIONS

SECTION 101 - DEFINITIONS AND TERMS

101.01 Abbreviations

SECTION 702 – STRUCTURAL CONCRETE

702.03 Materials; 702.05 Proportioning; 702.13 Forms

SECTION 706 – BRIDGE RAILINGS

706.03 Concrete Railing

SECTION 707 – PRECAST AND PRECAST, PRESTRESSED CONCRETE STRUCTURAL MEMBERS

707.02 Materials

Fine Aggregates, Size No. 23.....	904
Fly Ash.....	901.02
Ground Granulated Blast Furnace Slag.....	901.03
Non-Epoxy PCC Sealers.....	909.10
PCC Sealer/Healer.....	901.06
Portland Cement.....	901.01(b)
Reinforcing Bars.....	910.01
Silica Fume.....	901.04
<i>Slag Cement</i>	<i>901.03</i>
Uncoated Seven-Wire Strand.....	910.01(b)7

APPROVED MINUTES

COMMENTS AND ACTION

101.01 Abbreviations

702.03 Materials

702.05 Proportioning

702.13 Forms

706.03 Concrete Railing

707.02 Materials

DISCUSSION:

Mr. Reilman, assisted by Mr. Nelson, introduced and presented this item explaining that Standard Specification Section 702.05 requires that class C concrete shall always include a water reducing admixture. It also requires a retarding admixture based on the ambient temperature and the concrete temperature. The specification contains both minimum and maximum limits on W/C ratio which is the primary concern. It is overly restrictive to always require a water reducing admixture. The current temperature limits for use of a retarding admixture are also causing problems. A retarder is required when either the ambient or concrete temperatures is above 65 degrees. This is triggered in all weather, including cold weather conditions, because the concrete is heated to around 71 degrees.

Mr. Reilman proposed that the requirement to use a water reducing admixture in all class C concrete will be removed. The temperature requirements for the use of a retarding admixture will be modified.

There was no further discussion, and this item passed as submitted.

APPROVED MINUTES

COMMENTS AND ACTION

101.01 Abbreviations
 702.03 Materials
 702.05 Proportioning
 702.13 Forms
 706.03 Concrete Railing
 707.02 Materials

[continued]

<p>Motion: Mr. Reilman Second: Mr. Koch Ayes: 10 Nays: 0 FHWA Approval: YES</p>	<p>Action: <input checked="" type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected: 101 pg 2; 702 begin pg 618; 703 pg 660; 707 pg 664.</p> <p>Recurring Special Provision references in: 702-R-739 USE OF OPTIMIZED AGGREGATE GRADATION IN CONCRETE</p> <p>Standard Drawing affected: NONE</p> <p>Design Manual Sections affected: NONE</p> <p>GIFE Sections cross-references: NONE</p>	<p><input checked="" type="checkbox"/> 2024 Standard Specifications <input type="checkbox"/> Revise Pay Items List <input checked="" type="checkbox"/> Create RSP (No. <u>702-R-xxx</u>) Effective: <u>June 1, 2022</u> RSP Sunset Date:</p> <p><input type="checkbox"/> Revise RSP (No. <u> </u>) Effective: RSP Sunset Date:</p> <p><input type="checkbox"/> Standard Drawing Effective:</p> <p><input type="checkbox"/> Create RPD (No. <u> </u>) Effective:</p> <p><input checked="" type="checkbox"/> GIFE Update <input checked="" type="checkbox"/> Frequency Manual Update <input checked="" type="checkbox"/> SiteManager Update</p>

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO SPECIAL PROVISIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: After using the 738-B-297 current RSP Polymeric Concrete Bridge Deck Overlays for a few years, several requirements need to be addressed or updated.

PROPOSED SOLUTION: Adopt the updated version of 738-B-297 with changes.

APPLICABLE STANDARD SPECIFICATIONS: None

APPLICABLE STANDARD DRAWINGS: NA

APPLICABLE DESIGN MANUAL SECTION: NA

APPLICABLE SECTION OF GIFE:

APPLICABLE RECURRING SPECIAL PROVISIONS: Incorporate changes into existing 738-B-297 RSP

PAY ITEMS AFFECTED: Create two new 738 pay items: 738-xxxxx Warranted Polymer Overlay System for Bridge Deck and 738-yyyyy Polymer Overlay System for Other Concrete Surface; and obsolete the current 738-09456 Polymeric Concrete Bridge Deck Overlay pay item.

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc: Tommy Nantung, Mike Nelson, Joe Novak, Jim Reilman, & Pete White.

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE: Required for all contracts with a 738-xxxxx, Warranted Polymer Overlay System for Bridge Deck, or 738-yyyyy, Polymer Overlay System for Other Concrete Surface, pay items.

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317 522 9692

Date: 11/22/2021

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO SPECIAL PROVISIONS

IMPACT ANALYSIS REPORT CHECKLIST

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

Does this item appear in any other specification sections? 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? N/A

Congestion/travel time? N/A

Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? No

Will this item improve safety:

For motorists? N/A

For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? Yes

Design process? N/A

Will this change provide the contractor more flexibility? Yes

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 RECURRING SPECIAL PROVISION

738-B-297 WARRANTED POLYMER OVERLAY SYSTEM FOR BRIDGE DECK SURFACES AND
POLYMER OVERLAY SYSTEM FOR NON-BRIDGE DECKS (proposed new version)

(Note: Currently issued and used version of [738-B-297](https://www.in.gov/dot/div/contracts/standards/rsp/sep21/sec700.htm) available at:
<https://www.in.gov/dot/div/contracts/standards/rsp/sep21/sec700.htm>.
Basis for Use: "Required for all contracts with 738-09456, *Polymeric Concrete
Bridge Deck Overlay*, pay item.")

738-B-297 WARRANTED POLYMER OVERLAY SYSTEM FOR BRIDGE DECK SURFACES AND
POLYMER OVERLAY SYSTEM FOR NON-BRIDGE DECKS

(Revised xx-xx-21)

The Standard Specifications are revised as follows:

SECTION 737, AFTER LINE 154, INSERT AS FOLLOWS:

**SECTION 738 – WARRANTED POLYMER OVERLAY SYSTEM FOR BRIDGE
DECK SURFACES AND POLYMER OVERLAY SYSTEM FOR OTHER
CONCRETE SURFACES**

738.01 Description

This work shall consist of cleaning and preparing a bridge deck surface and an other, non-bridge deck surface, furnishing and mixing materials, and applying a two-coat polymer overlay system in accordance with 105.03.

The Contractor shall provide a performance warranty for the two-coat polymer overlay system in accordance with 738.13 when the polymer overlay system is applied to the surface of a bridge deck. A performance warranty will not be required for two-coat polymer overlay systems applied to an RCBA or other concrete surface, other than a bridge deck.

MATERIALS

738.02 Materials

Materials shall be in accordance with the following:

Rapid Setting Patch Materials901.07

(a) Patching Materials

Materials for partial depth patching shall be one of the following:

- 1. Rapid setting patch materials shall be used for patching areas that are 2 1/2 in. or deeper as measured from the prepared concrete surface. The rapid setting patch material selected shall have written approval from the manufacturer that there are no compatibility issues between the polymer overlay system materials and the rapid setting patch materials.*

REVISION TO RECURRING SPECIAL PROVISION

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2. *If the patch depth is less than 2 1/2 in. from the prepared concrete surface either the polymer material or rapid setting patch materials may be used for patching.*

(b) Polymer

The polymer used in the polymer overlay system shall be from the Department's QPL of Polymers and Aggregates for Overlay Systems. The Contractor shall provide technical literature with instructions on storing, mixing, and applying the polymer, and cleaning up and disposing of excess materials. The polymer shall be stored according to the manufacturer's recommendations.

(c) Aggregate

The aggregate for all layers of the polymer overlay system shall be selected from the Department's QPL of Polymers and Aggregates for Overlay Systems and shall be one of the following.

1. *Aluminum oxide*
2. *Basalt*
3. *Calcined bauxite*
4. *Crushed granite*
5. *Flint*
6. *Glacial gravel*

The aggregate shall be in accordance with 904.02 and have a minimum fine aggregate angularity value of at least 45 and a maximum micro-deval of 11.0 in accordance with ASTM D7428. The aggregate shall be clean and dry to a maximum moisture content of 0.2% by weight in accordance with AASHTO T 255 and free of dirt, clay, asphalt, and other foreign or organic materials. All aggregate shall be delivered to the project site in sealed waterproof bags or containers.

1. Basalt Aggregate Gradation

Basalt aggregate gradation shall be in accordance with either the polymer overlay system manufacturer's gradation recommendation or shall meet the following gradation:

<i>Sieve Size</i>	<i>% Passing by Weight</i>
<i>No. 4 (4.75 mm)</i>	<i>100</i>
<i>No. 8 (2.36 mm)</i>	<i>30 to 75</i>
<i>No. 16 (1.18 mm)</i>	<i>1 to 5</i>
<i>No. 30 (600 μm)</i>	<i>0 to 1</i>

2. Gradation of Other Aggregates

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Aluminum oxide, calcined bauxite, crushed granite, flint, or glacial gravel shall be in accordance with either the polymer overlay system manufacturer's gradation recommendation or shall meet the following gradation:

Sieve Size	% Passing by Weight
No. 4 (4.75 mm)	95 to 100
No. 6 (3.35 mm)	70 to 85
No. 10 (2 mm)	15 to 35
No. 20 (850 μ m)	0 to 3

CONSTRUCTION REQUIREMENTS**738.03 Quality Control**

Prior to beginning work, the Contractor shall prepare a QCP detailing the construction of the polymer overlay system. The QCP shall be approved by the manufacturer of the polymer materials and be documented with the manufacturer's signature on the QCP approval page. Any deviations from the application prescribed by this specification shall be explained in the QCP. Once the QCP has been approved by the manufacturer, it shall be submitted to the Engineer.

