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

**April 11, 2019**

| | | |
|---|---|---|
| **Members Present:** | Darwin Bishop | District 3 - Construction |
| | Roger Boulet | District 6 - Materials |
| | Donna Buchwald | Office of Local Systems |
| | Mark Dunn | Office of Contracts |
| | Daniel Harness | Office of Design |
| | Eric Johnsen, Secretary | Specifications Section |
| | Wes Musgrove | Office of Construction & Materials |
| | Tom Reis, Chair | Specifications Section |
| **Members Not Present:** | Gary Novey | Office of Bridges & Structures |
| | Scott Nixon | District 4 - Creston RCE |
| | Charlie Purcell | Project Delivery Bureau |
| | Willy Sorensen | Office of Traffic & Safety |
| **Advisory Members Present:** | Thomas Anderson | Clarke County |
| | Robert Fangmann | Cedar County |
| | Paul Geilenfeldt | Marshall County |
| | Lisa McDaniel | FHWA |

The Specification Committee met on Thursday, April 11, 2019, at 9:00 a.m. in the NW Wing, 1st Floor Conference Room. Tom Reis, Specifications Engineer, opened the meeting. The items were discussed in accordance with the agenda dated April 1, 2019:

The minutes are as follows:

**1. Section 2554, Water Mains, Valves, Fire Hydrants, and Appurtenances.**
**Section 4150, Water Main, Valve, Fire Hydrant, and Appurtenance Materials.**

The Specifications Section requested to update water main specifications to match SUDAS.

**2. Section 4109, Aggregate Gradations.**
**Article 4115.02, Quality (Coarse Aggregate for Portland Cement Concrete).**

The Office of Construction and Materials requested to include aggregate stockpiling requirements in the Standard Specifications.

**3. Article 4122.03, Quality (Crushed Stone Base Material).**

The Office of Construction and Materials requested to simplify crushed stone base specifications.

**4. Article 4123.03, Quality (Modified Subbase Material).**

The Office of Construction and Materials requested to update the modified subbase quality requirements.

**5.** **Article 4137.01, C, General Requirements (Asphalt Binder).**

The Office of Construction and Materials requested to raise the limit for Polyphosphoric Acid.

**6.** **Section 4160, Wood Preservatives.**

**Section 4161, Preservative Treatment.**

The Office of Construction and Materials requested to add a new wood preservative treatment option.

**7.** **Appendix, Aggregate Gradation Table.**

The Office of Construction and Materials requested to allow Class A granular surfacing material to be used for special backfill.

**8.** **DS-15072, Flood Debris Removal**.

The Specifications Section requested approval of Developmental Specifications for Flood Debris Removal.

Form 510130 (08-15)

IOWA DOT

**SPECIFICATION REVISION SUBMITTAL FORM**

| | | |
|---|---|---|
| **Submitted by:** Eric Johnsen / Tom Reis | **Office:** Specifications Section | **Item 1** |
| **Submittal Date:** | **Proposed Effective Date:** 10/15/2019 | |
| **Section No.:** 2554<br>**Title:** Water Mains, Valves, Fire Hydrants, and Appurtenances<br>**Section No.:** 4150<br>**Title:** Water Main, Valve, Fire Hydrant, and Appurtenance Materials | **Other:** | |

**Specification Committee Action:** Approved with changes.

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/11/2019 | **Effective Date:** 10/15/2019 |

**Specification Committee Approved Text:**

**2554.03, C, 2, a, 4.**

**Replace** the Article:

Obtain a minimum flushing velocity of ~~2.5~~ 3 feet per second in the pipe to be disinfected.

**2554.03, C, 2, b, Minimum Flushing Rate.**

**Replace** Table 2554.03-1:

**Table 2554.03-1: Minimum Flushing Rate**

| Pipe Diameter, inches | Flow Rate for Flushing, gallons/minute | Number of Taps[(b)] | | | Number of 2 1/2 inch Fire Hydrant Outlets[(a)] |
|---|---|---|---|---|---|
| | | 1 inch | 1 1/2 inch | 2 inch | |
| 4 | 100 | 1 | - | - | 1 |
| 6 | ~~200~~ 260 | - | 1 | - | 1 |
| 8 | ~~400~~ 470 | - | 2 | ~~1~~ | 1 |
| 10 | ~~600~~ 730 | - | 3 | 2 | 1 |
| 12 | ~~900~~ 1060 | - | - | ~~2~~ 3 | 2 |
| 16 | ~~1600~~ 1880 | - | - | ~~4~~ 5 | 2 |

(a) With a 40 psi pressure in the main with the hydrant flowing to atmosphere, a 2 1/2 inch fire hydrant outlet will discharge approximately 1000 gallons per minute; and a 4 1/2 inch fire hydrant will discharge approximately 2500 gallons per minute

(b) Number of taps on pipe based on discharge through 5 feet of galvanized iron pipe with one 90 degree elbow.

**4150.02, A, 1, Polyvinyl Chloride Pipe.**

**Replace the Article:**

Comply with AWWA C900 ~~or AWWA C905~~ with gray iron pipe equivalent outside diameters.

a. **Minimum Wall Thickness.**
   **1)** 4 inch through 24 inch sizes: DR 18.
   **2)** Sizes over 24 inch: As specified in the contract documents.

b. Joint Type.
   Use push-on joint type, except as otherwise required in the contract documents or as authorized by the Engineer.
   **1) Push-on:** According to AWWA C900 ~~or AWWA C905~~.

**2) Integral Restrained Joint:** AWWA C900 ~~or AWWA C905~~ pipe with restraining system manufactured integrally into pipe end.

**3) Mechanical Restrained Joint:** Ductile iron mechanical device designed for joint restraint of AWWA C900 ~~or AWWA C905~~ pipe complying with the requirements of ASTM F 1674.

