Iowa Department of Transportation

MINUTES
OF
IOWA DOT SPECIFICATION COMMITTEE MEETING

October 12, 2006

Members Present:	Tom Reis, Chair	Specifications Section
	Daniel Harness, Secretary	Specifications Section
	Keith Norris	District 2-District Materials Engineer
	Bruce Kuehl	District 6-District Const. Engineer
	Gary Novey	Office of Bridges & Structures
	John Smythe	Office of Construction
	Roger Bierbaum	Office of Contracts
	Larry Jesse	Office of Local Systems
	Doug McDonald	District 1-Marshalltown RCE Office
	Deanna Maifield	Design - Methods
Members Not Present:	John Adam	Statewide Operations Bureau
	Troy Jerman	Office of Traffic & Safety
	Jim Berger	Office of Materials
	Mike Kennerly	Office of Design
Advisory Members Present:	Lisa Rold	FHWA
	Larry Stevens	SUDAS
Others Present:	Todd Hanson	Office of Materials
	Kevin Merryman	Office of Construction
	Mike Heitzman	Office of Materials

Tom Reis, Specifications Engineer, opened the meeting. The following items were discussed in accordance with the agenda dated October 5, 2006:

1. Article 2001.20, D, Equipment for Volumetric Portioning

Office of Materials requested changes to allow the use of volumetric mixers (mobile mixers) on miscellaneous small pours.

2. Article 2213.14, D, 2, Portland Cement Concrete Base Widening.

The Office of Construction requested a change to eliminate the reference to 2301.34 and place the plan quantity language in this article.

3. Article 2301.04 B, Water, Consistency, and Batch Yield.

The Office of Construction requested a change to clarify slump requirements.

4. Article 2301.04, C, Entrained Air Content.

The Office of Materials requested changes to address concerns with air content of slip form pavement.

5. Article 2301.16 C, 1, Application.

The Office of Construction requested a change to add language to include texture requirements for turn lanes.

6. Article 2301.16 C, 3, Limitations.

The Office of Construction requested a change to add language regarding placement of structural rumble strips.

7. Article 2301.31, Time for Opening Pavement for Use.

The Office of Materials requested a change to eliminate language that allows Level 1 PCC certified technicians to supervise others performing temperature testing.

8. Article 2301.34, A, Portland Cement Concrete Pavement.

The Office of Construction requested a change to add language that will allow this article to apply to all base widening.

9. Article 2301.34, A, Portland Cement Concrete Pavement.

The Office of Materials requested a change to add language instructing the Contractor to deliver cores to the Engineer's office or field laboratory.

10. Article 2302.13, Method of Measurement.
Article 2302.14, Basis of Payment.

The Office of Construction requested a change to:
- Delete unnecessary language from Articles 2302.13 and 2302.14, and
- Add a reference to Article 2301.34 in Article 2302.13.

11. Section 2303, Hot Mix Asphalt Mixtures.

The Specifications Section and Office of Materials requested to incorporate DS-01001, Hot Mix Asphalt Treatment for Moisture Sensitivity, into the Standard Specifications.

12. Article 2304.02, A, PCC.

The Office of Materials requested a change that will define aggregate requirements.

13. Article 2310.03, D, Limitation of Operations.

The Office of Construction requested a change to clarify that the temperature requirement is for air temperature and not mix or pavement temperature.

14. Article 2401.02, Notification of Complete Removal of Bridges.

The Office of Local Systems requested a change that places the responsibility of notifying the DNR on the Contractor.

15. Article 2408.13, Welding.

The Office of Materials requested changes that update from AASHTO/AWS D1.5 - 95 to AASHTO/AWS D1.5M/D1.5 - 02.

16. Article 2408.14, Stress Relief Heat Treatment.

The Office of Materials requested changes that update from AASHTO/AWS D1.5 - 95 to AASHTO/AWS D1.5M/D1.5 - 02.

17. Article 2408.30, B, Painting.

The Office of Materials requested changes that update from AASHTO/AWS D1.5 - 95 to AASHTO/AWS D1.5M/D1.5 - 02.

18. Article 2412.02, Materials.

The Office of Materials requested a change that will increase the substitution rate for fly ash to 20%.

19. Article 2416.05, Method of Measurement.

The Office of Construction requested a change to the method of measurement for culvert pipes.

20. Article 2417.06, Method of Measurement.

The Office of Construction requested a change to the method of measurement for culvert pipes.

21. Article 2418.06, Method of Measurement.

The Office of Construction requested a change to the method of measurement for culvert pipes.

22. Article 2506.02, A, Cement.

The Office of Materials requested a change to allow the use of other cement types such as Type I(SM).

23. Article 2513.03, B, Cast-in-Place and Slip Form.

The Office of Materials requested a change to add time to allow the District Materials Engineer to review the mix.

24. Article 2530.03, B, 2, Class B Patching Material.

The Office of Materials requested that the reference to Article 4115.05 be changed to Section 4115 since there is no need for bridge deck quality aggregate in partial depth patching.

25. Article 2601.04, B, Application of Fertilizer.
Article 2601.05, B, Fertilizing for Stabilizing Crop Seeding.
Article 2601.08, B, Fertilizer for Sod.
Article 2601.13, Fertilizer for Special Ditch Control and Slope Protection.

The Office of Design requested several changes to eliminate language regarding chemically combined fertilizer, as it is no longer readily available or cost effective.

26. Article 2601.21, Method of Measurement.

The Office of Construction requested a change to facilitate efficient determination of areas of work to be performed.

27. Article 4109.02, Gradation.

The Office of Materials requested a change to Gradation #29 of the Aggregate Gradation Table.

28. Article 4130.01, Revetment Description.

The Office of Materials requested a change that will move quality requirements from Materials I.M. 409 back into the specifications.

29. Article 4169.03, Fertilizer.

The Office of Design requested a change as a result of chemically combined fertilizer no longer being readily available or cost effective.

30. Draft DS-01090, A + B Bidding with Lane Rental (Hourly) with Incentive/Disincentive.

The Office of Construction requested changes to DS-01060.

31. Draft SS-01046, Quality Management Concrete (QM-C).

The Office of Construction requested changes to SS-01041.

32. Correction of an error in Item 8 of the September meeting minutes.

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger	**Office:** Materials	**Item 1**
Submittal Date: September 7, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2001.20, D **Title:** Equipment for Volumetric Proportioning	**Other:**	

Specification Committee Action: Approved with changes as noted

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text:

2001.20, D, Equipment for Volumetric Proportioning.

Add as the fourth sentence:

This equipment may be used on miscellaneous concrete pours, described in Materials I.M. 534, less than 50 cubic yards (50 cubic meters) per day.

Comments: District 6 Construction Engineer noted that Materials I.M. 534 states "miscellaneous concrete pours" rather than "miscellaneous concrete placements". They also noted that the limit in Materials I.M. 528 is 50 cubic yards per day. The committee agreed to both of these changes.

Specification Section Recommended Text:

2001.20, D, Equipment for Volumetric Proportioning.

Add as the fourth sentence:

This equipment may be used on miscellaneous concrete placements less than 50 cubic yards (50 cubic meters) as described in Materials I.M. 534.

Comments:

Member's Requested Change (Redline/Strikeout):

D. Equipment for Volumetric Proportioning.

Volumetric proportioning equipment shall meet the applicable requirements of ASTM C 685, Sections 5, 6, 7, and 8 and the applicable requirements of Article 2413.03, B. This equipment shall be calibrated each time, when in the opinion of the Engineer, material or condition changes may affect the calibration. It is not intended that this equipment be used in lieu of conventional drum mixing equipment normally used for structures and paving applications. This equipment may be used on miscellaneous concrete placements less than 50 cubic yards (50 cubic meters) as described in Materials IM 534.

Reason for Revision:

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** X	**No**
Comments: Allow the use of volumetric mixers (mobile mixers) on miscellaneous small pours. A couple of small contractors in Des Moines and Cedar Rapids have approached us on this issue.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe / Kevin Merryman	**Office:** Construction	**Item 2**
Submittal Date: September 28, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2213.14, D, 2 **Title:** Portland Cement Concrete Base Widening	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The Office of Construction noted that since the reference to Article 2301.34, A, is being eliminated, language for base widening does not need to be added back into the fourth paragraph of Article 2301.34, A (Item 8). The committee agreed.

Specification Section Recommended Text:

2213.14, D, 2, Portland Cement Concrete Base Widening.

Replace the entire article:

The quantity of Portland Cement Concrete for Base Widening, of the depth specified, will be ~~determined in accordance with Article 2301.34, A~~ the quantity shown in the contract documents.

Comments:

Member's Requested Change (Redline/Strikeout):

2. Portland Cement Concrete Base Widening.
The quantity of Portland Cement Concrete for Base Widening, of the depth specified, will be ~~determined in accordance with Article 2301.34, A~~ the quantity shown in the contract documents.

Reason for Revision: The change eliminates the reference to 2301.34 which is plan quantity and places the plan quantity language in this article. Removing the reference to 2301 will also eliminate the requirement for coring of Base Widening. The Pavement Design Engineer concurs with the change.

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:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe / Kevin Merryman	**Office:** Construction	**Item 3**
Submittal Date: September 28, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2301.04, B **Title:** Water, Consistency, and Batch Yield	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text:

2301.04, B, Water, Consistency, and Batch Yield.

Replace the first paragraph:

The amount of mixing water used shall be that which will produce workable concrete of uniform consistency. Except as specifically modified by the Engineer, the slump, measured in accordance with Materials I.M. 317, shall not be less than 1/2 inch (15 mm) or more than ~~2-1/2 inches (65 mm) for machine finished, or fixed form; or~~ 4 inches (100 mm) for hand finished pavement. Slump requirements will not apply to slip form paving.

Comments: The Office of Construction noted that the language should be changed to the above. Standard fixed form pavers are used very infrequently.

Specification Section Recommended Text:

2301.04, B, Water, Consistency, and Batch Yield.

Replace the first paragraph:

The amount of mixing water used shall be that which will produce workable concrete of uniform consistency. Except as specifically modified by the Engineer, the slump, measured in accordance with Materials I.M. 317, shall not be less than 1/2 inch (15 mm) or more than 2-1/2 inches (65 mm) for ~~machine finished, or~~ standard fixed form pavement; ~~or~~ and not less than 1/2 inch (15 mm) or more than 4 inches (100 mm) for hand finished pavement. Slump requirements will not apply to slip form paving.

Comments:

Member's Requested Change (Redline/Strikeout):

B. Water, Consistency, and Batch Yield.
The amount of mixing water used shall be that which will produce workable concrete of uniform consistency. Except as specifically modified by the Engineer, the slump, measured in accordance with Materials I.M. 317, shall not be less than 1/2 inch (15 mm) or more than 2-1/2 inches (65 mm) for ~~machine finished, or~~ standard (fixed form)~~;~~ pavement, ~~or~~ and not less than 1/2 inch (15 mm) or more than 4 inches (100 mm) for hand finished pavement. Slump requirements will not apply to slip form paving.

Reason for Revision: The current specification language is confusing as to which slump requirement applies to each type of placement. The proposed changes clarify slump requirements.

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:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger	**Office:** Materials	**Item 4**
Submittal Date: August 23, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2301.04, C **Title:** Entrained Air Content	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text:

2301.04, C, Entrained Air Content.

Replace the entire article:

Air entrainment shall be accomplished by addition of an approved air entraining agent. Air content as determined by Materials I.M. 318, will be determined on each day of production as early and as frequently as necessary until the air content is consistently acceptable. The intended air content of finished concrete is 6.0%. Acceptance for entrained air content will be before consolidation.

1. Slip form projects greater than 7500 square yards (6000 m^2).
The target air content will be determined to account for air loss during consolidation of concrete during slip form paving. The difference between before and after the paver air contents for a given location shall be considered the air loss.

On the first day of paving, air loss and target air content will be established during placement of the first eleven loads of concrete. The procedure will be as follows:

a. Central Batch Plant: the air content before the paver shall be between 8.0% and 12.0%, until the target air content has been established.

b. Ready Mixed Concrete: the air content before the paver shall be 7.5% plus 1.5% or minus 1.0%, until target air content has been established.

Thereafter, the air loss and target air content will be established once per half day paving. The target air content shall be 6.5%, plus the air loss rounded to the next higher 0.5%, with a tolerance of plus or minus 1.5%. A new target air content before the paver will be established if the air loss deviates by more than 0.5% from the last air loss.

After the first day of paving, the target air content from the previous day will be used until a new target air content is determined.

2. Slip form projects less than 7500 square yards (6000 m^2).
The air content before the paver shall be 7.5% plus 1.5% or minus 1.0%. At the option of the Engineer, the target air content may be established using the air loss.

The air content for non slip form paving shall be 7.0% plus 1.5% or minus 1.0%.

Comments: The Office of Construction noted a few formatting issues: 1) the slip form pavement language is indented under non slip form language, but shouldn't be; and 2) Paragraph 1, c actually applies to both Paragraphs 1, a and 1, b. After the meeting, the Office of Construction suggested changes

to Paragraph 1, a. The above language is the agreed language agreed upon by the Office of Construction, Office of Materials, and Specifications Section.

Specification Section Recommended Text:

2301.04, C, Entrained Air Content.

Replace the entire article:

Air entrainment shall be accomplished by addition of an approved air entraining agent. Air content as determined by Materials I.M. 318, will be determined on each day of production as early and as frequently as necessary until the air content is consistently acceptable. The intended air content of finished concrete is 6.0%. Acceptance for entrained air content will be before consolidation.

The air content for non slip form paving shall be 7.0% plus 1.5% or minus 1.0%.

1. Slip form projects greater than 7500 square yards (6000 m^2)
The target air content will be determined to account for air loss during consolidation of concrete during slip form paving. The difference between before and after the paver air contents for a given location shall be considered the air loss.

Air content will be tested on the first day of paving as follows:

a. Central Batch Plant: the first load will be tested at the grade and the air content shall be between 8.0% and 12.0%. The next ten loads will be accepted on the basis of this complying air test.

b. Ready Mixed Concrete: the air content before the paver shall be 7.5% plus 1.5% or minus 1.0%, until target air content has been established.

c. During placement of the first eleven loads of concrete, the air loss and target air content will be established.

Thereafter, the air loss and target air content will be established once per half day paving. The target air content shall be 6.5%, plus the air loss rounded to the next higher 0.5%, with a tolerance of plus or minus 1.5%. A new target air content before the paver will be established if the air loss deviates by more than 0.5% from the last air loss.

After the first day of paving, the target air content from the previous day will be used until a new target air content is determined.

2. Slip form projects less than 7500 square yards (6000 m2)
The air content before the paver shall be 7.5% plus 1.5% or minus 1.0%. At the option of the Engineer, the target air content may be established using the air loss.

Comments:

Member's Requested Change (Redline/Strikeout):

Replace the Entire Article

C. Entrained Air Content.
Air entrainment shall be accomplished by addition of an approved air entraining agent. Air content as determined by Materials I.M. 318, will be determined on each day of production as early and as frequently as necessary until the air content is consistently acceptable. The intended air content of finished concrete is 6.0%. Acceptance for entrained air content will be before consolidation.

