



**MINUTES  
OF  
IOWA DOT SPECIFICATION COMMITTEE MEETING**

**November 12, 2020**

<b>Members Present:</b>	Roger Boulet Donna Buchwald Mark Dunn Daniel Harness Eric Johnsen, Secretary Scott Nixon Tom Reis, Chair Willy Sorensen	District 6 - Materials Local Systems Bureau Contracts & Specifications Bureau Design Bureau Contracts & Specifications Bureau District 1 - Construction Contracts & Specifications Bureau Traffic & Safety Bureau
<b>Members Not Present:</b>	Darwin Bishop Wes Musgrove Mike Nop Charlie Purcell	District 3 - Construction Construction & Materials Bureau Bridges & Structures Bureau Project Delivery Division
<b>Advisory Members Present:</b>	Johnnie Gibson Desiree McClain Melissa Serio Jeff DeVries Jason Miller	FHWA Construction & Materials Bureau Construction & Materials Bureau Construction & Materials Bureau Contracts & Specifications Bureau

The Specification Committee met on Thursday, November 12, 2020, at 9:00 a.m. Tom Reis, Specifications Engineer, opened the meeting. The items were discussed in accordance with the agenda dated November 2, 2020:

The minutes are as follows:

**1. Article 1102.01, Competency and Qualification of Bidders.**

The Contracts and Specifications Bureau requested to update bidder prequalification amounts for inflation.

**2. Section 1102, Proposal Requirements and Conditions.**

The Contracts and Specifications Bureau requested to update proposal guaranty specifications with current electronic bonding practices.

**3. Article 1102.03, A, 2, f, Imposition of Increase in Bidder Qualification Requirements, Suspension, and Disqualification.  
Article 1109.05, Partial Payments.**

The Specifications Section and Construction and Materials Bureau requested to clarify Contractor and subcontractor retainage language.

**4. Section 2402, Excavation for Structures.**

The Construction and Materials Bureau requested to provide references to Section 2432 for MSE wall granular backfill material and construction requirements, MOM, and BOP.

**5. Article 2433.03, D, 1, b, Shaft Excavation.**

**Article 2433.05, A, Concrete Drilled Shaft.**

The Construction and Materials Bureau requested to update specification to follow FHWA standards.

**6. Article 2501.03, M, Determination of Nominal Bearing Resistance of Piles for Load and Resistance Factor Design.**

The Construction and Materials Bureau requested to update specification to follow industry standards.

**7. Article 2502.03, C, 2, Longitudinal Subdrains.**

The Design Bureau requested to clarify use of rodent guards only when specified.

**8. Article 2528.01, C, 3, Traffic Quality Control.**

The Construction and Materials Bureau requested to clarify the requirements for the Contractor's Traffic Control Technician.

**9. Article 2552.05, A, 5, Basis of Payment (Trench Excavation and Backfill).**

The Construction and Materials Bureau requested to clarify that required backfill material for Interstate and Primary Road Projects shall be incidental to underground utility being installed.

**10. Article 4186.12, A, Barrier Markers.**

The Construction and Materials Bureau requested to update specifications to allow aluminum as an option for mounting the microprism sheeting onto.

**11. SUDAS Consent Items.**

SUDAS has proposed revisions to their specifications, which affect some of the Department's specifications that are based on SUDAS. These items were not discussed individually.

Form 510130 (08-15)



**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Mark Dunn / Jason Miller		<b>Office:</b> Contracts and Specifications	<b>Item 1</b>
<b>Submittal Date:</b> 10/26/2020		<b>Proposed Effective Date:</b> April 2021	
<b>Article No.:</b> 1102.01 <b>Title:</b> Competency and Qualification of Bidders		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 11/12/2020	<b>Effective Date:</b> 1/1/2021
<b>Specification Committee Approved Text:</b> See Specification Section Recommended Text.			
<b>Comments:</b> None.			
<b>Specification Section Recommended Text:</b>			
<b>1102.01, D, 1, b.</b>			
<b>Replace the Article:</b> When an Individually Prepared Statement is submitted to the Department, the maximum prequalification amount will be <del>\$200,000</del> \$400,000.			
<b>1102.01, D, 2, b.</b>			
<b>Replace the Article:</b> When a CPA Reviewed Statement is submitted to the Department, an experience factor (F) ranging from 0.0 to 12.5, depending on the prospective bidder's past performance with projects let by the Department, will be used in the prequalification formula. A prospective bidder, who has been qualified to submit proposals with this type of statement, shall be limited to individual proposal sizes that do not exceed the lesser of <del>\$1 million</del> \$2 million or the maximum prequalification amount minus the bidder's amount of uncompleted work currently under contract. Any combination of proposals, however, may total more than <del>\$1 million</del> \$2 million - as long as that total does not exceed the maximum prequalification amount minus the currently uncompleted work.			
<b>1102.01, Competency and Qualification of Bidders.</b>			
<b>Add the Article and renumber</b> following Articles:			
<b>E.</b> The maximum prequalification amount may be increased for a CPA Reviewed or CPA Audited Statement by providing an Authorization to Loan form and/or by obtaining an equipment appraisal. The Authorization to Loan form and equipment appraisal would be subject to the following respective restrictions;			
1. The Authorization to Loan shall not exceed \$1 million. The Authorization to Loan shall be signed by a duly authorized officer of a banking institution.			
2. The equipment appraisal shall be cross-referenced with the depreciation schedule and shall be accompanied by a signed certification letter on the appraisal company's letterhead.			
<b>E F.</b>			

**F G.**  
**G H.**  
**H I.**

**Comments:**

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

The Department will qualify Contractors into three categories:

**1. Individually Prepared Statement.**

- a. An Individually Prepared Statement is a "Contractor's Financial -Experience - Equipment Statement" that has been completed by the prospective bidder. If the statement has been compiled by a CPA, but does not contain a CPA review or audit of the financial portion of the statement, it is still considered an Individually Prepared Statement.
- b. When an Individually Prepared Statement is submitted to the Department, the maximum prequalification amount will be ~~\$200,000~~ **\$400,000**.