**4150.02, E, 2, a, Tracer Wire.**

**Replace** the Article:

**1) Open Cut.**

~~1~~ **a) Solid Single Copper Conductor.**

**(~~a~~ 1) Size:** No. 12 AWG.

**(~~b~~ 2) Insulation Material:** Linear low-density polyethylene (LLDPE) ~~installation~~ insulation suitable for direct burial applications.

**(~~c~~ 3) Insulation Thickness:** ~~0.045~~ 0.030 inches, minimum.

**(4) Tensile Strength:** 150 pounds, minimum

**(5) Operating Voltage:** Rated for 30 volts

~~2~~ **b) Bimetallic Copper Clad Steel Conductor.**

**(~~a~~ 1) Size:** No. ~~12~~ 14 AWG.

**(~~b~~ 2) Rating:** Direct burial.

**(~~c~~ 3) Operating Voltage:** 30 volts.

**(~~d~~ 4) Conductivity:** 21%.

**(~~e~~ 5) Copper Cladding:** 3% of conductor diameter, minimum.

**(~~f~~ 6) Insulation Material:** High density polyethylene.

**(~~g~~ 7) Insulation Thickness:** 0.030 inches, minimum.

**(8) Tensile Strength:** 175 pounds, minimum

**b. Directional Drilling/Boring:**

**2) Directional Drilling/Boring.**

**a)** Bimetallic Copper Clad Steel Conductor.

**b) Size:** No. 12 AWG

**c) Rating:** Direct burial

**d) Operating Voltage:** Rated for 30 volts

**e) Conductivity:** 21%

**f) Copper Cladding:** 3% of conductor diameter, minimum

**g) Insulation Material:** High density, high molecular weight polyethylene

**h) Insulation Thickness:** 0.045 inches, minimum

**i) Tensile Strength:** 1100 pounds, minimum

**Comments:** The Office of Design pointed out that the Standard Road Plans will be updated with proper AWWA references for next year when SUDAS can be revised at the same time.

The District 3 Office pointed out that the tracer wire requirements used “installation” instead of “insulation”. SUDAS will correct this in the future.

The District 6 Office asked if there are manufacturers of prestressed concrete cylinder pipe that are already on the approved manufacturer list or if that will have to be done. Also, are there multiple sources or would specifying this product be proprietary. If it is an option, it would be allowed, but if it is required, a PIF memo would be required. Prestressed Concrete Cylinder Pipe was removed for now and will be reviewed at a future date when more information is available.

**Specification Section Recommended Text:**

**2554.03, C, 2, a, 4.**

**Replace** the Article:

Obtain a minimum flushing velocity of ~~2.5~~ 3 feet per second in the pipe to be disinfected.

**2554.03, C, 2, b, Minimum Flushing Rate.**

**Replace** Table 2554.03-1:

**Table 2554.03-1: Minimum Flushing Rate**

| Pipe Diameter, inches | Flow Rate for Flushing, gallons/minute | Number of Taps[b] | | | Number of 2 1/2 inch Fire Hydrant Outlets[a] |
|---|---|---|---|---|---|
| | | 1 inch | 1 1/2 inch | 2 inch | |
| 4 | 100 | 1 | - | - | 1 |
| 6 | ~~200~~ 260 | - | 1 | - | 1 |
| 8 | ~~400~~ 470 | - | 2 | ~~1~~ | 1 |
| 10 | ~~600~~ 730 | - | 3 | 2 | 1 |
| 12 | ~~900~~ 1060 | - | - | ~~2~~ 3 | 2 |
| 16 | ~~1600~~ 1880 | - | - | ~~4~~ 5 | 2 |

[a] With a 40 psi pressure in the main with the hydrant flowing to atmosphere, a 2 1/2 inch fire hydrant outlet will discharge approximately 1000 gallons per minute; and a 4 1/2 inch fire hydrant will discharge approximately 2500 gallons per minute

[b] Number of taps on pipe based on discharge through 5 feet of galvanized iron pipe with one 90 degree elbow.

**4150.02, A, 1, Polyvinyl Chloride Pipe.**

**Replace the Article:**

Comply with AWWA C900 ~~or AWWA C905~~ with gray iron pipe equivalent outside diameters.

a. **Minimum Wall Thickness.**
   **1)** 4 inch through 24 inch sizes: DR 18.
   **2)** Sizes over 24 inch: As specified in the contract documents.

b. Joint Type.
   Use push-on joint type, except as otherwise required in the contract documents or as authorized by the Engineer.
   **1) Push-on:** According to AWWA C900 ~~or AWWA C905~~.
   **2) Integral Restrained Joint:** AWWA C900 ~~or AWWA C905~~ pipe with restraining system manufactured integrally into pipe end.
   **3) Mechanical Restrained Joint:** Ductile iron mechanical device designed for joint restraint of AWWA C900 ~~or AWWA C905~~ pipe complying with the requirements of ASTM F 1674.

**4150.02, A, Water Main.**

**Add** the Article:

**3. Prestressed Concrete Cylinder Pipe.**
Design and manufactured according to AWWA C301 and AWWA C304.

**a. Minimum Conditions.**
   **1) Internal Pressure:** 150 psi.
   **2) Earth Loads:** Actual trench depth, but not less than 6 feet.
   **3) Live Loads:** HS 20 vehicle over trench.
   **4) Surge Pressure:** Allowance 60 psi.
   **5) Bedding:** Type R2, AWWA C304, Figure 9.
   **6) Safety Factor:** 2.5.

**b. Joints.**
   **1) Rings:** Steel joint rings with rubber gaskets according to AWWA C301.
   **2) External Joint Filler:** Cement mortar with diapers.
   **3) Outlets:** Flanged, according to ANSI B16.1, Class 125, with 1/8 inch minimum thickness rubber gaskets.

