



APPROVED MINUTES

August 19, 2021 Standards Committee Meeting

September 23, 2021

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Minutes from the August 19, 2021 Standards Committee Meeting

The Standards Committee meeting was called to order by Mr. Pankow, Chair, at 09:02 a.m. on August 19, 2021, which was held virtually via *Teams* (Microsoft application). The meeting was adjourned at 09:34 a.m.

The following committee members were in attendance:

Gregory Pankow, Chairman, Director, Construction Management
John Wooden, Contract Administration Division
Dave Boruff, Traffic Engineering
Peter White, Bridge Engineering
Joseph Novak, Construction Management
Kumar Dave, Pavement Engineering
Jim Reilman, Materials and Tests
Michael Koch, District Construction, Fort Wayne District
Mark Orton, Highway Engineering
Kurt Pelz, Construction Technical Support
Louis Feagans, Engineering and Asset Management

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

Awwad, Nathan, INDOT	Nelson, Mike, INDOT
Bazlamit, Subhi, INDOT	Osborn, Dan, ICI
Blanchard, Jacob, INDOT	Patterson, Patrick, INDOT
Craig, Patrick, INDOT	Pressler, Corey, INDOT
Camarata, Rebecca, INDOT	Podorvanova, Lana, INDOT
Duncan, Thomas, FHWA	Ritter, John, INDOT
Fegan, Roland, INDOT	Russell, Melissa, INDOT

Fisher, Steve, INDOT
Mouser, Elizabeth, INDOT
Mueller, Bart, INDOT

Stickney, Daniel, INDOT
Trammell, Scott, INDOT

The following items were discussed:

A. GENERAL BUSINESS ITEMS

OLD BUSINESS (No items were listed)

NEW BUSINESS

1. *Approval of the Minutes from the July 15, 2021 meeting*

DISCUSSION: Mr. Pankow requested a motion to approve the Minutes from the July 15, 2021 meeting. Mr. Boruff mentioned minor revisions regarding the minimum turn language for the anchor bolts, which have been incorporated into those minutes.

Motion: Mr. Novak
Second: Mr. Boruff
Ayes: 10
Nays: 0

ACTION: PASSED AS REVISED

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 (No items were listed)

NEW BUSINESS

Item No. 1 (2022 SS) Mr. Reilman pg 4

2022 Standard Specifications
731.03

Design Criteria

ACTION: PASSED AS SUBMITTED

Item No. 2 (2022 SS) Mr. Reilman pg 9

2022 Standard Specifications
910.02(g) High Strength Bolts, Nuts, and Washers

ACTION: PASSED AS REVISED

Item No. 3 (2022 SS) Mr. Reilman pg 13

2022 Standard Specifications
410.14 Spreading and Finishing

ACTION: PASSED AS SUBMITTED

Item No. 4 (2022 SS) Mr. Reilman pg 17

2022 Standard Specifications
410.20 Appeals

ACTION: PASSED AS SUBMITTED

Item No. 5 (2022 SS) Mr. Reilman pg 21

2022 Standard Specifications
502.03 Concrete Mix Design
506.03 Concrete Mix Design
702.05 Proportioning

ACTION: PASSED AS REVISED

cc: Committee Members
FHWA
ICI

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

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: MSE wall embedment and bench encasement requires minimum of 6 inches of encasement which has constructability issues.

PROPOSED SOLUTION: Minimum encasement of 12 inches in accordance with 203.09.

APPLICABLE STANDARD SPECIFICATIONS: 731

APPLICABLE STANDARD DRAWINGS: NA

APPLICABLE DESIGN MANUAL SECTION: NO

APPLICABLE SECTION OF GIFE: NO

APPLICABLE RECURRING SPECIAL PROVISIONS: NO

PAY ITEMS AFFECTED: NO

APPLICABLE SUB-COMMITTEE ENDORSEMENT: INDOT Wall Committee.