**2. CPA Reviewed Statement.**

- a. A CPA Reviewed Statement is a "Contractor's Financial -Experience - Equipment Statement" that includes a current CPA review of the financial portion of the statement. The review must be completed by a CPA who is either registered to practice in Iowa or registered in another state having reciprocal arrangements with Iowa.
- b. When a CPA Reviewed Statement is submitted to the Department, an experience factor (F) ranging from 0.0 to 12.5, depending on the prospective bidder's past performance with projects let by the Department, will be used in the prequalification formula. A prospective bidder, who has been qualified to submit proposals with this type of statement, shall be limited to individual proposal sizes that do not exceed the lesser of ~~\$1 million~~ **\$2 million** or the maximum prequalification amount minus the bidder's amount of uncompleted work currently under contract. Any combination of proposals, however, may total more than ~~\$1 million~~ **\$2 million** - as long as that total does not exceed the maximum prequalification amount minus the currently uncompleted work.

**3. CPA Audited Statement.**

- a. A CPA Audited Statement is a "Contractor's Financial - Experience - Equipment Statement" that includes a current CPA audit of the financial portion of the statement. The audit must be completed by a CPA who is either registered to practice in Iowa or registered in another state having reciprocal arrangements with Iowa.
- b. When a CPA Audited Statement is submitted to the Department, an experience factor (F) ranging from 0.0 to 12.5, depending on the prospective bidder's past performance with projects let by the Department, will be used in the prequalification formula. A prospective bidder, who has been qualified to submit proposals with this type of statement, shall be limited to work that does not exceed the maximum prequalification amount minus the bidder's amount of uncompleted work currently under contract. However, a prospective bidder shall be considered to have an "Unlimited" bidding capacity with the Department if they were awarded over \$50 million of work (including that from other Contracting Authorities) during their past fiscal year and have a prequalification limit, by the formula, over \$100 million.

**E. The maximum prequalification amount may be increased for a CPA Reviewed or CPA Audited Statement by providing an Authorization To Loan form and/or by obtaining an equipment appraisal. The Authorization To Loan form and equipment appraisal would be subject to the following respective restrictions;**

- 1. **The Authorization To Loan shall not exceed \$1 million. The Authorization To Loan shall be signed by a duly authorized officer of a banking institution.**
- 2. **The equipment appraisal must be cross-referenced with the depreciation schedule and must be accompanied by a signed certification letter on the appraisal company's letterhead.**

**Reason for Revision:** The basis for these changes is the increase of the construction price index and general inflation rate in the period since the last changes were made in 2010. Some history of previous changes are below:

1. Individually Prepared/Compiled CFEE Statement limited to \$100K in 1979. This was changed in 2010 to \$200k. Currently, this limit is still \$200K.
2. CPA Reviews/CFEE was increased from \$600K to \$1,000,000 per individual contract in 2010. Currently, this limit is still \$1,000,000 per individual contract.
3. CPA Audit – limitations/restrictions based directly on balance sheet. A review not required.
4. Authorization to Loan – The maximum allowable amount was changed from \$300K to \$500K in 2014. Currently, the maximum allowable amount is still \$500K

The limit for Individually Prepared/Compiled CFEE Statement should have been raised to \$300K based on the Highway Construction Cost Index in 2010. However, it was decided to only raise the limit to \$200K. Discussions with the bonding industry indicate bond agents write bonds over \$500k for contractors with a individually compiled financial statement frequently .The CPA Review allowed many of our smaller contractors (e.g. seeder, guardrail contractors, patching, culvert builders, etc.) to bid with a Reviewed CFEE Statement. A CPA Review is typically cheaper than a CPA Audit. The Small Business Administration (SBA) Bond Program awards bonds up to \$2,000,000 without a CPA Audit or review. US inflation from 2010 to 2020 is 19.2% and the increase in the Iowa Construction Price Trend Index from 2010 to 2020 is 48%.

<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No x</b>
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No x</b>
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No x</b>
<b>Comments:</b>		
<b>County or City Comments:</b>		
<b>Industry Comments:</b> Revisions were discussed with AGC.		

Form 510130 (08-15)



**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Mark Dunn / Jason Miller		<b>Office:</b> Contracts and Specifications	<b>Item 2</b>
<b>Submittal Date:</b> 10/26/2020		<b>Proposed Effective Date:</b> April 2021	
<b>Article No.:</b> 1102.09, B <b>Title:</b> Preparation of Proposals <b>Article No.:</b> 1102.11 <b>Title:</b> Proposal Guaranty <b>Article No.:</b> 1102.14 <b>Title:</b> Public Opening of Proposals		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 11/12/2020	<b>Effective Date:</b> 4/20/2021
<b>Specification Committee Approved Text:</b> See Specification Section Recommended Text.			
<b>Comments:</b> None.			
<b>Specification Section Recommended Text:</b> <b>1102.09, B.</b>  <b>Delete</b> the third through sixth sentences: All the unit price figures shall be in ink, typed, or computer printed. The bidder may also specify the extension for each proposal line item and or the total amount of the bid. However, if there is a discrepancy between the unit bid prices, extensions, or total amount of bid, the unit prices shall govern. The bidder shall not alter the quantity, unit price, or the extension which has been provided for items which have been predetermined by the Contracting Authority.			
<b>1102.11, Proposal Guaranty.</b>  <b>Replace</b> the second sentence of Article A: The proposal guaranty shall be filed received, prior to the time advertised for opening of bids.			
<b>Replace</b> Article C: A Proposal Guaranty/Bid Bond (Form 518003) may be used for the proposal guaranty in lieu of that specified above, using the electronic bid bond verification feature authorized by the Department. Bid bonds will be declared invalid and bid proposals will not be considered if any of the following items are omitted or incorrect: <ul style="list-style-type: none"> <li>• <del>Date of Letting</del></li> <li>• <del>Bid Order Number</del></li> <li>• <del>Name of Contractor</del></li> <li>• <del>Digital Signature of Contractor: In case of joint venture bid, all contractors must sign.</del></li> <li>• <del>Name of the Surety Company</del></li> <li>• <del>Digital Signature of Surety (if Surety's limitation is less than the amount of the bid bond, a certificate of reinsurance must be attached).</del></li> </ul>			
<b>Delete</b> Article D: A Contractor's Annual Bid Bond (Form 650043) may also be used for the proposal guaranty in lieu of that specified above, using the electronic bid bond verification feature authorized by the			

~~Department. Annual Bid Bonds will be declared invalid and bid proposals will not be considered if any of the following items are omitted or incorrect:~~

- ~~• Name of Contractor~~
- ~~• Digital Signature of Contractor: In the case of joint venture bid, all Contractors shall sign.~~
- ~~• Date of signature~~
- ~~• Name of Surety Company~~
- ~~• Digital Signature of Surety (if Surety's limitation is less than the amount of the bid bond, a certificate of reinsurance shall be attached).~~
- ~~• Expiration Date of Bond shall not exceed 365 calendar days from the effective date of bond.~~

**Comments:**

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

**1102.09 PREPARATION OF PROPOSALS.**

- A.** Only contractors who have been authorized to bid a proposal may submit a bid for a contract.

