Iowa Department of Transportation

MINUTES
OF
IOWA D.O.T. SPECIFICATION COMMITTEE MEETING

May 8, 2008

Members Present:	John Adam	Statewide Operations Bureau
	Tom Reis, Chair	Specifications Section
	Daniel Harness, Secretary	Specifications Section
	Bruce Kuehl	District 6-District Construction
	Gary Novey	Office of Bridges & Structures
	John Smythe	Office of Construction
	Roger Bierbaum	Office of Contracts
	Larry Jesse	Office of Local Systems
	Jim Berger	Office of Materials
	Doug McDonald	District 1-Marshalltown RCE
	Dan Redmond	District 4-District Materials
Members Not Present:	Mike Kennerly	Office of Design
	Troy Jerman	Office of Traffic & Safety
Advisory Members Present:	Lisa Rold	FHWA
Others Present:	Chris Poole	Office of Design

Tom Reis, Specifications Engineer, opened the meeting. The following items were discussed in accordance with the agenda dated May 1, 2008:

1. Article 2301.16, D, Smoothness.

The Office of Materials requested a change to Section 2316 that adds guidance on when Section 2316 (0.2 inch blanking band) versus Section 2317 (soon to be 0 inch blanking band) should be used.

2. Article 2301.25, Sealing Joints.

The Office of Construction requested a change to Article 2301.25 that will update this section to match the current practice for joint sealing.

3. Article 2303.04, C, 3, Smoothness.

The Office of Materials requested a change to Section 2316 that adds guidance on when Section 2316 (0.2 inch blanking band) versus Section 2317 (soon to be 0 inch blanking band) should be used.

4. Article 2310.03, C, Placing and Finishing Overlay.

The Specifications Section requested a change to eliminate the reference to Section 2316.

5. Article 2316.01, General.

The Office of Materials requested a change to Section 2316 that will clarify the application of the specification.

6. Article 2316.03, Profilograph Testing.

The Office of Construction requested a change to Section 2316 to eliminate the requirement for routine reporting of smoothness testing results within 5 days when acceptable smoothness is being achieved.

7. Section 2317, Smoothness of Bridge Decks and Bridge Deck Overlays.

The Specifications Section requested to renumber this section as Section 2428.

8. Article 2407.01, Description.

The Office of Materials requested a change to Article 2407.01 that will clarify fabrication requirements.

9. Article 2540.01, Description.
Article 2540.06, Method of Measurement.

The Office of Construction requested changes to Section 2540 that will improve the uniformity of plan quantities and to align with the specification's intent for varying widths of repair.

10. Article 4169.10, Special Ditch Control and Slope Protection.

The Office of Materials requested a change to bring this specification in line with current practice.

11. SS-01057, Primary and Interstate Pavement Smoothness.

The Specifications Section requested a change to line this specification up with Section 2316 and to place this Supplemental Specification into the General Supplemental Specification as Section 2317.

12. DS-01096, Water Main.
DS-01097, Sanitary Sewer.
DS-01098, Storm Sewer.

This item is a continuation of the discussion from the April 10, 2008 Specification Committee meeting that will result in these Developmental Specifications becoming effective with the October 2008 letting.

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger	**Office:** Materials	**Item 1**
Submittal Date: April 22, 2008	**Proposed Effective Date:** October, 2008	
Article No.: 2301.16, D **Title:** Smoothness (Finishing and Texture, Portland Cement Concrete Pavement)	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 5/8/08	**Effective Date:** 10/21/08

Specification Committee Approved Text:

2301.16, D, Smoothness.

Replace the second unindented paragraph:

Section 2317 shall apply to all PCC Pavement bid items of a Primary project if any individual PCC Pavement bid item for that project is 5000 square yards (4200 m^2) or greater. Section 2316 shall apply to ~~smoothness of pavement and bridge approach sections for~~ all other Primary projects and when specifically required for other projects.

Comments: District 6 Construction asked if Section 2317 would be applied only to the pavement bid items greater than 5000 square yards, or if it would be applied to all pavement bid items for the project if any pavement bid item is greater than 5000 square yards. The Office of Materials explained it would be applied to all of the pavement bid items. They further explained that application of Section 2317 would not be based on the total square yards for the project. It would be based on any one pavement item being 5000 square yards or greater. The Office of Construction suggested rewording the first sentence to clarify the intent.

The Office of Design asked why application is based on a single item rather than on a project total. The Office of Materials explained the 5000 square yards is based on the need to drill cores. Items less than 5000 square yards don't require drilling cores.

The Office of Design asked what the impact is on designers. The Specifications Section explained if a designer does not want Section 2317 applied, they can note it in the estimate reference notes. The Office of Design asked who would make decision whether or not to apply Section 2317. The Office of Construction noted the District would likely make that decision.

The Office of Contracts asked if the 5000 square yards is based on quantity at the time of letting or the quantity placed. The Office of Construction noted the application of Section 2317 would have to be based on quantity at the time of letting.

Specification Section Recommended Text:

2301.16, D, Smoothness.

Replace the second unindented paragraph:

Section 2317 shall apply to Primary projects with PCC Pavement bid items of 5000 square yards (4200 m^2) or greater. Section 2316 shall apply to all other ~~smoothness of pavement and bridge approach sections for~~ Primary projects and when specifically required for other projects.

Comments:

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

D. Smoothness.
The pavement shall have a smooth riding surface. The pavement shall be constructed to the following tolerances:

The pavement shall be periodically checked longitudinally with a 10 foot (3 m) straightedge. The surface shall not deviate from a straight line by more than 1/8 inch in 10 feet (3mm in 3 m). If slip form methods are used, the 6 inches (150 mm) nearest the edge may exceed the 1/8 inch (3 mm) tolerance but shall not exceed 1/2 inch deviation in 10 feet (13 mm deviation in 3 m).

Where abutting pavement is to be placed adjacent to the pavement being checked, the surface shall not deviate by more than 1/4 inch (6 mm) when checked 1 inch (25 mm) from the edge with a 3 foot (1 m) straightedge used transversely and a 10 foot (3 m) straightedge used longitudinally.

Section XXXX shall apply to Primary projects with PCC Pavement bid items of 5000 square yards (4200 square meters) or greater. Section 2316 shall apply to all other ~~smoothness of pavement and bridge approach sections for~~ Primary projects and when specifically required for other projects.

Reason for Revision: See below.

County or City Input Needed (X one)	**Yes**	**No**
Comments:		

Industry Input Needed (X one)			**Yes** X		**No**
Industry Notified:	**Yes** X	**No**	**Industry Concurrence:**	**Yes**	**No**

Comments: The PCC industry suggested continued use of Article 2316 for Primary projects less than 5000 sq. yds and Primary projects where use of SS-01057 is not appropriate.

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe / Kevin Merryman	**Office:** Construction	**Item 2**
Submittal Date: April 23, 2008	**Proposed Effective Date:** October 2008	
Article No.: 2301.25 **Title:** Sealing Joints	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 5/8/08	**Effective Date:** 10/21/08

Specification Committee Approved Text: Refer to the Specification Section Recommended text except replace the second sentence of the fourth paragraph with:

> Sealing shall be done only after visual examination verifies the joint surfaces appear dry, in addition to being clear of dust and contamination.

and replace the last paragraph with:

> If early pavement opening is specified, the cleaning, sealing, and, if required, resawing of joints shall be accomplished after the pavement is opened to traffic if hot pour sealing material is used.

Comments: The Office of Construction asked if the use of backer rod is to be eliminated. The Specifications Section noted that no decision was made to eliminate backer rod. They asked if backer rod should be taken out of the Road Standards. The Office of Construction stated it should be removed only if there is evidence of performance problems. The Office of Materials noted they have seen some performance problems with joints that have backer rod; however, it isn't clear if the backer rod itself is the problem. The decision was made to leave backer rod in the Road Standards.