**4150.02, C, Fittings.**

**Add** the Article and **renumber** subsequent Articles:

**2. Prestressed Concrete Cylinder Pipe.**
As required for prestressed concrete cylinder pipe.

**~~2~~ 3. Flange Adapter.**

**~~3~~ 4. Pipe Coupling.**

**4150.02, E, 2, a, Tracer Wire.**

**Replace** the Article:

**1) Open Cut.**
**~~1~~ a) Solid Single Copper Conductor.**
**(~~a~~ 1) Size:** No. 12 AWG.
**(~~b~~ 2) Insulation Material:** Linear low-density polyethylene (LLDPE) installation suitable for direct burial applications.
**(~~c~~ 3) Insulation Thickness:** ~~0.045~~ 0.030 inches, minimum.
**(4) Tensile Strength:** 150 pounds, minimum
**(5) Operating Voltage:** Rated for 30 volts
**~~2~~ b) Bimetallic Copper Clad Steel Conductor.**
**(~~a~~ 1) Size:** No. ~~12~~ 14 AWG.
**(~~b~~ 2) Rating:** Direct burial.
**(~~c~~ 3) Operating Voltage:** 30 volts.
**(~~d~~ 4) Conductivity:** 21%.
**(~~e~~ 5) Copper Cladding:** 3% of conductor diameter, minimum.
**(~~f~~ 6) Insulation Material:** High density polyethylene.
**(~~g~~ 7) Insulation Thickness:** 0.030 inches, minimum.
**(8) Tensile Strength:** 175 pounds, minimum
**b. Directional Drilling/Boring:**

**2) Directional Drilling/Boring.**
**a)** Bimetallic Copper Clad Steel Conductor.
**b) Size:** No. 12 AWG
**c) Rating:** Direct burial
**d) Operating Voltage:** Rated for 30 volts
**e) Conductivity:** 21%
**f) Copper Cladding:** 3% of conductor diameter, minimum
**g) Insulation Material:** High density, high molecular weight polyethylene
**h) Insulation Thickness:** 0.045 inches, minimum
**i) Tensile Strength:** 1100 pounds, minimum

**Comments:**

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

**Reason for Revision:** To match SUDAS specifications for water main work.

Most of the revisions are recent ones that haven't been incorporated.

The use of prestressed concrete cylinder pipe was never included in our specifications though it has been an option in SUDAS since 2005. I'm not sure the reason we never included it in our specifications. It is used for larger transmission mains (24" to 60") where PVC and ductile iron are expensive or not readily available. I'm not sure how much it is actually used.

| | | |
|---|---|---|
| **New Bid Item Required (X one)** | **Yes X** | **No** |
| **Bid Item Modification Required (X one)** | **Yes** | **No** |

| **Bid Item Obsoletion Required (X one)** | **Yes** | **No** |
|---|---|---|
| **Comments:** New bid items for prestressed concrete cylinder pipe will be required. | | |
| **County or City Comments:** | | |
| **Industry Comments:** | | |

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IOWA DOT

**SPECIFICATION REVISION SUBMITTAL FORM**

| | | |
|---|---|---|
| **Submitted by:** Wes Musgrove / Bob Dawson | **Office:** Construction & Materials | **Item 2** |
| **Submittal Date:** 3/20/2019 | **Proposed Effective Date:** Oct 2019 GS | |
| **Section No.:** 4109<br>**Title:** Aggregate Gradations<br>**Article No.:** 4115.02<br>**Title:** Quality (Coarse Aggregate for Portland Cement Concrete) | **Other:** | |

**Specification Committee Action:** Approved as recommended.

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/11/2019 | **Effective Date:** 10/15/2019 |

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

**Comments:** The Specifications Section asked if there are other stockpiling requirements in the specifications that should be consolidated into one location in the specifications. This will be reviewed for potential changes when a new specification book is released.

**Specification Section Recommended Text:**

**Section 4109, Aggregate Gradations.**

**Add** the Article:

**4109.04 STOCKPILING OF AGGREGATE.**

**A.** For PCC aggregate, driving on stockpiles is not considered an acceptable production or handling practice and may be grounds for rejection of the stockpile.

**B.** For all other aggregate stockpiles, if a ramp (incline or decline) is used to build the stockpile the ramp cannot be used as certified material. Incorporation of a ramp into a stockpile may be grounds for rejection of the stockpile.

**4115.02, Quality.**

**Replace** the first sentence of the Article:

Meet the requirements of Tables 4115.02-1 and 4115.02-2 and Section 4109:

**Comments:** Is Section 4109 the correct location for this requirement? Or should Section 4109 be renamed, as much of it is now not related to gradations?

**Action: Addition of 4109.04 Stockpiling of Aggregate to Section 4109. Aggregate Gradations**

**Section 4109. Aggregate Gradations**

**4109.04 STOCKPILING OF AGGREGATE.**

**A.** For PCC aggregate, driving on stockpiles is not considered an acceptable production or handling practice and may be grounds for rejection of the stockpile.

**B.** For all other aggregate stockpiles, if a ramp (incline or decline) is used to build the stockpile the ramp cannot be used as certified material. Incorporation of a ramp into a stockpile may be grounds for rejection of the stockpile.

**Section 4115. Coarse Aggregate for Portland Cement Concrete**

**4115.02 QUALITY.**
Meet the requirements of Tables 4115.02-1 and 4115.02-2 and Article 4109.

**Reason for Revision:** This has been the required practice but was not written.

| | | |
|---|---|---|
| **New Bid Item Required (X one)** | **Yes** | **No** x |
| **Bid Item Modification Required (X one)** | **Yes** | **No** x |
| **Bid Item Obsoletion Required (X one)** | **Yes** | **No** x |

**Comments:** Reviewed and accepted with minor revision by the Iowa Limestone Producers Association.

**County or City Comments:**

**Industry Comments:**

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IOWA DOT

## SPECIFICATION REVISION SUBMITTAL FORM

| | | |
|---|---|---|
| **Submitted by:** Wes Musgrove / Bob Dawson | **Office:** Construction & Materials | **Item 3** |
| **Submittal Date:** 3/20/2019 | **Proposed Effective Date:** Oct. 2019 GS | |
| **Article No.:** 4122.03<br>**Title:** Quality (Crushed Stone Base Material) | **Other:** | |

