Iowa Department of Transportation

MINUTES
OF
IOWA DOT SPECIFICATION COMMITTEE MEETING

October 9, 2003

Members Present:	Tom Reis, Chair	Specifications Section
	Jim Berger	Office of Materials
	Roger Bierbaum	Office of Contracts
	Troy Jerman	Office of Traffic and Safety
	Larry Jesse	Office of Local Systems
	Bruce Kuehl	District 6-Construction Office
	Doug McDonald	RCE - Marshalltown
	Keith Norris	District 2-Materials Office
	Gary Novey	Office of Bridges and Structures
	John Smythe	Office of Construction
Members Not Present:	John Adam, Director	Statewide Operations Bureau
	Mike Kennerly	Office of Design
From FHWA:	Andy Wilson	
Others Present:	Donna Buchwald, Secretary	Specifications Section
	Kevin Jones	Office of Materials
	Will Stein	Office of Design
	Wayne Sunday	Office of Construction

Tom Reis, Specifications Engineer, opened the meeting. The following items were discussed in accordance with the October 3, 2003, agenda:

1. Article 2301.12, Placing Reinforcement.

The Office of Construction requested a change to Article 2301.12 that is intended to clarify the number of anchors required for lane widths other than 12 feet in width. (Attachment 1)

2. Article 2303.01, Description.

The Office of Materials requested a change to Article 2303.01 that will clarify the contractor's responsibilities for mix design. (Attachment 2)

3. Article 2303.02, B, 2, Blended Aggregates.

The Office of Materials requested a change to Article 2303.02 that will reduce the number of referenced specifications and eliminates the current list of revisions in the current standard specifications. (Attachment 3)

4. Article 2303.02, E, 2, Hydrated Lime.

The Office of Materials requested several changes to Article 2303.02 that will better define the material requirements for hydrated lime. (Attachment 4)

5. Article 2303.02, G, Optional Mixture Criteria.

The Office of Materials requested a change to Article 2303.02 that will eliminate specification language that is no longer needed due to the implementation of the gyratory mix design criteria. (Attachment 5)

6. Article 2316.04, A, Pavement.

The Office of Materials requested several changes to Article 2316.04 that will clarify the smoothness requirements for storage lanes, turning lanes, and lanes less than 8.5 feet (2.6 m) in width. (Attachment 6)

7. Article 2403.11, Placing and Protection in Cold Weather.

The Office of Construction requested a change to Article 2403.11 that will establish monitoring and high temperature limits for supplemental heating during winter concreting. (Attachment 7)

8. Article 2403.17, F, Falsework Plans.

The Office of Construction requested a change to Article 2403.17 that will provide clarification for the submittal of falsework plans. (Attachment 8)

9. Article 2404.06, Placing and Fastening.

The Office of Construction requested a change to Article 2404.06 reiterating that flame cutting of reinforcing steel is not allowed. (Attachment 9)

10. Article 2412.03, Swinging The Span and Support of Forms.

The Office of Construction requested a change to Article 2412.03 that will clarify welding requirements for structural steel. (Attachment 10)

11. Article 2501.13, Determination of Bearing Values of Piles.

The Office of Construction requested several changes to Article 2501.13 that will clarify the full pile penetration requirement and identify a practical driving refusal limit for driven pile.. (Attachment 11)

12. Article 2525.06, A, General.

The Office of Construction requested a change to Article 2525.06 that will update the specifications to match current design criteria. (Attachment 12)

13. Article 4101.01, General Requirements.

The Office of Materials requested several changes to Article 4101.01 that will update cement specifications with the intent of preventing early deterioration. (Attachment 13)

14. Article 4136.02, A, Poured Joint Sealer.

The Office of Materials requested a change to Article 4136.02 that will align the Department's specifications with those of ASTM. (Attachment 14)

15. Article 4153.04, Iron Castings.

The Office of Materials requested a change to Article 4153.04 that will ensure that the Departments specifications are in alignment with ASTM. (Attachment 15)

16. Article 4186.03, A, 2, a, Interstate and Primary Highways.

The Office of Construction requested a change to Article 4186.03 that will increase the type of retroreflective sheeting required for all Channelizing devices. (Attachment 16)

17. SPECIFICATION REVISION SUBMITTAL FORM.

The Specifications Engineer introduced the newly revised 'SPECIFICATION REVISION SUBMITTAL FORM' that is to be used in all future submittals. Preceding the revised form is a copy of the form with comments about how to properly fill lout the form. (Attachment 17)

18. Specification Manual Rewrite to AASHTO format.

The Specifications Engineer requested a discussion of the impacts of and how best to accomplish the rewrite to the Imperative Mood/Active Voice, 5-part format, and AASHTO format for specifications. Attached is the summary of the survey that was sent to most offices. (Attachment 18)

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe/Kevin Merryman	**Office:** Construction	**Item 1**
Submittal Date: September 10, 2003	**Proposed Effective Date:** April 20, 2004	
Article No.: 2301.12 **Title:** Placing Reinforcement	**Other:**	

Specification Committee Action:

Deferred:	**Not Approved:**	**Approved Date:** 11-13-03	**Effective Date:** 4-20-04

Specification Committee Approved Text:

Delete the fourth, fifth, and sixth sentences of the fourth paragraph.

~~Assemblies placed on hardened PCC or Class A subbase shall be attached with nails, pins, etc., in at least eight locations, based on a 12 foot (3.6 m) width. Assemblies placed on granular subbase or natural subgrade shall be attached with hooks in at least eight locations, based on a 12 foot (3.6 m) width. These hooks shall be at least a 0 gauge wire (0.306" dia.)(7.5 mm. diameter wire) and at least 12 inches (300 mm) long.~~

Comments: The Specification Committee recommended simplifying the language. Between the October 9, 2003, and the November 13, 2003, Specification Committee meetings, the Methods Section of the Office of Design and the Specification Section reviewed the specifications and Standard Road Plans RH-55 thru RH-58. It was determined that with a minor revision there is sufficient language on the Standard Road Plans to eliminate these three sentences from the specifications.

Specification Section Recommended Text:

Replace ", based on a 12 foot (3.6 m) width" with "per lane width" in the fourth sentence of the fourth paragraph.

Replace ", based on a 12 foot (3.6 m) width" with "per lane width" in the fifth sentence of the fourth paragraph.

Comments:

Member's Requested Change (Redline/Strikeout): 2301.12 PLACING REINFORCEMENT. Para. 4

Load transfer devices may be required in the contract documents. These assemblies shall be accurately placed as shown and shall be securely staked or fastened to the base to line and grade to prevent their movement during subsequent concrete paving operations. Assemblies may be placed in fresh PCC concrete of a Class A subbase, as provided in Article 2114.02, B, to assure a firm connection for the subsequent paving operation. Assemblies placed on hardened PCC or Class A subbase shall be attached with nails, pins, etc., in at least eight locations~~, based on a 12 foot (3.6 m) width~~ per lane width. Assemblies placed on granular subbase or natural subgrade shall be attached with hooks in at least eight locations~~, based on a 12 foot (3.6 m) width~~ per lane width. These hooks shall be at least a 0 gauge wire (0.306" dia.)(7.5 mm. diameter wire) and at least 12 inches (300 mm) long.

Reason for Revision: The current language in the specification is confusing and calls in to question how many anchors are required for lane widths other than 12 feet. The proposed language eliminates this confusion and simply calls for eight anchors per lane width. The proposed language is consistent with the Road Standards (RH-55, RH-56, and RH-57) and with the intent of the specification.

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/Mike Heitzman	**Office:** Materials	**Item 2**
Submittal Date: September 19, 2003	**Proposed Effective Date:** April 20, 2004	
Article No.: 2303.01 **Title:** Description	**Other:**	

Specification Committee Action:

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

The Specification Committee requested further review of the use of SS-01001 and the DS for small quantities.

Specification Committee Approved Text:

Comments: The Specification Committee questioned who would perform the testing, and believed that the mixture design and testing should be by the same entity.

There is concern about quantities below 1000 ton.

The Committee believes that SS-01001 should be applied to all projects under 5000 tons and that the DS for small quantities will only be applied when approved by the Controller. The reference notes in the plans should also be coordinated with the Controller to state whether the SS or DS is to be applied. The Office of Contracts stated that a SS, DS, or SP does not apply to the project unless it is stated on the contract. The Specification Section pointed out that all DSs and SPs that are to be applied to a project are on a list that is giving to the Office of Contracts.