District 6 Construction noted there have been some problems interpreting what is meant by "immediately prior". They explained that depending on traffic conditions and weather, joints can collect dirt very quickly. The Specification Section asked if the dirt can be seen in the joint. District 6 noted the dirt can't be seen. FHWA asked if it would be possible to include a time frame. The Office of Construction noted that could result in compliance issues. Marshalltown RCE added the appropriate time frame can vary from situation to situation. District 6 suggested rewording the second sentence of the fourth paragraph to include language stating the joint must be clear of dust or contamination.

District 6 Construction asked what "if required" in the last paragraph refers to. The Committee agreed it refers to resawing. The Committee decided "if required" should be placed in parentheses. The Specifications Section later determined "if required" should be placed in front of "resawing joints".

Specification Section Recommended Text:

2301.25, Sealing Joints.

Replace the entire article:

> Unless otherwise provided, joints shall be sealed as designated in the contract documents before any portion of the pavement is opened to the Contractor's forces or to general traffic. Joint openings shall be sawed or prepared to the designated dimensions, cleaned, and sealed with one of the appropriate materials described in Section 4136.
>
> Joint sealer, as described in Article 4136.02, A, shall be used to seal sawed joints in PCC pavement, shoulders, medians, crossovers, and side road pavements unless otherwise specified in the contract documents.
>
> Within 3 hours after a joint has been wet sawed to the finished dimension, the residue from wet

sawing shall be flushed away from the sawed faces by a high pressure water blast, operating with a minimum pressure of 1000 pounds per square inch (7000 kPa). Within 3 hours after the joint has been dry sawed to the finished dimension, the residue from dry sawing shall be blown from the joint. Air compressors shall provide moisture and oil free compressed air.

Immediately prior to installation of sealant, joints shall be cleaned with an air blast. Sealing shall be done only when the joint surfaces appear dry by visual examination. Joint sealer shall be prepared and installed in the joint and to the proper level as shown in the contract documents and as recommended by the manufacturer. Hot poured sealers shall be heated in a thermostatically controlled heating kettle. The material shall be heated to the temperature required for use, but not above that recommended by the manufacturer. After sealing, excess sealer shall be removed from the pavement surface.

Joint sealer shall be placed only when the pavement and ambient air temperatures are 40°F (4°C) or above. When near this minimum, additional air blasting or drying time, or both, may be necessary to assure a satisfactory bond to the joint faces. When this sealer cannot be properly placed due to late fall work, the Contractor shall submit a joint construction plan and sealing details to the Engineer for approval before paving can begin. The cleaning, sealing, and resawing of joints, if required, shall be delayed until the following spring. This delay shall be subject to approval of the Engineer.

When surface correction is required, seals damaged from the corrective work shall be repaired. Joint preparation, cleaning, and sealing may be delayed until after corrective work, provided the pavement is not opened to traffic before corrective work is performed.

The Engineer may limit the wheel loads and axle loads of equipment operating on the pavement during preparation, cleaning, and sealing operations, if prior to the age and strength specified in Article 2301.31. Additional tests to determine the modulus of rupture may be required.

If early pavement opening is specified, the cleaning, sealing, and resawing of joints, if required, shall be accomplished after the pavement is opened to traffic if hot pour sealing material is used.

Comments:

Member's Requested Change (Redline/Strikeout):

Replace Section 2301.25 with the following:

2301.25 SEALING JOINTS
Unless otherwise provided, joints shall be sealed as designated in the contract documents before any portion of the pavement is opened to the contractor's forces or to general traffic. Joint openings shall be sawed or prepared to the designated dimensions, cleaned, and sealed with one of the appropriate materials described in Section 4136.

Joint sealer, as described in Article 4136.02, A shall be used to seal sawed joints in PCC pavement, shoulders, medians, crossovers, and side road pavements unless otherwise specified in the contract documents.

Within 3 hours after a joint has been wet sawed to the finished dimension, the residue from wet sawing shall be flushed away from the sawed faces by a high pressure water blast, operating with a minimum pressure of 1000 psi (7000 kPa). Within 3 hours after the joint has been dry sawed to the finished dimension, the residue from dry sawing shall be blown from the joint. Air compressors shall provide moisture and oil free compressed air.

Immediately prior to installation of sealant, joints shall be cleaned with an air blast. Sealing shall be done

only when the joint surfaces appear dry by visual examination. Joint sealer shall be prepared and installed in the joint and to the proper level as shown in the contract documents and as recommended by the manufacturer. Hot poured sealers shall be heated in a thermostatically controlled heating kettle. The material shall be heated to the temperature required for use, but not above that recommended by the manufacturer. After sealing, excess sealer shall be removed from the pavement surface.

Joint sealer shall be placed only when the pavement and ambient air temperatures are 40°F (4°C) or higher. When near this minimum, additional air blasting or drying time or both may be necessary to assure a satisfactory bond to the joint faces. When this sealer cannot be properly placed due to late fall work, the Contractor shall submit a joint construction plan and sealing details to the Engineer for approval before paving can begin. The cleaning, sealing, and resawing if required, shall be delayed until the following spring. This delay shall be subject to approval of the Engineer.

When surface correction is required, seals damaged from the corrective work shall be repaired. Joint preparation, cleaning, and sealing may be delayed until after corrective work provided the pavement is not opened to traffic before corrective work is performed.

The Engineer may limit the wheel loads and axle loads of equipment operating on the pavement during preparation, cleaning, and sealing operations, if prior to the age and strength specified in Article 2301.31. Additional tests to determine the modulus of rupture may be required.

If early pavement opening is specified, the cleaning, sealing, and resawing, if required, shall be accomplished after the pavement is opened to traffic if hot pour sealing material is used.

Reason for Revision: This section has been updated to fit the current practice and philosophy of joint sealing. Sand cleaning should no longer be required as it does not improve adhesion of the joint sealing material. Elastomeric seals are no longer used on new pavements.

County or City Input Needed (X one)			**Yes**	**No** X	
Comments:					
Industry Input Needed (X one)			**Yes** X	**No**	
Industry Notified:	**Yes** X	**No**	**Industry Concurrence:**	**Yes** X	**No**
Comments: This was discussed with industry at the April 16 joint specification meeting with ICPA.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger	**Office:** Materials	**Item 3**
Submittal Date: April 22, 2008	**Proposed Effective Date:** October, 2008	
Article No.: 2303.04, C, 3 **Title:** Smoothness	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 5/8/08	**Effective Date:** 10/21/08

Specification Committee Approved Text:

2303.04, C, 3, Smoothness

Replace the entire article:

~~Smoothness of the surface course shall be in accordance with Section 2316.~~

Section 2317 shall apply to all HMA mixture bid items of a Primary project if any individual HMA mixture bid item is 1000 tons (1000 Mg) or greater or 5000 square yards (4200 m^2) or greater. Section 2316 shall apply to all other Primary projects with a surface course and when specifically required for other projects.

Comments: District 6 Construction asked if the change would apply only to surface courses. The Office of Materials explained it would apply to all HMA mixture bid items if any HMA mixture bid item exceeds 1000 tons or 5000 square yards. FHWA expressed concern that use of Small HMA Paving Quantities is based on bid items of 1000 tons or less and applies only to those items. Section 2317, when applied, is intended to apply to all HMA mixture bid items, thus it could end up being applied to bid items for which Small HMA Paving Quantities also applies. The Office of Construction noted the situation is different for Section 2317 since only the surface is being tested rather than the whole mixture.

The Specifications Section will add language to clarify that if any paving bid item is 5000 square yards or more, Section 2317 will apply to all paving bid items.

Specification Section Recommended Text:

2303.04, C, 3, Smoothness

Replace the entire article:

~~Smoothness of the surface course shall be in accordance with Section 2316.~~

Section 2317 shall apply to Primary projects with HMA mixture bid items of 1000 tons (1000 Mg) or greater or 5000 square yards (4200 m^2) or greater. Section 2316 shall apply to all other Primary projects with a surface course and when specifically required for other projects.