The QCP shall include:

- (a) a current copy of ISO 8502-3, Tests for the Assessment of Surface Cleanliness,*
- (b) all materials proposed to be used including product data sheets,*
- (c) all equipment proposed to be used,*
- (d) all verification testing equipment to be used,*
- (e) application procedures,*
- (f) minimum and maximum air and deck surface temperatures for which work will occur,*
- (g) proposed schedule for, and means of, traffic control,*
- (h) methods to be used for patching and crack repair,*

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- (i) *methods to be used for surface preparation and application of the polymer overlay system,*
- (j) *any other information the Contractor believes relevant and will help the Engineer in their review of the submitted QCP.*

No work shall begin until the Engineer has signed the QCP.

738.04 Equipment

Equipment shall be in accordance with the following.

(a) Concrete Surface Preparation Equipment

~~No water shall be applied to the deck or used with the grinding or scarification equipment or operations. The concrete surface preparation shall consist of deck surface grinding equipment or a scarification milling machine with a fine milling cutting drum, and shot-blasting equipment that can remove the existing surface texture and generate the required surface macrotexture in accordance with 738.06. The grinding, scarification, and shot-blasting equipment shall be equipped with oil traps and shall be capable of removing weak concrete at the surface, including the fractured concrete surface layer remaining as a result of mechanical grinding or scarification.~~ On a bridge deck, the concrete surface shall be removed up to the vertical face of bridge railings or barriers and to the edge of transverse bridge joints. If the equipment specified in this section for surface preparation is not capable of removing the concrete surface in these areas, hand tools or other equipment may be proposed for use by the Contractor.

For shot blasting, the blasting medium shall be steel shot. No substitutions will be allowed.

The residue generated by the surface preparation shall be contained, removed, and disposed of in accordance with 202.

(b) Air Compressor

When compressed air is used, it shall be free from oil and moisture contamination in accordance with ASTM D4285. Cleanliness of the compressed air shall be verified by using either an absorbent or non-absorbent white collector material positioned a maximum of 24 in. from the air discharge point, centered in the compressed air stream. Compressed air shall discharge onto the collector material a minimum of 1 minute. The Contractor and Engineer shall jointly visually examine the collector material for the presence of oil or water. The Engineer will be the final authority in case of disagreement on the presence of oil or water. Verification of the cleanliness of the compressed air shall be performed a minimum of one time per shift for each air compressor in operation. If contamination is observed on the collector material, that air compressor shall not be used until necessary repairs are made to the unit so clean, dry air is achieved. If contamination is observed on

REVISION TO RECURRING SPECIAL PROVISION

738-B-297 WARRANTED POLYMER OVERLAY SYSTEM FOR BRIDGE DECK SURFACES AND
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the collector material, all work performed since the previous cleanliness verification shall be examined to determine if the area has been contaminated. If contaminated, the affected area shall be re-shot blasted to remove the contamination.

(c) Polymer Mixing and Distribution Equipment

Polymer mixing and distributing equipment shall, at a minimum, consist of a truck-mounted, temperature-controlled polymer mixing and distribution system capable of accurately blending the resin and hardening components of the polymer system. The mixing and distributing system shall include thermostat heating element-controlled mixing capability. Each component of the polymer shall be supplied by a pump. Wheelbarrows will not be accepted as a polymer mixing and distribution system.

The amount of the resin and hardener components shall be continuously and independently measured with flow meters prior to mixing. Mixing shall be in-line and produce a continuous stream of mixed polymer at the manufacturer's required proportioning prior to exiting the dispensing nozzle. The mixing equipment may be either a truck mounted mechanical mixer or the material may be mixed by a static mixer contained in the wand applicator.

1. Hand Applications

Notched squeegees with 3/16 in. deep notches and 1/2 in. nap rollers shall be used to distribute the mixed polymer.

2. Mechanical Applications

The mixing equipment and distribution system shall automatically and accurately proportion the components in accordance with the manufacturer's recommendations, mix, and continuously apply the mixed polymer uniformly and accurately to the work area at the specified rate.

(d) Aggregate Distribution Equipment

The aggregate distribution system shall consist of a truck-mounted air-blown pneumatic spreader using oil-free compressed air. The spreader shall apply the aggregate to the surface in a uniform manner. Chip spreaders, salt spreaders, or other rotary-type spreaders shall not be used.

738.05 Preparation of Concrete Surfaces

The top 1/4 in. of the concrete surface shall be removed with equipment in accordance with 738.04(a). After this material has been removed, all remaining residue from the operation shall be gathered up and discarded. The Contractor shall then sound the entire concrete surface and mark any areas to be repaired. All existing partial depth patches, delaminated areas, spalls, and breakouts shall be removed and repaired by partial depth patching in accordance with 722.07, except that the patching materials used shall be in accordance with 738.02(a).

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Patches shall be cured for the longer of the minimum times required by either the manufacturer of the rapid setting patch material or the manufacturer of the polymer materials, prior to performing any surface preparation activities or installing a polymer overlay system.

Type I-A joints shall be cleaned, and all existing joint sealing material shall be completely removed. If the repair is 2 1/2 in. or deeper as measured from the prepared concrete surface, rapid setting patch materials shall be used and allowed to fully cure prior to applying the polymer overlay system. If the depth of repair is less than 2 1/2 in., the repair may be made at the time of the polymer overlay system installation using the polymer material proportioned according to the manufacturer's instructions.

Once all deleterious material has been removed and areas 2 1/2 in. and deeper have been patched, the Engineer will sound the entire concrete surface. When the Engineer is satisfied that all deleterious material has been removed and patches are sound, the Contractor may proceed with shot blasting the entire concrete surface with steel shot. Sand blasting shall not be used in place of shot blasting.

*The resulting concrete surface shall be completely free of asphalt material, oil, dirt, rubber, curing compounds, paint carbonation, laitance, weak surface mortar, and other potentially detrimental materials, which may interfere with the bonding or curing of the polymer overlay system. Traffic marking materials within the application area shall be removed. Compressed air in accordance with 738.04(b) shall be used to remove all dust and other loose material. Mechanical brooms, without water or vacuuming, may be used in certain applications to remove any residual dust that adheres to the prepared concrete surface after it has been blown off with compressed air. The prepared concrete surface must then be blown again with compressed air after brooming to remove all loose residual dust. Compressed air used for shot blasting and other surface preparation activities shall be in accordance with 738.04(b). The cleaned, prepared concrete surface shall meet the International Concrete Repair Institute, ICRI, Guideline 310.2R, *Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays, and Concrete Repair*, concrete surface profile, CSP, 7.*

Pretreatment for cracks per the manufacturer's recommendation shall be incorporated into the installation of the polymer overlay system. The material used in the pretreatment of cracks shall be in accordance with the manufacturer's recommendations and specifications.

738.06 Surface Cleanliness Verification Testing

After the final surface preparation has been completed and immediately before application of the polymer overlay system, the cleanliness of the prepared concrete surface shall be verified by testing in accordance with ISO 8502-3. The testing criteria will be as follows:

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<i>Sample Size</i>	<i>Frequency</i>	<i>Minimum Requirements (Class size)</i>
<i>Each bridge span or concrete surface less than 600 sq yd in area</i>	<i>1 test patch per 100 sq yd area</i>	<i>Average of tests not more than class 2 with no single test patch greater than class 3.</i>
<i>Each bridge span or concrete surface 600 sq yd and greater in area</i>	<i>6 per 600 sq yd area</i>	<i>Average of tests not more than class 2 with no single test patch greater than class 3.</i>

Testing shall be performed in the presence of the Engineer and a copy of ISO 8502-3 shall be provided to the Engineer so the Engineer may determine the class. If the surface cleanliness verification test results in an average class greater than that shown in the table above, the entire concrete surface shall be cleaned again with either a vacuum truck or compressed air in accordance with 738.04(b) and retested until the concrete surface is clean enough to yield an average class result in accordance with the requirements shown in the table above.

738.07 Applying the Polymer Overlay System

Patching and cleaning operations shall be inspected and approved prior to applying each layer of the polymer overlay system. Any contamination of the concrete surface or intermediate polymer overlay system courses, after initial cleaning, shall be removed. Both courses of the polymer overlay system shall be applied within 24 hours following the final cleaning and prior to opening the area to traffic.

(a) Environmental Condition Requirements

1. Surface Moisture

An electronic moisture meter meeting the requirements of ASTM F2659 shall be used to check surface moisture on the concrete surface. The brand and model of the meter as well as manufacturer specification sheets showing compliance with ASTM F2659 shall be included in the QCP.