IMPACT ANALYSIS (attach report): N/A

Submitted By: Jim Reilman for Aamir Turk

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317-522-9692

Date: 7/20/21

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? 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? NO

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? 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:

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REVISION TO STANDARD SPECIFICATIONS

SECTION 731 – MECHANICALLY STABILIZED EARTH RETAINING WALLS

731.03 Design Criteria

The Standard Specifications are revised as follows:

SECTION 731, BEGIN LINE 64, DELETE AS FOLLOWS:

731.03 Design Criteria

The internal, external, and compound stability shall be the responsibility of the Contractor. The global stability of the wall mass will be the responsibility of the Engineer.

The Contractor shall use the information supplied in the contract documents including but not limited to the plans and the geotechnical report when designing the wall. The design of the wall including the internal, external, and compound stability shall be in accordance with the AASHTO LRFD Bridge Design Specifications and the requirements specified herein.

The splay angle of soil reinforcement measured from a line perpendicular to the wall face, in order to avoid an obstruction, shall not be more than 15°. The tensile capacity of the splayed reinforcement shall be reduced by the cosine of the splay angle.

The design for internal stability shall include connection strength design. Each design case shall present maximum tension capacity, soil overburden pressure, and horizontal pressure at each reinforcement level, pullout capacity at each reinforcement level, the length of embedment in the resisting zone, and the total length of reinforcement at each level.

The design for the external stability shall include applied bearing pressure, overturning, sliding, and stability of temporary construction slopes.

The design for the compound stability shall include the slope present on top of and at the toe of the MSE wall.

The value of the pullout resistance factor, F^* , used in design calculations shall be obtained from AASHTO LRFD Bridge Design Specifications figure 11.10.6.3.2-2.

The minimum embedment at the front face of the wall shall be in accordance with the AASHTO LRFD Bridge Design Specifications, section 11.10.2.2. However, the minimum embedment depth to the top of the leveling pad shall never be less than 3 ft unless founded on rock. A 4 ft horizontal bench in front of the wall shall be provided for slopes steeper than 4.0H:1.0V.

The embedment and bench material, at the front face of the wall, shall match the structural backfill material used for the wall and shall be encased in accordance with 203.09. ~~It shall be 6 in. minimum depth measured perpendicular to the face of the slope.~~

REVISION TO STANDARD SPECIFICATIONS

SECTION 731 – MECHANICALLY STABILIZED EARTH RETAINING WALLS

731.03 Design Criteria

Geotextiles, Type IB, in accordance with 918.02(a), shall be installed over the bench material in accordance with 616.11. The embedment and bench shall be daylighted at the bottom of the slope with uniform riprap placed at a minimum 12 in. depth for erosion control.

An MSE wall shall be designed for a service life of 75 years.

APPROVED MINUTES

COMMENTS AND ACTION

731.03 Design Criteria

DISCUSSION:

This item was introduced and presented by Mr. Reilman who stated that MSE wall embedment and bench encasement requires a minimum of 6 inches of encasement which has constructability issues.

Mr. Reilman proposed to revise 731 language to require a minimum encasement of 12 inches in accordance with 203.09, as shown.

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

<p>Motion: Mr. Reilman Second: Mr. Dave Ayes: 10 Nays: 0 FHWA Approval: <u>YES</u></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:</p>	<p><input checked="" type="checkbox"/> 2024 Standard Specifications</p>
<p>731.03 pg 825.</p>	<p><input type="checkbox"/> Revise Pay Items List</p>
<p>Recurring Special Provision affected:</p>	<p><input checked="" type="checkbox"/> Create RSP (No. <u>731-R-xxx</u>) Effective: <u>March 1, 2022</u> RSP Sunset Date: <u>2024 SS book</u></p>
<p>NONE</p>	<p><input type="checkbox"/> Revise RSP (No. __) Effective: RSP Sunset Date:</p>
<p>Standard Drawing affected:</p>	<p><input type="checkbox"/> Standard Drawing Effective:</p>
<p>NONE</p>	<p><input type="checkbox"/> Create RPD (No. __) Effective:</p>
<p>Design Manual Sections affected:</p>	<p><input type="checkbox"/> GIFE Update <input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update</p>
<p>NONE</p>	<p><input type="checkbox"/> GIFE Update <input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update</p>
<p>GIFE Sections cross-references:</p>	<p><input type="checkbox"/> GIFE Update <input type="checkbox"/> Frequency Manual Update <input type="checkbox"/> SiteManager Update</p>
<p>NONE</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: Changing the word coated in the 910.02(g)1 paragraph to the method of galvanization has resulted in confusion with steel fabricators on whether type 3 hardware needs to be galvanized.