The air content for non slip form paving shall be 7.0% plus 1.5% or minus 1.0%.

Slip form projects greater than 7500 square yards (6000 m^2)

The target air content will be determined to account for air loss during consolidation of concrete during slip form paving. The difference between before and after the paver air contents for a given location will be considered the air loss.

Air content will be tested on the first day of paving as follows:

1. Central Batch Plant: the first load will be tested at the grade and the air content shall be between 8.0% and 12.0%. The next ten loads will be accepted on the basis of this complying air test.

2. Ready Mixed Concrete: the air content before the paver shall be 7.5% plus 1.5% or minus 1.0%, until target air content has been established.

3. During placement of the first eleven loads of concrete, the air loss and target air content will be established.

Thereafter, the air loss and target air content will be established once per half day paving. The target air content shall be 6.5%, plus the air loss rounded to the next higher 0.5%, with a tolerance of plus or minus 1.5%. A new target air content before the paver will be established if the air loss deviates by more than 0.5% from the last air loss.

After the first day of paving, the target air content from the previous day will be used until a new target air content is determined.

Slip form projects less than 7500 square yards (6000 m^2)

The air content before the paver shall be 7.5% plus 1.5% or minus 1.0%. At the option of the Engineer, the target air content may be established using the air loss.

Reason for Revision: Based on air problems this year, it is not reasonable to require 8 to 12% at the plant, 8 to 12% is needed at the grade. Sometimes as much as 16% was required at the plant. Also, due to some widely varying air losses, it was decided to use the air loss established at the time to determine the target instead of averaging. The target air content was increased to 6.5% plus air loss +/- 1.5%. A higher target with a wider tolerance was given based on standard deviation of testing noted on past projects.

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** X	**No**
Comments:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe / Kevin Merryman	**Office:** Construction	**Item 5**
Submittal Date: September 28, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2301.16 C, 1 **Title:** Application	**Other:**	

Specification Committee Action: Approved with the changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text:

2301.16, C, 1, Application.

Replace the first sentence of the first paragraph:

~~All mainline pavement, w~~Where the speed limit is greater than 35 mph (60 km/h), all mainline pavement, turn lanes, and the traveled portion of ramps shall receive macrotexture.

Comments: The Office of Construction noted that the recommended text implies the 35 mph limit applies only to mainline pavement. It should also apply to turn lanes and ramps.

Specification Section Recommended Text:

2301.16, C, 1, Application.

Replace the first sentence of the first paragraph:

All mainline pavement~~,~~ where the speed limit is greater than 35 mph (60 km/h), turn lanes, and the traveled portion of ramps shall receive macrotexture.

Comments:

Member's Requested Change (Redline/Strikeout):

1. Application.

~~All mainline pavement, where the speed limit is greater than 35 mph (60 km/h), and the traveled portion of ramps shall receive macrotexture.~~ All mainline pavement where the speed limit is greater than 35 mph (60 km/h) shall receive macrotexture. This shall include turn lanes and the traveled portion of ramps. Macrotexturing is not required on radii, crossovers, paved medians, shoulders, and other irregular areas.

Reason for Revision: Current specification language doesn't include texture requirements for turn lanes.

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:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe / Kevin Merryman	**Office:** Construction	**Item 6**
Submittal Date: September 28, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2301.16 C, 3 **Title:** Limitations	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text:

2301.16, C, 3, Limitations.

Add as the fourth sentence:

The outside 2 feet (0.6 meters) shall not be grooved if placing structural rumble strips (rumble strips placed in the outside 2 feet (0.6 meters) of PCC pavements, as shown in the Standard Road Plans, to deter traffic).

Comments: Several offices noted that they were unfamiliar with structural rumble strips. These are shown on several Standard Road Plans. The Office of Design explained that structural rumble strips are placed in the outside 2 feet of 14 foot lanes to keep traffic off the outer portion of the lane. The Office of Contracts requested that structural rumble strips be clarified in the text.

Specification Section Recommended Text:

2301.16, C, 3, Limitations.

Add as the fourth sentence:

If placing structural rumble strips, the outside 2 feet (0.6 meters) shall not be grooved.

Comments:

Member's Requested Change (Redline/Strikeout):

3. Limitations.
The tining operation shall be done at such time and manner that the desired surface texture will be achieved while minimizing displacement of the larger aggregate particles and before the surface permanently sets. Where abutting pavement is to be placed, the grooving shall extend as close to the edge as possible without damaging the edge. If abutting pavement is not to be placed, the 6 inch (150 mm) area nearest the edge or 1 foot (300 mm) from the face of the curb shall not be grooved. If placing structural rumble strips, the outside 2 feet (0.6 meters) shall not be grooved. All uniform width slabs of 20 feet (6.1 m) or narrower and less than 600 feet (200 m) in length, as well as mainline and ramp pavement during equipment breakdowns, may be grooved by hand methods.

Reason for Revision: When placing structural rumble strips, the outside 2 feet of the pavement should not include macrotexture.

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:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger	**Office:** Materials	**Item 7**
Submittal Date: August 23, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2301.31 **Title:** Time for Opening Pavement for Use	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text:

2301.31, Time for Opening Pavement for Use.

Delete the second sentence of the fifth paragraph:

~~This certified technician may supervise other persons who may then perform the temperature testing of the constructed pavement.~~

Comments: The Office of Contracts noted that the submittal doesn't indicate if Industry has been contacted. The Office of Materials explained that Industry has been notified of the proposed changes.

District 6 Construction pointed out that it is the second sentence of the fifth, not the sixth, paragraph that is being deleted.

Specification Section Recommended Text:

2301.31, Time for Opening Pavement for Use.

Delete the second sentence of the sixth paragraph:

~~This certified technician may supervise other persons who may then perform the temperature testing of the constructed pavement.~~

Comments:

Member's Requested Change (Redline/Strikeout):

Change the 6th paragraph

Personnel performing maturity testing shall be Level I PCC certified technician with training for maturity testing. ~~This certified technician may supervise other persons who may then perform the temperature testing of the constructed pavement.~~

Reason for Revision:

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

Industry Notified:	**Yes X**	**No**	**Industry Concurrence:**	**Yes**	**No**
Comments: PCC Level II in previous language could supervise PCC Level I certified inspectors. Personnel performing testing must be certified by FHWA requirements.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe / Kevin Merryman	**Office:** Construction	**Item 8**
Submittal Date: September 28, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2301.34, A **Title:** Portland Cement Concrete Pavement	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text:

2301.34, A, Portland Cement Concrete Pavement.

Replace the first sentence of the first paragraph:

The quantity of Standard or Slip-Form Portland Cement Concrete Pavement of the type specified in square yards (square meters), will be the quantity shown in the contract documents and applies to pavement, concrete pavement widening ~~greater than 6 feet (1.8 m)~~, side street connections, crossovers, ramps, acceleration and deceleration lanes or auxiliary lanes, and concrete paved shoulders having the same design thickness.

Comments: In the discussion for Item 2, the Office of Construction noted that the language for base widening does not need to be added.

Specification Section Recommended Text:

2301.34, A, Portland Cement Concrete Pavement.

Replace the first paragraph:

The quantity of Standard or Slip-Form Portland Cement Concrete Pavement of the type specified in square yards (square meters), will be the quantity shown in the contract documents and applies to pavement, concrete pavement widening ~~greater than 6 feet (1.8 m)~~, side street connections, crossovers, ramps, acceleration and deceleration lanes or auxiliary lanes, and concrete paved shoulders having the same design thickness. The coring requirements for thickness do not apply to base widening, detour pavements, paved drives, and temporary pavements. The thickness of pavement constructed will be determined from core depths as follows:

Comments:

Member's Requested Change (Redline/Strikeout):

A. Portland Cement Concrete Pavement.
The quantity of Standard or Slip-Form Portland Cement Concrete Pavement of the type specified in square yards (square meters), will be the quantity shown in the contract documents and applies to pavement, concrete pavement widening ~~greater than 6 feet (1.8 m)~~, side street connections, crossovers, ramps, acceleration and deceleration lanes or auxiliary lanes, and concrete paved shoulders having the same design thickness. The coring requirements for thickness do not apply to base widening, detour pavements, paved drives, and temporary pavements. The thickness of pavement constructed will be determined from core depths as follows:

Reason for Revision: The article should apply to all PCC pavement widening. Base Widening should be excluded from coring requirements.					
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:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger	**Office:** Materials	**Item 9**
Submittal Date: September 7, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2301.34, A **Title:** Portland Cement Concrete Pavement	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text:

2301.34, A, Portland Cement Concrete Pavement.

Replace the fifth sentence of the third paragraph:

After measurement on the grade, the Contractor shall deliver the cores to the ~~District Materials Office~~ Engineer's office or field laboratory.

Comments: The Office of Construction asked if the cores are to be delivered to the Engineer's office, rather than to the Engineer. The Office of Materials verified this.

Specification Section Recommended Text:

2301.34, A, Portland Cement Concrete Pavement.

Replace the fifth sentence of the third paragraph:

After measurement on the grade, the Contractor shall deliver the cores to the ~~District Materials Office~~ Engineer or field laboratory.

Comments:

Member's Requested Change (Redline/Strikeout):

2301.34, A, Portland Cement Concrete Pavement.

Third paragraph, fifth sentence

After measurement, the Contractor shall deliver the cores to the Engineer or field laboratory ~~District Materials Office~~.

Reason for Revision:

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** X	**No**
Comments: Industry did not feel they needed to deliver cores in a further direction if they already had been measured. It was agreed to change to the Engineer or field laboratory and the DME would pick up the 10% independent assurance sample cores.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe / Kevin Merryman	**Office:** Construction	**Item 10**
Submittal Date: September 28, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2302.13, C **Title:** Pavement Widening **Article No.:** 2302.13, D **Title:** Shoulders **Article No.:** 2302.14, C **Title:** Pavement Widening	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2302.13, C, Pavement Widening.

Replace the first sentence:

The quantity of PCC Pavement Widening, in square yards (square meters), ~~to the nearest 0.1 foot (0.1 meter) along the exiting pavement edge,~~ will be the quantity shown in the contract documents.

Add as the second sentence:

The thickness of the pavement will be determined as provided in Article 2301.34.

2302.13, D, Shoulders.

Replace the first sentence:

The quantity of Type A, B, and C Shoulders, in stations (meters), ~~to the nearest 0.1 foot (0.1 meter) along each edge of the existing pavement edge,~~ will be the quantity shown in the contract documents.

2302.14, C, Pavement Widening.

Replace the first sentence:

The Contractor will be paid the contract unit price for PCC Pavement Widening per square yard (square meter) ~~or the adjusted price per square yard (square meter)~~ as provided in Article 2301.35.

Comments:

Member's Requested Change (Redline/Strikeout):

2302.13 METHOD OF MEASUREMENT.

C. Pavement Widening.
The quantity of PCC Pavement Widening, in square yards (square meters), ~~to the nearest 0.1 foot (0.1 meter) along the exiting pavement edge,~~ will be the quantity shown in the contract documents. The thickness of the pavement will be determined as provided in Article 2301.34.

D. Shoulders.
The quantity of Type A, B, and C Shoulders, in stations (meters), ~~to the nearest 0.1 foot (0.1 meter) along each edge of the existing pavement edge,~~ will be the quantity shown in the contract documents. Finishing of earth shoulders will not be measured separately but shall be considered as incidental work included in construction of shoulders. Construction of Type D shoulder shall be considered as incidental to excavation and will not be measured for payment.

2302.14 BASIS OF PAYMENT.

C. Pavement Widening.
The Contractor will be paid the contract unit price for PCC Pavement Widening per square yard (square meter) ~~or the adjusted price per square yard (square meter)~~ as provided in Article 2301.35. This payment shall be full compensation for construction of the pavement widening and all other work not paid for under other items.

Reason for Revision: Questions have been received by field staff confused by the deleted language in 2302.13 C & D. The language is not necessary since both items are plan quantity.

Because coring of pavement widening is required, a reference to 2301.34 should be included in the Method of Measurement. The deleted language in 2302.14 C is not necessary and also adds confusion over whether or not coring is required.

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:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger / Mike Heitzman	**Office:** Materials	**Item 11**
Submittal Date: 10-02-2006	**Proposed Effective Date:** April 2007 GS	
Section No.: 2303 **Title:** Hot Mix Asphalt Mixtures	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: Articles 2303.04, B, 1; 2303.04, D, 1; 2303.05, D; 2303.06, A; and 2303.06, D, see Members Requested Change.

2303.02, E, 2, Hydrated Lime.

Replace the title and entire article:

2. **Anti-strip Agent ~~Hydrated Lime~~.**
~~Hydrated lime shall meet the requirements of AASHTO M 303, Type I. Section 4193 shall not apply. Hydrated lime will not be considered part of the aggregate when determining the job mix formula and the filler/bitumen ratio.~~

On Primary routes designed for over 10,000,000 ESALs and all Interstate highways, if 25% or more of the plus No. 4 (4.75 mm) (virgin and RAP) aggregate is gravel, quartzite, granite, trap rock, steel slag, or other siliceous aggregate (not a limestone or dolomite), anti-strip agent ~~hydrated lime~~ will be required in the affected ~~intermediate and surface course~~ mixture unless the minimum requirements for moisture sensitivity are met.

On all other Primary highways ~~other than Interstate highways~~, if 25% or more of the plus No. 4 (4.75 mm) (virgin and RAP) aggregates or more than 40% of the total (virgin and RAP) aggregates is quartzite, granite, or other siliceous aggregates (not limestone or dolomite) which is obtained by crushing from ledge rock, anti-strip agent ~~hydrated lime~~ will be required in the affected mixtures requiring Type A aggregate unless the minimum requirements for moisture sensitivity are met.

Anti-strip agent ~~Hydrated lime~~ will not be required for base repair, patching, or temporary pavement.

When anti-strip agent ~~hydrated lime~~ is required based on aggregate source, the Contractor may arrange for ~~Superpave~~ moisture sensitivity evaluation of the proposed HMA mixture design according to AASHTO T 283, "Resistance of Compacted Bituminous Mixture to Moisture-Induced Damage." When results of this evaluation ~~indicate more than 80% tensile strength retained (TSR), hydrated lime~~ on mixtures without anti-strip agent indicate the minimum requirements for moisture sensitivity of 80% tensile strength ratio (TSR) with visual confirmation are met, anti-strip agent will not be required. Confirmation of AASHTO T 283 test results will be completed by the Central Materials Laboratory during ~~placement of the test strip~~ the initial production and placement of the mix. The Contractor will be subject to the provisions of Section 1105 for mixture placed without anti-strip agent prior to completion of the AASHTO T 283 confirmation testing.

When a liquid anti-strip additive or aggregate treatment is used, confirmation of the AASHTO T 283 test results will be completed by the Central Materials Laboratory during the initial production and placement of the mix. The Contractor will be subject to the provisions of Section 1105 for

mixture placed with liquid anti-strip additive or aggregate treatment prior to completion of the AASHTO T 283 confirmation testing.