Unless otherwise specified, bidder shall submit an electronic proposal with digital signature using bidding software furnished by the Department and electronic bid submittal procedures of the Department. Proposals received after the bid deadline will not be read.

- B.** The bidder shall be familiar with the requirements of the applicable specifications. The bidder shall specify a unit price in figures of dollars and cents for all pay items, except for Lump Sum items where the proposal line item bid amount must be shown. All the unit price figures shall be in ink, typed, or computer printed. The bidder may also specify the extension for each proposal line item and or the total amount of the bid. However, if there is a discrepancy between the unit bid prices, extensions, or total amount of bid, the unit prices shall govern. The bidder shall not alter the quantity, unit price, or the extension which has been provided for items which have been predetermined by the Contracting Authority.

**1102.11 PROPOSAL GUARANTY.**

- A.** Each proposal shall be supported by a proposal guaranty in the form and amount prescribed in the proposal. Bids not so supported will not be read. The proposal guaranty shall be ~~filed~~ received, prior to the time advertised for opening of bids.

- B.** The proposal guaranty may be in the form of a certified check or credit union certified share draft, cashier's check, money order, or bank draft drawn on a solvent bank or credit union. Certified checks or credit union certified share drafts shall bear an endorsement signed by a responsible official of such bank or credit union as to the amount certified. Cashier's checks, money orders, or bank drafts shall be made payable either to the Contracting Authority or to the bidder and, where made payable to the bidder, shall contain an unqualified endorsement to the Contracting Authority signed by the bidder or the bidder's authorized agent. Certified checks and credit union share drafts shall be certified, or the cashier's check shall be drawn and endorsed, in an amount not less than prescribed in the proposal.

- C.** A Proposal Guaranty/Bid Bond (Form 518003) may be used for the proposal guaranty in lieu of that specified above, using the electronic bid bond verification feature authorized by the Department. Bid bonds will be declared invalid and bid proposals will not be considered if any of the following items are omitted or incorrect:

- ~~• Date of Letting~~
- ~~• Bid Order Number~~
- ~~• Name of Contractor~~
- ~~• Digital Signature of Contractor: In case of joint venture bid, all contractors must sign.~~
- ~~• Name of the Surety Company~~
- ~~• Digital Signature of Surety (if Surety's limitation is less than the amount of the bid bond, a certificate of reinsurance must be attached).~~

- D.** A Contractor's Annual Bid Bond (Form 650043) may also be used for the proposal guaranty in lieu of that specified above, using the electronic bid bond verification feature authorized by the Department.

~~Annual Bid Bonds will be declared invalid and bid proposals will not be considered if any of the following items are omitted or incorrect:~~

- ~~• Name of Contractor~~
- ~~• Digital Signature of Contractor: In the case of joint venture bid, all Contractors shall sign.~~
- ~~• Date of signature~~
- ~~• Name of Surety Company~~
- ~~• Digital Signature of Surety (if Surety's limitation is less than the amount of the bid bond, a certificate of reinsurance shall be attached).~~
- ~~• Expiration Date of Bond shall not exceed 365 calendar days from the effective date of bond.~~

**1102.14 PUBLIC OPENING OF PROPOSALS.**

~~Proposals will be publicly opened and read at the time and place stipulated in the notice to bidders. Proposals will be opened and publicly posted via the Bid Express website (www.bidx.com), as stipulated in the notice to bidders.~~

**Reason for Revision:** The basis for these changes is to bring Section 1102 into align with current business practices. 1102.09 Preparation of Proposals – changes due to the use of the Project Bids Software. 1102.11 Proposal Guaranty – changes due to the Contracts and Specifications Bureau no longer verifying proposal guaranty/bid bonds. Contractors must use the electronic bid bond verification feature authorized by the Department. 1102.14 Public Opening of Proposals - changes due to the use of the Bid Express website for opening and posting of proposals.

<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No</b> x
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No</b> x
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No</b> x
<b>Comments:</b>		
<b>County or City Comments:</b>		
<b>Industry Comments:</b>		



Form 510130 (08-15)



**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Tom Reis / Eric Johnsen / Kevin Merryman		<b>Office:</b> Specifications / Construction and Materials	<b>Item 3</b>
<b>Submittal Date:</b> 10/20/2020		<b>Proposed Effective Date:</b> 4/20/2021	
<b>Article No.:</b> 1102.03, A, 2, f <b>Title:</b> Imposition of Increase in Bidder Qualification Requirements, Suspension, and Disqualification <b>Article No.:</b> 1109.05 <b>Title:</b> Partial Payments		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 11/12/2020	<b>Effective Date:</b> 4/20/2021
<b>Specification Committee Approved Text:</b> See Specification Section Recommended Text.			
<b>Comments:</b> FHWA stated that the Construction and Materials Bureau had consulted with them regarding these revisions.			
<b>Specification Section Recommended Text:</b>			
<b>1102.03, A, 2, f.</b>			
<p><b>Replace the Article:</b>                  The Contractor fails to pay the subcontractor progress payments and subcontractor retainage as required by <a href="#">Article 1109.05</a>, or</p>			
<b>1109.05, Prompt Payment.</b>			
<p><b>Replace Articles B and C:</b>  <b>B. Prompt Payment to Subcontractors.</b></p> <ol style="list-style-type: none"> <li>1. The Contractor shall promptly pay each subcontractor. Any delay or postponement of payment among the parties may take place only for good cause, with written notification to the subcontractor. A payment, excluding subcontractor retainage, to a subcontractor for satisfactory performance of the subcontractor's work shall be made by the Contractor no later than one of the following, as applicable:                     <ol style="list-style-type: none"> <li>a. 7 calendar days after the Contractor receives payment for the subcontractor's work.</li> <li>b. 7 calendar days after the Contractor could have received payment for the subcontractor's work, if the reason for nonpayment is not the subcontractor's fault.</li> </ol> </li> <li>2. The Contractor may withhold up to 5% of each progress estimate on work performed by subcontractors as subcontractor retainage.</li> <li>3. <del>Retained funds due a subcontractor</del> Subcontractor retainage shall be payable by the Contractor within 30 calendar days after satisfactory completion of the work by the subcontractor. Subcontractor's work is satisfactorily completed when all requirements called for in the subcontract have been accomplished and required documentation provided by subcontractor. Non-bonded subcontractors may be required to submit proof of payment for all material bills and wages to the Contractor before the Contractor is required to pay the subcontractor retainage.</li> </ol>			