PROPOSED SOLUTION: rework the paragraph so the meaning and intent is clear.

APPLICABLE STANDARD SPECIFICATIONS: 910.02(g)1

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: Ad Hoc: Nate Pfeiffer, Jim Reilman

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

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317-522-9692

Date: 7/21/21

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? N/A

Construction time? N/A

Customer satisfaction? Yes

Congestion/travel time? N/A

Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? 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? 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 910 – METAL MATERIALS

910.02(g) High Strength Bolts, Nuts, and Washers

The Standard Specifications are revised as follows:

SECTION 910, BEGIN LINE 224, DELETE AND INSERT AS FOLLOWS:

(g) High Strength Bolts, Nuts, and Washers

1. General Use

High strength heavy hex bolts shall be in accordance with ASTM F3125, grade A325. *When used with weathering grades of steel, the bolts shall be Type 3 bolts shall be provided if the structural steel is to remain unpainted.* High strength heavy hex nuts shall be of the grade and finish specified in ASTM F3125 and ASTM A563. Washers shall be of the type specified in ASTM F3125 and ASTM F436. ~~The bolts, nuts, and washers~~ *Type 1 bolts, and the nuts and washers used with these bolts,* shall be either hot dip galvanized in accordance with ASTM F2329 or mechanically galvanized in accordance with ASTM B695, Class 55.

APPROVED MINING

COMMENTS AND ACTION

910.02(g) High Strength Bolts, Nuts, and Washers

DISCUSSION:

Mr. Reilman introduced and presented this item stating that changing the word “coated” in the 910.02(g)1 paragraph to the method of galvanization has resulted in confusion with steel fabricators on whether type 3 hardware needs to be galvanized.

Mr. Reilman proposed to rework the language, as shown, so the meaning and intent is clear.

Minor revisions are as shown following a brief discussion about weathering grades of steel.

Mr. Reilman revised his motion. Seconded by Mr. Dave.

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

Motion: Mr. Reilman Second: Mr. Novak Ayes: 10 Nays: 0 FHWA Approval: <u>YES</u>	Action: <input type="checkbox"/> Passed as Submitted <input checked="" type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn
Standard Specifications Sections referenced and/or affected: 910.02(g) pg 1050.	<input checked="" type="checkbox"/> 2024 Standard Specifications <input type="checkbox"/> Revise Pay Items List
Recurring Special Provision references in: NONE	<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: vibratory roller restrictions that passed the 6/20/2013 standards committee were incorporated into a RSP for when density was waived. It appears the RSP was inadvertently incorporated into the 2016 SS .

PROPOSED SOLUTION: restore the original roller language (and update it to include oscillatory roller language that has been added since).

APPLICABLE STANDARD SPECIFICATIONS: 410.14

APPLICABLE STANDARD DRAWINGS: NA

APPLICABLE DESIGN MANUAL SECTION: NA

APPLICABLE SECTION OF GIFE: NA

APPLICABLE RECURRING SPECIAL PROVISIONS: NA

PAY ITEMS AFFECTED: NA

APPLICABLE SUB-COMMITTEE ENDORSEMENT: APAI Steering Committee

IF APPROVED AS RECURRING SPECIAL PROVISION OR PLAN DETAILS, PROPOSED BASIS FOR USE:
Any 410 pay item

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT Materials and Tests

Phone Number: 317-522-9692

Date: 7/22/21

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? N

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

Will this proposal improve:

Construction costs? N

Construction time? N

Customer satisfaction? N

Congestion/travel time? N

Ride quality? N

Will this proposal reduce operational costs or maintenance effort? Y

Will this item improve safety:

For motorists? N

For construction workers? N

Will this proposal improve quality for:

Construction procedures/processes? Y

Asset preservation? Y

Design process? N

Will this change provide the contractor more flexibility? Y

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

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

Is this proposal needed for compliance with:

Federal or State regulations? N

AASHTO or other design code? N

Is this item editorial? N

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

REVISION TO STANDARD SPECIFICATIONS

SECTION 410 – QC/QA HMA – SMA PAVEMENT

410.14 Spreading and Finishing

The Standard Specifications are revised as follows:

SECTION 410, BEGIN LINE 285, INSERT AS FOLLOWS:

The rollers shall be operated to avoid shoving of the SMA and at speeds not to exceed 3 mph. Rollers shall be in accordance with 409.03(d)1, 2, or 7. Vibratory rollers meeting the requirements of 409.03(d)4 may be used but shall not be operated in vibratory mode, *except the vibratory mode may be used on the first pass to the paver*. Oscillatory rollers in accordance with 409.03(d)5 will be allowed for use but the vertical impact force capability shall not be used, *except the vertical impact force capability may be used on the first pass to the paver*.

APPROVED MINUTES

COMMENTS AND ACTION

410.14 Spreading and Finishing

DISCUSSION:

This item was introduced and presented by Mr. Reilman who stated that vibratory roller restrictions that passed the 6/20/2013 standards committee meeting were incorporated into a RSP for when density was waived. It appears the RSP was inadvertently incorporated into the 2016 SS.

Mr. Reilman proposed to restore the original roller language, and update it to include oscillatory roller language that has since been added.

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

<p>Motion: Mr. Reilman Second: Mr. Novak Ayes: 10 Nays: 0 FHWA Approval: <u>YES</u></p>	<p>Action:</p> <p><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:</p> <p>410.14 pg 358.</p>	<p><input checked="" type="checkbox"/> 2024 Standard Specifications <input type="checkbox"/> Revise Pay Items List</p>
<p>Section 410, Recurring Special Provision, effective December 1, 2021:</p> <p>410-R-738 QC/QA HMA – SMA Pavement</p>	<p><input type="checkbox"/> Create RSP (No. __) Effective: RSP Sunset Date:</p>
<p>Standard Drawing affected:</p> <p>NONE</p>	<p><input checked="" type="checkbox"/> Revise RSP (No. 410-R-738) Effective: <u>March 1, 2022</u> RSP Sunset Date: <u>2024 SS book</u></p>
<p>Design Manual Sections affected:</p> <p>NONE</p>	<p><input type="checkbox"/> Standard Drawing Effective:</p>
<p>GIFE Sections cross-references:</p> <p>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: It appears that a sentence that should have been deleted from 410.20 was inadvertently left in the spec when another sentence on the same topic was added.

PROPOSED SOLUTION: Delete one of the sentences to eliminate confusion.

APPLICABLE STANDARD SPECIFICATIONS: 410.20

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:
none

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317-522-9692

Date: 7/27/21

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? N/A

Construction time? N/A

Customer satisfaction? Yes

Congestion/travel time? N/A

Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? 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? 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? possibly

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

REVISION TO STANDARD SPECIFICATIONS

SECTION 410 – QC/QA HMA – SMA PAVEMENT

410.20 Appeals

The Standard Specifications are revised as follows:

SECTION 410, BEGIN LINE 454, DELETE AS FOLLOWS:

410.20 Appeals

If the QC test results do not agree with the acceptance test results, a request, along with the QC test results, may be made in writing for additional testing. Additional testing may be requested for one or more of the following tests: binder content, gradation, or MSG of the mixture samples and bulk specific gravity of the density cores. ~~The appeal request shall be submitted within seven calendar days of receipt of the Department's written results for that subplot.~~ The request for the appeal for MSG, BSG of the density cores or binder content and gradation shall be submitted within seven calendar days of receipt of the Department's written results for that subplot. The subplot and specific tests shall be specified at the time of the appeal request. Only one appeal request per subplot is allowed. Upon approval of the appeal, the Engineer will perform additional testing.

APPROVED MINNESOTA

COMMENTS AND ACTION

410.20 Appeals

DISCUSSION:

Mr. Reilman introduced and presented this item stating that a sentence that should have been deleted from 410.20 was inadvertently left in the spec when another sentence on the same topic was added.

Mr. Reilman proposed to delete one of the sentences to eliminate confusion, and to eliminate the redundancy.