**Specification Committee Action:** Approved as recommended.

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/11/2019 | **Effective Date:** 10/15/2019 |

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

**Comments:** None.

**Specification Section Recommended Text:**
**4122.03, Quality.**

**Replace** the Article:

~~**A.**~~ For Macadam Stone Base and Choke Stone, meet the requirements of Table 4122.03-1 ~~when crushed to a 3/4 inch or 1 inch nominal size for testing~~:

**Table 4122.03-1: ~~Macadam~~ Crushed Stone Base Quality**

| Macadam Quality | Maximum Percent Allowed | Test Method |
|---|---|---|
| Abrasion | 50 | AASHTO T 96 |
| C Freeze | ~~10~~ 15 | Iowa DOT Materials Laboratory Test Method No. 211, Method C |

~~**B.** Choke Stone that is a byproduct of the Macadam production need not be tested. For Choke Stone that is not a byproduct of Macadam production, meet the requirements of Table 4122.03-2:~~

~~**Table 4122.03-2: Choke Stone Quality**~~

| ~~Choke Stone Quality~~ | ~~Maximum Percent Allowed~~ | ~~Test Method~~ |
|---|---|---|
| ~~Abrasion~~ | ~~45~~ | ~~AASHTO T 96~~ |
| ~~C Freeze~~ | ~~15~~ | ~~Iowa DOT Materials Laboratory Test Method No. 211, Method C~~ |

**Comments:**

**Action: Revision of C-Freeze requirement and update of method of test.**

**Section 4122. Crushed Stone Base Material**

**4122.03 QUALITY.**

For Macadam Stone Base and Choke Stone, the byproduct of the Macadam production that is a 3/4 inch or 1 inch nominal size meet the requirements of Table 4122.03-1. ~~when crushed to a 3/4 inch or 1 inch nominal size for testing:~~

**Table 4122.03-1: Macadam Quality**

| Macadam Quality | Maximum Percent Allowed | Test Method |
|---|---|---|
| Abrasion | 50 | AASHTO T 96 |
| C Freeze | ~~10~~ 15 | Office of Materials Test Method No. Iowa 211, Method C |

~~**B.** Choke Stone that is a byproduct of the Macadam production need not be tested. For Choke Stone that is not a byproduct of Macadam production, meet the requirements of Table 4122.03-2:~~

~~**Table 4122.03-2: Choke Stone Quality**~~

| ~~Choke Stone Quality~~ | ~~Maximum Percent Allowed~~ | ~~Test Method~~ |
|---|---|---|
| ~~Abrasion~~ | ~~45~~ | ~~AASHTO T 96~~ |
| ~~C Freeze~~ | ~~15~~ | ~~Office of Materials Test Method No. Iowa 211, Method C~~ |

**Reason for Revision:** The revision makes the C-Fr requirements the same as erosion stone. Testing for Macadam is done on 1 inch nominal stone.

| | | |
|---|---|---|
| **New Bid Item Required (X one)** | **Yes** | **No** x |
| **Bid Item Modification Required (X one)** | **Yes** | **No** x |
| **Bid Item Obsoletion Required (X one)** | **Yes** | **No** x |
| **Comments: Approved at March DME meeting** | | |
| **County or City Comments:** | | |
| **Industry Comments:** Reviewed by the Limestone producers association. | | |

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IOWA DOT

## SPECIFICATION REVISION SUBMITTAL FORM

| | | |
|---|---|---|
| **Submitted by:** Wes Musgrove / Bob Dawson | **Office:** Construction & Materials | **Item 4** |
| **Submittal Date:** | **Proposed Effective Date:** | |
| **Article No.:** 4123.03<br>**Title:** Quality **(**Modified Subbase Material) | **Other:** | |

**Specification Committee Action:** Deferred to a future meeting.

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

**Specification Committee Approved Text:**

**Comments:** There is concern that the full effect of this revision in regard to use of recycled concrete pavement (unknown origin) is not yet known. Three quarters of the failing recycled concrete pavement stockpiles would pass under the 50% abrasion limit. This may not necessarily be an issue, but more thought and consideration is required before the change is made. It is possible that a lower limit could be set on recycled concrete pavement if necessary.

**Specification Section Recommended Text:**

**4123.03, Quality.**

**Replace** the Article:

**~~A.~~** The requirements of Table 4123.03-1 apply to blended and non-blended virgin materials:

**Table 4123.03-1: Aggregate Quality (Blended and Non-Blended Virgin Materials)**

| Aggregate Quality | Maximum Percent Allowed | Test Method |
|---|---|---|
| Abrasion ~~(a)~~ | ~~45~~ 50 | AASHTO T 96 |
| C Freeze | 15 | Office of Materials Test Method No. Iowa 211, Method C |
| Alumina ~~(b)~~ (a) (No. 40 material) | 4.7 | Office of Materials Test Method No. Iowa 222 |

~~(a) Virgin material with $Al_2O_3$ not exceeding 0.7 (+4) or A-freeze not exceeding 10 may have an abrasion maximum of 55.~~

~~(b) For gravel or gravel/non-gravel blend, have a plasticity index not exceeding 7 for each source.~~

(a) Gravel does not have an Alumina requirement.

~~**B.** Acquire gravel or gravel/non-gravel blend products from a gravel source with a plasticity index not exceeding 7.~~

**Comments:**

**Action: Revision of variable abrasion and elimination of plasticity index.**

**Section 4123. Modified Subbase Material**

**4123.03 QUALITY.**

~~**A.**~~ The requirements of Table 4123.03-1 apply to blended and non-blended virgin materials:

**Table 4123.03-1: Aggregate Quality (Blended and Non-Blended Virgin Materials)**

| Aggregate Quality | Maximum Percent Allowed | Test Method |
|---|---|---|
| Abrasion-~~(a)~~ | ~~45~~ 50 | AASHTO T 96 |
| C Freeze | 15 | Office of Materials Test Method No. Iowa 211, Method C |
| Alumina-~~(b)~~ (a) (No. 40 material) | 4.7 | Office of Materials Test Method No. Iowa 222 |

~~(a) Virgin material with $Al_2O_3$ not exceeding 0.7 (+4) or A-freeze not exceeding 10 may have an abrasion maximum of 55.~~
~~(b) For gravel or gravel/non-gravel blend, have a plasticity index not exceeding 7 for each source.~~
(a) Gravel does not have an Alumina requirement.

