Iowa Department of Transportation

MINUTES
OF
IOWA DOT SPECIFICATION COMMITTEE MEETING

August 10, 2006

Members Present:	John Adam	Statewide Operations Bureau
	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
	Jim Berger	Office of Materials
	Doug McDonald	District 1-Marshalltown RCE Office
Members Not Present:	Troy Jerman	Office of Traffic & Safety
	Mike Kennerly	Office of Design
Advisory Members Present:	Lisa Rold	FHWA
	Larry Stevens	SUDAS
Advisory Members Not Present:	Jim Rost	Office of Location & Environment
Others Present:	Deanna Maifield	Office of Design
	Kevin Jones	Office of Materials
	Chris Poole	Office of Design
	Dave Matulac	Office of Traffic and Safety
	Vanessa Goetz	Office of Materials

Tom Reis, Specifications Engineer, opened the meeting. The following items were discussed in accordance with the agenda dated August 17, 2006:

1. Article 1101.02, Definitions of Abbreviations.
Article 1101.03, Definitions of Terms.

The Specifications Section requested changes to assist coordination between the Standard Specifications and SUDAS.

2. Article 1105.04, Conformity with and Coordination of the Contract Documents.

The Office of Design requested that Standard Road Plans be added below Plans in the hierarchy of contract documents.

3. Article 1108.01, Subletting of Contract.

The Office of Contracts requested a change that will clarify how the 50% subcontract requirement is computed.

4. Article, 2212.07, E, Surface Patches.

The Specifications Section requested a change to clarify that tack coat is incidental to Surface Patches.

5. Article 2213.05, Removal of Curb.

The Specifications Section requested a change to eliminate detonating chord as an option for curb removal.

6. Article 2412.02, Removal of Curb.

The Specifications Section requested a change to eliminate detonating chord as an option for curb removal.

7. Article 2301.12, Placing Reinforcement and Placing Dowel and Tie Bars.
Article 2301.25, Sealing Joints.

The Specifications Section requested changes that will separate dowel and tie bars from reinforcement. The Specification Section is also requesting a change that will eliminate silicone sealers as an option for sealing joints.

8. Article 2310.04, D, Hot Mix Asphalt Stress Relief Course.
Article 2310.05, D, Hot Mix Asphalt Stress Relief Course.

The Specifications Section requested a change that will make Hot Mix Asphalt Stress Relief Course incidental to overlay work.

9. Article 2510.02, Pavement Removal.

The Specifications Section requested a change that will require a full depth saw cut for pavement removal.

10. Article 2511.03, Removal of Sidewalks and Recreational Trails.

The Specifications Section requested a change that will require a full depth saw cut for removal of sidewalks and recreational trails.

11. Article 2515.02, Materials.
Article 2515.03, Removal of Paved Driveways.
Article 2515.04, Construction of Paved Driveways.

The Specifications Section requested changes to clarify what portions of Section 2511 apply to removal and construction of driveways.

12. Article 2516.05, A, Removal of Retaining Walls and Steps.
Article 2516.05, B, Construction of Retaining Walls and Steps.
Article 2516.06, A, Removal of Retaining Walls and Steps.
Article 2516.06, B, Construction of Retaining Walls and Steps.

The Specifications Section requested measurement and payment for removal and construction of retaining walls and steps be changed to square feet.

13. **Article 2519.04, Method of Measurement.**
Article 2519.05, Basis of Payment.

The Specifications Section requested measurement and payment for fence construction be changed to linear feet.

14. **Article 2524.07, Erection of Type A Signs.**
Article 2524.08, Erection of Type B Signs.

The Office of Traffic and Safety requested a change that will eliminate information that is in the Specifications and on Standard Road Plan RD-60. They feel this information is best placed only on the Standard Road Plan.

15. **Article 2527.03, G, 1, Multi-Lane Roads.**

The Specifications Section requested a change that will allow this article to address centerlines on undivided multi-lane highways and highways with two-way left-turn lanes (TWLTLs).

16. **Article 2529.02, A, Hot Asphalt Mixture.**
Article 2529.02, B, 10, Dowel Bars and Tie Bars.
Article 2529.06, PCC Finish Patches with Dowels.
Article 2529.09, Placing Full Depth Portland Cement Concrete Finish Patches.

The Specifications Section requested changes that will:
1. State a default binder to be used.
2. Reorganize text to place it in the appropriate places.

17. **Article 2530.05, A, 2, Placing HMA Patch Material.**
Article 2530.06, Limitation of Operations.
Article 2530.08, A, Partial Depth PCC Finish Patches.
Article 2530.09, A, Partial Depth PCC Finish Patches.

The Specifications Section requested changes that will:
1. Add text clarifying when the Contractor will be required to smooth the surface of a patch.
2. Change measurement and payment to square yards.
3. Change payment for partial depth finish patches that are constructed to full depth at the direction of the Engineer to 2.0 times the contract price for partial depth PCC patches.

18. **Article 2531.07, Method of Measurement.**

The Specifications Section requested a change to how milling is measured.

19. **Article 2532.07, Method of Measurement.**

The Specifications Section requested a change to how grinding is measured.

20. **Article 2533.01, Description.**

The Specifications Section requested a change to add clarity to the paragraph.

21. Article 2601.04, Application of Seed.
Article 2601.08, E, Watering Sod.
Article 2601.22, Basis of Payment.

The Specifications Section requested changes to add text that was omitted and to make watering sod incidental to sodding.

22. Article 4149.03, Pipe for Storm Sewers.

The Specifications Section requested a change that will eliminate clay pipe as an option for storm sewer.

23. Article 4161.03, Treatment.

The Office of Materials requested a change that will allow copper naphthenate as a preservative treatment.

24. Article 4165.04, D, Preservative Treatment.

The Office of Materials requested a change that will allow copper naphthenate as a preservative treatment.

25. SS-01042, High Tension Cable Guardrail.

The Office of Design requested updates to SS-01037.

26. DS-01082, Milled Shoulder Rumble Strips – HMA or PCC.

The Specifications Section requested a change that will clarify that the 0.13 gallon per square yard rate is for diluted asphalt emulsion.

27. DS-01083, Crash Cushions.

The Office of Design requested a new Developmental Specification that will provide a single location for information concerning temporary and permanent installations. Currently, the specifications only address temporary installations.

28. 2214.01, Description (Pavement Scarification)

The Office of Construction requested a change that will clarify the Method of Measurement.

29. 2214.03, A, Resurfacing (Pavement Scarification)

The Office of Construction requested a change that will remove redundant language.

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 1**
Submittal Date: July 14, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 1101.02; 1101.03 **Title:** Definitions of Abbreviations; Definition of Terms	**Other:**	

Specification Committee Action: Defer to September. The Specifications Section will send committee members information explaining the requested changes.

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

Specification Committee Approved Text:

Comments: The Office of Construction noted that it would be helpful to committee members to have more background regarding the requested changes. The committee agreed. SUDAS asked that another abbreviation be added to the definitions: ISO - Insurance Services Office. The committee studying inconsistencies between Iowa DOT and SUDAS is also requesting that the following change be added:

Project Area.

The right-of-way between the project limits shown ~~on the plans~~ in the contract documents, and ~~immediately beyond these limits if used by the Contractor; also,~~ any additional area which is necessary for the Contractor to place traffic control devices required by the contract documents or necessary to protect the work.

Specification Section Recommended Text:

1101.01, Definitions of Abbreviations.

Add the following abbreviations:

ASA - American Standards Association

IMSA - International Municipal Signal Association

NSF - National Sanitation Foundation

OSHA - Occupational Safety and Health Administration

SUDAS - Statewide Urban Design and Specifications

1101.03, Definition of Terms.

Add the following definitions:

Approved Equal (Equivalent).

A product or material that, upon review of the Engineer, is determined to meet or exceed the intended qualities called for by the specifications. Upon approval, the item will be allowed in lieu of the specified material or product.

Bid.

Submission of a proposal, by a contractor, to complete the advertised work for a specified amount.

Bid Amount.

The aggregate sum obtained by totaling the amounts arrived at by multiplying the number of units of each class of work, as shone in the proposal, by the unit price specified in the proposal for that class of work.

Bid Item.

See Contract Item (Pay Item).

Bid Bond.

See Proposal Guaranty.

Incidental.

Materials, equipment, or labor not identified within the contract documents as items to be paid for individually, but essential for the proper completion of the work.

Jurisdiction.

Political subdivision acting through its governing body, or through the authorized representatives of such governing body when so authorized.

Jurisdictional Engineer.

See Engineer.

Liquidated Damages.

The dollar amount, estimated by the Engineer, and set forth in the contract documents, as the cost to the Contracting Authority for delay in completion of the work.

Manhole.

See Utility Access.

Mobilization.

Preparatory work and operations for all items under the contract documents, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; for the establishment of all offices, buildings, and other facilities necessary for work on the projects; and for all other work or operations which must be performed or costs incurred prior to beginning work on the various items on the project site. Mobilization may include bonding, permit, and demobilization costs.

Roadway.

The portion of the right-of-way designed or ordinarily used for vehicular travel.

Specifications.

The general term comprising all the written directions, provisions, and requirements to which may be added or adopted Supplemental Specifications, Special Provisions, or Developmental Specifications, all of which are necessary for the proper performance of the contract documents.

Street.

See Road.

Substantial Completion.

That date certified by the Engineer when the construction of the project or a specific part thereof is sufficiently completed in accordance with the contract documents so that the project or specific part can be utilized for the purpose for which it is intended. In general, Substantial Completion is reached when only clean-up of the project site and/or completion of minor work remains.

SUDAS Standard Specifications.

Refers to the Iowa Statewide Urban Standard Specifications for Public Improvements.

Utility Access.

An inline structure to allow personnel access and maintenance of underground piping.

Utility.

Includes all privately, publicly, municipally, or co-operatively owned structures and systems for supplying water, sewer, electric lights, street lights and traffic lights, gas, power, telegraph, telephone, communications, transit, pipelines, and the like.

Utility Agency.

Means and includes (1) all franchised utilities having utility system facilities within State or local jurisdiction right-of-way, including but not limited to gas, electric, telephone, cable television, and communications; (2) communications systems allowed by the State or local jurisdiction; and (3) all governmental agencies owning or operating governmental utility systems, including but not limited to water, sewer, traffic control, and communications.

Work Area.

That portion of the project area in which construction activity is ongoing.

Replace the following term:

~~**Responsible**~~ **Responsive Bid**

Replace the following definitions:

Culvert.

Any structure not classified as a bridge or storm sewer which provides an opening under any roadway or embankment, except that such term shall not include tiles crossing the road, or intakes thereto, where such tiles are part of a tile line or system designed to aid subsurface drainage.

Engineer.

