MINUTES
OF
IOWA DOT SPECIFICATION COMMITTEE MEETING

July 12, 2018

Members Present:	Darwin Bishop	District 3 - Construction
	Jeff Devries	District 1 - Materials
	Mark Dunn	Office of Contracts
	Daniel Harness	Office of Design
	Eric Johnsen, Secretary	Specifications Section
	Wes Musgrove	Office of Construction & Materials
	Gary Novey	Office of Bridges & Structures
	Tom Reis, Chair	Specifications Section
Members Not Present:	Donna Buchwald	Office of Local Systems
	Mark Brandl	District 6 - Davenport RCE
	Charlie Purcell	Project Delivery Bureau
	Willy Sorensen	Office of Traffic & Safety
Advisory Members Present:	Paul Wiegand	SUDAS
Others Present:	Matthew Herman	Specifications Section
	Jeff Schmitt	Office of Construction & Materials

The Specification Committee met on Thursday, July 12, 2018, at 9:00 a.m. in the NW Wing, 1st Floor Conference Room. Tom Reis, Specifications Engineer, opened the meeting. The items were discussed in accordance with the agenda dated June 29, 2018:

The minutes are as follows:

1. Article 2403.02, B, 2, c, Water and Consistency (Structural Concrete).

The Office of Construction and Materials requested to eliminate language from the specifications conflicting with Materials I.M. 529.

2. Article 2412.02, G, Materials (Concrete Bridge Decks).

The Office of Construction and Materials requested to specify a higher target air content when using a belt conveyor.

3. Article 2419.02, A, 1, Aggregates (Precast Concrete Units).

The Office of Construction and Materials requested to eliminate blended cement requirement for precast concrete units using Class V aggregate.

4. Section 2557, Continuous Trench Drain.

The Office of Design requested to add specifications for continuous trench drain.

5. **Article 4118.03, Bedding Material for Non-Primary Road Projects.**

The Office of Construction and Materials requested to allow the use of higher quality PCC aggregate with no additional testing.

6. **Article 4130.02, B, Revetment Gradation.**

The Office of Construction and Materials requested to clarify the gradation requirements for Class D revetment.

7. **Article 4151.02, B, Pavement Reinforcement.**

The Office of Construction and Materials requested to allow use of tubular dowels for load transfer assemblies.

8. **Article 4171.02, D, General (Detectable Warnings).**

Article 4171.03, Polymer Detectable Warning Panels.

The Office of Design requested to clarify detectable warning specifications.

9. **DS-15063, High Performance Thin Lift Overlay.**

The Office of Construction and Materials requested revisions to the Developmental Specifications for High Performance Thin Lift Overlay.

10. **SS-15009, Supplemental Specifications for Hot Mix Asphalt Interlayer.**

The Office of Construction and Materials requested revisions to the Supplemental Specifications for Hot Mix Asphalt Interlayer.

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Todd Hanson	**Office:** Construction & Materials	**Item 1**
Submittal Date: June 2018	**Proposed Effective Date:** April 2019	
Article No.: 2403.02, B, 2, c **Title:** Structural Concrete	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 7/12/2018	**Effective Date:** 4/16/2019

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2403.02, B, 2, c.

Replace the last sentence and **delete** Table 2403.03-1:

Free moisture in the aggregate plus total mixing water shall not exceed that shown in ~~Table 2403.03-1~~ Materials I.M. 529.

~~**Table 2403.03-1: Mixing Water and Free Moisture**~~

~~Class of Concrete~~	~~Pounds of Water per Pound of Cementitious Material~~
~~C Separated Aggregate~~	~~0.488~~
~~X Separated Aggregate~~	~~0.444~~
~~C with Class V Aggregate~~	~~0.444~~
~~X with Class V Aggregate~~	~~0.422~~
~~D57~~	~~0.437~~

Comments:

Member's Requested Change: **(Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)**

2403.02.B.2.C MATERIALS.

c. If the characteristics of the materials used are so that the required consistency is not secured within the specified maximum water content, increase the proportions of cement to aggregate as necessary to secure the required consistency within the specified maximum water content. Additional cement will be considered as incidental, and no additional payment will be allowed. Free moisture in the aggregate plus the total mixing water shall not exceed that shown in Materials I.M. 529 ~~Table 2403.03-1~~.

