Iowa Department of Transportation

**MINUTES**
**OF**
**IOWA DOT SPECIFICATION COMMITTEE MEETING**

April 14, 2005

| | | |
|---|---|---|
| **Members Present:** | John Adam, Director | Statewide Operations Bureau |
| | Tom Reis, Chair | Specifications Section |
| | Daniel Harness, Secretary | Specifications Section |
| | Bruce Kuehl | District 6-Dist. Const. Engineer |
| | Gary Novey | Office of Bridges & Structures |
| | Larry Jesse | Office of Local Systems |
| | Jim Berger | Office of Materials |
| | Doug McDonald | District 1 - Marshalltown RCE Office |
| **Members Not Present:** | Keith Norris | District 2 -Materials Office |
| | John Smythe | Office of Construction |
| | Mike Kennerly | Office of Design |
| | Roger Bierbaum | Office of Contracts |
| | Troy Jerman | Office of Traffic & Safety |
| **Advisory Members Present:** | Lisa Rold | FHWA |
| | Vince Ehlert | Iowa County |
| **Advisory Members Not Present:** | Jim Rost | Office of Location & Environment |
| | Larry Stevens | SUDAS |
| **Others Present:** | Will Stein | Office of Design |
| | Mark Bortle | Office of Construction |
| | Tom Jacobson | Office of Construction |
| | Ed Kasper | Office of Contracts |
| | Brad Azeltine | Office of Location & Environment |
| | Dave Matulac | Office of Design |

Tom Reis, Specifications Engineer, opened the meeting. The following items were discussed in accordance with the April 8, 2005 revised agenda:

**1. Article 1104.11, Public Utilities**
**Article 1107.15, Contractor's Responsibility for Utility Property and Services.**

The Office of Local Systems requests several changes to Articles 1104.11 and 1107.15 that will bring the specifications into compliance with recent changes to 761 IAC, Chapter 115.

**2. Article 1105.13, Temporary Primary Road Haul Roads.**

The Office of Construction requests several changes to Article 1105.13 that will align specification requirements with existing practice and current Iowa DOT PPM 500.13.

**3. Article 2301.07, A, 6, a, Vibrators.**

The Office of Construction requests a change to Article 2301.07 that will require the Contractor to submit vibration monitoring data in electronic format.

**4. Article 2301.19, A, Curing with White Pigmented Liquid Curing Compound.**

The Office of Construction requests a change to Article 2301.19 that will allow the Engineer the ability to adjust the timing of cure placement due to varying weather conditions to ensure acceptable macrotexture.

**5. Article 2303.02, B, 1, Individual Aggregates.**

The Office of Materials requests several changes to Article 2303.02 that will increase the L-3 friction criteria for HMA mixtures.

**6. Section 2317, Smoothness of Bridge Decks and Bridge Deck Overlays.**

The Office of Materials requests several changes to Section 2317 that will clear up some confusion in the field when to apply the profilograph.

**7. Section 2401, Removal of Existing Structures.**

The Office of Bridges and Structures requests several changes to Section 2401 that will require the Contractor to provide a 25 day notice of the beginning of bridge removal activities.

**8. Article 2417.05, Installation (Corrugated Culverts)**

**Article 2417.07, Basis of Payment**

The Specifications Engineer requests changes to Section 2417 that will expand the use of HDPE pipe in roadway applications.

**9. Section 2527, Pavement Markings**

The Office of Construction requests changes to Section 2527 that will clarify the expectations of pavement marking placement.

**10. Article 2528.09, Temporary Attenuators.**

The Office of Design requests several changes to Article 2528.09 that will update the specification to reflect current practice of the Contractor providing and maintaining attenuators.

**11. Article 2601.04, L, Native Grass Seeding and Wetland Grass Seeding.**

The Office of Design requests changes to Article 2601.04 that will modify the wetland seed mixture in order to reflect more commonly available plant species and better reflect market practices.

**12. Section 2103, Fuel Adjustment.**

The Specifications Section requests several changes to Section 2103 that will modify the fuel adjustment specifications including contractor submission of fuel adjustment quantities and when the adjustment applies.

**13. Article 2501.21, L, Prebored Holes.**

The Specifications Section requests a change to Article 2501.21 that will change prebored holes from a pay amount of $7.00 per foot to being paid as extra work.

**14. Section 2304, Detour Pavement.**

This was Item 3 in the March 10, 2005, Specification Committee Meeting. The Office of Design requests several changes to Section 2304 that will add specification language that was previously shown on the Standard Road Plans.

**SPECIFICATION REVISION SUBMITTAL FORM**

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| **Submitted by:** Larry Jesse/Deanne Popp | **Office:** Local Systems | **Item 1** |
| **Submittal Date:** March 15, 2005 | **Proposed Effective Date:** October 18, 2005 | |
| **Article No.:**<br>1104.11, Public Utilities<br>1107.15, Contractor's Responsibility for Utility Property and Services. | **Other:** | |

**Specification Committee Action:**

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/14/05 | **Effective Date:** 10/18/05 |

**Specification Committee Approved Text:**

**1104.11, Public Utilities.**

**Delete** the entire article.

**1107.15, Contractor's Responsibility for Utility Property and Services.**

**Replace** the title and the entire article.

**1107.15, Contractor's Responsibility for Utility Facility and Services.**

The Contracting Authority will endeavor to have all necessary adjustments made to public or private utilities within or adjacent to the limits of construction prior to construction activities, except those requiring coordination with the Contractor. Utility facilities have been plotted from available surveys and records, and shall be considered approximate. Other utilities may exist and their location may not be presently known or identified on the plans. The Contractor shall notify Iowa One-Call at 1-800-292-8989 to identify the location of all underground utility facilities within the construction area.

The Contractor shall determine the exact location of all public and private utility facilities located within the construction area to avoid damage in accordance with Section 480.4, Code of Iowa. The Contractor shall have considered in their bid all permanent and temporary utility appurtenances in their present or adjusted positions as shown in the contract documents. For projects not developed under 761 IAC, Chapter 115.25 and not designated as POINT 25 projects in the contract documents, additional compensation will not be allowed for any delays, inconvenience, or damage sustained by the Contractor due to any interference from the utility appurtenances or their operation or relocation.

Where existing utility facilities are shown in the contract documents or encountered within the construction area, the Contractor shall notify the utility company prior to beginning construction activities. The Contractor shall be responsible for notification and conducting work near utility facilities, required by Section 480.4, Code of Iowa.

Any system for supplying water, gas, power, or communications; a storm sewer, sanitary sewer, drainage tile, or other system for transmitting liquids; a pipeline system; like service systems; traffic signalization system; and lighting systems within the limits of the proposed construction, which are to be adjusted, are to be moved by the utility company at their expense, except as otherwise provided for in the contract documents.

The Contractor shall cooperate with utility companies in their adjustment operations so that these operations may progress, that duplication of adjustment work may be reduced, and that services rendered by those parties will not be interrupted.

Where the Contractor's operations are adjacent to properties of railway, communication, power companies, or other utility facilities where damage might result in considerable expense, loss, or inconvenience, work shall not begin until all arrangements necessary for protection of the facilities have been made.

In the event of interruption to utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with the authority in restoration of service. If a utility service is interrupted, repair work shall be continuous until service is restored.

Primary projects developed under 761 IAC, Chapter 115.25 and designated as POINT 25 projects in the contract documents, where the utility company's adjustment is dependent on work by the Contractor, the Contractor shall provide the Contracting Authority and the utility company a good faith notice 14 calendar days and a confirmation notice not less than 3 working days before the Contractor's work will be complete and ready for the utility company to begin its work. If the utility fails to complete the adjustment of its facilities and fails to submit or comply with its accepted work plan as referenced in the Utility Status Report in the contract documents, and these failures result in a delay to the Contractor or causes damages to be incurred by the Department or Contractor, the utility may be liable for costs and damages incurred as a result of its failure to perform.

**Comments:** Office of Local Systems asked that "endeavor to" be added to first sentence in the first paragraph. The Office of Construction agreed. The Office of Local Systems explained that plans will have the utilities that the Office of Local Systems is aware of. The plans will also state the date the utilities were moved or are planned to be moved, or that the utility needs to coordinate with the contractor. This will be in the bid attachment. The Office of Local Systems eventually wants this to apply to everything that goes through their office.

The Office of Bridges and Structures asked if the designer would supply the utility information. The Office of Local Systems confirmed this. The Office of Bridges and Structures asked if the Office of Design would supply this information for bridge projects. The Office of Local Systems explained that any project that involves utility work in the right of way would come to the Office of Local Systems through the Office of Right of Way, and the Office of Local Systems will work with the District to make that information available to put on the bid attachment. It hasn't been decided if this will be attached to the plan or to the proposal. This will definitely apply to POINT 25 projects with the hope that this can be applied to all projects. Information will come from the Office of Right of Way stating which projects involve right of way, and the Office of Local Systems will work with District and utilities to get dates. This information will be provided to Contracts. With hurry-up projects, the idea will be to get work plans from the utilities, but dates will not be specified.

District 6 noted that on a POINT 25 project, contractors know they have some protection, and they wanted to know what the contractor should assume if a project is not a POINT 25. The Office of Local Systems noted that it would be business as usual. District 6 noted that this was taken out of the rewrite. The information was previously in the last paragraph of Article 1104.11. The committee agreed this information should be added back in and that it should be specified that this applies only to non-POINT 25 projects. The Office of Construction asked if plans will have a note to identify them as non-POINT 25 or POINT 25 projects. The Office of Local Systems responded by saying that they will identify a plan if it is POINT 25. If a plan is not identified as a POINT 25 project, then it is a non-POINT 25 project. The Office of Design asked if the Office of Local Systems was considering a standard note identifying a plan as POINT 25. The Office of Local Systems confirmed this and added that the note would list the utilities and the contact people. The Office of Local Systems pointed out the note would be a bid attachment, and that in the meeting with the AGC, this had been incorrectly referred to as a bid item.

The Office of Bridges and Structures noted that the Members Requested Change proposed that the article be re-titled "Contractor's Responsibility for Utility Facility and Services". The Specification Section noted that it will make the necessary changes.

Initially, the following sentence, “However, the Contracting Authority will, upon notice given, exercise its powers under Chapter 319, Code of Iowa, to acquire the utility site” was included as the last sentence in the second paragraph of the approved text. However, the Iowa DOT does not have the power to acquire utility sites, so this sentence has been deleted from the approved text.

**Specification Section Recommended Text:**

**1104.11, Public Utilities.**

**Delete** the entire article.

~~The Contracting Authority will notify all utility companies, all pipeline owners, or other parties affected, and will endeavor to have all necessary adjustments of the public or private utility fixtures, pipelines, and other appurtenances within or adjacent to the limits of construction made as soon as practicable.~~

~~The Contractor shall be responsible for notification concerning work near pipelines, required by Section 479.47, Code of Iowa, and for conducting work as required therein.~~

~~Water lines, gas lines, wire lines, communication lines, service connections, water and gas meter boxes, water and gas valve boxes, light standards, cable ways, signals, and all other utility appurtenances within the limits of the proposed construction, which are to be relocated or adjusted, are to be moved by the owners at their expense, except as otherwise provided for in the contract documents.~~

~~It is understood and agreed that the Contractor has considered in the bid all of the permanent and temporary utility appurtenances in their present or relocated positions as shown in the contract documents. and that additional compensation will not be allowed for any delays, inconvenience, or damage sustained by the Contractor due to any interference from the utility appurtenances or their operation or relocation. However, the Contracting Authority will, upon notice given, exercise its powers under Chapter 319, Code of Iowa, to acquire the utility site.~~

**1107.15, Contractor's Responsibility for Utility Property and Services.**

**Replace** the entire article.

~~At points where the Contractor's operations are adjacent to properties of railway, telegraph, telephone, and power companies, or are adjacent to other property, where damage to which might result in considerable expense, loss, or inconvenience, work shall not be commenced until all arrangements necessary for the protection thereof have been made.~~

~~It is the Contractor's responsibility to determine the existence and exact location of all public and private utility facilities located within a construction area to avoid damage. Notification shall be made to Iowa One-Call at 1-800-292-8989 to identify the location of all underground utility facilities within a construction area. Where existing utility fixtures are shown in the contract documents or encountered within the construction area, it shall be the responsibility of the Contractor to notify the owners of those utilities prior to beginning any construction activities. The Contractor shall afford access to these facilities for necessary modification of services. Underground facilities, structures, and utilities have been plotted from available surveys and records, and their locations must be considered as approximate. Other utilities may exist and their location may not be presently known or identified. Claims for additional compensation will not be allowed to the Contractor for any interference or delay caused by this work.~~

~~The Contractor shall cooperate with owners of underground or overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, that duplication of rearrangement work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted.~~

~~In the event of interruption to water or utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with said authority in restoration of service. If water service is interrupted, repair work shall be continuous until service is restored. Work shall not be undertaken around fire hydrants until provision for continued service has been approved by the local fire authority.~~

The Contracting Authority will have all necessary adjustments made to public or private utilities within or adjacent to the limits of construction prior to construction activities, except those requiring coordination with the Contractor. Utility facilities have been plotted from available surveys and records, and shall be considered approximate. Other utilities may exist and their location may not be presently known or identified on the plans. The Contractor shall notify Iowa One-Call at 1-800-292-8989 to identify the location of all underground utility facilities within the construction area.

The Contractor shall determine the exact location of all public and private utility facilities located within the construction area to avoid damage in accordance with Section 480.4, Code of Iowa. The Contractor shall have considered in their bid all permanent and temporary utility appurtenances in their present or adjusted positions as shown in the contract documents.

Where existing utility facilities are shown in the contract documents or encountered within the construction area, the Contractor shall notify the utility company prior to beginning construction activities. The Contractor shall be responsible for notification and conducting work near utility facilities, required by Section 480.4, Code of Iowa.

Any system for supplying water, gas, power, or communications; a storm sewer, sanitary sewer, drainage tile, or other system for transmitting liquids; a pipeline system; like service systems; traffic signalization system; and lighting systems within the limits of the proposed construction, which are to be adjusted, are to be moved by the utility company at their expense, except as otherwise provided for in the contract documents.

The Contractor shall cooperate with utility companies in their adjustment operations so that these operations may progress, that duplication of adjustment work may be reduced, and that services rendered by those parties will not be interrupted.

Where the Contractor's operations are adjacent to properties of railway, communication, power companies, or other utility facilities where damage might result in considerable expense, loss, or inconvenience, work shall not begin until all arrangements necessary for protection of the facilities have been made.

In the event of interruption to utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with the authority in restoration of service. If a utility service is interrupted, repair work shall be continuous until service is restored.