~~The Chief Engineer for contracts let by the Department, the County Engineer for contracts let by the county, the City Engineer for contracts let by the city, or other engineer executive of the contracting Authority, acting directly or through duly authorized representatives, such representative acting within the scope of the particular duties assigned to the Engineer or of~~

~~the authority given the Engineer.~~

For publicly owned projects, the Engineer is the authorized representative of the Contracting Authority. For privately contracted projects, with improvements, that are to become publicly owned, the Engineer is the authorized representative of the public entity ultimately accepting ownership of the improvements. For all other projects, the Engineer is the owner's authorized representative.

The Engineer may act directly, or through duly authorized representatives, acting within the scope of the particular duties assigned to the Engineer, or of the authority given the Engineer.

Structures.

All objects constructed of materials other than earth, required by the contract documents to be built, or to be removed, but not including pavement, surfacings, base courses, and subbases. Includes ~~B~~bridges, culverts, intakes, drop inlets, retaining walls, cribbing, manholes, handholes, end walls, buildings, sewers, service pipes, ~~underdrains~~ subdrains, foundation drains, and other features that ~~may be encountered in the work and not otherwise classed herein~~ require engineering analysis.

Delete the following definitions:

~~**Invitation for Bids.**~~

~~See Notice to Bidders.~~

~~**Work Order.**~~

~~A written order, signed by the Engineer, of a contractual status requiring performance by the Contractor without negotiation of any sort, and which may involve starting, resuming, or the suspension of work. (Not to be confused with change order.)~~

Comments: Recommended changes as a result of a review of inconsistencies between Iowa DOT Specifications and SUDAS.

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** 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: Mike Kennerly / Chris Poole	**Office:** Design	**Item 2**
Submittal Date: July 26, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 1105.04 **Title:** Conformity with and Coordination of the Contract Documents	**Other:**	

Specification Committee Action: Approved with changes suggested in Specification Committee Approved Text.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07

Specification Committee Approved Text:

1105.04, Conformity with and Coordination of the Contract Documents.

Add a new Item 5 to the first paragraph and **renumber** Items 5 to 9:

1. Addendum
2. Proposal Form
3. Special Provision
4. Plans
5. Bridge, Culvert, and Standard Road Plans
~~**5**~~ **6.** Developmental Specifications
~~**6**~~ **7.** Supplemental Specifications
~~**7**~~ **8.** General Supplemental Specifications
~~**8**~~ **9.** Standard Specifications
~~**9**~~ **10.** Materials I.M.

Comments: The Office of Bridges and Structures suggested adding bridge and culvert standards.

Specification Section Recommended Text:

1105.04, Conformity with and Coordination of the Contract Documents.

Add a new Item 5 to the first paragraph and **renumber** Items 5 to 9:

1. Addendum
2. Proposal Form
3. Special Provision
4. Plans
5. Standard Road Plans
6~~**5**~~**.** Developmental Specifications
7~~**6**~~**.** Supplemental Specifications
8~~**7**~~**.** General Supplemental Specifications
9~~**8**~~**.** Standard Specifications
10~~**9**~~**.** Materials I.M.

Comments:

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

1105.04 CONFORMITY WITH AND COORDINATION OF THE CONTRACT DOCUMENTS.
In case of a discrepancy between contents of the contract documents, the following items listed by descending order shall prevail:

1. Addendum
2. Proposal Form
3. Special Provision
4. Plans
5. Standard Road Plans
6~~5~~. Developmental Specifications
7~~6~~. Supplemental Specifications
8~~7~~. General Supplemental Specifications
9~~8~~. Standard Specifications
10~~9~~. Materials I.M.

Should there be a discrepancy between figures and drawings on any of the contract documents, the figures shall govern unless they are obviously incorrect.

Reason for Revision:

Standard Road Plans are incorporated into project plans by reference (listing them in Tabulation 105-4 on the title sheet). However, no hierarchy currently exists to evaluate possible discrepancies between information shown in the plans and information shown in those Standard Road Plans referenced by the plans.

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: Roger Bierbaum	**Office:** Contracts	**Item 3**
Submittal Date: May 25, 2006	**Proposed Effective Date:** April 2007	
Article No.: 1108.01 **Title:** Subletting of Contract	**Other:**	

Specification Committee Action: Approved.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/47/07

Specification Committee Approved Text: Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

1108.01, Subletting of Contract.

Add as the second sentence of the first paragraph:

The percent of total contract subcontracted will be computed on Contract Unit Prices for work performed by the subcontractor, unless the subcontractor is only doing partial work on the contract item.

Comments:

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

The Contractor's own organization shall perform work amounting to not less than 50% of the total contract cost unless otherwise specified in the contract documents. The percent of total contract subcontracted will be computed on Contract Unit Prices for work performed by the subcontractor, unless the subcontractor is only doing partial work on the contract item. In order to meet this 50% requirement, the Contractor shall not purchase any materials for a subcontracted item nor shall they place other contractor's employees on their payroll. Employees must be hired in accordance with the Affirmative Action hiring process as detailed elsewhere in the contract documents. Any item designated as a specialty item may be performed by subcontract, and the cost of any such specialty item as performed by subcontract may be deducted from the total cost before computing the amount of work required by the Contractor's organization. Any items that have been selected as specialty items for the contract are listed as such in the contract documents.

Reason for Revision: Contractors are routinely submitting the Subcontract Request and Approval Form using actual subcontract unit prices instead of the Contract Unit Price. This change would clarify how the 50% subcontract requirement if computed.

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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 4**
Submittal Date: July 11, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2212.07, E **Title:** Surface Patches	**Other:**	

Specification Committee Action: Approved.			
Deferred:	**Not Approved:**	**Approved Date:** 8/10/16	**Effective Date:** 4/17/07
Specification Committee Approved Text: See Specification Section Recommended Text.			
Comments: None.			
Specification Section Recommended Text: **2212.07, E, Surface Patches.** **Add** as the third sentence: Tack coat shall be incidental to Surface Patches.			
Comments: This change is being suggested to clarify that tack coat is incidental to Surface Patches.			

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 5**
Submittal Date: July 19, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2213.05 **Title:** Removal of Curb	**Other:**	

Specification Committee Action: Defer to September.

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

Specification Committee Approved Text:

Comments: SUDAS noted that breaking and chipping wouldn't be allowed in most cities. They questioned if breaking and chipping should continue to be allowed in the Specifications. Committee agreed to continue researching this issue.

Specification Section Recommended Text:

2213.05, Removal of Curb.

Replace the first and second sentences of the second paragraph:

The curb shall be removed by grinding, or other methods approved by the Engineer (such as sawing and breaking, or chipping) to provide substantially complete removal of curb that extends above the pavement surface and a reasonably safe and smooth surface to accommodate traffic. ~~These may include sawing and breaking, chipping, or use of detonating cord explosive.~~

Comments: Licensing and safety requirements make using detonating chord explosive impractical. The Office of Construction recommends removing the language.

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 6**
Submittal Date: July 19, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2514.02 **Title:** Removal of Curb	**Other:**	

Specification Committee Action: Defer to September. See Item 5.

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

Specification Committee Approved Text:

Comments:

Specification Section Recommended Text:

2514.02, Removal of Curb.

Replace the first and second sentences of the fourth paragraph:

> The curb shall be removed by grinding, or other methods approved by the Engineer (such as sawing and breaking, or chipping) to provide substantially complete removal of curb that extends above the pavement surface and a reasonably safe and smooth surface to accommodate traffic. ~~These may include sawing and breaking, chipping, or use of detonating cord explosive.~~

Comments: Licensing and safety requirements make using detonating chord explosive impractical. The Office of Construction recommends removing the language.

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 7**
Submittal Date: July 19, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2301.12; 2301.25 **Title:** Placing Reinforcement and Placing Dowel and Tie Bars; Sealing Joints	**Other:**	

Specification Committee Action: Approved with changes suggested in Specification Committee Approved Text.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text, with the following changes:

First paragraph of Article 2301.12, A:

Reinforcement shall be installed prior to vibration so as to be in the intended position in the completed pavement. Reinforcing ~~B~~bars may be supported by approved chairs or may be placed in position by a machine or method subject to approval of the Engineer.

First paragraph of Article 2301.12, B

Load transfer devices (dowel bars and/or tie bars) 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. Mechanical dowel bar inserters will not be allowed.

Comments: The Office of Design suggested the word “reinforcing” be added to the beginning of the second sentence of the first paragraph of Article 2301.12, A. The Office of Construction suggested deleting the last sentence of the first paragraph of Article 2301.12, B.

Specification Section Recommended Text:

2301.12, Placing Reinforcement.

Replace the title and the entire article:

Placing Reinforcement and Placing Dowel and Tie Bars.

A. Placing Reinforcement.

Reinforcement shall be installed prior to vibration so as to be in the intended position in the completed pavement. Bars may be supported by approved chairs or may be placed in position by a machine or method subject to approval of the Engineer.

When welded wire fabric reinforcement is used, the concrete shall first be struck off at the elevation specified for the fabric reinforcement, and the sheets of fabric shall be placed as

indicated in the contract documents. The sheets of fabric shall be flat, and care shall be used in handling and placing the fabric to ensure its installation in the proper position. The balance of the concrete shall then be deposited and vibrated in a manner to not displace or distort the fabric. Sheets that have become bent or kinked may be rejected.

Alternate methods of placing welded wire fabric reinforcement will be considered for approval.

B. Placing Dowel and Tie Bars.

Load transfer devices (dowel bars and/or tie bars) 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. Mechanical dowel bar inserters will not be allowed. Tie bars may be inserted using a mechanical tie bar inserter.

Assemblies that are damaged prior to placement shall not be used. Assemblies damaged after placement shall be replaced prior to paving. Horizontal and vertical alignment of the load transfer bars shall not exceed 1/4 inch (5 mm) from parallel to line and grade. Each assembly shall be placed so the bars are in a horizontal plane at T/2 ± 1/2 inch (15 mm).

The Contractor shall check, with a suitable template or other device approved by the Engineer, the placement of each assembly and the position of the bars within the assembly. If the assembly is found to be placed outside any one of these tolerances, the placement shall be corrected.

Cutting the tie wires of the load transfer assemblies shall be the option of the Contractor.

When dowels or tie bars or other articles are to be anchored in existing concrete, a grout system shall be used as listed in Materials I.M. 491.11 or 491.22 and according to the manufacturer's instructions, subject to the approval of the Engineer.

For horizontal installation of dowels or tie bars, either a pressure injection system with mechanical proportioning and mixing or encapsulated chemical anchors shall be used. Installation shall be as follows:

The drilled or preformed hole to receive the grout shall be of the dimensions and spacing shown in the contract documents. When not shown in the contract documents, the hole shall be of a nominal maximum diameter 1/8 inch (3 mm) larger than the outside diameter of the dowel or bar, or as recommended by the manufacturer. Immediately prior to placing the grout, the hole shall be blown clean with compressed air. The grout shall be pressure injected into the rear of the hole.