One of the following anti-strip agents shall be used:

a. Hydrated Lime.
Hydrated lime shall meet the requirements of AASHTO M 303, Type I. Section 4193 shall not apply. Hydrated lime will not be considered part of the aggregate when determining the job mix formula and the filler/bitumen ratio.

b. Liquid Anti-strip Additives.
Liquid anti-strip additives blended into the asphalt binder shall be approved for each JMF. The approval will be based on the following conditions:

1) Asphalt binder supplier shall provide test results that the additive does not negatively impact the asphalt binder properties, including short term and long term aged properties.

2) The AASHTO T 283 test is required and must satisfy 80% TSR when compared to the dry strength of specimens prepared with asphalt binder not containing the anti-strip additive. The design shall establish the optimum additive rate.

3) A change in the source of asphalt binder or aggregates will require a re-evaluation of the AASHTO T 283 test. When there is a significant change in the aggregate proportions, the Engineer may require a re-evaluation of the AASHTO T 283 test.

c. Polymer-based Liquid Aggregate Treatments.
Polymer-based liquid aggregate treatments shall be approved for each JMF. The approval will be based on the following conditions:

1) The AASHTO T 283 test is required and must satisfy 80% TSR when compared to the dry strength of specimens prepared with and without the aggregate treatment. The design shall establish the optimum additive rate.

2) A change in the source of asphalt binder or aggregates will require a re-evaluation of the AASHTO T 283 test.

2303.03, C, 1, c. Handling Hydrated Lime.

Replace title and article:

c. Handling ~~Hydrated Lime~~ Anti-strip Agents.

1) Hydrated Lime.
The lime shall ~~must~~ be accurately proportioned by a method acceptable to the Engineer.

a) ~~1)~~ ~~Hydrated Lime~~ Added to a Drum Mixer.
The hydrated lime shall be added at the rate of 0.75% by weight (mass) of the total aggregate (virgin and RAP) for Interstate and Primary projects. The hydrated lime shall be added to a drum mixer by one of the following methods:

(1) ~~a)~~ Added to the virgin aggregate on the primary feed belt, as a lime water slurry.
(2) ~~b)~~ Thoroughly mixed with the total combined aggregate if the aggregate contains at least 3% total moisture.
(3) ~~c)~~ Added to the Type 2 or Type 3 virgin aggregate in a moist condition, and then mixed with the total combined virgin aggregate.

Alternative methods for mixing must be reviewed and approved by the Engineer. Hydrated lime shall not be introduced directly into a drum mixer by blowing or auguring.

b) ~~2)~~ ~~Hydrated Lime~~ Added to a Batch Plant.
Hydrated lime shall be added at the rate of 0.5% by weight (mass) of total aggregate (virgin and RAP) for Interstate and Primary projects. It shall be introduced to a batch plant by one of the following methods:

(1) ~~a)~~ Placed on the recycle belt which leads directly into the weigh hopper.
(2) ~~b)~~ Added directly into the pugmill.
(3) ~~c)~~ Added directly into the hot aggregate elevator into the hot aggregate stream. In any case, the lime must be introduced prior to the start of the dry mix cycle.

c) **~~3)~~ ~~Hydrated Lime~~ Added to the Aggregate Stockpile.**
Hydrated lime shall be added at a rate established by the AASHTO T 283 test. The hydrated lime shall be added to the source aggregates defined in Article 2303.02, E, 2, thoroughly mixed with sufficient moisture to achieve aggregate coating, and then placed in the stockpile.

When ~~any of the~~ either method b or c above ~~methods~~ for a batch plant is used, the hydrated lime will be considered part of the JMF.

2) Liquid.
When liquid anti-strip additives are used, the equipment used to store, measure, and blend the additive with the asphalt binder shall comply with the anti-strip supplier's recommended practice. The additive may be injected into the asphalt binder by the asphalt supplier or the Contractor. If the Contractor elects to add the liquid anti-strip additive, the Contractor assumes the material certification responsibilities of the asphalt binder supplier. The shipping ticket shall report the type and amount of additive and the time of injection. The asphalt supplier shall provide the Contractor and Engineer with the shelf life criteria defining when the anti-strip additive maintains its effectiveness. Binder that has exceeded the shelf life criteria will not be used.

When polymer-based liquid aggregate treatment is used, the Contractor will comply with the manufacturer's current recommended specifications and guidelines.

Comments: Office of Materials explained that DS-01001 was developed to offer an alternative to hydrated lime for moisture sensitivity treatment. For the GS, they are adding language stating the Contractor will be compensated (by extra work order) if anti-strip agent is required.

Office of Construction expressed concern with the situation where pavement is placed while waiting for test results. The Office of materials noted that although it's not clearly stated, the Contractor should be adding hydrated lime until test results are verified. The Office of Materials noted that the ideal situation is for the Contractor to place the test strip a week or more in advance as part of the intermediate course. If they place it as part of the surface course without anti-strip agent, they accept the risk – though that is not spelled out clearly. The Office of Materials noted that it is the Contractor who must initiate the interest in not putting anti-strip agent in the mix.

The Office of Construction expressed concern that since Contractors are being paid for anti-strip agent, they will add it regardless of whether or not it is needed to avoid the risk of noncompliance. They wanted to know if there is a way to state that it is not to be added if it isn't needed. The Office of Materials explained that certain mix recipes will result in requiring anti-strip agent. Other mix recipes will only require testing (AASHTO T 283) to see if anti-strip agent is required. The Contractor will know ahead of time if anti-strip agent is required, or if testing for the need for anti-strip is required. The Office of

Construction wants to make clear the acceptability of the mix. They also want to make it clear that the mix will not be accepted until after the DOT runs their tests. They would prefer tests be run and the need for anti-strip agent established before the mix is produced.

The Office of Contracts expressed concern with the impact on the bidding process should one Contractor consider an aggregate requiring anti-strip agent and another consider an aggregate that does not. This could affect who is low bidder. The Office of Materials indicated that this is unlikely to happen. Typically the aggregate of concern is friction aggregate. If the project requires a friction aggregate, Contractors won't have the wide range of choice of materials that will or will not require testing.

The Office of Contracts asked if the Contractor will know ahead of time if they will need anti-strip agent. The Office of Materials explained that on interstate projects, where friction aggregate is typically required, the Contractor will likely know ahead of time. Since the Contractor is being paid separately for the anti-strip agent, there is no need for them to add it into their bid. The Office of Construction added that the Contractor at the time of bidding will know by the aggregate chosen if the mix will require T 283 testing, but won't know if they will test out of the anti-strip agent requirement. The risk for the Contractor starts with their test results. Should their test results indicate anti-strip agent isn't needed, they are taking a risk if they choose, between the time their test results are completed and the time the DOT completes their testing, to place mix without the agent added in. The Office of Construction would like to see acceptance of a mix better defined. The issue is how close to passing is close enough? How will we handle it if the Contractor has placed mix that barely misses passing T 283? The Office of Materials noted that most of the time, this shouldn't be a problem since typically our test results agree with the Contractor's. The Office of Contracts emphasized the need to clarify how to handle pavement placed without anti-strip agent that, according to DOT test results, requires it. District 2 Materials suggested offering an incentive for placing test strips early so that DOT tests are completed before the mix is produced. The Office of Materials suggested adding text that the Contractor accepts the risk for pavement placed without agent before the DOT has completed their tests. The Office of Materials provided the Specifications Section some language to add in that will clarify this.

District 6 Construction noted that the second paragraph under 2303.03, C, 1, c, 1 applies to only Paragraphs 2303.03, C, 1, c, 1, b and c.

Specification Section Recommended Text:

Comments:

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

2303.02, E, 2, Hydrated Lime.

Replace the title and entire article:

2. **Anti-strip Agent ~~Hydrated Lime~~.**
~~Hydrated lime shall meet the requirements of AASHTO M 303, Type I. Section 4193 shall not apply. Hydrated lime will not be considered part of the aggregate when determining the job mix formula and the filler/bitumen ratio.~~(this text was moved)

On Primary routes designed for over 10,000,000 ESALs and all Interstate highways, if 25% or more of the plus No. 4 (4.75 mm) (virgin and RAP) aggregate is gravel, quartzite, granite, trap rock, steel slag, or other siliceous aggregate (not a limestone or dolomite), anti-strip agent ~~hydrated lime~~ will be required in the affected ~~intermediate and surface course~~ mixture unless the minimum requirements for moisture sensitivity are met.

On all other Primary highways ~~other than Interstate highways~~, if 25% or more of the plus No. 4 (4.75 mm) (virgin and RAP) aggregates or more than 40% of the total (virgin and RAP) aggregates

is quartzite, granite, or other siliceous aggregates (not limestone or dolomite) which is obtained by crushing from ledge rock, anti-strip agent ~~hydrated lime~~ will be required in the affected mixtures requiring Type A aggregate unless the minimum requirements for moisture sensitivity are met.

Anti-strip agent ~~Hydrated lime~~ will not be required for base repair, patching, or temporary pavement.

When anti-strip agent ~~hydrated lime~~ is required based on aggregate source, the Contractor may arrange for ~~Superpave~~ moisture sensitivity evaluation of the proposed HMA mixture design according to AASHTO T 283, "Resistance of Compacted Bituminous Mixture to Moisture-Induced Damage." When results of this evaluation ~~indicate more than 80% tensile strength retained (TSR), hydrated lime~~ on mixtures without anti-strip agent indicate the minimum requirements for moisture sensitivity of 80% tensile strength ratio (TSR) with visual confirmation are met, anti-strip agent will not be required. Confirmation of AASHTO T 283 test results will be completed by the Central Materials Laboratory during ~~placement of the test strip~~ the initial production and placement of the mix.

When a liquid anti-strip additive or aggregate treatment is used, confirmation of the AASHTO T 283 test results will be completed by the Central Materials Laboratory during the initial production and placement of the mix.

One of the following anti-strip agents shall be used:

a. Hydrated Lime.
Hydrated lime shall meet the requirements of AASHTO M 303, Type I. Section 4193 shall not apply. Hydrated lime will not be considered part of the aggregate when determining the job mix formula and the filler/bitumen ratio.

b. Liquid Anti-strip Additives.
Liquid anti-strip additives blended into the asphalt binder shall be approved for each JMF. The approval will be based on the following conditions:

1) Asphalt binder supplier shall provide test results that the additive does not negatively impact the asphalt binder properties, including short term and long term aged properties.

2) The AASHTO T 283 test is required and must satisfy 80% TSR when compared to the dry strength of specimens prepared with asphalt binder not containing the anti-strip additive. The design shall establish the optimum additive rate.

3) A change in the source of asphalt binder or aggregates will require a re-evaluation of the AASHTO T 283 test. When there is a significant change in the aggregate proportions, the Engineer may require a re-evaluation of the AASHTO T 283 test.

c. Polymer-based Liquid Aggregate Treatments.
Polymer-based liquid aggregate treatments shall be approved for each JMF. The approval will be based on the following conditions:

1) The AASHTO T 283 test is required and must satisfy 80% TSR when compared to the dry strength of specimens prepared with and without the aggregate treatment. The design shall establish the optimum additive rate.

2) A change in the source of asphalt binder or aggregates will require a re-evaluation of the AASHTO T 283 test.

2303.03, C, 1, c. Handling Hydrated Lime.

Replace title and article:

c. Handling ~~Hydrated Lime~~ Anti-strip Agents.

1) Hydrated Lime.
The lime shall ~~must~~ be accurately proportioned by a method acceptable to the Engineer.

a) ~~1)~~ ~~Hydrated Lime~~ Added to a Drum Mixer.
The hydrated lime shall be added at the rate of 0.75% by weight (mass) of the total aggregate (virgin and RAP) for Interstate and Primary projects. The hydrated lime shall be added to a drum mixer by one of the following methods:

(1) ~~a)~~ Added to the virgin aggregate on the primary feed belt, as a lime water slurry.
(2) ~~b)~~ Thoroughly mixed with the total combined aggregate if the aggregate contains at least 3% total moisture.
(3) ~~c)~~ Added to the Type 2 or Type 3 virgin aggregate in a moist condition, and then mixed with the total combined virgin aggregate.

Alternative methods for mixing must be reviewed and approved by the Engineer. Hydrated lime shall not be introduced directly into a drum mixer by blowing or auguring.

b) ~~2)~~ ~~Hydrated Lime~~ Added to a Batch Plant.
Hydrated lime shall be added at the rate of 0.5% by weight (mass) of total aggregate (virgin and RAP) for Interstate and Primary projects. It shall be introduced to a batch plant by one of the following methods:

(1) ~~a)~~ Placed on the recycle belt which leads directly into the weigh hopper.
(2) ~~b)~~ Added directly into the pugmill.
(3) ~~c)~~ Added directly into the hot aggregate elevator into the hot aggregate stream. In any case, the lime must be introduced prior to the start of the dry mix cycle.

c) **~~3)~~ ~~Hydrated Lime~~ Added to the Aggregate Stockpile.**
Hydrated lime shall be added at a rate established by the AASHTO T 283 test. The hydrated lime shall be added to the source aggregates defined in Article 2303.02, E, 2, thoroughly mixed with sufficient moisture to achieve aggregate coating, and then placed in the stockpile.

When any of the above methods for a batch plant is used, the hydrated lime will be considered part of the JMF.

2) Liquid.
When liquid anti-strip additives are used, the equipment used to store, measure, and blend the additive with the asphalt binder shall comply with the anti-strip supplier's recommended practice. The additive may be injected into the asphalt binder by the asphalt supplier or the Contractor. If the Contractor elects to add the liquid anti-strip additive, the Contractor assumes the material certification responsibilities of the asphalt binder supplier. The shipping ticket shall report the type and amount of additive and the time of injection. The asphalt supplier shall provide the Contractor and Engineer with the shelf life criteria defining when the anti-strip additive maintains its effectiveness. Binder that has exceeded the shelf life criteria will not be used.

When polymer-based liquid aggregate treatment is used, the Contractor will comply with the manufacturer's current recommended specifications and guidelines.

2303.04, B, 1, Sampling and Testing.

Add as the eleventh paragraph.

When liquid anti-strip additives are used, the Contractor shall satisfy one of the following methods to regulate the quantity of additive:

a. The Contractor shall present a Certification certifying the equipment used to measure and blend the liquid anti-strip meets the anti-strip supplier's recommended practice, that the equipment is directly tied to the asphalt binder supply system, and that the equipment has been calibrated to the equipment manufacturer's guidelines.

b. The Contractor shall test the binder to measure the quantity of liquid anti-strip additive in the binder every 5000 tons (5000 Mg) of HMA production. The supplier's test method shall be approved by the Engineer prior to use of the test.

c. The Contractor shall run AASHTO T 283 during production. If the Contractor is unable to certify or test for the presence and quantity, the Contractor shall run AASHTO T 283 each 10,000 tons (10,000 Mg) of production to measure the effectiveness of the additive. The test results shall satisfy 80% TSR when compared to the dry strength of specimens prepared with asphalt binder containing the anti-strip additive.

2303.04, D, 1, Individual Materials and Loose Mixture.

Add as the fifth paragraph:

When sampling for AASHTO T 283, the Contractor shall obtain a 50 pound (25 kg) sample in accordance with Materials I.M. 322. The Engineer will select, at random, the sample location. The Contractor shall split the sample and deliver half to the Central Materials Laboratory.