Primary projects developed under 761 IAC, Chapter 115.25 and designated as POINT 25 projects in the contract documents, where the utility company’s adjustment is dependent on work by the Contractor, the Contractor shall provide the Contracting Authority and the utility company a good faith notice 14 calendar days and a confirmation notice not less than 3 working days before the Contractor’s work will be complete and ready for the utility company to begin its work. If the utility fails to complete the adjustment of its facilities and fails to submit or comply with its accepted work plan as referenced in the Utility Status Report in the contract documents, and these failures result in a delay to the Contractor or causes damages to be incurred by the Department or Contractor, the utility may be liable for costs and damages incurred as a result of its failure to perform.

**Comments:**

**Member's Requested Change (DO NOT USE "TRACK CHANGES," use Strikeout/Highlight):**

**1104.11 Public Utilities.**

**Delete** entire article.

~~The Contracting Authority will notify all utility companies, all pipeline owners, or other parties affected, and will endeavor to have all necessary adjustments of the public or private utility fixtures, pipelines, and other appurtenances within or adjacent to the limits of construction made as soon as practicable.~~

~~The Contractor shall be responsible for notification concerning work near pipelines, required by Section 479.47, Code of Iowa, and for conducting work as required therein.~~

~~Water lines, gas lines, wire lines, communication lines, service connections, water and gas meter boxes, water and gas valve boxes, light standards, cable ways, signals, and all other utility appurtenances within the limits of the proposed construction, which are to be relocated or adjusted, are to be moved by the owners at their expense, except as otherwise provided for in the contract documents.~~

~~It is understood and agreed that the Contractor has considered in the bid all of the permanent and temporary utility appurtenances in their present or relocated positions as shown in the contract documents. and that additional compensation will not be allowed for any delays, inconvenience, or damage sustained by the Contractor due to any interference from the utility appurtenances or their operation or relocation. However, the Contracting Authority will, upon notice given, exercise its powers under Chapter 319, Code of Iowa, to acquire the utility site.~~

**1107.15 Contractor's Responsibility for Utility Property and Services.**

**Replace** the title and entire article.

~~At points where the Contractor's operations are adjacent to properties of railway, telegraph, telephone, and power companies, or are adjacent to other property, where damage to which might result in considerable expense, loss, or inconvenience, work shall not be commenced until all arrangements necessary for the protection thereof have been made.~~

~~It is the Contractor's responsibility to determine the existence and exact location of all public and private utility facilities located within a construction area to avoid damage. Notification shall be made to Iowa One-Call at 1-800-292-8989 to identify the location of all underground utility facilities within a construction area. Where existing utility fixtures are shown in the contract documents or encountered within the construction area, it shall be the responsibility of the Contractor to notify the owners of those utilities prior to beginning any construction activities. The Contractor shall afford access to these facilities for necessary modification of services. Underground facilities, structures, and utilities have been plotted from available surveys and records, and their locations must be considered as approximate. Other utilities may exist and their location may not be presently known or identified. Claims for additional compensation will not be allowed to the Contractor for any interference or delay caused by this work.~~

~~The Contractor shall cooperate with owners of underground or overhead utility lines in their removal and rearrangement operations in order that these operations may progress in a reasonable manner, that duplication of rearrangement work may be reduced to a minimum, and that services rendered by those parties will not be unnecessarily interrupted.~~

~~In the event of interruption to water or utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with said authority in restoration of service. If water service is interrupted, repair work shall be continuous until service is restored. Work shall not be undertaken around fire hydrants until provision for continued service has been approved by the local fire authority.~~

**1107.15 Contractor's Responsibility for Utility Facility and Services.**

The Contracting Authority will endeavor to have all necessary adjustments made to the public or private utilities within or adjacent to the limits of construction prior to construction, except those that require coordination with the Contractor. Utility facilities have been plotted from available surveys and records, and shall be considered as approximate. Other utilities may exist and their location may not be presently known or identified on the plans. The Contractor shall notify Iowa One-Call at 1-800-292-8989 to identify the location of all underground utility facilities within a construction area.

The Contractor shall determine the exact location of all public and private utility facilities located within a construction area to avoid damage in accordance with Section 480.4, Code of Iowa. The Contractor shall have considered in their bid all of the permanent and temporary utility appurtenances in their present or adjusted positions as shown in the contract documents.

Where existing utility facilities are shown in the contract documents or encountered within the construction area, it shall be the responsibility of the Contractor to notify the utility company prior to beginning any construction activities. The Contractor shall be responsible for notification and conducting work near utility facilities, required by Section 480.4, Code of Iowa.

Any system for supplying water, gas, power, or communications; a storm sewer, sanitary sewer, drainage tile, or other system for transmitting liquids; a pipeline system; like service systems; traffic signalization system; and lighting systems within the limits of the proposed construction, which are to be adjusted, are to be moved by the utility company at their expense, except as otherwise provided for in the contract documents.

The Contractor shall cooperate with the utility companies in their adjustment operations in order that these operations may progress, that duplication of adjustment work may be reduced, and that services rendered by those parties will not be interrupted.

Where the Contractor's operations are adjacent to properties of railway, communication, power companies, or other utility facilities where damage might result in considerable expense, loss, or inconvenience, work shall not begin until all arrangements necessary for the protection of the facilities have been made.

In the event of interruption to utility services as a result of accidental breakage or as a result of being exposed or unsupported, the Contractor shall promptly notify the proper authority and shall cooperate with the authority in restoration of service. If a utility service is interrupted, repair work shall be continuous until service is restored.

For Primary projects developed under 761 IAC, Chapter 115.25 and designated as POINT 25 projects in the contract documents, where the utility company's adjustment is dependent on work by the Contractor, the Contractor shall provide the Contracting Authority and the utility company a good faith notice 14 calendar days and a confirmation notice not less than 3 working days before the Contractor's work will be complete and ready for the utility company to begin its work. If the utility fails to complete the adjustment of its facilities and fails to submit or comply with its accepted work plan as referenced in the Utility Status Report in the contract documents, and these failures result in a delay to the Contractor or causes damages to be incurred by the Department or Contractor, the utility may be liable for costs and damages incurred as a result of its failure to perform.

**Reason for Revision:**

Revisions to the specifications were necessary because of changes to 761 IAC, Chapter 115.

Combined specifications so utility information is in one location.

If a project is a Point 25 project, it should be stated in the plans; as well as a utility status report that includes a utility schedule that the contractor can depend on when bidding.

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| **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:** Industry had input in to the IAC changes. | | | | | |

**SPECIFICATION REVISION SUBMITTAL FORM**

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|---|---|---|
| **Submitted by:** John Smythe | **Office:** Construction | **Item 2** |
| **Submittal Date:** March 28, 2005 | **Proposed Effective Date:** October, 2005 | |
| **Article No.:** 1105.13<br>**Title:** Temporary Primary Haul Roads | **Other:** | |

**Specification Committee Action:**

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|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/14/05 | **Effective Date:** 10/18/05 |

**Specification Committee Approved Text:** See Specification Section Recommended Text.

**Comments:** Changed "Project Engineer" to "Engineer" since Project Engineer is not defined in the Standard Specifications.

**Specification Section Recommended Text:**

**1105.13 Temporary Primary Road Haul Roads.**

**Replace** the second sentence of the third indented paragraph following the second full paragraph:

Haul route requests shall be submitted to the ~~Office of Construction~~ Engineer.

**Replace** the seventh sentence of the third indented paragraph following the second full paragraph:

If the ~~Office of Construction does not receive the low bidder's suggested haul routes on or before the 21st calendar day after the approval for award, the Department will have the right to establish the routes, and additional compensation will not be allowed to the Contractor~~Contractor fails to provide haul road information within the time allowed, the Department will have the right to establish a route without increased compensation to the Contractor.

**Comments:**

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

Modify the 4th paragraph of Article 1105.13

When temporary Primary Road haul roads are required, the Contractor shall submit the suggested haul route or routes to the Department within 21 calendar days after the approval for award. Haul route requests shall be submitted to the ~~Office of Construction~~ Project Engineer. These are to be the most reasonable and practical route or routes. They shall be suitable for use as the haul road or haul roads. In evaluating the feasibility of haul routes, the Contractor shall contact the appropriate local jurisdictions, prior to submitting the haul road request. Roads or bridges with load restrictions and low structural values will not be considered as feasible routes, physically capable of use by the Contractor. If the ~~Office of Construction~~ Contractor fails to provide haul road information within the time allowed, the Department will have the right to establish a route without increased compensation to the Contractor. ~~does not receive the low bidder's suggested haul routes on or before the 21st calendar day after the approval for award, the Department will have the right to establish the routes, and additional compensation will not be allowed to the Contractor~~.

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| **Reason for Revision:** To align specification requirements with existing practice and current PPM 500.13. The routes must be reviewed by the RCE prior to submitting a haul road request to the Office of Construction. | | | | | |
| **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**

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|---|---|---|
| **Submitted by:** John Smythe/Kevin Merryman | **Office:** Construction | **Item 3** |
| **Submittal Date:** March 10, 2005 | **Proposed Effective Date:** October 2005 | |
| **Article No.:** 2301.07, A, 6, a,<br>**Title:** Vibrators | **Other:** | |

**Specification Committee Action:**

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|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/14/05 | **Effective Date:** 10/18/05 |

**Specification Committee Approved Text:** See Specification Section Recommended Text.

**Comments:** ICPA was notified of this at the March 23,2005, ICPA/Iowa DOT Joint Specification Committee meeting. They did not express any objections.

**Specification Section Recommended Text:**

**2301.07, A, 6, a, 2,** (untitled paragraph)

**Replace** the first sentence of the second paragraph:

The monitoring device shall have a readout display near the operator's controls visible to the paver operator and the ~~Contracting Authority~~Engineer.

**Replace** the fifth sentence of the second paragraph:

An electronic record of the data shall be provided to the ~~Contracting Authority~~Engineer daily for the first 3 days of paving and weekly thereafter.

**Comments:**

**Member's Requested Change (Redline/Strikeout):**

**a. Vibrators.**

**2)** An electronic vibrator monitoring device displaying the operating frequency of each individual internal vibrator shall be required for all Interstate and Primary contracts with PCC paving quantities of mainline paving over 50,000 square yards (40,000 $m^2$); and shall apply to other contacts only when specified in the contract documents. When required on a contract they will only be required in areas where mainline pavement exceeding 600 feet (175 m) in length. When project staging necessitates small mainline sections be paved separately from the majority of mainline paving, the Engineer may waive this requirement for those small sections.

The monitoring device shall have a readout display near the operator's controls visible to the paver operator and the Contracting Authority. It shall operate continuously while paving, and shall display all vibrator frequencies with manual or automatic sequencing among all individual vibrators. The monitoring system shall also record, at minimum, the clock time, station location, paver track speed, and operating frequency of individual vibrators. Recordings shall be made after each 25 feet (8 m) of paving or after each 5 minutes of time. An electronic record of the data shall be provided to the Contracting Authority daily for the first 3 days of paving and weekly thereafter. The Engineer may determine that more frequent submission is necessary, particularly if equipment malfunctions occur.

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| **Reason for Revision:** Current specifications do not require vibration monitoring data to be submitted in electronic format. The change will require data to be submitted in electronic format which will allow for easier data exchange and reduce the volume of paper within project files. | | | | | |
| **County or City Input Needed (X one)** | | | **Yes** | **No** X | |
| **Comments:** | | | | | |
| **Industry Input Needed (X one)** | | | **Yes** | **No** X | |
| **Industry Notified:** | **Yes** | **No** X | **Industry Concurrence:** | **Yes** | **No** |
| **Comments:** This issue will be discussed at the IDOT/ICPA joint specification meeting on March 23, 2005. | | | | | |

**SPECIFICATION REVISION SUBMITTAL FORM**

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|---|---|---|
| **Submitted by:** John Smythe/Kevin Merryman | **Office:** Construction | **Item 4** |
| **Submittal Date:** March 28, 2005 | **Proposed Effective Date:** October 2005 | |
| **Article No.:** 2301.19, A<br>**Title:** Curing with White Pigmented Liquid Curing Compound | **Other:** | |

**Specification Committee Action:**

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|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/14/05 | **Effective Date:** 10/18/05 |

**Specification Committee Approved Text:** See Specification Section Recommended Text.

**Comments:**

**Specification Section Recommended Text:**

**2301.19, A, Curing with White Pigmented Liquid Curing Compound.**

**Add** a new second sentence to the first paragraph:

> Curing compound shall be applied in a fine spray to form a continuous, uniform film on the surface and vertical edges of the pavement slab as soon as the free water has appreciably disappeared but no later than 30 minutes after finishing. With approval of the Engineer, the timing of cure application may be adjusted due to varying weather conditions and concrete mix properties to ensure acceptable macrotexture is achieved. The rate of application shall be not less than 0.067 gallon per square yard covering 15 square yards per gallon (0.3 L/$m^2$ covering 3 $m^2$/L).

**Comments:**

**Member's Requested Change (Redline/Strikeout):**

**A. Curing with White Pigmented Liquid Curing Compound.**
Curing compound shall be applied in a fine spray to form a continuous, uniform film on the surface and vertical edges of the pavement slab as soon as the free water has appreciably disappeared but no later than 30 minutes after finishing. With approval of the Engineer, the timing of cure application may be adjusted due to varying weather conditions and concrete mix properties to ensure acceptable macrotexture is achieved. The rate of application shall be not less than 0.067 gallon per square yard covering 15 square yards per gallon (0.3 L/$m^2$ covering 3 $m^2$/L).

Care shall be taken to ensure that liquid curing materials shall be well agitated in the supply drum or tank immediately before transfer to the distributor, and kept thoroughly agitated during application. Application shall be by means of power spraying equipment capable of producing a fine spray which will not damage the surface of the concrete. Hand operated sprayers may be used for spraying the sides and irregular areas.

If forms are used, within 30 minutes after their removal, the vertical edges of the pavement shall be coated with curing material, applied at the same rate as on the surface.

If the coating is damaged within 72 hours after being applied, due to other operations, the affected areas shall be re-coated without delay. Coating of the sawed surface with curing compound will not be permitted on joints that are to be sealed. When pavement is opened to traffic prior to 72 hours after application of the curing coating, a re-coating will not be required.

| | | | | | |
|---|---|---|---|---|---|
| Curing shall be with a white pigmented curing compound meeting requirements of Section 4105. | | | | | |
| **Reason for Revision:** Concerns have been raised that application of curing compound may need to be delayed due to weather conditions or mix properties that would affect the ability of the contractor to place acceptable macrotexture within the 30 minutes currently allowed by the specification. The change gives the Engineer the ability to adjust the timing of cure placement under those circumstances. | | | | | |
| **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 issue was discussed at the March 23, 2005 ICPA/IDOT joint spec. meeting. | | | | | |

**SPECIFICATION REVISION SUBMITTAL FORM**

| | | |
|---|---|---|
| **Submitted by:** Jim Berger | **Office:** Materials | **Item 5** |
| **Submittal Date:** April 7, 2005 | **Proposed Effective Date:** October 2005 GS | |
| **Article No.:** 2303.02, B, 1<br>**Title:** Individual Aggregates (HMA Mixtures) | **Other:** | |

**Specification Committee Action:**

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

**Specification Committee Approved Text:**

**Comments:** Contractors have become more comfortable with gyratory mixes. They are using a finer L-3 mix. The Office of Materials stated they are not aware of any problems at the moment. Problems may not show up for another 10 years. A 1994 study of Highway 63 in Mahaska County and Highway 175 in Calhoun County indicated that finer mixes were associated with decreased average frictional numbers. The Office of Materials doesn't know at this time if this is a significant problem and stated this item can be deferred until more frictional data is available. The Specification Committee agreed to defer this item to a future Specification Committee meeting pending discussion with the APAI and District Materials Engineers.