Immediately prior to beginning application of the polymer overlay system, surface moisture readings shall be taken at six locations per bridge span. Three locations shall be within 1 ft of the bridge railing on the low side of the cross slope spaced throughout the span and the other three shall be located within a lane between the typical wheel paths in the span. If the polymer overlay system is being applied to the RCBA or another concrete surface, four surface moisture readings shall be taken on each RCBA or other concrete surface. Two locations shall be within 1 ft of the outside edge of the RCBA or other concrete surface and the other two shall be located within a lane between the typical wheel paths in the span. All readings shall be 4.0% moisture content or lower in order to begin application of the polymer overlay system. No visible moisture shall be present on the prepared

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concrete surface or patch material at the time of application of the polymer overlay system. Compressed air in accordance with 738.04(b) may be used to dry the concrete surface.

2. Weather Limitations

Polymer overlay materials shall be applied when the temperature of the concrete surface is between 50°F and 100°F and the ambient temperature is forecast to be 50°F and rising within 8 h of application. Materials shall not be applied on a wet surface or when surface moisture readings taken on the deck exceed 4.0%.

(b) Application Verification Rate Requirements

The Contractor shall verify the volume of polymer overlay applied by performing volume measurements at 25 ft intervals as measured along the longitudinal length of the concrete surface. This shall be done by marking the resin and hardener component tote levels in permanent marker concurrent with the completion of a 25 ft longitudinal length section of concrete surface. Marking of the resin and hardener component tote levels shall continue every 25 ft of completed concrete surface length as work progresses. Volume of each 25 ft section shall then be calculated and logged based upon the height between marks and the actual tote length and width. Actual volume applied for each 25 ft section shall be logged per course of polymer overlay. The actual volume shall be divided by the actual area of coverage (25 ft x width) in order to verify quantity applied meets or exceeds the minimum rates shown in the table below. Volumes utilized and calculations shall be logged by the Contractor with station information for each section and provided to the Engineer.

<i>Course</i>	<i>Rate, gal./100 sq ft</i>	<i>Aggregate, lbs/sq yd*</i>
<i>1</i>	<i>No less than 2.5</i>	<i>No less than 10</i>
<i>2</i>	<i>No less than 5.0</i>	<i>No less than 14</i>
<i>* Aggregate application shall be of sufficient quantity to completely cover the polymer.</i>		

(c) Mixing, Application, and Curing

The polymer course and the aggregate course shall be applied in two separate operations in accordance with the following rates of application.

1. Polymer

Both the resin and hardener components of the polymer shall have a temperature of 75°F or higher at the time of mixing and application. Handling and mixing of the polymer resin and hardening components shall be performed in a manner to achieve the desired results in accordance with these specifications and the manufacturer's recommendations as approved or directed by the Engineer. Polymer overlay systems shall not be applied when weather or surface conditions are such that the material cannot be properly handled, applied, spread, and cured within the specified requirements or cure time and traffic control.

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After the polymer mixture has been prepared, it shall be immediately and uniformly applied to the entire concrete surface using one of the following application methods. The rate of application for each course shall be verified by using the application verification rate requirement in accordance with 738.07(b). The distribution system, or distributor, shall apply the mixed polymer uniformly and accurately to the work area at the specified rate. The viscosity of the polymer shall be such that a uniform thickness is maintained during curing and ponding along the railing or other low points does not occur.

a. Hand Application

Notched squeegees and rollers in accordance with 738.04(c)1 shall be used to control and ensure the application of a uniform thickness of the polymer overlay. Flat squeegees shall not be used.

b. Mechanical Application

Placement of the polymer overlay system using mechanical means shall be performed by equipment in accordance with 738.04(c)2. The operation shall proceed in such a manner that does not allow the mixed polymer to segregate, dry, be exposed or otherwise harden or set in a way as to impair the retention and bonding of broadcasted aggregate.

2. Aggregate

Dry aggregate shall be applied immediately after applying the polymer to the prepared surface. The aggregate shall be applied in such a manner as to cover the entire surface in excess within 5 minutes of polymer placement.

3. Curing

The Contractor shall plan and prosecute the work to provide the following minimum curing periods, or other longer minimum curing periods if prescribed by the manufacturer.

The deck temperature shall be taken immediately prior to placing the polymer overlay system. This deck temperature reading shall be the one used in the curing table below to obtain the required minimum curing time. The polymer overlay system shall be cured in accordance with the curing table below and based on the manufacturer's requirements prior to vacuuming and brooming the finished surface.

The minimum curing periods shall be as follows:

Course	Minimum Cure Time by Deck Temperature, °F							
	50 - 54	55 - 59	60 - 64	65 - 69	70 - 74	75 - 79	80 - 84	≥ 85
1	7 1/2 h	5 1/2 h	4 h	3 h	2 1/2 h	2 h	1 1/2 h	1 h
2	11 h	8 1/2 h	6 1/2 h	5 h	4 h	3 h	3 h	3 h

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Traffic or equipment shall not be allowed on the polymer overlay system surface during the curing period. The Contractor shall minimize all foot traffic on the uncured polymer overlay system and ensure that any foot traffic will only be done with steel spiked shoes approved by the Engineer. After the first course curing period, all loose aggregate shall be removed by vacuuming or brooming without tearing or damaging the surface. Then the next course of polymer shall be applied to completion. All loose aggregate from both the first and second courses shall be discarded and not reused in the polymer overlay system.

A surface having received only the first course application of aggregate shall not be opened to traffic.

738.08 Joints and Raised Pavement Markers

Unless otherwise specified by the Engineer, the polymer overlay system shall not be applied over expansion joints or raised pavement markers. Expansion joints and raised pavement markers shall be coated with a bond breaker or covered using an approved tape that can adequately seal the joints and markers from the polymer. Duct tape may be used to delineate application areas. All taped areas or bond breakers shall be removed before the polymer fully cures.

The Type I-A joint gap shall be reestablished by saw cutting and sealed in accordance with 609.05 after both courses of the polymer overlay system have been applied and cured.

In the event saw cutting for the type I-A joint damages or mars the top surface of the polymer overlay system, damaged areas shall be removed by saw cutting in rectangular sections to the top of the deck surface and reapplying the polymer overlay system courses in accordance with this specification.

738.09 Required Records

For all materials provided, the Contractor shall maintain and provide records to the Engineer including but not limited to, the following:

- 1. Batch numbers and sizes;*
- 2. Location of batches as applied to the concrete surface, referenced by stations;*
- 3. The calculated rate of application for each 25 ft length of concrete surface for each course;*
- 4. Batch time, gel time;*
- 5. Temperature of the air, concrete surface, polymer resin and hardener components, and aggregates;*
- 6. Loose aggregate removal time, and;*
- 7. Time opened to traffic.*

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738.10 Opening to Traffic

The polymer overlay system may be opened to traffic after meeting all cure time requirements for both courses in accordance with 738.07(c)3 and all other manufacturer's requirements.

738.11 Temporary and Permanent Pavement Markings

Temporary tape pavement marking, type I, used on portions of the completed polymer overlay system shall be installed per the manufacturer's recommendations and shall be firmly pressed into place to provide adequate bond to the exposed aggregate surface.

~~*Permanent pavement markings shall be paint in accordance with 808. Retro-reflectivity testing will not be required on concrete surfaces where a polymeric overlay system has been applied.*~~

Heat-bonded pavement markings or temporary paint pavement markings shall not be used on any portions of the polymer overlay system.

738.12 Final Clean Up

If directed by the Engineer, at the end of the project or a minimum of 7 days after the polymer overlay system has fully cured, all loose aggregate that has shed shall be removed by vacuuming or brooming and not re-used. In addition, if the visibility of the recently applied pavement markings has been reduced due to adherence to loose aggregate, they shall be reapplied.

738.13 Performance Warranty

(a) General

The Contractor shall be responsible for and guarantee the performance of the polymer overlay system that has been applied to the bridge deck surface, as defined herein, for a period of ~~five~~ three years after the initial acceptance date defined in 738.13(b)4. The Contractor shall warrant to the Department that the warranted work will be free of defects as measured by the condition parameters in 738.14(~~dc~~)1 and not exceed the specified threshold values for each.

The performance warranty requirements for the polymer overlay system will not apply to an RCBA or other surfaces outside of the limits of the bridge deck surface.

The performance warranty and its provisions shall not be construed as extending or otherwise affecting the claim process and statute of limitations otherwise applicable to this contract.

(b) Definitions

The following definitions shall apply.