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

<p>Motion: Mr. Reilman Second: Mr. Dave Ayes: 10 Nays: 0 FHWA Approval: <u>YES</u></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: 410.20 pg 363.</p>	<p><input checked="" type="checkbox"/> 2024 Standard Specifications <input type="checkbox"/> Revise Pay Items List</p>
<p>Section 410, Recurring Special Provision effective December 1, 2021: 410-R-738 QC/QA HMA – SMA Pavement</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: <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: Specification changes requiring a new optimized aggregate gradation in accordance with ITM 226 were enacted in January 2021 and were to become effective with September 2021 lettings. Recently Materials and Tests was made aware of issues with the pumpability of concrete containing too much 1" size aggregate as well as market forces beyond the Department's control which will limit the amount of this specific aggregate gradation that is available.

PROPOSED SOLUTION: Make the use of an optimized aggregate gradation optional in 506 and 702 concrete. Also have the use of an optimized aggregate gradation optional for 502 concrete used in 605, 610, 715.12, and 801.11 applications. Have the provision available for September contracts.

APPLICABLE STANDARD SPECIFICATIONS: 506.03, 605.02, 610.02, 702.05, 715.12, & 801.11

APPLICABLE STANDARD DRAWINGS: NA

APPLICABLE DESIGN MANUAL SECTION: NA

APPLICABLE SECTION OF GIFE: NA

APPLICABLE RECURRING SPECIAL PROVISIONS: create new provision

PAY ITEMS AFFECTED: NA

APPLICABLE SUB-COMMITTEE ENDORSEMENT: None

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

Since there are numerous sections that reference 702 for concrete, I suggest the BFU as "All contracts".

IMPACT ANALYSIS (attach report):

Submitted By: Jim Reilman

Title: State Materials Engineer

Organization: INDOT Materials and Tests

Phone Number: 317-522-9692

Date: 8/10/21

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? N

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

Will this proposal improve:

Construction costs? N

Construction time? N

Customer satisfaction? N

Congestion/travel time? N

Ride quality? N

Will this proposal reduce operational costs or maintenance effort? N

Will this item improve safety:

For motorists? N

For construction workers? N

Will this proposal improve quality for:

Construction procedures/processes? N

Asset preservation? N

Design process? N

Will this change provide the contractor more flexibility? Y

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

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

Is this proposal needed for compliance with:

Federal or State regulations? N

AASHTO or other design code? N

Is this item editorial? N

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

REVISION TO STANDARD SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS

702-R-xxx USE OF OPTIMIZED AGGREGATE GRADATION IN CONCRETE (PROPOSED NEW)

Standard Specifications:

SECTION 502 - PORTLAND CEMENT CONCRETE PAVEMENT, PCCP

502.03 Concrete Mix Design

SECTION 506 – PCCP PATCHING

506.03 Concrete Mix Design

SECTION 702 – STRUCTURAL CONCRETE

702.05 Proportioning

~~702-R-xxx USE OF OPTIMIZED AGGREGATE GRADATION IN CONCRETE—OPTIONAL FOR CERTAIN APPLICATIONS~~

(Adopted xx-xx-21)

The Standard Specifications are revised as follows:

SECTION 502, BEGIN LINE 22, DELETE AND INSERT AS FOLLOWS:

502.03 Concrete Mix Design

A concrete mix design submittal, CMDS, shall be in accordance with 502.04. The CMDS shall be submitted to the DTE. The CMDS shall be submitted a minimum of seven calendar days prior to production. The CMDS shall use the Department provided spreadsheet and shall include the following:

- (a) a list of all ingredients
- (b) the source of all materials
- (c) the fine to total aggregate ratio
- (d) the absorption of the aggregates
- (e) the SSD bulk specific gravity of the aggregates
- (f) the specific gravity of pozzolan
- (g) the batch weights
- (h) the names of all admixtures
- (i) the admixture dosage rates and the manufacturer's recommended range.