**Specification Section Recommended Text:**

**2303.02, B, 1, Individual Aggregates.**

**Replace** the fourth paragraph:

> For friction classification L-3, at least ~~80%~~ 95% of the combined aggregate retained on the No. 4 (4.75 mm) sieve shall be Type 4 or better friction aggregate; and at least ~~45%~~ 50% of the combined aggregate retained on the No. 4 (4.75 mm) sieve shall be Type 3 or better friction aggregate. If Type 2 is used in place of Type 3, the minimum shall be ~~30%~~ 35% of the combined aggregate retained on the No. 4 (4.75 mm) sieve.

**Comments:**

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

For friction classification L-2, at least 80% of the combined aggregate retained on the No. 4 (4.75 mm) sieve shall be Type 4 or better friction aggregate; and at least 25% of the combined aggregate retained on the No. 4 (4.75 mm) sieve shall be Type 2 or better friction aggregate.

For friction classification L-3, at least 95 ~~80~~% of the combined aggregate retained on the No. 4 (4.75 mm) sieve shall be Type 4 or better friction aggregate; and at least 50 ~~45~~% of the combined aggregate retained on the No. 4 (4.75 mm) sieve shall be Type 3 or better friction aggregate. If Type 2 is used in place of Type 3, the minimum shall be 35 ~~30~~% of the combined aggregate retained on the No. 4 (4.75 mm) sieve.

For friction classification L-4, at least 50% of the combined aggregate retained on the No. 4 (4.75 mm) sieve shall be Type 4 or better friction aggregate.

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| **Reason for Revision:** The requirements for friction aggregate are based on the coarseness of the gradation. Early in the implementation of gyratory mix design, contractor mix designs were generally coarser than comparable Marshall mixes. In response to gyratory implementation, the friction criteria were adjusted down to maintain the desired amount of friction aggregate in each level of mix. The Asphalt Materials Team recently completed a review of current gyratory gradations compared to the previous Marshall mixes. The results of the review found that the L-3 friction criteria need to revert to the friction standards used prior to gyratory mixes. Current gyratory mixes at 10M ESAL have similar gradations to comparable Marshall mixes. This shift in gyratory mix gradation is likely due to the mix designer's better understanding of the mix design system to refine mixture material selection to achieve the mix criteria. No change is needed in the L-2 or L-4 criteria | | | | | |
| **County or City Input Needed (X one)** | | | **Yes** | **No** X | |
| **Comments:** | | | | | |
| **Industry Input Needed (X one)** | | | **Yes** | **No** X | |
| **Industry Notified:** | **Yes** X | **No** | **Industry Concurrence:** | **Yes** X | **No** |
| **Comments:** | | | | | |

**SPECIFICATION REVISION SUBMITTAL FORM**

| | | |
|---|---|---|
| **Submitted by:** J. Berger | **Office:** Materials | **Item 6** |
| **Submittal Date:** 03/30/05 | **Proposed Effective Date:** Oct. 2005 | |
| **Article No.:** 2317<br>**Title:** Smoothness of Bridge Decks and Bridge Deck Overlays | **Other:** | |

**Specification Committee Action:**

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 5/25/05 | **Effective Date:** 10/18/05 |

**Specification Committee Approved Text:**

**2317.01, General.**

**Replace** the entire article:

Smoothness shall be evaluated for all Interstate~~, Primary,~~ and ~~non-~~Primary bridge decks, new approaches and bridge deck overlays, and overlaid approaches ~~included in the project,~~ except when specifically excluded by the contract documents. Smoothness shall also be evaluated for all non-Primary bridge decks, new approaches and bridge deck overlays, and overlaid approaches for projects where the Department is the Contracting Authority, except when specifically excluded by the contract documents.

~~**A. Exclusions are as follows:**~~

~~**1.** Bridge decks less than 100 feet (30 m) in length.~~
~~**2.** New bridge approach sections less than 100 feet (30 m) in length.~~
~~**3.** Bridge deck overlays including overlay of approaches less than 100 feet (30 m) in length.~~
~~**4.** Bridge decks for new concrete slab bridges.~~

~~All excluded areas will be checked for 1/2 inch (13 mm) bumps on the bridge, and for 1/2 inch (13 mm) bumps and dips on the approach pavement, respectively.~~

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

**2317.02, Measurement.**

**Add** a new second sentence to the third paragraph:

A profilogram will be made by a test in each wheel path of each traffic lane. The profilogram will include a minimum of 16 feet (5 m) beyond the section when there is adjoining pavement. Bridge decks, and bridge deck overlays will be treated as one section. Each traffic lane will be divided into segments not exceeding 0.1 mile (160 m) if the bridge exceeds 778 feet (240 m) in length. On a bridge less than 778 feet (240 m) in length, each traffic lane of the bridge shall be considered as one segment.

**2317.04, Profile Index.**

**Replace** the entire article:

An individual index shall be calculated for each segment~~. A distance of 15 feet (5 m) from the end of the bridge, or overlay approach if part of the contract, and 15 feet (5 m) on each side of the expansion joints not adjusted will be blanked out on the profilogram and will not be considered in the calculation of the index.~~ from the profilograms in accordance with Materials I.M. 341 except for:

1. Bridge decks less than 100 feet (30 m) in length.
2. New bridge approach sections less than 100 feet (30 m) in length.
3. Bridge deck overlays including overlay of approaches less than 100 feet (30 m) in length.
4. Bridge decks for new concrete slab bridges.
5. The 16 feet (5 m) at the ends of the section when the Contractor is not responsible for the adjoining surface.
6. The 16 feet (5 m) on each side of the expansion joints not adjusted.

Tests in both wheel paths will be averaged for each lane. ~~These areas will be checked for 1/2 inch (13 mm) bumps on the bridge, and for 1/2 inch (13 mm) bumps and dips on the approach pavement, respectively.~~

**2317.06, Smoothness.**

**Replace** the entire article:

~~Correction will be required for bumps exceeding 1/2 inch (13 mm) identified on the profilogram and for smoothness, if necessary. Correction will also be required, in lengths excluded from the profilograph index analysis areas. On all bridge decks, new bridge approaches, bridge deck overlays, and overlays of approaches, which are not excluded, a price adjustment of $900 shall be assessed for each dip of 0.5 inch (13 mm) or greater in each traffic lane. Correction of dips 0.5 inch (13 mm) or greater will not be permitted unless approved by the Engineer and will be included in the evaluation for the segment smoothness. Bumps exceeding 1/2 inch (13 mm) shall be corrected to less than 3/10 inch (8 mm) on the bridge; and bumps and dips exceeding 1/2 inch (13 mm) shall be corrected to less than 3/10 inch (8 mm) on approach pavements~~.

On bridge decks, new bridge approaches, bridge deck overlays and overlays of approaches ~~which are not excluded,~~ the ~~surface~~ segments shall be constructed to an index of not greater than 22 inches per mile (350 mm/km) for new decks and approaches and 15 inches per mile (240 mm/km) for overlay of decks and approaches, except for areas identified in Article 2317.04.

Smoothness of new bridge approach sections or overlay of bridge approach sections will not be used in the calculations for incentive or price reduction of bridge decks or bridge deck overlays.

Bumps and dips, including those at headers, on all surfaces for which smoothness is designated will be evaluated. Correction work will be required in accordance with the following criteria. Areas excluded from profilograph testing shall be corrected for deviations exceeding 1/8 inch in 10 feet (3 mm in 3 m).

**A. Bumps.**

All bumps exceeding 0.5 inch (13 mm) within a 25 foot (7.6 m) span, as indicated on the profilogram, shall be corrected except as stated in Article 2317.06, C.

Corrected bumps will be considered satisfactory when measurement by the profilograph shows that the bumps are 0.3 inch (8 mm) or less in a 25 foot (7.6 m) span.

**B. Dips.**

All dips exceeding 0.5 inch (13 mm) in a 25 foot (7.6 m) span, as indicated on the profilogram, shall be corrected only when required by the Engineer except as stated in Article 2317.06, C. The Contractor will be assessed a price adjustment of $900 for each dip exceeding 0.5 inch (13 mm) that is not corrected except as stated in Article 2317.06, C. A dip in both wheel paths at a lane location will be considered a single dip when assessing a price adjustment. Corrected dips will be considered satisfactory when the

profilogram shows the dips are less than 0.3 inch (8 mm) in a 25 foot (7.6 m) span.

**C. Exceptions.**
When the Contractor is not responsible for the adjoining surface, bumps and dips exceeding 0.5 inches (13 mm) located within 16 feet (5 m) either side of the end of a section will be evaluated by the Engineer. The Contractor will not receive a price adjustment for bumps and dips in this area. When instructed by the Engineer, the Contractor will be paid to repair these bumps and dips in accordance with Article 1109.03, B.

**Comments:** District 6 expressed concern with projects on the primary system not administered by the Department. Their fear is that unless it is stated in the Specifications, this specification would not apply to projects not administered by the Department. The Office of Local Systems noted they would like to add wording to state that the specification applies to non-Primary bridge decks administered by the Department. The Office of Contracts noted that the contractor doesn't know who is administering the project when they bid it. They only know who the Contracting Authority is. The Office of Contracts suggested stating, "non-Primary bridge decks where the Department is the Contracting Authority".

District 6 asked if the Department is running profilographs on all projects, but not evaluating smoothness in areas covered by exceptions. The Office of Materials stated that smoothness is evaluated but the contractor is not responsible for things outside of the limits of their work. District 6 asked if language could be added that would clarify that contractors are to run profilographs on all projects, but the contractor will be exempt from penalties in areas covered by the exclusions in Article 2317.04. The Office of Materials stated they will examine the language. The Specifications Section discussed the issue further with the Office of Materials after the meeting. The decision was made to leave the language as is.

**Specification Section Recommended Text:**

**2317.01, General.**

**Replace** the entire article:

For projects administered by the Department, ~~S~~smoothness shall be evaluated for all Interstate, Primary, and non-Primary bridge decks, new approaches and bridge deck overlays, and overlaid approaches included in the project, except when specifically excluded by the contract documents.

~~**A. Exclusions are as follows:**~~

~~**1.** Bridge decks less than 100 feet (30 m) in length.~~
~~**2.** New bridge approach sections less than 100 feet (30 m) in length.~~
~~**3.** Bridge deck overlays including overlay of approaches less than 100 feet (30 m) in length.~~
~~**4.** Bridge decks for new concrete slab bridges.~~

~~All excluded areas will be checked for 1/2 inch (13 mm) bumps on the bridge, and for 1/2 inch (13 mm) bumps and dips on the approach pavement, respectively.~~

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

**2317.02, Measurement.**

**Add** a new second sentence to the third paragraph:

A profilogram will be made by a test in each wheel path of each traffic lane. The profilogram will include a minimum of 16 feet (5 m) beyond the section when there is adjoining pavement. Bridge decks, and bridge deck overlays will be treated as one section. Each traffic lane will be divided into segments not exceeding 0.1 mile (160 m)

if the bridge exceeds 778 feet (240 m) in length. On a bridge less than 778 feet (240 m) in length, each traffic lane of the bridge shall be considered as one segment.

**2317.04, Profile Index.**

**Replace** the entire article:

An individual index shall be calculated for each segment~~. A distance of 15 feet (5 m) from the end of the bridge, or overlay approach if part of the contract, and 15 feet (5 m) on each side of the expansion joints not adjusted will be blanked out on the profilogram and will not be considered in the calculation of the index.~~ from the profilograms in accordance with Materials I.M. 341 except for:

**1.** Bridge decks less than 100 feet (30 m) in length.
**4.** New bridge approach sections less than 100 feet (30 m) in length.
**5.** Bridge deck overlays including overlay of approaches less than 100 feet (30 m) in length.
**4.** Bridge decks for new concrete slab bridges.
**5.** The 16 feet (5 m) at the ends of the section when the Contractor is not responsible for the adjoining surface.
**6.** The 16 feet (5 m) on each side of the expansion joints not adjusted.

Tests in both wheel paths will be averaged for each lane. ~~These areas will be checked for 1/2 inch (13 mm) bumps on the bridge, and for 1/2 inch (13 mm) bumps and dips on the approach pavement, respectively.~~

**2317.06, Smoothness.**

**Replace** the entire article:

~~Correction will be required for bumps exceeding 1/2 inch (13 mm) identified on the profilogram and for smoothness, if necessary. Correction will also be required, in lengths excluded from the profilograph index analysis areas. On all bridge decks, new bridge approaches, bridge deck overlays, and overlays of approaches, which are not excluded, a price adjustment of $900 shall be assessed for each dip of 0.5 inch (13 mm) or greater in each traffic lane. Correction of dips 0.5 inch (13 mm) or greater will not be permitted unless approved by the Engineer and will be included in the evaluation for the segment smoothness. Bumps exceeding 1/2 inch (13 mm) shall be corrected to less than 3/10 inch (8 mm) on the bridge; and bumps and dips exceeding 1/2 inch (13 mm) shall be corrected to less than 3/10 inch (8 mm) on approach pavements~~.

On bridge decks, new bridge approaches, bridge deck overlays and overlays of approaches ~~which are not excluded,~~ the ~~surface~~ segments shall be constructed to an index of not greater than 22 inches per mile (350 mm/km) for new decks and approaches and 15 inches per mile (240 mm/km) for overlay of decks and approaches, except for areas identified in Article 2317.04.

Smoothness of new bridge approach sections or overlay of bridge approach sections will not be used in the calculations for incentive or price reduction of bridge decks or bridge deck overlays.

Bumps and dips, including those at headers, on all surfaces for which smoothness is designated will be evaluated. Correction work will be required in accordance with the following criteria. Areas excluded from profilograph testing shall be corrected for deviations exceeding 1/8 inch in 10 feet (3 mm in 3 m).

**A. Bumps.**
All bumps exceeding 0.5 inch (13 mm) within a 25 foot (7.6 m) span, as indicated on the profilogram, shall be corrected except as stated in Article 2317.06, C.

Corrected bumps will be considered satisfactory when measurement by the profilograph shows that the bumps are 0.3 inch (8 mm) or less in a 25 foot (7.6 m) span.