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1. *Bridge Deck Surface. The surface area contained within the out-to-out of coping width dimension and end-to-end of bridge floor length dimension. Items with raised vertical faces such as but not limited to bridge railings, sidewalks, curbs, median curbs, and barriers will not be considered part of the bridge deck surface for purposes of this specification.*
2. *Conflict Resolution Team, CRT. A group consisting of five individuals whose sole responsibility is to provide a binding decision on disputes between the Department and the Contractor regarding application or fulfillment of the warranty requirements. The CRT is described in more detail in 738.15.*
3. *Delamination. Debonding of the polymer overlay system from the existing bridge deck surface.*
4. *Initial Acceptance Date. ~~The date when the entire warranted polymer overlay system is complete on the bridge deck, final clean up activities have been completed for a bridge, the Department acknowledges the work is in compliance with contract specifications, and the bridge is open to unrestricted traffic. This constitutes same date as the date of the final acceptance of the contract. This date will be considered the start of the warranty period. There may be more than one initial acceptance date on a contract.~~*
5. *Scaling. Worn polymer overlay system surface with loss of epoxy and aggregate resulting in a reduction in thickness of the polymer overlay system greater than 20% of the initial overlay thickness.*
6. *Spalling. Broken or missing pieces of the polymer overlay system.*
7. *Warranted Work. The work product, polymer overlay system, that is guaranteed not to fall outside the specified thresholds of the condition parameters as defined in 738.14(Δc)1 during the warranty period.*
8. *Warranty Period. The ~~five~~three year period of time the Contractor is required to ensure the performance of the polymer overlay system meets or exceeds the minimum specified threshold condition parameters as defined in 738.14(Δc)1.*

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9. *Warranty Work. Corrective actions or remedial actions performed by the Contractor during the warranty period to bring the warranted work back into compliance with the specifications. All costs of warranty work shall be borne by the Contractor including traffic control, mobilization/demobilization, materials, pavement markings, and other incidental work and items. For purposes of this specification, the terms warranty work, corrective action, and remedial action are all interchangeable and shall have the same meaning.*

738.14 Warranted Conditions and Warranty Work

(a) Initial Acceptance

The Department and the Contractor shall jointly review all completed work that is to be warranted. If it is determined that the work does not meet contract requirements, the Contractor shall make all necessary corrections, at no additional cost to the Department, prior to initial acceptance. Initial acceptance will occur as soon as the Department has determined that all contract requirements have been met for the warranted work. The date on which initial acceptance occurs will be termed the Initial Acceptance Date and will be provided in writing to the Contractor. Neither the initial acceptance nor any prior inspection, acceptance, or approval by the Department shall diminish the Contractor's responsibilities under this warranty. The Department at its sole discretion may accept portions of the work and begin the warranty period to accommodate seasonal limitations or staged construction, excluding any area needing warranty work. The warranty period shall start upon final acceptance of the contract.

(ba) Warranted Elements

For the warranty period, the Contractor shall ensure that the polymer overlay system that is applied to the bridge deck surface performs as intended and none of the thresholds for condition parameters in 738.14(d)1 are exceeded at any time during the warranty period.

(eb) Evaluation Method

1. Department

The Department will monitor and conduct polymer overlay system evaluations for each bridge deck surface throughout the warranty period by means of the Indiana Bridge Inspection Application System in accordance with the National Bridge Inspection Standards. Evaluations will consist of regular field condition reviews conducted by Department personnel. The Department will be responsible for notifying the Contractor, in writing, of any condition parameters that exceed threshold limits defined herein. The Department reserves the right to conduct impromptu inspections to evaluate the performance of the warranted polymer overlay system. The Contractor shall not be

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relieved of any responsibility based upon a claim that the Department failed to adequately monitor the structure or to report its findings to the Contractor.

In case emergency situations arise, evaluations may be waived at the sole discretion of the Department.

2. Contractor

The Contractor shall also monitor and inspect the warranted polymer overlay system. If any conditions are noted whereby the threshold limits of the condition parameters are exceeded, the Contractor shall notify the Department in writing.

The Contractor shall notify the Department and submit a written course of action for approval for performing needed warranty work a minimum of 10 calendar days prior to commencement of said warranty work, except in the case of emergency repairs as detailed in 738.14(d)4. The submittal must propose a schedule for performing the warranty work and the materials and methods to be used.

(dc) Warranty Work

Warranty work will be required when a threshold limit for a condition parameter identified in the Thresholds for Condition Parameters Table in 738.14(dc)1 has been exceeded. All warranty work shall be in accordance with the 738 specifications.

During the warranty period, warranty work shall be performed at no cost to the Department and shall be based on the results of regular, periodic evaluations of the condition parameters in 738.14(dc)1. Upon written notification from the Department that warranty work is required, the Contractor shall submit a written course of action for performing needed warranty work for approval a minimum of 10 days prior to the desired start date. If the Contractor disputes the findings, written notification of the dispute shall be provided within 30 days of the date of the notification from the Department. Warranty work shall be performed no later than October 1 of the year of Department notification. Warranty work to be performed and materials to be used will be the joint decision of the Department and Contractor. Prior to proceeding with any warranty work, a Miscellaneous Permit shall be obtained from the Department's District Permit Division. The permit fee and an individual permit performance bond will not be required. However, the permit insurance requirements will apply. The Contractor shall note on the application when applying for this permit that warranty work is to be performed. If warranty work performed by the Contractor necessitates repair of adjacent lanes or roadway shoulders, or reapplication of pavement markings, the required work and corresponding costs shall be the responsibility of the Contractor.

The Department will review the Contractor's proposal for time, methods, and traffic control to perform warranty work. No warranty work shall proceed until the Contractor has been issued written permission to proceed from the Engineer. The Department will be the sole decider whether warranty work performed by the Contractor

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meets the contract specifications. If warranty work performed by the Contractor necessitates repair of adjacent lanes or roadway shoulders, or reapplication of pavement markings, the required work and corresponding costs shall be the responsibility of the Contractor.

Coring, milling, grinding, or other destructive procedures shall not be performed by the Contractor without prior written approval of the Department. If the Contractor elects to conduct any independent testing, both destructive and non-destructive, the equipment shall be calibrated and correlated with the Department's equipment.

The Contractor will not be responsible for damages to the pavement as a result of coring, milling, grinding, or other destructive procedures conducted by the Department.

During the warranty period, the Contractor will not be held responsible for polymer overlay system distresses including but not limited to chemical and fuel spills, vehicle fires, structural repairs requiring deck patching, removal or replacement, and quality assurance testing such as coring. However, the Contractor shall be responsible for wear or damage by snowplow blades and other winter maintenance operations.

~~*The Contractor will be responsible for wear or damage by snowplow blades and other winter maintenance operations.*~~

Other factors considered to be beyond the control of the Contractor which may contribute to polymer overlay system distress will be considered by the Engineer on a case-by-case basis upon receipt of a written request from the Contractor.

1. Condition Parameters

Condition parameters identified in the table below will be used to determine the performance of the polymer overlay system during the warranty period. Each condition parameter has a threshold limit applied to each structure and a maximum percentage of defects allowed before warranty work or corrective action is required.

If one or more of the following threshold limits for condition parameters listed in the table below is exceeded, warranty work will be required and shall be performed. Warranty work shall be performed prior to conclusion of the warranty period or within such other time frame as agreed to between the Department and the Contractor unless safety concerns conditions dictate otherwise.

Thresholds for Condition Parameters

<i>Condition Parameter</i>	<i>Threshold Limits Per Surface Area for Each Structure*</i>
<i>Spalling</i>	<i>0.5%</i>
<i>Scaling</i>	<i>1.0%</i>

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<i>Delamination</i>	<i>1.0%</i>
<i>* once exceeded, warranty work shall be performed</i>	

The defective areas of the polymer overlay system may or may not be contiguous to necessitate warranty work. The Contractor shall ensure any warranty work requiring removal or replacement is made at a sufficient depth to restore the integrity of the polymer overlay system surface.

2. Corrective Actions

The Contractor shall perform the work necessary to repair all deficiencies associated with the warranted condition parameters. The Department will accept the listed corrective action if the action addresses the cause of the condition parameter as listed in the Thresholds for Condition Parameters Table in 738.14(d)1. The Contractor may use an alternative corrective action subject to Department approval.

Corrective Actions

<i>Condition Parameter</i>	<i>Recommended Corrective Action</i>
<i>Spalling</i>	<i>Repair with polymer overlay system of equal thickness and durability as the original overlay.</i>
<i>Scaling</i>	
<i>Delamination</i>	<i>Sound overlay to determine extent of delamination. Remove damaged polymer overlay, and repair with polymer overlay system of equal thickness and durability as the original polymer overlay system.</i>

3. Emergency Repairs

~~*The Contractor shall be the first option to perform warranty work. If, in the opinion of the Department, the problem requires immediate attention for safety of the traveling public and the Contractor has not performed the warranty work within 24 h of written notice being provided, the Department has the option to declare an emergency situation and will have the warranty work performed by other forces. Prior to emergency repairs, the Department will document the basis for the emergency action. In addition, the Department will preserve evidence of the defective condition that triggered the emergency declaration. The Contractor shall be responsible to pay for all costs incurred for the repairs. Warranty work performed by other forces shall not alter the requirements, responsibilities, or obligations of the warranty.*~~

738.15 Conflict Resolution Team

If a dispute arises on the application or fulfillment of the terms of this performance warranty, either party may serve written notice that the appointment of a CRT is necessary.

The CRT will consist of five members:

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- (a) *Two members selected and fully compensated by the Department,*
- (b) *Two members selected and fully compensated by the Contractor,
and*
- (c) *One member mutually selected by the Department and the
Contractor. Full compensation for the third-party member will be
equally shared by the Department and the Contractor.*

The CRT members will be identified in writing when needed and will be knowledgeable in the terms and conditions of this performance warranty, specification, and the methods used in evaluating the overlay condition. The CRT will render a final recommendation to the Chief Engineer by a majority vote. Each member has an equal vote.