<p>4. The use of joint checks for payment to subcontractors for their materials is acceptable under the following conditions:</p> <ul style="list-style-type: none"> <li>a. The request for a joint check from the prime contractor is made by the subcontractor.</li> <li>b. The joint check issued by the prime contractor is for an amount not to exceed the cost of unpaid invoice(s) from the materials supplier to a subcontractor on that contract.</li> <li>c. The joint check is given to the subcontractor and the subcontractor must release the joint check to the material supplier.</li> <li>d. The use of a joint check by the prime contractor is applicable to all their subcontractors.</li> </ul>		
<p><b>C. Contractor Retainage.</b></p>		
<p>1. Three percent of each progress estimate will be deducted and held as Contractor retainage on the first \$1,000,000 paid on a contract. Additional Contractor retainage will be withheld to a maximum of \$30,000 following Contractor retainage release if subsequent work is performed. This Contractor retainage is held exclusively for claims filed in accordance with Iowa Code 573 and shall not be considered as an encumbrance on work performed by a subcontractor.</p>		
<p>2. The <del>retained funds</del> Contractor retainage held by the Contracting Authority for the contract will not be due and payable prior to 30 calendar days after the date of final acceptance of the entire contract or following the release or adjudication of claims that may have been filed, or until the Contractor has filed the signed final voucher with the Contracting Authority.</p>		
<p><b>Replace Article E:</b></p>		
<p>1. The Contractor shall maintain a system for tracking the status of subcontractor work and payments. The Contractor shall retain records that document the date of field completion, date of satisfactory completion of the work and the date of final payment (including <del>funds retained</del> subcontractor retainage in accordance with <a href="#">Article 1109.05, B, 2</a>) to each subcontractor. Copies of the records to verify compliance with <a href="#">Article 1109.05, B</a> shall be provided to the Contracting Authority, if requested.</p>		
<p>2. Prior to receiving final payment, the Contractor shall provide to the Engineer the "Certification of Subcontractor Payments" (Form 518002). This form shall include the names of each approved subcontractor, the date of field completion, the date of satisfactory completion of the work, the date of final payment, the number of days between satisfactory completion and final payment, and the date of payment by the Contracting Authority. Explanations for any final payments made after the 30 calendar day period following field completion shall be included with Form 518002.</p>		
<p>3. Failure to comply with <a href="#">Article 1109.05, B</a> may result in price adjustment credits, or suspension of bidding qualification in accord with <a href="#">Article 1102.03, A, 2</a>.</p>		
<p><b>Comments:</b></p>		
<p><b>Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use <del>Strikeout</del> and Highlight.)</b></p>		
<p><b>Reason for Revision:</b> To clear up the difference between 5% subcontractor retainage and the 3% Contractor retainage.</p>		
<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<p><b>Comments:</b></p>		
<p><b>County or City Comments:</b></p>		
<p><b>Industry Comments:</b></p>		



**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Wes Musgrove / Melissa Serio		<b>Office:</b> Construction & Materials	<b>Item 4</b>
<b>Submittal Date:</b> 10/26/20		<b>Proposed Effective Date:</b> April 2021 GS	
<b>Section No.:</b> 2402 <b>Title:</b> Excavation for Structures		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 11/12/2020	<b>Effective Date:</b> 4/20/2021
<b>Specification Committee Approved Text:</b> See Specification Section Recommended Text.			
<b>Comments:</b> None.			
<b>Specification Section Recommended Text:</b>			
<b>2402.03, H, 4.</b>			
<b>Add to the end of the Article:</b>			
When placing granular backfill material for mechanically stabilized earth (MSE) retaining walls, refer to Section 2432 for material and construction requirements.			
<b>2402.04, E.</b>			
<b>Add the Article:</b>			
3. For granular backfill material for MSE retaining walls, refer to Section 2432.			
<b>2402.05, G.</b>			
<b>Add to the end of the Article:</b>			
For payment of granular backfill material for MSE retaining walls, refer to Section 2432.			
<b>Comments:</b>			
<b>Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use <del>Strikeout</del> and Highlight.)</b>			
<b>2402.03, H, 4.</b>			
<b>Replace the Article:</b>			
4. When granular backfill material is specified, use backfill material meeting the requirements of Section 4133. When the volume of material excavated exceeds that of backfill material required by the contract documents, increase the quantity of granular backfill material furnished to provide backfill material for the excess volume of excavation. Place granular backfill material in layers no more than 8 inches thick. Thoroughly tamp or vibrate each layer to insure compaction. The Engineer may require granular backfill material to be moistened with water while being placed. When placing granular backfill material for mechanically stabilized earth (MSE) retaining walls, refer to Section 2432 for material and construction requirements.			
<b>2402.04, E.</b>			

<p><b>Add the Article:</b></p> <p style="margin-left: 40px;">3. For granular backfill material for MSE retaining walls, refer to Section 2432.</p>		
<p><b>2402.05, G.</b></p>		
<p><b>Replace the Article:</b></p>		
<p><b>G. Granular Backfill.</b>                  Payment for granular backfill material will be at the contract unit price per cubic yard or ton. The cost of granular backfill material required and furnished for structural concrete placement at bridge abutments is included in the contract unit price for the structural concrete. For payment of granular backfill material for MSE retaining walls, refer to Section 2432.</p>		
<p><b>Reason for Revision:</b> In Section 2402, provide references to Section 2432 for MSE wall granular backfill material and construction requirements, MOM, and BOP.</p>		
<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No</b> x
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No</b> x
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No</b> x
<b>Comments:</b> None		
<b>County or City Comments:</b>		
<b>Industry Comments:</b>		

Form 510130 (08-15)