**B. Dips.**
All dips exceeding 0.5 inch (13 mm) in a 25 foot (7.6 m) span, as indicated on the profilogram, shall be corrected only when required by the Engineer except as stated in Article 2317.06, C. The Contractor will be assessed a price adjustment of $900 for each dip exceeding 0.5 inch (13 mm) that is not corrected except as stated in Article 2317.06, C. A dip in both wheel paths at a lane location will be considered a single dip when assessing a price adjustment. Corrected dips will be considered satisfactory when the profilogram shows the dips are less than 0.3 inch (8 mm) in a 25 foot (7.6 m) span.

**C. Exceptions.**
When the Contractor is not responsible for the adjoining surface, bumps and dips exceeding 0.5 inches (13 mm) located within 16 feet (5 m) either side of the end of a section will be evaluated by the Engineer. The Contractor will not receive a price adjustment for bumps and dips in this area. When instructed by the Engineer, the Contractor will be paid to repair these bumps and dips in accordance with Article 1109.03, B.

**Comments:**

**Member's Requested Change:**

**2317.01 GENERAL.**
For projects administered by the Department, s~~S~~moothness shall be evaluated for all Interstate, Primary, and non-Primary bridge decks, new approaches and bridge deck overlays, and overlaid approaches included in the project, except when specifically excluded by the contract documents.

~~**A. Exclusions are as follows:**~~

~~**1.** Bridge decks less than 100 feet (30 m) in length.~~
~~**2.** New bridge approach sections less than 100 feet (30 m) in length.~~
~~**3.** Bridge deck overlays including overlay of approaches less than 100 feet (30 m) in length.~~
~~**4.** Bridge decks for new concrete slab bridges.~~

~~All excluded areas will be checked for 1/2 inch (13 mm) bumps on the bridge, and for 1/2 inch (13 mm) bumps and dips on the approach pavement, respectively.~~

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

**2317.02 MEASUREMENT.**
Smoothness shall be measured with California type profilograph, which produces a profilogram (profile trace) of the surface tested, in accordance with Materials I.M. 341.

All objects and foreign material on the deck surface, including protective covers, if used, shall be removed by the Contractor prior to testing, and if appropriate, protective covers shall be properly replaced by the Contractor after testing.

A profilogram will be made by a test in each wheel path of each traffic lane. The profilogram shall include a minimum of 16 feet (5 m) beyond the section when there is adjoining pavement. Bridge decks, and bridge deck overlays will be treated as one section. Each traffic lane will be divided into segments not exceeding 0.1 mile (160 m) if the bridge exceeds 778 feet (240 m) in length. On a bridge

less than 778 feet (240 m) in length, each traffic lane of the bridge shall be considered as one segment.

Bridge deck overlays on which expansion joints are not adjusted will be did into segments beginning and ending at the expansion joints unless the distance between expansion joints exceeds 778 feet (240 m). If the distance between expansion joints exceeds 778 feet (240 m), the distance shall be divided into segments not to exceed 0.1 mile (160 m) nor less than 250 feet (80 m).

**2317.03 PROFILOGRAPH TESTING.**
The Contractor shall perform testing and furnish the profilogram results to the Engineer. The testing and evaluation shall be done by a trained and certified person, and the evaluation shall be certified in accordance with Materials I.M. 341.

The Engineer may perform monitor testing. Any portion of the project may be tested if the Engineer determines that the Contractor certified test results are inaccurate. If the test results are inaccurate, the Contractor will be charged for this work at a rate of $150 per lane per mile (kilometer), with a minimum charge of $500. In addition, furnishing inaccurate test results could result in decertification.

If the placements are less than 100 feet (30 m), each lane shall be tested and evaluated. The final trace and index and the final evaluation shall be received by the Engineer within 14 calendar days of the completion of the deck.

On deck placements of 100 feet (30 m) and greater, the initial profile trace and index for each lane shall be received by the Engineer by noon of the fifth working day following each of the first two placements. On subsequent placements, the trace and index shall be submitted following every third placement until completion of the deck. On single-pour bridges, the final profile trace and index and the final evaluation shall be submitted to the Engineer within 2 weeks of the completion of the deck.

**2317.04 PROFILE INDEX.**
An individual index shall be calculated for each segment from the profilograms in accordance with Materials I.M. 341 except for:

1.Bridge decks less than 100 feet (30 m) in length.
**2.** New bridge approach sections less than 100 feet (30 m) in length.
**3.** Bridge deck overlays including overlay of approaches less than 100 feet (30 m) in length.
**4.** Bridge decks for new concrete slab bridges.

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

6. The 16 feet (5 m) on each side of the expansion joints not adjusted.

~~. A distance of 15 feet (5 m) from the end of the bridge, or overlay approach if part of the contract, and 15 feet (5 m) on each side of the expansion joints not adjusted will be blanked out on the profilogram and will not be considered in the calculation of the index.~~ Tests in both wheel paths will be averaged for each lane. ~~These areas will be checked for 1/2 inch (13 mm) bumps on the bridge, and for 1/2 inch (13 mm) bumps and dips on the approach pavement, respectively.~~

**2317.05 SURFACE CORRECTION.**
Surface correction work shall be for the full segment width of the paved surface.

All correction work shall be subject to the approval by the Engineer. After all required correction work is completed, the final profile index shall be determined.

Surface correction shall be accomplished by grinding or by other methods approved by the Engineer. This work shall be as identified in Section 2532, Pavement Surface Repair (Diamond Grinding), except the cutting head shall have a minimum width of 24 inches (600 mm). Surface correction shall be performed parallel to lane lines or edge lines as directed by the Engineer and each pass shall be parallel to the previous passes. The ground surface shall be of uniform texture.

Adjacent passes shall not overlap more than 1 inch (25 mm) and they shall not have a vertical difference of more than 1/8 inch (3 mm) as measured from bottom of groove to bottom of groove. Smoothness correction shall begin and end at lines normal to the lane lines or edge lines within any one corrected area. The grinding shall proceed from the center line or lane line toward the edge to maintain cross slope.

Cross slope must be maintained throughout the corrected area.

Transverse grooving shall be re-established through the corrected areas using diamond blades to provide a surface similar to that of a new deck except the area within approximately 2 feet (0.6 m) from the curb.

**2317.06 SMOOTHNESS.**

~~Correction will be required for bumps exceeding 1/2 inch (13 mm) identified on the profilogram and for smoothness, if necessary. Correction will also be required, in lengths excluded from the profilograph index analysis areas. On all bridge decks, new bridge approaches, bridge deck overlays, and overlays of approaches, which are not excluded, a price adjustment of $900 shall be assessed for each dip of 0.5 inch (13 mm) or greater in each traffic lane. Correction of dips 0.5 inch (13 mm) or greater will not be permitted unless approved by the Engineer and will be included in the evaluation for the segment smoothness. Bumps exceeding 1/2 inch (13 mm) shall be corrected to less than 3/10 inch (8 mm) on the bridge; and bumps and dips exceeding 1/2 inch (13 mm) shall be corrected to less than 3/10 inch (8 mm) on approach pavements~~.

On bridge decks, new bridge approaches, bridge deck overlays and overlays of approaches ~~which are not excluded,~~ the segments ~~surface~~ shall be constructed to an index of not greater than 22 inches per mile (350 mm/km) for new decks and approaches and 15 inches per mile (240 mm/km) for overlay of decks and approaches, except for areas identified in Article 2317.04.

Smoothness of new bridge approach sections or overlay of bridge approach sections will not be used in the calculations for incentive or price reduction of bridge decks or bridge deck overlays.

Bumps and dips, including those at headers, on all surfaces for which smoothness is designated shall be evaluated. Correction work will be required in accordance with the following criteria. Areas excluded from profilograph testing will be corrected for deviations exceeding 1/8 inch in 10 feet (3 mm in 3 m).

**A. Bumps.**

All bumps exceeding 0.5 inch (13 mm) within a 25 foot (7.6 m) span, as indicated on the profilogram, shall be corrected except as stated in Article 2317.06, C.

Corrected bumps will be considered satisfactory when measurement by the profilograph shows that the bumps are 0.3 inch (8 mm) or less in a 25 foot (7.6 m) span.

**B. Dips.**

All dips exceeding 0.5 inch (13 mm) in a 25 foot (7.6 m) span, as indicated on the profilogram, shall be corrected only when required by the Engineer except as stated in Article 2317.06, C. The Contractor will be assessed a price adjustment of $900 for each dip exceeding 0.5 inch (13 mm) that is not corrected except as stated in Article 2317.06, C. A dip in both wheel paths at a lane location will be consider a single dip when assessing a price adjustment. Corrected dips will be considered satisfactory when the profilogram shows the dips are less than 0.3 inch (8 mm) in a 25 foot (7.6 m) span.

**C. Exceptions.**

When the Contractor is not responsible for the adjoining surface, bumps and dips exceeding 0.5 inches (13 mm) located within 16 feet (5 m) either side of the end of a section will be evaluated by the Engineer. The Contractor will not be price adjusted for bumps and dips in this area. When instructed by the Engineer, the Contractor will be paid to repair these bumps and dips in accordance with Article 1109.03, B.

| | | | | | |
|---|---|---|---|---|---|
| **Reason for Revision:** There has been some confusion in the field when to apply the profilograph. These changes should make the intent clearer. There was also a conflict with 2412.06. | | | | | |
| **County or City Input Needed (X one)** | | | **Yes** | **No** X | |
| **Comments:** The counties need to be notified because the change now makes it clear that 2317 does not apply to non-DOT work. | | | | | |
| **Industry Input Needed (X one)** | | | **Yes** | **No** X | |
| **Industry Notified:** | **Yes** | **No** X | **Industry Concurrence:** | **Yes** | **No** |
| **Comments: These changes should clear up interpretation issues for them** | | | | | |

**SPECIFICATION REVISION SUBMITTAL FORM**

| | | |
|---|---|---|
| **Submitted by:** Gary Novey | **Office:** Bridges and Structures | **Item 7** |
| **Submittal Date:** April 2005 | **Proposed Effective Date:** Oct 2005 | |
| **Article No.:** 2401.02<br>**Title:** Removal of Existing Structures | **Other:** | |

**Specification Committee Action:**

| | | | |
|---|---|---|---|
| **Deferred:** X | **Not Approved:** | **Approved Date:** | **Effective Date:** 10/18/05 |

**Specification Committee Approved Text:**

**2401.02 through 2401.10**

**Renumber** Articles 2401.02 through 2401.10 to Articles 2401.03 through 2401.11 respectively.

**2401.02, Notification for Removal of Bridges.**

**Add** a new article:

**2401.02, Notification for Removal of Bridges.**
The Contractor shall notify the Engineer, in writing, of the intended starting and completion dates for the removal of a bridge. Notification shall be not less than 25 calendar days prior to the start of bridge demolition.

If the Contractor is unable to begin work on the intended start date, the Contractor shall notify the Engineer, by telephone with a written follow-up, of the new intended start date. Notification of the inability to commence work on the intended start date shall be made as soon as possible before, but no later than, 1 working day prior to the original intended start date to meet the requirements of 40 CFR 61.145(b). Failure to commence work on the intended start date, and failure to notify of a change in start date 1 working day prior to the original intended start date, will result in the need for a new 25 calendar day notification to the Engineer.

The Contracting Authority will provide notification of the work to the Iowa DNR for possible representation at the site during the demolition process.

**Comments:** John Adam asked if structures are looked at before the letting. The Office of Bridges and Structures stated that they are. The Office of Location & Environment noted that the same regulations apply to housing, buildings, bridges, etc. The Office of Local Systems asked if sending a demolition notice applies to all bridges regardless of the presence of asbestos. The Office of Location & Environment stated that sending a notice of demolition applies any time a bridge is being completely removed.

The Office of Contracts asked if the 25 days is a DNR requirement. The Office of Location & Environment stated that requires a minimum of 14 days. The 25 day notification allows the contractor to send the notice to the RCE, who then sends it to the Office of Location & Environment for processing before sending to the DNR. The Office of Contracts noted that some bridge contracts have late start dates 30 days after letting, and the contractors have 30 days to sign contracts. The Office of Location and Environment asked about the possibility of stretching start dates. The Office of Contracts explained that the rule of thumb is to allow 60 days after letting for bridge projects. After checking into this, they found they are often allowing less than 60 days. Requiring 25 days for notice of demolition

could become an issue. The Office of Location & Environment noted this could be compressed if necessary.

The Office of Local Systems noted that they will need to get notice out to counties and cities that they will need to inspect bridges for asbestos. The Office of Construction asked if cities and counties will need to inspect every bridge. The Office of Location & Environment noted that the Office of Local Systems could provide some guidelines as to what bridges are most likely to have asbestos. If counties or cities hire a consultant, the consultant must be a licensed inspector. The Iowa County Engineer asked if the engineer could look for utilities and note that if there are no utilities, there is no chance for asbestos. The Office of Location & Environment note that the DNR regulations say that a competent person must inspect. Perhaps an engineer who is familiar with the potential use of asbestos in a structure might be considered competent. However, if the DNR finds asbestos, this could result in fines. The Office of Local Systems will work with the Office of Location & Environment to get something out to counties and cities. If utilities are present, counties and cities should definitely have a qualified inspector examine.

The Office of Location & Environment noted that contractors have up to the day prior to the start date to amend the notice of demolition. The Specifications Section asked if inspection is necessary if doing a partial demolition. The Office of Location & Environment explained that inspection is still necessary if disturbing utilities, but a notice of demolition is not necessary.

The Office of Contracts asked if the last sentence of the second paragraph, could be changed to "intended start date" instead of "specified start date". The Specification Committee agreed. They also agreed that "original start date" should be changed to "original intended start date". The Specifications Section will notify SUDAS of the addition of this article to the Standard Specifications.

The Offices of Construction, Contracts, Bridges and Structures, and Location and Environment, and the Specifications Section discussed this item at a later meeting. Several items still need to be worked out. The group decided not to add the Notification for Bridge Removal to October 18, 2005, General Supplemental Specifications. In the meantime, this information will be included as a proposal note.

**Specification Section Recommended Text:**

**2401.02 through 2401.10**

**Renumber** Articles 2401.02 through 2401.10 to Articles 2401.03 through 2401.11 respectively.

**2401.02, Notification for Removal of Bridges.**

**Add** a new article:

**2401.02, Notification for Removal of Bridges.**
The Contractor shall notify the Engineer, in writing, of the intended starting and completion dates for the removal of a bridge. Notification shall be not less than 25 calendar days prior to the start of bridge demolition.

If the Contractor is unable to begin work on the intended start date, the Contractor shall notify the Engineer, by telephone with a written follow-up, of the new intended start date. Notification of the inability to commence work on the intended start date shall be made as soon as possible before, but no later than, 1 working day prior to the original intended start date to meet the requirements of 40 CFR 61.145(b). Failure to commence work on the specified start date, and failure to notify of a change in start date 1 working day prior to the original start date, will result in the need for a new 25 calendar day notification to the Engineer.