Sufficient grout shall be used so that when the bar, insert, or other article to be grouted is placed in position, there will be an excess of grout forced out the front of the hole. The article to be grouted shall be rotated in the insertion process to ensure complete coating with the grouting material. Hand proportioning and mixing will not be allowed.

Grouting installations utilizing approved encapsulated anchors shall be in accordance with manufacturer's recommendations.

For vertical or angled installations the procedures shall be similar to those for horizontal installation except that pourable grouts may be used. Pourable grouts must be mechanically mixed.

2301.25, Sealing Joints.

Delete the fourth, fifth, and sixth, sentences of the eighth paragraph:

~~When a silicone sealer is installed, the joint faces shall be primed if recommended by the sealer manufacturer. The silicone sealer shall be forced into the joint with a suitable tool as recommended by the manufacturer. Self leveling silicone sealers do not require tooling.~~

Comments: The Specifications Section suggests separating placement of dowel and tie bars out from placing reinforcement in Article 2301.12. Dowel and tie bars serve a different function than does reinforcement. Dowel bars and tie bars serve to assist load transfer from panel to panel, whereas reinforcement serves to provide additional strength to the slab and to reduce potential cracking within the slab. Although, philosophically, dowel and tie bars can be considered a type of reinforcement, from a functional point of view, dowel and tie bars should be separated from reinforcement.

Silicon joint sealer is no longer used. The change to Article 2301.25 is being suggested to address that issue.

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 8**
Submittal Date: July 19, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2310.04, D; 2310.05, D **Title:** Hot Mix Asphalt Stress Relief Course; Hot Mix Asphalt Stress Relief Course	**Other:**	

Specification Committee Action:

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

Specification Committee Approved Text:

Comments: The Office of Construction noted that this can be a major item of work and should be paid for. The committee agreed the language should not change.

Specification Section Recommended Text:

2310.04, D, Hot Asphalt Mix Stress Relief Course.

Replace the entire article:

~~The asphalt binder will be measured in accordance with Article 2303.05, B.~~

~~**1. Measurement by Weight (Mass).**~~

~~From all plants, the quantity of mixture measured for payment will be computed from the weights (mass) of individual loads. Loads may be weighed in trucks or in weigh hoppers, or the weights (mass) from batch plants charging trucks by batch may be computed by count of batches in each truck and batch amount. Article 2001.07 shall apply.~~

~~**2. Measurement by Area.**~~

~~The quantity of Hot Mix Asphalt Stress Relief Layer, in square yards (square meters), will be the quantity shown in the contract documents. The area of surface preparation will be determined from the longitudinal surface and the nominal width of existing pavement.~~

Hot Asphalt Mix Stress Relief Course will not be measured for payment.

2310.05, D, Hot Asphalt Mix Stress Relief Course.

Replace the entire article:

~~The Contractor will be paid for the asphalt binder in accordance with Article 2303.06, B.~~

~~**1. Measurement by Weight (Mass).**~~

~~The Contractor will be paid the contract unit price per ton (megagram) for Hot Mix Asphalt Stress Relief Course as measured above. This payment shall be full compensation for furnishing and placing the HMA stress relief course.~~

~~**2. Measurement by Area.**~~

~~The Contractor will be paid the contract unit price per square yard (square meter) for Hot Mix Asphalt Stress Relief Course constructed. This payment shall be full compensation for furnishing and placing the HMA stress relief course, including the cost of the asphalt binder.~~

Hot Asphalt Mix Stress Relief Course shall be incidental to Portland Cement Concrete Overlay.

Comments: The committee that reviewed inconsistencies between Iowa DOT and SUDAS specifications suggest that Stress Relief Course be incidental to overlay work.

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 9**
Submittal Date: July 11, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2510.02 **Title:** Pavement Removal	**Other:**	

Specification Committee Action: Approved.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments:

Specification Section Recommended Text:

2510.02, Pavement Removal.

Replace the first sentence of the third paragraph:

When a portion of concrete pavement is to be removed and the remaining portion is later abutted at its top surface with new pavement, the breakout line of the old slab shall be sawed ~~to a depth equal to one-half of the depth of the old slab plus 1 inch (25 mm) in order to sever any tie steel~~ to full depth.

Comments: Change suggested to match SUDAS.

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 10**
Submittal Date: July 12, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2511.03, A **Title:** Removal of Sidewalks and Recreational Trails	**Other:**	

Specification Committee Action: Approved with suggested changes in Specification Committee Approved Text.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07

Specification Committee Approved Text:

2511.03, A, Removal of Sidewalks and Recreational Trails.

Replace the second sentence:

If only portions of the sidewalks or recreational trails are to be removed, the boundaries of removal shall be made by a full depth ~~vertical~~ saw cut ~~not less than 1 inch (25 mm) deep~~ before breaking the removal.

Comments: The Office of Design asked if the word "vertical" should be added to Article 2510.02. The committee decided that, instead, it should be removed from Article 2511.03, A.

Specification Section Recommended Text:

2511.03, A, Removal of Sidewalks and Recreational Trails.

Replace the second sentence:

If only portions of the sidewalks or recreational trails are to be removed, the boundaries of removal shall be made by a full depth vertical saw cut ~~not less than 1 inch (25 mm) deep~~ before breaking the removal.

Comments: This change is suggested to match SUDAS.

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 11**
Submittal Date: July 12, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2515.02; 2515.03; 2515.04 **Title:** Materials; Removal of Paved Driveways; Construction of Paved Driveways	**Other:**	

Specification Committee Action: Approved with suggested changes in Specification Committee Approved Text.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: For Articles 2515.02 and 2515.03, and Articles 2515.04, A, B, and E see Specification Section Recommended Text. For Articles 2514.04, C and D see below:

C. Hot Mix Asphalt.

HMA driveways shall be constructed in accordance with Article 2303.03 and 2303.04. Compaction shall be Class II.

D. Smoothness.

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

Areas may be checked by the Engineer with a surface checker and shall not exceed 1/4 inch in 10 feet (6 mm in 3 m). For each bump exceeding these requirements, the Contractor will be assessed $50 or the bump corrected as agreed upon by the Engineer and Contractor.

Comments: The Office of Contracts asked if the reference to Article 2301.16, D contained in the first paragraph of Article 2515.04, D would conflict with the text in the second paragraph. The committee agreed that only the second paragraph of Article 2301.16, D is needed. District 2 Materials asked if Class 1C compaction is necessary for HMA driveways (Article 2515.04, C), or if Class II compaction would be sufficient. The committee agreed to Class II compaction.

Specification Section Recommended Text:

2515.02, Materials.

Add as the first paragraph:

When paved driveways are to be constructed in conjunction with a PCC paving project, the class of concrete being used on the project may be used for driveways. If the Contractor does not elect to use the class of concrete specified for the pavement or the contract contains no item for PCC pavement, pavement widening, or base, then Class C concrete shall be used.

2515.03, Removal of Paved Driveways.

Replace the first sentence:

When old concrete pavement is to be removed and later abutted at its top surface with new concrete pavement, the designated breakout line shall be sawed to ~~a~~ full depth ~~of at least 1 1/2 inches (40 mm)~~ before breaking the pavement.

2515.04, Construction of Paved Driveways.

Replace the entire article:

Unless otherwise specified, new paved driveways shall be constructed to the dimensions shown in the contract documents ~~and in accordance with Section 2511 with the following exceptions. When paved driveways are to be constructed in conjunction with a PCC paving project, the class of concrete being used on the project may be used for driveways. If the Contractor does not elect to use the class of concrete specified for the pavement or the contract contains no item for PCC pavement, pavement widening, or base, Class C concrete shall be used. The surface shall be given a burlap drag finish~~.

A. Preparation of Subgrade.

The subgrade shall be prepared by excavating or filling with suitable earth to a depth below the finished grade line so that, when tamped or rolled until smooth, firm, and hard, the subgrade will be uniform and at the required depth below the finished grade line.

B. Portland Cement Concrete.

1. Placing.

a. Hand Finish.

Forms of wood or steel shall be in accordance with Article 2301.07, A, 1, b.

The subgrade shall be thoroughly moistened. Concrete shall be deposited for the full depth of slab in one operation. It shall be consolidated by tamping or vibration, and the excess concrete screeded off flush with the forms. Edges adjacent to all forms, expansion joints, curbs, or fixtures in the surface shall be thoroughly consolidated.

b. Slip Form.

Self propelled slip form pavers shall meet the requirements of Section 2301. Other slip form paving machine shall be approved by the Engineer and designed for the specific purpose of placing, consolidating, and finishing concrete driveway slabs without use of fixed side forms.

2. Finishing.

After consolidation, the concrete surface shall be finished with a burlap drag.

After the surface has been floated, the edges of the slabs shall be finished with a suitable edging tool.

3. Protection and Curing.

After finishing, the concrete shall be cured and protected by one of the methods described in Article 2301.19.

4. Joints.

The concrete shall be cut through for not less than 25% of the depth with a pointed trowel or suitable spading tool, and the concrete edged on both sides. In lieu of using a pointed trowel or suitable spading tool, the Contractor may cut these lines within 12 hours after placement of concrete with a 1/8 inch (3 mm) blade saw that is approved by the Engineer. Metal dividers will be considered for approval, in lieu of cutting.

Isolation joints shall be constructed at all points where driveways meet other walks, curbs, or fixtures in the surface. These joints shall be constructed by installing a 1/2 inch (13 mm), full depth strip of approved premolded joint material.

Contraction joints shall be sealed according to Article 2301.25.

5. Time for Opening Pavement for Use.

PCC driveways shall be opened a minimum 7 of calendar days after placement or when flexural strength reaches 400 psi (2.75 MPa) as determined by Materials I.M. 383.

C. Hot Mix Asphalt.

HMA driveways shall be constructed in accordance with Article 2303.03 and 2303.04. Compaction shall be Class 1C.

D. Smoothness.

Smoothness shall be in accordance with Article 2301.16, D.

Areas may be checked by the Engineer with a surface checker and shall not exceed 1/4 inch in 10 feet (6 mm in 3 m). For each bump exceeding these requirements, the Contractor will be assessed $50 or the bump corrected as agreed upon by the Engineer and Contractor.

E. Weight Limits.

Construction equipment on both PCC and HMA driveways shall be limited to 5 ton (5 Mg).

Comments: In a review of inconsistencies between Iowa DOT and SUDAS specifications, it was noted that how Section 2511 applies to driveway placement isn't clear. The changes suggested involve copying the appropriate material from Section 2511 into this section to eliminate the need to reference Section 2511. In the review of inconsistencies, it was also suggested that a full depth saw cut be used when removing pavement. This matches SUDAS.

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:					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 12**
Submittal Date: July 14, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2516.05, A; 2516.05, B; 2516.06, A; 2516.06, B **Title:** Removal of Retaining Walls and Steps; Construction of Retaining Walls and Steps; Removal of Retaining Walls and Steps; Construction of Retaining Walls and Steps.	**Other:**	

Specification Committee Action: Defer to September. The committee agreed that the method of measurement needs to be more clearly defined. Otherwise, there may be inconsistencies from designer to designer.