~~**Table 2403.03-1: Mixing Water and Free Moisture**~~

~~Class of Concrete~~	~~Pounds of Water per Pound of Cementitious Material~~
~~C Separated Aggregate~~	~~0.488~~
~~X Separated Aggregate~~	~~0.444~~
~~C with Class V Aggregate~~	~~0.444~~
~~X with Class V Aggregate~~	~~0.422~~
~~D57~~	~~0.437~~

Reason for Revision: Table in 2403 table w/c ratio values conflict with IM 529. This table was used when the mix design was included in 2403, which is not needed since mix designs were moved to IM 529.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X
Comments:		
County or City Comments:		
Industry Comments:		

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Todd Hanson	**Office:** Construction & Materials	**Item 2**
Submittal Date: June 2018	**Proposed Effective Date:** April 2019	
Article No.: 2412.02, G **Title:** Concrete Bridge Decks	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 7/12/2018	**Effective Date:** 4/16/2019

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:
2412.02, G.

Replace the Article:

Meet requirements of Article 2403.02, B, 3, for entrained air content. When concrete is placed by pumping or belt conveyor, use a target value of 7.5% plus or minus 2.0%.

Comments:

Member's Requested Change: (Do not use **'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight**.)

2412.02 MATERIALS.

G. Meet requirements of Article 2403.02.B.3 for entrained air content. When concrete is placed by pumping or belt conveyor, use a target value of 7.5% +/-2.0%.

Reason for Revision: IRMCA members have found similar air loss issues when bridge decks are placed by pumping or belting. Add belting to paragraph G.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments:

County or City Comments:

Industry Comments: Discussed at May 2018 IRMCA tech meeting. Issues with air loss when belting concrete on the deck are similar to pumping.

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IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Mahbub Khoda / Todd Hanson	**Office:** Construction & Materials	**Item 3**
Submittal Date: June 2018	**Proposed Effective Date:** April 2019	
Article No.: 2419.02, A, 1 **Title:** Precast Concrete Units	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 7/12/2018	**Effective Date:** 4/16/2019

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2419.02, A, 1.

Replace the Article:

Apply Sections 4110, 4111, 4115, and 4117, except gradation requirements of Articles 4110.02 and 4115.03 and cement requirements of Article 4117.05.

Comments:

Member's Requested Change: **(Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)**

2419.02 MATERIALS.
Use materials meeting requirements of Division 41 for respective material, and the following:

A. Aggregates.

1. Apply Sections 4110, 4111, 4115, and 4117, except gradation requirements of Articles 4110.02 and 4115.03 and cement requirements of 4117.05.

Reason for Revision: NDOR does not require blended cements for precast items. Precast plant in Nebraska produces items for Iowa and 4117.05 requires blended cements. Nebraska only requires for paving and structures.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments:

County or City Comments:

Industry Comments:

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SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Mike Kennerly / Daniel Harness	**Office:** Design	**Item 4**
Submittal Date: 6-25-2018	**Proposed Effective Date:** 4-16-2019	
Section No.: 2557 **Title:** Continuous Trench Drain	**Other:**	

Specification Committee Action: Approved with changes.

Deferred:	**Not Approved:**	**Approved Date:** 7/12/2018	**Effective Date:** 4/16/2019

Specification Committee Approved Text:

2435.01, B.

Replace the Article:

Construct storm sewer intakes and linear trench drains for collection of surface water and conveyance to storm sewer system.

2435.02, Materials.

Replace the Article:

Apply Articles 4149.04 and 4149.05.

2435.03, Construction.

Add the Article and **renumber** subsequent Articles:

D. Linear Trench Drain.

1. Install linear trench drain according to manufacturer's recommendation and contract documents.

2. Install casting certified for 40,000 pound proof load according to AASHTO M 306.

3. Use duct tape or wood block to cover drain during paving operations.

~~**D**~~ **E. Adjustment of Existing Manhole or Intake.**

~~**E**~~ **F. Connection to Existing Manhole or Intake.**

~~**F**~~ **G. Cleaning, Inspection, and Testing of Structures.**

2435.04, Method of Measurement.

Add the Article and **renumber** subsequent Articles:

C. Linear Trench Drain.

To the nearest foot.

~~**C**~~ **D. Drop Connection.**

~~D~~ E. Casting Extension Rings.

~~E~~ F. Manhole or Intake Adjustment, Minor.

~~F~~ G. Manhole or Intake Adjustment, Major.