The aggregate blend ~~submitted~~ on the CMDS shall ~~shall~~ produce an optimized aggregate gradation in accordance with ITM 226 sections 6.2.1 and 6.3. ~~The aggregate blend~~ *If an optimized aggregate gradation is used, it shall consist of, at a minimum, one concrete coarse aggregate and one fine aggregate, No. 23. One additional class A or higher intermediate-sized coarse aggregate may be included if approved by the Engineer.*

SECTION 506, BEGIN LINE 53, DELETE AND INSERT AS FOLLOWS:

506.03 Concrete Mix Design

A concrete mix design submittal, CMDS, shall be in accordance with 506.04. The CMDS shall be submitted to the DTE. The CMDS shall be submitted a minimum of seven calendar days prior to the trial batch. The CMDS shall use the Department provided spreadsheet and shall include the following:

- (a) a list of all ingredients, including the type of CSA cement, if

REVISION TO STANDARD SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS

702-R-xxx USE OF OPTIMIZED AGGREGATE GRADATION IN CONCRETE (PROPOSED NEW)

Standard Specifications:

SECTION 502 - PORTLAND CEMENT CONCRETE PAVEMENT, PCCP

502.03 Concrete Mix Design

SECTION 506 – PCCP PATCHING

506.03 Concrete Mix Design

SECTION 702 – STRUCTURAL CONCRETE

702.05 Proportioning

- applicable
- (b) the source of all materials
- (c) the fine to total aggregate ratio
- (d) the absorption of the aggregates
- (e) the SSD bulk specific gravity of the aggregates
- (f) the specific gravity of pozzolan
- (g) the batch weights
- (h) the names of all admixtures
- (i) the admixture dosage rates and the manufacturer’s recommended range.

The aggregate blend ~~submitted~~ on the CMDS ~~shall~~ may produce an optimized aggregate gradation in accordance with ITM 226, sections 6.2.1 and 6.3. ~~The aggregate blend~~ *If an optimized aggregate gradation is used, it shall consist of, at a minimum, one concrete coarse aggregate and one fine aggregate, No. 23. One additional class A or higher intermediate-sized coarse aggregate may be included if approved by the Engineer.*

~~SECTION 605, BEGIN LINE 10, INSERT AS FOLLOWS:~~

605.02 Materials

Materials shall be in accordance with the following:

Coarse Aggregate, Class D or Higher, Size No. 53	904.03
Concrete	502*
Joint Materials	906
Joint Mortar	907.12
Precast Concrete Curbing	905.04
Reinforcing Bars	910.01

** Use of an optimized aggregate gradation is the Contractor’s option.*

~~SECTION 610, BEGIN LINE 12, DELETE AND INSERT AS FOLLOWS:~~

610.02 Materials

Materials shall be in accordance with the following:

Aggregate Base	301.02
HMA	402.03
PCCP	502.02*
Prime Coat	405.02

REVISION TO STANDARD SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS

702-R-xxx USE OF OPTIMIZED AGGREGATE GRADATION IN CONCRETE (PROPOSED NEW)

Standard Specifications:

SECTION 502 - PORTLAND CEMENT CONCRETE PAVEMENT, PCCP

502.03 Concrete Mix Design

SECTION 506 – PCCP PATCHING

506.03 Concrete Mix Design

SECTION 702 – STRUCTURAL CONCRETE

702.05 Proportioning

Seal Coat.....	404
Subbase.....	302.02
Tack Coat.....	406.02

** Use of an optimized aggregate gradation is the Contractor's option.*

SECTION 702, BEGIN LINE 64, DELETE AND INSERT AS FOLLOWS:

702.05 Proportioning

Control of PCC for air content, slump, or relative yield will be determined on the basis of tests performed by the Engineer. Concrete and necessary labor for sampling shall be furnished by the Contractor as required by the Engineer. Testing will be in accordance with the Frequency Manual.

A CMDS shall be submitted seven calendar days prior to production and be approved by the Engineer on the Department provided spreadsheet. The absolute volume of the mix design shall be 27.0 cu ft at the design air content of 6.5%.

The aggregate blend ~~submitted~~ on the CMDS ~~shall~~ may produce an optimized aggregate gradation in accordance with ITM 226 sections 6.2.1 and 6.3. ~~The aggregate blend~~ *If an optimized aggregate gradation is used, it shall consist of, at a minimum, one concrete coarse aggregate and one fine aggregate, No. 23. One additional class A or higher for exposed or class B or higher for non-exposed intermediate-sized coarse aggregate may be included if approved by the Engineer.*

~~SECTION 715, BEGIN LINE 446, INSERT AS FOLLOWS:~~

715.12 Pavement Replacement

Where a structure is to be placed under an existing pavement, the pavement removal and replacement shall be as shown on the plans.