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

Specification Committee Approved Text:

Comments: The Office of Contracts noted that how measurement is done isn't clear. The Office of Construction asked how the retaining wall is accounted for. The Specifications Section suggested deferring the item and investigating the changes further. The Office of Construction pointed out that changing the units of measurement may affect the fieldbook automation system. It could cost several thousand dollars to have the fieldbook automation system updated to accept new units. The committee agreed that in situations such as these, the best alternative is to stay with current units of measure.

Specification Section Recommended Text:

2516.05, A, Removal of Retaining Walls and Steps.

Replace the entire article:

The quantity of walls and steps removed will be the number of ~~cubic yards (cubic meters)~~ square feet (square meters) shown in the contract documents without remeasurement.

2516.05, B, Construction of Retaining Walls and Steps.

Replace the entire article:

For retaining walls and steps constructed as shown in the contract documents, the quantity for which payment is made will be the number of ~~cubic yards (cubic meters)~~ square feet (square meters) shown in the contract documents. When the quantities of concrete have been modified by direction of the Engineer, the Engineer will compute the ~~cubic yards (cubic meters)~~ square feet (square meters) of concrete involved in the modification and adjust the quantity accordingly.

2516.06, A, Removal of Retaining Walls and Steps.

Replace the first paragraph:

For the number of ~~cubic yards (cubic meters)~~ square feet (square meters) of retaining walls and steps removed as indicated in the contract documents, the Contractor will be paid the contract unit price per ~~cubic yard (cubic meter)~~ square foot (square meter).

2516.06, B, Construction of Retaining Walls and Steps.

Replace the entire article:

For the number of ~~cubic yards (cubic meters)~~ square feet (square meters) of retaining walls and steps constructed, including modifications ordered by the Engineer, the Contractor will be paid the contract unit price per ~~cubic yard (cubic meter)~~ square foot (square meter).

Comments: These changes were suggested as a result of a review of inconsistencies between Iowa DOT and SUDAS specifications. SUDAS explains how measurement is to be made: "Measured in square feet based on horizontal projection measurements. The length of the steps shall be measured along the center line of the steps from the expansion joint at the bottom to the expansion joint at the top. The width shall include curbs, if constructed." This information will need to be passed on to designers. The Construction Manual may need to be updated to follow the same procedure for the case of modified quantities.

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 13**
Submittal Date: July 13, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2519.04; 2519.05 **Title:** Method of Measurement; Basis of Payment	**Other:**	

Specification Committee Action: Approved, but investigate impacts.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07

Spec. Committee Approved Text: See Specification Committee Approved Text. Add metric units.

Comments: The Specifications Section noted that typically in urban sections, the quantities are much smaller. The Office of Contracts explained that it would be helpful for SUDAS and Iowa DOT to use the same units. The Office of Construction pointed out that this change may impact other Offices. The Office of Design may need to make changes to some of their standards. SUDAS noted that if necessary, they could change their unit of measure to stations. District 6 Construction noted that metric units need to be added. The committee agreed to approve the changes and continue to investigate the impacts involved with this change.

Specification Section Recommended Text:

2519.04, Method of Measurement.

Replace the first paragraph:

The number of ~~stations~~ linear feet of Field Fence or Chain Link Fence constructed of the height and type specified, will be determined by measuring along the fence at the bottom of the fabric, excluding the length of gates or fence otherwise measured for payment.

Replace the third paragraph:

The number of ~~stations~~ linear feet of Channel Crossing Fence of the type specified and constructed according to the contract documents will be determined by measuring along the fence at the bottom of the fabric between end posts for the channel crossing fence.

Replace the fourth paragraph:

The number of ~~stations~~ linear feet of Flood Plain Fence constructed will be determined by measuring along the fence at the bottom of the fabric between end posts for the flood plain fence.

2519.05, Basis Payment.

Replace the first paragraph:

For the number of ~~stations~~ linear feet of the various types of fence constructed and measured, the Contractor will be paid the contract unit price per ~~station~~ linear foot.

Comments: The changes are being suggested in order to bring consistency with SUDAS. Corresponding bid items (including removal and reinstall) will need to be changed from station to linear foot.

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** 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: Troy Jerman / Dave Matulac	**Office:** Traffic & Safety	**Item 14**
Submittal Date: July 28, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2524.07; 2524.08 **Title:** Erection of Type A (and Type B) Signs	**Other:**	

Specification Committee Action: Approved.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07

Specification Committee Approved Text:

Comments: None.

Specification Section Recommended Text:

2524.07, Erection of Type A Signs.

Replace the second paragraph:

After installation, each 4 inch by 6 inch (100 mm by 150 mm) wood sign post shall be modified by field drilling ~~a horizontal 1 1/2 inch (38 mm) diameter hole, parallel to the sign face and centered on the side of the post at 4 inch (100 mm) above ground line and another at 1 foot 6 inches (460 mm) above the ground line~~ holes as shown in the contract documents. All labor and equipment necessary for this modification shall be included in the price bid for the post and no separate payment will be made.

2524.08, Erection of Type B Signs.

Replace the second paragraph:

After installation, each 4 inch by 6 inch (100 mm by 150 mm) wood sign post shall be modified by field drilling ~~a horizontal 1 1/2 inch (38 mm) diameter hole, parallel to the sign face and centered on the side of the post at 4 inch (100 mm) above ground line and another at 1 foot 6 inches (460 mm) above the ground line.~~ holes as shown in the contract documents. All labor and equipment necessary for this modification shall be included in the price bid for the post and no separate payment will be made.

Comments:

Member's Requested Change: **(DO NOT USE "Track Changes," or "Mark-Up". Use ~~Strikeout~~/Highlight)**

Replace the second paragraphs in Articles 2524.07 and 2524.08.

2524.07 ERECTION OF TYPE A SIGNS

After installation, each 4 inch by 6 inch (100 mm by 150 mm) wood sign post shall be modified by field drilling holes as shown in the contract documents. ~~a horizontal 1 1/2 inch (38 mm) diameter hole, parallel to the sign face and centered on the side of the post at 4 inch (100 mm) above ground line and another at 1 foot 6 inches (460 mm) above the ground line.~~ All labor and equipment necessary for this modification shall be included in the price bid for the post and no separate payment will be made.

2524.08 ERECTION OF TYPE B SIGNS.

After installation, each 4 inch by 6 inch (100 mm by 150 mm) wood sign post shall be modified by field drilling holes as shown in the contract documents. ~~a horizontal 1 1/2 inch (38 mm) diameter hole, parallel to the sign face and centered on the side of the post at 4 inch (100 mm) above ground line and another at 1 foot 6 inches (460 mm) above the ground line.~~ All labor and equipment necessary for this modification shall be included in the price bid for the post and no separate payment will be made.

Reason for Revision: This information is in both the Specifications Book and Standard Road Plan RD-60. We feel this information is more appropriate as a Standard Road Plan (drawing) than in text.

County or City Input Needed (X one)			**Yes**	**No** X	
Comments: No input needed since the specification is not changing.					
Industry Input Needed (X one)			**Yes**	**No** X	
Industry Notified:	**Yes**	**No** X	**Industry Concurrence:**	**Yes**	**No** X
Comments: No input needed since the specification is not changing.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 15**
Submittal Date: July 12, 2006	**Proposed Effective Date:** April 17, 2006	
Article No.: 2527.03, G, 1 **Title:** Multi-Lane Roads	**Other:**	

Specification Committee Action: Approved.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: For Article 2527.03, G, 1, a see Specification Section Recommended Text. For Article 2527.03, G, 1, b see text below:

b. Undivided (four or more lanes) or road with continuous two-way left-turn lane (TWLTL).

1) Lane lines obliterated for 50 feet (15 m) or more.

2) Edge lines obliterated for 50 feet (15 m) or more.

3) Center lines obliterated for 50 feet (15 m) or more.

Comments: The Office of Design suggested adding the word “continuous” before “two-way left-turn lane.” in 2527.03, G, 1, b.

Specification Section Recommended Text:

2527.03, G, 1, Multi-Lane Roads.

Replace the entire article:

a. Divided.

1) Lane lines obliterated for 50 feet (15 m) or more.

2) Edge lines obliterated for 50 feet (15 m) or more.

b. Undivided (four or more lanes) or road with two-way left-turn lane (TWLTL).

1) Lane lines obliterated for 50 feet (15 m) or more.

2) Edge lines obliterated for 50 feet (15 m) or more.

3) Center lines obliterated for 50 feet (15 m) or more.

Comments: The specification as written doesn’t address centerlines on undivided four (or more) lane highways or highways with two-way left-turn lanes. This change will add verbiage to address that concern.

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 16**
Submittal Date: July 11, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2529.02, A; 2529.02, B, 10; 2529.06, B; 2529.09 **Title:** Hot Asphalt Mixture; Dowel Bars and Tie Bars; PCC Finish Patches with Dowels; Placing Full Depth Portland Cement Concrete Finish Patches	**Other:**	

Specification Committee Action: Approved. The Specifications Section will investigate defaults for commercial mixes, and for shoulder and detour pavement mixes.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: For Articles 2529.02, B, 10; 2529.06, B; and 2529.09 see Specification Section Recommended Text.

2529.02, A, Hot Asphalt Mixture.

Add as the second sentence:

Unless stated elsewhere in the contract documents, the Performance Graded asphalt binder shall be PG 64-22.

Comments: District 6 Construction recommended a PG 64-22. District 2 Materials agreed. The question was raised concerning stating defaults for commercial mixes, and for shoulder and detour pavement mixes. The Specifications Section will look into this further.

Specification Section Recommended Text:

2529.02, A, Hot Asphalt Mixture.

Add as the second sentence:

Unless stated elsewhere in the contract documents, the Performance Graded asphalt binder shall be PG XX-XX (The Specification Committee will need to determine a default binder).

2529.02, B, 10, Dowel Bars and Tie Bars.

Replace the title and the entire article:

~~**Curing and Opening Time**~~ **Dowel Bars and Tie Bars.**

~~PCC patches placed on multi-lane sections shall be cured a minimum of ten hours before opening to traffic. PCC patches placed on two lane sections shall be cured a minimum of 5 hours before opening to traffic. These restrictions may be modified in the plans or by the Engineer for specific situations.~~ Dowel bars shall be epoxy coated, meeting the requirements of Article 4151.02, B. Tie bars shall be cut from reinforcing bars which are epoxy coated as specified in Article 4151.03, B.

2529.06, B, PCC Finish Patches with Dowels.

Delete the fourth and fifth sentences of the first paragraph:

~~The dowels shall be epoxy coated, meeting requirements of Article 4151.02, B. The tie bars shall be cut from reinforcing bars which are epoxy coated as specified in Article 4151.03, B.~~

2529.09, Placing Full Depth Portland Cement Concrete Finish Patches.