The Specification section of the Project Scheduling System has just been rewritten and in the very near future the designers will be required to put the required SPs, DSs, and SSs on each project in Project Scheduling System. This is important as some SSs do not have bid items associated with them and may not get included in the contract proposal. Eventually, all of this information will get electronically transferred from Project Scheduling System to Trns•port.

Specification Section Recommended Text:

Replace the fourth paragraph.

For contracts with less than 5000 tons (5000 Mg) the ~~mix design and~~ quality control shall meet the requirements of the ~~Supplemental Specification for HMA~~ Developmental Specification for Hot Mix Asphalt Mixtures - Quality Control Program for Small Quantities. This directs the responsibility for ~~mix design and~~ quality control to the Engineer~~, but~~ . The Contractor shall be responsible for the mix design. This does not change the mix requirements from gyratory to Marshall, unless specified in the contract documents.

Comments:

Member's Requested Change (Redline/Strikeout): Revise the third paragraph as follows.

For contracts with less than 5000 tons (5000 Mg) the ~~mix design and~~ quality control shall meet the requirements of the Supplemental Specification 01001 for HMA. This directs the responsibility for ~~mix design and~~ quality control to the Engineer. The contractor shall be responsible for the mix design. This~~,~~ ~~but~~ does not change the mix requirements from gyratory to Marshall, unless specified in the contract documents.

Reason for Revision: We have been working with the DMEs and the QMA Steering Committee to develop QC/QA provisions for projects with less than 5000 tons. Under a new DS-01002 HMA Quality Control Program for Small Quantities all parties agree that the mix design should be performed by the Contractor. In light of the reduction of District laboratory staff and general agreement with this provision, the revision for mix design responsibility is being moved forward as a GS provision.					
County or City Input Needed (X one)			**Yes** X	**No**	
Comments: The Standard Urban Spec has already incorporated the entire DS 01002 language.					
Industry Input Needed (X one)			**Yes** X	**No**	
Industry Notified:	**Yes** X	**No**	**Industry Concurrence:**	**Yes** X	**No**
Comments: This provision was discussed as part of DS 01002 approval by the QMA committee.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger/Mike Heitzman	**Office:** Materials	**Item 3**
Submittal Date: September 19, 2003	**Proposed Effective Date:** April 20, 2004	
Article No.: 2303.02, B, 2 **Title:** Blended Aggregates	**Other:**	

Specification Committee Action:

Deferred:	**Not Approved:**	**Approved Date:** 10-9-03	**Effective Date:** 4-20-04

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: No comments.

Specification Section Recommended Text:

Replace the entire article.

The blended aggregates shall meet the ~~AASHTO MP2~~ combined aggregate requirements ~~with the following revisions:~~

~~**a.** It is the Contractor's option to design mixes outside the "restricted zone".~~

~~**b.** Combined gradations for surface and intermediate mixtures on projects with greater than 10,000,000 design (20 years) ESALs shall be designed with an added gradation control point of 28% maximum passing the No.16 (1.18 mm) sieve for a 3/4 inch (19 mm) mix size and 32% for 1/2 inch (12.5 mm) mixes. For surface and intermediate mixtures on projects between 3,000,000 and 10,000,000 ESALs, the combined gradation shall be designed with an added gradation control point of 24% maximum passing the No. 30 (600 µm) for a 3/4 inch (19 mm) mix size and 25% for 1/2 inch (12.5 mm) mixes.~~

~~**c.** Aggregate consensus properties are specified~~ in Materials I.M. 510.

~~**d.**~~ When mixtures include RAP, the blended mineral aggregate gradation shall be a mixture of extracted RAP aggregate combined with virgin aggregate.

Comments:

Member's Requested Change (Redline/Strikeout): Revise this section as follows.

The blended aggregates shall meet the IM 510 ~~AASHTO MP2~~ combined aggregate requirements. ~~with the following revisions:~~

~~**a.** It is the Contractor's option to design mixes outside the "restricted zone".~~

~~**b.** Combined gradations for surface and intermediate mixtures on projects with greater than 10,000,000 design (20 year) ESALs shall be designed with an added gradation control point of 28% maximum passing the No. 16 (1.18 mm) sieve for a 3/4 inch (19 mm) mix size and 32% for 1/2 inch (12.5 mm) mixes. For surface and intermediate mixtures on projects between 3,000,000 and 10,000,000 ESALs, the combined gradation shall be designed with an added gradation control point of 24% maximum passing the No. 30 (600 µm) for a 3/4 inch (19 mm) mix size and 25% for 1/2 inch (12.5 mm) mixes.~~

~~**c.** Aggregate consensus properties are specified in Materials I.M. 510.~~

~~**d.**~~ When mixtures include RAP, the blended mineral aggregate gradation shall be a mixture of extracted RAP aggregate combined with virgin aggregate.

Reason for Revision: The gradation provisions of MP2 (as modified in GS-01004) were included in IM 510. This reduces the number of referenced specifications and eliminates the current list of revisions.

County or City Input Needed (X one)	**Yes**	**No** X
Comments: No impact on local agencies. This was already done in SS-01014 for local use.		

Industry Input Needed (X one)			**Yes**	**No** X	
Industry Notified:	**Yes** X	**No**	**Industry Concurrence:**	**Yes**	**No**
Comments: No change in requirements. Making the spec more user friendly (fewer references).					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger/Mike Heitzman			**Office:** Materials		**Item 4**
Submittal Date: September 19, 2003			**Proposed Effective Date:** April 20, 2004		
Article No.: 2303.02, E, 2 **Title:** Hydrated Lime			**Other:**		
Specification Committee Action:					
Deferred:	**Not Approved:**	**Approved Date:** 10-9-03		**Effective Date:** 4-20-04	

Specification Committee Approved Text:

Replace the first sentence of the first paragraph.

Hydrated lime shall meet the requirements of AASHTO ~~M 17, except that the gradation shall be determined in accordance with AASHTO T 11~~ M 303, Type I.

Comments: No comments.

Specification Section Recommended Text:

Replace the first sentence of the first paragraph.

Hydrated lime shall meet the requirements of AASHTO ~~M 17, except that the gradation shall be determined in accordance with AASHTO T 11~~ M 303, Type 3I.

Comments:

Member's Requested Change (Redline/Strikeout): Revise the first sentence.

2. Hydrated Lime.

Hydrated lime shall meet the requirements of AASHTO M 303, Type3 I ~~AASHTO M 17, except that the gradation shall be determined in accordance with AASHTO T 11.~~

Reason for Revision: This revision replaces M 17 with M 303. The criteria in M 303 better define the material requirements and the text coincides with the text used in DS 01001 – HMA Treatment for Moisture Sensitivity.

County or City Input Needed (X one)			**Yes**	**No** X	
Comments: Moisture sensitivity is only a factor on high volume routes.					
Industry Input Needed (X one)			**Yes** X	**No**	
Industry Notified:	**Yes** X	**No**	**Industry Concurrence:**	**Yes** X	**No**
Comments: This item was identifies as part of the DS 01001 review by the QMA committee.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Jim Berger/Mike Heitzman	**Office:** Materials	**Item 5**
Submittal Date: September 19, 2003	**Proposed Effective Date:** April 20, 2004	
Article No.: 2303.02, G **Title:** Optional Mixture Criteria	**Other:**	

Specification Committee Action:

Deferred:	**Not Approved:**	**Approved Date:** 10-9-03	**Effective Date:** 4-20-04

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: No comments.

Specification Section Recommended Text:

Delete the entire article.