The pavement replacement areas in asphalt pavements shall be filled with HMA for Structure Installation of the mixture type specified in the pay item in accordance with 402 except OG mixtures shall be in accordance with 401.05. An MAF in accordance with 402.05 will not apply. Mixtures will be accepted in accordance with 402.09. Each course shall be compacted by approved mechanical equipment in accordance with 409.03(d).

The pavement replacement areas in Portland Cement Concrete pavements shall be filled with PCCP in accordance with 502 except utilization of the Department provided

REVISION TO STANDARD SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS

702-R-xxx USE OF OPTIMIZED AGGREGATE GRADATION IN CONCRETE (PROPOSED NEW)

Standard Specifications:

SECTION 502 - PORTLAND CEMENT CONCRETE PAVEMENT, PCCP

502.03 Concrete Mix Design

SECTION 506 – PCCP PATCHING

506.03 Concrete Mix Design

SECTION 702 – STRUCTURAL CONCRETE

702.05 Proportioning

spreadsheet is not required for the CMDS ~~and the use of an optimized aggregate gradation is the Contractor's option.~~

Partial loads of HMA or PCCP left over from structure installation processes shall not be incorporated into other work.

~~SECTION 801, BEGIN LINE 537, INSERT AS FOLLOWS:~~

801.11 Temporary Crossovers

Temporary crossovers shall be either type A or type B as shown on the plans and shall be constructed in accordance with the applicable sections of 207, 402 or 502. If applicable, a CMDS shall be submitted to the Engineer for approval. Utilization of the Department provided spreadsheet is not required. ~~Use of an optimized aggregate gradation in 502 concrete is the Contractor's option.~~ When required to maintain median drainage, a 15 in. diameter pipe shall be placed at the centerline of the median under the crossover. If the crossover is to remain in place for future construction, the pipe shall have appropriate grated box ends in accordance with 715.

COMMENTS AND ACTION

502.03 Concrete Mix Design

506.03 Concrete Mix Design

702.05 Proportioning

DISCUSSION:

This item was introduced and presented by Mr. Reilman who explained that specification changes requiring a new optimized aggregate gradation in accordance with ITM 226 were enacted in January 2021, and were to become effective with September 2021 lettings. Recently, Materials and Tests was made aware of issues with the pumpability of concrete containing too much 1 in. size aggregate as well as market forces beyond the Department's control which will limit the amount of this specific aggregate gradation that is available.

Mr. Reilman proposed to make the use of an optimized aggregate gradation optional in 506 and 702 concrete. Also, to have the use of an optimized aggregate gradation optional for 502 concrete used in 605, 610, 715.12, and 801.11 applications. The intention is to have the provision available for September contracts.

Prior to the meeting, Mr. Reilman and Mr. Nelson reviewed an Addendum 1 to the Agenda for this meeting and have found a way to simplify and clarify proposed changes. The changes, as shown in these minutes, include minor changes to 502, 506, and 702 which were explained by Mr. Reilman. And with those new changes, the changes proposed to 605, 610, 715, and 801 are no longer necessary, and have been shown as stricken.

Mr. Reilman revised his motion. Seconded by Mr. Boruff.

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

COMMENTS AND ACTION

502.03 Concrete Mix Design
 506.03 Concrete Mix Design
 702.05 Proportioning

[continued]

<p>Motion: Mr. Reilman Second: Mr. White Ayes: 10 Nays: 0 FHWA Approval: <u>YES</u></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: 502.03 pg 422 506.03 pg 446, 702.05 pg 619-620,</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-739</u>) Effective: <u>November 1, 2022</u> RSP Sunset Date: <u>2024 SS book</u></p>
<p>Recurring Special Provision (eff. 12-01-2021, covering same section):</p>	
<p>Standard Drawing affected: NONE</p>	<p><input type="checkbox"/> Revise RSP (No. <u> </u>) 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. <u> </u>) Effective:</p>
	<p><input type="checkbox"/> GIFE Update <input checked="" type="checkbox"/> Frequency Manual Update <input checked="" type="checkbox"/> SiteManager Update</p>