~~G~~ H. Connection to Existing Manhole or Intake.

~~H~~ I. Cleaning, Inspection, and Testing.

2435.05, Basis of Payment.

Add the Article and **renumber** subsequent Articles:

C. Linear Trench Drain.

1. Payment will be at the contract unit price per linear foot.

2. Payment is full compensation for:
- **a.** Purchasing manufactured linear trench drain materials.
- **b.** Concrete to construct linear trench drain.
- **c.** Furnishing equipment, tools, and labor to construct linear trench drain.

3. Connection to manhole, pipe, or apron is incidental to Linear Trench Drain and will not be paid for separately.

~~C~~ D. Drop Connection.

~~D~~ E. Casting Extension Rings.

~~E~~ F. Manhole or Intake Adjustment, Minor.

~~F~~ G. Manhole or Intake Adjustment, Major.

~~G~~ H. Connection to Existing Manhole or Intake.

~~H~~ I. Cleaning, Inspection, and Testing.

4149, Sanitary and Storm Sewer Pipe and Structures Materials.

Add the Article:

4149.05 Linear Trench Drain.

A. Linear Trench Drain: A product supplied per Materials I.M. XXX.XX.

B. Concrete for Linear Trench Drain: Meet requirements of Section 2301.

Comments: Following the meeting, the Specifications Section and Office of Design decided to rename continuous trench drains to linear trench drains to more accurately reflect the item.

Also after the meeting, the Specifications Section and Office of Design decided to insert the linear trench drain specifications into the existing Section 2435, Sanitary and Storm Sewer Structures.

Bid item 2502-2308110, Continuous Trench Drain (500-20) will change to 2535-0252100, Linear Trench Drain (SW-521).

A Materials I.M. will need to be created to cover approval of manufacturers.

Specification Section Recommended Text:

2557, Continuous Trench Drain.

Add the Section:

2557.01, DESCRIPTION.

Construct a continuous trench drain designed, manufactured, and supplied by an approved manufacturer.

2557.02, MATERIALS.

A. Meet the specifications set forth by manufacturer.

B. Comply with Section 2301 for PCC concrete.

2557.03, CONSTRUCTION.

A. Install continuous trench drain according to manufacturer's recommendation and contract documents.

B. Install casting certified for 40,000 pound proof load according to AASHTO M 306.

C. Use duct tape or wood block to cover drain during paving operations

2557.04, METHOD OF MEASUREMENT.

Measurement for Continuous Trench Drain will be in linear feet.

2557.05, BASIS of PAYMENT.

A. Payment for Continuous Trench Drain will be the contract unit price per linear foot.

B. Payment is full compensation for:

1. Purchasing manufactured continuous trench drain materials.

2. PCC concrete to construct continuous trench drain.

3. Furnishing equipment, tools, and labor to construct continuous trench drain.

C. Connection to manhole, pipe, or apron is incidental to Continuous Trench Drain and will not be paid for separately.

Comments:

Member's Requested Change: **(Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)**

25XX, Continuous Trench Drain.

Add as a new section:

25XX.01, DESCRIPTION.

Construct a continuous trench drain designed, manufactured, and supplied by an approved manufacturer.

25XX.02, MATERIALS.

A. Meet the specifications set forth by the manufacturer.

B. Comply with Section 2301 for PCC concrete.

25XX.03, CONSTRUCTION.

A. Install continuous trench drain according to the manufacturer's recommendation and the contract documents.

B. Install casing certified for 40,000 pound proof load according to AASHTO M 306.

C. Use duct tape or wood block to cover drain during paving operations

25XX.04, METHOD OF MEASUREMENT.

Measurement for Continuous Trench Drain will be in linear feet.

25XX.05, BASIS of PAYMENT.