~~**G. Optional Mixture Criteria.**~~

~~For all Interstate projects no Marshall mix design substitutions will be permitted. For Primary projects with 10,000 tons (10,000 Mg) or less, the Contractor will be permitted to use comparable Marshall mix design criteria shown below as an option to the specified gyratory criteria. For Primary projects over 10,000 tons (10,000 Mg) with temporary pavement (detours and crossovers), patching, base widening, or staged bridge approach tapers, the Contractor will only be permitted to use comparable Marshall mix design criteria shown below as an option to the specified gyratory criteria for these specific applications. The criteria for Marshall mix designs is specified in Materials I.M. 511.~~

~~DESIGN ESAL$_{20}$~~	~~LAYER~~	~~BLOWS~~	~~TYPE~~
~~<0.1~~	~~surface intermediate base~~	~~50~~	~~B-45 B-45 B-45~~
~~0.1 - 0.3~~	~~surface intermediate base~~	~~50~~	~~A-60 B-45 B-45~~
~~0.3 - 1.0~~	~~surface intermediate base~~	~~50~~	~~A-75 A-60 B-45~~
~~1.0 - 3.0~~	~~surface intermediate base~~	~~50~~	~~A-75 A-75 B-60~~
~~3.0 - 10.0~~	~~surface intermediate base~~	~~75~~	~~A-75 A-75 B-75~~

Comments:

Member's Requested Change (Redline/Strikeout):

~~**G. Optional Mixture Criteria.**~~
~~For all Interstate projects no Marshall mix design substitutions will be permitted. For Primary projects with 10,000 tons (10,000 Mg) or less, the Contractor will be permitted to use comparable Marshall mix design criteria shown below as an option to the specified gyratory criteria. For Primary projects over 10,000 tons (10,000 Mg) with temporary pavement (detours and crossovers), patching, base widening, or staged bridge approach tapers, the Contractor will only be permitted to use comparable Marshall mix design criteria shown below as an option to the specified gyratory criteria for these specific applications. The criteria for Marshall mix designs is specified in Materials I.M. 511.~~
(table is deleted also)

Reason for Revision: This section allowed the use of Marshall criteria for a limited group of projects. Full implementation of gyratory mix design criteria for all projects in the State takes effect with the 2004 construction season. This section is no longer needed. Local agencies who elect to use the Marshall criteria can use SS 01001 HMA (Marshall Mix Design).

County or City Input Needed (X one)			**Yes**	**No** X	
Comments: This scheduled phase-in of gyratory mix design was established by QMA in 2000.					
Industry Input Needed (X one)			**Yes**	**No** X	
Industry Notified:	**Yes**	**No**	**Industry Concurrence:**	**Yes**	**No**
Comments: This scheduled phase-in of gyratory mix design was established by QMA in 2000.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: J. Berger	**Office:** Materials	**Item 6**
Submittal Date: 9/24/03	**Proposed Effective Date:** April 20, 2004	
Article No.: 2316.04, A **Title:** Pavement	**Other:**	

Specification Committee Action:

Deferred:	**Not Approved:**	**Approved Date:** 10-9-03	**Effective Date:** 4-20-04

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: No comments.

Specification Section Recommended Text:

Replace the first paragraph.

A profile index shall be calculated for each segment from the profilogram in accordance with Materials I.M. 341 except for:

1. Side road connections less than 600 feet (180 m) in length.
2. Single lift pavement overlays 2 inches (50 mm) or less in thickness unless the existing surface has been corrected by milling or scarification.
3. Storage lanes~~,~~ and turn lanes~~, and pavement less than 8.5 feet (2.6 m) in width~~.
4. Pavement less than 8.5 feet (2.6 m) in width.
4 5. The 15 feet (5 m) at the ends of the section when the Contractor is not responsible for the adjoining surface.

Comments: Existing GS entry.

Member's Requested Change (Redline/Strikeout):

A profile index shall be calculated for each segment from the profilogram in accordance with Materials I.M. 341 except for:

1. Side road connections less than 600 feet (180 m) in length.
2. Single lift pavement overlays 2 inches (50 mm) or less in thickness unless the existing surface has been corrected by milling or scarification.
3. Storage lanes~~,~~ and turn lanes~~, and~~ 4. P~~p~~avement less than 8.5 feet (2.6 m) in width.

5.~~4.~~ The 15 feet (5 m) at the ends of the section when the Contractor is not responsible for the adjoining surface.

Reason for Revision: A resident construction office felt the current language indicated that a storage lane or turn lane had to be less than 8.5 feet in order for the exception to apply.

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 Smythe/Wayne Sunday	**Office:** Construction	**Item 7**
Submittal Date: September 18, 2003	**Proposed Effective Date:** April 20, 2004	
Article No.: 2403.11 **Title:** Placing and Protection in Cold Weather	**Other:**	

Specification Committee Action:			
Deferred:	**Not Approved:**	**Approved Date:** 10-9-03	**Effective Date:** 4-20-04

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: No comments.

Specification Section Recommended Text:

Add at the end of the first indented paragraph.

When heating and housing is used, temperature monitors shall be located in the concrete at the furthest and closest point from the heat source. The maximum temperature of the monitor point closest to the heat source shall not exceed 150°F (65°C).

Comments:

Member's Requested Change (Redline/Strikeout):

2403.11 PLACING AND PROTECTION IN COLD WEATHER.
Concrete shall not be placed, without specific notice to the Engineer, when the air temperature is at or below 40°F (4°C).

Frozen materials shall not be used in the concrete. Concrete shall not be placed against frozen forms, earth, or rock or against other concrete having a temperature below 40°F (4°C).

In addition to protecting the concrete against chilling or freezing, the Contractor shall heat the water or aggregates or both so that, when placed, the concrete will have a temperature appropriate for the mass and dimensions of the portion of the structure being placed, but not less than 45°F (7°C) or more than 80°F (27°C).

Before concrete is placed at ambient air temperatures below 40°F (4°C) or when these temperatures might occur during the protection period, the Contractor shall have provided heating or protecting facilities or both meeting requirements of Article 2403.07, D, adequate to protect the work as follows:

The concrete shall be maintained at a temperature of not less than 50°F (10°C) for the first 48 hours after placing. The temperature of the concrete shall then be gradually reduced at a rate not exceeding 25°F (15°C) in 24 hours. When heating and housing is used, temperature monitors shall be located in the concrete at the furthest and closest point from the heat source. The maximum temperature of the monitor point closest to the heat source shall not exceed 150 degrees F (65 degrees C).

Reason for Revision: During winter concreting there are times when the contractor may need to provide supplemental heat for the concrete placement to maintain the required curing temperatures. When supplemental heat is applied it is important to limit the level of this heat so as not to be detrimental to the concrete. The above establishes both monitoring and sets a high temperature limit to prevent concrete damage.					
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 Smythe/Wayne Sunday	**Office:** Construction	**Item 8**
Submittal Date: September 18, 2003	**Proposed Effective Date:** April 20, 2004	
Article No.: 2403.17, F **Title:** Falsework Plans	**Other:**	

Specification Committee Action:

Deferred:	**Not Approved:**	**Approved Date:** 10-9-03	**Effective Date:** 4-20-04

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: No comments.

Specification Section Recommended Text:

Replace the first sentence.

The Contractor shall submit 6 copies of plans for falsework and centering on all concrete slab and cast-in-place concrete girder bridges to the Engineer for checking and review.

Add as the second sentence.

Submittal of forming details for bridge decks on concrete beam and steel beam bridges is not required unless specified in the contract documents.

Comments:

Member's Requested Change (Redline/Strikeout):

Add the following changes to the paragraph in F:

F. Falsework Plans.
The Contractor shall submit 6 copies of plans for falsework and centering on all concrete slab and cast-in-place concrete girder bridges to the Engineer for checking and review. Submittal of forming details for bridge decks on concrete beam and steel beam bridges is not required unless specified in the contract documents. The Engineer will be allowed 30 calendar days in which to review falsework plans. In addition, calculations or evidence of adequacy may be required by the Engineer. Revised plans may be required by the Engineer later because of unforeseen site conditions, unusual construction procedures, or deviation from original falsework plans. Article 1105.03 shall apply.

Reason for Revision: To provide clarification to submittal of falsework plans.

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 Smythe/Wayne Sunday	**Office:** Construction	**Item 9**
Submittal Date: September 18, 2003	**Proposed Effective Date:** April 20, 2004	
Article No.: 2404.06 **Title: PLACING AND FASTENING**	**Other:**	

Specification Committee Action:

Deferred:	**Not Approved:**	**Approved Date:** 10-9-03	**Effective Date:** 4-20-04

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The Office of Construction stated that this is also being requested because of damage that might be caused if epoxy coated reinforcing steel is flame cut. Flame cutting could not only damage the steel but also the epoxy coating.

Specification Section Recommended Text:

Add new third sentence to last paragraph.
Cutting of reinforcing steel in the field shall be by mechanical methods and not by flame cutting.

Comments:

Member's Requested Change (Redline/Strikeout):

2404.06.
Reinforcement shall be placed in the position indicated in the contract documents and shall be held securely in place during placing and hardening of the concrete. Bars shall be tied at all intersections except where spacing is less than 1 foot (300 mm) in each direction, in which case alternate intersections shall be tied. The locations, fastening, and condition of reinforcement shall be inspected and approved by the Engineer before concrete is placed around it.

In the floors of culverts and in other footings without piling, reinforcement shall be suspended from cross wales above the tops of the forms or shall be supported on steel stakes driven into the subgrade or on chairs.