Comments:

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

3. Smoothness

~~Smoothness of the surface course shall be in accordance with Section 2316.~~

Section XXXX shall apply to Primary projects with HMA Mixture bid items of 1000 tons (1000 Mg) or

greater or 5000 square yards (4200 square meters) or greater. Section 2316 shall apply to all other Primary projects with a surface course and when specifically required for other projects.					
Reason for Revision: The PCC industry suggested continued use of Article 2316 for Primary projects less than 5000 sq. yds and Primary projects where use of SS-01057 is not appropriate.					
County or City Input Needed (X one)			**Yes**	**No**	
Comments:					
Industry Input Needed (X one)			**Yes** X	**No**	
Industry Notified:	**Yes**	**No**	**Industry Concurrence:**	**Yes**	**No**
Comments:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Tom Reis / Daniel Harness	**Office:** Specifications Section	**Item 4**
Submittal Date: April 29, 2008	**Proposed Effective Date:** October, 2008	
Article No.: 2310.03, C **Title:** Placing and Finishing Overlay	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 5/8/08	**Effective Date:** 10/21/08

Specification Committee Approved Text:

Comments: District 6 Construction expressed concern that the reference to Section 2301 is not clear regarding what parts of Section 2301 apply. The Office of Materials suggested inserting the same language in Item 1 so there are references directly to Section 2316 and Section 2317. District 6 Construction agreed with the change.

Specification Section Recommended Text:

2310.03, C, Placing and Finishing Overlay.

Replace the first paragraph:

~~The Contractor shall construct the pavement in a manner that will provide a smooth riding surface. Section 2316 shall apply to smoothness of the completed overlay for Primary projects and when specifically required for Secondary projects.~~ Section 2317 shall apply to all PCC Pavement bid items of a Primary project if any individual PCC Pavement bid item for that project is 5000 square yards (4200 m^2) or greater. Section 2316 shall apply to all other Primary projects and when specifically required for other projects.

Comments:

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

2310.03, C. Placing and Finishing Overlay.

Delete the first paragraph:

~~The Contractor shall construct the pavement in a manner that will provide a smooth riding surface. Section 2316 shall apply to smoothness of the completed overlay for Primary projects and when specifically required for Secondary projects.~~

Reason for Revision: The references to Section 2316 are changing due to the inclusion of a new Section 2317 in the GS and limitations on the application of both. Article 2310.01 makes reference to the requirements of Section 2301, where the references to 2316 and 2317 have already been made.

County or City Input Needed (X one)	**Yes**	**No**
Comments:		

Industry Input Needed (X one)			**Yes**	**No**	
Industry Notified:	**Yes**	**No**	**Industry Concurrence:**	**Yes**	**No**
Comments:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger	**Office:** Materials	**Item 5**
Submittal Date: April 22, 2008	**Proposed Effective Date:** October, 2008	
Article No.: 2316.01 **Title:** General (Pavement Smoothness)	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 5/8/08	**Effective Date:** 10/21/08

Specification Committee Approved Text:

2316.01, General.

Replace the first and second sentences of the first paragraph:

This section shall apply when Section 2317 does not. Pavement smoothness shall be evaluated for all Interstate and Primary main line pavement surfaces, and all other road surfaces included on Primary projects, except when specifically excluded or modified by the contract documents. Pavement smoothness shall not be evaluated for non-Primary ~~roadways~~ projects unless specified in the contract documents.

Replace "2317" with "2428" in the third paragraph.

Comments: There was a discussion regarding whether or not the first sentence of Article 2316.01 is necessary. There was also discussion regarding whether "roadways" should be replaced with "projects" in the second sentence. The Committee decided the first sentence is needed. The Office of Materials stressed "roadways" should be replaced with "projects" in the second sentence.

The Office of Contracts expressed concern that the Specifications could be interpreted to say that both Section 2316 (0.2 inch blanking band) and the new Section 2317 (0 inch blanking band) apply to a project. The Specifications Section suggested combining the current Section 2316 and the new 2317 into one specification and letting that specification state whether 0.2 inch or 0 inch blanking band applies. The Office of Materials commented there are enough differences between the two specifications it would be difficult to combine them. They further emphasized Section 2301 will clarify whether Section 2316 or Section 2317 applies.

The suggestion was made to add language to the first sentence of Article 2316.01 that Section 2316 applies when the new Section 2317 does not.

The Specifications Section will attempt to combine Section 2316 and the new Section 2317 into one specification for the new book to be released in October of 2009.

Specification Section Recommended Text:

2316.01, General.

Replace the first and second sentences of the first paragraph:

Pavement smoothness shall be evaluated for ~~main line pavement surfaces~~ all Interstate and Primary main line pavement surfaces, and all other road surfaces included on Primary projects, except when specifically excluded or modified by the contract documents. Pavement smoothness shall not be evaluated for non-Primary ~~roadways~~ projects unless specified in the contract documents.

Replace "2317" with "2428" in the third paragraph.

Comments:

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

2316.01 GENERAL.
~~Pavement smoothness shall be evaluated for main line pavement surfaces.~~ Pavement smoothness shall be evaluated for all Interstate and Primary main line pavement surfaces, and all other road surfaces included on Primary projects, except when specifically excluded or modified by the contract documents. Pavement smoothness shall not be evaluated for non-Primary projects ~~roadways~~ unless specified in the contract documents. Main line pavement is defined as all permanent pavement for traffic lanes, including tapers to parallel lanes or through lanes at intersections, tapers to climbing lanes, and tapers to ramps and loops. Pavement smoothness shall also be evaluated for all interchange ramps and loops.

If this specification is required by contract documents on non-Primary projects let by the Department, it will be added in its entirety. Selected portions of the specification will not be deleted.

Bridge approach sections which are a part of the paving contract will be tested according to Section 2317.

Reason for Revision: See below.

County or City Input Needed (X one)	**Yes**	**No**
Comments:		

Industry Input Needed (X one)			**Yes** X	**No**	
Industry Notified:	**Yes** X	**No**	**Industry Concurrence:**	**Yes**	**No**

Comments: The PCC industry suggested continued use of Article 2316 for Primary projects less than 5000 sq. yds and Primary projects where use of SS-01057 is not appropriate.

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe / Kevin Merryman	**Office:** Construction	**Item 6**
Submittal Date: April 21, 2008	**Proposed Effective Date:** October 2008	
Article No.: 2316.03 **Title:** Profilograph Testing	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 5/8/08	**Effective Date:** 10/21/08

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The Specifications Section handed out a revised Item 11. The same changes below are being proposed for Item 11.

Specification Section Recommended Text:

2316.03, Profilograph Testing.

Replace the second and third paragraphs:

Each segment shall be tested ~~and evaluated~~ within 48 hours following placement. The profile ~~trace and~~ index for each segment of paving shall be furnished to the Engineer by ~~noon~~ the end of the next day worked following the placement until there has been 3 consecutive days of paving where the index for all segments would result in 100% payment or better. ~~After 3 consecutive days of paving that qualify for at least 100% payment, the profile trace and index must be furnished to the Engineer within 48 hours after each day's run.~~ Should any following day be evaluated to receive less than 100% payment, the Engineer shall be notified immediately, and corrective action shall be taken to modify paving methods and equipment to achieve 100% payment or better ~~a trace and index shall be furnished to the Engineer by noon the following day worked for each day until there has been 3 consecutive days of 100% payment or better~~.

~~For each day's run, an evaluation shall be submitted to the Engineer within 5 working days. This evaluation submittal shall include identification of segments that may qualify for less than 100% payment, segments that may qualify for incentive payment, segments to be corrected, and the section weighted average in inches per mile (millimeter per kilometer) certified smoothness testing.~~ All final profilograph test reports and profile traces shall be submitted to the Engineer within 14 calendar days following completion of paving on the project. Selected reports and traces may be requested by the Engineer in advance of paving completion for purposes of validating the Contractor's test results. Incentive payments for qualifying segments will be made following receipt of appropriate documentation of certified smoothness results.

Comments:

Member's Requested Change (Redline/Strikeout):

2316.03 PROFILOGRAPH TESTING.

The Contractor shall perform testing and furnish the profilogram results to the Engineer. The testing and evaluation shall be done by a trained and certified person, and the evaluation shall be certified in accordance with Materials I.M. 341.