Add as the fourth paragraph:

PCC patches placed on multi-lane sections shall be cured a minimum of ten hours before opening to traffic. PCC patches placed on two-lane sections shall be cured a minimum of 5 hours before opening to traffic. These restrictions may be modified in the plans or by the Engineer for specific situations.

Comments: The committee reviewing the inconsistencies between Iowa DOT and SUDAS specifications suggested adding a default binder. Changes in 2529.02, B, 10, 2529.06, B, and 2529.09 are suggested to place this material in the appropriate places within the section.

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 17**
Submittal Date: July 11, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2530.05, A, 2; 2530.08, A; 2530.09, A **Title:** Placing HMA Patch Material; Partial Depth PCC Finish Patches; Partial Depth PCC Finish Patches	**Other:**	

Specification Committee Action: Approved, but leave units in square feet. There will be no changes to Article 2530, A.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: For Articles 2530.05, A, 2 and 2530.09, A see Specification Section Recommended Text, but leave units in square feet. No changes will be made to the text in Article 2530.08, A.

Comments: The Office of Construction noted that typically partial depth finish patches are less than a yard. They requested staying with square feet. District 6 Construction suggested adding a default binder, similar to that proposed in Article 2529.02, A.

Specification Section Recommended Text:

2530.05, A, 2, Placing HMA Patch Material.

Replace the second sentence of the second paragraph:

If the patch becomes ~~seriously~~ distorted beyond the smoothness requirements for any reason, the Contractor shall smooth the surface within ~~5~~ 1 working day~~s~~, by blading, scraping, filling, or by other means.

2530.08, A, Partial Depth PCC Finish Patches.

Replace the first sentence of the first paragraph:

The Engineer will calculate the area of each patch in square ~~feet~~ yards (square meters) from surface measurements. The area of each patch less than 0.1 square ~~foot~~ yard (0.1 m^2) will be counted as 0.1 square ~~foot~~ yard (0.1 m^2) for payment purposes.

Replace the second paragraph:

The Engineer will also calculate the area of patches in square ~~feet~~ yards (square meters) which have been directed to be constructed full depth.

2530.09, A, Partial Depth PCC Finish Patches.

Replace the first sentence of the first paragraph:

For the number of square ~~feet~~ yards (square meters) of partial depth PCC finish patches constructed, the Contractor will be paid the contract unit price per square ~~foot~~ yard (square meter).

Replace the second paragraph:

When parts of PCC partial depth finish patches are constructed to full depth at the direction of the Engineer, the Contractor will be paid for the areas of those parts at ~~1~~ 2.0 times the contract price per square ~~foot~~ yard (square meter) for partial depth PCC patches~~, in addition to the payment for the partial depth patches~~.

Comments: Suggested changes as a result of the review of inconsistencies between Iowa DOT and SUDAS specifications. Corresponding bid items will need to be changed from square foot to square yard.

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 18**
Submittal Date: July 11, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2531.07 **Title:** Method of Measurement	**Other:**	

Specification Committee Action: Defer to September. Make no changes to the first paragraph. Leave the second paragraph as is, but add a sentence to explain intent of minimizing vertical projections.

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

Specification Committee Approved Text:

Comments: The Office of Construction suggested leaving language in the first paragraph as it was. District 6 Construction noted that if contractors are paid for grinding projections in adjacent areas of paved shoulders, they lose their incentive to match the outside edge of the slab. Currently, contractors try to match outside edge as best as possible. The Office of Construction suggested including text in the second paragraph indicating the intent of "minimize vertical projections."

Specification Section Recommended Text:

2531.07, Method of Measurement.

Replace first paragraph:

The Engineer will calculate the area in square yards (square meters) of pavement satisfactorily ground for pavement of each type of coarse aggregate from the length and width of each area ~~and the nominal pavement width~~.

Delete the second paragraph:

~~Adjacent areas of a paved shoulder milled to minimize vertical projections will not be measured for payment.~~

Comments: This suggested change is to maintain consistency with suggested changes in Article 2532.07.

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 19**
Submittal Date: July 11, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2532.07 **Title:** Method of Measurement	**Other:**	

Specification Committee Action: Same as Item 18.

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

Specification Committee Approved Text:

Comments:

Specification Section Recommended Text:

2532.07, Method of Measurement.

Replace first paragraph:

The Engineer will calculate the area in square yards (square meters) of pavement satisfactorily ground for pavement of each type of coarse aggregate from the length and width of each area ~~and the nominal pavement width~~.

Delete the second paragraph:

~~Adjacent areas of a paved shoulder ground to minimize vertical projections will not be measured for payment.~~

Comments: This suggested change is a result of the review of inconsistencies between Iowa DOT and SUDAS specifications. SUDAS measures and pays for all areas ground.

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 20**
Submittal Date: July 10, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2533.01 **Title:** Description	**Other:**	

Specification Committee Action: Approved			
Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07
Specification Committee Approved Text: See Specification Section Approved Text.			
Comments:			

Specification Section Recommended Text:

2533.01, Description.

Replace the first sentence of the first paragraph:

Mobilization shall consist of preparatory work and operations for all items under the contract, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site~~,~~; ~~and~~ for the establishment of all offices, buildings, and other facilities~~,~~ necessary for work on the projects; and for all other work or operations which must be performed or costs incurred prior to beginning work on the various items on the project site.

Comments: These changes are being suggested to add clarity to the paragraph. This is very similar to the Illinois DOT description of mobilization.

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** 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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 21**
Submittal Date: July 13, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 2601.04, C; 2601.08, E; 2601.22 **Title:** Application of Seed; Watering Sod; Basis of Payment	**Other:**	

Specification Committee Action: Change to Article 2601.04, C approved. Changes to Articles 2601.08 and 2601.22 not approved.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: For Article 2601.04, C see Specification Section Recommended Text. No changes to be made to Articles 2601.08 and 2601.22.

Comments: The Office of Contracts noted that based on recent meetings with contractors, they would like to be paid for water. SUDAS noted that the default is to make water incidental, but this could be changed. The committee decided to leave as a bid item.

Specification Section Recommended Text:

2601.04, C, Application of Seed.

Replace the third item in the list:

Sideoats Grama (Butte or Trailway) 5 lbs. PLS per acre (6 kg PLS/ha)

2601.08, E, Watering Sod.

Add as the third paragraph:

The quantity of water will not be measured for payment. Watering shall be incidental to Sodding.

2601.22, Basis of Payment.

Replace the second sentence of the tenth indented paragraph:

For the quantity of water applied to ~~sod, Article 2601.08, E, and to~~ special ditch control and slope protection, Article 2601.19, the Contractor will be paid the contract unit price per 1,000 gallons (kiloliter).

Comments: The committee reviewing inconsistencies between Iowa DOT and SUDAS specifications suggested making watering sod incidental to Sodding to be consistent with SUDAS.

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** X

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: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 22**
Submittal Date: July 19, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 4149.03 **Title:** Pipe for Storm Sewers.	**Other:**	

Specification Committee Action: Approved			
Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07
Specification Committee Approved Text: See Specification Section Recommended Text.			
Comments: None.			

Specification Section Recommended Text:

4149.03, Pipe for Storm Sewers.

Replace the first sentence:

Pipe for storm sewers shall meet requirements for one of the types specified in Article 4149.02, except clay pipe shall not be used.

Comments: This change is being proposed to remove clay pipe as an option for storm sewer. Neither the Office of Construction nor the Office of Design is aware of clay pipe being used for storm sewer. SUDAS does not allow clay pipe to be used for storm sewer.

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** 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 23**
Submittal Date: July 25, 2006	**Proposed Effective Date:** April 17, 2007	
Article No.: 4161 **Title:** Preservative Treatment	**Other:**	

Specification Committee Action: Approved.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: The Specifications Section asked if there are concerns with the life span of copper naphthenate. The Office of Materials explained that there don't appear to be any concerns; copper naphthenate appears to have a similar life span compared to creosote. The committee agreed to allow a change order to implement the use of copper naphthenate before April 2007.

Specification Section Recommended Text:

4161.03, Treatment.

Replace the third row of Table 1:

Piles for Foundation: Douglas Fir Southern Pine	17 (272) 12 (192.~~2~~)	- -	0.14 (2.2) 0.10 (1.6)	- -	- -	- -	~~C3, C14~~ UC4C-E

Replace the second row of Table 2:

Piles for Foundation:	2.5 in. (63 mm) or 85%	0.75 in. (19 mm) and 85% up to 1.6 in. (40 mm) and 85%	~~C3, C14~~ T1-8.5

4161.03, G, Product Marking.

Replace the fourth sentence of the first paragraph:

Acceptable brands or marks shall be similar to the general guidelines for brands listed in AWPA M1 and M6 ~~piles~~.

Comments:

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

Section 4161. Preservative Treatment.

4161.01 DESCRIPTION.
Preservative treatment of timber, lumber, piling, and posts shall meet requirements of applicable sections, within these specifications, which cover the individual materials. Unless otherwise specified, the treatment process and results of treatment shall meet requirements of this section.

4161.02 PRESERVATIVES.
Preservatives used for treatment shall meet requirements of Section 4160. Unless otherwise specified, treatment may be with creosote, pentachlorophenol, chromated copper arsenate (CCA), ammoniacal copper arsenate (ACA), ammoniacal copper zinc arsenate (ACZA), or Copper Naphthenate.

4161.03 TREATMENT.
Except as provided herein, preservative treatment shall be in accordance with requirements and recommendations of AWPA Standard C1 and the applicable AWPA Commodity Standards listed in the following tables for various materials and usages:

TABLE 1: MINIMUM PRESERVATIVE RETENTION REQUIREMENTS
(lb./cu.ft. of wood)
(kilograms per cubic meter of wood)

	Retention						
Material and Usage	**Creosote**	**Pentachloro-phenol**	**Copper Napthenate(2)**	**ACA(3)**	**ACZA(3)**	**CCA(1, 3)**	**AWPA Material Standard**
Lumber and Timber for Structures	12 (192.2)	0.6 (9.6)	0.075 (1.2)	0.6 (9.6)	0.6 (9.6)	0.6 (9.6)	C2, C14
Piles for Foundation:							
Douglas Fir	17 (272)	-	.14 (2.2)	-	-	-	~~C3, C14~~ UC4C-E
Southern Pine	12 (192.~~2~~)	-	.10 (1.6)	-	-	-	
Post, Guardrail, and Spacer Blocks: Sawed Four Sides	12 (192.2)	0.6 (9.6)	0.075 (1.2)	0.5 (8.0)	0.5 (8.0)	0.5 (8.0)	C2, C14
Posts, Fence, Guide, and Sign:							
Round	8 (128)	0.4 (6.4)	0.055 (0.88)	0.4 (6.4)	0.4 (6.4)	0.4 (6.4)	C5, C14
Sawed Four Sides	10 (160)	0.5 (8.0)	0.060 (0.96)	0.4 (6.4)	0.4 (6.4)	0.4 (6.4)	C2, C14

NOTE: (1) CCA shall not be used for the treatment of Douglas Fir.
(2) Oil type preservatives
(3) CCA, ACA, and ACZA are waterborne preservatives.