**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Wes Musgrove / Desiree McClain		<b>Office:</b> Construction & Materials	<b>Item 5</b>
<b>Submittal Date:</b> October 26, 2020		<b>Proposed Effective Date:</b> April 2021	
<b>Article No.:</b> 2433.03, D, 1, b <b>Title:</b> Shaft Excavation <b>Article No.:</b> 2433.05, A <b>Title:</b> Concrete Drilled Shaft		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 11/12/2020	<b>Effective Date:</b> 4/20/2021
<b>Specification Committee Approved Text:</b> See Specification Section Recommended Text.			
<b>Comments:</b> None.			
<b>Specification Section Recommended Text:</b> <b>2433.03, D, 1, b.</b>  Delete the last sentence: No separate payment will be made for removing obstructions.  <b>2433.05, A, Concrete Drilled Shaft.</b>  Add the Article: 3. Removal of obstructions during excavation is considered as extra work and payment will be as provided in <a href="#">Article 1109.03, B</a> .			
<b>Comments:</b>			
<b>Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use <del>Strikeout</del> and <del>Highlight</del>.)</b>  <b>D. Shaft Excavation.</b>  1. <b>General.</b> a. Construct drilled shafts by either the wet, dry, or casing method as necessary to produce sound, durable concrete foundation shafts free of defects. These methods are described below. b. Remove surface and subsurface obstructions. Special tools and/or procedures may be required. <del>No separate payment will be made for removing obstructions.</del> c. If the Engineer determines that the material encountered during excavation and/or present at tip elevation is unsuitable and/or differs from that anticipated in the design of the drilled shaft, extend the drilled shaft tip elevations. d. Maintain a drilling log during shaft and socket excavation. In the log, place information such as elevation, depth of penetration, drilling time in each of the strata, material description, and remarks. Furnish two copies of the log (signed by the Contractor) to the Engineer within 1 week after completion of the excavation. e. After the shaft excavation has been completed, immediately proceed with shaft construction. f. <b>Do not excavate a shaft within a distance of three shaft diameters of a previously constructed shaft within 24 hours of completing concrete placement, unless approved by the Engineer.</b>			

- g.** The dry method of construction will not be allowed for drilled shafts with shale identified in the bearing strata of the soil profile.

**A. Concrete Drilled Shaft.**

1. Per foot.
2. Payment is full compensation for all equipment, labor, and materials (except reinforcing steel) necessary to satisfactorily construct the shafts including:
  - Drilling and excavation of shaft and possible rock socket,
  - Casing,
  - Installation and removal of temporary casing,
  - Furnishing and placing concrete,
  - All CSL pipe and initial testing,. Further investigation and remediation of shafts with proven defects or poor quality concrete is also included, and
  - Disposal of excavated materials and water, and all other materials.
3. Removal of obstructions during excavation is considered as extra work and payment will be as provided in [Article 1109.03, B.](#)

**Reason for Revision:** Updating our specification to follow FHWA standards.

<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No</b> X
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No</b> X
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No</b> X

**Comments:**

**County or City Comments:**

**Industry Comments:**

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**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Wes Musgrove / Desiree McClain		<b>Office:</b> Construction & Materials	<b>Item 6</b>
<b>Submittal Date:</b> October 26, 2020		<b>Proposed Effective Date:</b> April 2021	
<b>Article No.:</b> 2501.03, M <b>Title:</b> Determination of Nominal Bearing Resistance of Piles for Load and Resistance Factor Design		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 11/12/2020	<b>Effective Date:</b> 4/20/2021
<b>Specification Committee Approved Text:</b> See Specification Section Recommended Text.			
<b>Comments:</b> None.			
<b>Specification Section Recommended Text:</b> <b>2501.03, M, 1, d.</b>  Replace the second sentence: With the Engineer's approval, driving may be stopped when the rate of driving exceeds <del>460</del> 120 blows per foot.  <b>2501.03, M, 2, b, 2.</b>  Replace the Article: With approval from the Engineer, driving may be stopped when the rate of driving exceeds <del>460</del> 120 blows per foot.			
<b>Comments:</b>			
<b>Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use <u>Strikeout</u> and <u>Highlight</u>.)</b>			
<ol style="list-style-type: none"> <li>1. <b>Wave Equation Analysis.</b> <ol style="list-style-type: none"> <li>a. Wave equation analysis will be used on all Interstate and Primary projects, on other projects when specified in the contract documents, or as directed by the Engineer.</li> <li>b. Drive piles to full penetration using approved driving equipment.</li> <li>c. Retaps or pile extensions may be necessary to obtain the required pile nominal bearing resistance, including potential adjustments for scour or downdrag conditions.</li> <li>d. Do not continue driving beyond a depth at which acceptable pile stress is exceeded. With the Engineer's approval, driving may be stopped when the rate of driving exceeds <del>460</del> 120 blows per foot.</li> </ol> </li>   <li>2. <b>Nominal Bearing Resistance Determinations by Formula.</b> <ol style="list-style-type: none"> <li>a. When wave equation analysis is not required, compute the nominal bearing resistance of piles using the following formulas:                               For Gravity Hammers with Wood, Steel H, or Steel Pipe Piles:                             <math display="block">P = \frac{12WH}{S+0.35} \times \frac{W}{W+M}</math> </li> </ol> </li> </ol>			

For Gravity Hammers with Concrete Piles:

$$P = \frac{18WH}{S+0.2} \times \frac{W}{W+M}$$

Diesel Hammers with Wood, Steel H, or Steel Pipe Piles and (Construction) Steam Hammers for all Piles:

$$P = \frac{12E}{S+0.1} \times \frac{W}{W+M}$$

Diesel Hammers with Concrete Piles:

$$P = \frac{28E}{S+0.1} \times \frac{W}{W+M}$$

Where, for the above equations:

P = The nominal bearing resistance in tons,

W = The weight of the gravity hammer, or the ram of an air hammer or diesel hammer in tons,

H = The height of free fall of the hammer or ram in feet,

M = The weight in tons of the pile plus the weight in tons of the cap plus (for diesel hammers) the weight of the anvil in tons,

E = The energy per blow in foot-tons (for single acting steam hammers E = W x H),

S = The average penetration in inches of the pile per blow for the last 5 blows for gravity hammers and the last 10 blows for air or diesel hammers.

- b. Apply the following conditions in the use of the above formulas:
  - 1) Unless the hammer has free fall, substitute a value for "W" that is less than the weight of the hammer by an amount sufficient to compensate for all friction and drag tending to retard its fall.
  - 2) With approval from the Engineer, driving may be stopped when the rate of driving exceeds ~~160~~ 120 blows per foot.
  - 3) There is no excessive bounce to the hammer after the blow.
  - 4) For the computation of the nominal bearing resistance for battered piles driven with gravity hammers, multiply the value obtained from the formulas by the following factor: (Cosine a) minus (f sine a), where "a" equals the angle the leads make with the vertical and "f" equals the coefficient of friction between the hammer or ram and the surface on which it slides. For gravity hammers sliding on greased steel surfaced leads, assume the value of "f" to be 0.1.
- c. The Engineer may modify the above formulas on the basis of load tests. At the Engineer's discretion, the Wave Equation Analysis may be used to evaluate the driving system, as well as determine pile nominal bearing resistance.