A. Payment for Continuous Trench Drain will be the contract unit price per linear foot.

B. Payment is full compensation for:

1. Purchasing the manufactured continuous trench drain materials.

2. PCC concrete to construct the continuous trench drain.

3. Furnishing all equipment, tools, and labor to construct the continuous trench drain.

C. Connection to manhole, pipe, or apron is incidental to Continuous Trench Drain and will not be paid for separately.

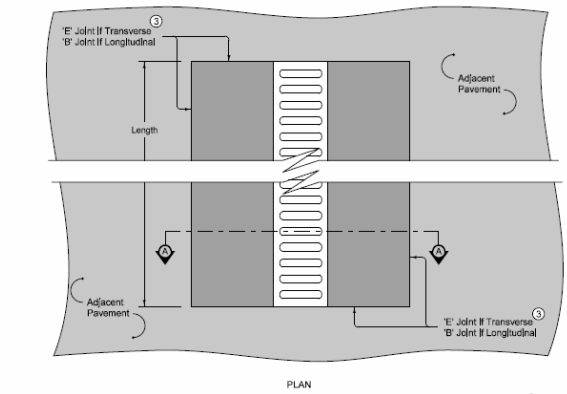
Reason for Revision: Detail 500-20 for Continuous Trench Drain has remained unchanged since 2013. The office of Design would like to convert this to a Standard Road Plan and move the notes into the Standard Specifications. Approved manufacturers will go into MAPLE.

New Bid Item Required (X one)	**Yes**	**No**
Bid Item Modification Required (X one)	**Yes X**	**No**
Bid Item Obsoletion Required (X one)	**Yes**	**No**

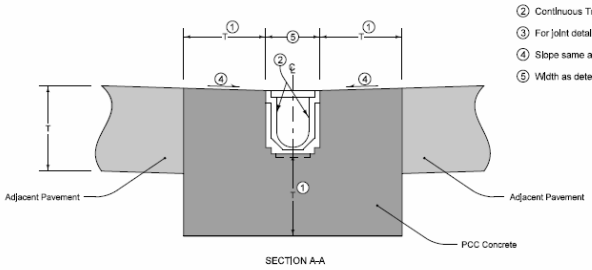
Comments: We will need to change the (500-20) in the bid item to the new standard number.

County or City Comments:

Industry Comments:



PLAN



SECTION A-A

1. Same as thickness of adjacent pavement.
2. Continuous Trench Drain.
3. For joint details, see PV-101.
4. Slope same as adjacent pavement.
5. Width as determined by manufacturer.

DESCRIPTION.
Construct a continuous trench drain designed, manufactured, and supplied by one of the following:

-Zurn Industries, Inc. or a designated distributor;

-ABT, Inc. or a designated distributor;

-Hubbell Power Systems, Inc. or a designated distributor.

MATERIALS.

A. Meet the specifications set forth by the manufacturer.

B. PCC concrete complying with Section 2301 of the Standard Specifications.

CONSTRUCTION.

A. Install continuous trench drain according to the manufacturer's recommendation and the contract documents.

B. Install casting certified for 40,000 pound proof-load according to AASHTO M 306.

C. Use duct tape or wood block to cover drain during paving operations.

METHOD OF MEASUREMENT.
Measurement for Continuous Trench Drain will be in linear feet.

BASIS OF PAYMENT.

A. Payment for Continuous Trench Drain will be the contract unit price per linear foot.

B. Payment is full compensation for:
-Purchasing the manufactured continuous trench drain materials.
-PCC concrete to construct the continuous trench drain.
-Furnishing all equipment, tools, and labor to construct the continuous trench drain.

C. Connection to manhole, pipe, or apron is incidental to Continuous Trench Drain.

Possible Contract Item:
Continuous Trench Drain

Possible Tabulation:
104-14

Iowa Department of Transportation
Highway Division

DETAIL SHEET 500-20

REVISION:	REVISION NO.	REVISION DATE
Length and T Dimensions, Attach Possible Tabulation and Possible Contact Item.	4	10-15-13

CONTINUOUS TRENCH DRAIN

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Bob Dawson	**Office:** Construction & Materials	**Item 5**
Submittal Date:	**Proposed Effective Date:** April 2019 GS	
Article No.: 4118.03 **Title:** Bedding Material for Non-Primary Road Projects	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 7/12/2018	**Effective Date:** 4/16/2019

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:
4118.03, Quality.

Replace Table 4118.03-1:

Table 4118.03-1: Coarse Aggregate Quality (Virgin Material)

Coarse Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	50	AASHTO T 96
C – Freeze [(a)]	20	Iowa DOT Materials Laboratory Test Method No. 211, Method C
A – Freeze [(a)]	6	Iowa DOT Materials Laboratory Test Method No. 211, Method A
Alumina [(a)]	0.5	Iowa DOT Materials Laboratory Test Method No. 222
(a) Meet at least one of the C – Freeze, A – Freeze, or Alumina requirements.		