~~**B.** Acquire gravel or gravel/non-gravel blend products from a gravel source with a plasticity index not exceeding 7.~~

**Reason for Revision:** The variable abrasion is difficult to track and plasticity index is a soil test and was a poor test for non-plastic gravels.

| | | |
|---|---|---|
| **New Bid Item Required (X one)** | **Yes** | **No** x |
| **Bid Item Modification Required (X one)** | **Yes** | **No** x |
| **Bid Item Obsoletion Required (X one)** | **Yes** | **No** x |
| **Comments:** | | |
| **County or City Comments:** | | |
| **Industry Comments:** Reviewed and accepted by the Iowa Limestone Producers Association. | | |

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## SPECIFICATION REVISION SUBMITTAL FORM

| | | |
|---|---|---|
| **Submitted by:** Wes Musgrove / Jeff Schmitt | **Office:** Construction & Materials | **Item 5** |
| **Submittal Date:** 3-25-2019 | **Proposed Effective Date:** Oct. 2019 GS | |
| **Article No.:** 4137.01, C<br>**Title:** General Requirements (Asphalt Binder) | **Other:** | |

**Specification Committee Action:** Approved as recommended.

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/11/2019 | **Effective Date:** 10/15/2019 |

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

**Comments:** None.

**Specification Section Recommended Text:**
**4137.01, C.**

**Replace** the first sentence of the Article:

Polyphosphoric Acid may be used as a co-modifier up to ~~0.~~4 0.5% by weight of binder.

**Comments:**

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

*Revise the first sentence of the article:*

**C.** Polyphosphoric Acid may be used as a co-modifier up to ~~0.~~4 0.5% by weight of binder. The Engineer may verify with laboratory testing.

**Reason for Revision:** The existing limit for Polyphosphoric Acid (PPA) is considered very conservative. This revision, proposed by binder suppliers and recommended by Scott Schram, is supported by results of recent Hamburg research testing by Construction Materials Testing (CMT) to more accurately determine the appropriate limit for PPA.

| | | |
|---|---|---|
| **New Bid Item Required (X one)** | **Yes** | **No X** |
| **Bid Item Modification Required (X one)** | **Yes** | **No X** |
| **Bid Item Obsoletion Required (X one)** | **Yes** | **No X** |

**Comments:**

**County or City Comments:**

**Industry Comments:** Binder suppliers agree with the proposed changes.

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**SPECIFICATION REVISION SUBMITTAL FORM**

| | | |
|---|---|---|
| **Submitted by:** Wes Musgrove | **Office:** Construction and Materials | **Item 6** |
| **Submittal Date:** March 1, 2019 | **Proposed Effective Date:** Oct 2019 GS | |
| **Section No.:** 4160<br>**Title:** Wood Preservatives<br>**Section No.:** 4161<br>**Title:** Preservative Treatment | **Other:** | |

**Specification Committee Action:** Approved as recommended.

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/11/2019 | **Effective Date:** 10/15/2019 |

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

**Comments:** None.

**Specification Section Recommended Text:**

**4160, Wood Preservatives.**

**Replace** the Section:

**4160.01 GENERAL REQUIRMENTS.**

Meet the requirements for the material specified. Meet the requirements of all Federal, State, and local regulations.

**A. Creosote.**
Meet the requirements of AASHTO M 133 (AWPA P1).

**B. Pentachlorophenol (PCP-A).**
Meet the requirements of AASHTO M 133 (AWPA P35). Ensure petroleum solvent meets the requirements of AWPA HSA for Hydrocarbon Solvent Type A.

**C. Copper Naphthenate (CuN).**
Meet the requirements of AASHTO M 133 (AWPA P36). Ensure petroleum solvent meets the requirements of AWPA HSA for Hydrocarbon Solvent Type A.

**D. Ammoniacal Copper Zinc Arsenate (ACZA).**
Meet the requirements of AASHTO M 133 (AWPA P22).

**E. Chromated Copper Arsenate (CCA).**
Meet the requirements of AASHTO M 133 (AWPA P23).

**F. Micronized Copper Azole (MCA).**
Meet the requirements of AASHTO M 133 (AWPA P61).

**4161.02, Preservatives.**

**Replace** the Article:

Meet the requirements of Section 4160. Unless specified otherwise, treatment may be with ~~creosote, pentachlorophenol , copper naphthenate , ammoniacal copper zinc arsenate (ACZA), or chromated copper arsenate (CCA)~~ any of the preservatives listed.

**4161.03, Treatment.**

**Replace** Table 4161.03-1:

**Table 4161.03-1: Minimum Preservative Retention Requirements (lb./cu. ft. of wood)**

| | Retention | | | | | | |
|---|---|---|---|---|---|---|---|
| **Material and Usage** | **Creo-sote[a]** | **~~Pentachloro-phenol~~ PCP-A[a]** | **~~Copper Napthenate~~ CuN[a]** | **ACZA[b]** | **CCA[b,c]** | **MCA[b,c]** | **AWPA UC-Section-Special Req.** |
| Lumber and Timber for Structures[d] | AWPA U1 | AWPA U1 | AWPA U1 | AWPA U1 | AWPA U1 | AWPA U1 | AWPA U1 |
| Piles for Foundation, Round: | | | | | | | |
| Douglas Fir | 17 | 0.85 | 0.14 | 1.0 | - | - | UC4C |
| Southern Pine | 12 | 0.60 | 0.10 | 0.80 | 0.80 | 0.41 | |
| Guardrail Posts, and Spacer Blocks: | | | | | | | |
| Sawed Four Sides | 10 | 0.5 | 0.06 | 0.4 | 0.4 | 0.15 | UC4A |
| Fence, Guide, and Sign Posts: | | | | | | | |
| Round | 8 | 0.4 | 0.055 | 0.4 | 0.4 | 0.15 | UC4A |
| Sawed Four Sides | 10 | 0.5 | 0.060 | 0.4 | 0.4 | 0.15 | UC4A |

[a] Oil type preservatives.
[b] Waterborne preservatives.
[c] Do not use for the treatment of Douglas Fir.
[d] Retentions based on AWPA Use Category and Commodity Specifications for different applications.