**Reason for Revision:** Conforming more to industry standards, most manufacturers suggest stopping their equipment at 120 BPF.

<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Obsolete Required (X one)</b>	<b>Yes</b>	<b>No X</b>

**Comments:**

**County or City Comments:**

**Industry Comments:**



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**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Mike Kennerly / Daniel Harness		<b>Office:</b> Design	<b>Item 7</b>
<b>Submittal Date:</b> 10/23/2020		<b>Proposed Effective Date:</b> 4/20/2021	
<b>Article No.:</b> 2502.03, C, 2 <b>Title:</b> Longitudinal Subdrains		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 11/12/2020	<b>Effective Date:</b> 4/20/2021
<b>Specification Committee Approved Text:</b> See Specification Section Recommended Text.			
<b>Comments:</b> Specifications Section asked if payment for the outlet coverings was clear in the Basis of Payment section. Per Article 2502.05, C, 2, payment for subdrain outlets includes furnishing and installing corrugated metal pipe, double walled PE, or PVC pipe including the outlet coverings, ...			
<b>Specification Section Recommended Text:</b> <b>2502.03, C, 2.</b>  Replace the fourth sentence: When specified, cover the outlet end of each subdrains with the specific outlet covering.			
<b>Comments:</b>			
<b>Member's Requested Change:</b> (Do not use 'Track Changes', or 'Mark-Up'. Use <del>Strikeout</del> and Highlight.) <b>2502.03, C, 2.</b> Replace the fourth sentence: When specified, cover the outlet end of each subdrains with the specific outlet covering.			
<b>Reason for Revision:</b> Changed sentence to clarify use of rodent guards only when specified.			
<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No X</b>	
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No X</b>	
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No X</b>	
<b>Comments:</b> None			
<b>County or City Comments:</b>			
<b>Industry Comments:</b>			

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**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Wes Musgrove		<b>Office:</b> Construction and Materials	<b>Item 8</b>
<b>Submittal Date:</b> 10/29/2020		<b>Proposed Effective Date:</b> April 2021	
<b>Article No.:</b> 2528.01, C, 3 <b>Title:</b> Traffic Quality Control		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 11/12/2020	<b>Effective Date:</b> 4/20/2021
<b>Specification Committee Approved Text:</b> See Specification Section Recommended Text.			
<b>Comments:</b> None.			
<b>Specification Section Recommended Text:</b> <b>2528.01, C, 3.</b>			
<p><b>Replace the Article:</b>                  Employees who install and remove temporary traffic control signs and devices located within the traveled way or median shall be supervised by a <del>trained</del> Traffic Control Technician trained per <a href="#">Article 2528.01, C, 1</a>. <del>When traffic control is installed or removed, t</del>The Traffic Control Technician <del>who</del> supervising the installation or removal of temporary traffic control devices and signs shall be on site and document in the daily traffic control diary what was installed or removed.</p>			
<b>Comments:</b>			
<b>Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use <b>Strikeout</b> and <b>Highlight</b>.)</b>			
<b>C. Traffic Quality Control.</b>			
<ol style="list-style-type: none"> <li>1. Maintain a Traffic Control Technician on staff, even though the traffic control portion of the contract may be subcontracted. The Traffic Control Technician is required to have attended and passed the exam in an ATSSA Traffic Control Technician, IMSA Work Zone Traffic Control, Iowa AGC Traffic Control Technician class, Minnesota DOT Traffic Control Supervisor training class, or Texas Engineering Extension Service Work Zone Traffic Control training class. This Traffic Control Technician is responsible for overall management of the Contractor's quality control program for traffic control. Starting April 2018, the Traffic Control Technician shall retake and pass the exam in one of the approved classes every 5 years.</li> <li>2. On a daily basis as the project is constructed, perform the following quality control work associated with monitoring and documenting traffic control conditions:                         <ol style="list-style-type: none"> <li>a. Review all traffic control operations for compliance with contract documents and maintain a project traffic control daily diary in a format provided by the Contracting Authority. Submit this diary to the Engineer. It will become a part of the Contracting Authority's permanent project records. The Engineer may require submission of completed portions of the daily diary at routine intervals during construction of the project. In the diary include:                                 <ul style="list-style-type: none"> <li>• Listing and station location of traffic control used each day referenced to the appropriate Standard Road Plan, project plan sheet, etc.,</li> <li>• All reviews of traffic control devices and operations, whether satisfactory or unsatisfactory, and corrections made,</li> <li>• Approved changes to the contract document's traffic control,</li> <li>• Incidentals affecting the efficiency and safety of traffic, and</li> </ul> </li> </ol> </li> </ol>			

- A daily list of trained flaggers used, including hours worked.
  - b. Monitor traffic operations and submit proposed Traffic Control Plan changes to the Engineer for approval.
  - c. Coordinate all changes to the Traffic Control Plan.
  - d. Coordinate all traffic control operations, including those of subcontractors and suppliers.
3. Employees who install and remove temporary traffic control signs and devices located within the traveled way or median shall be supervised by a trained Traffic Control Technician trained per [Article 2528.01, C, 1](#). When traffic control is installed or removed, the Traffic Control Technician who supervised the installation or removal of temporary traffic control devices and signs shall be on site and document in the daily traffic control diary what was installed or removed.

**Reason for Revision:** The intent of the article is to ensure at least one contractor employee has received training as to how to properly and safely install the traffic control devices they are installing. Some contractors interpreted the spec to only require the employee's workplace supervisor to be trained Traffic Control Technician. The proposed changes clarify we want the Traffic Control Technician present on the project while they supervise the work.

These changes also address a concern from industry regarding the extent of the requirement to have the Trained Traffic Control Technician present during every installation of traffic control devices. It isn't always reasonable for small contractors to provide a Trained Traffic Control Technician to set up a roadwork ahead sign and an end of roadwork sign or a small shoulder closure. The proposed changes clarify

<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No</b> X
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No</b> X
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No</b> X
<b>Comments:</b>		
<b>County or City Comments:</b>		
<b>Industry Comments:</b> Revisions are result of discussions with AGC.		