The Contracting Authority will provide notification of the work to the Iowa DNR for possible representation at the site during the demolition process.

**Comments:**

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

**Add the following Article to Section 2401 of the Specifications**

## 2401.02 NOTIFICATION FOR REMOVAL OF BRIDGES.

The Contractor shall notify the Engineer, in writing, of the intended starting and completion dates for the removal of a bridge. Notification shall be not less than 25 calendar days prior to the start of bridge demolition.

If the Contractor is unable to begin work on the intended start date, the Contractor shall notify the Engineer, by telephone with a written follow-up, of the new intended start date. Notification of the inability to commence work on the intended start date shall be made as soon as possible before but no later than 1 working day prior to the original intended start date to meet the requirements of 40 CFR 61.145(b). Failure to commence work on the specified start date, and failure to notify of a change in start date 1 working day prior to the original start date, will result in the need for a new 25 calendar day notification to the Engineer.

The Contracting Authority will provide notification of the work to the Iowa DNR for possible representation at the site during the demolition process.

**Reason for Revision:** The Office of Location and Environment has requested the review of all bridge structures scheduled to be removed to determine if asbestos is present. If asbestos is present it will need to be removed prior to demolition of the structure. The asbestos removal will be accomplished by specialty contractors prior to, or in coordination with, the bridge contractor's project. In addition, DNR has requested notification prior to demolition in order to verify no asbestos is present on any bridge structure prior to starting the demolition process.

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|---|---|---|---|---|---|
| **County or City Input Needed (X one)** | | | **Yes** X | **No** | |
| **Comments:** City and County must comply with these requirements | | | | | |
| **Industry Input Needed (X one)** | | | **Yes** X | **No** | |
| **Industry Notified:** | **Yes** | **No** | **Industry Concurrence:** | **Yes** | **No** |
| **Comments:** Implementation for primary projects has been started. | | | | | |

**SPECIFICATION REVISION SUBMITTAL FORM**

| | | |
|---|---|---|
| **Submitted by:** Tom Reis | **Office:** Specifications | **Item 8** |
| **Submittal Date:** April 1, 2005 | **Proposed Effective Date:** October 18, 2005 | |
| **Article No.:** 2417.05<br>**Title:** Installation (Corrugated Culverts)<br><br>**Article No.:** 2417.07<br>**Title:** Basis of Payment | **Other:** | |

**Specification Committee Action:**

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 5/25/05 | **Effective Date:** 10/18/05 |

**Specification Committee Approved Text:**

**2417.05, Installation.**

**Replace** the entire article:

~~Corrugated metal pipe for roadway culverts shall be installed as provided in Section 2416 with Class C bedding, unless otherwise required by the contract documents.~~

~~Installation of polyethylene pipe for roadway culverts shall be with a Class B bedding, described in Article 2416.04, B.~~

Installation of corrugated metal pipe or polyethylene pipe for roadway culverts shall be with a Class A bedding.

**A. Class A Bedding.**

Class A bedding shall consist of a uniform uncompacted cushion of sand as detailed in the contract documents and meeting the gradation requirements of Gradation Number 1 or 32 of the Aggregate Gradation Table referenced in Section 4109.

**B. Deflection Testing for Polyethylene Pipes.**

No sooner than 30 calendar days following completion of pipe installation and backfilling, or before paving, the Contractor shall perform deflection testing on at least 10% of the pipe locations along their entire length at locations as determined by the Engineer. The internal diameter of a pipe shall not be reduced by more than 6.5% of its nominal inside diameter. If any pipe fails post installation testing, the Engineer may require the Contractor to perform post installation testing on any additional pipes or all of the remaining pipes. Pipes failing post installation testing shall be considered unacceptable. New pipe or pipe that is not damaged shall be reinstalled. The reinstalled pipe shall be tested for deflection.

**1. Pipe Diameter of 30 Inches (750 mm) or Less.**

Deflection testing shall be performed using a properly sized nine-point mandrel test.

**2. Pipe Diameter Greater than 30 Inches (750 mm).**

A measurement by the Contractor shall be made to insure the internal diameter of the entire length of the pipe is not reduced by more than 6.5% of its nominal inside diameter.

**2417.07, Basis of Payment.**

**Add** as the sixth paragraph:

The cost of deflection testing required according to the contract documents will be considered incidental to the contract unit price for polyethylene pipe.

**Comments:** The Specifications Section explained that Class A bedding is being added to the Specifications. Class A bedding will consist of uncompacted sand. When a pipe is placed, it will embed itself into the material. Class A bedding will be used for both high-density polyethylene (HDPE) and corrugated metal pipe (CMP). The Office of Design explained that HDPE and CMP are being proposed for use under two-lane roadways with ADT of 2000 or less. This will allow some mainline pipes to be bid as unclassified; however, the designer still has the option to bid as classified. District 6 asked what the deflection tolerances for larger HDPE pipes are. The Specifications Section explained that it would be the same for all sizes of HDPE pipes. The Specifications Section will reformat the text to clarify that 6.5% is the tolerance for all HDPE pipes. The Specifications Section explained that Class A bedding will be defined as a uniform uncompacted cushion of sand as detailed in the contract documents meeting the gradation requirements of Gradation Number 1 or Gradation Number 32. The material under the pipe is not compacted. The material around the pipe is. The Specification Section will continue to develop this article with the intent of including in the October 18, 2005, General Supplemental Specifications.

**Specification Section Recommended Text:**

**2417.05, Installation.**

**Add** to the end of the second paragraph:

Installation of polyethylene pipe for roadway culverts shall be with a Class A bedding, described in Article 2416.04, B. 3. No sooner than 30 calendar days following completion of pipe installation and backfilling, the Contractor shall perform deflection testing on at least 10% of the pipe at locations determined by the Engineer. The internal diameter of the pipe shall not be reduced by more than 6.5% of its nominal diameter. Deflection testing shall be performed using a properly sized nine-point mandrel test for pipe diameters 30 inches (750 mm) or less. Larger pipes may be visually inspected by the Engineer.

**2417.07, Basis of Payment.**

**Add** as the sixth paragraph:

The cost of deflection testing required according to the contract documents will be considered incidental to the contract unit price for HDPE pipe.

**Comments:** These specification revisions along with some Standard Road Plan revisions will allow the expanded use of HDPE pipe.

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|---|---|---|---|---|---|
| **Member's Requested Change (DO NOT USE "TRACK CHANGES," use Strikeout/Highlight):** | | | | | |
| **Reason for Revision:** | | | | | |
| **County or City Input Needed (X one)** | | | **Yes** x | **No** | |
| **Comments:** | | | | | |
| **Industry Input Needed (X one)** | | | **Yes** x | **No** | |
| **Industry Notified:** | **Yes** | **No** x | **Industry Concurrence:** | **Yes** | **No** |
| **Comments:** | | | | | |

**SPECIFICATION REVISION SUBMITTAL FORM**

| | | |
|---|---|---|
| **Submitted by:** John Smythe | **Office:** Construction | **Item 9** |
| **Submittal Date:** 04-01-2005 | **Proposed Effective Date:** October 2005 | |
| **Article No.:** Section 2527<br>**Title:** Pavement Markings | **Other:** | |

**Specification Committee Action:**

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 5/25/05 | **Effective Date:** 10/18/05 |

**Specification Committee Approved Text:**

**2527.03, D, Limitations.**

**Replace** the entire article:

When pavement markings are required, the application shall be coordinated with other construction work and associated traffic control changes.

Removable tape shall be used for temporary pavement markings which extend diagonally across a final traffic lane.

When the installation of preformed polymer pavement marking material or profiled pavement marking tape is in conjunction with placement of HMA, the tape shall be inlaid by positioning on the HMA prior to the final rolling. The installation of the tape shall be in accordance with the manufacturer's recommendations. If grooving is specified, tape shall not be inlaid into hot HMA.

When pavement markings are placed on newly completed PCC pavements, the existing curing compound film shall be removed from horizontal surfaces in these locations. Curing compound film need not be removed from curbs or other vertical surfaces. Curing compound removal shall not damage the underlying PCC pavement.

Pavement markings shall be completed before the lane, road, on-site detour, or diversion is open to traffic.

If, due to unavoidable circumstances, the Contractor is not able to complete the pavement marking placement or removal specified for that day, the Contractor shall provide traffic control until the pavement marking placement or removal work is completed.

**2527.03, F, 2, On Site Detours.**

**Delete** the last sentence:

~~The markings are to be temporary unless otherwise designated.~~

**2527.03, G, Markings Obliterated During Construction.**

**Replace** the entire article:

On sections pavement open to traffic, the Contractor shall place pavement markings where operations have obliterated existing markings.

Pavement markings shall be replaced before the lane or road is opened for traffic for the following situations:

1. **Multi-Lane Roads:**

a. Lane lines obliterated for 50 feet (15 m) or more.
b. Edge lines obliterated for 50 feet (15 m) or more.

**2. Two Lane Roads:**

**a. Paved Shoulder More Than 2 Feet (0.6 m).**
1) Center lines obliterated for 50 feet (15 m) or more.
2) Edge lines obliterated for 50 feet (15 m) or more.
3) No Passing Zone lines obliterated.

**b. Paved Shoulder 2 Feet (0.6 m) or Less.**
1) Center lines obliterated for 50 feet (15 m) or more.
2) Edge lines obliterated on curves with a radius of 1,000 feet (300 m) or less.
3) Edge lines obliterated at bridge approaches, or other obstructions within 3 feet (1 m) of the roadway, for 300 feet (90 m) or more.
4) No Passing Zone lines obliterated.

Edge lines not required to be placed before the lane or road is opened for traffic shall be placed within 3 working days from the day the pavement and shoulder work are completed for the project.

Remaining pavement markings shall be placed within 3 working days from the day the road work is completed for the project.

Symbols and legends shall be placed within 5 working days from the day the road is open to traffic.

**Comments:** The Office of Construction explained that old language in these articles was confusing. They have reordered the language. Interstates and expressways/freeways have been grouped together and are now called multi-lane roads. For multi-lane roads, they want edge lines and lane lines that have been obliterated for a distance of 50' (15m) or more replaced same day. For two-lane roads, they still want centerlines obliterated for a distance of 50' or more replaced same day. They also still want obliterated edge lines replaced the same day for horizontal curves of radius 1000' (300m) or less. In addition, they still want obliterated edge lines replaced the same day within 300' (100m) of bridge approaches or other obstructions and they still want obliterated no passing lines replaced the same day. Remaining markings are to be replaced within 3 working days of day that the roadway is open to traffic. Symbols and legends are to be replaced within 5 working days of the day that roadway is open to traffic. For the rest of language, there is no change in intent, just organization of the language.

The Office of Local Systems asked if onsite detour pavement markings are now permanent. The Office of Construction explained that the same kind of markings are used for permanent and temporary markings. They also explained that diagonal markings across UAC lanes should be tape to minimize scarring. They further explained that detour markings should also be in place before traffic is placed. The Office of Local Systems asked for consistency with referring to HMA. The Specifications Section will address that.

District 6 asked if "same day" means by the end of the day have markings placed, or does it mean have markings placed before a lane is opened. Office of Construction thinks the intent is to have markings placed before opening a lane. District 6 suggested instead of saying pavement markings will be replaced the same day, the language should state pavement markings will be in place before opening lanes. The Specification Committee agreed and the Specifications Section will change the language where needed.

District 6 brought up replacing edge lines on two-lane roadways with paved shoulders. Their fear is that without the edge lines, traffic could get out onto the paved shoulders. The Office of Construction explained that requiring the edge lines would require the contractor to have equipment that can place center and edge lines – this means more equipment on jobsite. In addition, they aren't sure the

painting industry is ready for the additional lane miles of markings that would have to be placed every night. The old language stated pavement markings are to be placed within 3 working days from the day the pavement and shoulder work are completed. The Office of Construction took out shoulder work since shoulder work may not be completed until several weeks after the lanes are completed. They also mentioned they could notify industry that edge lines will be required by end of day on two-lane roads. They reminded the Specification Committee that making changes to requirements for two-lane roads would also affect counties. District 6 noted they are not worried about placing edge lines the same day if the shoulders are not being paved or if the road is being widened to 28-feet. Areas where paved shoulders are being added is their concern.

The Office of Traffic & Safety noted that in Article 2527.03G, there should be consistency with "road" and "roadway". The Office of Construction suggested using "pavement" in place of both.

John Adam noted that if a two-lane roadway is being widened more than 2 feet, then a different operation should be in place for placing edge lines. The Office of Construction suggested adding a new category between multi-lane and two-lane for pavement widening. The new category would apply to two-lanes roads being widened by more than 2 feet. In that category would be language stating that edge lines are to be placed by the end of the day. The Specifications Section asked if a two-lane road is being widened by 2 feet or less, are edge lines still placed after paving is completed? The Office of Construction responded by noting edge lines are placed after paving is completed and shoulder work is done. The Specifications Section noted that the original Specifications language is still applicable if widening 2 feet or less. The Specifications Section will continue to work on these articles with the Offices of Construction and Traffic & Safety.

**Specification Section Recommended Text:**

**2527.03, D, Limitations.**

**Replace** the entire article:

~~When temporary marking is required to replace marking obliterated by construction, the marking shall be applied on the same working day the previous marking is obliterated.~~

~~When temporary marking is required for diversions and on site detours, the marking shall be completed and delineators placed, if required, before the diversion or on site detour is put into service, but misleading or conflicting lines shall be removed the same day the new lines are placed.~~

~~When temporary marking is required because of changes resulting from stage construction, the application shall be coordinated with other work and with the transfer of the traffic, as directed by the Engineer.~~

~~Before winter shutdown, the Contractor shall place edge lines and symbols.~~
~~For final surfaces, marking material which is to extend diagonally across a traffic lane and is to be later removed shall be removable marking tape.~~

~~When permanent markings are placed on newly completed PCC pavements, the existing curing compound film shall be removed from horizontal surfaces. Curing compound film need not be removed from curbs or other vertical surfaces. Removal shall not damage the underlying PCC pavement.~~

~~Permanent marking shall be completed before the road is opened to public traffic. When public traffic is allowed on the pavement during construction, permanent marking of edge lines on Interstate pavements and those described in Article 2527.03, F, 2, and center lines, lane lines, and no passing zone lines, shall be completed each day where these markings have been obliterated. Other edge lines shall be placed within 3 working days from the day the pavement and shoulder work are completed for the~~

~~project. Symbols and legend shall be placed within 5 working days from the day the final surface is placed at that location.~~

~~When the installation of preformed polymer pavement marking material or profiled pavement marking tape is in conjunction with placement of hot mix asphalt mixtures, the tape shall be inlaid by positioning on the hot mixture prior to the final rolling. The installation of the tape shall be in accordance with the manufacturer's recommendations. If grooving is specified, tape shall not be inlaid into hot asphalt.~~

~~If, due to unavoidable circumstances, the Contractor is not able to complete the temporary or permanent pavement marking or removal specified for that day, the Contractor shall provide or continue to provide traffic control until the pavement marking work is completed.~~

When pavement markings are required, the application shall be coordinated with other construction work and associated traffic control changes.