2303.05 D, Hydrated Lime.

Replace the title and first paragraph

D, ~~Hydrated Lime~~ Anti-strip Agent.
~~Hydrated lime~~ Anti-strip agent incorporated in HMA mixtures will not be measured separately. The quantity will be based on tons (megagrams) of HMA mixture with ~~hydrated lime~~ anti-strip agent added.

2303.06, A, Hot Mix Asphalt Mixture.

Add as the Sixth paragraph:

When liquid anti-strip agent is used and production quality control testing for AASHTO T 283 is required, the payment for HMA will be adjusted according to the following table:

Percent TSR	Percent of Full Payment
Greater than 79	100
79 to 70	90
Less than 70	75 maximum

2303.06, D, Hydrated Lime.

Replace title and article:

D, ~~Hydrated Lime~~ Anti-strip Agent.

~~The Contractor will be paid the predetermined contract unit price for Hydrated Lime per ton (megagram) of HMA mixture in which hydrated lime is incorporated. This payment will be full compensation for designing, adding, and testing of the hydrated lime.~~ When anti-strip agent is required according to Article 2303.02 E, 2, the incorporation of the anti-strip agent into the HMA mixture will be done as extra work ordered by the Engineer. Payment will be made at the rate of $1.00 per ton (megagram) of HMA mixture in which the anti-strip agent is incorporated. This payment will be full compensation for designing, adding, and testing for anti-strip agent.

Reason for Revision: To incorporate DS-01011, Hot Mix Asphalt Treatment for Moisture Sensitivity, into the Standard Specifications.

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 12**
Submittal Date: June 26, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2304.02, A **Title:** PCC	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The question was raised as to whether Class 3 durability aggregate is needed for median crossovers. The Committee agreed that since the additional cost of Class 3 over Class 2 is small, the aggregate being used in the mainline is likely to be Class 3 durability, and crossovers sometimes remain in place for several years, Class 3 durability aggregate is appropriate.

Specification Section Recommended Text:

2304.02, A, PCC.

Add as the second sentence of the first paragraph:

Class 2 durability coarse aggregate, or better, as defined in Article 4115.04, shall be used.

Add as the second sentence of the second paragraph:

Class 3 durability coarse aggregate, or better, as defined in Article 4115.04, shall be used.

Comments:

Member's Requested Change (Redline/Strikeout):

2304.02 MATERIALS.
The Contractor has the option of using PCC or HMA for the detour pavement. The option used shall meet the following requirements.

A. PCC.
The PCC option shall meet the requirements of Section 2301 for Class A PCC Pavement. Class 2 durability coarse aggregate, or better, as defined in Article 4115.04, shall be used.

For median crossovers, the PCC option shall meet the requirements of Section 2301 for Class C PCC Pavement. Class 3 durability coarse aggregate, or better, as defined in Article 4115.04, shall be used.

Reason for Revision:

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: Defining aggregate requirements.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe / Kevin Merryman	**Office:** Construction	**Item 13**
Submittal Date: September 28, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2310.03, D **Title:** Limitation of Operations	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2310.03, D, Limitation of Operations.

Replace the first sentence:

At forecasted air temperatures below 55°F (13°C) the opening time shall be determined using the maturity method.

Comments:

Member's Requested Change (Redline/Strikeout):

D. LIMITATION OF OPERATIONS.
At forecasted air temperatures below 55°F (13°C) the opening time shall be determined using the maturity method. Resurfacing concrete shall not be placed when the air or pavement temperature is below 40°F (4°C).

Reason for Revision: To clarify that the temperature requirement is for air temperature and not mix or pavement temperature.

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:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Larry Jesse	**Office:** Local Systems	**Item 14**
Submittal Date: Sept. 25, 2006	**Proposed Effective Date:** Immediately	
Article No.: 2401.02 **Title:** Notification of Complete Removal of Bridges	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text:

2401.02, Notification of Complete Removal of Bridges.

Replace the entire article:

The Contractor shall notify the Iowa DNR by mail and the Engineer, ~~in writing, of the intended starting and completion dates for the complete removal of a bridge. Notification shall be~~ with the "Notification of Demolition" form, not less than ~~25 calendar~~ 10 business days prior to the start of bridge demolition. If the Contractor is unable to begin work on the intended start date, the Contractor shall notify the Iowa DNR and the Engineer~~, in writing,~~ of the new intended start date by sending a revised "Notification of Demolition" form. Notification of the inability to commence work on the intended start date shall be made no later than 1 ~~working~~ business day prior to the original intended start date.~~, or f~~ Failure to notify the Iowa DNR and the Engineer of a change in start date 1 ~~working~~ business day prior to the original intended start date~~,~~ will result in the need for a new ~~25 calendar~~ 10 business day notification to the Iowa DNR and the Engineer.

~~When the contractor is required to start work in 60 calendar days or less following the letting the following shall apply:~~

~~The Contractor will not be required to provide initial notification of demolition to the Engineer. The starting date for demolition will be the starting date identified in the proposal form. The Contractor shall start demolition on that date, or provide written notice to the Engineer and follow the procedures as previously noted.~~

Comments: The Office of Local Systems notified the Committee that the Iowa DNR is to be notified by mail (EPA requirement). They requested text be added to reflect that. The Office of Contracts notified the Committee that the Revised Demolition form doesn't have a form number.

The Office of Construction asked how we would address contracts that don't have working days, or demolition done in the winter when working days aren't counted. The Office of Contracts stated that working days should be changed to business days.

The Office of Construction suggested that 'new "Revised Demolition" form' in the second sentence of the first paragraph should be changed to 'revised "Notification of Demolition" form'.

The approved changes will be attached as a proposal form note for projects let before April 2007.

Specification Section Recommended Text:

2401.02, Notification of Complete Removal of Bridges.

Replace the entire article:

The Contractor shall notify the Iowa DNR and the Engineer, ~~in writing, of the intended starting and completion dates for the complete removal of a bridge. Notification shall be~~ with the "Notification of Demolition" form, not less than ~~25 calendar~~ 10 working days prior to the start of bridge demolition. If the Contractor is unable to begin work on the intended start date, the Contractor shall notify the Iowa DNR and the Engineer~~, in writing,~~ of the new intended start date by sending a new "Revised Demolition" form. Notification of the inability to commence work on the intended start date shall be made no later than 1 working day prior to the original intended start date.~~, or f~~ Failure to notify the Iowa DNR and the Engineer of a change in start date 1 working day prior to the original intended start date~~,~~ will result in the need for a new ~~25 calendar~~ 10 working day notification to the Iowa DNR and the Engineer.

~~When the contractor is required to start work in 60 calendar days or less following the letting the following shall apply:~~

~~The Contractor will not be required to provide initial notification of demolition to the Engineer. The starting date for demolition will be the starting date identified in the proposal form. The Contractor shall start demolition on that date, or provide written notice to the Engineer and follow the procedures as previously noted.~~

Comments:

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

Replace the entire article:

The Contractor shall notify the Iowa DNR and the Engineer, ~~in writing, of the intended starting and completion dates for the complete removal of a bridge. Notification shall be~~ with the furnished "Notification of Demolition" form, not less than ~~25 calendar~~ 10 working days prior to the start of bridge demolition. If the Contractor is unable to begin work on the intended start date, the Contractor shall notify the Iowa DNR and the Engineer~~, in writing,~~ of the new intended start date by sending a revised "Notification of Demolition" form. Notification of the inability to commence work on the intended start date shall be made no later than 1 working day prior to the original intended start date~~, or f~~. Failure to notify the Iowa DNR and the Engineer of a change in start date 1 working day prior to the original intended start date~~,~~ will result in the need for a new ~~25 calendar~~ 10 working days notification to the Iowa DNR and the Engineer.

~~When the contractor is required to start work in 60 calendar days or less following the letting the following shall apply:~~

~~The Contractor will not be required to provide initial notification of demolition to the Engineer. The starting date for demolition will be the starting date identified in the proposal form. The Contractor shall start demolition on that date, or provide written notice to the Engineer and follow the procedures as previously noted.~~

Reason for Revision: The contractors have indicated that they do not always know 25 days in advance when they are going to start demolition. They stated that they would take on the responsibility of notifying the Engineer and the Iowa DNR not less that 10 working days before they plan to start demolition. They believe this will decrease the number of date changes and paperwork. The

<table>
<tr><td colspan="6">contractors indicated if they submit the notification, there will be enough time for notification even if demolition is started within 60 days of letting.

The Office of Contracts will send a partially completed “Notification of Demolition” form with the contract documents after the letting. This form has been approved by the Iowa DNR and AGCI.</td></tr>
<tr><td colspan="3">County or City Input Needed (X one)</td><td>Yes</td><td colspan="2">No</td></tr>
<tr><td colspan="6">Comments: County Specification Committee members were present when the concept changes were discussed at an Associated General Contractors of Iowa (AGCI) meeting on July 10, 2006, at the AGCI office in Des Moines.</td></tr>
<tr><td colspan="3">Industry Input Needed (X one)</td><td><u>Yes</u></td><td colspan="2"><u>No</u></td></tr>
<tr><td>Industry Notified:</td><td>Yes</td><td>No</td><td>Industry Concurrence:</td><td>Yes</td><td>No</td></tr>
<tr><td colspan="6">Comments: Changes are a request from the AGCI from a joint AGCI and Iowa DOT Specification Committee meeting on August 16, 2006, at Iowa DOT headquarters in Ames. The AGCI has approved the form.</td></tr>
</table>

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger / Sam Moussalli	**Office:** Materials	**Item 15**
Submittal Date: September 22, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2408.13 **Title:** Welding	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The Office of Bridges and Structures asked why the changes in Paragraph 6.10.5.4. The Office of Materials explained that this change came about as a result to changes in the code. Films have not been getting done properly.

Specification Section Recommended Text:

2408.13, Welding.

Replace the first sentence of the first paragraph:

Welding procedures and requirements for the following items shall conform to the ANSI/AWS D1.1 Structural Welding Code, except that filler metal and welder qualification requirements shall be according to ~~AWS D1.5--95~~ AASHTO/AWS D1.5M/D1.5-02 as modified below.

Replace the second paragraph:

Welding and fabrication of steel structures shall conform to ~~ANSI/AASHTO/AWS D1.5-95~~ AASHTO/AWS D1.5M/D1.5-02, as modified by this Specification.

Replace the third paragraph:

Each of the modifications in this Article is referenced by the appropriate paragraph number in ~~ANSI/AASHTO/AWS D1.5-95~~ AASHTO/AWS D1.5M/D1.5-02, to which it is a modification.

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Modifications to ~~ANSI/AASHTO/AWS D1.5-95~~ AASHTO/AWS D1.5M/D1.5-02
Bridge Welding Code

3.5 DIMENSIONAL TOLERANCES Paragraph 3.5.1.3 Paragraph 3.5.1.4 Paragraph 3.5.1.14 3.7 REPAIRS Paragraph 3.7.4 Paragraph 3.7.7 Paragraph 3.7.8 SECTION 5, QUALIFICATION Part A, General Requirements 5.2 Qualification Responsibility Part B, Welding Operator, and Tack Welder Qualification	SECTION 6, INSPECTION Part A, General Requirements 6.7 Nondestructive Testing Subparagraph 6.7.1.2(1) Subparagraph 6.7.1.2(2) Part B, Radiograph Testing of Groove Welds in Butt Joints 6.10 Radiograph Procedure Paragraph 6.10.5.4 6.12 Examination, Report and Disposition of Radiographs Paragraph 6.12.3

2408.13, Section 1.3, Welding Processes.

Replace the second sentence of Paragraph 1.3.1.1:

Unless otherwise approved by the Engineer, all welding of butt splices and flange to web welds and stiffeners to web welds shall be done using the submerged arc process.

2408.13, Section 6.10, Radiographic Procedure.

Replace all of Paragraph 6.10.5.4:

Where areas being radiographed are adjacent to the edge of the plate, edge block shall be used ~~the films shall be located and a technique employed which will include the top and bottom images of the plate edge~~.

Comments:

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

2408.13 WELDING.
Welding procedures and requirements for the following items shall conform to the ANSI/AWS D1.1 Structural Welding Code, except that filler metal and welder qualification requirements shall be according to ~~AWS D1.5—95~~ AASHTO/AWS D1.5M/D1.5-02 as modified below.

A. Bridge Components and Miscellaneous Items.
This includes bearing assemblies, sole plates, expansion joint devices, pile and appurtenances, drainage system components, guardrail connections, metal railing, chain link enclosures and wire fence components, conduit systems, and tread plates.

B. Traffic Signal Components.

C. Sign Support Components.

D. Lighting Structure Components.

E. Pre-Engineered Pedestrian Bridges.

Welding and fabrication of steel structures shall conform to ~~ANSI/AASHTO/AWS D1.5-95~~ AASHTO/AWS D1.5M/D1.5-02, as modified by this Specification.

Each of the modifications in this Article is referenced by the appropriate paragraph number in ~~ANSI/AASHTO/AWS D1.5-95~~ AASHTO/AWS D1.5M/D1.5-02, to which it is a modification.

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Bridge Welding Code

SECTION 1. General Provisions

1.3 Welding Processes

ADD the following new Paragraph 1.3.1.1 after the existing 1.3.1:

1.3.1.1 Welding of main members and welding of attachments thereto shall be performed using only shielded metal arc, flux cored arc, submerged arc, and/or stud welding processes. Unless otherwise approved by the Engineer, all welding of butt splices and flange to web welds and stiffeners to web welds shall be done using the submerged arc process. Shielded metal arc welding may be used for repairs to butt splices and flange to web welds.

1.3.1.2 The WPS shall be initialed by the welder and posted at the welder's workstation at all times during welding operations.

SECTION 6. Inspection

Part B. Radiographic Testing of Groove Welds in Butt Joints

6.10 Radiographic Procedure

ADD the following new Paragraph 6.10.5.4 after existing 6.10.5.3:

6.10.5.4 Where areas being radiographed are adjacent to the edge of the plate, edge block shall be used. ~~the films shall be located and a technique employed which will include the top and bottom images of the plate edge.~~

Reason for Revision: Updating from AASHTO/AWS D1.5 - 95 to AASHTO/AWS D1.5M/D1.5 - 02

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 / Sam Moussalli	**Office:** Materials	**Item 16**
Submittal Date: September 22, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2408.14 **Title:** Stress Relief Heat Treatment	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2408.14, Stress Relief Heat Treatment.

Replace the second sentence of the first paragraph:

Stress relief heat treatment shall be done in accordance with ~~AWS D1.5~~ Section 4.4 of AASHTO/AWS D1.5M/D1.5-02.

Comments:

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

2408.14 STRESS RELIEF HEAT TREATMENT.
Structural members which are indicated in the contract documents to be stress relieved, shall have finished machining, boring, and straightening done subsequent to heat treatment. Stress relief heat treatment shall be done in accordance with ~~AWS D1.5~~ Section 4.4 of AASHTO/AWS D1.5M/D1.5-02 code.

Members of ASTM A 709/A 709M Grade 100/100W (Grade 690/690W) steel shall not be annealed or normalized and shall be stress relieved only with approval of the Engineer.