Installation of dowels, deformed bars, inserts, or other articles into existing pavements and structures shall be as shown in the contract documents. When installed with epoxy material, the procedure shall be in accordance with Article 2301.12. Welding of reinforcing steel will not be permitted unless specified in the contract documents or approved by the Engineer. Cutting of reinforcing steel in the field shall be by mechanical methods and not by flame cutting.

Reason for Revision: Flame cutting of reinforcing steel can damage the composition of the steel.

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 Smythe/Wayne Sunday	**Office:** Construction	**Item 10**
Submittal Date: September 18, 2003	**Proposed Effective Date:** April 20, 2004	
Article No.: 2412.03 **Title:** Swinging The Span and Support of Forms	**Other:**	

Specification Committee Action:

Deferred:	**Not Approved:**	**Approved Date:** 10-9-03	**Effective Date:** 4-20-04

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The Office of Construction stated that temporary tack welding is already not permitted in the Specifications. It is believed that it would be confusing at this time to eliminate the temporary tack welding text and have the new statement for all structural steel cover it. In a few years, or when the book is rewritten, the temporary welding statement may be able to be removed. Basically, the Office of Construction does not want any welding for any reason on structural steel members unless it is specified in the contract documents or reviewed by the central office.

Specification Section Recommended Text:

Add as new third paragraph.

Welding on structural steel in the field will not be permitted, unless specified in the contract documents or approved by the Engineer.

Comments:

Member's Requested Change (Redline/Strikeout):

2412.03 SWINGING THE SPAN AND SUPPORT OF FORMS.
Before concrete is placed in the floor of a steel span, the centering of the span shall be struck and the span swung free on its permanent supports. Unless otherwise specified in the contract documents, forms for concrete floors and curbs shall be supported entirely by the beams which are to support the concrete.

Temporary welds will not be authorized, unless otherwise approved by the Engineer, to attach hangers to steel beams to support floor form joists according to Article 2408.13. Galvanized hangers may remain exposed in the finished structure.

Welding on structural steel in the field will not be permitted, unless specified in the contract documents or approved by the Engineer.

Reason for Revision: Generally all welding of structural steel is specified to be performed in a qualified structural steel fabrication plant that has an approved Welding Procedure Specification (WPS). There have been instances in the past where contractors have made temporary welds to structural steel to facilitate forming, bracing, etc. These welds on structural steel can result in damage to the structural steel and must be prevented from occurring. A more detailed explanation of why welding should not be permitted in the field is available on DOTNET.

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 Smythe / Kyle Frame	**Office:** Construction	**Item 11**
Submittal Date: 8/27/03	**Proposed Effective Date:** April 20, 2004	
Article No.: 2501.13 **Title:** Determination of Bearing Values of Piles	**Other:**	

Specification Committee Action:

Deferred:	**Not Approved:**	**Approved Date:** 10-9-03	**Effective Date:** 4-20-04

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: This issue was discussed at the last AGCI/DOT Joint Specification Committee.

Specification Section Recommended Text:

2501.13, A, Wave Equation Analysis.

Replace the entire article.

Wave equation analysis will be used on all Interstate and Primary projects, on other projects when specified in the contract documents, or as directed by the Engineer. ~~Piles shall be driven with approved driving equipment to the required length or other lengths necessary to obtain the required pile bearing capacity.~~ Piles shall be driven with approved driving equipment to full penetration. Retaps or pile extensions may be necessary to obtain the required pile bearing capacity including potential adjustments for scour or downdrag conditions. Driving shall not continue beyond a depth at which acceptable pile stress is exceeded. Driving may be stopped when the rate of driving exceeds 160 blows per foot (0.3 m) with approval from the Engineer.

2501.13, B, 2

Replace the entire article.

~~The penetration of the pile is at a reasonably quick and uniform rate.~~ Driving may be stopped when the rate of driving exceeds 160 blows per foot (0.3 m) with approval from the Engineer.

Comments:

Member's Requested Change (Redline/Strikeout):

A. Wave Equation Analysis.

Wave equation analysis will be used on all Interstate and Primary projects, on other projects when specified in the contract documents, or as directed by the Engineer.

~~Piles shall be driven with approved driving equipment to full penetration. Retaps or pile extensions may be necessary to obtain the required pile bearing capacity.~~ Piles shall be driven with approved driving equipment to full penetration. Retaps or pile extensions may be necessary to obtain the required pile bearing capacity including potential adjustments for scour or downdrag conditions. Driving shall not continue beyond a depth at which acceptable pile stress is exceeded. Driving may be stopped when the rate of driving exceeds 160 blows per foot (per quarter meter) with approval from the Engineer.

B. Bearing Determinations by Formula.

The following conditions shall apply in the use of the above formulas:

2. ~~The penetration of the pile is at a reasonably quick and uniform rate.~~ Driving may be stopped when the rate of driving exceeds 160 blows per foot (per quarter meter) with approval from the Engineer.

Reason for Revision: Clarify the full pile penetration requirement and identify a practical driving refusal limit for driven pile.					
County or City Input Needed (X one)			**Yes** X	**No**	
Comments:					
Industry Input Needed (X one)			**Yes**	**No** X	
Industry Notified:	**Yes**	**No** X	**Industry Concurrence:**	**Yes**	**No**
Comments:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John Smythe/Wayne Sunday	**Office:** Construction	**Item 12**
Submittal Date: September 18, 2003	**Proposed Effective Date:** April 20, 2004	
Article No.: 2525.06, A **Title:** General	**Other:**	

Specification Committee Action:

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

The Office of Bridges and Structures would like to review other areas of the Specification Book; i.e. sign support structures, traffic signals, tower lights, standard light poles; that are designed for wind loads. They would like to see if one design wind load and gust factor could be determined for all other areas.

Specification Committee Approved Text:

Comments:

Specification Section Recommended Text:

Replace the second sentence of the sixth paragraph.

They shall be certified by the fabricator that the poles and mast arms are capable of withstanding winds up to ~~100 mph (160 km/h)~~ a design wind load of 80 mph (128 km/h) with a gust factor of 1.3 without failure.

Comments:

Member's Requested Change (Redline/Strikeout):

Revise the second sentence in the sixth paragraph under A. General as follows:

The poles and mast arms shall be designed to support traffic signals, luminaires, and/or signs as shown in the contract documents. They shall be certified by the fabricator that the poles and mast arms are capable of withstanding winds up to ~~100 mph (160 km/h)~~ a design wind load of 80 mph with a gust factor of 1.3 without failure.

Reason for Revision: Design criteria has changed and needs to be corrected in the 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: J. Berger/Todd Hanson	**Office:** Materials	**Item 13**
Submittal Date: September 23, 2003	**Proposed Effective Date:** April 20,2004	
Article No.: 4101.01 **Title:** General Requirements	**Other:**	

Specification Committee Action:

Deferred:	**Not Approved:**	**Approved Date:** 10-9-03	**Effective Date:** immediately

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments:

Between 1987 and 1994, several pavements in Iowa experienced varying degrees of early distress. The distress was typically straining and cracking at the joints and in vibrator trails exhibited in the pavement. After several years of "concrete experts" coming to Iowa, there were several different reasons given for the distress as follows:

- Ettringite infilling in air voids
- Alkali silica reactivity
- Poor entrained air void system - F/T damage
- Poor mix design

After all the discussions, it was decided in 1997 to cover all possible mechanisms for early deterioration and make several specification changes, including:

- Maximum SO_3 limit 3.0% for all cements
- Maximum equivalent alkali 0.60% for all cements
- Raised air form 6 ±1% to 7 ±1%
- Changed vibrators from minimum 5000 vpm to 5000 to 8000 vpm

The SO_3 limit on Portland cements in really an elemental measure of the gypsum in the cement. Gypsum or $CaSO_4 \cdot 2H_2O$ is added to Portland cement to prevent flash setting. Not enough added gypsum can cause flash set, too much can cause a false set. The gypsum reacts with the C_3A (aluminum) in cement to form ettringite. It is made up chemically of calcium, aluminum, sulfur, and 32 water molecules.

Since air voids of early deteriorated pavements were filled with ettringite, it was decided to limit aluminum by requiring Type II cements (C_3A <8%) and reduce sulfur by limiting SO_4. After studying the pavements placed in 1992 (before Specification change) and 1997 (after cement changes), it was noted that ettringite infilling occurs in the top and bottom of the 1992 projects, and in the bottom of the 1997 projects.

This being the case limiting sulfur and aluminum does not eliminate ettringite in the air voids in the bottom, due to the high degree of saturation (1997 pavements). Since ettringite is a by-product of hydration, it is found in all concrete where there is high moisture. The reason there is ettringite in the top of the 1992 pavements is F/T cracking occurs due to low air, exposing unhydrated cement grains and redepositing ettringite in air voids, due to high saturation form cracking pavements.