Removable tape shall be used for temporary pavement markings which extend diagonally across a final traffic lane.

When the installation of preformed polymer pavement marking material or profiled pavement marking tape is in conjunction with placement of hot mix asphalt mixtures, the tape shall be inlaid by positioning on the hot mixture prior to the final rolling. The installation of the tape shall be in accordance with the manufacturer's recommendations. If grooving is specified, tape shall not be inlaid into hot asphalt.

When pavement markings are placed on newly completed PCC pavements, the existing curing compound film shall be removed from horizontal surfaces in these locations. Curing compound film need not be removed from curbs or other vertical surfaces. Curing compound removal shall not damage the underlying PCC pavement.

Pavement markings shall be completed before the road, on-site detour, or diversion is open to traffic.

If, due to unavoidable circumstances, the Contractor is not able to complete the pavement marking placement or removal specified for that day, the Contractor shall provide traffic control until the pavement marking placement or removal work is completed.

**2527.03, F, 2, On Site Detours.**

**Delete** the last sentence:
~~The markings are to be temporary unless otherwise designated.~~

**2527.03, G, Markings Obliterated During Construction.**

**Replace** the entire article:

~~On all sections of a Primary Road open to traffic, the Contractor shall place temporary or permanent pavement markings on any part where construction operations have obliterated the existing marking. Temporary or permanent pavement marking shall be replaced for the following situations:~~

~~**1.** If center lines or lane lines or both have been obliterated on sections of roadway for a distance of 50 feet (15 m) or more on curves with a radius of 300 feet (90 m) or less, 90 feet (25 m) or more on curves with a radius of 300 feet (90 m) to 1,000 feet (300 m), and 300 feet (90 m) or more on curves with a radius of more than 1,000 feet (300 m) or on straight sections.~~

~~**2.** If edge lines have been obliterated on sections of roadway for a distance of 50 feet (15 m).~~

~~**a.** On all Interstate and multi-lane, divided highway;~~
~~**b.** On all Primary highways at curves with radius of 1,000 feet (300 m) or less (not necessary for straighter sections and tangents);~~
~~**c.** On all Primary highways at approaches, for a distance of 300 feet (90 m), to bridges, or elsewhere where there is an obstruction within 3 feet (1 m) of the pavement edge.~~

~~**3.** If No Passing Zone lines have been obliterated.~~

~~**4.** For HMA resurfacing when the Contractor is required to bring the final lift of adjacent lanes approximately to the same location, the following shall apply to the final lift:~~

~~**a.** For two way highways, the center line and no passing zone lines along short, longitudinal drop-offs that remain need not be marked. When the drop-off extends more than 300 feet (90 m) due to unavoidable circumstances, reconstruction of these lines will be required.~~

~~**b.** For multi-lane highways, lane lines along short, longitudinal drop-offs that remain need not be marked. When the drop-off extends more than 300 feet (90 m) due to unavoidable circumstances, lane lines will be required. Center line on undivided highways shall be reconstructed each day with one or two solid yellow lines, as necessary if markings have been obliterated, so as to maintain a center line of two solid lines.~~

On sections of a road open to traffic, the Contractor shall place pavement markings where operations have obliterated existing markings.

Pavement markings shall be replaced the same day for the following situations:

**1. Multi-Lane Roads:**

c. Lane lines obliterated for 50 feet (15 m) or more.
d. Edge lines obliterated for 50 feet (15 m) or more.

**2. Two Lane Roads:**

5) Center lines obliterated for 50 feet (15 m) or more.
6) Edge lines obliterated on curves with a radius of 1,000 feet (300 m) or less.
7) Edge lines obliterated at bridge approaches, or other obstructions within 3 feet (1 m) of the roadway, for 300 feet (90 m) or more.
8) No Passing Zone lines obliterated.

Remaining pavement markings shall be placed within 3 working days from the day the roadway is open to traffic.

Symbols and legends shall be placed within 5 working days from the day the roadway is open to traffic.

**Comments:**

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

**Section 2527. Pavement Marking.**

**2527.03 CONSTRUCTION.**

**D. Limitations.**

~~When temporary marking is required to replace marking obliterated by construction, the marking shall be applied on the same working day the previous marking is obliterated.~~

~~When temporary marking is required for diversions and on site detours, the marking shall be completed and delineators placed, if required, before the diversion or on site detour is put into service, but misleading or conflicting lines shall be removed the same day the new lines are placed.~~

~~When temporary marking is required because of changes resulting from stage construction, the application shall be coordinated with other work and with the transfer of the traffic, as directed by the Engineer.~~

~~Before winter shutdown, the Contractor shall place edge lines and symbols.~~

~~For final surfaces, marking material which is to extend diagonally across a traffic lane and is to be later removed shall be removable marking tape.~~

~~When permanent markings are placed on newly completed PCC pavements, the existing curing compound film shall be removed from horizontal surfaces. Curing compound film need not be removed from curbs or other vertical surfaces. Removal shall not damage the underlying PCC pavement.~~

~~Permanent marking shall be completed before the road is opened to public traffic. When public traffic is allowed on the pavement during construction, permanent marking of edge lines on Interstate pavements and those described in Article 2527.03, F, 2, and center lines, lane lines, and no passing zone lines, shall be completed each day where these markings have been obliterated. Other edge lines shall be placed within 3 working days from the day the pavement and shoulder work are completed for the project. Symbols and legend shall be placed within 5 working days from the day the final surface is placed at that location.~~

When the installation of preformed polymer pavement marking material or profiled pavement marking tape is in conjunction with placement of hot mix asphalt mixtures, the tape shall be inlaid by positioning on the hot mixture prior to the final rolling. The installation of the tape shall be in accordance with the manufacturer's recommendations. If grooving is specified, tape shall not be inlaid into hot asphalt.

If, due to unavoidable circumstances, the Contractor is not able to complete the temporary or permanent pavement marking or removal specified for that day, the Contractor shall provide or continue to provide traffic control until the pavement marking work is completed.

When pavement markings are required, the application shall be coordinated with other construction work and associated traffic control changes.

Removable tape shall be used for temporary pavement markings which extend diagonally across a final traffic lane.

When the installation of preformed polymer pavement marking material or profiled pavement marking tape is in conjunction with placement of hot mix asphalt mixtures, the tape shall be inlaid by positioning on the hot mixture prior to the final rolling. The installation of the tape shall be in accordance with the manufacturer's recommendations. If grooving is specified, tape shall not be inlaid into hot asphalt.

When pavement markings are placed on newly completed PCC pavements, the existing curing compound film shall be removed from horizontal surfaces in these locations. Curing compound film need not be removed from curbs or other vertical surfaces. Curing compound removal shall not damage the underlying PCC pavement.

Pavement markings shall be completed before the road, on-site detour, or diversion is open to traffic.

If, due to unavoidable circumstances, the Contractor is not able to complete the pavement marking placement or removal specified for that day, the Contractor shall provide traffic control until the pavement marking placement or removal work is completed.

**F. Temporary Pavement Marking.**

**2. On Site Detours.**
On site detours for two way traffic shall be marked with two continuous no passing zone lines near the center of the roadway and two continuous white edge lines, one at each pavement edge. On site detours for one lane traffic shall have two continuous white edge lines, one at each pavement edge. ~~The markings are to be temporary unless otherwise designated.~~

**G. Markings Obliterated During Construction.**
~~On all sections of a Primary Road open to traffic, the Contractor shall place temporary or permanent pavement markings on any part where construction operations have obliterated the existing marking. Temporary or permanent pavement marking shall be replaced for the following situations:~~

~~**1.** If center lines or lane lines or both have been obliterated on sections of roadway for a distance of 50 feet (15 m) or more on curves with a radius of 300 feet (90 m) or less, 90 feet (25 m) or more on curves with a radius of 300 feet (90 m) to 1,000 feet (300 m), and 300 feet (90 m) or more on curves with a radius of more than 1,000 feet (300 m) or on straight sections.~~

~~**2.** If edge lines have been obliterated on sections of roadway for a distance of 50 feet (15 m).~~

~~**a.** On all Interstate and multi-lane, divided highway;~~

~~**b.** On all Primary highways at curves with radius of 1,000 feet (300 m) or less (not necessary for straighter sections and tangents);~~

~~**c.** On all Primary highways at approaches, for a distance of 300 feet (90 m), to bridges, or elsewhere where there is an obstruction within 3 feet (1 m) of the pavement edge.~~

~~**3.** If No Passing Zone lines have been obliterated.~~

~~**4.** For HMA resurfacing when the Contractor is required to bring the final lift of adjacent lanes approximately to the same location, the following shall apply to the final lift:~~

~~**a.** For two way highways, the center line and no passing zone lines along short, longitudinal drop-offs that remain need not be marked. When the drop-off extends more than 300 feet (90 m) due to unavoidable circumstances, reconstruction of these lines will be required.~~

~~**b.** For multi-lane highways, lane lines along short, longitudinal drop-offs that remain need not be marked. When the drop-off extends more than 300 feet (90 m) due to unavoidable circumstances, lane lines will be required. Center line on undivided highways shall be reconstructed each day with one or two~~

~~solid yellow lines, as necessary if markings have been obliterated, so as to maintain a center line of two solid lines.~~

On all sections of a road open to traffic, the Contractor shall place pavement markings where operations have obliterated existing markings.

Pavement markings shall be replaced the same day for the following situations:

**1. Multi-Lane Roads:**

e. Lane lines obliterated on sections of roadway for a distance of 50 feet (15 m) or more.

f. Edge lines obliterated roadway for a distance of 50 feet (15 m).

**2. Two Lane Roads:**

9) Center lines obliterated for a distance of 50 feet (15 m) or more.

10) Edge lines obliterated on curves with a radius of 1,000 feet (300m) or less.

11) Edge lines obliterated at bridge approaches or other obstructions within 3 feet (1 m) of the roadway for a distance of 300 feet (90m).

12) No Passing Zone lines obliterated.

Remaining pavement markings shall be placed within 3 working days from the day the roadway is open to traffic.

Symbols and legends shall be placed within 5 working days from the day the roadway is open to traffic.

**Reason for Revision:** General rewrite and clarification of expectations as requested by DCEs.

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

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

**SPECIFICATION REVISION SUBMITTAL FORM**

| | | |
|---|---|---|
| **Submitted by:** Mike Kennerly/Will Stein | **Office:** Design | **Item 10** |
| **Submittal Date:** March 31, 2005 | **Proposed Effective Date:** October 18, 2005 | |
| **Article No.:** 2528.09, 2528.13<br>**Title:** Temporary Attenuators | **Other:** | |

**Specification Committee Action:**

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 5/25/05 | **Effective Date:** 10/18/05 |

**Specification Committee Approved Text:**

**2528.09, Temporary Attenuators.**

**Replace** the entire article:

~~Attenuators shall be constructed as shown in the contract documents. Unless otherwise specified, the Contracting Authority will furnish attenuators as indicated. The Contractor shall pick them up at a nearby maintenance site and shall return them in usable condition when no longer needed.~~

~~The Contracting Authority may also stock replacement parts for attenuators. When damaged, the Contractor shall install replacement parts or a new attenuator, and the Contractor shall replace parts that are damaged.~~

The Contractor shall furnish an attenuator from the approved list of attenuators shown in Materials I.M. 455. The attenuator shall be installed according to the manufacturer's recommendations.

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

When the temporary attenuator is no longer required, the attenuator shall be removed and become the property of the Contractor. The Contractor shall remove the anchor bolts and fill the boltholes with one of the non-shrink grouts listed in Materials I.M. 491.13, Appendix B.

**2528.13, A, 3, Temporary Attenuators.**

**Replace** the second sentence:

For ~~installing replacements and for furnishing replacements for~~ repairing or replacing attenuators~~,~~ damaged by public traffic, the Contractor will be paid as extra work in accordance with Article 1109.03, B.

**Comments:** The Office of Design explained that the Iowa DOT is currently using sand barrels for temporary attenuators. Several new attenuators are available that are better suited for certain locations. Several new Standard Road Plans have been developed that show some of the options. The Office of Design will separate attenuators into 3 categories: non-redirective, redirective, and severe usage. The contractor will supply the attenuator, but the Iowa DOT will pay for repair or replacement if it is hit. The designer will choose the appropriate category of attenuator, but the contractor will choose the attenuator. The Office of Traffic & Safety commented that if a contractor chooses an attenuator, but is not held financially responsible for repair or replacement, there is no incentive to choose a low

maintenance device. The three categories allow designers to specify the appropriate category of attenuator.

The Office of Contracts asked if self restoring attenuators will be used just for severe usage. The Office of Design stated they will be used for severe usage and as a redirective attenuator. The Office of Traffic & Safety noted that self restoring devices have taken multiple hits. They have at least 80% of their capacity after being hit. The attenuator is restored by pulling it back into place with a pickup truck.

The Office of Design noted that after discussion with the Office of Contracts and the Office of Construction, the agreement is to continue paying for repair or replacement. District 6 noted attenuators are the only item the Iowa DOT pays the contractor to repair or replace. If other traffic control devices are damaged, it is the contractor's risk. Originally the Iowa DOT supplied attenuators, but now the contractor will supply them. District 6 asked why we would pay to repair or replace. The Office of Design explained the Iowa DOT will pay for replacement because there is now way for the contractor to know how many times a device will be hit, so it is impossible to bid. District 6 expressed concern that contractors could start requesting we pay for replacement of other items. The Office of Contracts noted the difficulty on the part of the contractor determining which device at which location is more likely to be hit. The Office of Design commented that they suggested the Iowa DOT leave it to the contractor to assess the risks and choose the appropriate device. After much discussion, though, the decision was to pay the contractor to repair or replace attenuators after they have been hit.

The Office of Local Systems asked if the designer chooses the attenuator. The Office of Traffic & Safety noted the designer would choose category of attenuator, but not which attenuator. They suggested talking to industry to see if they agree with this approach. The Office of Construction commented that part of problem is that no one has a history of what it will cost to replace an attenuator since we have used sand barrel arrays in the past. They commented that the Office of Design's approach may be good start towards making attenuators all the contractor's responsibility.