A record of each furnace charge shall identify pieces in the charge and show the temperatures and schedule actually used. Instruments such as recording pyrometers shall be provided for determining at any time the temperature of members in the furnace. Records of the treatment operation shall be submitted to the Engineer for approval.

All members, such as bridge shoes, pedestals, rockers, or other parts, which are built up by welding sections of plate together, shall be stress relieved, unless otherwise stated in the contract documents.

Reason for Revision: Updating from AASHTO/AWS D1.5 - 95 to AASHTO/AWS D1.5M/D1.5 - 02

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 / Sam Moussalli	**Office:** Materials	**Item 17**
Submittal Date: September 22, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2408.30, B **Title:** Painting	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2408.30, B, Painting.

Replace the third sentence of the second paragraph:

> Prior to painting, all surfaces shall be free of all moisture, dirt, oxidation products, oil, and other detrimental material, and shall be of a suitable temperature in accordance with the manufacturer's recommendations.

Comments:

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

2408.30 SHOP PAINTING.

B. Painting.
Shop painting shall be done only in a facility approved by AISC, SSPC, or the Engineer and only painters who are trained and certified by an independent outside agency for the type of work performed shall apply the paint.

The paint manufacturer's application recommendations shall be followed regarding mixing, thinning, application, pot life, steel temperature, and weather conditions. The painted areas shall have a smooth uniform, adhering coat; free of over-spray, dry spray, mud cracking, runs, sags, cracks, holidays, or other defects. Prior to painting, all surfaces shall be free of all moisture, dirt, oxidation products, oil, and other detrimental material, and shall have a suitable temperature as per manufacturer's recommendations.

Reason for Revision: Updating from AASHTO/AWS D1.5 - 95 to AASHTO/AWS D1.5M/D1.5 - 02

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 18**
Submittal Date: September 25, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2412.02 **Title:** Materials	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2412.02, Materials.

Replace the first and second rows of the table following the second paragraph:

Type I, Type II	35% GGBFS ~~15~~ 20% Fly Ash	March 16 to October 15
Type I(SM), IP, IA	0% GGBFS ~~15~~ 20% Fly Ash	March 16 to October 15

Comments:

Member's Requested Change (Redline/Strikeout):

2412.02 MATERIALS.
Materials used in concrete floors shall meet requirements for the respective materials in Division 41.

Concrete used shall meet the requirements for C-4WR, C-L4WR, and C-V47B concrete mixtures, as specified in Materials I.M. 529. Coarse aggregate Gradation No. 3 or 5 of the Aggregate Gradation Table in Section 4109 shall be used. The fly ash and GGBFS shall meet the requirements of Section 4108. The maximum allowable substitution rates shall be as follows:

Cement Type	**Maximum Allowable Substitution***	**Time Period**
Type I, Type II	35% GGBFS 20~~15~~% Fly Ash	March 16 to October 15
Type I(SM), IP, IA	0% GGBFS 20~~15~~% Fly Ash	March 16 to October 15
Type I, II, I(SM), IP	0% GGBFS 0% Fly Ash	October 16 to March 15

* Maximum total mineral admixture substitution shall be 50%.

Reason for Revision: There is some confusion in the field regarding fly ash replacement between decks at 15% and substructure at 20%. Decks were left at 15% when all other work was changed to 20%, due to "perceived" mix stickiness. Several decks have been placed at 20% fly ash with no placement problems.

The Office of Construction and Materials note that this is a maximum and not required, thus lower percent replacements are allowed.					
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: John M. Smythe	**Office:** Construction	**Item 19**
Submittal Date: September 8, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2416.05 **Title:** Method of Measurement	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2416.05, Method of Measurement.

Replace the first sentence of the first paragraph:

The quantity of pipe culvert, in feet (meters), will be the ~~quantity shown in the contract documents for each culvert~~ measured length of culvert installed, excluding aprons, to the nearest foot (0.1 m) with no deductions for elbows, tees, and other fittings~~, but not including aprons~~.

Comments:

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

Replace the first sentence of the first paragraph:

2416.05 METHOD OF MEASUREMENT.

The quantity of pipe culvert in feet (meters), will be the ~~quantity shown in the contract documents~~ measured length of culvert installed ~~for each culvert~~ to the nearest foot (0.1 m) with no deductions for elbows, tees, and other fittings, but not including aprons.

Reason for Revision: The plan quantity for culverts is often different than the quantity needed. The field offices have requested the method of measurement be changed to a measured quantity to avoid the need to process contract modifications for all culvert items.

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: John M. Smythe	**Office:** Construction	**Item 20**
Submittal Date: September 8, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2417.06 **Title:** Method of Measurement	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2417.06, Method of Measurement.

Replace the first sentence of the first paragraph:

The quantity of corrugated pipe culverts, in feet (meters), will be the ~~quantity shown in the contract documents, for each culvert~~ measured length of culvert installed, excluding aprons, to the nearest foot (0.1 m)~~, but not including apron~~.

Comments:

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

Replace the first sentence of the first paragraph:

2417.06 METHOD OF MEASUREMENT.

The quantity of corrugated pipe culverts~~,~~ in feet (meters), will be the ~~quantity shown in the contract documents~~ measured length of culvert installed, ~~for each culvert~~ to the nearest foot (0.1 m), but not including apron.

Reason for Revision: The plan quantity for culverts is often different than the quantity needed. The field offices have requested the method of measurement be changed to a measured quantity to avoid the need to process contract modifications for all culvert items.

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: John M. Smythe	**Office:** Construction	**Item 21**
Submittal Date: September 8, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2418.06 **Title:** Method of Measurement	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2418.06, Method of Measurement.

Replace the first sentence of the first paragraph:

The quantity of jacked pipe culvert, in feet (meters), will be the ~~quantity shown on the contract documents, for each jacked pipe culvert~~ measured length of culvert installed, excluding aprons, to the nearest foot (0.1 m)~~, but not including aprons~~.

Comments:

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

Replace the first sentence of the first paragraph:

2418.06 METHOD OF MEASUREMENT.

The quantity of jacked pipe culvert, in feet (meters), will be the ~~quantity shown on the contract documents~~ measured length of culvert installed, ~~for each jacked pipe culvert~~ to the nearest foot (0.1 m), but not including aprons.

Reason for Revision: The plan quantity for culverts is often different than the quantity needed. The field offices have requested the method of measurement be changed to a measured quantity to avoid the need to process contract modifications for all culvert items.

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 22**
Submittal Date: August 23, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2506.02, A **Title:** Flowable Mortar (Materials)	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2506.02, A, Cement.

Replace the entire article:

Cement shall ~~be Type I.~~ meet the requirements of Section 4101 ~~shall apply~~.

Comments:

Member's Requested Change (Redline/Strikeout):

2506.02 MATERIALS.
All materials shall meet requirements for the respective items in Division 41 with the following exceptions:

A. Cement.
Cement shall ~~be Type I~~. meet the requirements of Section 4101 ~~shall apply~~.

Reason for Revision: Allow the use of other cement types such as Type I(SM). Many ready mix plants have Type I(SM) as their only source of cement.

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 23**
Submittal Date: August 23, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2513.03, B **Title:** Cast-in-Place and Slip From	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text:

2513.03, B, Cast-in-Place and Slip Form.

Add as the first sentence of the second paragraph:

Class BR mix design shall be submitted to the District Materials Engineer for approval at least 7 calendar days prior to placement.

Comments: The Office of Construction suggested adding text to clarify that the mix design is being submitted for approval.

Specification Section Recommended Text:

2513.03, B, Cast-in-Place and Slip Form.

Add as the first sentence of the second paragraph:

Class BR mix design shall be submitted to the District Materials Engineer at least 7 calendar days prior to placement.

Comments:

Member's Requested Change (Redline/Strikeout):

B. Cast-in-Place and Slip Form.
Class C concrete in accordance with Materials I.M. 529 shall be used for cast-in-place. Class BR in accordance with Materials I.M. 529 shall be used for slip form.

Class BR mix design shall be submitted to the District Materials Engineer at least 7 calendar days prior to placement. Section 2403 shall apply, except the concrete shall meet the following mix design requirements:

Reason for Revision: Need some time to review mix designs. Many producers call for a mix design the day of the placement and don't have gradations needed for the mix design.

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 24**
Submittal Date: August 23, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2530.03, B, 2 **Title:** Class B Patching Material	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2530.03, B, 2, Class B Patching Material.

Replace the third sentence of the first indented paragraph:

Coarse aggregate shall meet the requirements of Section ~~Article~~ 4115~~.05~~ and Section 4109, Gradation No. 5.

Comments:

Member's Requested Change (Redline/Strikeout):

2. Class B Patching Material.
Class B patching material shall be high early strength rapid set (5 hour) PCC meeting the requirements of Materials I.M. 529 and the following requirements:

The patching material shall be a Class M mixture with calcium chloride. Class M mixtures with calcium chloride shall not contain fly ash. When calcium chloride is used in a mixture, the concrete shall be placed within 30 minutes after the introduction of the calcium chloride. Coarse aggregate shall meet the requirements of ~~Article 4115.06~~ Article 4115 and Section 4109, Gradation No. 5.

Reason for Revision: There is no need for bridge deck quality aggregate in partial depth patching. Also, 4115.06 will not meet Gradation No. 5.

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: Mike Kennerly / Ole Skaar	**Office:** Design	**Item 25**
Submittal Date:	**Proposed Effective Date:** April 17, 2007	
Article No.: 2601.04 **Title:** Application of Fertilizer **Article No.:** 2601.05, B **Title:** Fertilizing for Stabilizing Crop Seeding **Article No.:** 2601.08, B **Title:** Fertilizer for Sod **Article No.:** 2601.13 **Title:** Fertilizer for Special Ditch Control and Slope Protection	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: Article 2601.05, B; 2601.08, B; and 2601.13, see Specification Section Recommended Text.

2601.04, B, Application of Fertilizer.

Replace the second sentence of the first paragraph:

When not otherwise specified in the contract documents, the rate to be used shall be 750 pounds per acre (840 kg/ha) of 13-13-13 (or equivalent) commercial fertilizer~~, and unless a hydraulic seeder is used, it shall be chemically combined~~.

Comments: Roadside Development requested that the word "commercial" be added in front of "fertilizer" in Article 2601.04, B. These changes are being included in projects as a proposal form note until April 2007.

Specification Section Recommended Text:

2601.04, B, Application of Fertilizer.

Replace the second sentence of the first paragraph:

When not otherwise specified in the contract documents, the rate to be used shall be 750 pounds per acre (840 kg/ha) of 13-13-13 (or equivalent) fertilizer~~, and unless a hydraulic seeder is used, it shall be chemically combined~~.

2**601.05, B, Fertilizing for Stabilizing Crop Seeding.**

Replace the first sentence:

~~Chemically combined,~~ A commercial fertilizer shall be applied to all seeded areas at the rate of 450 pounds per acre (500 kg/ha) of 13-13-13 (or equivalent) unless otherwise specified in the contract documents.

2601.08, B, Fertilizer for Sod.

Replace the fifth sentence:

In either case, if the type of fertilizer is not specified, 13-13-13 (or equivalent) ~~chemically combined~~ commercial fertilizer shall be applied.

2601.13, Fertilizer for Special Ditch Control and Slope Protection.

Replace the first sentence of the second paragraph:

If the type of fertilizer is not specified for the project, 10 pounds per 1,000 square feet (5 kg per 100 m^2) of 13-13-13 (or equivalent) ~~chemically combined~~ commercial fertilizer shall be applied.

Comments: These changes have been incorporated into SS-01046, effective with the November letting.

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

2601.04, B, Application of Fertilizer.

Replace the second sentence of the first paragraph:

When not otherwise specified in the contract documents, the rate to be used shall be 750 pounds per acre (840 kg/ha) of 13-13-13 (or equivalent) fertilizer~~, and unless a hydraulic seeder is used, it shall be chemically combined~~.

2601.05, B, Fertilizing for Stabilizing Crop Seeding.

Replace the first sentence:

~~Chemically combined,~~ A commercial fertilizer shall be applied to all seeded areas at the rate of 450 pounds per acre (500 kg/ha) of 13-13-13 (or equivalent) unless otherwise specified in the contract documents.

2601.08, B, Fertilizer for Sod.

Replace the fifth sentence:

In either case, if the type of fertilizer is not specified, 13-13-13 (or equivalent) ~~chemically combined~~ commercial fertilizer shall be applied.

2601.13, Fertilizer for Special Ditch Control and Slope Protection.

Replace the first sentence of the second paragraph:

If the type of fertilizer is not specified for the project, 10 pounds per 1,000 square feet (5 kg per 100 m^2) of 13-13-13 (or equivalent) ~~chemically combined~~ commercial fertilizer shall be applied.

Reason for Revision: 6-24-24 and 13-13-13 chemically combined commercial fertilizer is no longer readily available or cost effective.

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:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe	**Office:** Construction	**Item 26**
Submittal Date: September 13, 2006	**Proposed Effective Date:** April 2007	
Article No.: 2601.21 **Title:** Method of Measurement	**Other:**	

Specification Committee Action: No action needed. This item was withdrawn.

Deferred:	**Not Approved:** X	**Approved Date:**	**Effective Date:**

Specification Committee Approved Text:

Comments: The Office of Construction noted they would prefer to stay with the changes approved for this article in the September meeting.

Specification Section Recommended Text:

2601.21, Method of Measurement.

Replace the first paragraph and the first indented paragraph:

The various items of work involving erosion control will be ~~measured~~ determined on satisfactory completion as follows:

The Engineer will ~~measure~~ compute in acres to the nearest 0.1 acre (hectares to the nearest 0.1 hectare) the surface areas of Overseeding and Fertilizing, Seeding and Fertilizing, Mulching, Native Grass Seeding, Wetland Grass Seeding, Wildflower Seeding, ~~Stabilizing Crop Seeding and Fertilizing~~, Seeding Special Areas, and Crownvetch Seeding.

Comments: Some of these changes were approved in the September meeting.

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

2601.21 METHOD OF MEASUREMENT.

The various items of work involving erosion control will be measured on satisfactory completion as follows:

The Engineer will ~~measure~~ compute in acres (to the nearest 0.1 hectare) the surface areas of Overseeding and Fertilizing, Seeding and Fertilizing, Mulching, Native Grass Seeding, Wetland Grass Seeding, Wildflower Seeding, ~~Stabilizing Crop Seeding and Fertilizing,~~ Seeding Special Areas, and Crownvetch Seeding.

Reason for Revision: To facilitate efficient determination of areas of work to be performed.

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: I advised Ron Otto of the additional circumstances that were involved with the complaint expressed at the meeting with the AGC erosion control contractors, and that a change in our requirements was not justified at this time. I will send Ron a note after Specifications Committee discussion.

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger / Keith Norris	**Office:** Materials / District 2 Materials	**Item 27**
Submittal Date: September 11, 2006	**Proposed Effective Date:** April 2007	
Article No.: 4109.02 **Title:** Aggregate Gradation Table	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

4109.02, Gradation.