**Comments:**

**Member's Requested Change:**

**Section 4160. Wood Preservatives**

**4160.01 GENERAL REQUIRMENTS.**
Meet the requirements for the material specified. Meet the requirements of all Federal, State, and local regulations.

**A. Creosote.**
Meet the requirements of AASHTO M 133 (AWPA P1).

**B. Pentachlorophenol (PCP-A).**
Meet the requirements of AASHTO M 133 (AWPA P35). Ensure petroleum solvent meets the requirements of AWPA HSA for Hydrocarbon Solvent Type A.

**C. Copper Naphthenate (CuN).**
Meet the requirements of AASHTO M 133 (AWPA P36). Ensure petroleum solvent meets the requirements of AWPA HSA for Hydrocarbon Solvent Type A.

**D. Ammoniacal Copper Zinc Arsenate (ACZA).**
Meet the requirements of AASHTO M 133 (AWPA P22).

**E. Chromated Copper Arsenate (CCA).**
Meet the requirements of AASHTO M 133 (AWPA P23).

**F. Micronized Copper Azole (MCA).**
Meet the requirements of AASHTO M 133 (AWPA P61).

## Section 4161. Preservative Treatment

**4161.01 GENERAL REQUIREMENTS.**
Meet the requirements of applicable sections within these specifications for preservative treatment of timber, lumber, piling and posts. Unless specified otherwise, meet the requirements of this section for treatment process and results.

**4161.02 PRESERVATIVES.**
Meet the requirements of Section 4160. Unless specified otherwise, treatment may be with creosote, pentachlorophenol (PCP), copper naphthenate (CuN), ammoniacal copper zinc arsenate (ACZA), chromated copper arsenate (CCA), or micronized copper azole (MCA).

**4161.03 TREATMENT.**

**A.** Except as provided herein, follow the requirements and recommendations of AWPA Standards U1 and T1 and the applicable AWPA Commodity Specifications listed in Tables 4161.03-1 and 4161.03-2 for various materials and usages:

**Table 4161.03-1: Minimum Preservative Retention Requirements (lb./cu. ft. of wood)**

| | Retention | | | | | | |
|---|---|---|---|---|---|---|---|
| **Material and Usage** | **Creo-sote[a]** | **Pentachloro-phenol[a]** | **Copper Napthenate[a]** | **ACZA[b]** | **CCA[b,c]** | **MCA[b,c]** | **AWPA UC-Section-Special Req.** |
| Lumber and Timber for Structures[d] | AWPA U1 | AWPA U1 | AWPA U1 | AWPA U1 | AWPA U1 | AWPA U1 | AWPA U1 |
| Piles for Foundation, Round: | | | | | | | |
| Douglas Fir | 17 | 0.85 | 0.14 | 1.0 | - | - | UC4C |
| Southern Pine | 12 | 0.60 | 0.10 | 0.80 | 0.80 | 0.41 | |
| Guardrail Posts, and Spacer Blocks: | | | | | | | |
| Sawed Four Sides | 10 | 0.5 | 0.06 | 0.4 | 0.4 | 0.15 | UC4A |
| Fence, Guide, and Sign Posts: | | | | | | | |
| Round | 8 | 0.4 | 0.055 | 0.4 | 0.4 | 0.15 | UC4A |
| Sawed Four Sides | 10 | 0.5 | 0.060 | 0.4 | 0.4 | 0.15 | UC4A |

[a] Oil type preservatives.
[b] Waterborne preservatives.
[c] Do not use for the treatment of Douglas Fir.
[d] Retentions based on AWPA Use Category and Commodity Specifications for different applications.

**Reason for Revision:** The revision will make these two sections in consistent with the 2018 American Wood Protection Association (AWPA) Specifications. The 2018 AWPA Specifications allow to use micronized copper azole (MCA) for wood preservation. Many wood treaters have used MCA because it is more environmentally friendly.

| | | |
|---|---|---|
| **New Bid Item Required (X one)** | **Yes** | **No** X |
| **Bid Item Modification Required (X one)** | **Yes** | **No** X |
| **Bid Item Obsoletion Required (X one)** | **Yes** | **No** X |
| **Comments:** | | |
| **County or City Comments:** No Needed | | |
| **Industry Comments:** No Needed | | |

Form 510130 (08-15)

IOWA DOT

**SPECIFICATION REVISION SUBMITTAL FORM**

| | | |
|---|---|---|
| **Submitted by:** Wes Musgrove / Bob Dawson | **Office:** Construction & Materials | **Item 7** |
| **Submittal Date:** 3/20/2019 | **Proposed Effective Date:** Oct. 2019 GS | |
| **Article No.:** Appendix<br>**Title:** Aggregate Gradation Table | **Other:** | |

**Specification Committee Action:** Approved as recommended.

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/11/2019 | **Effective Date:** 10/15/2019 |

**Specification Committee Approved Text:** See attached Aggregate Gradation Table.

**Comments:** The Office of Construction and Materials clarified that this does not change the specifications for materials currently meeting the special backfill requirements, but gives another option of higher quality material to be used for special backfill.