~~*At least three members of the CRT must vote in favor of a motion in order to make a decision. If agreement cannot be reached, the CRT may opt to conduct a forensic investigation. The CRT will determine the scope of work and select the party to conduct the investigation. All costs related to the forensic investigation will be shared proportionally between the Contractor and the Department based on the determined cause of the condition.*~~

738.16 Department Maintenance

The Department will retain the right to perform, and may perform, routine maintenance operations during the warranty period including, but not limited to, plowing, applying de-icing chemicals, repairs to safety appurtenances, pavement markings, mowing, and sign maintenance. The Department, during the warranty period, will perform no routine bridge surface maintenance activities.

Routine maintenance performed by the Department will not diminish the Contractor's responsibilities under this warranty.

738.17 Method of Measurement

The accepted quantities of the warranted polymer overlay system for bridge decks will be measured by the square yard. The accepted quantities of the polymer overlay system applied to an RCBA or other concrete surfaces will be measured by the square yard. Partial depth patching will be measured by the square foot. Pavement markings, temporary and permanent, will be measured in accordance with 801.17 and 808.12, respectively.

Rapid setting patch materials used for patching concrete for partial depth patching will not be measured. Polymer material used for partial depth patching will not be measured. Construction or repairs to type I-A joints will not be measured.

738.18 Basis of Payment

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Warranted polymer overlay systems for bridge decks will be paid for at the contract unit price ~~per square yard~~ for warranted polymer overlay, bridge deck. Polymer overlay systems applied to the RCBA or other concrete surfaces will be paid for at the contract unit price for polymer overlay, ~~system for~~ other concrete surface. Partial depth patching will be paid for at the contract unit price per square foot as bridge deck patching, partial depth, in accordance with 722.16. Pavement markings, temporary and permanent, will be paid for in accordance with 801.18 and 808.13, respectively.

Payment will be made under:

Pay Item	Pay Unit Symbol
<i>Polymer Overlay, System for Other Concrete Surface</i>	<i>SYS</i>
<i>Warranted Polymer Overlay, System for Bridge Deck</i>	<i>SYS</i>

The cost of hand-chipping, removal of unsound concrete, preparation of cavity surfaces, furnishing and applying bond coat or polymer resin adhesive as required, furnishing and placing rapid setting patch materials used as patching concrete, furnishing and placing polymer materials used for patching, and necessary incidentals shall be included in the cost of bridge deck patching, partial depth.

The cost of all re-cleaning of suspect areas or verification through tests that the altered cleaning method is acceptable shall be included in the cost of the pay items of this specification.

All costs of cleaning the concrete surface by ~~dry grinding, dry scarification milling,~~ shot blasting, sounding, verification testing and costs associated with verification testing, removal of any joint or crack sealants, removal of excess aggregate, warranting the performance of the two-coat polymer overlay system on a bridge deck surface, keeping and furnishing records, removal and disposal of all waste materials, and furnishing all equipment, labor, materials, and incidentals to perform the work described herein shall be included in the cost of the warranted polymer overlay, ~~system for~~ bridge deck or polymer overlay, ~~system for~~ other concrete surface pay items.

The cost of all labor and materials for the placement or repair of type I-A joints shall be included in the cost of the warranted polymer overlay, ~~system for~~ bridge deck pay item.

The cost of returning a minimum of 7 days after work is completed and cleaning up loose aggregate and reapplying pavement markings shall be included in the cost of the pay items of this specification.

738.19 Final Warranty Acceptance

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~~At the end of the warranty period, the Engineer will review the project in the field for the presence of any of the condition parameters in 738.14(d)1 and, provided none are observed, will recommend a Final Warranty Acceptance. A written final warranty acceptance letter will be provided to the Contractor upon expiration of the warranty period and satisfactory completion of all required warranty work. The Department will issue the Contractor a Final Warranty Acceptance letter upon completion of the warranty period and all required remedial work.~~

~~At the end of the warranty period and upon final acceptance of the project by the Department, the contractual obligations of the Contractor will be considered satisfied, and the Contractor will be released from further warranty work or responsibility, provided all previous warranty work has been satisfactorily completed, accepted by the Department, and the polymer overlay system continues to meet or exceed the threshold limits for the condition parameters as defined in 738.14(d)1.~~

SECTION 909, AFTER LINE 407, INSERT AS FOLLOWS:

909.13 Polymer for Polymer Overlay Systems

The polymer shall be in accordance with the following criteria in order to be included on the Department's QPL for Polymers and Aggregates for Overlay Systems. The polymer shall be a two-component material consisting of a resin base and hardener in accordance with ASTM C881, Type III, Grade 1, Class C and the table below.

<i>Property</i>	<i>Test Method</i>	<i>Value</i>
<i>Epoxide equivalent</i>	<i>ASTM D1652</i>	<i>270 maximum</i>
<i>Gel Time</i>	<i>ASTM C881, modified (70 ml sample in unwaxed paper cup)</i>	<i>15 to 45 min at 75°F (23.9°C)</i>
<i>Tensile strength</i>	<i>ASTM D638</i>	<i>13.8 Mpa (2,000 psi) at minimum of 7 days of cure time</i>
<i>Tensile elongation</i>	<i>ASTM D638</i>	<i>30 to 70 percent at max of 24 h of cure time</i>
<i>Water absorption</i>	<i>ASTM D570</i>	<i>0.50% max increase by weight</i>
<i>Viscosity</i>	<i>ASTM D2196 (Spindle No. 3 at 20 RPM)</i>	<i>7 to 25 poises</i>
<i>Minimum compressive strength at 3 h</i>	<i>ASTM C579 Method B, modified to be reported at 3 h</i>	<i>1,000 psi min</i>
<i>Minimum compressive strength at 24 h</i>	<i>ASTM C579 Method B, modified to be reported at 24 h</i>	<i>5,000 psi min</i>

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	<i>(With plastic inserts. Aged in air at a temperature of 73 ±4 °F)</i>	
<i>Volatile content</i>	<i>ASTM D1259 Method B for mix system</i>	<i>Report the values</i>

~~*A type A certification in accordance with 916 shall be provided for the polymer.
The results of the properties shown in the table above shall be listed on the certification.*~~

APPROVED MINUTES

COMMENTS AND ACTION

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DISCUSSION:

This item was introduced and presented by Mr. Reilman who explained that after using the current RSP 738-B-297, Polymeric Concrete Bridge Deck Overlays, for a few years, several requirements need to be addressed or updated.

Mr. Reilman proposed to adopt the updated version of 738-B-297 with changes, as revised.

In an effort to address some comments received prior to the meeting, Mr. Reilman proposed the revisions shown in these Minutes in order to simplify the warranty language by deleting some requirements that seemed unnecessary.

With regard to the revisions, Mr. Koch asked if a warranty bond is required, or will the Contractor's warranty be sufficient? Standard Specifications sections 411, 414, 621, 734 reference warranty bond while 807 references a manufacturer's warranty, while 808 infers a Contractor warranty.

Mr. Reilman replied that a warranty bond is not required, at this time. We may change to that if necessary, but that is also going to drive away smaller contractors that do this work due to capacity. Basically the warranty is "the contractor's word" that they will come back within the first 3 years if something is deficient. If they refuse, we have the Prequal committee that can take action.

Mr. Koch also asked if a process has been developed for who will be performing the inspections and associated tracking uniformly across the Department?

Mr. Reilman responded that the inspections will be performed as part of the regular bridge inspection that is done by the District Bridge Inspection folks. Tracking, if necessary, is thought to be asset management.

Mr. Koch commented on the language in 738.15, that hopefully this will be a very rare occurrence so perhaps not even a problem; the duration of the warranty likely means the specific contract will be closed out. Do we have means to make payment for our half?

Mr. Reilman responded that yes, in all likelihood the contract should be closed out. The intent is not to keep them open an extra three years. As far as payment, I assume we have the means somehow to get funding and create a PO. This language is existing spec language taken from 414.15.

Mr. Koch stated that we defined the warranty period as three years from Final Acceptance. Do we need to state that remedial actions are required provided the notification occurs within the three year period? If action is required the weather limitations (50-100 degrees) creates a limited remedial window likely requiring following season repair. Is the October 1st date needed as we already have weather constraints within the specification?

Mr. Reilman answered that it seems worthwhile to include a statement similar to what you describe, if for nothing else to provide clarity. Mr. Novak added that we wanted INDOT to retain control of whether work was done the year it was observed or at the end of the warranty. Also, we wanted to set a reasonable deadline that a Contractor would need to meet before other action may be necessary, such as pre-qual.

Further discussion ensued regarding the Warranty and varying conditions where it may, or may not, apply.

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Mr. Osborn inquired of the ASTM testing requirement for the moisture meter, and Mr. Reilman answered that contractors are using this process, even though it applies to steel. Mr. Osborn said he just wants to make sure there is no conflict in the field. Mr. Reilman said they are using the meter that represents that requirement. Mr. Nelson provided clarification as to the use of that meter and the process. Mr. Osborn suggested removing the ASTM reference and defining the actual meter. Mr. Pinkstaff provided clarification as to how the moisture meter operates.