Each segment shall be tested ~~and evaluated~~ within 48 hours after placement. The profile ~~trace and~~ index for each segment of paving shall be furnished to the Engineer by ~~noon~~ the end of the next day worked

following the placement until there has been 3 consecutive days of paving where the index for all segments would result in 100% payment or better. ~~After 3 consecutive days of paving that qualify for at least 100% payment, the profile trace and index must be furnished to the Engineer within 48 hours after each day's run.~~ Should any following day be evaluated to receive less than 100% payment, ~~a trace and index shall be furnished to the Engineer by noon the following day worked for each day until there has been 3 consecutive days of 100% payment or better~~ the Engineer shall be notified immediately, and corrective action shall be taken to modify paving methods and equipment to achieve 100% payment or better.

~~For each day's run, an evaluation shall be submitted to the Engineer within 5 working days. This evaluation submittal shall include identification of segments that may qualify for less than 100% payment, segments that may qualify for incentive payment, segments to be corrected, and the section weighted average in inches per mile (millimeter per kilometer) certified smoothness testing.~~

All final profilograph test reports and profile traces shall be submitted to the Engineer within 14 calendar days after completion of paving on the project. Selected reports and traces may be requested by the Engineer in advance of paving completion for purposes of validating contractor test results. Incentive payments for qualifing segments will be made following receipt of appropriate documentation of certified smoothness results.

The Engineer will perform verification testing to validate the contractor's certified quality control testing. If the Engineer's verification test results validate the Contractor's test results, the Contractor's results will be used for acceptance. Disputes between the Contractor's and Engineer's test results will be resolved in accordance with Materials I.M. 341. The Engineer may test the entire project length if it is determined that the Contractor certified test results are inaccurate, and the Contractor will be charged for this work at a rate of $400.00 per mile ($250.00 per kilometer), per profile track, with a minimum charge of $800.00. Furnishing inaccurate tests may result in decertification of the Contractor's certified operator.

Reason for Revision: Eliminate the requirement for routine reporting of smoothness testing results within 5 days when acceptable smoothness is being constructed. The smoothness test reports are due within 14 days after completion of the paving.

County or City Input Needed (X one)			**Yes**	**No** X	
Comments:					
Industry Input Needed (X one)			**Yes** X	**No**	
Industry Notified:	**Yes** X	**No**	**Industry Concurrence:**	**Yes** X	**No**
Comments: ICPA concurred with these changes during the joint ICPA/DOT spec meeting on 4/16/08.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Tom Reis / Daniel Harness	**Office:** Specifications	**Item 7**
Submittal Date: 4/28/08	**Proposed Effective Date:** October 2008	
Section No.: 2317 **Title:** Smoothness of Bridge Decks and Bridge Deck Overlays.	**Other:**	

Specification Committee Action: Approved.

Deferred:	**Not Approved:**	**Approved Date:** 5/8/08	**Effective Date:** 10/21/08

Specification Committee Approved Text:

Comments: The Committee discussed the possibility of placing this section closer in the book to other sections dealing with work on bridge decks. This would require renumbering other sections. The Committee decided it is best to include this as Section 2428 to eliminate the extra work and possible confusion associated with moving other sections.

The Specifications Section noted they will make necessary changes to current references to Section 2316 and Section 2317.

Specification Section Recommended Text:

Comments:

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

Renumber Section 2317 as Section 2428. The Specifications Section will change references presently made to Section 2317 over to Section 2428.

Reason for Revision: SS-01057, Primary and Interstate Pavement Smoothness, is to be inserted into the GS as Section 2317.

County or City Input Needed (X one)			**Yes**	**No** X	
Comments:					
Industry Input Needed (X one)			**Yes**	**No** X	
Industry Notified:	**Yes**	**No** X	**Industry Concurrence:**	**Yes**	**No**
Comments:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger	**Office:** Materials	**Item 8**
Submittal Date: April 22, 2008	**Proposed Effective Date:** October 2008	
Article No.: 2407.01	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 5/8/08	**Effective Date:** 10/21/08

Specification Committee Approved Text:

2407.01, Description.

Add as the second paragraph:

Unless modified elsewhere in the contract documents, all fabrication shall be done only in precast fabrication plants that are approved prior to the letting as per Materials I.M. 445.

2408.01, Description.

Replace the second sentence:

Unless modified elsewhere in the contract documents, all fabrication to which this section applies shall be done in the states, territories, and possessions of the United States and in other locations within the geographic limits of North America and only in steel fabrication shops and plants that are approved prior to the letting as per Materials I.M. 557 ~~prior to the letting~~.

Comments: The suggestion was made to place "prior to letting" before "as per I.M. 445". A similar change will be made in Section 2408.

Specification Section Recommended Text:

2407.01, Description.

Add as the second paragraph:

Unless modified elsewhere in the contract documents, all fabrication shall be done only in precast fabrication plants that are approved as per Materials I.M. 445 prior to the letting.

Comments:

Member's Requested Change (Redline/Strikeout):

Unless modified elsewhere in the contract documents, all fabrication to which this section applies shall be done only in precast fabrication plants that are approved as per Materials I.M. 445 prior to the letting.

Reason for Revision: Remove uncertainty

County or City Input Needed (X one)	**Yes**	**No** X
Comments:		

Industry Input Needed (X one)			**Yes**	**No** X	
Industry Notified:	**Yes** X	**No**	**Industry Concurrence:**	**Yes** X	**No**

Comments: Allows for fair bidding and has industry approval.

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe / Tom Jacobson	**Office:** Construction	**Item 9**
Submittal Date: 04.16.2008	**Proposed Effective Date:** 10/21/2008	
Article No.: 2540.01 **Title:** Description (Longitudinal Joint Repair) **Article No.:** 2540.06 **Title:** Method of Measurement (Longitudinal Joint Repair)	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 5/8/08	**Effective Date:** 10/21/08

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The Office of Construction asked the Office of Design to modify their tabs to reflect the proposed changes.

Specification Section Recommended Text:

2540.01, Description.

Replace the second and third sentences:

The width to be milled ~~shall be 6 inches (150 mm). However, a 12 inch (300 mm) milling width may~~ will be designated in the contract documents.

2540.06, Method Of Measurement.

Replace the entire article:

Longitudinal Joint Repair will be measured to the nearest 0.1 foot (0.1 m) on the basis of 6 inch (150 mm) width of repair. ~~At locations where the width is increased from 6 inches to 12 inches (150 mm to 300 mm), the length will be doubled.~~

Comments:

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

2540.01 DESCRIPTION.

Longitudinal joint repair shall consist of milling the existing unstable asphalt material down to the PCC base over longitudinal widening joints and the center line joint, as shown in the contract documents or as directed by the Engineer; cleaning and sealing or filling the existing longitudinal opening in the concrete base; and filling the milled trench with the specified mixture. The width to be milled ~~shall be 6 inches (150 mm). However, a 12 inch (300 mm) milling width may~~ will be designated in the contract documents. The Engineer may also designate other joints and cracks for this repair.

2540.06 METHOD OF MEASUREMENT.

Longitudinal Joint Repair will be measured to the nearest 0.1 foot (0.1 m) on the basis of 6 inch (150 mm) width of repair. ~~At locations where the width is increased from 6 inches to 12 inches (150 mm to 300 mm), the length will be doubled.~~

Reason for Revision: To improve the uniformity of design quantities and to align with the specification

intent for varying widths of repair.					
County or City Input Needed (X one)			**Yes**	**No** X	
Comments:					
Industry Input Needed (X one)			**Yes**	**No** X	
Industry Notified:	**Yes**	**No**	**Industry Concurrence:**	**Yes**	**No**
Comments:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger	**Office:** MATERIALS	**Item 10**
Submittal Date: April 28, 2008	**Proposed Effective Date:** October 2008	
Article No.: 4169.10 **Title:** SPECIAL DITCH CONTROL AND SLOPE PROTECTION.	**Other:**	

Specification Committee Action: Approved with additional changes noted below.

Deferred:	**Not Approved:**	**Approved Date:** 5/8/08	**Effective Date:** 10/21/08

Specification Committee Approved Text: See Specification Section Recommended Text and additional changes below:

2601.01, Description.

Delete "jute mesh" from the sentence.