Comments:

Member's Requested Change: (Do not use **'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.**)

4118.03 QUALITY.
The requirements of Table 4118.03-1 apply to individual virgin aggregates:

Table 4118.03-1: Coarse Aggregate Quality (Virgin Material)

Coarse Aggregate Quality	Maximum Percent Allowed	Test Method
Abrasion	50	AASHTO T 96
C – Freeze [(a)]	20	Iowa 211, Method C
A – Freeze [(a)]	6	Iowa 211, Method A
Alumina [(a)]	0.5	Iowa 222
(b) Meet either the C – Freeze, A – Freeze, or Alumina requirement.		

Reason for Revision: Allows the use of higher quality PCC concrete quality aggregate with no additional testing. The C-Freeze is not routinely run on PCC aggregate.

New Bid Item Required (X one)	**Yes**	**No** x

Bid Item Modification Required (X one)	**Yes**	**No** x
Bid Item Obsoletion Required (X one)	**Yes**	**No** x
Comments: Allows the sale of bedding material while making concrete stone		
County or City Comments:		
Industry Comments: Requested by the Aggregate Industry		

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IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Bob Dawson	**Office:** Construction & Materials	**Item 6**
Submittal Date:	**Proposed Effective Date:**	
Article No.: 4130.02, B **Title:** Revetment Gradation	**Other:**	

Specification Committee Action: Approved with changes.

Deferred:	**Not Approved:**	**Approved Date:** 7/12/2018	**Effective Date:** 4/16/2019

Specification Committee Approved Text:

4130.02, B.

Replace the Article:

~~Additional processing is not required for Class D material.~~ Mechanically process Class D and Class E material to remove material 3 inches and less.

Comments: The order of the revetment materials was switched.

Specification Section Recommended Text:

4130.02, B.

Replace the Article:

~~Additional processing is not required for Class D material.~~ Mechanically process Class E and Class D material to remove material 3 inches and less.

Comments:

Member's Requested Change: **(Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)**

Action: Delete first sentence

4130.02 REVETMENT GRADATION.

B. ~~Additional processing is not required for Class D material.~~ Mechanically process Class E and Class D material to remove material 3 inches and less.

Reason for Revision: This phrase was misinterpreted to mean Class D did not need to meet the gradation requirements.

New Bid Item Required (X one)	**Yes**	**No** x
Bid Item Modification Required (X one)	**Yes**	**No** x
Bid Item Obsoletion Required (X one)	**Yes**	**No** x

Comments:

County or City Comments:

Industry Comments:

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IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Kevin Merryman	**Office:** Construction & Materials	**Item 7**
Submittal Date: April 2018	**Proposed Effective Date:** April 2019	
Article No.: 4151.02, B **Title:** Pavement Reinforcement	**Other:**	

Specification Committee Action: Approved with changes.

Deferred:	**Not Approved:**	**Approved Date:** 7/12/2018	**Effective Date:** 4/16/2019

Specification Committee Approved Text:

4151.02, B, 1.

Replace the Article:

Use either of the following

a. Solid dowels.

Use plain round bars meeting requirements of:

- ASTM A 663, Grade 60 or higher,
- ASTM A 675, Grade 60 or higher, or
- ASTM A 615, Grade 40 or higher.

b. Tubular dowels.

1) Provide welded carbon and alloy steel tubular dowel bar meeting requirements of ASTM A 513, with a minimum wall thickness of 0.120 inches.

2) Galvanize exterior and interior of tubular dowel bars according to ASTM A 653 Coating Designation G90.

3) Cap ends of tubular dowel to prevent intrusion of concrete or other materials. Caps shall be manufacturer supplied and designed for this purpose.

4151.02, B, 3

Add as the second sentence:

Use tubular dowels in load transfer assemblies only.

Comments: The ASTM designation for galvanizing was revised to be more concise.

Specification Section Recommended Text:

4151.02, B, 1.

Replace the Article:

Use either of the following

a. Solid dowels.

Use plain round bars meeting requirements of:

- ASTM A 663, Grade 60 or higher,
- ASTM A 675, Grade 60 or higher, or
- ASTM A 615, Grade 40 or higher.

b. Tubular dowels.

- Provide welded carbon and alloy steel tubular dowel bar meeting requirements of ASTM A 513, with a minimum wall thickness of 0.120 inches.