**Specification Section Recommended Text:**

**Appendix.**

**Replace** the Aggregate Gradation Table:

**See Attached.**

**Comments:**

**Action:** Add Note 14 to Gradation 30 (Special Backfill).

**Section 4109.02 Appendix. Aggregate Gradation Table**

**Note 14.** If the material meets the quality requirements of Article 4120.04 a maximum of 14% passing the No. 200 sieve will be allowed.

**Reason for Revision:** Special Backfill has a max of 10% passing the No 200 sieve (to avoid possible plastic fines). If material is Class A granular surfacing quality, raising the 200 limit to 14% would allow a higher-quality aggregate to be used. Class A is currently allowed for pipe bedding and pipe backfill.

Reviewed and edited by Soils Design and the Construction Earthwork Field Engineer.

| | | |
|---|---|---|
| **New Bid Item Required (X one)** | **Yes** | **No** x |
| **Bid Item Modification Required (X one)** | **Yes** | **No** x |
| **Bid Item Obsoletion Required (X one)** | **Yes** | **No** x |

**Comments:**

**County or City Comments:**

**Industry Comments: Iowa Limestone Producers Association:** Allows a higher quality Class A granular surfacing for special backfill avoiding short production runs for special.

| AGGREGATE GRADATION TABLE | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Grad. No.** | **Section No.** | **Std. Sieve Sz.** | **1 1/2”** | **1.00”** | **3/4”** | **1/2”** | **3/8”** | **4** | **8** | **30** | **50** | **100** | **200** | |
| | | **Intended Use** | **Percent Passing** | | | | | | | | | | | **Notes** |
| 1 | 4110, 4125, 4133, 4134 | PCC FA, Cover Agg. | | | | | 100 | 90-100 | 70-100 | 10-60 | | | 0-1.5 | 1 |
| 2 | 4112 | PCC Intermediate | | | | 95-100 | | | 0-10 | | | | | |
| 3 | 4115 (57, 2-8), 4118 | PCC CA | 100 | 95-100 | | 25-60 | | 0-10 | 0-5 | | | | 0-1.5 | 2, 10 |
| 4 | 4115 (2-8) | PCC CA | 100 | 50-100 | 30-100 | 20-75 | 5-55 | 0-10 | 0-5 | | | | 0-1.5 | 10 |
| 5 | 4115 (67, 2-8) | PCC CA | | 100 | 90-100 | | 20-55 | 0-10 | 0-5 | | | | 0-1.5 | 10 |
| 6 | 4115.06 (Repair & Overlay) | PCC CA | | | 100 | 90-100 | 40-90 | 0-30 | | | | | 0-1.5 | 10 |
| 7 | 4117 (Class V) | PCC FA & CA | 100 | | | | | 80-92 | 60-75 | 20-40 | | | | |
| 8 | 4117.03 (Class V) | Fine Limestone | | | | | 100 | 90-100 | | | | | 0-30 | |
| 10 | 4119, 4120.02, 4120.03 (C gravel) | Granular Surface | | | 100 | | | 50-80 | 25-60 | | | | | 3, 11 |
| 11 | 4119, 4120.02, 4120.04, 4120.05, 4120.07, (A, B Cr. St.) | Granular Surface & Shoulder | | 100 | 95-100 | 70-90 | | 30-55 | 15-40 | | | | 6-16 | 4, 5, 11 |
| 12a | 4121 (Cr. St.) | Granular Subbase | 100 | | | 40-80 | | | 5-25 | | | | 0-6 | 6, 11 |
| 12b | 4121 (Cr. Gravel) | Granular Subbase | 100 | | | 50-80 | | | 10-30 | | 5-15 | | 3-7 | 7, 11 |
| 13 | 4122.02 (Cr. St.) | Macadam St. Base | 3” nominal maximum size screened over 3/4” or 1.00” screen. | | | | | | | | | | | |
| 14 | 4123 | Modified Subbase | 100 | | 70-90 | | | | 10-40 | | | | 3-10 | 5, 7, 11 |
| 19 | 4125 (1/2”) Cr. Gr. or Cr. St.) | Cover Aggregate | | | 100 | 97-100 | 40-90 | 0-30 | 0-15 | | | | 0-1.5 | 11 |
| 20 | 4125 (1/2” Scr. Gr.) | Cover Aggregate | | | 100 | 95-100 | 40-80 | 0-15 | 0-7 | | | | 0-1.5 | 11 |
| 21 | 4125 (3/8”) | Cover Aggregate | | | | 100 | 90-100 | 10-55 | 0-20 | 0-7 | | | 0-1.5 | 11 |
| 22 | 4124 | Fine Slurry Mixture | | | | | 100 | 85-100 | 40-95 | 20-60 | 14-35 | 10-25 | 5-25 | 9, 11 |
| 23 | 4124 (Cr. St.) | Coarse Slurry Mixture | | | | | 100 | 70-90 | 40-70 | 19-42 | | | 5-15 | 11 |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | 4131 | Porous Backfill | | | 100 | 95-100 | 50-100 | 0-50 | 0-8 | | | | | 11 |
| 30 | 4132.02 (Cr. St.) | Special Backfill | 100 | | | | | | 10-40 | | | | 0-10 | 5, 11, 14 |
| 31 | 4132.03 (Gravel) | Special Backfill | | 100 | 90-100 | 75-100 | | | 30-55 | | | | 3-7 | 11 |
| 32 | 4133 (Sand/Gr./Cr. St.) | Granular Backfill | 100% passing the 3" screen | | | | | | 10-100 | | | | 0-10 | 8, 11 |
| 35 | 4134 (Natural Sand/Gr.) | Floodable Backfill | 100 | | | | | | 20-90 | | | | 0-4 | 11 |
| 36 | 4134 (Natural Sand) | Floodable Backfill | | | | | | 100 | | | | | 0-2 | 11 |
| 37 | 2320 (Quartzite/Granite/Slag) | Polymer-Modified Microsurfacing | | | | | 100 | 90-100 | 65-90 | 30-50 | 18-30 | 10-21 | 5-15 | 12, 13 |
| 38 | 2320 (limestone/Dolomite) | Polymer-Modified Microsurfacing | | | | | 100 | 70-90 | 45-70 | 15-35 | 10-25 | 5-20 | 5-15 | 12, 13 |

**Notes: (Gradations No. 9, 15, 16, 17, 18, 24, 25, 26, 27, 28, 33, and 34 have been deleted)**

**1.** For Section 4110, when the fine aggregate is sieved through the following numbered sieves - 4, 8, 16, 30, 50, and 100 - no more than 40% shall pass one sieve and be retained on the sieve with the next higher number.