Aggregate Gradation Table – English

Replace Gradation #29:

Grad. No.	Section No.	Std. Sieve Size	1½"	1"	3/4"	1/2"	3/8"	#4	#8	#30	#50	#100	#200	
		Intended Use	Percent Passing											*Notes
29	4131	Porous Backfill			100	95-100	50-100	~~10~~ 0-50	0-8					

Aggregate Gradation Table – Metric

Replace Gradation #29:

Grad. No.	Section No.	Metric. Sieve Size	37.5 mm	25 mm	19 mm	12.5 mm	9.5 mm	4.75 mm	2.36 mm	600 µm	300 µm	150 µm	75 µm	
		Intended Use	Percent Passing											*Notes
29	4131	Porous Backfill			100	95-100	50-100	~~10~~ 0-50	0-8					

Comments: Changed one sieve gradation.

Member's Requested Change (Redline/Strikeout):

Article 4109.02, Aggregate Gradation Table.

Change: 10% to 0% passing the #4 sieve.

See attached

Reason for Revision:

Change of the #4 sieve will allow "clean" porous backfill.

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

Comments:

Industry Input Needed (X one)			**Yes**	**No**	
Industry Notified:	**Yes X**	**No**	**Industry Concurrence:**	**Yes X**	**No**
Comments: The gradation was adjusted per recommendations from industry.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger / Keith Norris	**Office:** Materials	**Item 28**
Submittal Date: September 11, 2006	**Proposed Effective Date:** April 2007	
Section No.: 4130.01 **Title:** Revetment Description	**Other:**	

Specification Committee Action: Approved as is.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The Specifications Section noted that they rewrote the proposed changes in the imperative mood/active voice.

Specification Section Recommended Text:

4130.01, Revetment Description.

Add new Paragraph B and renumber:

B. When the source test plot or service history is not available, meet the following requirements for virgin stone crushed to 3/4 inch to 1 1/2inch (19 mm to 37.5 mm) nominal maximum sizes:

REVETMENT TYPE	REVETMENT QUALITY	TEST LIMITS	TEST METHOD
Primary projects; Class A & B revetment	Alumina	0.7	Iowa 222
All projects; Class E revetment	A Freeze	10	Iowa 211, Method A
	Secondary Pore Index	25	Iowa 219
Non-Primary projects; Class A & B revetment	C Freeze	5	Iowa 211, Method C
All projects; Class D revetment	C Freeze	10	Iowa 211, Method C
Erosion Stone	C Freeze	15	Iowa 211, Method C

NOTE: Revetment may pass either Alumina or A-Freeze for compliance.

Abrasion loss for all revetment and erosion stone not to exceed 50% when tested according to AASHTO T 96.

C. ~~B.~~ Recycled PCC revetment meeting the requirements of Materials I.M. 210 may be used with the approval of the Engineer.

- Trim steel so that protrusions are less than 1/2 inch (12 mm).
- A minimum of 50% of the stone or broken concrete revetment shall be composed of beds or slabs more than 5 inches (125 mm) thick.
- A minimum of 10% of the beds or slabs shall be thick enough to produce the required weight (mass) of either the stone or concrete with the greatest dimension not more than 2 times the smallest dimension.

Comments: The Materials I.M. reference was changed in GS-01011.

Member's Requested Change (Redline/Strikeout):

Section 4130. Revetment Stone and Erosion Stone.

Add: Section B and
Change: IM reference in bullet C.

Section 4130. Revetment and Erosion Stone.

4130.01 REVETMENT DESCRIPTION.

A. Broken limestone, dolomite, quartzite, or granite from an approved source as described in Materials I.M. 409.

B. When the source test plot or service history is not available, the virgin stone shall meet the following requirements on stone crushed to 3/4 inch to 1 1/2inch (19 mm to 37.5 mm) nominal maximum sizes:

REVETMENT TYPE	REVETMENT QUALITY	TEST LIMITS	TEST METHOD
Primary projects; Class A & B revetment	Alumina	0.7	Iowa 222
All projects; Class E revetment	A Freeze	10	Iowa 211, Method A
	Secondary Pore Index	25	Iowa 219
Non-Primary projects; Class A & B revetment	C Freeze	5	Iowa 211, Method C
All projects; Class D revetment	C Freeze	10	Iowa 211, Method C
Erosion Stone	C Freeze	15	Iowa 211, Method C

NOTE: Revetment may pass either Alumina or A-Freeze for compliance.

The abrasion loss for all revetment and erosion stone shall not exceed 50% when tested in accordance with AASHTO T 96.

C. Recycled PCC revetment meeting the requirements of Materials I.M. ~~209~~ 210 may be used with the approval of the Engineer.

- Trim steel so that protrusions are less than 1/2 inch (12 mm).
- A minimum of 50% of the stone or broken concrete revetment shall be composed of beds or slabs more than 5 inches (125 mm) thick.
- A minimum of 10% of the beds or slabs shall be thick enough to produce the required weight (mass) of either the stone or concrete with the greatest dimension not more than 2 times the smallest dimension.

Reason for Revision: Moving quality requirements from IM 409 back into Specifications

County or City Input Needed (X one)			**Yes**	**No**	
Comments:					
Industry Input Needed (X one)			**Yes**	**No** X	
Industry Notified:	**Yes**	**No** X	**Industry Concurrence:**	**Yes**	**No**
Comments: Not a change in specifications.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Mike Kennerly / Ole Skaar	**Office:** Design	**Item 29**
Submittal Date: 10/2/06	**Proposed Effective Date:** April 17, 2007	
Article No.: 4169.03 **Title:** Fertilizer	**Other:**	

Specification Committee Action: Approved with changes as noted

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Recommended Text. In the instructions, insert the word "indented" in front of the word "paragraph".

Comments: District 6 Construction questioned why the fifth and sixth paragraphs are being included, since changes were proposed for Section 2601 as a result of chemically combined fertilizers not being used. The Specification Section discussed this with Roadside Development. The paragraphs are being included since chemically combined fertilizers may still be used if they are readily available or cost effective. They aren't at this time.

The paragraph being replaced is actually the fourth indented paragraph. The paragraphs being added are the fifth, sixth and seventh indented paragraphs.

These changes are being included in projects as a proposal form note until April 2007.

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

Comments: These changes have been incorporated into SS-01046, effective with the November letting.

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

4169.03, Fertilizer.

Replace the fourth paragraph:

> Fertilizer shall be of a type that can be uniformly distributed by the application equipment. ~~When applied by hydraulic methods, f~~Fertilizer may be chemically combined or may be furnished as separate ingredients. ~~When applied by other means, each unit of fertilizer shall be chemically combined, and the manufacturer's guarantee shall indicate compliance with this requirement.~~ Fertilizer supplied as chemically combined shall have each unit of fertilizer chemically combined, and the manufacturer's guarantee shall indicate compliance with this requirement. Fertilizer supplied as separate ingredients shall be of uniform size, and the analysis shall be guaranteed by the manufacturer. Fertilizer supplied as separate ingredients shall be mixed using a drum mixer, grinder mixer, or other approved mechanical mixers. Fertilizer shall be mixed only by the fertilizer dealer.

Add as the fifth paragraph:

> When a 6-24-24 chemically combined commercial fertilizer has been specified, a combination of ammoniated phosphate, muriate of potash (granular form), and urea (granular form) may be used.

Add as the sixth paragraph:

When a 13-13-13 chemically combined commercial fertilizer has been specified, a combination of ammoniated phosphate, muriate of potash (granular form), and urea (granular form) may be used.

Add as the seventh paragraph:

Ammoniated phosphate shall consist of either monoammonium phosphate (11-52-0) or diammonium phosphate (18-46-0).

Reason for Revision: 6-24-24 and 13-13-13 chemically combined commercial fertilizer is no longer readily available or cost effective.

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:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe / Mark Bortle	**Office:** Construction	**Item 30**
Submittal Date: September 13, 2006	**Proposed Effective Date:**	
Article No.: Draft DS-01090 **Title:** A + B Bidding with Lane Rental (Hourly) with Incentive/Disincentive	**Other:**	

Specification Committee Action: Approved with changes as noted.			
Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 12/19/06
Specification Committee Approved Text: See Draft DS-01090.			
Comments: The Office of Construction noted that one of the Articles in the draft they sent to the Specifications Section (Contractor's Schedule) was not included in the draft sent to the Committee. They are comfortable with the exclusion of that article in the final draft as long as DS-01087, Construction Progress Schedule, is included in the project. The articles following the deleted article need to be renumbered. The Specifications Section took care of this for the final draft.			
Specification Section Recommended Text: See Draft DS-01090.			
Comments:			

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

Reason for Revision:

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:					

DS-01090
(Replaces DS-01060)

Iowa Department of Transportation

DEVEOPMENTAL SPECIFICATIONS
FOR
LANE RENTAL (HOURLY) (A+B BIDDING WITH INCENTIVE/DISINCENTIVE)

Effective Date
December 19, 2006

THE STANDARD SPECIFICATIONS, SERIES 2001, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE DEVELOPMENTAL SPECIFICATIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

01060.0I GENERAL.
~~These specifications describe lane rental with incentive/disincentive under which the Contractor will be assessed rental time and rental rate for each lane closure on an hourly basis.~~

The determination of the low bidder involves a combination of the contract sum and the bidder's proposed time to complete the work designated as the A+B portion of this project. These specifications also describe lane rental procedures with incentive/disincentive under which the Contractor will be assessed a rental rate for each lane closure. Rental days will be used for bidding purposes; however, charging of rental time will be based on a rental hour.

01060.02 DEFINITION OF TERMS.

A. ~~Allowed Time~~ Rental Day.
~~The amount of time, rental hours, that has been determined by the Contracting Authority for lane rental and will be stated in the proposal form.~~ For bidding purposes only, a rental day is equal to 24 rental hours. The bidder shall bid rental days in whole numbers.

B. Hourly Rental Rate.
The amount, as determined by the Contracting Authority and shown in the proposal form, which represents the average hourly cost of interference and inconvenience to the road user for each lane closure.

The proposal form may identify separate peak, non-peak, and shoulder ~~daytime, nighttime, and weekend~~ rental rates. Unless otherwise stated in the contract documents, the peak ~~daytime~~ rate will be from 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m. ~~commence at 6:00 a.m. and end at 6:00 p.m.~~; the non-peak rate will be all other hours ~~nighttime rate will commence at 6:00 p.m. and end at 6:00 a.m~~. The shoulder rate will occur whenever a shoulder is closed.

C. Rental Hour.
Any 60 minute period or portion of a 60 minute period beginning at the time a lane or shoulder is closed by the Contractor's operation.

01060.03 CONSIDERATION OF BIDS.
The bidder shall calculate the number of rental days from the number of rental hours they estimate using to complete the work required under the A+B portion of the project.

Each bid submitted shall consist of two parts:

(A) The contract sum.
(B) Total number of rental days proposed by the bidder. The bidder shall enter the number of rental days on the proposal form.

The bid amount for award consideration will be determined by the following formula:

(A) + [(B) x (Daily Road User Cost)] = Bid amount for award consideration.

01060.~~03~~04 CHARGING OF CONTRACT TIME.
The proposal form will identify ~~which~~ the portions (geographic section of traffic stage) of the project for which lane rental applies.

The proposal form will also include working days to complete work not requiring a lane closure. These working days will be charged according to Article 1108.02, D of the Standard Specifications. The working days will be assessed based on a separate controlling operation for the items of work that do not require a lane closure.

The Contractor shall record the time a lane or shoulder is closed, whether work is being performed or not. The Contractor shall submit to the Engineer, in writing, a log of lane closure activity. This report shall be submitted to the Engineer daily (reporting the previous days activities) and shall include station location (beginning and ending) of every closure, and hours of use (beginning time, ending time, and total hours per closure). This report shall also include a written statement of any objections to rental hours or rates charged.

A lane closure will be identified as any of the following instances:

- Lane closure commencing with a taper or when access to a lane is denied continuing through the ending taper
- Access is denied to a turning lane (left or right)
- Ramp closure (does not include narrowing of a ramp where traffic is allowed access)

Rental periods for multiple lane closures, both longitudinally and transversely, will ~~may~~ be assessed simultaneously for each lane that is closed. Lane rental will not be charged for shoulder closures that are adjacent to lane closures. Turn lane closures will be counted when a turn lane is not available to turning traffic. When a ramp is closed, each lane closed on the ramp will be assessed independently. Rental periods for shoulder closures will be assessed independent of lane closures.

01060.~~04~~05 LANE RENTAL PAYMENT OR ASSESSMENT.

Lane rental payment or assessment will be as follows:

A. Incentive Payment.
The Contractor will be paid an amount equal to the hourly rental rate multiplied by the time remaining if the time used is less than the allowed time. Maximum incentive payment will not exceed the amount specified on the proposal form. If not shown, there will be no maximum amount for incentive payment. Incentive payments will be made in accordance with Article 1109.09 of the Standard Specifications.

B. Disincentive Assessment.
The Contractor will be assessed an amount equal to the hourly rental rate multiplied by the time used that is in excess of the allowed time. There will be no maximum amount for disincentive assessment.

01060.~~05~~06 CONSIDERATION FOR EXTRA WORK OR DELAYS DURING LANE RENTAL CHARGES.

A. Lane Rental by Hour.
No consideration for additional time will be considered for the first 10 consecutive hours of delay for each extraordinary circumstance. The Contractor will be responsible for obtaining necessary weather forecasts prior to the lane or shoulder closure.

B. Additional Time.
Additional time will be given by the Engineer for extra work, overruns of contract items, or extraordinary circumstances meeting the following requirements:

1. Approved extra work or overruns of contract items that extend the duration of the closure shall be documented and included in the critical path of the project. The revised critical path diagram shall be submitted to the Engineer for approval.

2. Non-weather related extraordinary circumstances that delay the Contractor during the lane closure shall be documented by the Contractor and a written request for additional closure time shall be submitted to the Engineer within 72 hours of the beginning of the delay. The Engineer will approve or deny all requests for additional closure time resulting from non-weather related extraordinary circumstances.

Non-weather related extraordinary circumstances will be limited to the following:

a. Strikes.
Strikes which are not directed against the Contractor.

b. Legal Stoppages.
Legal Stoppages will be allowed if they result from legal action against the Contracting Authority or against the Contractor if not based on a specification violation.

c. Late Delivery of Material.
Procurement of material for a project is the sole responsibility of the Contractor. Late delivery will be considered an extraordinary circumstance only when the Contractor can show that orders were placed with a reliable supplier in sufficient time for materials to be delivered when needed and only when there is:

1) A nationwide shortage; or
2) An industry wide strike; or
3) Transportation strike which delays the delivery of material; or
4) Delays due to a change in material commitments when caused by a Federal emergency or order.

d. Natural Disaster.
A suspension order may be issued on any project in a declared disaster area, if the disaster causes conditions that do not allow productive work.

3. Adverse weather related extraordinary circumstances including rain, snow, wind, flood, and the results thereof, such as inaccessibility or non-workability of materials, is only considered as extraordinary circumstance if the Contractor is ready to work on the contract and the adverse weather conditions do not allow productive work on the critical path. Adverse weather that delays the Contractor during the lane closure shall be documented by the Contractor and a written request for additional closure time shall be submitted to the Engineer within 72 hours of the beginning of the delay.