Iowa specifications currently limit SO_3 to 3.0%.

ASTM C 150 specifications are as follows:

	C_3A	SO_3
Type I	>8%	3.5%
Type II	<8%	3.0%
Type III	>8%	4.5%

ASTM C 150 also allows SO_3 to be increased provided testing is performed in accordance with ASTM C 563. This limit may cause setting problems with certain cements. Also, Iowa is the only state requiring these specifications, so they have to produce special blend for Iowa, which may increase costs.

It was requested that this change be made before the next General Supplemental because the suppliers are making cement just for Iowa for next season. A formal letter will be sent to the suppliers and District Materials offices so this change will go into affect immediately, even on project already let.

Specification Section Recommended Text:

4101.01, A, ASTM C 150 Cements

Replace the entire article.

Unless otherwise specified, Portland cement shall meet the requirements of ASTM C 150~~, and the following requirements:~~

~~**1.** The maximum percent sulfur trioxide (SO_3) shall be 3.0% for Type I and Type II cements and ASTM C 150 Table 1, Note D, shall not apply.~~

~~**2.**~~ The alkali content expressed as total equivalent sodium oxide shall not be more than 0.60% for all cements.

4101.01, B, ASTM C 595 Cements

Replace the entire article.

Unless otherwise specified, blended hydraulic cement shall meet requirements of ASTM C 595 and the following requirements:

1. The pozzolan constituent of Type IP cement shall not be more than ~~20~~ 25 weight (mass) percent of the Portland-pozzolan cement.

~~**2.** The maximum sulfur trioxide (SO_3) for Type IP and Type I(PM) cements shall be 3.5% and ASTM C 595 Table 1, Note B, shall not apply.~~

~~**3**~~ **2.** The slag constituent of Type IS cement shall not be more than 35 weight (mass) percent of the Portland blast-furnace slag cement.

~~**4**~~ **3.** Type IP or I(PM) cement shall not contain Class C fly ash.

~~**5**~~ **4.** Blending cements produced with Type I clinker or Type I cement shall contain ~~35~~ 20% ground granulated blast furnace slag or at least 20% Class F fly ash. All other blended cements shall be produced with Tpye II clinker.

4101.01, C, 3

Delete the second sentence.

~~Type I cement with 35% substitution by weight of ground granulated blast furnace slag may be furnished at the Contractor's option when Type II cement is specified.~~

Comments:

Member's Requested Change (Redline/Strikeout):
4101.01, General Requirements

Replace the entire article:

A. ASTM C 150 Cements.
Unless otherwise specified, Portland cement shall meet the requirements of ASTM C 150 and the following requirements:

~~**1.** The maximum percent sulfur trioxide (SO_3) shall be 3.0% for Type I and Type II cements and ASTM C 150 Table 1, Note D, shall not apply.~~

12. The alkali content expressed as total equivalent sodium oxide shall not be more than 0.60% for all cements.

B. ASTM C 595 Cements.
Unless otherwise specified, blended hydraulic cement shall meet requirements of ASTM C 595 and the following requirements:

1. The pozzolan constituent of Type IP cement shall not be more than 2520 weight (mass) percent of the Portland-pozzolan cement.

~~**2.** The maximum sulfur trioxide (SO_3) for Type IP and Type I(PM) cements shall be 3.5% and ASTM C 595 Table 1, Note B, shall not apply.~~

32. The slag constituent of Type IS cement shall not be more than 35 weight (mass) percent of the Portland blast-furnace slag cement.

43. Type IP or I(PM) cement shall not contain Class C fly ash.

54. Blended cements produced with Type I clinker or Type I cement shall contain at least 2035% ground granulated blast furnace slag or at least 20% Class F fly ash. All other blended cements shall be produced with Type II clinker.

C. Cement Type Usage.
Unless otherwise specified, cement type and usage in various pavements, structures, and other elements shall be as follows:

1. Type II cement shall be used in Interstate and Primary pavements, except for quantities less than 3600 square yards (3000 m^2) furnished as transit mix concrete.

2. Type I or Type II cement may be used for all other applications. Type III cement may be used in precast and prestressed concrete only.

3. Type IP, Type I(PM), Type IS, or Type I(SM) cement may be furnished at the Contractor's option when Type I or Type II cement is specified. ~~Type I cement with at least 35% substitution by weight of ground granulated blast furnace slag may be furnished at the Contractor's option when Type II cement is specified.~~ The limitations of Articles 2301.04, 2403.03, or 2412.02 shall apply.

4. The unit volume of Type IP, Type I(PM), Type IS, or Type I(SM) cement in the concrete shall be that specified for Type I or Type II cement, unless otherwise specified.

Reason for Revision: To update cement specifications for reducing constraints placed on cement producers. One of multiple changes made to prevent early deterioration. Research has shown main cause of low air content. Making the change retroactive to a January 1, 2004 date rather than to projects let after April would be desirable. Shipping cements meeting two different specifications would cause unnecessary confusion for everyone.					
County or City Input Needed (X one)			**Yes**	**No**	
Comments:					
Industry Input Needed (X one)			**Yes** X	**No**	
Industry Notified:	**Yes** X	**No**	**Industry Concurrence:**	**Yes**	**No**
Comments:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: J. Berger	**Office:** Materials	**Item 14**
Submittal Date: 9/24/03	**Proposed Effective Date:** April 20, 2004	
Article No.: 4136.02, A **Title:** Poured Joint Sealer	**Other:**	

Specification Committee Action:

Deferred:	**Not Approved:**	**Approved Date:** 10-9-03	**Effective Date:** 4-20-04

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: No comments.

Specification Section Recommended Text:

Replace the first paragraph.

Hot poured joint sealer shall be composed of petropolymers and be supplied in solid form. The sealer shall meet requirements of ASTM ~~D 3405 with the following modifications:~~ D 6690, Type IV.

~~Penetration at 77°F (25°C)~~	~~90-150~~
~~Bond at -20°F (-29°C) standard specimen, 3 cycles, 200% extension~~	~~Passes~~

Comments:

Member's Requested Change (Redline/Strikeout):

A. Poured Joint Sealer.

Hot poured joint sealer shall be composed of petropolymers and be supplied in solid form. The sealer shall meet requirements of ASTM D ~~3405~~ 6690 Type IV. ~~with the following modifications:~~

~~Penetration at 77°F (25°C)~~	~~90-150~~
~~Bond at -20°F (29°C) standard specimen, 3 cycles, 200% extension~~	~~Passes~~

Cold applied sealers shall also meet the above physical requirements.

Reason for Revision: ASTM eliminated D 3405 and replaced it with D 6690. D 6690 Type IV includes the penetration and bond requirements.

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: J. Berger/Sam Moussalli	**Office:** Materials	**Item 15**
Submittal Date: 9/24/03	**Proposed Effective Date:** April 20, 2004	
Article No.: 4153.04 **Title:** Iron Castings	**Other:**	

Specification Committee Action:			
Deferred:	**Not Approved:**	**Approved Date:** 10-9-03	**Effective Date:** 4-20-04

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: No comments.

Specification Section Recommended Text:

Replace the second sentence of the first paragraph.

Unless otherwise specified, gray iron castings, bridge rockers, and shoes shall meet requirements of ~~Class 30~~ Class 35B, and ductile iron castings shall meet requirements of Grade 65-45-12 ~~except the minimum elongation in 2 inches (50 mm) shall be 10%~~.

Comments:

Member's Requested Change (Redline/Strikeout): Iron castings shall be either Gray Iron castings meeting the requirements of ASTM A 48 or ductile (nodular) iron castings meeting the requirements of ASTM A 536,as specified in the contract documents. Unless otherwise specified gray iron castings, bridge rockers, and shoes shall meet the requirements of ~~class 30~~ class 35B,and ductile iron castings shall meet the requirements of grade 65-45-12 ~~except the minimum elongation in 2 inches (50 mm) shall be 10 %.~~

Reason for Revision: The proposed changes will bring our specifications in line with both ASTM A 48 and A 536.

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 Smythe / Mark Bortle	**Office:** Construction	**Item 16**
Submittal Date: August 29, 2003	**Proposed Effective Date:** April 2004 GS	
Article No.: 4186.03, A, 2, a **Title:** Interstate and Primary Highways	**Other:**	

Specification Committee Action:

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

The Office of Construction requested that this item be deferred to a later date. Their Office believed they had concurrence on this item from the industry; but in the past couple of days, the industry has raised more questions about the proposed revision. In addition, the Office of Maintenance would like an implementation date further in the future.