- Galvanize exterior and interior of tubular dowel bars meeting ASTM A 653 G90 coverage zinc galvanized coating
- Cap ends of tubular dowel to prevent intrusion of concrete or other materials

4151.02, B, 3

Add as the second sentence:
Use tubular dowels in load transfer assemblies only.

Comments:

Member's Requested Change: **(Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)**

4151.02 PAVEMENT REINFORCEMENT.

B. Pavement Dowel Bars.

1. Use either of the following
a. Solid dowels
Use plain round bars meeting requirements of:
- ASTM A 663, Grade 60 or higher,
- ASTM A 675, Grade 60 or higher, or
- ASTM A 615, Grade 40 or higher.

b. Tubular dowels
- Provide welded carbon and alloy steel tubular dowel bar meeting the requirements of ASTM A 513, with a minimum wall thickness of 0.120 inches.
- Galvanize the exterior and interior of the tubular dowel bars meeting ASTM A 653 G90 coverage zinc galvanized coating
- Cap the ends of the tubular dowel to prevent intrusion of concrete or other materials

3. Furnish dowels, with the exceptions of end of run and header joints, in approved assemblies as shown in the contract documents. Use tubular dowels in load transfer assemblies only. Ensure all dowels, including end of run and header dowels, have an epoxy coating. Ensure the coating is applied by the electrostatic spray method complying with the requirements of AASHTO M 254, Type B, with a minimum coating thickness of 6 mils after cure. Epoxy powders approved for use are listed in Materials I.M. 451.03B, Appendix B. Perform welding and tack welding on reinforcement according to Article 4151.06..

Reason for Revision: To allow approval of tubular dowel basket

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments:

County or City Comments:

Industry Comments:

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Mike Kennerly / Mike Ross	**Office:** Design	**Item 8**
Submittal Date: 5/24/2018	**Proposed Effective Date:** 4/16/2019	
Article No.: 4171.02, D **Title:** General **Article No.:** 4171.03 **Title:** Polymer Detectable Warnings	**Other:**	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 7/12/2018	**Effective Date:** 4/16/2019

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

4171.02, D.

Replace the article:

Detectable warnings shall contrast visibly with ~~adjoining~~ adjacent surfaces, either light on dark or dark on light. Acceptable colors for polymer panels shall be Federal Yellow #33538 and Federal Brick Red #22144 (or approved equals). Detectable warning panels shall have a uniform color. ~~Surface applied coating shall be applied to panel at time of manufacture and shall be powder type and baked on the surface per manufacturer's recommendations. Field-applied surface coatings and/or paint will not be acceptable.~~

4171.03, Polymer Detectable Warning Panels.

Replace the 13th bullet:

Freeze Thaw - ASTM ~~D~~ C 1026 no cracking, delamination, or other defects.

Comments:

Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)

4171.02, D.

Replace the article:

Detectable warnings shall contrast visibly with adjacent ~~adjoining~~ surfaces, either light on dark or dark on light. Acceptable colors for polymer panels shall be Federal Yellow #33538 and Federal Brick Red #22144 (or approved equals). Detectable warning panels shall have a uniform color. ~~Surface applied coating shall be applied to panel at time of manufacture and shall be powder type and baked on the surface per manufacturer's recommendations. Field-applied surface coatings and/or paint will not be acceptable.~~

4171.03, Polymer Detectable Warning Panels.

Replace the 13th bullet:

- Freeze Thaw - ASTM ~~D~~C 1026 no cracking, delamination, or other defects.

Reason for Revision: 4171.02, D: Powder coating on metal panels does not stand up to environmental conditions and quickly wears off. This results in surface rust; however, the light to dark contrast is not affected. The need to powder coat has been determined to be unnecessary. Polymer panels are colored before being molded, so the color restrictions still apply. 4171.03: Correct a typo.		
New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X
Comments: FHWA has approved the proposed changes.		
County or City Comments:		
Industry Comments:		

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Jeff Schmitt	**Office:** Construction & Materials	**Item 9**
Submittal Date: 06-18-2018	**Proposed Effective Date:** ASAP	
Article No.: **Title:**	**Other:** DS-15063, Developmental Specifications for High Performance Thin Lift Overlay	

Specification Committee Action: Approved with changes.

Deferred:	**Not Approved:**	**Approved Date:** 7/12/2018	**Effective Date:** 9/18/2018

Specification Committee Approved Text: See attached Developmental Specifications for High Performance Thin Lift Overlay.