Mr. Osborn also questioned the language regarding damage by a snowplow and if we should hold the Contractor responsible for that. Mr. Reilman said that the CRT would address those issues on a case-by-case basis. Mr. Nantung provided further clarification concerning the different types of moisture meters.

There was no further discussion, and this item passed as revised.

<p>Motion: Mr. Reilman Second: Mr. White Ayes: 10 Nays: 0 FHWA Approval: YES</p>	<p>Action:</p> <p><input type="checkbox"/> Passed as Submitted <input checked="" type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected:</p> <p style="padding-left: 40px;">proposed new section</p> <p>Recurring Special Provision references in:</p> <p style="padding-left: 40px;">738-B-297 Polymeric Concrete Bridge Deck Overlay</p> <p>Standard Drawing affected:</p> <p style="padding-left: 40px;">NONE</p> <p>Design Manual Sections affected:</p> <p style="padding-left: 40px;">NONE</p> <p>GIFE Sections cross-references:</p> <p style="padding-left: 40px;">NONE</p>	<p><input type="checkbox"/> 2024 Standard Specifications</p> <p><input type="checkbox"/> Revise Pay Items List</p> <p><input type="checkbox"/> Create RSP (No. ___) Effective: RSP Sunset Date:</p> <p><input checked="" type="checkbox"/> Revise RSP (No. 738-B-297) Effective: <u>June 1, 2022</u> RSP Sunset Date:</p> <p><input type="checkbox"/> Standard Drawing Effective:</p> <p><input type="checkbox"/> Create RPD (No. ___) Effective:</p> <p><input type="checkbox"/> GIFE Update <input checked="" type="checkbox"/> Frequency Manual Update <input checked="" type="checkbox"/> SiteManager Update</p>

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Minor edits are needed to the 902.01 Asphalt Emulsion Warranted Micro-Surfacing section.

PROPOSED SOLUTION: Adopt the proposed edits.

APPLICABLE STANDARD SPECIFICATIONS: 902.01

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: None

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: None

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
N/A, no RSP necessary.

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317 522 9692

Date: 11/23/2021

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

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? 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? N/A

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? N/A

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? Yes

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

REVISION TO STANDARD SPECIFICATIONS

SECTION 902 – ASPHALT MATERIALS

902.01 Asphalt

The Standard Specifications are revised as follows:

SECTION 902, BEGIN LINE 80, DELETE AND INSERT AS FOLLOWS:

1. Asphalt Emulsion Warranted Micro-Surfacing

The polymer modified asphalt emulsion shall be a quick-set, CSS-1h emulsion in accordance with AASHTO M 208 except the cement-mixing test is waived. The polymer material shall be milled or blended into the asphalt or blended into the emulsifier solution prior to the emulsification process. The minimum polymer solids content will be 3.0% based on the residual of the emulsion. Mix set additives shall be added as required to provide control of the quick-set properties. Additional requirements shall be in accordance with the following:

Characteristics	Test Method	Requirements
Residue by Distillation, % (Note)	AASHTO T 59	62+
Softening Point, °F (°C)	AASHTO T 53	140+ (60+)
Viscosity @ 140°F (60°C)	AASHTO T 202	8000+
Elastic Recovery @ 77°F (25°C) (77°F), %	AASHTO T 301	60+
Note: The distillation temperature for this test shall be 350°F (175°C).		

SECTION 902, BEGIN LINE 99, DELETE AND INSERT AS FOLLOWS:

REVISION TO STANDARD SPECIFICATIONS

SECTION 902 – ASPHALT MATERIALS

902.01 Asphalt

Characteristics ⁽¹⁾	Test Method	AE-90	AE-90S	AE-NT	AE-F	AE-150	AE-PL
Test on Emulsion							
Viscosity, Saybolt Furol at 77°F (25°C), min.	AASHTO T 59			15		50	
Viscosity, Saybolt Furol at 77°F (25°C), max.	AASHTO T 59			100	100		115
Viscosity, Saybolt Furol at 120°F (50°C), min.	AASHTO T 59	50	50			75	
Viscosity, Saybolt Furol at 120°F (50°C), max.	AASHTO T 59					300	
Demulsibility w/35 mL, 0.02N CaCl ₂ , % min.	AASHTO T 59		30				
Demulsibility w/50 mL, 0.10N CaCl ₂ , % min.	AASHTO T 59	75					
Oil Distillate by Distillation, mL/100 g Emul ⁽²⁾ max.	AASHTO T 59	4.0	3.0	4.0	4.0	7.0	3.0
Residue by Distillation, % min.	AASHTO T 59	65	65 ⁽⁴⁾	50	27	65	30
Residue by Distillation, % max.	AASHTO T 59				35		
Sieve Test, % max.	AASHTO T 59	0.10	0.10	0.30	0.10	0.10	0.10
Penetrating Ability, mm, min.	902.02(w)						6
Stone Coating Test, %	902.02(t)3a	90				90	
Settlement, % max.	AASHTO T 59	5		5			
Storage Stability, % max.	AASHTO T 59		1				
Tests on Residue							
Penetration (0.1 mm) at 77°F (25°C), 100g, 5 s, min. ⁽³⁾	AASHTO T 49	100	90				
Penetration (0.1 mm) at 77°F (25°C), 100g, 5 s, max. ⁽³⁾	AASHTO T 49	200	150	40	90		
Penetration (0.1 mm) at 77°F (25°C), 50g, 5 s, min. ⁽³⁾	AASHTO T 49					100	
Penetration (0.1 mm) at 77°F (25°C), 50g, 5 s, max. ⁽³⁾	AASHTO T 49					300	
Ductility at 77°F (25°C), mm, min.	AASHTO T 51	400					
Ash Content, % max.	AASHTO T 111	1.0	1.0	1.0	1.0	1.0	1.0
Float Test at 140°F (60°C), s, min. ⁽³⁾	AASHTO T 50	1200	1200			1200	
Force Ratio, min.	AASHTO T 300		0.3				
Elastic Recovery, at 39°F (4°C) (39°F), % min.	AASHTO T 301		58				
Notes: ⁽¹⁾ Broken samples or samples more than 14 days old will not be tested.							
⁽²⁾ Oil distillate shall be in accordance with ASTM D396, table 1, grade No. 1.							
⁽³⁾ The Engineer may waive the test.							
⁽⁴⁾ Maximum temperature to be held for 15 minutes at 350 ±9°F (175 ±5°C).							

COMMENTS AND ACTION

902.01 Asphalt

DISCUSSION:

Mr. Reilman introduced and presented this item stating that minor edits are needed to the 902.01 Asphalt Emulsion Warranted Micro-Surfacing section.

Mr. Reilman proposed to adopt the edits, as shown.

There was no further discussion, and this item passed as submitted.

<p>Motion: Mr. Reilman Second: Mr. Orton Ayes: 10 Nays: 0 FHWA Approval: YES</p>	<p>Action: <input checked="" type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected: 902.01 pg 981 and 983.</p>	<p><input checked="" type="checkbox"/> 2024 Standard Specifications <input type="checkbox"/> Revise Pay Items List</p>
<p>Recurring Special Provision references in: NONE</p>	<p><input type="checkbox"/> Create RSP (No. __) Effective: RSP Sunset Date:</p>
<p>Standard Drawing affected: NONE</p>	<p><input type="checkbox"/> Revise RSP (No. __) Effective: RSP Sunset Date:</p>
<p>Design Manual Sections affected: NONE</p>	<p><input type="checkbox"/> Standard Drawing Effective:</p>
<p>GIFE Sections cross-references: NONE</p>	<p><input type="checkbox"/> Create RPD (No. __) Effective:</p>
	<p><input type="checkbox"/> GIFE Update <input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update</p>

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Section 901.08 requires that packaged patching products for vertical and overhead repairs to bridge substructure or the underside of decks per section 710 be accepted by certification. The approval process is cumbersome for INDOT field personnel and contractors.

PROPOSED SOLUTION: Packaged patching products per 901.08 will be added to INDOT's approved list of Rapid Setting Patching materials.