Specification Committee Approved Text:

Comments:

Specification Section Recommended Text:

Delete "Unless otherwise specified," from the first sentence of the first paragraph.

Delete "Unless otherwise specified," from the third sentence of the first paragraph.

Replace the third paragraph.

Type VII retroreflective sheeting shall be used for barricades, vertical panels, drums, 42 inch (1050 mm) channelizers, tubular markers, and all other work zone traffic control devices. Reboundable devices shall use Type VII sheeting that is designed for such devices. At the Contractor's option, work zone traffic control devices sheeted with Type VII retroreflective sheeting may be used prior to January 1, 2005, as long as all work zone traffic control devices on the project use Type VII sheeting. Prior to January 1, 2005, the Contractor may use Type III or IV retroreflective sheeting ~~shall be used~~ for barricades and vertical panels. Reboundable drums, tubular markers, and other reboundable markers shall use Type III or IV retroreflective sheeting that is designed for reboundable devices.

Comments:

Member's Requested Change (Redline/Strikeout):

2. Work Zone Signs and Devices.

a. Interstate and Primary Highways.

~~Unless otherwise specified, a~~All rigid signs with orange backgrounds shall use Type VII (Iowa) retroreflective sheeting. The legend shall be accomplished with black nonreflective sheeting that is direct applied or silk screened with black opaque ink. ~~Unless otherwise specified, a~~All flexible roll-up signs with orange backgrounds shall use Type VI (Iowa) retroreflective sheeting. The legend shall be accomplished by silk screening with black opaque ink.

STOP/SLOW and SLOW/SLOW paddles shall use Type VII (Iowa) retroreflective sheeting. The black legend shall be accomplished with black nonreflective sheeting that is direct applied or silk screened with black opaque ink. The white

legend shall be accomplished with transparent red ink that is reverse silk screened on white Type VII (Iowa) retroreflective sheeting.

~~Type III or IV retroreflective sheeting shall be used for barricades and vertical panels. Reboundable drums, tubular markers, and other reboundablemarkers shall use Type III or IV retroreflective sheeting that is designed for reboundable devices.~~

After January 1, 2005, Type VII retroreflective sheeting shall be used for barricades, vertical panels, drums, 42 inch (1050 mm) channelizers, tubular markers, and all other work zone traffic control devices. Reboundable devices shall use Type VII sheeting that is designed for such devices. At the Contractor's option, work zone traffic control devices sheeted with Type VII retroreflective sheeting may be used prior to January 1, 2005, as long as all work zone traffic control devices on the project use Type VII sheeting.

Reason for Revision: The recently approved 42 inch channelizers already require Type VII sheeting. Since these have become the predominant laneline or centerline channelizing device, it is thought that all channelizing devices should be required to have the same level of retroreflectivity. It is also being recommended to upgrade the retroreflectivity of all channelizing devices due to Iowa's aging population and older drivers to improve the visibility of our work zone devices. These changes are not being required for locally administered projects, so Article 4186.03.A.2.b is not being recommended for change.

County or City Input Needed (X one)			**Yes**	**No** X	
Comments:					
Industry Input Needed (X one)			**Yes**	**No** X	
Industry Notified:	**Yes**	**No** X	**Industry Concurrence:**	**Yes**	**No** X
Comments: Prior to the Specification committee meeting, contacts with industry on this issue will be made in order to obtain their input.					

SPECIFICATION REVISION SUBMITTAL FORM **Item 17**

Submitted by: MUST BE ROUTED THROUGH A SPECIFICATION COMMITTEE MEMBER BEFORE REQUESTED REVISIONS WILL ADD TO AN AGENDA: ALL PRIOR TO TWO WEEKS PRIOR TO THE MEETING	**Office:**	**Item** FILLED IN BY SPEC SECTION
Submittal Date:	**Proposed Effective Date:**	
Article No.: **Title:** THE ARTICLE NUMBER AND CORRESPONDING TITLE MUST BE A MATCH. IF A MORE DESCRIPTIVE TITLE IS NEEDED OR DESIRED, PLEASE ADD IT TO THE END OF THE TITLE IN PARENTHESES	**Other:** THIS AREA IS USED FOR SUPPLEMENTAL SPECIFICATIONS AND OTHER MISCELLANEOUS ITEMS NOT IN THE STANDARD SPECIFICATIONS	

Specification Committee Action:			
Deferred:	**Not Approved:**	**Approved Date:**	**Effective Date:**
Specification Committee Approved Text:			
Comments:			
Specification Section Recommended Text:			
Comments:			

Member's Requested Change (Redline/Strikeout):
"CUTTING AND PASTING" FROM THE ELECTRONIC REFERENCE LIBRARY (ERL) IS THE BEST METHOD TO ENSURE THE MOST CURRENT TEXT IS USED. DO NOT USE 'TRACK CHANGES' IN MSWORD, INSTEAD USE HIGHLIGHT AND ~~STRIKETHROUGH~~ FROM THE TOOL BAR.

Reason for Revision:
BE DETAILED AND SPECIFIC IN YOUR REASONING FOR THE REVISIONS. THIS IS USED QUITE FREQUENTLY WHEN INDUSTRY REPRESENTATIVES, CONTRACTORS, UPPER MANAGEMENT, CITIES, COUNTIES, AND DEPARTMENTAL EMLOYEES INQUIRE AS TO WHY THE CHANGES WERE MADE.

County or City Input Needed (X one)	**Yes**	**No**
Comments: THIS SECTION MUST BE FILLED OUT IN ALL CASES		

Industry Input Needed (X one)			**Yes**	**No**	
Industry Notified:	**Yes**	**No**	**Industry Concurrence:**	**Yes**	**No**
Comments: THIS SECTION MUST BE FILLED OUT IN ALL CASES					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by:			**Office:**		**Item**
Submittal Date:			**Proposed Effective Date:**		
Article No.: **Title:**			**Other:**		
Specification Committee Action:					
Deferred:	**Not Approved:**	**Approved Date:**		**Effective Date:**	
Specification Committee Approved Text:					
Comments:					
Specification Section Recommended Text:					
Comments:					
Member's Requested Change (Redline/Strikeout):					
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:					

Summary of Specification Book Rewrite Survey Item 18

The following is a compilation of the results of the survey of user offices concerning the impacts of moving towards the AASHTO format, which will include a new numbering system, 5-part format, and reorganization into a more logical order. The basic AASHTO format concept is currently used by 35 other states including Puerto Rico.

Surveyed offices:
1. Bridges & Structures
2. Construction
3. Contracts
4. Design
5. Local Systems
6. Materials
7. Specifications
8. Traffic & Safety

Item numbers shown below correspond to the numbers associated with the surveyed offices shown above.

Documents or processes your Office would need to change?	Resource impacts (FTEs and total hours for each) or by consultant.	Benefits to:			
		Your Office	Other Offices	The Department	Other states/ Nationally
1.a. Bridge Design Manual	Review for references and update: 100 hr				
1.b. Bridge Standard Sheets	Review and update, rewrite notes to imperative mood. 400 hr				
1.c. Update BIAS codes	Download from Contracts				
1.d. Train Consultants	????????				
2.a. Construction Manual	Complete rewrite. Hundreds of references to specification articles, Material IM's, Road Standards, Detail Sheets, etc. 2,000 hours (estimated)	None	Unknown	Unknown	Insignificant
2.b. Training Materials (8 courses)	Revise student workbooks and visual aids. 200 hours/course (ave.) 1600 total hours (estimated.)	None	Unknown	Unknown	None
2.c. Field Manager documentation	2000 hours (estimated) See comments below	None	Unknown	Unknown	None
2.d. Reports/Queries	Loss of historical information Rework queries 1000 hours (estimated)	None	Unknown	Unknown	None