**2.** When used in precast and prestressed concrete bridge beams, 100% shall pass the 1.00" sieve. When used for pipe bedding the No. 200 restriction does not apply.

**3.** When compaction of material is a specification requirement, the minimum percent passing the No. 200 sieve is 6%.

**4.** See specifications for combination of gravel and limestone.

**5.** Unwashed air dried samples of crushed composite material shall be tested for gradation compliance except that no gradation determination will be made for material passing the No. 200 sieve.

**6.** The gradation requirement for the No. 8 sieve shall be 5% to 20% when recycled material is supplied.

**7.** For Section 4121 gravel, one fractured face on 30% or more of the particles retained on the 3/8 inch sieve. For Section 4123 gravel, one fractured face on 75% or more of the particles retained on the 3/8 inch sieve.

**8.** Crushed stone shall have 100% passing the 1½" sieve.

**9.** Gradation limitations for the 30, 50, and 100 sieves shall not apply when slurry mixture is applied by hand lutes, such as for slurry leveling.

**10.** Maximum of 2.5% passing the No. 200 sieve allowed if for crushed limestone or dolomite when documented production is 1% or less.

**11.** When Producer gradation test results are used for acceptance, test results representing at least 90% of the material being produced shall be within the gradation limits and the average of all gradation results shall be within the gradations limits. Stockpiled material not meeting the criteria may, at the District

Materials Engineer's discretion, be resampled using Materials I.M. 301 procedures. One hundred percent of the stockpile quality control and verification test results shall be within the gradation limits.

**12.** For Quartzite/Granite/Slag: 45% to 70% passing No. 16 Sieve; for Dolomite/Limestone: 25% to 50% passing No. 16 Sieve.

**13.** Percent passing shall not go from the high end to the low end of the range for any two consecutive screens.

**14.** If the material meets the quality requirements of Article 4120.04, a maximum of 14% passing the No. 200 sieve will be allowed.

Form 510130 (08-15)

IOWA DOT

## SPECIFICATION REVISION SUBMITTAL FORM

| | | |
|---|---|---|
| **Submitted by:** Eric Johnsen / Tom Reis | **Office:** Specifications Section | **Item 8** |
| **Submittal Date:** | **Proposed Effective Date:** | |
| **Article No.:**<br>**Title:** | **Other:** DS-15072, Flood Debris Removal | |

**Specification Committee Action: Approved as recommended.**

| | | | |
|---|---|---|---|
| **Deferred:** | **Not Approved:** | **Approved Date:** 4/11/2019 | **Effective Date:** 4/10/2019 |

**Specification Committee Approved Text: See attached Developmental Specifications for Flood Debris Removal.**

**Comments:** Prior to the meeting, District 1 indicated that they used the lump sum flood debris removal bid item for projects involving removing downed trees from bridge locations. The organic material is typically not hauled to a landfill, so measuring by tons is a burden. A new bid item and specification will be developed for this type of work.

**Specification Section Recommended Text:** See attached DS-15072, Flood Debris Removal.

**Comments:**

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

To make putting flood debris removal projects together easier. Previously this specification language was in an SP, requiring each project to be listed on the SP and a new SP to need to be created for each letting. There are 8 planned lettings for debris removal in April and May.

**Reason for Revision:**

| | | |
|---|---|---|
| **New Bid Item Required (X one)** | **Yes X** | **No** |
| **Bid Item Modification Required (X one)** | **Yes** | **No** |
| **Bid Item Obsoletion Required (X one)** | **Yes X** | **No** |

**Comments:** New item measured in tons has been created. Old item measured as lump sum has been obsoleted.

**County or City Comments:**

**Industry Comments:**

**DS-15072**
**(New)**

**DEVELOPMENTAL SPECIFICATIONS**
**FOR**
**FLOOD DEBRIS REMOVAL**

**Effective Date**
**April 10, 2019**

**THE STANDARD SPECIFICATIONS, SERIES 2015, ARE AMENDED BY THE FOLLOWING MODIFICATIONS AND ADDITIONS. THESE ARE DEVELOPMENTAL SPECIFICATIONS AND THEY PREVAIL OVER THOSE PUBLISHED IN THE STANDARD SPECIFICATIONS.**

**15072.01 DESCRIPTION.**
Work consists of removal of flood debris from areas described in the contract documents, sorting debris, and hauling debris to landfill.

**15072.02 MATERIALS.**
None.

**15072.03 CONSTRUCTION.**
Collect flood debris from areas described in the contract documents. Sort debris if required. Load and transport debris to disposal site. Do not place debris within highway right-of-way. Non-hazardous debris may be transported to licensed landfills or alternate disposal site. Contact Engineer if hazardous debris is encountered. Hazardous debris will be disposed of by others.

Ensure alternate disposal site (if selected) does not impact culturally sensitive sites, graves, wetlands, or "Waters of the U.S.", including streams or stream banks below the ordinary high water mark, without approved U.S. Army Corps of Engineers Section 404 Permit.

**15072.04 METHOD OF MEASUREMENT.**
Measurement will be in tons, to the nearest 0.1 ton, determined by weight tickets.

**15072.05 BASIS OF PAYMENT.**
Payment will be at the contract unit price per ton. Payment is full compensation for coordinating with disposal facilities, collecting debris, sorting debris (if required), loading debris, delivery to disposal location, and landfill fees (if required). No payment for overhaul will be allowed for material hauled to disposal site (whether landfill or alternate site is chosen).