TABLE 2: MINIMUM PRESERVATIVE PENETRATION REQUIREMENTS
inches (mm) of wood and/or % of sapwood penetration

	Penetration		
Material and Usage	**Southern Pine**	**Douglas Fir**	**AWPA Material Standard**
Lumber and Timber for Structures	2.5 in. (63 mm) or 85%	**Under 5 in. (125 mm) thick:** 0.4 in. (10 mm) and 90% **5 in. (125 mm) and thicker:** 0.5 in (13 mm) and 90%	C2, C14
Piles for Foundation:	2.5 in. (63 mm) or 85%	0.75 in. (19 mm) and 85% up to 1.6 in. (40 mm) and 85%	~~C3, C14~~T1-8.5
Post, Guardrail, and Spacer Blocks: Sawed Four Sides	2.5 in. (63 mm) or 85%	**Under 5 in. (125 mm) thick:** 0.4 in. (10 mm) and 90% **5 in. (125 mm) and thicker:** 0.5 in. (13 mm) and 90%	C2, C14

Posts, Fence, Guide, and Sign:			
Round	2.0 in. (50 mm) or 85%	3/8 in. (9 mm) and 100% up to 1 in. (25 mm) or 85%	C5, C14
Sawed Four Sides	2.0 in. (50 mm) 0r 85%	**Under 5 in. (125 mm) thick:** 0.4 in. (10 mm) and 90% **5 in. (125 mm) and thicker:** 0.5 in. (13 mm) and 90%	C2, C14

Other aspects of the treatment process shall meet the following requirements:

A. Incising.
Coastal Douglas Fir lumber shall be incised.

B. Seasoning.
When sawed material is treated with waterborne preservatives (CCA), ACA, ACZA), the moisture content prior to treatment, as determined by resistance type moisture meter, shall not be more than 20% if kiln dried or not more than 23% if air dried. The moisture content shall be measured at a depth equivalent to the required penetration up to a maximum of 1.5 inches (38 mm). Unless otherwise specified, lumber 2 inches (50 mm) or less in nominal thickness that is treated with a waterborne preservative shall be dried after treatment to a moisture content of not more than 20% if kiln dried or not more than 23% if air dried.

C. Special Treatment for Guardrail and Sign Posts Treated With Oil Type Preservative.
Before being removed from the treatment cylinder, sign and guardrail posts shall be further subjected to live steam at a maximum pressure of 13 psi (90 kPa), and following that, to an additional period of vacuum to insure that the surface of the wood is free from accumulation of oil type preservative.

D. Method of Treatment.
The preservative used shall be the same for all the product furnished for each contract item or order. Unless otherwise specified, treatment with creosote oil, pentachlorophenol, or copper naphthenate solution shall be made by the empty cell process with initial air pressure. Treatment with waterborne preservative shall be made by the full cell process.

E. Results of Treatment
Unless otherwise specified, retention and penetration of preservatives shall be in conformance with the above tables. Preservative retentions shall be determined by assay method. Other treatment requirements shall be in accordance with AWPA Standard C1 and the applicable AWPA Commodity Standards listed in the above tables.

F. Handling Treated Products.
Care and handling of preservative treated wood products shall be in accordance with AWPA Standard M4.

G. Product Marking.
The individual pieces of inspected, treated material shall bear a legible identification mark either hammer or heat branded, die stamped, or metal tagged. For material treated with waterborne preservatives, the identification mark may be ink stamped provided the information is clearly visible and legible. As a minimum, the identification mark shall indicate the treater, the species of wood, the preservative treatment type, and the retention level. Acceptable brands or marks shall be similar to the general guidelines for brands listed in AWPA M1 and M6 ~~piles~~. All treated wood material that requires a grade, with the exception of 45 inch (1145 mm) Terminal Posts[1], shall contain a quality grade mark of an accredited grade monitoring and inspection agency approved under the American Lumber Standards Committee (ALSC).

[1] In the event that Terminal Posts that are 45 inches (1145) in length to be used for Guardrails can not be stamped with a quality grade mark due to sizing of material, Terminal Posts shall then be stamped "MFG No. 1" to indicate that the Terminal Posts were cut from an original piece graded as a No. 1. Wane requirements will be waived.

Material less than 3 feet (1 m) in length does not require a grade mark; however, a certification statement from the mill/processor certifying the grade of the material shall be provided. See Documentation Section of Materials I.M. 462. Round wood posts, round wood piles, and round wood poles do not require a grade, since the grading rules apply only to sawn material.

In addition, each bundle of treated wood products shall have at least one plastic tag identifying the charge number for the bundle.

H. Inspection.
White and treatment inspections, certifications, and test reports for each shipment shall be furnished in accordance with Materials I.M. 462.

Reason for Revision: Unavailability of creosote due to price increases and limited supply of the treatment as a response from the main ingredients for creosote now being used as alternative fuel sources in Europe. To allow Copper Naphthenate as an alternative to creosote for foundation piles in accordance with AWPA U1 and AASHTO M133.

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: July 25, 2006	**Proposed Effective Date:** April 17, 2006	
Article No.: 4165.04 **Title:** Treated Timber Foundation Piles	**Other:**	

Specification Committee Action: Approved.			
Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07
Specification Committee Approved Text: See Specification Section Recommended Text.			
Comments: None.			

Specification Section Recommended Text:

4165.04, D, Preservative Treatment.

Replace the first sentence:

Piles shall be given pressure preservative creosote or copper naphthenate treatment in accordance with Section 4161.

Comments:

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

4165.04 TREATED TIMBER FOUNDATION PILES.
Piles for treated wood foundations shall meet requirements for untreated timber piles, Article 4165.03, and the following additional requirements:

A. Species.
Piles shall be either Southern Pine or Douglas Fir (coast region).

B. Peeling.
All piles shall be peeled by removing all rough bark and at least 80% of the inner bark. No strip of inner bark remaining on the pile shall be over 3/4 inch (20 mm) wide or over 8 inches (200 mm) long, and there shall be at least 1 inch (25 mm) of clean wood surface between any two such strips. At least 80% of the surface of any circumference shall be clean wood.

C. Sapwood Requirement.
At the butt end, Douglas Fir piles shall have not less than a 3/4 inch (20 mm) ring of sapwood, and Southern Pine piles shall not have less than a 2 inch (50 mm) ring of sapwood.

D. Preservative Treatment.
Piles shall be given pressure preservative creosote or copper naphthenate treatment in accordance with Section 4161. Ring shakes, checks, water bursts, or similar defects which develop during the treating process, will be considered cause for rejection.

E. Inspection and Acceptance.
Inspection and acceptance shall be in accordance with Materials I.M. 462.

Reason for Revision: Unavailability of creosote due to price increases and limited supply of the treatment as a response from the main ingredients for creosote now being used as alternative fuel sources in Europe. To allow Copper Naphthenate as an alternative to creosote for foundation piles in accordance with AWPA U1 and AASHTO M 133.					
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 / Chris Poole	**Office:** Design	**Item 25**
Submittal Date: July 26, 2006	**Proposed Effective Date:** November 21, 2006	
Supplemental Specification: SS-01044 **Title:** High Tension Cable Guardrail	**Other:** Replaces SS-01037	

Specification Committee Action: Approved.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 11/21/06

Specification Committee Approved Text: See attached.

Comments: This SS was in the agenda as SS-01042. Two new SSs were issued before this item was approved. This will be issued as SS-01044 rather than SS-01042.

The Office of Contracts noted that in the first sentence of fourth paragraph under limitations, "calendar days" should be changed to "working days." The Specifications Section asked if this Supplemental Specification would override what is in the Standard Specifications. The Office of Design responded that it will. The text in Section 2505 regarding wire rope safety barrier should be deleted. District 6 Construction asked where details of the products can be found. The Office of Design explained that before installation, the Contractor is required to provide the Engineer with 3 copies of all the manuals provided by the manufacturer. Information is also available on the internet. District 6 Construction asked if posts are required to be socketed. The Office of Design explained that it will be an Iowa DOT requirement. They requested that the language regarding socketed posts be added back in. District 6 Construction asked if there will be a reference point for the installation in relation to a pier. The Office of Design will handle this on the standard. District 6 Construction also noted they have had some problems with grading for median installations when the median is only 50 feet.

District 2 Materials asked if Class D concrete is necessary. The committee agreed that Class C can be used.

The Office of Design has requested this SS be effective with the November letting.

Specification Section Recommended Text:

Comments:

Member's Requested Change: **(DO NOT USE "Track Changes," or "Mark-Up". Use ~~Strikeout~~/Highlight)**

See attached.

Reason for Revision:

Since the original issue of SS-01037 in October 2005, several issues have arisen that require adding or modifying information in the Supplemental Specifications. In addition, a Materials I.M. is now in place that lists approved products. Therefore the products no longer need to be listed in the SS.

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: Note last sentence of paragraph 4 of Article 01042.04 is this adequate? Note allowing anchors that are not TL-3 in some situations is deleted. Is everyone ok with that? The intent is not to override the contract period on projects where we are adding cable as median crossover protection. Suggestions for rewording?					

SS-01044
(Replaces SS-01037)

Iowa Department of Transportation

SUPPLEMENTAL SPECIFICATIONS
FOR
HIGH TENSION CABLE GUARDRAIL

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.

01044.01 Description.
This work shall consist of constructing high tension cable guardrail by furnishing and installing posts, cables, end anchors, and any special connections and fittings which may be required in the contract documents.

High tension cable guardrail shall:

1. ~~m~~Meet the requirements of NCHRP Report 350, Test Level 4 criteria~~;~~.
2. Be accepted as a crashworthy device by the FHWA.
3. Exhibit a dynamic deflection for NCHRP Report 350 Test 3-11 of 8 feet (2.4 m) or less.

~~be approved by the FHWA; and have a dynamic deflection of less than 8 feet (2.4 m).~~ Approved products are listed in ~~Article 01037.04~~ Materials I.M.455.01.

01044.02 Materials.
The materials used for construction of high tension cable guardrail shall meet the manufacturer's requirements. Concrete for concrete foundations for posts and end anchorage shall be Class C mix in accordance with Section 2403 of the Standard Specifications.

01044.03 Construction ~~of High Tension Cable Guardrail~~.

A. Installation of High Tension Cable Guardrail.
The Contractor shall install high tension cable guardrail according to the manufacturer's recommendations. Prior to construction, the Contractor shall provide the Engineer with three copies of the manufacturer's most current product manuals covering installation and maintenance of the installation and signed certification statements for all materials to be incorporated into the installation in accordance with Materials I.M. 455.01.