2601.10, Special Ditch Control and Slope Protection.

Add as the second paragraph:

Materials shall meet the requirements of Article 4169.10.

2601.10, B, Special Ditch Control and Slope Protection.

Replace the entire article.

Special ditch control over sod shall include furnishing and applying ~~jute mesh or other~~ the specified material, including staples, over the sodded areas.

2601.15, A, Wood Excelsior Mat.

Delete the first sentence and **Replace** the second sentence of the fifth paragraph:

~~Wire staples shall be driven without objectionable bending. The s~~Staples shall ~~be No. 11 gauge (3.06 mm diameter) wire, meeting~~ meet the requirements of Article 4169.10, ~~B~~ A.

2601.15, B, Jute Mesh.

Delete the title and entire article.

2601.15, C, Other Materials.

Renumber as 2601.15, B.

2601.16. Special Ditch Control over Sod.

Replace the first sentence:

When shown in the contract documents, the Contractor shall place ~~jute mesh,~~ plastic netting~~,~~ or other approved material over sod and staple it in place.

2601.22, Basis of Payment.

Delete "or jute mesh" from the thirteenth indented paragraph.

Comments: The Office of Design asked if it is necessary to separate special ditch control and slope protection since they both use wood excelsior mat or coconut fiber mat. The Office of Materials explained the requirements for slope protection compared to channel protection are different, so the material requirements are different. The Office of Design asked if Section 2601 clarifies which materials are allowed for special ditch control versus slope protection. The Specifications Section commented that Article 2601.10 discusses special ditch control and slope protection, but doesn't make reference to Section 4169. Article 2601.10 can be revised to do so. The Committee noted references to jute mesh that need to be removed. The Specifications Section will clear up references to jute mesh and to Article 4169.15 regarding staples.

Specification Section Recommended Text:

4169.10, Special Ditch Control and Slope Protection.

Replace the entire article:

Plastic netting, wood excelsior mat, coconut fiber mat, straw-coconut mat, straw mat, and wire staples shall comply with the following and meet the requirements of Materials I.M. 469.10.

A. Wire Staples.

Wire staples for holding special ditch control and slope protection mat shall meet the following requirements:

- Wire staples shall be U-shaped.
- The length of each leg shall be a minimum of 6 inches (150 mm). In sandy soil conditions the Engineer may require the length of each leg to be a minimum of 12 inches (300 mm).
- Wire diameter shall be No. 11 (3.06 mm) wire.
- Staples shall be of sufficient hardness to facilitate installation without bending.

B. Special Ditch Control.

1. Wood Excelsior Mat.

Wood excelsior mat shall be a mat of interlocking wood fibers with plastic netting applied to both sides for holding the excelsior in place. These mats shall meet the following requirements:

- The mat shall be non toxic to growth of plants and germination of seeds.
- The mat shall be furnished in rolls with a uniform width of 48 inches (1.2 m) with a tolerance of minus 1 inch (25 mm) and a minimum length of 80 feet (24 m).
- The mat shall have a minimum dry weight (mass) of 0.68 pounds per square yard (334 g/m^2) according to ASTM D 6475.
- The mat shall be furnished in plastic bags or otherwise protected to prevent damage from weather and handling.

2. Coconut Fiber Mat.

At the Contractor's option, coconut fiber mat may be substituted for wood excelsior mat for special ditch control. These mats shall meet the following requirements:

- The mat shall be of uniform thickness with the coconut fiber evenly distributed over the entire area of the mat.
- Both sides of the mat shall be covered with polypropylene netting attached with cotton thread.
- The mat shall be furnished in rolls with a uniform width of 48 inches (1.2 m)

with a tolerance of minus 1 inch (25 mm) and a minimum length of 80 feet (24 m).
- The mat shall have a minimum dry weight (mass) of 0.40 pounds per square yard (182 g/m^2) according to ASTM D 6475.
- The mat shall be furnished in plastic bags or otherwise protected to prevent damage from weather and handling.

C. Slope Protection.
Wood excelsior mat, coconut fiber mat, straw mat, or straw coconut mat may be used for slope protection.

1. Wood Excelsior Mats.
Wood excelsior mat shall be a mat of interlocking wood fibers and shall meet the following requirements:

- Plastic netting shall be applied to one or both sides for holding the excelsior in place. Mats without netting where the excelsior is mechanically stitched together to hold it in place may be allowed.
- The mat shall be nontoxic to growth of plants and germination of seeds.
- The mat shall be furnished in rolls with a uniform width of 48 inches (1.2 m), with a tolerance of minus 1 inch (25 mm) and a minimum length of 80 feet (24 m).
- The mat shall have a minimum dry weight (mass) of 0.50 pounds per square yard (246 g/m^2) according to ASTM D 6475.
- The mat shall be furnished in plastic bags or otherwise protected to prevent damage from weather and handling.

2. Straw Mat, Straw-Coconut Fiber Mat, or Coconut Fiber Mat.
At the Contractor's option; straw mat, straw-coconut fiber mat, or coconut fiber mat may be substituted for wood excelsior mat for slope protection. These mats shall meet the following requirements:

- The mat shall be of consistent thickness with the straw, straw-coconut fiber or coconut fiber evenly distributed over the entire area of the mat.
- The top side of the mat shall be covered with polypropylene netting attached with cotton thread.
- The mat shall be furnished in rolls with a uniform width of 48 inches (1.2 m), with a tolerance of minus 1 inch (25 mm) and a minimum length of 80 feet (24 m).
- The mat shall have a minimum dry weight (mass) of 0.40 pounds per square yard (182 g/m^2) according to ASTM D 6475.
- The mat shall be furnished in plastic bags or otherwise protected to prevent damage from weather or handling.

D. Netting Size.
The mesh size of netting applied on wood excelsior mats shall be not more than 1 inch by 2 inches (25 mm by 50 mm).

The mesh size of netting applied on coconut fiber only mats for channel and slope shall be not more than 3/4 inch by 3/4 inch (19 mm by 19 mm).

The mesh size of netting applied on the top side of straw and straw-coconut fiber mats for slopes only shall be not more than 1/2 inch by 1/2 inch (13 mm by 13 mm).

The weight of netting for special ditch control or slope protection shall be not less than 9

pounds per 1000 square feet (44 g/m^2).

A tolerance of plus or minus 0.10 inch (2.5 mm) shall be applicable to netting size.

Comments:

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

Delete section 4169.10

4169.10 SPECIAL DITCH CONTROL AND SLOPE PROTECTION.
Jute mesh, plastic netting, wood excelsior mat, and wire staples shall comply with the following:

A. Jute Mesh Over Sod.
Jute mesh over sod shall be a uniform, open, plain weave, of single jute yarn. The yarn shall be of loosely twisted construction and shall not vary in thickness by more than 50% its normal diameter. Jute mesh shall be furnished in rolled strips and shall meet the following minimum requirements:

Jute mesh shall be nontoxic to the growth of plants and germination of seeds and shall be identified by tag.

Width - minimum 48 inches ± 1 inch (1.2 m ± 25 mm) from manufacturer's rated width.

78 warp ends per 4 feet (1.2 m) of width.

45 weft ends per yard (meter).

Weight (mass) to average 1.22 pounds per linear yard (0.6 kg per meter) (based on 48 inch (1.2 m) width) with a minus tolerance of 5%.

All material must be new and unused.

At the Contractor's option, plastic netting (polypropylene) may be substituted for jute mesh. It shall meet the following requirements:

Color - black or green, with UV additives

Mesh size - approximately 0.6" x 0.7" (15 mm x 18 mm)

Weight (Mass) - approximately 9 pounds per 1,000 square feet (44 g/m^2)

Width - 48 inches (1.2 m) minimum

B. Wire Staples.
Wire staples for holding special ditch control wood excelsior mat and special ditch control jute mesh over sod shall meet the following requirements:

- Wire staples shall be U-shaped.
- Length of each leg shall be 6 inches (150 mm) minimum.
- Wire diameter shall be No. 11 (3.06 mm) wire.
- Staples shall be of sufficient hardness to facilitate installation without bending. In sandy soil conditions, wire staples with a minimum length of 12 inches (0.3 m) will be required when

directed by the Engineer.