	See comments below				
2.e. Industry education	1000 hours (estimated) See comments below	None	Unknown	Unknown	None
3.a. Item Master	One occurrence requiring approximately 0.25 FTEs to redo our Item Master	None	We might be able to more logically number our bid items	It would cause everyone to learn new item numbers	Our bid items would still be unique to Iowa so I foresee no benefit of having similar Specification Seditions
3.b. BIAS software use by designers	0.50 FTEs spread out over 100 internal designers, 99 counties, and approximately 30 consultants	None	Negative impact because the designers would have to get accustom to a new set of items numbers	None	Negative impact because the consultant designers would have to get accustom to a new set of items numbers
3.c. Bid Review	10 occurrences for 3 years, approximately 0.1 FTE	None	No other offices affected	None	None
3.d. DSS Ad hocs	Corrected over a one year cycle as reports are run and updated for new bid item numbers approximately 0.25 FTE	None	Negative impact because it would be difficult to produce routine annual reports	Negative impact because it would be difficult to produce routine annual reports	None
3.e. Computer estimates	10 occurrences for 3 years, approximately 0.5 FTE	None	None	None	None
3.f. Contractor historical data bases	.0.1 FTEs to handle contractor complaints about negative effects on their bid item histories	None	None	Changing all the bid items could cause bidding errors by contractors which could affect bid prices	Changing all the bid items could cause bidding errors by contractors
4.a. We have a few references to the current Specifications in our manuals (Standard Road Plans, Road Design Details, and Design Manual). We would need to remove these references (preferred) or change them to the new numbering system. Either way, the impact is minimal. Since Design writes our own special provisions, some training in writing specifications in the AASHTO format would be helpful.	No additional FTE's would be required. We would change the few references to the Specifications that we have as part of our normal revision process. Time to do this is negligible (we don't have that many references).	The more logical organization would make the specifications easier to use. The AASHTO format also uses lists, which makes the specifications easier to read. Writing special provisions would be easier in the AASHTO list format, once we're familiar with it.	I'll let them speak for themselves.	Having Specifications that are more logically organized and easier to read should, in particular, help with one the Department's three stated core functions: contract administration. Contractors and inspectors should be able to more easily find and understand information. There is also a project underway to develop statewide urban specifications. Contractors in Iowa will be using both sets of	

				specifications and it will be much less confusing if they are written logically and in the same format. My understanding is the statewide group has agreed to adopt the AASHTO format if the Department does. The two manuals will likely someday be merged and doing so will be much easier if they are written in the same format now.	
5.a. IMs and Proj. Dev. Checklists	3 FTE – 40 hours	Minor Benefits	Benefit SUDAS	Minor	Possible
6.a. Standard Specs	1 ½ months FTEs	Yes	Yes	Yes	Some
6.b. I. M. s	6 months FTEs	Yes	Yes	Yes	Some
6.c. Training materials	1 month FTEs	Yes	Yes	Yes	Some
7.a. Standard Specifications	Rewrite (Negligible (actual savings) as it will be performed along with Imperative Mood rewrite) Training (developed in partnership with SUDAS so costs are ~1/2) Department User manual District meetings ICN Locals User manual ICN ICEA meetings APWA meetings Industry User manual ICN Industry meetings	1. Logical organization 2. Ease of use 3. Consistency with other states 4. Chance to globally update and improve products 5. Ability to correct inconsistencies in all contract documents 6. Improved coordination with SUDAS	1. Logical organization 2. Ease of use 3. Consistency with other states 4. Chance to correct inaccuracies in specification references 5. Improved coordination with SUDAS	1. Consistency with other states 3. Chance to correct inaccuracies in specification references 4. Improved coordination with SUDAS 5. Lower bid prices 6. Increased competition	1. Logical organization 2. Ease of use 3. Consistency with other states 4. Fewer questions about where to find items
7.b. Supplemental Specifications	Same as above	Same as above	Same as above	Same as above	Same as above
7.c. Developmental Specifications	Same as above	Same as above	Same as above	Same as above	Same as above
7.d. Electronic Reference	None additional as long as rewrite is				

Library	combined with Imperative Mood rewrite				
8.a. Rewriting/Formatting/Reviewing new specs and coordinating with other offices	160 hours	Insignificant	?	?	?
8.b. Training/Answer questions from industry, etc.	80 hours	?	?	?	?

Are you/your Office supportive of reorganizing the Specification Book and changing it to AASHTO format?

Yes	5
No	2
Deferred	1

Comments:

1. In general I feel the change will be helpful in the long run. Clearer and more precise terminology as well as a better organized reference. Short term will be difficult as with any change.

I did not fill out the 'benefits to' columns. I felt the general benefit will be a clearer and more concise specification. In addition the uniformity with other states will aid us in researching topics to determine current practice in other states.

2. I believe the cost/benefit of spending resources on this initiative is extremely high. I do not believe the benefits are quantifiable, and the costs are nearly impossible to project when looking at the entire process. While each functional unit may be able to estimate the time involved, the inter-relationships between processes and documents of various offices would require a well coordinated effort to avoid rework, down time and errors. For example, the specifications would have to be rewritten before the revisions to many documents and processes could begin. The appendices of the Material IM's would have to be updated, based on the new specifications, as well as the road standards and other contract documents. The Construction Manual and training materials would have to follow revisions to the contract documents. Then, after this linear process, they would all have to come into sync at the same time for implementation.

The following are some specific examples of the impact to Field Manager support alone.

Item 3. Field Manager Documentation

The following are support issues for changing item numbers in the Field Manager program

Associating Forms for new items

Each new item must, for documentation purposes, have a form attached to it within the Field Manager program. As of 5/15/03 there were 2,151 current English items and 2,093 current metric items. If each of those items were given a new item number, there would be 4,244 new items to link to a form.

To attach a form – One at a time an item is selected from a master list in Field Manager and then 1 form is selected from a drop down list of 92 possibilities to associate to that item. If forms are not linked to the items, we lose detailed documentation for item progress such as length, width, depth, etc. fields.

Reference File

When items with the "new" item number replace the current items using the "old" item number, the current items are coded obsolete. As soon as items are coded as being obsolete by the Office of Contracts, they can no longer be added by change order within Field Manager because only current items are displayed in that item list. There must be a method to add these obsolete items to current, on-going contracts. *(At the same time, you must also still have the ability to add items with the "new" item number to new contracts.)*

The only way to alter one of the obsolete items so it can be added to a contract is to go into the uncondensed reference file, change the obsolete code from Y to N, and then have the office import that revised reference file into Field Manager. That specific item will remain available only until I create (approximately each letting) the next reference file and the office imports it into Field Manager. Once that import is done, all items whose obsolete status was changed will once again be coded obsolete.

During FY '02 there were 432 different items added by cont mods to contracts a total of 1,785 times. Using the above scenario, I could receive approximately 1785 calls during 1 fiscal year (or approximately 8 calls per working day) to change the obsolete code so an item could be added to a contract. Thus far in FY '03 there have been 474 different items added by cont mods to contracts for a total of 1,225 times.

Item 4. Reports/Queries/Spreadsheets

Monthly reports are generated to identify change order costs and items that involve re-occurring problems. The following describes the process of capturing this information and the impacts of changing item numbers:

Change Orders.xls – (New Items Tab & Increase/Decrease Item Tab)
This queries the RCE's Field Manager database and then lists all items for all contracts that have been added or increased/decreased by cont mod during a specific time period (usually 1 month). It queries for and then lists the item number in the first column before it sorts the list using the item number as the first level of the sort process.

The above data is collected monthly for each residency and then is copied into 2 different spreadsheets, New Item CO Summary.xls and IncrDecr Item CO Summary.xls.

New Item CO Summary.xls & IncrDecr Item CO Summary.xls -
The data in these spreadsheets comes from the above query/spreadsheet. Once copied, the items that have been added or increased/decreased by cont mod for every office is combined into one of two respective lists and then sorted and totaled, based, again, on the item number. After the sort is done in ascending item number order, duplicate item numbers are deleted.

Once the item numbers have been listed, sorted, and the duplicates deleted, that list is copied to a spreadsheet (Cum_CO_Items.xls) that keeps a cumulative fiscal YTD list of all items added and/or increased/decreased by cont mod.

Cum_CO_Items.xls -
When the above (New Item CO Summary.xls & IncrDecr Item CO Summary.xls) spreadsheets are completed each month, their condensed item lists are copied into this spreadsheet where all the previous months' items are also located. Once the lists are pasted into their respective tab, the lists are sorted by item number and then duplicate item numbers are deleted. The end result is a list of all items added to date by cont mod in one tab and a different list of all items increased or decreased to date by cont mod in a different tab. Both lists are sorted by item number, with the number of times that item has been added or increased/decreased thus far in the fiscal year displayed as well as the total dollars involved in those modifications.

If the item number were changed, all historical data would be lost for comparisons unless the queries were changed to query, sort, and delete based on the item description rather than the item number. Although I think this could be done, it would certainly not be something that could happen quickly or without repercussions. If the queries were changed as described, there would be no distinction for most items as to whether they were a metric or an English item.

Item 5. Industry education

A significant change in specification structure and contract item numbers would generate many questions and discussions at industry meetings. This change would have to be explained to all levels of contracting firms, ranging from comptrollers to superintendents. Since these changes may affect contractor databases, follow up on specific concerns/issues may be extensive.