~~Turnbuckles shall be included to allow for tensioning of the cables. For installations greater than 1000 feet (300 m) in length, at least one turnbuckle per 1000 foot (300 m) strand shall be included. For installations less than 1000 feet (300 m) in length, one turnbuckle per strand shall be included near the center of the installation.~~

The Contractor shall tension the cables according to the manufacturer's recommendations at the time of installation, then check and adjust the tension approximately three weeks after installation.

B. Posts.
The posts shall be plumb and at the manufacturer's recommended location, spacing, and elevation.

All posts shall be the "socketed" type and shall be installed in concrete foundations. Foundations shall be cast in place and constructed in accordance with Article 2505.03, B, 4 of the Standard Specifications. Dimensions and reinforcement shall be according to manufacturer's recommendations except that foundation depth shall be at least 42 inches (1.1 m).

C. End Anchors ~~and Terminals~~.

High tension cable guardrail installations shall incorporate one of the approved end anchors listed in ~~Article 01037.04~~ Materials I.M. 455.01. Within each installation, end anchors and high tension cable guardrail shall be produced by the same manufacturer.

~~Anchors shall meet the requirements of NCHRP Report 350, Test Level 3 criteria and be approved by the FHWA. At bridge ends, end anchors that do not meet NCHRP 350 Test Level 3 requirements may be installed if shielded from traffic by:~~

- ~~existing concrete barrier rail,~~
- ~~existing formed steel beam guardrail,~~
- ~~proposed concrete barrier rail as detailed in the plans, or~~
- ~~proposed formed steel beam guardrail as detailed in the plans.~~

~~Concrete required for end anchors shall be cast-in-place. Concrete shall be Class C in accordance with Section 2403 of the Standard Specifications, except air content may vary from 4% to 7%. Exposed concrete shall be finished as directed by the Engineer. Class C concrete can be subjected to loading of the rail in 3 calendar days. Concrete with high early strength may be necessary to meet requirements of Article 2505.05 of the Standard Specifications. The Contractor may furnish Class M concrete at no additional cost to the Contracting Authority. Concrete with these proportions can also be subjected to loading in 3 calendar days.~~

D. Delineating High Tension Cable Guardrail.

High tension cable guardrail installations shall be delineated with retroreflective sheeting. The sheeting shall be applied to the last five posts at each end of an installation~~. The sheeting shall be applied~~ and throughout the remainder of the installation at a maximum spacing of 50 feet (15 m). The sheeting shall be Type III or IV retroreflective sheeting meeting the requirements of Article 4186.03 of the Standard Specifications. The sheeting shall provide at least 7 square inches (4500 mm^2) of surface area when viewed ~~on~~ from a line parallel to the roadway centerline~~. The sheeting~~ and shall be attached near the top of the post ~~as~~ in a manner recommended by the manufacturer. ~~For median installations, the sheeting shall be applied to both sides of the post. For roadside installations, the sheeting shall be applied only to that side of the post facing traffic.~~ The sheeting shall be applied to that side of the post from which vehicle impacts are most likely. For installations where impacts are likely to occur from either side, the sheeting shall be applied to both sides of the post. The sheeting shall be yellow or white and shall be the same color as the adjacent edge line.

~~01037.04 Approved Products.~~

~~Following is the list of approved products:~~

- ~~Brifen Wire Rope Safety Fence, Test Level 4 with WRGT End Anchor (end anchor length equals 224.5 feet (68.4 m).~~

  ~~Brifen USA~~
  ~~9215 South Shields Boulevard~~
  ~~Oklahoma City, OK 73160~~
  ~~Telephone: 866-427-4336~~
  ~~Website: www.brifenusa.com~~

- ~~Gibraltar Cable Barrier System, Test Level 4 with CBST End Anchors (end anchor length equals 37.50 feet (11.5 m)).~~

  ~~Gibraltar~~
  ~~320 Southland Road~~

~~Burnet, TX 78611~~ ~~Website: www.gibraltartx.com~~
~~Telephone: 800-495-8957~~

- ~~Trinity Cable Safety System (CASS-20), Test Level 4 with CCT End Anchors (end anchor length equals 54.75 feet (16.7 m)).~~

~~Trinity Highway Safety Products~~ ~~Telephone: 800-527-6050~~
~~2525 North Stemmons Freeway~~ ~~Website: www.highway-safety.com~~
~~Dallas, TX 75207~~

~~Additional products may be considered by submitting the following items to the Iowa DOT's Office of Design, Methods Engineer (515-239-1402): product literature, brochures, and FHWA approval letters showing compliance with NCHRP Report 350. Samples of materials may also be requested for evaluation.~~

01044.04 Limitations.
In case of a discrepancy between these Specifications and the manufacturer's recommendations, these Specifications shall govern.

~~Attachments to new concrete or to anchor bolts set in epoxy resin shall not be stressed until the new concrete or epoxy resin has attained an age of 3 calendar days.~~ Concrete foundations for posts and end anchors may be subjected to cable tensioning after 3 calendar days. This time requirement may be lengthened by the Engineer during cool weather.

Grading work, if required, shall be completed prior to installation of new guardrail.

When a roadway is open to traffic during construction, high tension cable guardrail installations shall be completed within 5 working days from the day the structure, barrier rail, pavement, shoulder, or whichever is the controlling item of work, is sufficiently completed to allow high tension cable guardrail installation. At locations where the proposed high tension cable guardrail installation does not interfere with the functioning of the existing guardrail, the existing guardrail shall not be removed until the high tension cable guardrail system is fully functional. High tension cable guardrail end anchors shall be delineated with a temporary traffic drum until the final end anchor is completed and the cables properly tensioned. Each installation exceeding the 5-calendar day completion requirement will be subject to a contract price adjustment of $500 per working day. This price adjustment will be waived when the installation is designated as crossover protection only and no guardrail or concrete barrier has been removed.

When a roadway is closed to public traffic for construction, all high tension cable guardrail installations shall be completed before opening the road to traffic.

01044.05 Method of Measurement.

A. High Tension Cable Guardrail.
The quantity of high tension cable guardrail will be the length shown in the contract documents. The length will be calculated as the protection length, not including lengths of high tension cable guardrail end anchors.

B. High Tension Cable Guardrail End Anchors.
The Engineer will count the quantity of high tension cable guardrail end anchors constructed.

01044.06 BASIS OF PAYMENT.
Payment for high tension cable guardrail will include the furnishing of all materials, equipment, tools, and labor necessary to provide a complete installation of the high tension cable guardrail, including excavation and backfilling. However, excavation in unexpected rock will be paid for as extra work in accordance with Article 1109.03 of the Standard Specifications. Unexpected rock will be considered as rock encountered during excavation that was not visible from the roadway and was not indicated in the contract documents. The Engineer may adjust the payment for high tension cable guardrail in accordance with Article 2505.~~05~~ 06, B of the Standard Specifications.

A. High Tension Cable Guardrail.
The Contractor will be paid the contract unit price per linear foot (meter) for the installation of high tension cable guardrail. All posts and accessories required by the manufacturer, as well as additional hardware and concrete, will be incidental to the item.

B. High Tension Cable Guardrail End Anchor.
The Contractor will be paid the contract unit price for each high tension cable guardrail end anchor.

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Tom Reis/Daniel Harness	**Office:** Specifications Section	**Item 26**
Submittal Date: July 10, 2006	**Proposed Effective Date:** October 17, 2006	
Developmental Specification: DS-01082 **Title:** Milled Shoulder Rumble Strips - HMA or PCC	**Other:**	

Specification Committee Action: Approved.			
Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 10/17/06
Specification Committee Approved Text: See attached			
Comments: None.			
Specification Section Recommended Text: See attached revision.			
Comments: There has been some confusion among the Districts as to whether the 0.13 gallon per square yard rate stated in Article 01070.03, C of DS-01070 is for diluted or undiluted asphalt emulsion. The change proposed will state clearly that this rate is for diluted asphalt emulsion.			

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

DS-01082
(Replaces DS-01070)

Iowa Department of Transportation

DEVELOPMENTAL SPECIFICATIONS
FOR
MILLED SHOULDER RUMBLE STRIPS - HMA OR PCC SURFACE

Effective Date
October 17, 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.

01082.01 GENERAL.

This work shall consist of furnishing all necessary labor, equipment, and materials; and performing all operations necessary for milling shoulder rumble strips in HMA or PCC surfaced shoulders. Shoulder rumble strips shall be milled to the dimensions and spacing shown in the plans. The work shall also include applying diluted asphalt emulsion to the milled shoulder rumble strips by means of a bituminous distributor.

01082.02 MATERIALS.

A. Milling.
Milling equipment shall be equipped with a cutting head with cutting tips arranged in a pattern as to provide a smooth cut, approximately 1/16 inches (2 mm) between peaks and valleys.

B. Asphalt Emulsion Fog Seal.
Asphalt emulsion grade CSS-1h, meeting requirements of Section 4140, shall be used.

The asphalt emulsion shall be diluted with water prior to application to the milled shoulder rumble strip. The dilution rate is one part of asphalt emulsion to one part of water.

01082.03 CONSTRUCTION.

If degraded shoulders are encountered that will not accommodate milled rumble strips, the Engineer shall be notified. These sections shall be skipped.

A. Test Strip.
The Contractor shall demonstrate to the Engineer on an initial 500 foot (150 m) test section that the equipment and method will provide the desired milled shoulder rumble strip and surface inside each depression without damaging the adjacent pavement. If the desired results are not being provided, as determined by the Engineer, the Contractor shall provide new equipment, different methods, or make necessary adjustments to provide the desired results. If the initial 500 foot (150 m) section results are unsatisfactory, it will be repaired or replaced as determined by the Engineer, at no additional cost to the Contracting Authority.

B. Milling.
Shoulder rumble strips shall be milled in a straight line, offset from the painted edge line as shown in

the plans and shall not deviate from that offset more than ± 2 inches (50 mm). The offset may be decreased to 6 inches (150 mm) on shoulders with a top width less than 30 inches (750 mm). The depth of the rumble strips shall be as shown in the plans. The alignment and depth will be randomly checked by the Engineer.

Waste material (millings) resulting from the operation shall be removed on a daily basis. The waste material may be used as fillet material adjacent to the paved shoulder or it may become property of the Contractor and disposed of off the project. Disposal of material may be at an approved landfill, approved stockpile, or other methods that will allow the material to be recycled. Waste material shall be removed prior to opening adjacent lane to traffic.

C. Asphalt Emulsion Fog Seal.
The equipment shall meet the requirements of Section 2001 of the Standard Specifications.

Application width shall cover the entire milled shoulder rumble strip.

The diluted ~~A~~asphalt emulsion fog seal shall be placed in accordance with Article 2308.06 of the Standard Specifications, at a rate of 0.13 gallon per square yard (0.6 L/m^2).

Asphalt emulsion shall not be placed on a damp or wet surface.