APPLICABLE STANDARD SPECIFICATIONS: 603.02, 802.02, 901.08

APPLICABLE STANDARD DRAWINGS: NA

APPLICABLE DESIGN MANUAL SECTION: NA

APPLICABLE SECTION OF GIFE: NA

APPLICABLE RECURRING SPECIAL PROVISIONS: add to existing 901-M-061 RSP

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: None

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
~~continue with the current BFU~~ *All contracts with a 603, 710, or 802 pay item.*

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317 522 9692

Date: 11/24/2021

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

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? Yes

Will this proposal improve:

Construction costs? N/A

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? N/A

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? Yes

Design process? N/A

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

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

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

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

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

REVISION TO STANDARD SPECIFICATIONS

SECTION 603 – FENCES

603.02 Materials

SECTION 710 - PATCHING CONCRETE STRUCTURES AND REPOINTING MASONRY IN STRUCTURES

710.02 Materials

SECTION 802 – SIGNS

802.02 Materials

SECTION 901 – PCC MATERIALS

901.08 Packaged, Dry, Combined Materials for Mortar and Concrete

The Standard Specifications are revised as follows:

SECTION 603, BEGIN LINE 7, DELETE AND INSERT AS FOLLOWS:

603.02 Materials

Materials shall be in accordance with the following:

Barbed Wire	910.18(b)4
Chain Link Fabric	910.18(b)
Concrete, Class B	702
Concrete, Packaged Dry	901.08
Farm Field/Woven Wire	910.18(a)
Fence Posts	910.13
Gates	910.18(d)
<i>Packaged Patching Products</i>	<i>901.08</i>
Tension Wire	910.18(b)1

SECTION 710, BEGIN LINE 36, DELETE AS FOLLOWS:

~~A type B certification in accordance with 916 shall be provided for the packaged patching products. The certification shall be submitted to the Department's Concrete Engineer at least 14 calendar days prior to application of the materials.~~

SECTION 802, BEGIN LINE 22, DELETE AND INSERT AS FOLLOWS:

802.02 Materials

Materials shall be in accordance with the following:

Concrete	702 or 901.08
Fasteners	919.01(d)
Overhead Sign Structure	910.19
<i>Packaged Patching Products</i>	<i>901.08</i>
Reinforcing Bars	910.01
Sign Posts	910.14
Traffic Signs	919.01

SECTION 901, BEGIN LINE 548, DELETE AND INSERT AS FOLLOWS:

REVISION TO STANDARD SPECIFICATIONS

SECTION 603 – FENCES

603.02 Materials

SECTION 710 - PATCHING CONCRETE STRUCTURES AND REPOINTING MASONRY IN STRUCTURES

710.02 Materials

SECTION 802 – SIGNS

802.02 Materials

SECTION 901 – PCC MATERIALS

901.08 Packaged, Dry, Combined Materials for Mortar and Concrete

901.08 Packaged, Dry, Combined Materials for Mortar and Concrete Patching Products

Packaged patching products shall be selected from the Department's QPL of Rapid Setting Patch Materials. A packaged patching product may be added to the QPL by completing the requirements in ITM 806, Procedure F.

~~These materials~~ *Packaged patching products shall be in accordance with ASTM C387. All packages shall be identified as conforming to ASTM C387. The markings shall also show the kind and type of material, the net weight in each bag, the yield in cubic feet or yield in square feet per inch of thickness, and the amount of water recommended for mixing to produce a 2 in. to 3 in. slump.*

The following exceptions to ASTM C387 shall apply for packaged patching products used in accordance with 710. ~~The limits of the following shall be shown on the type B certification.~~

Physical Test	Specification	Requirements
Compressive Strength, min. 24 h 28 days	ASTM C109 on 2 in. cubes (neat)	2,000 psi 5,000 psi
Length Change, max. 28 days (air storage) 28 days (water storage)	ASTM C157, modified C928	-0.09% +0.03%
Slant/Shear Bond Strength, min. 28 days	ASTM C882 modified*	2,000 psi
Modulus of Elasticity Minimum @ 28 days Maximum @ 28 days	ASTM C469	3,000,000 psi 5,000,000 psi
* Product scrubbed into substrate or as recommended by the manufacturer.		

COMMENTS AND ACTION

603.02 Materials

710.02 Materials

802.02 Materials

901.08 Packaged, Dry, Combined Materials for Mortar and Concrete

DISCUSSION:

This item was introduced and presented by Mr. Reilman who explained that 901.08 requires that packaged patching products for vertical and overhead repairs to bridge substructures or the underside of decks in accordance with 710 be accepted by certification. The approval process is cumbersome for INDOT field personnel and contractors.

Mr. Reilman therefore proposed that packaged patching products in accordance with 901.08 be added to INDOT's qualified products list of Rapid Setting Patching materials. Additional revisions are as shown. Mr. Reilman also proposed to delete the paragraph in 710.02, line 36-38, regarding the type B certification, as shown.

Mr. Reilman revised his motion, which was seconded by Mr. White. There was no further discussion, and this item passed as revised.

APPROVED MINUTES

COMMENTS AND ACTION

603.02 Materials

710.02 Materials

802.02 Materials

901.08 Packaged, Dry, Combined Materials for Mortar and Concrete

[continued]

<p>Motion: Mr. Reilman Second: Mr. Boruff Ayes: 9 Nays: 0 FHWA Approval: YES</p>	<p>Action: <input type="checkbox"/> Passed as Submitted <input checked="" type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected: 603.02 pg 497; 802.02 pg 890; 901.08 pg 974.</p> <p>Recurring Special Provision references in: 603-R-414 POLYVINYL CHLORIDE COATED CHAIN LINK FENCE 901-M-061 PCC MATERIALS</p> <p>Standard Drawing affected: NONE</p> <p>Design Manual Sections affected: NONE</p> <p>GIFE Sections cross-references: NONE</p>	<p><input checked="" type="checkbox"/> 2024 Standard Specifications</p> <p><input type="checkbox"/> Revise Pay Items List</p> <p><input checked="" type="checkbox"/> Create RSP (No. <u>901-M-xxx</u>) Effective: <u>June 1, 2022</u> RSP Sunset Date:</p> <p><input type="checkbox"/> Revise RSP (No. <u> </u>) Effective: RSP Sunset Date:</p> <p><input type="checkbox"/> Standard Drawing Effective:</p> <p><input type="checkbox"/> Create RPD (No. <u> </u>) Effective:</p> <p><input type="checkbox"/> GIFE Update <input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update</p>

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: A need has arisen for a 3 in. geocell.

PROPOSED SOLUTION: Develop requirements for a 3 in. deep geocell and add the requirements to the specifications.

APPLICABLE STANDARD SPECIFICATIONS: 918.04

APPLICABLE STANDARD DRAWINGS: NA

APPLICABLE DESIGN MANUAL SECTION: NA

APPLICABLE SECTION OF GIFE: NA

APPLICABLE RECURRING SPECIAL PROVISIONS: incorporate into existing 918-M-060 RSP

PAY ITEMS AFFECTED: NA

APPLICABLE SUB-COMMITTEE ENDORSEMENT: None

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
keep current BFU for this RSP.

IMPACT ANALYSIS (attach report): NA

Submitted By: Jim Reilman for Nayyar Siddiki

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317 522 9692

Date: 11/24/2021

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

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? Yes

Will this proposal improve:

Construction costs? NA

Construction time? NA

Customer satisfaction? Yes

Congestion/travel time? NA

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? N/A

Will this proposal improve quality for:

Construction procedures/processes? yes

Asset preservation? N/A

Design process? N/A

Will this change provide the contractor more flexibility? NA

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 STANDARD SPECIFICATIONS

SECTION 918 - GEOSYNTHETIC MATERIALS

918.04 Geocell Confinement System

The Standard Specifications are revised as follows:

SECTION 918, BEGIN LINE 60, DELETE AND INSERT AS FOLLOWS:

918.04 Geocell Confinement System

Geocell confinement system is a lightweight, flexible mat that consists of high density polyethylene strips. The mat shall be perforated and the strips shall be ultrasonic bonded together to form a strong configuration. Cell seam strength shall be uniform over full depth.

Geocell shall be selected from the QPL of Geosynthetic Materials. Geocell will be placed and maintained on the QPL in accordance with ITM 806.

The geocell shall meet the following requirements:

Properties	Material/Test Method	Unit	Requirements	
			3 in. Depth	4 in. Depth
Sheet Thickness	ASTM D5199	mils	50	50
Environmental Stress Crack Reduction, min.	ASTM D1693	hours	3,500	3,500
Short-Term Seam Peel Strength for 4 in. depth	ASTM D6392	lb/ft	240	350
Percent Open Area	COE-02215	%	12.6	12.6
Nominal Expanded Cell Size	Calibered	in.	12.6 x 11.3	12.6 x 11.3
Note: Carbon Black shall be minimum 1.5% by weight in accordance with ASTM D5199.				

COMMENTS AND ACTION

918.04 Geocell Confinement System

DISCUSSION:

Mr. Reilman introduced and presented this item stating that a need has arisen for a 3 in. geocell.

Mr. Reilman proposed to develop requirements for a 3 in. deep geocell and add the requirements to 918.04, as shown. Mr. Siddiki stated that there are USPs for the 3 in. geocells currently in use, so this RSP will help. Ms. Mouser asked how the Contractor will know when which geocell will be required? Mr. Siddiki said that it will be determined by the type specified. Mr. Reilman said we may need to revisit 207 and 214 to make sure we're covered there.

Mr. White asked if we could simply make this a part of the USP to keep things simple and clear, so a USP will not have to reference an RSP.

Mr. Reilman moved to withdraw this item pending further review regarding revisions to 214 as well.

Motion: Mr. Reilman Second: Mr. Patel Ayes: Nays: FHWA Approval:	Action: <input type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input checked="" type="checkbox"/> Withdrawn
Standard Specifications Sections referenced and/or affected: 918.04 pg 1132.	<input type="checkbox"/> 2024 Standard Specifications <input type="checkbox"/> Revise Pay Items List
Recurring Special Provision references in: 918-M-060 GEOSYNTHETIC MATERIALS	<input type="checkbox"/> Create RSP (No. __) Effective: RSP Sunset Date:
Standard Drawing affected: NONE	<input type="checkbox"/> Revise RSP (No. __) Effective: RSP Sunset Date:
Design Manual Sections affected: NONE	<input type="checkbox"/> Standard Drawing Effective:
GIFE Sections cross-references: NONE	<input type="checkbox"/> Create RPD (No. __) Effective: <input type="checkbox"/> GIFE Update <input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Clarify that the cost of grouting is included in the Grouted Riprap Pay Item.