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe / Kevin Merryman	**Office:** Construction	**Item 31**
Submittal Date: September 28, 2006	**Proposed Effective Date:**	
Article No.: Draft SS-01046 **Title:** Quality Management Concrete (QM-C)	**Other:**	

Specification Committee Action: Approved with changes as noted.

Deferred:	**Not Approved:**	**Approved Date:** 10/12/06	**Effective Date:** 11/21/06

Specification Committee Approved Text: See Draft SS-01046.

Comments: The Office of Construction noted the title to Table 01047.05, A-1 should be changed to QUALITY CONTROL TABLE. They also noted that "Contractor produced" should be added to the front of the first sentence in Article 01046.05, D. The Office of Materials noted that a sentence will be added to the end of the second paragraph of the Control & Acceptance Process of Air Testing section in Appendix 1. The definition of a lot (last sentence of the third paragraph) will be deleted from the third paragraph of the same section of Appendix 1.

This SS will have a November effective date to allow the Office of Contracts the option of attaching to projects in the November letting.

In the agenda, this was presented as SS-01047. This will be SS-01046.

Specification Section Recommended Text: See Draft SS-01046.

Comments:

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

Reason for Revision:

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:					

SS-01046
(Replaces SS-01041)

Iowa Department of Transportation

SUPPLEMENTAL SPECIFICATIONS

FOR

QUALITY MANAGEMENT CONCRETE (QM-C)

Effective Date
November 21, 2006

THE STANDARD SPECIFICATIONS, SERIES 2001, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE SUPPLEMENTAL SPECIFICATIONS AND THEY SHALL PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.

01046.01 DESCRIPTION.
This Supplemental Specification identifies a concrete mixture design with an optimum combined aggregate gradation and the Contractor's testing and quality control responsibilities. Optimization of the aggregates should produce concrete with low water requirement as well as with improved workability and finishing characteristics. While concrete strength is important and shall be measured, it is not the basis for optimization of the concrete mixture design.

Testing and quality control shall apply to all Contractor produced concrete, utilizing the Concrete Design Mixture (CDM). The ~~Concrete Design Mixture (~~CDM~~)~~ shall apply to mainline slip form pavement. At the Contractor's option, the CDM may apply to any other slip form paving.

01046.02 MATERIALS.
All materials shall meet the quality requirements for the respective items in Division 41 of the Standard Specifications. Compatibility of all material combinations shall be the responsibility of the Contractor based on acquired field experience with proposed materials.

A. Coarse and Fine Aggregate.
The Gradation Table in Article 4109.02~~4~~ of the Standard Specifications will not apply to coarse aggregate. Fine aggregate sources shall meet the requirements of Section 4110 of the Standard Specifications. A course, uncrushed sand may be produced from an approved Class 2, Class 3, or Class 3I gravel source meeting the requirements of Section 4110 of the Standard Specifications and the following gradation limits:

Table 01046.02, A

Sieve	% Passing
1/2 inch (12.5 mm)	100
3/8 inch (9.5 mm)	90-100
No. 4 (4.75 mm)	75-95
No. 8 (2.36 mm)	60-90
No. 30 (600 µm)	10-60
No. 200 (75 µm)	0-1.5

B. Intermediate Aggregate.
Any limestone intermediate aggregate material shall be produced from approved beds and meet the durability class required for the coarse aggregate. Intermediate aggregate shall be considered coarse aggregate for gradations and correlations.

Uncrushed pea gravel produced from an approved Class 2 or Class 3 gravel source and meeting the quality requirements of Section 4110 of the Standard Specifications shall not exceed 10% of the total aggregate for a Class 2 gravel source, or 15% of the total aggregate for a Class 3 gravel source.

01046.03 LABORATORY DESIGN MIXTURE.
The Contractor shall develop a CDM based on a unit volume of 1.000 according to industry standard practice. The CDM shall contain proportions of materials, including admixtures. Proportions shall be based upon saturated surface dry aggregates and shall produce a workable concrete mixture meeting the following constraints:

Table 01046.03-1

Nominal Maximum Coarse Aggregate Size	Greater than or equal to 1 inch (25 mm)
Gradation	Materials I.M. 532
Cementitious Content	Minimum, 560 lbs./cy* (333 kg/m^3*)
Fly Ash Substitution Rate	See Article 2301.04 Paragraph E
Water/Cementitious Ratio	Maximum, 0.45
~~Target~~ Air Content	6% ± 1%, Design Absolute Volume = 0.060
28 Day Flexural Strength, Third Point	Minimum, 640 psi (4.40 MPa)

*The minimum cement content assumes the use of Type I/II cement with a specific gravity of 3.14 for an absolute volume of 0.106. The absolute volume shall be 0.106 and the weight (mass) of cement shall be determined from the specific gravity of the cement, if other than Type I/II cement. The absolute volume of cement for Type IP cement shall be 0.111. Cement content may need to be increased to maintain water to cementitious ratio during hot weather conditions.

Normal production gradations shall be used to determine the relative percentage of each individual aggregate used in the CDM. The relative percentage of each individual aggregate shall be selected to produce the desired combined aggregate gradation using the following sieves: 2 inch, 1 1/2 inch, 1 inch, 3/4 inch, 1/2 inch, 3/8 inch, No. 4, No. 8, No. 16, No. 30, No. 50, No. 100, and No. 200 (50 mm, 37.5 mm, 25 mm, 19 mm, 12.5 mm, 9.5 mm, 4.75 mm, 2.36 mm, 1.18 mm, 600 µm, 300 µm, 150 µm, and 75 µm). A target combined gradation shall be developed for each CDM based on normal production gradations and the relative percentages of each individual aggregate. Percent passing the No. 200 (75 µm) sieve shall not exceed 1.5% for the combined aggregate gradation. When the coarse aggregate used meets the increase in percent passing the No. 200 (75 µm) sieve, in accordance with Article 4115.05 of the Standard Specifications, the percent passing the No. 200 (75 µm) sieve shall not exceed 2.0% for the combined aggregate gradation. Water reducing admixture, Type A, or water reducing and retarding admixture, Type D, may be used in the CDM.

Laboratory development of the CDM shall be in accordance with AASHTO T 126. Mix designs may be conducted in a ready mix or central mix batch plant provided the following conditions are met:

1. All non-mix design materials are emptied.
2. Mix design materials are used.
3. Batch size at least 3 cubic yards (2 m^3).

Personnel overseeing the development of the CDM shall be an Iowa DOT PCC Level III Certified Technician. The Engineer shall be allowed to witness the development of the CDM. Notice shall be given 7 calendar days prior to this event. The following tests shall be performed in the development of the CDM:

Table 01046.03

Specific Gravity of Each Individual Aggregate	Materials I.M. 307
Gradation of Each Individual Aggregate	Materials I.M. 302
Unit Weight of Plastic Concrete	AASHTO T 121
Air Content of Plastic Concrete	Materials I.M. 318
28 Day Flexural Strength	AASHTO T 97
Temperature of Plastic Concrete	ASTM C 1064

01046.04 MIX DESIGN DOCUMENTATION.
At least 7 calendar days prior to the start of paving the Contractor shall submit a CDM report to the District Materials Engineer for approval. Contract extensions will not be allowed due to inadequate or additional CDMs. The CDM report shall include the following:

Table 01046.04

Cover Page	Contractor name Project number Date and location of CDM laboratory development Date Submitted Signature of Contractor representative
Material Source Information	Brand Type Source
Material Proportion Information	Specific gravity Relative percentage of each individual aggregate Target combined gradation % passing (Materials I.M. 531) Target combined gradation charts (Materials I.M. 532) Design batch weight (mass) (SSD) As mixed batch weight (mass) (SSD)
Mix Properties	Unit weight (mass) of plastic concrete Air content of plastic concrete 28 day flexural strength Slump Temperature of plastic concrete

01046.05 QUALITY CONTROL.
Quality control of the concrete shall be the responsibility of the Contractor. Personnel overseeing quality control operations shall be an Iowa DOT PCC Level II Certified Technician. Personnel conducting testing on grade shall be an Iowa DOT PCC Level I Certified Technician or Concrete Field Testing Technician Grade I in accordance with ACI CP-2. The Contractor shall calibrate and correlate testing equipment prior to and during paving operations. The Quality Control Plan and Project Information Quality Control Plan, in accordance with ~~Materials I.M. 530~~ Appendix A of this specification, shall be submitted to the Engineer at least 7 calendar days prior to the preconstruction conference. Paving shall not begin until the plan is reviewed for conformance with the contract documents. The Contractor shall maintain equipment and qualified personnel who shall direct and perform all field ~~inspection,~~ quality control sampling~~,~~ and testing necessary to determine the various properties of the concrete governed by the contract documents and to maintain the properties described in this Supplemental Specification.

A. ~~Process~~Quality Control Testing.
The Contractor shall perform all quality control tests necessary to control the production and construction processes applicable to this Supplemental Specification and as set forth in the Quality Control Plan. All samples for quality control testing shall be taken in a random manner according to the prescribed sampling rate. The Contractor shall perform the following tests described herein:

Table 01046.05, A-1
~~PROCESS~~QUALITY CONTROL TABLE

	Limits	Minimum Testing Frequency	Test Methods
Unit Weight (Mass) of Plastic Concrete	±3% of the CDM	Twice/day	AASHTO T 121
Gradation Combined % Passing	See below	1/1500 cy (1/1200 m^3)	Materials I.M. 216, 301, 302, & 531
Aggregate Moisture Contents	See Materials I.M. 527	1/1500 cy (1/1200 m^3)	Materials I.M. 308
Air Content Plastic Concrete In Front of Paver	See Article 2301.04, C	1/350 cy (1/275 m^3) See below	Materials I.M. 318
Water/Cementitious Ratio	0.45 maximum	Twice/day	Materials I.M. 527
Vibrator Frequency	See Article 2301.07, A,6,a	With Electronic Vibration Monitoring: Twice/day Without Electronic Vibration Monitoring: Twice/Vibrator/Day	Materials I.M. 384

Gradation shall be performed at a frequency listed in the table above. The running average of three combined aggregate gradation tests shall fall within the limits established by the CDM target gradation and the following working ranges:

Table 01046.05, A-2	
Sieve Size	**Working Range**
No. 4 or greater (4.75 mm or greater)	± 5%
No. 8 to No. 30 (2.36 mm to 600 µm)	± 4%
No. 50 (300 µm)	± 3%
No. 100 (150 µm)	± 2%
minus No. 200 (75 µm)	See Article 01046.03

B. Corrective Action.
For QM-C mixes only, the Contractor shall plot all ~~process~~ quality control test results on control charts as described in ~~Materials I.M. 530~~Appendix A of this specification.

1. Aggregate Tests.
When the running average approaches the working range limits, the Contractor shall take corrective action. ~~The Contractor shall notify the Engineer whenever an individual~~ When a combined gradation test result for a sieve exceeds the working range limits, the target shall be adjusted and the Engineer shall be notified. ~~The individual combined gradation test results will not be considered non-complying when they exceed the working range limits, except for the No. 200 (75 µm) sieve.~~ If the verification test result for the minus No. 200 (75 µm) ~~test results~~ exceeds the limits in Article 01046.03 of this Specification for the combined gradation, the material represented by that test for this sieve will be considered non-complying. Pay factors will be assessed based on Coarseness/Workability Factors as described in Article 01046.07 of this Supplemental Specification.

2. Concrete Tests.
When an individual test result approaches the control limits, the Contractor shall take corrective action. The Contractor shall notify the Engineer whenever an individual test result exceeds the control limits. ~~The individual test results for air content and water cement ratio shall be considered non-complying when they exceed the control limit.~~

C. Acceptable Field Adjustments.
All mix changes shall be documented by the Contractor on the QM-C Mix Adjustment form and mutually agreed upon between the Contractor and Engineer. Batch weights shall be determined using a basic water cement ratio of 0.40. ~~All mix design changes shall be adjusted~~ When the water

cement ratio varies more than ±0.03 from the basic water cement ratio, the mix design shall be adjusted ~~back~~ to a unit volume of 1.000. A change in the source of materials or an addition of admixtures or additives shall necessitate a new CDM. The following are small adjustments that may be made without a new CDM being required:

- Increase cementitious content
- Decrease fly ash substitution rate
- Aggregate proportions may be adjusted from CDM proportions by a maximum of ± 2% for the coarse aggregate and ± 2% for the fine aggregate. The coarse and intermediate aggregates may be adjusted from CDM proportions by a maximum of ± 5% in the coarse fraction.
- Change water reducer to water reducer retarder
- Adjustment in water reducer or water reducer retarder admixture dosage
- Change in source of fly ash
- Change in source of sand, provided target gradation limits are met

When circumstances arise, such as a cement plant breakdown, that create cement supply problems, a change in cement source may be allowed with approval of the Engineer. The District Materials Engineer shall be consulted for approval of other changes to the mix design. The Contractor will be allowed to utilize a Class C mix or a mix based on Class C mix proportions utilizing project materials in the event conditions beyond the Contractor's control prevent completion of the work with the CDM ~~designed mixes~~. This shall be by mutual agreement between the Contractor and Engineer and at no additional cost to the Contracting Authority.

Prior to 28 days strength test results, paving with QM-C mix may begin when the mix design strength, based on the average of three beams, meets or exceeds 640 psi (4.4 MPa) with the approval of the Engineer.

D. Hand Finished Pavement.
Contractor produced ~~C~~concrete for hand finished pavement shall utilize project materials, based on Class C or Class M concrete mix proportions. Quality control, as specified in this Supplemental Specification, shall not apply to hand finished concrete. Hand finished pavement may utilize Class C or M ready mix concrete ~~supplied by Ready Mix~~ without the requirements of this Supplemental Specification.

01046.06 METHOD OF MEASUREMENT.

A. Quality Management Concrete (QM-C).
The Engineer will compute the number of cubic yards (cubic meters) of QM-C based on the number of batches produced upon which quality control and testing were performed. This QM-C quantity will also include the quantity of QM-C produced at the Contractor's option as referenced in Article 01046.01 of this Supplemental Specification and Class C mixture used in accordance with Article 01046.05, C, of this Supplemental Specification. All quantity of waste will be excluded from this quantity.

B. Standard or Slip-Form Portland Cement Concrete Pavement, QM-C.
The quantity of Standard or Slip-Form Portland Cement Concrete Pavement, QM-C, in square yards (square meters), will be the quantity shown in the contract documents.

C. Portland Cement Concrete Overlay, QM-C, Furnish Only.
Article 2310.04, A, of the Standard Specifications will apply.

D. Portland Cement Concrete Overlay, QM-C, Placement Only.
Article 2310.04, B, of the Standard Specifications will apply.

E. Class C and Class M Mixtures.
The Engineer will compute the number of square yards (square meters) of Standard or Slip-Form Portland Cement Concrete Pavement, QM-C, constructed utilizing Class C or Class M mixtures. For overlays, the Engineer will compute the number of square yards (square meters) of Portland Cement Concrete Overlay, QM-C, Placement Only, constructed utilizing Class C or Class M mixtures and the number of cubic yards (cubic meters) of Class C and Class M mixtures used.