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**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Wes Musgrove / Melissa Serio		<b>Office:</b> Construction & Materials	<b>Item 9</b>
<b>Submittal Date:</b> 10/26/20		<b>Proposed Effective Date:</b> April 2021 GS	
<b>Article No.:</b> 2552.05, A, 5. <b>Title:</b> Basis of Payment (Trench Excavation and Backfill)		<b>Other:</b>	
<b>Specification Committee Action:</b> Approved as recommended.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 11/12/2020	<b>Effective Date:</b> 4/20/2021
<b>Specification Committee Approved Text:</b> See Specification Section Recommended Text.			
<b>Comments:</b> None.			
<b>Specification Section Recommended Text:</b> 2552.05, A, 5.  <b>Replace the Article:</b> Placing and compacting backfill material, including furnishing backfill material for Interstate and Primary Road Projects.			
<b>Comments:</b>			
<b>Member's Requested Change:</b> (Do not use 'Track Changes', or 'Mark-Up'. Use <del>Strikeout</del> and Highlight.)  2552.05, A, 5.  <b>Replace the Article:</b> 5. Placing and compacting backfill material, including furnishing backfill material for Interstate and Primary Road Projects.			
<b>Reason for Revision:</b> Add clarification to BOP that required backfill material for Interstate and Primary Road Projects shall be incidental to underground utility being installed.			
<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No</b> x	
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No</b> x	
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No</b> x	
<b>Comments:</b> None			
<b>County or City Comments:</b>			
<b>Industry Comments:</b>			

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**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Wes Musgrove	<b>Office:</b> Construction & Materials	<b>Item 10</b>
<b>Submittal Date:</b> October 14, 2020	<b>Proposed Effective Date:</b> April 2021	
<b>Article No.:</b> 4186.12, A <b>Title:</b> Barrier Markers	<b>Other:</b>	

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

<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 11/12/2020	<b>Effective Date:</b> 4/20/2021
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**Specification Committee Approved Text:** See Specification Section Recommended Text.

**Comments:** Traffic and Safety Bureau asked if any consideration had been given to potential hazards caused by metal barrier markers being dislodged and thrown around by vehicular traffic. This revision was in response to a request for approval of a new manufacturer that uses aluminum that pointed out that one of the existing approved manufacturers also uses aluminum. Since this has not been an issue in the past, the Construction and Materials Bureau along with concurrence from the Traffic and Safety Bureau has requested this revision. The revision was approved, but will be discussed further, possibly including at the next Work Zone Traffic Safety Committee meeting.

**Specification Section Recommended Text:**

**4186.12, A.**

**Add to the end of Article 3:**

Microprism sheeting mounted on ASTM B 209 compliant aluminum sheeting minimum 40 mils thick is also allowed.

**Replace the first sentence of Article 4:**

Reflective surface exhibiting a minimum specific reflectance intensity listed in Table 4186.12-1 (Utilize ASTM D 4956 Type XI Microprism sheeting on interstate and primary system projects.):

**Comments:**

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

**4186.12 BARRIER MARKERS.**

**A.** Furnish markers meeting the following requirements:

1. Suitably shaped marker body designed for attachment to a flat surface.
2. Reflective surface that presents at least 7 square inches when viewed on a line parallel to the roadway center line.
3. Reflective surface of a flat acrylic plastic wide angle retroreflective lens of methyl methacrylate plastic meeting FSS LP-380C Type 1, Class C that is hermetically sealed or microprism sheeting mounted on a flat thermoplastic or PVC plastic body which is at least 70 mils thick. Microprism sheeting mounted on ASTM B 209 compliant aluminum sheeting minimum 40 mils thick is also allowed.
4. Reflective surface exhibiting a minimum specific reflectance intensity listed in Table 4186.12-1: (Utilize ASTM D 4956 Type XI Microprism sheeting on interstate and primary system projects.)

**Table 4186.12-1: Minimum Specific Reflectance Intensity**

Observation Angle Degrees	Entrance Angle Degrees	Specific Intensity Candle Power Per Foot- Candle	
		White	Yellow
0.1	0	120	75
0.1	20	50	30

B. Approved markers are listed in [Materials I.M. 486.08](#).

**Reason for Revision:** Current language does not allow aluminum for mounting of reflective sheeting for Barrier Markers. Update to allow aluminum as an option for mounting the microprism sheeting onto.

<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No</b> x
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No</b> x
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No</b> x
<b>Comments:</b>		
<b>County or City Comments:</b>		
<b>Industry Comments:</b>		

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**SPECIFICATION REVISION SUBMITTAL FORM**

<b>Submitted by:</b> Tom Reis / Eric Johnsen		<b>Office:</b> Specifications	<b>Item 11</b>
<b>Submittal Date:</b>		<b>Proposed Effective Date:</b>	
<b>Article No.:</b> <b>Title:</b>		<b>Other:</b> Revisions approved by SUDAS affecting shared specifications	
<b>Specification Committee Action:</b> Approved with changes.			
<b>Deferred:</b>	<b>Not Approved:</b>	<b>Approved Date:</b> 11/12/2020	<b>Effective Date:</b> 4/20/2021
<p><b>Specification Committee Approved Text:</b> See Specification Section Recommended Text with the following changes:</p> <p><b>2504.05, A, 1, b.</b></p> <p><b>Replace the Article:</b> Payment is full compensation for trench excavation, dewatering, furnishing and installing pipe; pipe lining (if specified); furnishing <del>bedding material</del>, placing, and compacting bedding and backfill material, wyes and other fittings, pipe joints, pipe connections, testing, and inspection.</p> <p><b>2435.05, A, 2.</b></p> <p><b>Replace the Article:</b> Payment is full compensation for excavation, furnishing and installing pipe, lining (if specified), furnishing <del>(if required)</del> and placing, and compacting bedding and backfill material, <del>compaction</del>, base, structural concrete, reinforcing steel, precast units (if used), concrete fillets, pipe connections, infiltration barriers (sanitary sewer manholes only), castings, and adjustment rings.</p>			
<b>Comments:</b>			
<p><b>Specification Section Recommended Text:</b></p> <p><b>4147.01, A, 1, Fabric Tube and Resin.</b></p> <p><b>Replace the Article:</b> Comply with ASTM F <del>4249</del> 1216 for heat cure or ASTM F 2019 and D 5813 for UV light cure.</p> <p><b>4149.04, H, 1, c, Expanded Polypropylene Adjustment Rings.</b></p> <p><b>Replace the first sentence:</b> Comply with ASTM D 4819 for expanded polypropylene when tested according to ASTM D <del>2375</del> 3575.</p> <p><b>2504.05, A, 1, b.</b></p> <p><b>Replace the Article:</b> Payment is full compensation for trench excavation, dewatering, furnishing and installing pipe; pipe lining (if specified); furnishing <del>bedding material</del>, and placing bedding and backfill material, wyes and other fittings, pipe joints, pipe connections, testing, and inspection.</p>			