The Office of Design has contacted the Office of Materials about creating a new Materials I.M, which will provide a list of which devices fall under which categories. They noted that several attenuators are bolted down. Something will need to be added to the Specifications to handle filling holes. The Office of Design had two questions regarding bid items. Their first question was whether or not there should be a bid item for temporarily relocating attenuators. The Office of Local Systems commented that it would be hard to estimate how many times a contractor will need to temporarily move an attenuator. The Office of Construction recommended not creating a new bid item. The second question was in regard to creating bid items for the categories of attenuators. Some attenuators can serve as either redirective or severe usage. The Office of Traffic & Safety suggested set up a bid item that includes all 3 categories, another that includes redirective attenuators, and a third that includes just self-restoring attenuators. The Office of Contracts stated we would essentially be creating a tiered bid item. The Specifications Section stated it could be written into the Specifications that the bid item that includes all 3 categories could be substituted for the bid item with only redirective attenuators or the bid item with only self restoring attenuators, but not visa versa. Similarly the bid item for redirective attenuators could be substituted for the bid item for just self-restoring attenuators (since self-restoring attenuators are also redirective), but not visa versa. The Office of Traffic & Safety commented that many of the devices require a pad. This would need to be included in the Standard Road Plan and would be part of cost. The Office of Design will continue to work with the Office of Contracts, the Office of Construction, and the Office of Traffic & Safety regarding the bid item. The Specifications Section will work in the reference to the Materials I.M. and will add wording for how to fill in holes.

Shortly after the meeting, the Office of Materials informed the Office of Design they have created Materials I.M. 455, which lists acceptable temporary attenuators. In addition, the Office of Materials suggested filling anchor bolt holes with a non-shrink grout listed in Materials I.M. 491.13, Appendix B.

**Specification Section Recommended Text:**

**2528.09, Temporary Attenuators.**

**Replace** the entire article:

The Contractor shall furnish attenuators as indicated in the plans. Attenuators shall be ~~constructed as shown in the contract documents~~ installed according to the manufacturer's recommendations. ~~Unless otherwise specified, the Contracting Authority will furnish attenuators as indicated. The Contractor shall pick them up at a nearby maintenance site and shall return them in usable condition when no longer needed.~~

~~The Contracting Authority may also stock replacement parts for attenuators.~~ When damaged, the Contractor shall repair or replace the attenuator~~. install replacement parts or a new attenuator, and the Contractor shall replace parts that are damaged.~~ Initiation of service to a damaged attenuator shall be within one hour of notification. The object that is being shielded shall not be exposed to traffic for more than 12 hours.

When the temporary attenuator is no longer required, the attenuator shall be removed and become the property of the Contractor.

**2528.13, A, 3, Temporary Attenuators.**

**Replace** the second sentence:

For ~~installing replacements and for furnishing replacements for~~ repairing or replacing attenuators~~,~~ damaged by public traffic, the Contractor will be paid as extra work in accordance with Article 1109.03, B.

**Comments:**

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

**2528.09 TEMPORARY ATTENUATORS.**

**Replace** entire article.

The Contractor shall furnish attenuators as indicated in the plans. Attenuators shall be ~~constructed as shown in the contract documents~~ installed according to the manufacturer's recommendations. ~~Unless otherwise specified, the Contracting Authority will furnish attenuators as indicated. The Contractor shall pick them up at a nearby maintenance site and shall return them in usable condition when no longer needed.~~

~~The Contracting Authority may also stock replacement parts for attenuators.~~ When damaged, the Contractor shall repair or replace the attenuator~~. install replacement parts or a new attenuator, and the Contractor shall replace parts that are damaged.~~ Initiation of service to a damaged attenuator shall be within one hour of notification. The object that is being shielded shall not be exposed to traffic for more than 12 hours.

When the temporary attenuator is no longer required, the attenuator shall be removed and become the property of the Contractor.

**2528.13, A, 3, Temporary Attenuators.**

**Revise** second sentence.

**3. Temporary Attenuators.**

For each attenuator installed, the Contractor will be paid the contract unit price. For repairing or replacing ~~installing replacements and for furnishing replacements for~~ attenuators, damaged by public traffic, the Contractor will be paid as extra work in accordance with Article 1109.03, B.

| | | | | | |
|---|---|---|---|---|---|
| **Reason for Revision:** Updating the specification to reflect current practice. The Temporary Attenuator Standard Road Plans are also being revised to allow additional attenuator options, including self-restoring/low-maintenance attenuators for use in high-incident locations. With these additional options, we would also like to discuss bid items with the Specification Committee, including whether there should be a bid item for relocating an attenuator. | | | | | |
| **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/Will Stein | **Office:** Design | **Item 11** |
| **Submittal Date:** March 29, 2005 | **Proposed Effective Date:** October 18, 2005 | |
| **Article No.:** 2601.04, L.<br>**Title:** Native Grass Seeding and Wetland Grass Seeding. | **Other:** | |

**Specification Committee Action:**

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/14/05 | **Effective Date:** 10/18/05 |

**Specification Committee Approved Text:**

**2601.04, L, Native Grass Seeding and Wetland Grass Seeding.**

**Replace** entire table for wetland grasses.

| **SEEDS<br>COMMON NAMES, SCIENTIFIC NAMES, PLS** | | | |
|---|---|---|---|
| **Common Name** | **Scientific Name** | **PLS<br>lbs. per ac** | **PLS<br>kg per ha** |
| **WETLAND GRASSES:** | | | |
| Blue vervain | Verbena hastata | 0.31 | 0.35 |
| Boneset | Eupatorium perfoliatum | 0.25 | 0.28 |
| Nodding bur marigold | Bidens cernua | 0.31 | 0.35 |
| Swamp milkweed | Asclepias incarnata | 0.50 | 0.56 |
| Sneezeweed | Helenium autumnale | 0.44 | 0.49 |
| Water plantain | Alisma plantago-aquatica | 1.00 | 1.12 |
| Arrowhead | Sagittaria latifolia | 0.50 | 0.56 |
| New England aster | Aster novae-angliae | 0.50 | 0.56 |
| Big bluestem | Andropogon gerardii | 2.00 | 2.24 |
| Switchgrass | Panicum virgatum | 1.00 | 1.12 |
| Barnyard grass | Echinochloa crus-galli | 1.00 | 1.12 |
| Bluejoint grass | Calamagrostis canadensis | 1.00 | 1.12 |
| Rice cutgrass | Leersia oryzoides | 1.00 | 1.12 |
| Dark green bulrush | Scirpus atrovirens | 0.50 | 0.56 |
| Fox sedge | Carex vulpinoidea | 0.50 | 0.56 |
| Softstem bulrush | Schoenoplectus tabernaemontani | 0.69 | 0.77 |
| Spike rush | Eleocharis palustris | 0.50 | 0.56 |
| Seeding rate (PLS) | | 12.00 lbs./ac | 13.44 kg/ha |

**Comments:**

**Specification Section Recommended Text:**

**2601.04, L, Native Grass Seeding and Wetland Grass Seeding.**

**Replace** entire table for wetland grasses.

| SEEDS<br>COMMON NAMES, SCIENTIFIC NAMES, PLS | | | |
|---|---|---|---|
| **Common Name** | **Scientific Name** | **PLS<br>lbs. per ac** | **PLS<br>kg per ha** |
| **WETLAND GRASSES:** | | | |
| Blue vervain | Verbena hastata | 0.31 | 0.35 |
| Boneset | Eupatorium perfoliatum | 0.25 | 0.28 |
| Nodding bur marigold | Bidens cernua | 0.31 | 0.35 |
| Swamp milkweed | Asclepias incarnata | 0.50 | 0.56 |
| Sneezeweed | Helenium autumnale | 0.44 | 0.49 |
| Water plantain | Alisma plantago-aquatica | 1.00 | 1.12 |
| Arrowhead | Sagittaria latifolia | 0.50 | 0.56 |
| New England aster | Aster novae-angliae | 0.50 | 0.56 |
| Big bluestem | Andropogon gerardii | 2.00 | 2.24 |
| Switchgrass | Panicum virgatum | 1.00 | 1.12 |
| Barnyard grass | Echinochloa crus-galli | 1.00 | 1.12 |
| Bluejoint grass | Calamagrostis canadensis | 1.00 | 1.12 |
| Rice cutgrass | Leersia oryzoides | 1.00 | 1.12 |
| Dark green bulrush | Scirpus atrovirens | 0.50 | 0.56 |
| Fox sedge | Carex vulpinoidea | 0.50 | 0.56 |
| Softstem bulrush | Schoenoplectus tabernaemontani | 0.69 | 0.77 |
| Spike rush | Eleocharis palustris | 0.50 | 0.56 |
| * Seeding rate (PLS) 12.00 lbs./ac (13.44 kg/ha). | | | |

**Comments:**

**Member's Requested Change (Redline/Strikeout):**

**Replace** entire table for Wetland Grasses.

**NEW**: Seed Table for Wetland Grasses.

**SEEDS**
**COMMON NAMES, SCIENTIFIC NAMES, PLS**

| Common Name | Scientific Name | PLS lbs. per ac | PLS kg per ha |
|---|---|---|---|
| **WETLAND GRASSES:** | | | |
| Blue vervain | Verbena hastata | 0.31 | 0.35 |
| Boneset | Eupatorium perfoliatum | 0.25 | 0.28 |
| Nodding bur marigold | Bidens cernua | 0.31 | 0.35 |
| Swamp milkweed | Asclepias incarnata | 0.50 | 0.56 |
| Sneezeweed | Helenium autumnale | 0.44 | 0.49 |
| Water plantain | Alisma plantago-aquatica | 1.00 | 1.12 |
| Arrowhead | Sagittaria latifolia | 0.50 | 0.56 |
| New England aster | Aster novae-angliae | 0.50 | 0.56 |
| Big bluestem | Andropogon gerardii | 2.00 | 2.24 |
| Switchgrass | Panicum virgatum | 1.00 | 1.12 |
| Barnyard grass | Echinochloa crus-galli | 1.00 | 1.12 |
| Bluejoint grass | Calamagrostis canadensis | 1.00 | 1.12 |
| Rice cutgrass | Leersia oryzoides | 1.00 | 1.12 |
| Dark green bulrush | Scirpus atrovirens | 0.50 | 0.56 |
| Fox sedge | Carex vulpinoidea | 0.50 | 0.56 |
| Softstem bulrush | Schoenoplectus tabernaemontani | 0.69 | 0.77 |
| Spike rush | Eleocharis palustris | 0.50 | 0.56 |

* Seeding rate (PLS) 12.00 lbs./ac.

**Reason for Revision:** Modified seed list to include more commonly available plant species. Seeding rates updated to better reflect market practices.

| | | | | | |
|---|---|---|---|---|---|
| **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 | **Office:** Specifications | **Item 12** |
| **Submittal Date:** April 11, 2005 | **Proposed Effective Date:** October 2005 GS | |
| **Section No.:** 2103<br>**Title:** Fuel Adjustment | **Other:** | |

| **Specification Committee Action:** | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 5/25/05 | **Effective Date:** 10/18/05 |

**Specification Committee Approved Text:**

**2103, Fuel Adjustment.**

**Replace** entire section:

**2103.01 DESCRIPTION.**
A fuel adjustment factor will be applied to payments and partial payments for quantities of certain items of excavation work as the work is done, in accordance with this specification when indicated in the contract documents.

**2103.02 APPLICATION.**
Fuel adjustment will be applied to all Class 10, 12, and 13 Excavation, Embankment-In-Place (non-dredge material), Selected Backfill Material, and Topsoil which is work of the contract. A fuel usage factor of ~~0.25~~ 0.20 gallon per cubic yard (~~1.24~~ 1.00 L/$m^3$) will be used for all items of work covered by this specification.

Fuel adjustment will also be applied to Embankment-In-Place (dredge material). The fuel usage will be based on billed gallons (liters) of fuel used.

**2103.03 PRICE INDEX.**
A Current Price Index (CPI) in dollars per gallon (liter) will be established by the Department of Transportation for each month. The CPI will be the price of No. 2 High Sulfur Diesel, as reported by the Oil Price Information Service, using the first weekday of the month and the average of all prices reported for Des Moines. This information will be printed in the Weekly Letting Report published by the Department.

The Base Price Index (BPI) for each contract will be the CPI in effect during the month previous to the month of letting of that contract.

**2103.04 METHOD OF MEASUREMENT.**
The Contractor shall provide to the Engineer a monthly spreadsheet (format of the spreadsheet will be provided by the Engineer) with quantities, locations, and the fuel adjustment for the month (even if there will be no adjustment).

~~The Engineer will estimate the quantity of work done in cubic yards (cubic meters) for each of the items of work included by this specification for the month covered by each CPI; this may be done more frequently in the case of semi-monthly payments. The Engineer will document and may check each quantity estimate and the basis on which the estimate was made.~~ If the contract quantity for an item is in tons (megagrams), the ~~Engineer will~~ Contractor shall convert the quantity to cubic yards (cubic meters) using a~~n appropriate~~ conversion factor approved by the Engineer. The total quantity of cubic yards (cubic meters) for each month (Y) ~~will~~ shall be the sum of these quantities. ~~The Engineer will confer with the Contractor's representative to reach agreement on this quantity; however, the Engineer's estimate, after conferring, will be the quantity subject to adjusted payment for that period.~~

If the work is not completed within the contract period or authorized extensions thereof, the CPI to be used for work done after the contract period shall be the CPI that applied during the last working day within the contract period, including authorized extensions.

**A.** The ~~Engineer will~~ Contractor shall compute the Gross Fuel Adjustment (GFA) for all items of work covered in this specification other than Embankment-In-Place (dredge material) using the following formula:

(English) GFA = ~~0.25~~ 0.20(CPI-BPI)Y

(Metric) GFA = 1.0(CPI-BPI)Y

Note: The GFA may be positive or negative.

The ~~Engineer will~~ Contractor shall compute the first ~~50%~~ $0.15 per gallon ($0.04 per liter) of adjustment (FFA) for all items of work covered by this specification other than Embankment-In-Place (dredge material) using the following formula:

(English) FFA = ~~0.25~~ 0.20(~~0.50 BPI~~ $0.15)Y

(Metric) FFA = 1.0($0.04)Y

**B.** The ~~Engineer will~~ Contractor shall compute the Gross Fuel Adjustment for Embankment-In-Place (dredge material) ($GFA_{Dredge}$) using the following formula:

English $GFA_{Dredge}$ = ~~(CPI-BPI $0.15)*~~ (Billed gallons ~~(liters)~~ of fuel used per month)

Metric $GFA_{Dredge}$ = $0.04(Billed liters of fuel used per month)

Note: The $GFA_{Dredge}$ may be positive or negative.

The ~~Engineer will~~ Contractor shall compute the first ~~50%~~ $0.15 per gallon ($0.04 per liter) of adjustment for Embankment In Place (dredge material) ($FFA_{Dredge}$) using the following formula:

English $FFA_{Dredge}$ = ~~0.50 BPI $0.15 *~~ (Billed gallons ~~(liters)~~ of fuel used per month)

Metric $FFA_{Dredge}$ = $0.04(Billed liters of fuel used per month)

If the FFA is equal to or greater than the GFA, the Net Fuel Adjustment will be zero, and no fuel adjustment payment will be made. The same applies to $FFA_{Dredge}$ and $GFA_{Dredge}$.