C. Wood Excelsior Mat.
Wood excelsior mat shall meet the requirements of Materials I.M. 469.10.

Wood excelsior mat shall be a mat of interlocking wood fibers with plastic netting applied to both sides for holding the excelsior in place. The mat shall be nontoxic to growth of plants and germination of seeds. The netting applied to both sides shall have a mesh size of approximately 5/8 inch by 3/4 inch (16 mm by 19 mm). The mat shall be furnished in rolls with a minimum length of 180 feet (55 m) and a uniform, minimum width of 48 inches (1.2 m), within a tolerance of minus 1 inch (25 mm) and plus 3 inches (75 mm). As furnished, the mat shall have a minimum weight (mass) of 0.88 pound per square yard (480 g/m^2). The mat shall be furnished in plastic bags or otherwise protected to prevent damage from weather or handling.

At the Contractor's option, coconut fiber mat may be substituted for wood excelsior mat for special ditch control, and straw mat, straw-coconut fiber mat or coconut fiber mat may be substituted for wood excelsior mat for slope protection. These mats shall meet the following requirements:

The mat shall be of consistent thickness with the straw, straw-coconut fiber or coconut fiber evenly distributed over the entire area of the mat. The top side of the mat shall be covered with polypropylene netting with a 1/2 inch by 1/2 inch (12.5 mm by 12.5 mm) mesh attached with cotton thread. The mat shall be furnished in rolls with a minimum width of 47 inches (1190 mm) and a minimum length of 80 feet (24 m). As furnished, the mat shall have a minimum weight (mass) of 0.50 pound per square yard (270 g/m^2). The mat shall be furnished in plastic bags or otherwise protected to prevent damage from weather or handling.

And replace the above section with the following.

4169.10 SPECIAL DITCH CONTROL AND SLOPE PROTECTION.
Plastic netting, wood excelsior mat, coconut Fiber mat, straw-coconut mat, straw mat and wire staples shall comply with the following and meet the requirements of Materials I.M. 469.10

A. Wire Staples.
Wire staples for holding special ditch control and slope protection mat shall meet the following requirements:

- Wire staples shall be U-shaped.
- Length of each leg shall be 6 inches (150 mm) minimum.
- Wire diameter shall be No. 11 (3.06 mm) wire.
- Staples shall be of sufficient hardness to facilitate installation without bending. In sandy soil conditions, wire staples with a minimum length of 12 inches (0.3 m) will be required when directed by the Engineer.

B. Special Ditch Control:

1. Wood Excelsior Mat.

Wood excelsior mat shall be a mat of interlocking wood fibers with plastic netting applied to both sides for holding the excelsior in place. The mat shall be non toxic to growth of plants and germination of seeds. The mat shall be furnished in rolls with a minimum length of 80 feet (24 m) and a uniform, width of 48 inches (1.2 m), with a tolerance of minus 1 inch. The mat shall have a minimum dry weight (mass) of 0.68 pound per square yard (334g/m^2) as per ASTM D6475. The mat shall be furnished in

plastic bags or otherwise protected to prevent damage from weather or handling

2. Coconut Fiber Mat.

At the Contractor's option, coconut fiber mat may be substituted for wood excelsior mat for special ditch control. These mats shall meet the following requirements:

The mat shall be of consistent thickness with the coconut fiber evenly distributed over the entire area of the mat. Both sides of the mat shall be covered with polypropylene netting attached with cotton thread. The mat shall be furnished in rolls with a uniform width of 48 inches (1.2 m), with a tolerance of minus 1 inch (25 mm) and a minimum length of 80 feet (24 m). The mat shall have a minimum dry weight (mass) of 0.40 pound per square yard (182 g/m^2) as per ASTM D6475. The mat shall be furnished in plastic bags or otherwise protected to prevent damage from weather or handling.

C. Slope Protection.

Wood Excelsior Mat, Coconut Fiber Mat, Straw Mat or Straw Coconut Mat may be used for slope protection.

1. Wood Excelsior Mats.

Wood excelsior mat shall be a mat of interlocking wood fibers .A plastic netting shall be applied to one or both sides for holding the excelsior in place. Mats without netting where the excelsior is mechanically stitched together to hold it in place may be allowed. The mat shall be nontoxic to growth of plants and germination of seeds. The mat shall be furnished in rolls with a minimum length of 80 feet (24 m) and a uniform, width of 48 inches (1.2 m), with a tolerance of minus 1 inch. The mat shall have a minimum dry weight (mass) of 0.50 pound per square yard (246 g/m^2) as per ASTM D 6475. The mat shall be furnished in plastic bags or otherwise protected to prevent damage from weather or handling.

2. Straw Mat, Straw-Coconut Fiber Mat or Coconut Fiber Mat.

At the Contractor's option straw mat, straw-coconut fiber mat or coconut fiber mat may be substituted for wood excelsior mat for slope protection. These mats shall meet the following requirements.

The mat shall be of consistent thickness with the straw, straw-coconut fiber or coconut fiber evenly distributed over the entire area of the mat. The top side of the mat shall be covered with polypropylene netting attached with cotton thread. The mat shall be furnished in rolls with a uniform, width of 48 inches (1.2 m), with a tolerance of minus 1 inch (25 mm) and a minimum length of 80 feet (24 m). The mat shall have a minimum dry weight (mass) of 0.40 pound per square yard (182 g/m^2) as per ASTM D6475. The mat shall be furnished in plastic bags or otherwise protected to prevent damage from weather or handling.

D. Netting Size.

The mesh size of the netting applied on wood excelsior mats shall be not more than 1 inch by 2 inches.

The mesh size of the netting applied on coconut fiber only mats for Channel and slope shall be not more than 0.75”X0.75”.

The mesh size of the netting applied on the top side of straw and straw-coconut fiber mats for slopes only shall be not more than 0.50”X0.50” .

The weight of the netting for special ditch control or slope protection shall be not less than 9 lbs. per 1000 square feet.(44 gms/m2) A tolerance of +/- 0.10” shall be applicable to the netting size.					
Reason for Revision: Make the specification in line with the current practice					
County or City Input Needed (X one)			**Yes**	**No** X	
Comments:					
Industry Input Needed (X one)			**Yes**	**No** X	
Industry Notified:	**Yes**	**No** X	**Industry Concurrence:**	**Yes**	**No** X
Comments: Major players in the industry are aware of current practice.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Tom Reis / Daniel Harness	**Office:** Specifications Section	**Item 11**
Submittal Date: 4/29/08	**Proposed Effective Date:** October 2008	
Article No.: SS-01057 **Title:** Primary and Interstate Pavement Smoothness	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 5/8/08	**Effective Date:** 10/21/08

Specification Committee Approved Text: See Member's Requested Change. Since this is a new section to the GS, when this language is added to GS-01015, the struckout language will be removed and all remaining text will be highlighted.

Comments: The Specifications Section noted there are some minor corrections that need to be made.

Specification Section Recommended Text: See Member's Requested Change.

Comments: The Member's Requested Change is revised language handed out at the meeting. The highlighted and struckout language represents changes that will be made when SS-01057 is placed in the GS.

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

Add as Section 2317:

Section 2317, Primary and Interstate Pavement Smoothness

2317.01 GENERAL.
Pavement smoothness shall be evaluated for all Interstate and Primary main line pavement surfaces, and all other road surfaces included on Primary projects, except when specifically excluded or modified by the contract documents. Main line pavement is defined as all permanent pavement for through lanes. Exclusions from profilograph testing are detour pavement, shoulders, crossovers, and individual sections of pavement less than 50 feet (15 m) in length.

The Engineer may determine the pavement smoothness according to Materials I.M. 341 using a 10 foot (3 m) straightedge or rolling straightedge on surfaces excluded from profilograph testing. The variation of the surface from the testing edge of the straightedge shall not exceed 1/8 inch (3 mm) between any two contacts, longitudinal or transverse. The Contractor shall correct all irregularities exceeding the specified tolerance using equipment and methods approved by the Engineer. After the Contractor has corrected an irregularity, the Engineer may perform monitor testing of the area to verify compliance with the specified tolerance.