**2504.05, A, 2, b.**

**Add** as the second bullet:

- Pipe lining (if specified),

**2504.05, B, 1, b.**

**Add** as the second bullet:

- Pipe lining (if specified),

**2504.05, B, 2, b.**

**Add** as the second bullet:

- Pipe lining (if specified),

**4149.02, A, 6, b, Pipe Lining.**

**Replace** the Article:

**1) Epoxy Coal Tar.**

**1 a)** Coat interior pipe barrel and all joint surfaces with two-component coal-tar epoxy-polyamide black paint or approved equal.

**2 b)** Lining Material: SSPC Specification No. 16, Table 1.

**a (1)** Minimum epoxy resin content 34% to 35% by dry film weight.

**b (2)** Minimum sag resistance 40 mils.

**c (3)** Minimum solids 80% by volume.

**3 c)** Apply according to the lining material manufacturer's recommendations.

**2) PVC.**

**a)** Minimum thickness of 0.65 inch.

**b)** Locking extensions extruded from the same material as the liner a minimum of 0.375 inches tall spaced a maximum of 2.5 inches.

**c)** Liner to cover the entire interior of the concrete pipe.

**d)** Minimum tensile strength of liner is 2200 psi with a minimum elongation of 200% at breaking.

**e)** Meet EPA 9090 for chemical resistance.

**f)** Free of cracks, cleavages, pinholes, or other defects.

**g)** Joint sealer strip to be from the same material as the liner.

**3) HDPE.**

**a)** Minimum thickness of 0.080 inches according to ASTM D5199.

**b)** Minimum density of 0.90 g/cm<sup>3</sup>.

**c)** Meet EPA 9090 for chemical resistance.

**d)** Locking extensions made from the same material as the liner with minimum pullout strength of 14,000 pounds per square foot.

**e)** Free of cracks, cleavages, pinholes, or other defects.

**f)** Joint sealer strip to be from the same material as the liner.

**2435.05, A, 2.**

**Replace** the Article:

Payment is full compensation for excavation, furnishing and installing pipe, pipe lining (if specified), furnishing (if required) and placing bedding and backfill material, compaction, base, structural concrete, reinforcing steel, precast units (if used), fillets, pipe connections, infiltration barriers, castings, and adjustment rings.

**2549.02, A, 2, a, 5.**



**Replace the Article:**

**Safety Procedures:** ~~When required in the contract documents, s~~ Submit documentation of National Institute of Occupational Safety and Health (NIOSH) testing, health hazard evaluation, and recommended safety procedures for CIPP workers and public. The safety plan is to include emission stacks a minimum of 6 feet tall and a method to establish a safe perimeter around manholes/emission stacks a minimum of 15 feet in diameter. Based on active air monitoring, workers must wear suitable Personal Protection Equipment (PPE) when initially opening and entering the transport truck or storage unit holding the liner.

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

**Replace the first sentence:**

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

**4150.02, A, 2, c.**

**Replace the Article:**

**External coating:** ~~Asphalt~~ Seal coat according to AWWA C 151.

**4150.02, A, 2, d, 4.**

**Replace the Article:**

**Restrained, in Structures:** Restraining gland, flanged or grooved/~~shouldered~~.

**4150.02, A, 2, d, 6.**

**Replace the Article:**

**Grooved/Shouldered:** According to AWWA C606.

**4150.02, C, 1, c.**

**Replace the Article:**

Cement mortar lined complying with AWWA C104 with ~~asphalt coating~~ seal coat or protective fusion bonded coatings per AWWA C116.

**2554.03, A, 2, a.**

**Replace the second sentence:**

Alternatively, use a MJ gland or other approved method to field gage pipe selected for cutting to verify the outside diameter is within allowable tolerances.

**2554.03, A, 2, b.**

**Replace the third sentence:**

Bevel cut, file, or grind the ends for push-on joints according to the manufacturer's recommendations.

**2554.03, C, 6, Bacteria Sampling.**

**Replace Articles 6 and 7:**

**6. Bacteria Sampling.**

Test water mains according to AWWA C651, except as modified below. ~~If the initial disinfection procedure fails to produce satisfactory bacteriological results or if other water quality is affected, repeat the disinfection procedure.~~

- a. Collect samples every 1200 feet of new water main plus one set from the end of the line and at least one from each branch greater than one pipe length. If trench water

<p>entered the new main during construction, or if excessive quantities of dirt and debris entered the main, the Engineer may reduce the sampling interval to every 200 feet of new main.</p> <p><b>b.</b> Collect samples according to one of the following methods as directed by the Engineer:</p> <ol style="list-style-type: none"> <li><b>1)</b> Collect an initial set of samples after flushing and then an additional set after a minimum of 24 hours without any water use. The engineer may reduce the sampling interval to 16 hours.</li> <li><b>2)</b> Allow water to sit in the new main for a minimum of 16 hours after flushing without any water use. Collect an initial set of samples and allow the sampling ports to run for a minimum of 15 minutes. Collect a second set of samples from the sampling ports.</li> </ol> <p><b>7. Re-Disinfection.</b> If the initial disinfection fails to produce satisfactory bacteriological samples, flush the main again and reinitiate the sampling process. If check samples show the presence of coliform organisms, rechlorinate the main prior to flushing and sampling until satisfactory results are obtained.</p> <p><b>7 8. Putting Water Main in Service</b> Put the completed water system in service only after obtaining permission of the Engineer.</p>		
<b>Comments:</b>		
<b>Member's Requested Change: (Do not use 'Track Changes', or 'Mark-Up'. Use <del>Strikeout</del> and Highlight.)</b>		
<b>Reason for Revision:</b>		
<b>New Bid Item Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Modification Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Bid Item Obsolescence Required (X one)</b>	<b>Yes</b>	<b>No X</b>
<b>Comments:</b>		
<b>County or City Comments:</b> All items have been approved by SUDAS.		
<b>Industry Comments:</b>		