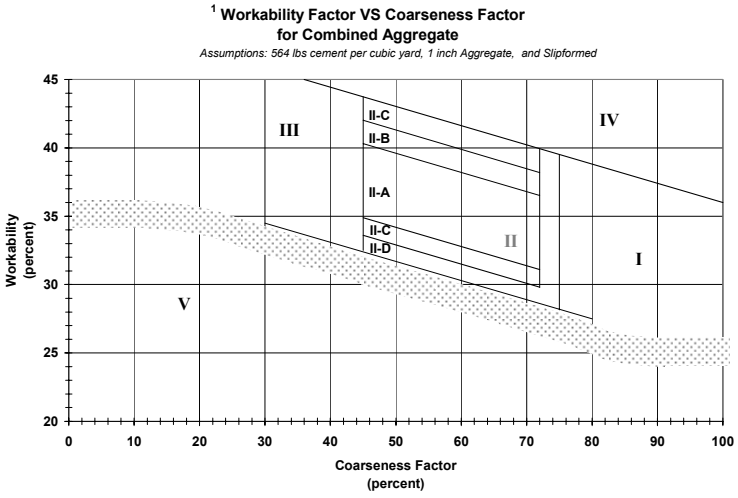
01046.07 BASIS OF PAYMENT.
For construction of concrete pavement and other construction in connection therewith, the Contractor will be paid the contract unit prices for the following items of work:

A. Quality Management Concrete (QM-C).
For the number of cubic yards (cubic meters) of QM-C computed as provided above, the Contractor will be paid the predetermined contract unit price for Quality Management-Concrete per cubic yard (cubic meter). This price will be considered full compensation for furnishing all labor, equipment, and materials for the work required by the Contractor to design, test, and provide process control for the production of QM-C.

B. Standard or Slip Form Portland Cement Concrete Pavement, QM-C.
For the number of square yards (square meters) of Standard or Slip-Form Portland Cement Concrete Pavement, QM-C, constructed, the Engineer will determine the average coarseness and workability factors for each lot in accordance with Appendix A of this specification ~~the project and plot the average on the Workability Factor vs. Coarseness Factor chart according to Materials I.M. 532~~.

The contract unit price per square yard (square meter) for Standard or Slip-Form Portland Cement Concrete Pavement, QM-C, constructed will be adjusted in the following manner:

Table 01046.07, B Pay Factor Chart	
Gradation Zone	**Pay Factor**
II-A	1.03
II-B	1.02
II-C	1.01
II-D	1.00
IV	0.98
I	0.95



~~If any two or more consecutive individual gradation test results fall outside Zone II:~~

~~**1.** The test results will be removed from the total cubic yards (cubic meters) for the project and the average Workability vs. Coarseness Factor adjusted.~~

~~**2.** The individual test results, representing 1500 cubic yards (1000 m^3), will have a Pay Factor of 0.95 assessed to the area of pavement computed, based on plan thickness.~~

C. Portland Cement Concrete Overlay, QM-C, Furnish Only
Article 2310.04, A, of the Standard Specifications will apply. The Engineer will determine the average coarseness and workability factor~~s~~ for each lot according to Materials I.M. 532. The contract unit price will be adjusted according to Table 01046.07 B.

D. Portland Cement Concrete Overlay, QM-C, Placement Only
Article 2310.04, B, of the Standard Specifications will apply. The Engineer will determine the average coarseness and workability factor~~s~~ for each lot according to Materials I.M. 532. The contract unit price will be adjusted according to Table 01046.07, B, of this specification.

E. Class C and Class M Mixtures.
For the number of square yards (square meters) of Class C and Class M mixtures constructed, the Contractor will be paid the contract unit price per square yard (square meter) for Standard or Slip-Form Portland Cement Concrete Pavement, QM-C. For overlays, the Contractor will be paid the contract unit price per square yard (square meter) for Portland Cement Concrete Overlay, QM-C, Placement Only, and the contract unit price per cubic yard (cubic meter) for Portland Cement Concrete Overlay, QM-C, Furnish Only. Pay Factor incentives/disincentives in Article 01046.07, B, will not be applied to Class C and Class M mixtures.

APPENDIX A: QUALITY MANAGEMENT & ACCEPTANCE PCC PAVEMENT

GENERAL

This Appendix is based on the concept of mutual benefit partnership between the Contracting Authority and Contractor during progress of the work. Technical partnering shall be a part of this work and a formal partnership agreement may or may not be in effect.

The Contractor shall submit and comply with a Quality Control Program. The Contractor shall be responsible for the design of a PC Concrete Design Mixture (CDM) for use in pavement. The CDM shall be approved by the District Materials Engineer. The Contractor shall perform process control sampling, testing, and inspection during all phases of the concrete work at the rate specified in the contract documents, with monitor inspection by the Engineer. Inspection of all other aspects of the concrete paving operation will be the responsibility of the Engineer.

The Contractor shall have an Iowa DOT PCC Level II Certified Technician responsible for all process control sampling and testing and execution of the Quality Control Plan as specified in this Specification. An Iowa DOT PCC Level I Concrete Field Testing Technician or Technician Grade I (in accordance with ACI CP-2) may perform the sampling and testing duties for which they are certified.

MIX DESIGN PROCEDURE

An Iowa DOT PCC Level III Certified Technician shall perform the mix design. The Contractor shall obtain the Engineer's concurrence.

The CDM shall be developed using the Excel spreadsheet developed by the Office of Materials. ACI 211 procedure, PCA procedure, or alternative methods may also be used. Aggregate proportions are contained on Form #955QMC (Materials I.M. 532, Appendix A). When a CDM is developed, the absolute volume method shall be used.

The Contractor shall submit the CDM with test data, including a list of all ingredients, the source of all materials, target gradation, and the proportions, including absolute volumes.

A CDM with a satisfactory record of performance strength may be submitted in lieu of a new CDM. The concrete used for paving per this specification shall be produced with the same material sources and batched and mixed with the same equipment used to produce the concrete represented by the performance strength documentation.

For each proposed aggregate proportion, the 28-day flexural strength shall be determined at the proposed cementitious content. The CDM shall be based on the 28-day strength and the average of a minimum of three tests per mixture.

QUALITY CONTROL PLAN

The Contractor shall submit a Quality Control Plan listing the type and frequency of inspection, sampling, and testing deemed necessary to measure and control the various properties of materials and construction governed by the contract documents. As a minimum, the sampling and testing plan shall detail sampling location, sampling procedures, and the test frequency to be utilized. This Contractor Quality Control Plan shall be submitted to the Office of Materials PCC Engineer and will be retained for use on all QM-C projects. A copy of the Quality Control Plan shall be available on the project at all times. Periodic updates may be required as necessary.

A Project Information Quality Control Plan shall be submitted for each project. The plan shall identify the personnel responsible for the Contractor quality control. This should include the company official who will act as liaison with the Engineer, as well as the certified technician who will direct the inspection program. The certified technician shall be responsible to an upper level company manager and not to those responsible for daily production. The project information plan shall also include the mix design and mix design properties.

A. Elements of the Quality Control Plan.
The plan shall address all elements that affect the quality of the concrete including, but not limited to, the following:

1. Stockpile management

2. Mixing time and transportation, including time from batching to completion of delivery and batch placement rate (batches per hour)

3. Placement and consolidation

4. The frequency of sampling and testing, coordination of activities, corrective actions to be taken, and documentation

5. How the duties and responsibilities are to be accomplished and documented, and whether more than one certified technician would be provided

6. The criteria used by the technician to correct or reject noncompliant materials, including notification procedures

B. Personnel Requirements.

1. Perform and utilize process control tests and other quality control practices to ensure that delivered material and proportioning meets the requirements of the mix design(s).

2. Periodically inspect all equipment utilized in transporting, proportioning, mixing, placing, consolidating, finishing, and curing to ensure proper operation. Monitor placement, consolidation, finishing, and curing to ensure conformance with the mix design and other contract requirements.

The Project Information Quality Control Plan shall be submitted in writing to the Engineer. The Contractor shall not start paving until receipt of the approval of the Project Information Quality Control Plan.

C. Elements of Project Information Quality Control Plan

1. Mix design(s).

2. Mix design properties, as specified in the contract documents.

3. The Contractor shall furnish name(s) and credentials of the quality control staff to the Engineer prior to the beginning of construction.

4. Project-related information.

DOCUMENTATION
The Contractor shall maintain records of all inspections and tests. The records shall indicate the nature and number of observations made, the number and type of deficiencies found, the quantities represented by the test, and any corrective action taken. The Contractor's documentation procedures shall be subject to the approval of the Iowa DOT prior to the start of the work and prior to regular monitoring during the progress of the work. Standard Iowa DOT forms shall be used. Batch tickets and gradation data shall be documented in accordance with Iowa DOT requirements. Copies shall be submitted to the engineer as work progresses.

A control chart and running tabulation of individual test results shall be prepared for the tests listed below. An Excel spreadsheet is available from the Office of Materials to plot the test results. These shall be available to the Engineer at any time and submitted to the Engineer weekly.

1. Gradation (% passing) for each of the following sieves: 1 1/2 inch, 1 inch, 3/4 inch, 1/2 inch, 3/8 inch, #4, #8, #16, #30, #50, #100, #200, and pan (37.5 mm, 25 mm, 19 mm, 12.5 mm, 9.5 mm, 4.75 mm, 2.36 mm, 1.18 mm, 600 µm, 300 µm, 150 µm, 75 µm, and pan).

2. Moisture: Coarse Aggregate(s) & Sand.

3. Unit Weight.

4. Plastic Air Content.

5. Coarseness & Workability Factors.

6. Water/cementitious Ratio.

Charting shall be completed within 24 hours after testing. Working range limits shall be indicated on the control charts.

The Contractor shall notify the Engineer whenever the process approaches a specification limit and shall take action which results in the test results moving toward the specification target and away from the limit.

All charts and records documenting the contractor quality control inspections and tests shall become property of the Iowa DOT upon completion of the work.

The PCC Level II Technician shall document the changes to the mix design, allowed by the contract documents, on the Iowa DOT QM-C Mix Adjustment form (Materials I.M. 530, Appendix A). Changes shall have the PCC Level III Technician's concurrence. The PCC Level III Technician shall periodically review mix change affects on workability and placement in the field.

FIELD VERIFICATION TESTING

For continuous construction operation, a lot will be defined as a week of paving. Lots less than three days of paving will be grouped with the previous week lot. For days of paving less than 500 cubic yards (500 m^3), the Engineer may waive verification sampling. The Engineer will perform verification testing at the following minimum test frequencies:

MINIMUM VERIFICATION TEST FREQUENCIES

	Verification	
Unit Weight Plastic Concrete	None	Materials I.M. 340
Gradation (Individual aggregate, % passing)	1st day, then twice per lot	Materials I.M. 302
Flexural Strength, Third Point Loading - 28 days*	1/10,000 cu. yd. (1/10,000 m^3)	Materials I.M. 328
Air Content Unconsolidated Concrete	1/700 cu. yd. (1/700 m^3)	Materials I.M. 318
Water/Cement Ratio	None	Materials I.M. 527
Vibration Frequency	1/week	Materials I.M. 384

*One set of two beams at the above rate shall be cast for pavement design purposes. The beams shall be delivered to the Central Laboratory in Ames for testing. Transported beams shall be stripped and wrapped in wet burlap and plastic to ensure adequate curing during delivery. Include information on project number, contractor, date cast, and air content with delivery.

CONTROL & ACCEPTANCE PROCESS OF PLASTIC AIR TESTING

On the first air test of each day, the Contractor and Engineer shall run side by side tests to ensure both air meters are within the tolerance in Materials I.M. 216. If the air tests are outside the tolerance, both air meters shall be calibrated in accordance with Materials I.M. 318 to resolve the difference.

Thereafter, the Engineer will randomly test the plastic air content at the minimum frequency in the table above. The Contractor may elect to run side by side comparison at the same time as the Engineer to ensure both meters are operating properly. When a verification test is outside the tolerance for target air

content, the Contractor will be notified immediately.

The unconsolidated air content limits will be established according to Article 2301.04, C of the Standard Specifications using Contractor test results. The Contractor shall notify the Engineer whenever an individual quality control test result is outside the tolerance for the target air content. Lot acceptance will be based on the Contracting Authority's verification test results on the unconsolidated mix on the grade.

DETERMINING COARSENESS & WORKABILITY INCENTIVE
On the first day of paving, the Engineer will direct and witness sampling and splitting of one sample of each aggregate. The split sample shall meet the requirements of Materials I.M. 216. If correlation is not established, the District Materials Engineer will resolve the differences.

Thereafter, the Engineer will direct and witness sampling of one random independent sample per day. The Engineer will take immediate possession of the samples. The Engineer will randomly test a minimum of two samples per lot. The Engineer will determine aggregate percentages based on the batch weights at the time the sample was obtained, compute the average coarseness and workability factors for the combined samples tested, and average the results for the lot. The Engineer will plot the results for the lot on the Coarseness Workability Chart in accordance with Materials I.M. 532. If results obtained by the Engineer fall within the same pay zone as the Contractor, appropriate incentive will be paid for the lot.

If the average results obtained by the Engineer are not in the same pay zone as the Contractor, the Engineer will test the remaining samples representing the lot and average all results for the lot. If the average results of all verification samples for the lot fall within the same pay zone as Contractor results for the lot, incentive will be paid for the lot. If the average results of all verification samples for the lot are in a different pay zone than the Contractor, the Engineer's results will govern for the basis of incentive for the lot.

CORRECTIVE ACTION
The Contractor shall take prompt action to correct conditions that have resulted, or could result, in the incorporation of noncompliant materials.

NONCOMPLIANT MATERIALS
The Contractor shall establish and maintain an effective and positive system for controlling noncompliant material, including procedures for its identification, isolation and disposition. Reclaiming or reworking of noncompliant materials shall be in accordance with procedures acceptable to the Engineer.

All noncompliant materials and products shall be positively identified to prevent use, shipment, and intermingling with conforming materials and products.

AVOIDANCE OF DISPUTES
Every effort should be made by Contractor and Engineer to avoid any potential conflicts in the Quality Assurance Program prior to and during the project by using partnering concepts. Potential conflicts should be resolved at the lowest possible levels between the Contractor and Engineer. Correction of problems and performance of the final product should be the primary objective of this resolution process.

TESTING
If less than 500 cubic yards (500 m^3) are produced in one day that day's production may be grouped with the following day's production.

Item 32

Correction to Error in Item 8 of the September Minutes

The September minutes incorrectly stated the Specification Committee Approved Text as:

2601.21, Method of Measurement.

Add as the sixth indented paragraph:

Mobilization for watering will be paid for by count for each mobilization. Mobilization for the initial watering required at installation of the plant material will not be measured for payment.

Add as the eleventh indented paragraph:

Mobilization for watering will be paid for by count for each required watering at the pre-determined price of $350.00 each.

This should have stated the Specification Committee Approved Text as:

2601.21, Method of Measurement.

Add as the sixth indented paragraph:

Mobilization for watering will be paid for by count for each mobilization. Mobilization for the initial watering required at installation of the plant material will not be measured for payment.

2601.22, Basis of Payment.

Add as the eleventh indented paragraph:

Mobilization for watering will be paid for by count for each required watering at the pre-determined price of $350.00 each.