If the ~~positive or negative~~ GFA is ~~numerically~~ greater than the FFA, the Net Fuel Adjustment will be determined as ~~the~~ GFA-FFA. If the GFA is less than 0.0, the Net Fuel Adjustment will be determined as GFA+FFA. The same applies to $GFA_{Dredge}$ and $FFA_{Dredge}$.

**2103.05 BASIS OF PAYMENT.**

The Contractor will be paid the Net Fuel Adjustment for each month, subject to the deduction for partial payments described in Article 1109.05. Should the Net Fuel Adjustment be negative, an equal amount will be deducted on payments made to the Contractor from sums otherwise due. This payment or deduction will be made by change order.

On completion of the work of the contract, for all items covered in this specification other than Embankment-In-Place (dredge material) the sum of the total quantities (Y) for each monthly period will be adjusted, if necessary, to agree with the final quantities to be paid. On completion of the work of the contract for Embankment-In-Place (dredge material), the sum of the total quantities for billed gallons (liters) of fuel used for each monthly period will be adjusted, if necessary, to agree with the final quantities to be paid. This adjustment will be made by either subtracting the proper quantity from the last adjustment made; or adding the proper quantity

and computing the adjustment on the basis of the CPI in effect on the last working day any of this work was done.

On completion of the work of the contract, the monthly fuel adjustment will be revised by pro-rating any variance from the plan quantity.

This payment or deduction shall be full compensation for all fluctuations in fuel prices during the time the contract work is being done.

**Comments:** FHWA noted that they are not sure that allowing a contractor to opt out of a fuel adjustment meets Federal regulations. Additionally, there is no other place in the Specifications that allows opting out – this could be setting precedent. The FHWA will investigate further. The Specifications Section will contact the AGC for approval of the spec without the option.

The Office of Construction suggested using a fuel usage factor of 1.0 L/$m^3$ rather than 0.99 L/$m^3$. The Specifications Committee agreed. The Office of Construction noted that the metric formula for Gross Fuel Adjustment should be GPA = 1.0(CPI-BPI)Y. The Specifications Section will make that correction. The Office of Construction noted that the last two paragraphs of Article 2303.04 apply to both A and B. The Specifications Section will format Article 2303.04 to make this clear. The Office of Construction further noted that if GFA < 0 then use GFA + FFA. The Specifications Section will add this in.

District 6 asked about channel excavation and waste excavation. The Specification Section explained that waste excavation is normally classified as Class 10, 12, or 13 Waste and that fuel adjustment would apply. The Office of Construction noted that this is also explained in the Construction Manual. The Office of Contracts noted there is a bid item for Class 10 Channel. This will cover channel excavation.

After investigating further, the FHWA determined a contractor cannot be allowed to opt out of a fuel adjustment. The Specification Section contacted the industry and their decision was to support changing the specifications even without the opt-out provisions.

**Specification Section Recommended Text:**

**2103, Fuel Adjustment.**

**Replace** entire article:

**2103.01 DESCRIPTION.**
A fuel adjustment factor will be applied to payments and partial payments for quantities of certain items of excavation work as the work is done, in accordance with this specification when indicated in the contract documents.

**2103.02 APPLICATION.**
When fuel adjustment is indicated in the contract documents, the Contractor will be allowed 48 hours after the letting to opt out of the fuel adjustment provisions. No response by the Contractor shall mean the fuel adjustment provisions will apply.

Fuel adjustment will be applied to all Class 10, 12, and 13 Excavation, Embankment-In-Place (non-dredge material), Selected Backfill Material, and Topsoil which is work of the contract. A fuel usage factor of ~~0.25~~ 0.20 gallon per cubic yard (~~1.24~~ 0.99 L/$m^3$) will be used for all items of work covered by this specification.

Fuel adjustment will also be applied to Embankment-In-Place (dredge material). The fuel usage will be based on billed gallons (liters) of fuel used.

**2103.03 PRICE INDEX.**
A Current Price Index (CPI) in dollars per gallon (liter) will be established by the Department of Transportation for each month. The CPI will be the price of No. 2 High Sulfur Diesel, as reported by the Oil Price Information Service, using the first weekday of

the month and the average of all prices reported for Des Moines. This information will be printed in the Weekly Letting Report published by the Department.

The Base Price Index (BPI) for each contract will be the CPI in effect during the month previous to the month of letting of that contract.

**2103.04 METHOD OF MEASUREMENT.**
The Contractor shall provide to the Engineer a monthly spreadsheet (format of the spreadsheet will be provided by the Engineer) with quantities, locations, and the fuel adjustment for the month (even if there will be no adjustment).

~~The Engineer will estimate the quantity of work done in cubic yards (cubic meters) for each of the items of work included by this specification for the month covered by each CPI; this may be done more frequently in the case of semi-monthly payments. The Engineer will document and may check each quantity estimate and the basis on which the estimate was made.~~ If the contract quantity for an item is in tons (megagrams), the ~~Engineer will~~ Contractor shall convert the quantity to cubic yards (cubic meters) using a~~n appropriate~~ conversion factor approved by the Engineer. The total quantity of cubic yards (cubic meters) for each month (Y) ~~will~~ shall be the sum of these quantities. ~~The Engineer will confer with the Contractor's representative to reach agreement on this quantity; however, the Engineer's estimate, after conferring, will be the quantity subject to adjusted payment for that period.~~

If the work is not completed within the contract period or authorized extensions thereof, the CPI to be used for work done after the contract period shall be the CPI that applied during the last working day within the contract period, including authorized extensions.

**A.** The ~~Engineer will~~ Contractor shall compute the Gross Fuel Adjustment (GFA) for all items of work covered in this specification other than Embankment-In-Place (dredge material) using the following formula:

(English) GFA = ~~0.25~~ 0.20(CPI-BPI)Y

(Metric) GFA = 1.24(CPI-BPI)Y

Note: The GFA may be positive or negative.

The ~~Engineer will~~ Contractor shall compute the first ~~50%~~ $0.15 per gallon ($0.04 per liter) of adjustment (FFA) for all items of work covered by this specification other than Embankment-In-Place (dredge material) using the following formula:

(English) FFA = ~~0.25~~ 0.20(~~0.50 BPI~~ $0.15)Y

(Metric) FFA = 0.99($0.04)Y

**B.** The ~~Engineer will~~ Contractor shall compute the Gross Fuel Adjustment for Embankment-In-Place (dredge material) ($GFA_{Dredge}$) using the following formula:

English $GFA_{Dredge}$ = ~~(CPI-BPI~~ $0.15~~)*~~ (Billed gallons ~~(liters)~~ of fuel used per month)

Metric $GFA_{Dredge}$ = $0.04(Billed liters of fuel used per month)

Note: The $GFA_{Dredge}$ may be positive or negative.

The ~~Engineer will~~ Contractor shall compute the first ~~50%~~ $0.15 per gallon ($0.04 per liter) of adjustment for Embankment In Place (dredge material) ($FFA_{Dredge}$) using the following formula:

English $FFA_{Dredge}$ = ~~0.50~~ ~~BPI~~ $0.15 ~~*~~ (Billed gallons ~~(liters)~~ of fuel used per month)

Metric $FFA_{Dredge}$ = $0.04(Billed liters of fuel used per month)

If the FFA is equal to or greater than the GFA, the Net Fuel Adjustment will be zero, and no fuel adjustment payment will be made. The same applies to $FFA_{Dredge}$ and $GFA_{Dredge}$.

If the positive or negative GFA is numerically greater than the FFA, the Net Fuel Adjustment will be determined as the GFA-FFA. The same applies to $GFA_{Dredge}$ and $FFA_{Dredge}$.

**2103.05 BASIS OF PAYMENT.**
The Contractor will be paid the Net Fuel Adjustment for each month, subject to the deduction for partial payments described in Article 1109.05. Should the Net Fuel Adjustment be negative, an equal amount will be deducted on payments made to the Contractor from sums otherwise due. This payment or deduction will be made by change order.

On completion of the work of the contract, for all items covered in this specification other than Embankment-In-Place (dredge material) the sum of the total quantities (Y) for each monthly period will be adjusted, if necessary, to agree with the final quantities to be paid. On completion of the work of the contract for Embankment-In-Place (dredge material), the sum of the total quantities for billed gallons (liters) of fuel used for each monthly period will be adjusted, if necessary, to agree with the final quantities to be paid. This adjustment will be made by either subtracting the proper quantity from the last adjustment made; or adding the proper quantity and computing the adjustment on the basis of the CPI in effect on the last working day any of this work was done.

On completion of the work of the contract, the monthly fuel adjustment will be revised by pro-rating any variance from the plan quantity.

This payment or deduction shall be full compensation for all fluctuations in fuel prices during the time the contract work is being done.

**Comments:** At the 3/31/05 AGCI/Iowa DOT Joint Specification meeting, it was incorrectly stated that the price adjustment factor trigger would be15%. This should be $0.15 per gallon (see comments below) not 15%.

| | | | | | |
|---|---|---|---|---|---|
| **Member's Requested Change:** (DO NOT USE "Track Changes," or "Mark-Up". Use ~~Strikeout~~/Highlight) | | | | | |
| **Reason for Revision:** | | | | | |
| **County or City Input Needed (X one)** | | | **Yes** x | **No** | |
| **Comments:** | | | | | |
| **Industry Input Needed (X one)** | | | **Yes** x | **No** | |
| **Industry Notified:** | **Yes** x | **No** | **Industry Concurrence:** | **Yes** x | **No** |

**Comments:** The AGCI supports the following changes: fuel usage factor from 0.25 gallons per yard to 0.2 gallons; price adjustment trigger from +/- 50% of the FFA to $0.15 per gallon; allowing contractor to opt out within 48 hours of bid; and the contractor submitting monthly adjustment reports to Engineer, however the AGCI preferred to keep the opt-out provisions, but agreed to support implementation without it.

**SPECIFICATION REVISION SUBMITTAL FORM**

| | | |
|---|---|---|
| **Submitted by:** Tom Reis | **Office:** Specifications | **Item 13** |
| **Submittal Date:** April 11, 2005 | **Proposed Effective Date:** October 2005 GS | |
| **Article No.:** 2501.21, L<br>**Title:** Prebored Holes | **Other:** | |

**Specification Committee Action:**

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/14/05 | **Effective Date:** 10/18/05 |

**Specification Committee Approved Text:** See Specification Section Recommended Text.

**Comments:** The Office of Bridges and Structures asked if jetting should also be paid for as extra work order. The Specification Committee decided to leave jetting as is.

**Specification Section Recommended Text:**

**2501.21, L, Prebored Holes.**

**Replace** the second paragraph:

Prebored holes required by Article 2501.16 will be paid for ~~at the rate of $7 per linear foot ($25 per meter)~~ according to Article 1109.03, B, Extra Work.

**Comments:** This item was discussed with the AGCI Specification Committee and they concur.

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

**Reason for Revision:**

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

**SPECIFICATION REVISION SUBMITTAL FORM**

| | | |
|---|---|---|
| **Submitted by:** Mike Kennerly/Will Stein | **Office:** Design | **Item 14** |
| **Submittal Date:** February 24, 2005 | **Proposed Effective Date:** October 18, 2005 | |
| **Article No.:** Section 2304<br>**Title:** Detour Pavement | **Other:** | |

**Specification Committee Action:**

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/14/05 | **Effective Date:** 10/18/05 |

**Specification Committee Approved Text:**

**2304.01, Description.**

**Replace** the first sentence.

This work shall consist of furnishing and placing a temporary or permanent hard surface composed of PCC or HMA to carry traffic during construction of permanent pavement.

**2304.02, A, PCC.**

**Add** as the second paragraph.

For median crossovers, the PCC option shall meet the requirements of Section 2301 for Class C PCC Pavement.

**2304.02, B, HMA.**

**Add** as the third paragraph.

For median crossovers, the HMA option shall meet the requirements of Article 2303.02 for HMA 10,000,000 ESAL base course, 3/4 inch (19 mm). The asphalt binder shall be PG 64-22. Class 1B compaction shall be used. The surface lift requires L-4 friction aggregate.

**Comments:** Some concern was expressed at the March 10, 2005, meeting concerning stating detour pavement thickness in the Standard Specifications. The Office of Design has decided that pavement thickness will be shown on the Standard Road Plans; therefore, it will not be stated in the Standard Specifications.

**Specification Section Recommended Text:**

**2304.01, Description.**

**Replace** the first sentence.

This work shall consist of furnishing and placing a temporary or permanent hard surface composed of PCC or HMA to carry traffic during construction of permanent pavement.

**2304.02, A, PCC.**

**Add** as the second paragraph.

For median crossovers, the 9 inch PCC option shall meet the requirements of Section 2301 for Class C PCC Pavement.

**2304.02, B, HMA.**

**Add** as the third paragraph.

For median crossovers, the 12 inch HMA option shall meet the requirements of Article 2303.02 for HMA 10,000,000 ESAL base course, 3/4 inch (19 mm). The asphalt binder shall be PG 64-22 and Class 1B compaction. The surface lift requires L-4 friction.

**Comments:**

**Member's Requested Change (Redline/Strikeout):**

Section 2304. DETOUR PAVEMENT

**2304.01 DESCRIPTION.**
**Add** to paragraph:

This work shall consist of furnishing and placing a temporary or permanent hard surface composed of PCC or HMA to carry traffic during construction of permanent pavement.

**2304.02 MATERIALS.**

**A. PCC.**
**Add** as new second paragraph:

For median crossovers, the 9" PCC option shall meet the requirements of Section 2301 for Class C PCC Pavement.

**B. HMA**
**Add** as new third paragraph:

For median crossovers, the 12" HMA option shall meet the requirements of Article 2303.02 for HMA 10,000,000 ESAL base course, ¾ inch (19 mm). The asphalt binder shall be PG 64-22 and class 1B compaction. The surface lift requires L-4 friction.

**Reason for Revision:** Modify to include specifications for median crossover pavement. Previously, everything (i.e., special backfill, granular shoulder, removal of pavement, removal of granular shoulders, etc.) was incidental to the median crossover pavement bid item. To reduce the number of incidental items, these will now be bid separately, and the median crossover pavement will be bid as Detour Pavement.

| | | |
|---|---|---|
| **County or City Input Needed (X one)** | **Yes** | **No** X |
| **Comments:** This is not new information. It will just be shown in the Specifications Book instead of the Standard Road Plans. | | |

| | | | | | |
|---|---|---|---|---|---|
| **Industry Input Needed (X one)** | | | **Yes** | **No** X | |
| **Industry Notified:** | **Yes** | **No** | **Industry Concurrence:** | **Yes** | **No** |
| **Comments:** This is not new information. It will just be shown in the Specifications Book instead of the Standard Road Plans. | | | | | |