Asphalt emulsion shall be applied during weather conditions under which satisfactory application can be obtained. Asphalt emulsion shall not be applied when the air temperature is below 50°F (10°C). Asphalt emulsion shall not be placed after October 15 without permission from the Engineer.

D. Limitations.
The Contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The Contractor shall not park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas shall be subject to approval of the Engineer.

01082.04 METHOD OF MEASUREMENT.

A. Milled Shoulder Rumble Strips.
The quantity of Milled Shoulder Rumble Strips, of the type specified, in stations (meters), along each edge of the pavement, will be the quantity shown in the contract documents. No deduction will be made for gapped sections through interchanges and bridges. The quantity will be adjusted for the length of degraded shoulders skipped, not milled, as defined in Article 01082.03 of this specification. The quantity will be adjusted for test sections that were deemed unsatisfactory.

B. Asphalt Emulsion for Fog Seal.
The quantity of undiluted Asphalt Emulsion for Fog Seal will be measured in gallons (liters) as provided in Article 2307.06, B, of the Standard Specifications.

01082.05 BASIS OF PAYMENT.

A. Milled Shoulder Rumble Strips.
The Contractor will be paid the contract unit price for Milled Shoulder Rumble Strips, of the type specified, per station (meter).

B. Asphalt Emulsion for Fog Seal.
The Contractor will be paid the contract unit price per gallon (liter) for undiluted Asphalt Emulsion for Fog Seal that is mixed and used on the project. Diluted asphalt emulsion that is delivered to the project site, but not applied to the roadway surface will not be considered for payment.

This payment shall be full compensation for cleaning the shoulder surface, furnishing and applying diluted asphalt emulsion, mixing water, and protecting the adjacent pavement and edge lines.

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: Mike Kennerly / Deanna Maifield	**Office:** Design	**Item 27**
Submittal Date: July 24, 2006	**Proposed Effective Date:** November 21, 2006	
Developmental Specification: DS-01084 **Title:** Crash Cushions	**Other:** Developmental Specifications for Crash Cushions	

Specification Committee Action: Approved			
Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 11/21/06

Specification Committee Approved Text: See attached. A revised I.M. 455 will be attached to this DS.

Comments: This DS was in the agenda as DS-01083. A new DS was issued before this item was issued. This DS will be issued as DS-01084 rather than DS-01083.

The Office of Construction suggested that the text be clarified to indicate that for each location a temporary attenuator is installed, the Contractor will be paid the contract unit price. The Office of Design noted that under Method of Measurement, the sentence should read, "…temporary or permanent crash cushions installed…" rather than "…temporary or permanent crash cushions constructed…"

The Specifications Section asked if the information pertaining to temporary attenuators in Article 2528.09 should be removed. The Office of Design responded that it should be.

The Office of Design notified the committee that they have a revised I.M. 455, but didn't have it ready to include with the October 2006 updates. The committee agreed to attach the revised I.M. to the DS.

Specification Section Recommended Text:

Comments:

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

See attached document.

Reason for Revision: Current specifications address only the temporary type of attenuators (Article 2528.09). Language describing permanent attenuators has historically been covered in individual project plans. This Developmental Specification seeks to provide a single location for information concerning temporary and permanent installations. In addition, it renames "attenuators" to "crash cushions" in order to be consistent with terminology used by AASHTO and the FHWA.

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: I would like to specifically discuss the text in green and the following notes at the meeting.					

Crash cushion removal if it was installed as stage 1 is not addressed.

Does BOP address moving temp crash cushions adequately?

Proposed items:

- Crash cushion, temporary
- Crash cushion, temporary, redirective
- Crash cushion, temporary, severe use
- Crash cushion, permanent
- Crash cushion, permanent, severe use

Need to add spare part kit to IM

Do we want a complete and typical spare parts kit?

DS-01084
(New)

Iowa Department of Transportation

DEVELOPMENTAL SPECIFICATIONS
FOR
CRASH CUSHIONS

Effective Date
November 21, 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.

01084.01 General.
This work consists of furnishing and installing crash cushions.

Crash cushions shall be accepted as a crashworthy device by the FHWA and shall meet the requirements of NCHRP Report 350, Test Level 3 criteria. Approved products are listed in Materials I.M. 455. When a crash cushion is designated as permanent, redirective, or severe-use by the contract documents, only those devices specifically designated for those uses on Materials I.M. 455 shall be installed.

In case of a discrepancy between these Specifications and the manufacturer's recommendations, the Specifications shall govern.

01084.02 Materials.
Crash cushion materials shall meet the manufacturer's requirements. All crash cushions shall be in good repair when installed. For permanent crash cushions and spare parts kits, equipment, and materials shall be of new stock unless the contract provides for the relocation or the use of fixtures furnished by others.

Each spare parts kits shall include all parts listed in Materials I.M. 455

01084.03 Construction.
Crash cushions shall be installed according to the manufacturer's recommendations. Prior to installation, the Contractor shall provide the Engineer with:

1. Three copies of the manufacturer's most current product manuals covering installation and maintenance of the unit.
2. Certification statements required by Materials I.M. 455.
3. Additional hardware, tools, or documentation supplied by the manufacturer.

The manufacturer may require the use of additional connection hardware, construction of a backup structure, or construction of a paved footing for a specific installation. When required, these items shall be constructed and attached to the obstacle, the crash cushion, or both, in a manner specified by the manufacturer.

Grading work, if required, shall be completed prior to installation of crash cushions.

When a roadway is closed to public traffic for construction, all crash cushions shall be installed prior to opening the road to traffic.

Attachments to new concrete or to anchor bolts set in epoxy resin shall not be stressed until the new concrete or epoxy resin has attained an age of 3 calendar days. This time requirement may be lengthened by the Engineer during cool weather.

When damaged, the Contractor shall repair or replace the crash cushion. Initiation of service to a damaged crash cushion shall be within one hour of notification. The object that is being shielded shall not be exposed to traffic for more than 12 hours.

A. Temporary Crash Cushions.
When the temporary crash cushion is no longer required, the crash cushion shall be removed and become the property of the Contractor. The Contractor shall remove anchor bolts, if used, and fill the bolt holes with one of the non-shrink grouts listed in Materials I.M. 491.13, Appendix B.

When crash cushions are required for the final stage of a project, the crash cushion will remain in place and become property of the Contracting Authority.

B. Permanent Crash Cushions.
Permanent crash cushions will become the property of the Contracting Authority.

01084.04 Method of Measurement
The Engineer will count the quantity of temporary or permanent crash cushions installed and the quantity of spare parts kits delivered to the local maintenance office.

01084.05 Basis of Payment

A. Temporary Crash Cushions.
For each location that a Temporary Crash Cushion is installed, the Contractor will be paid the contract unit price. For repairing or replacing crash cushions, damaged by public traffic, the Contractor will be paid as extra work in accordance with Article 1109.03, B.

B. Permanent Crash Cushions.
For each Permanent Crash Cushion installed, the Contractor will be paid the contract unit price.

C. Crash Cushion Spare Parts Kit
For each Crash Cushion Spare Parts Kit delivered, the Contractor will be paid the contract unit price.

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John M. Smythe	**Office:** Construction	**Item 28**
Submittal Date: July 26, 2006	**Proposed Effective Date:** April, 2007	
Article No.: 2214.01 **Title:** Description (Pavement Scarification)	**Other:**	

Specification Committee Action: Approved.			
Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07
Specification Committee Approved Text: See Specification Section Recommended Text.			
Comments: None.			

Specification Section Recommended Text:

2214.01, Description

Delete the second paragraph:

~~When scarified material is suitable for recycling into HMA, the contract documents will show bid items by weight (mass), except for small quantities which may be shown by area. When the scarified material is not suitable for recycling, the contract documents will show bid items by area and removed from the project as directed in the contract documents.~~

Comments:

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

Delete the second paragraph of 2214.01

2214.01 DESCRIPTION.
This work shall consist of scarifying the surface of asphalt or PCC pavement to improve the surface profile and cross section, in preparation for resurfacing as a part of the contract. For the purpose of this specification, scarification is a general term meaning removal of a pavement surface, in accordance with the contract documents, by milling with cold planning equipment. When complete removal of asphalt material to an underlying PCC surface is intended, the contract documents may allow this removal by other methods and equipment.

~~When scarified material is suitable for recycling into HMA, the contract documents will show bid items by weight (mass), except for small quantities which may be shown by area. When the scarified material is not suitable for recycling, the contract documents will show bid items by area and removed from the project as directed in the contract documents.~~

Reason for Revision: The appropriate method of measurement is determined by factors other than the suitability for recycling.

County or City Input Needed (X one)			**Yes**	**No** X	
Comments:					
Industry Input Needed (X one)			**Yes** X	**No**	
Industry Notified:	**Yes** X	**No**	**Industry Concurrence:**	**Yes** X	**No**
Comments: This has been discussed by the QMA Steering Committee. The industry agrees with the proposed change.					

SPECIFICATION REVISION SUBMITTAL FORM

Submitted by: John M. Smythe	**Office:** Construction	**Item 29**
Submittal Date: July 26, 2006	**Proposed Effective Date:** April, 2007	
Article No.: 2214.03, A **Title:** Resurfacing (Pavement Scarification)	**Other:**	

Specification Committee Action: Approved.

Deferred:	**Not Approved:**	**Approved Date:** 8/10/06	**Effective Date:** 4/17/07

Specification Committee Approved Text: See Specification Section Recommended Text.

Comments: None.

Specification Section Recommended Text:

2214.03, A, Resurfacing

Delete the last indented paragraph:

~~Recycling of salvaged asphalt material into new mixes for work on this project will be as directed in the contract documents.~~

Comments:

Member's Requested Change: **(DO NOT USE "Track Changes," or "Mark-Up". Use ~~Strikeout~~/Highlight)**

Delete the last sentence of the last paragraph of 2214.03, Construction

When asphalt material is to be salvaged for recycling, the following additional requirements are as follows:

The pavement is to be scarified to the depth designated. This is an approximate depth which may be adjusted to assure adequate salvaged material. When wire mesh is present in the asphalt pavement, as indicated in the contract documents, the intention is to scarify without disturbing the wire mesh, unless complete removal of wire mesh is specifically indicated.

Scarification shall be done in a manner that minimizes aggregate degradation.

The scarified and salvaged material shall be weighed on a scale, furnished by the Contractor, meeting requirements of Article 2001.07. The system for determining the quantity stockpiled shall be as directed by the Engineer.

Salvaged material shall be stockpiled in accordance with Article 2303.02.

When Blading and Shaping of Shoulder Material is not required, the existing shoulder material shall be bladed away from the pavement edge, if necessary to provide for

safety and drainage. This material may be placed on the foreslope. This work is incidental, and no separate payment will be made. ~~Recycling of salvaged asphalt material into new mixes for work on this project will be as directed in the contract documents.~~					
Reason for Revision:					
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: The sentence is redundant.					