2317.02 EQUIPMENT.
The Contractor shall provide and operate an Ames type or California type profilograph to produce a profilogram (profile trace) of the surface tested in accordance with Materials I.M. 341. Other types of profilographs or profilers that produce compatible results and meet the requirements of Materials I.M. 341 may be used. The Contractor's operator shall be trained and certified to operate the profilograph as required by the Contracting Authority.

If the Contractor's profilograph has a mechanical recorder, the Contractor shall provide automated

trace reduction equipment in accordance with Materials I.M. 341. If the Contractor's profilograph has a computerized recorder, the trace produced will be evaluated without further reduction.

2317.03 SURFACE TOLERANCES, TESTING, AND EVALUATION.
A pavement segment is defined as a continuous area of finished pavement 0.1 mile (161 m) in length and one lane (10 to 12 foot (3.0 to 3.7 m) nominal) in width. A partial segment resulting from an interruption of the continuous pavement surface (i.e. bridge approaches, side road tie-ins, the cessation of the daily paving operations, etc.) is subject to the same evaluation as a whole segment.

A. Tolerances.
The Contractor shall produce pavement with an average profile index per 0.1 mile (161 m) segment as shown in Table 2317.03 below.

TABLE 2317.03: TOLERANCE FOR AVERAGE PROFILE INDEX PER 0.1 MILE (161m)
(0 inch blanking band)

Surface Type	Profile Index For greater than 45 mph	Profile Index For 45 mph or less and ramps
	Inches per mile (mm/km)	Inches per mile (mm/km)
PCC Pavement	40.0 or less (630 or less)	65.0 or less (1025 or less)
HMA Pavement	35.0 or less (550 or less)	45.0 or less (710 or less)

B. Testing.
The Contractor shall determine the pavement profiles for each lane according to the procedures for one lane, as shown in Materials I.M. 341 except for main line traffic lanes which will be tested in the wheel paths. Round the trace scallops to the nearest 0.01 inch (0.1 mm). The wheel paths are defined as the 3 feet (0.9 m) and 9 feet (2.7 m) from the center line or lane line. Average the two wheel path profile indexes for each segment. Additional profiles may be taken only to define the limits of an out-of-tolerance surface variation. The Engineer may use a 10 foot (3 m) straightedge (or other means) to detect irregularities outside the required trace paths. The Engineer may also use the straightedge to delineate the areas that require corrective action.

Bridge approaches shall be tested according to Section 2428 ~~2317 of the Standard Specifications~~.

C. Evaluation.
The Contractor shall determine a profile index based on the 0 inch (0 mm) blanking band following the same procedures shown in Materials I.M. 341 for each segment of finished pavement surface except for:

1. Primary side road connections less than 600 feet (180 m) in length.

2. Non-primary side road connections, which shall be evaluated according to Section 2316.

3. Bridge approaches, which shall be evaluated according to Section 2428.

4. Storage lanes, turn lanes, and other auxiliary lanes less than 600 feet (180 m).

5. Pavement less than 8.5 feet (2.6 m) in width.

6. The 16 feet (5 m) before and the 16 feet (5 m) beyond the ends of the section when the Contractor is not responsible for the adjoining surface.

7. Single lift pavement overlays 2 inches (50 mm) or less in thickness, unless the existing surface has been corrected by milling or scarification.

8. Runout tapers on HMA overlays at existing pavement, bridges, or bridge approach sections where the thickness is less than the design thickness.

For the following situations, the profile index will be evaluated. If the average profile index exceeds the tolerances listed in Article 2317.03, A, the Contractor may elect to eliminate that area from the profile index for the day's paving operation and evaluate the area using a 10 foot (3 m) straightedge as outlined in Article 2317.01.

1. Horizontal curves with a centerline radius of less than 1000 feet (300 m) and the pavement within the superelevation transition of such curves.

2. Crest and sag vertical curves with an L/A < 100 where L is the length of curve in feet and A is the grade change in percent (L/A < 30.5 where L is the length in meters and A is the grade change in percent).

The Contractor shall determine a daily average profile index for each day's paving operation. A day's paving operation is defined as a minimum of 0.1 mile (161 m) segment of pavement placed in a day. If less than 0.1 mile (161 m) segment is paved, the day's production will be grouped with the next day's production. If the production of the last day of project paving is less than 0.1 mile (161 m) segment, it will be grouped with the previous day's production.

Each segment shall be tested within 48 hours following placement. The profile index for each segment of paving shall be furnished to the Engineer by the end of the next day worked following the placement until there has been 3 consecutive days of paving where the index for all segments would result in 100% payment or better. Should any following day be evaluated to receive less than 100% payment, the Engineer shall be notified immediately, and corrective action shall be taken to modify paving methods and equipment to achieve 100% payment or better. ~~During the first 3 days of the paving operation, and after long shut-down periods, the pavement shall be tested and the test report furnished to the Engineer and District Materials Engineer by the end of the next day worked following the placement. On HMA pavement, the testing shall be performed as soon as the pavement has cooled sufficiently to permit testing. The Engineer and the Contractor will use the results of the initial testing to evaluate the paving methods and equipment. If the initial paving operation produces acceptable results, the Contractor may continue paving.~~

If the day's average profile index exceeds the values in Table 2317.03, the Engineer shall be notified and the paving operation ~~will be~~ suspended until corrective action is taken by the Contractor. When the paving is resumed, the paving operations will be evaluated with the start-up testing procedures in the preceding paragraph.

All final profilograph test reports and profile traces shall be submitted to the Engineer within 14 calendar days following completion of paving on the project. Selected reports and traces may be requested by the Engineer in advance of paving completion for purposes of validating the Contractor's test results. Incentive payments for qualifying segments will be made following receipt of appropriate documentation of certified smoothness results. ~~The Contractor shall make the profilogram and evaluation available to the Engineer and District Materials Engineer during the project and furnish both at the end of the project. The evaluation of the trace shall be performed according to Materials I.M. 341. The test report shall be furnished to the Engineer within 2 working days after placement of the pavement and again within 2 working days after any corrections are made.~~

2317.04 CORRECTIVE ACTIONS.

The pavement will be evaluated in 0.1 mile (161 m) segments using the profilograph, to determine pavement segments where corrective work or pay adjustments will be necessary. Each individual profilograph trace will be evaluated (not the average of multiple traces) to determine the areas where corrective action on 0.5 inches (12.7 mm) bumps and dips is needed.

Within each 0.1 mile (161 m) segment, all areas representing high points (bumps) or low points (dips)

with deviations in excess of 0.5 inches (12.7 mm) in a length of 25 feet (7.6 m) or less shall be corrected by the Contractor regardless of the profile index value. Pavement segments excluded from profile index evaluation in Article 2317.03 shall be evaluated for high points and low points with deviations in excess of 0.5 inches (12.7 mm) in a length of 25 feet (7.6 m) or less and shall be corrected by the Contractor.

Bumps and dips equal to or exceeding 0.5 inches (12.7 mm) in a length of 25 feet (7.6 m) or less shall be identified separately.

A. Roadways with a posted speed greater than 45 mph.

Any 0.1 mile (161 m) segment, including bumps, having an initial average profile index of greater than those tolerances shown in Article 2317.05 shall be corrected to reduce the average profile index to those shown in Table 2317.04 below, or replaced at the Contractor's option. On segments where corrections are made, the Contractor shall test the pavement to verify that corrections have met the average profile index as shown in Table 2317.04 below.

B. Roadways with a posted speed of 45 mph, or less, and ramps.

Any 0.1 mile (161 m) segment, including bumps, having an initial average profile index of greater than those tolerances shown in Article 2317.05 shall be corrected to reduce the average profile index to those shown in Table 2317.04 below, or replaced at the Contractor's option. On segments where corrections are made, the Contractor shall test the pavement to verify that corrections have met the average profile index as shown in Table 2317.04 below.