3. Changing all of our item numbers to match with the new specification sections would have a huge impact on the Office of Contracts. The biggest larger impact on the Office of Contracts than the Metric conversion we did in the early 1990s because AASTHO took care of many of the relationships between Metric and English items. In this renumbering of our Spec Book section conversion, we will have to do all the work ourselves. We got an indication of the effort of changing item numbers when we changed all the ACC items to HMA items several years ago. We still are able to easily retrieve historical HMA and ACC item history and that only affected one group of items, where this conversion will affect every item in the book.

- Is it possible for us to change all our bid items? Yes
- Do we think the benefits outweigh the costs of changing all our bid items? No
- Could we implement the conversion of our bid items if it is determined to re-order our Spec Book? Yes, but not in the next year until after we convert to client/server Trns•port. If we do renumber our Spec Book sections other things the Office of Contracts is trying to implement would suffer and not get done

- Time frame needed for Contracts to do the conversions? I'd say at least 18 months AFTER we get a final section order for the new Spec Book
- My preference? Not do it, but if we decide to do it, do it when we combine the Urban Spec Book so we only go though the effort once.

4. None

5. Since many counties, cities, and consultants use our specifications, I would be interested if they see a benefit or cost associated with this change.

6. Standard Spec 2303 was reorganized to the AASHTO format four years ago and was a great improvement. It was invaluable to everyone that uses the Iowa specifications. The 5-part format divides the spec requirement into "common" groups.

1) Description 2) Materials 3) Construction 4) Measurement 5) Payment

The old 2303 had 26 different sections. This is a great improvement and we support your initiative.

7. In most conversations with industry groups it is mentioned that consistency and uniformity are key factors to helping to lower prices, decrease errors, and increase quality. Contractors have to become familiar with numerous documents. The fewer documents the better. While the number of specification manuals cannot be decreased at this time (we only have one), we can aid the industry by helping them to become familiar with the use of our manual at a faster rate or aid them as they travel to other states to bid on work by having manuals that are consistent with the majority of other state highway agencies.

There are numerous inconsistencies in our current documents (i.e. incorrect references to specifications, outdated references, inconsistent numbering schemes, etc.) that can be corrected by the total rewrite. Not to say this will not be hard, it will be. The biggest advantage that we have today that we have not had in the past is the Electronic Reference Library (ERL). The ERL allows searches of all the contract documents to aid in the changing of references.

We will never have the ideal staff resources to accomplish rewriting this manual. It has always been an added task, but if it is looked as a quality improvement measure, the Department will reap the benefits long into the future.

Is there chance for errors? Yes
Has there been a chance for errors in the past? Yes
Can this be overcome? Yes, with a dedicated group performing the rewrite it can only increase the chances of success. Keeping in mind that the Specifications Section will be bearing the brunt of the rewrite responsibilities and the other offices will only need to critique the language as we currently do for General Supplemental Specification revisions. This whole process will be guided by a master spreadsheet similar to the one provided during the 2001 rewrite that is still in use today as a reference tool. This spreadsheet relates to the user the former and future location of specifications references.

The SUDAS group is waiting for the Department to make a decision. SUDAS will then adopt the Department's style (a large concession from SUDAS) and will be trusting the Department to maintain this consistency well into the future. SUDAS will not want to rewrite their manual twice.

Combining the AASHTO format rewrite with the Imperative Mood rewrite will save resources. A rewrite will take proofreading resources, reference checking, etc. by all affected offices. Therefore why not perform the operation once rather than twice.

8. The Office of Traffic and Safety has not heard negative comments regarding our current Spec Book format, however we are not in a position to typically hear complaints in that area. Making the change will require work and coordination with other offices, but it can be done if the Department believes the change will provide adequate benefits.

Specification Committee Action: The Specification Committee did not recommend moving to AASHTO numbering at this time.

Comments:
Department management initial recommendation is that the Specification Book be rewritten in imperative mood/active voice and 5-part format (1. Description, 2. Materials, 3. Construction, 4. Method of Measurement, 5. Basis of Payment). Management's initial decision was to not allow the remaining issue of AASHTO numbering, but asked that the Specification Committee discuss these issues.

On a side note, the AASHTO numbering system uses 3 digits. The divisions are often broken into General Requirements, Earthwork, Flexible Pavements, Rigid Pavements, Structures, Miscellaneous, and Materials. There are currently 35 other states and Porto Rico that use something similar to the AASHTO numbering system in their Specification Books.

The SUDAS group is waiting for a format decision from the Department so they may begin rewriting their manual parallel to the Department's. This will make merging of the two manual in the future easier.

It was asked if the specifications would be written to an end result specification? The Specification Section believes that this would be another major undertaking and will not be possible in this rewrite. It is probably the way the Department should be going and is on the table for discussion. There was no further discussion.

It was asked if the AGCI supports the idea and impacts on them? The Specifications Engineer has discussed the topic of formatting with the chair of the AGCI as it pertains to merging of the SUDAS and Department Specification manual, and he supports the idea of a more logical format. The industry has not been asked about impacts on them if the Specification Book is renumbered, i.e. estimating software and databases.

The Office of Contracts will not change the bid item numbers. The Office of Construction is opposed to the bid items not matching the Specification Book and is concerned about the impact that would have on the field. The Office of Construction does not want to digress to pre-1992 when the bid item number did not indicate the Specification Book section; therefore, they will not support changing the numbering system.

It was asked if the Construction Manual would have to be rewritten into imperative mood/active voice? It is not a contract document and it is not sure if it would be beneficial.

It was asked if other contract documents, i.e. Standard Road Plans, would have to be rewritten into imperative mood/active voice? It is the intent that all specification documents will be in imperative mood/active voice. It would probably be in the Department's best interest to have all contract documents in the same mood and voice, but the Specification Committee cannot force any other changes. The Specification Section and the Methods Section in the Office of Design has been working closely over the last few years to remove as much specification language as possible from the Standard Road Plans and Typical Design Plans. The SUDAS manuals are already written in imperative mood/active voice. The Specification Committee believes it will be important for decisions on converting other contract documents to imperative mood/active voice be made with consistency in mind and at an early phase in the process.

It was asked if the book will be dual unit? Yes.

The Specifications Engineer explained some imperative mood/active voice training ideas. The Specification Section is already working with Iowa State University to bring the National Highway Institute training for imperative mood/active voice to the state for training those task force members involved in rewriting the Book in February 2004. Other National Highway Institute training sessions will be held for designers in the winter of 2006/2007. The Specification Section could conduct training of field personnel and other end users through Winter Training sessions or using the Iowa Communication Network, similar to the Metric training performed in mid 1990s.

The Specification Section stated that the rewrite of the Specification Book would not take as many resources as the 1992 Book. The 1992 Book was supposed to only include the addition of the General Supplemental. Numerous Department employees met for four hours every week for almost 1 1/2 years. The Specifications Engineer and Assistant Specifications Engineer were both members for those meeting for Offices they worked in at the time. From that experience it has been determined that writing by committee is not productive. Office experts will be asked to sit on their respective task forces. These experts will determine what needs to be left in, and in which of the 5-parts it should be included. The Specification Section will then rewrite the text into imperative mood/active voice. The respective task forces will then review the revised text. The Office of Construction asked for more detail on the task forces and timeline before they could state exact impacts on their Office.

The Specifications Section will be developing a spreadsheet or database to track the addition of Supplemental Specifications, possibly addition of some Development Specifications, and movement of text within the Book. This spread sheet will be similar to the one developed to track the Supplemental Specifications for the 2001 Specification Book.

It was asked if other changes would be made to the Specification Book during the rewrite? It is believed that some changes will have to be made. Some areas of work are spread out in the current book or are in the incorrect area; some reorganized will need to be done for a better flow. When it comes to text changes, if the intent is not changed, it will not be marked and the task force members will be responsibility to keep their Office Directors informed about changes that might affect them. Major changes will be tracked in an electronic format so that its movement or deletion is documented. Major changes to the way the Department does business will be brought to the Specification Committee for discussion. The final book will be reviewed and approved by the Specification Committee.

The Specification Committee stated that the rewrite will take the inspectors a while to adjust; but that it should be easier to read.

The Specification Committee asked the Specification Section to include regular updates at their meetings on the task forces and the time line.

The Specification Committee recommends that the rewriting of the Specification Book to imperative mood/active voice, 5-part format, and future training start to be shared with the industries and other organizational groups.

Proposed flow chart for rewrite of Specification Book (October 2003)