Comments: The Office of Construction and Materials suggested changing the mix design criteria "Design Target (%Gmm)" to "Design Voids Target (Based on %Gmm)". The value was also changed to less than or equal to 2.0, as there was some concern that voids could never be 0.

Specification Section Recommended Text: See attached Draft Developmental Specifications for High Performance Thin Lift Overlay.

Comments:

Member's Requested Change: **(Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)**

15063.02 MATERIALS.

B. Mix Design.

1. Design Gyrations	50
Design Target (%Gmm)	~~3.0~~ 0.0 – 2.0
Film Thickness	8.0 – 13.0
Aggregate Quality	A
Crushed Content (minimum)	50%
FAA (minimum)	40
Sand Equivalency (minimum)	50
~~VMA (minimum)~~	~~16%~~

15063.03 CONSTRUCTION.

C. Compact with static steel wheeled roller.

Reason for Revision: Lower the Design Target for lab voids from 3.0% to (0.0 - 2.0%) range. This change (recommended by Scott Schram) is intended to result in a higher binder content, which will increase mix flexibility and reduce premature cracking seen in some HMA thin lift overlays.

Remove VMA criteria, as VMA is no longer used as mix design parameter in standard specifications.

Clarify that static steel wheeled roller is the accepted method for compacting the highly-polymerized mix specified for High Performance Thin Lift Overlay. The additional dynamic force created by a vibratory steel roller is not needed for mix compaction, and will likely damage or distort the thin mat.

New Bid Item Required (X one)	**Yes**	**No** X

Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X
Comments: District Materials Engineers agreed with revisions, per discussion at 6-13-18 meeting.		
County or City Comments:		
Industry Comments:		

DS-15066
(Replaces DS-15063)

DEVELOPMENTAL SPECIFICATIONS
FOR
HIGH PERFORMANCE THIN LIFT OVERLAY

Effective Date
September 18, 2018

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE DEVELOPMENTAL SPECIFICATIONS AND THEY PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

15066.01 DESCRIPTION.
These specifications describe requirements for a highly polymer modified asphalt thin lift surface course. Apply Section 2303 of the Standard Specifications unless otherwise directed in these specifications.

15066.02 MATERIALS.

A. Asphalt Binder.
Use PG 58-34E+ with a minimum percent recovery of 90% when tested at 58°C per AASHTO T 350 at 3.2 kPa.

B. Mix Design.

1. Design Gyrations	50
Design Voids Target (Based on %Gmm)	~~3.0~~ ≤ 2.0
Film Thickness	8.0 – 13.0
Aggregate Quality	A
Crushed Content (minimum)	50%
FAA (minimum)	40
Sand Equivalency (minimum)	50
~~VMA (minimum)~~	~~16%~~

2. Friction Aggregate.
Interstates: minimum 30% of Total Aggregate shall be Type 2 or better
Non-Interstates: minimum 50% of Total Aggregate shall be Type 4 or better

3. Hamburg Testing (AASHTO T324).
Compact to 3.5% air voids. No more than 4 mm rutting in the first 8000 passes.

4. Do not use more than 15.0% binder replacement. Do not use RAS.

5. Gradation.

Table DS-15066: Thin Lift Overlay Gradation

Sieve Size	Min % Passing	Max % Passing
1½ inch		
1 inch		
3/8 inch	91	100
#4		90
#8	27	63
#16		
#30		
#50		
#100		
#200	2	10

15066.03 CONSTRUCTION.

A. Apply tack coat prior to placement of thin lift overlay according to Section 2303 of the Standard Specifications.

B. Pave when ambient temperatures are at least 60ºF and rising.

C. Compact with static steel wheeled roller.

D. Do not open to traffic until the entire mat has cooled below 150°F.

E. Quality Assurance/Quality Control.

1. Field Voids Acceptance.
Acceptance for field voids shall be Class II compaction defined in Section 2303 of the Standard Specifications.

2. Lab Voids Acceptance.
Sample from windrow or hopper. Apply Article 2303.05, A, 3, a, 2, of the Standard Specifications for AAD acceptance. Air void target is based on approved JMF.

3. Take at least one cold feed for gradation control each day of production.

15066.04 METHOD OF MEASUREMENT.
Hot Mix Asphalt Thin Lift Overlay will be measured according to Article 2303.04 of the Standard Specifications.