TABLE 2317.04: AVERAGE PROFILE INDEX PER 0.1 MILE (161 m) AFTER CORRECTIONS (0 inch blanking band)

Surface Type	Profile Index For greater than 45 mph Inches per mile (mm/km)	Profile Index For 45 mph or less and ramps Inches per mile (mm/km)
PCC Pavement	40.0 or less (630 or less)	65.0 or less (1025 or less)
HMA Pavement	40.0 or less (630 or less)	50.0 or less (790 or less)

C. Bridge approach sections shall be corrected according to Section 2428.

D. Corrective work shall be at the Contractor's expense except for the 16 feet (5 m) before and the 16 feet (5 m) beyond the end of the section when the Contractor is not responsible for the adjoining surface. Corrective work shall be completed prior to determining pavement thickness.

Bush hammers or other impact devices will not be permitted.

1. PCC Pavement.
On PCC pavement, corrections shall be made using an approved profiling device or by removing and replacing the pavement. The corrective methods used by the Contractor shall be applied to the full lane width. When completed, the corrected area (full lane width) shall have uniform texture and appearance, with the beginning and ending of the corrected area squared normal to centerline of the paved surface. Where surface corrections are made, transverse grooving will not be required.

2. HMA Pavement.
On HMA pavement, corrections shall be made by diamond grinding, by overlaying the area, by replacing the area, or by inlaying the area. If the surface is corrected by diamond grinding, the work and equipment shall be the same as specified for PCC pavement except that the ground surface shall be covered with a seal coat in accordance with Section 2307 with the following modifications:

The binder bitumen may be the emulsion or cutback asphalt used for tack coat, applied at a rate of 0.10 gallon per square yard (0.7 L/m^2). Hand methods may be used for spraying.

The cover aggregate shall be sand, applied at a rate of 10 pounds per square yard (5 kg/m^2). Hand methods may be used may be used for spreading. The sand shall be slightly damp, but with no free moisture, as determined by visual inspection. Embedment shall be by at least one complete pneumatic roller coverage.

This seal coat is intended to be placed immediately after the diamond grinding is completed in the travel lane. The Engineer may approve this construction when road surface temperatures are below 60ºF (16ºC).

Labor, equipment, and materials used for this seal coat will not be paid for, but shall be considered incidental to other items.

If the surface is corrected by overlay, replacement, or inlay, the surface correction shall begin and end with a transverse saw cut normal to the pavement lane lines or edge lines within any one area. The profile of the surface must be smooth with no bumps or dips at the beginning or end of correction.

Overlay correction must be for the entire pavement width. Pavement cross slope must be maintained through the corrected areas.

E. The Engineer will perform verification testing to validate the Contractor's certified quality control testing. If the Engineer's verification test results validate the Contractor's test results, the Contractor's results will be used for acceptance. Disputes between the Contractor's and Engineer's test results will be resolved in accordance with Materials I.M. 341. The Engineer may test the entire project length if it is determined that the Contractor certified test results are inaccurate, and the Contractor will be charged for this work at a rate of $400.00 per mile ($250.00 per kilometer), per profile track, with a minimum charge of $800.00. Furnishing inaccurate tests may result in decertification of the Contractor's certified operator.

On lanes over 8.5 feet (2.6 m) in width, for through traffic which requires matching the surface of the new pavement to the surface of an existing pavement, an Average Base Index (ABI) will be determined according to Section 2316 ~~of the Standard Specifications~~.

2317.05 PAY ADJUSTMENTS.

Pay adjustments will be based on the initial average profile index determined for the segments prior to performing any corrective work. Areas excluded from the profilograph testing and bridges approaches will not be subject to price adjustments.

If the Contractor elects to remove and replace the segments, the Contractor will be paid the price adjustment that corresponds to the initial average profile index obtained on the pavement segments after replacement.

When the plans dictate that an area of pavement is to be hand finished, the area will not be subject to reduced payment. However, the area is to be profiled and corrected as necessary to meet these specifications.

A. PCC Pavement.

The payment will be adjusted as shown in Table 2317.05A below according to the posted or proposed speed.

TABLE 2317.05A: SCHEDULE FOR ADJUSTMENT PAYMENT FOR PCC PAVEMENTS (0 inch blanking band)

Profile Index	Profile Index	Dollars per 0.1 mi. segment per

For greater than 45 mph	For 45 mph or less and ramps	lane	
Inches per mile (mm/km)	Inches per mile (mm/km)	Interstate & Multi-Lane Divided Segments	Other Primary Segments
22.0 or less (345 or less)	25.0 or less (395 or less)	+950.00	+850.00
22.1 to 23.5 (346 to 370)		+800.00	+650.00
23.6 to 26.0 (371 to 410)	25.1 to 30.0 (396 to 475)	+600.00	+450.00
26.1 to 40.0 (411 to 630)	30.1 to 65.0 (476 to 1025)	0.00	0.00
40.1 to 45.0 (631 to 710)	65.1 to 70.0 (1025 to 1105)	-600.00	-450.00
45.1 or more (711 or more)	70.1 or more (1105 or more)	0.00*	0.00*

* These segments must be corrected to the levels shown in Table 2317.04.

B. HMA Pavement.

The payment will be adjusted as shown in Table 2317.05B below according to the posted or proposed speed.

TABLE 2317.05B: SCHEDULE FOR ADJUSTMENT PAYMENT FOR HMA PAVEMENTS (0 inch blanking band)

Profile Index For greater than 45 mph	Profile Index For 45 mph or less and ramps	Dollars per 0.1 mi. segment per lane	
Inches per mile (mm/km)	Inches per mile (mm/km)	Interstate & Multi-Lane Divided Segments	Other Primary Segments
10.0 or less (160 or less)		+850.00	+750.00
10.1 to 11.5 (161 to 180)	15.0 or less (235 or less)	+650.00	+500.00
11.6 to 13.5 (181 to 215)		+500.00	+350.00
13.6 to 15.5 (216 to 245)	15.1 to 20.0 (236 to 315)	+350.00	+200.00
15.6 to 35.0 (246 to 550)	20.1 to 45.0 (316 to 710)	0.00	0.00
35.1 to 40.0 (551 to 630)	45.1 to 50.0 (711 to 790)	-350.00	-200.00
40.1 or more (631 or more)	50.1 or more (791 or more)	0.00*	0.00*

* These segments must be corrected to the levels shown in Table 2317.04.

Reason for Revision: Place SS-01057 in the book as Section 2317. Changes that will be made when SS-01057 is placed in the GS are shown by struck out and highlighted text. The changes are being made to coordinate with similar changes being made to Section 2316.

County or City Input Needed (X one)			**Yes**	**No** X	
Comments:					
Industry Input Needed (X one)			**Yes**	**No** X	
Industry Notified:	**Yes** X	**No**	**Industry Concurrence:**	**Yes**	**No**

Comments: ICPA was notified at the April 16, 2008 Joint Specification Committee meeting that SS-01057 is going into the GS.

Item 12

DS-01096, Water Main.
DS-01097, Sanitary Sewer.
DS-01098, Storm Sewer.

The Developmental Specifications (DS) for Sanitary Sewer, Storm Sewer, and Water Main have been modified to reflect changes in the SUDAS Standard Specifications that will become effective October 2008. For the time being, these DSs will maintain the SUDAS numbering system, but are in the five part format that will be prevalent in the new 2009 Standard Specification book. The language in these DSs will be included in the 2009 Standard Specifications book, though the information will be reorganized and renumbered to separate out individual work types for appropriate placement within the book.

These DSs will become effective with the October 21, 2008 letting. The Specifications Section is asking the Committee to examine these DSs and they will be placed on the agenda for discussion and approval at the June 12, 2008 Specification Committee meeting. The DSs are available in the W:\Highway\Specifications\Exchange\SUDAS DSs folder. The Specifications Section will e-mail the DSs to individuals that do not have access to the Iowa DOT 'W' drive. The Specifications Section intends to have these DSs finalized for the July 1, 2008 Methods Turn-in.

Discussion:
The Specifications Section informed the Committee they are meeting with SUDAS to discuss SUDAS's comments. After the Specifications Section has addressed SUDAS's concerns, they will place revised SUDAS DSs on the Iowa DOT 'W' drive and will e-mail the DSs to individuals who do not have access.