PROPOSED SOLUTION: Add a line to the Basis of Payment section.

APPLICABLE STANDARD SPECIFICATIONS: 616.13

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: 23.2

APPLICABLE RECURRING SPECIAL PROVISIONS: N/A

PAY ITEMS AFFECTED: Riprap, Grouted, _____ in.....SYS
depth

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad Hoc: Joe Novak, Jacob Blanchard, Clint Scherzer

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

IMPACT ANALYSIS (attach report): Attached

Submitted By: Joe Novak

Title: State Construction Engineer

Organization: INDOT Construction Management

Phone Number: 317-501-7805

Date: 10/19/21

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

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? 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? 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:

REVISION TO STANDARD SPECIFICATIONS

SECTION 616 - RIPRAP AND SLOPEWALL

616.13 Basis of Payment

The Standard Specifications are revised as follows:

SECTION 616, BEGIN LINE 162, INSERT AS FOLLOWS:

616.13 Basis of Payment

The accepted quantities of dumped, revetment, class 1, and class 2 riprap obtained from outside the right-of-way will be paid for at the contract unit price per ton. Dumped, revetment, class 1, and class 2 riprap obtained from within the project limits will be paid for at the contract unit price per square yard. Uniform riprap will be paid for at the contract unit price per ton. Grouted riprap will be paid for at the contract unit price per square yard of the specified depth. Precast concrete riprap, and concrete slope wall will be paid for at the contract unit price per square yard, all complete in place. If slag is used as dumped riprap and payment will be made per ton, the pay quantity will be adjusted in accordance with 904.01.

The accepted quantities of geotextiles used under riprap will be paid for at the contract unit price per square yard, complete in place.

Inspection holes will be paid for at the contract unit price per each.

The treatment of undermined paved side ditch will be paid for at the contract unit price per linear foot for paved side ditch, break. Backfill required for treatment of paved side ditch will be paid for at the contract unit price per cubic yard for borrow, cohesive.

Payment will be made under:

Pay Item	Pay Unit Symbol
Borrow, Cohesive.....	CYS
Geotextiles for Riprap, _____ type	SYS
Inspection Hole	EACH
Paved Side Ditch, Break	LFT
Riprap, Class _____	TON
	SYS
Riprap, Dumped	TON
	SYS
Riprap, Grouted, _____ in. depth	SYS
Riprap, Precast Concrete	SYS
Riprap, Revetment	TON
	SYS
Riprap, Uniform	TON
Slope wall.....	SYS

REVISION TO STANDARD SPECIFICATIONS

SECTION 616 - RIPRAP AND SLOPEWALL

616.13 Basis of Payment

Sloped wall, Concrete, _____ in.SYS
depth

If the contract includes a pay item for removing materials from within the project limits which are used as grouted riprap, the cost of such removal shall be included in the cost of the pay item for the removal work. The cost of placing such material shall be included in the cost of the riprap pay item.

The cost of placing grout in accordance with 616.04 shall be included in the cost of the grouted riprap item.

The cost of paved side ditch required at the top of riprap and along the edge of riprap will be paid for in accordance with 607.06.

The cost of welded steel wire reinforcement shall be included in the cost of the sloped wall.

The cost of excavation below the finished riprap or sloped wall shall be included in the cost of the riprap and sloped wall pay items.

The cost of excavation, grading, sewing, pinning, and necessary incidentals shall be included in the cost of geotextiles.

APPROVED MINUTES

COMMENTS AND ACTION

616.13 Basis of Payment

DISCUSSION:

This item was introduced and presented by Hauser, sitting in for Mr. Novak, assisted by Mr. Blanchard, stating the need to clarify that the cost of grouting is included in the Grouted Riprap Pay Item.

Mr. Hauser proposed to add a line to the Basis of Payment section in 616.13.

There was no further discussion, and this item passed as submitted.

<p>Motion: Mr. Hauser Second: Mr. Reilman Ayes: 9 Nays: 0 FHWA Approval: YES</p>	<p>Action: <input checked="" type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected: 616 pg 540 and 541.</p>	<p><input checked="" type="checkbox"/> 2024 Standard Specifications <input type="checkbox"/> Revise Pay Items List</p>
<p>Recurring Special Provision references in: NONE</p>	<p><input type="checkbox"/> Create RSP (____) Effective: RSP Sunset Date:</p>
<p>Standard Drawing affected: NONE</p>	<p><input type="checkbox"/> Revise RSP (No. __) Effective: RSP Sunset Date:</p>
<p>Design Manual Sections affected: NONE</p>	<p><input type="checkbox"/> Standard Drawing Effective:</p>
<p>GIFE Sections: Section 23.2</p>	<p><input type="checkbox"/> Create RPD (No. __) Effective:</p>
	<p><input checked="" type="checkbox"/> GIFE Update <input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update</p>

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Section 207.6 was changed to require that where shallow utilities are encountered or the contractor elects to use Type IC for Type IBC or IBL, payment will be made at the contract unit price of Type IBC or Type IBL. This basis of payment requirement is forcing contractors to bid the items for IBC and Type IBL conservatively because they are not informed in the contract documents where they will encounter shallow utilities.

PROPOSED SOLUTION: The proposed solution is to change the verbiage of 207.06 to allow for payment in accordance with 109.05 for areas where it is determined by the Department that the use of Type IC is required.

APPLICABLE STANDARD SPECIFICATIONS: 207.06

APPLICABLE STANDARD DRAWINGS: NA

APPLICABLE DESIGN MANUAL SECTION: NA

APPLICABLE SECTION OF GIFE: Yes

APPLICABLE RECURRING SPECIAL PROVISIONS: Yes 205-R-735 SUBGRADE

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: This change was reviewed and discussed by Greg Pankow, Jeremy Hunter, Elizabeth Mouser and Mike Jet.

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
All contracts with 207 or 214 items and or 207-R-735.

IMPACT ANALYSIS (attach report): Yes

Submitted By: Kurt Pelz for Greg Pankow

Title: Construction Technical Services Manager

Organization: INDOT Construction Management

Phone Number: 317-691-4800

Date: November 23, 2021

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS
REVISION TO STANDARD SPECIFICATIONS

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? Yes
Customer satisfaction? NA
Congestion/travel time? NA
Ride quality? NA

Will this proposal reduce operational costs or maintenance effort? Yes

Will this item improve safety:

For motorists? NA
For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? Yes
Asset preservation? Yes
Design process? Yes

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:

REVISION TO STANDARD SPECIFICATIONS

SECTION 207 - SUBGRADE

207.06 Basis of Payment

The Standard Specifications are revised as follows:

SECTION 207, BEGIN LINE 117, INSERT AS FOLLOWS:

207.06 Basis of Payment

The accepted quantities of subgrade treatment will be paid for at the contract unit price per square yard per type, complete in place. In areas where ~~shallow~~ *underground utilities or obstructions* are encountered *and Type IC is required in these areas in place of Type IBC or Type IBL and an item does not exist in the contract for Type IC, the work will be paid for in accordance with 109.05. In areas where Type IC is not required and* ~~or~~ the Contractor elects to use Type IC for Type IBC or Type IBL, payment will be made at the price of Type IBC or Type IBL.

APPROVED MINUTES

COMMENTS AND ACTION

207.06 Basis of Payment

DISCUSSION:

This item was introduced and presented by Mr. Pelz, who explained that 207.6 was revised to require that where shallow utilities are encountered, or the Contractor elects to use Type IC for Type IBC or IBL, payment will be made at the contract unit price of Type IBC or Type IBL. This basis of payment requirement is forcing contractors to bid the items for IBC and Type IBL conservatively because they are not informed in the contract documents where they will encounter shallow utilities.

Mr. Pelz chose to withdraw this item pending further review, and additional conversations with ICI and the committee members.

<p>Motion: Mr. Pelz Second: Mr. Ayes: Nays: FHWA Approval:</p>	<p>Action: <input type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input checked="" type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected: 207 pg. 225 and 226.</p>	<p><input type="checkbox"/> 2024 Standard Specifications <input type="checkbox"/> Revise Pay Items List</p>
<p>Recurring Special Provision references in: 207-R-735 SUBGRADE</p>	<p><input type="checkbox"/> Create RSP (No. __) Effective: RSP Sunset Date:</p>
<p>Standard Drawing affected: NONE</p>	<p><input type="checkbox"/> Revise RSP (No. ____) Effective: RSP Sunset Date:</p>
<p>Design Manual Sections affected: NONE</p>	<p><input type="checkbox"/> Standard Drawing Effective:</p>
<p>GIFE Sections: TBD</p>	<p><input type="checkbox"/> Create RPD (No. __) Effective:</p>
	<p><input type="checkbox"/> GIFE Update <input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update</p>