15066.05 BASIS OF PAYMENT.
Hot Mix Asphalt Thin Lift Overlay will be paid for according to Article 2303.05 of the Standard Specifications.

Form 510130 (08-15)

IOWA DOT

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Wes Musgrove / Jeff Schmitt	**Office:** Construction & Materials	**Item 10**
Submittal Date: 06-18-2018	**Proposed Effective Date:** ASAP	
Article No.: **Title:**	**Other:** SS-15009, Supplemental Specifications for Hot Mix Asphalt Interlayer	

Specification Committee Action: Approved as recommended.

Deferred:	**Not Approved:**	**Approved Date:** 7/12/2018	**Effective Date:** 9/18/2018

Specification Committee Approved Text: See attached Supplemental Specifications for Hot Mix Asphalt Interlayer.

Comments: The Committee asked about eliminating the testing frequency from the SS. Testing frequency would revert back to the standard flexible pavement testing as shown in the Standard Specifications. Article SS-15010.01 applies Section 2303 unless otherwise directed.

Specification Section Recommended Text: See attached Draft Supplemental Specifications for Hot Mix Asphalt Interlayer.

Comments:

Member's Requested Change: **(Do not use 'Track Changes', or 'Mark-Up'. Use ~~Strikeout~~ and Highlight.)**

D. Quality Assurance/Quality Control.

2. Lab Voids Acceptance.
Sample from windrow or hopper. ~~and test one hot box per day of production unless otherwise approved by the Engineer.~~ Apply Article 2303.05, A, 3, a, 2, of the Standard Specifications for AAD acceptance. Air void target is based on approved JMF.

3. Take at least one cold feed for gradation control each day of production.

Reason for Revision: Designate alternate sampling locations, as mix sampling behind paver greatly disturbs the thin polymer-rich mat and is extremely difficult to properly correct by handwork.

Projects with larger interlayer mix tonnage are becoming more common, requiring additional hot box sampling and testing beyond one per day for representative lab voids results (default to Section 2303 requirements for S & T, based on anticipated daily tonnage).

Clarify minimum cold feed (aggregate) sampling for multiple days of interlayer mix production.

New Bid Item Required (X one)	**Yes**	**No** X
Bid Item Modification Required (X one)	**Yes**	**No** X
Bid Item Obsoletion Required (X one)	**Yes**	**No** X

Comments: District Materials Engineers expressed no objections to proposed changes.

County or City Comments:

Industry Comments:

SS-15010
(Replaces SS-15009)

SUPPLEMENTAL SPECIFICATIONS
FOR
HOT MIX ASPHALT INTERLAYER

Effective Date
September 18, 2018

THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SUPPLEMENTAL SPECIFICATIONS AND THEY PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

15010.01 DESCRIPTION.
These specifications describe requirements for a highly polymer modified asphalt interlayer. Apply Section 2303 of the Standard Specifications unless otherwise directed in these specifications.

15010.02 MATERIALS.

A. Asphalt Binder.
Use a PG 58-34E.

B. Mix Design.

1. See Materials I.M. 510 Appendix A.

2. Mix approval is based on Performance Testing Requirements per Materials I.M. 510 Appendix A.

3. Do not use RAP.

15010.03 CONSTRUCTION.

A. Apply tack coat prior to placement of HMA interlayer according to Section 2303 of the Standard Specifications.

B. Compact with static steel wheeled roller.

C. Do not open to traffic until the entire mat has cooled below 150°F.

D. Quality Assurance/Quality Control.

1. Field Voids Acceptance.
Acceptance for field voids shall be Class II compaction defined in Section 2303 of the

Standard Specifications.

2. **Lab Voids Acceptance.**
   Sample ~~and test one hot box per day of production unless otherwise approved by the Engineer~~ from windrow or hopper. Apply Article 2303.05, A, 3, a, 2, of the Standard Specifications for AAD acceptance. Air void target is based on approved JMF.

3. Take at least one cold feed for gradation control each day of production.

15010.04 METHOD OF MEASUREMENT.
Hot Mix Asphalt Interlayer, of the size specified, will be measured according to Article 2303.04 of the Standard Specifications.

15010.05 BASIS OF PAYMENT.
Hot Mix Asphalt Interlayer, of the size specified, will be paid for according to Article 2303.05 of the Standard Specifications.