



## APPROVED MINUTES

December 5, 2019

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Minutes from the October 17, 2019 Standards Committee Meeting

The Standards Committee was called to order by Mr. Novak, sitting in for Mr. Pankow, as chair, at 09:00 a.m. on October 17, 2019 in the IGCS Building Conference Room 4&5. The meeting was adjourned at 11:07 a.m.

The following committee members were in attendance:

Joseph Novak\*, Chairman, Construction and Materials Management  
Michael Beuchel, Contract Administration  
Dave Boruff, Traffic Engineering  
Mark Orton, Bridge Design Division  
Tom Harris\*\*, Construction Management  
Kumar Dave, Pavement Engineering, Highway Design  
Matthew Beeson, Materials Management  
Michael Koch, District Construction, Fort Wayne District  
Elena Veksler, Highway Design and Technical Support  
Derrick Hauser\*\*\*, Construction Technical Support

\* *Proxy* for Gregory Pankow

\*\* *Proxy* for Joseph Novak

\*\*\* *Proxy* for Kurt Pelz

Also in attendance were the following:

Andrew Pangallo, INDOT  
Lauren Badding, INDOT  
Zach Corrice, INDOT  
Elizabeth Phillips, INDOT  
Greg Logman, INDOT  
Steve Fisher, INDOT  
Tom Duncan, FHWA  
Dan Brown, APAl/Phend-Brown

James D. Culbertson, INDOT  
Jim Reilman, INDOT  
Lana Podorvanova, INDOT  
Peter White, INDOT  
Ron Bales, INDOT  
Nicole Fohey-Breting, INDOT  
Scott Trammell, INDOT  
Ting Nahrwold, FHWA

The following items were discussed:

A. GENERAL BUSINESS ITEMS

OLD BUSINESS

Mr. Trammell stated that due to the CEPDS conference, the Standards Committee meeting scheduled for the November will be held on **Wednesday, November 20, 2019**.

NEW BUSINESS

1. *Approval of the Minutes from the September 19, 2019 meeting*

DISCUSSION: Mr. Novak requested a motion to approve the minutes from the September 19, 2019 meeting.

Motion: Mr. Boruff  
Second: Mr. Dave  
Ayes: 9  
Nays: 0

ACTION: PASSED AS SUBMITTED

2. *Discontinue use of Recurring Special Provision (Scott Trammell)*

Action: This recurring special provision was not used since its inception and should be discontinued and added to a list as a unique.

707-B-172 INTERIOR DIAPHRAGMS

(Adopted 05-24-06)

The substitution of structural steel interior diaphragms for cast-in-place reinforced concrete interior diaphragms will not be allowed on this contract.

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B. CONCEPTUAL PROPOSAL ITEMS

OLD BUSINESS

(No items were listed)

NEW BUSINESS

(No items were listed)

C. STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS PROPOSED ITEMS

OLD BUSINESS

(No items were listed)

NEW BUSINESS

Item No. 1 (2020 SS) Mr. Orton pg 5

Standard Drawings:

E 503-BATJ-01	TERMINAL JOINT INDEX AND GENERAL NOTES
E 503-BATJ-02	TERMINAL JOINT, TYPE PCCP
E 503-BATJ-03	TERMINAL JOINT, TYPE HMA

ACTION: PASSED AS SUBMITTED

Item No. 2 (2020 SS) Mr. Beeson pg 13

<del>303.02</del>	Materials
401.05	Volumetric Mix Design
401.11	Preparation of Surfaces to be Overlaid
401.14	Spreading and Finishing
401.19	Pay Factors
402.04	Design Mix Formula
402.09	Acceptance of Mixtures
402.13	Spreading and Finishing
410.14	Spreading and Finishing
718.02	Materials
904.03	Coarse Aggregates

ACTION: PASSED AS REVISED

Item No. 3 (2020 SS) Mr. Beeson pg 23

901.07	Rapid Setting Patch Materials
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ACTION: PASSED AS SUBMITTED

Item No. 4 (2020 SS) Mr. Beeson pg 27

202.03	Removal of Bridges, Culverts, and Other Drainage Structures
202.13	Method of Measurement
202.14	Basis of Payment
SECTION 619	PAINTING BRIDGE STEEL ( <i>various subsections</i> )

ACTION: PASSED AS REVISED

Item No. 5 (2020 SS)  
205.11

Mr. Pelz  
Basis of Payment

pg 49

ACTION:

PASSED AS REVISED

cc: Committee Members  
FHWA  
ICI

APPROVED MINUTES

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS  
REVISION TO STANDARD SPECIFICATIONS

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PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The terminal joint standard drawings that were submitted and approved at the July 18, 2019 Standard Committee Meeting indicate that the setting width of the pre-compressed foam is to be determined based on actual ambient temperature at the time of construction. Concerns were raised at the Indiana Constructors, Inc. (ICI) meeting on August 8, 2019 about this variability in joint setting widths.

PROPOSED SOLUTION: In order to address the variable joint setting width concern, INDOT reviewed the thermal movements and determined conditions which would allow a constant setting width, regardless of changes in ambient temperature. The proposed joint setting width is constant for expansion lengths less than or equal to 150 ft., which will apply to most terminal joint installation. The joint setting width will remain dependant on ambient temperature for expansion lengths greater than 150 ft.

APPLICABLE STANDARD SPECIFICATIONS: 503 (PCCP Joints) - No changes due to this proposal

APPLICABLE STANDARD DRAWINGS: E 503-BATJ-02 & 03 (RPD 503-R-692d 2&3 of 3) - Proposed changes attached

APPLICABLE DESIGN MANUAL SECTION: 17.5.09(01), 402-7.02(03), and 409-2.04 – No changes due to this proposal

APPLICABLE SECTION OF GIFE: 8.7.4 - No changes due to this proposal

APPLICABLE RECURRING SPECIAL PROVISIONS: RSP 503-R-692 - No changes due to this proposal

PAY ITEMS AFFECTED: No changes due to this proposal

APPLICABLE SUB-COMMITTEE ENDORSEMENT: N/A

IMPACT ANALYSIS (attach report):

Submitted By: Pete White for Mark Orton (Terminal Joint details originally submitted by Nick Cosenza for Kumar Dave on 5/20/19)

Title: Standards Engineer

Organization: Standards & Policy

Phone Number: 317-467-3461

Date: September 11, 2019

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS  
REVISION TO STANDARD SPECIFICATIONS

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IMPACT ANALYSIS REPORT CHECKLIST

*Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.*

Does this item appear in any other specification sections? RSP 724-B-309 - No changes due to this proposal

Will approval of this item affect the Approved Materials List? No

Will this proposal improve:

Construction costs? No  
Construction time? No  
Customer satisfaction? No  
Congestion/travel time? No  
Ride quality? No

Will this proposal reduce operational costs or maintenance effort? No

Will this item improve safety:

For motorists? No  
For construction workers? No

Will this proposal improve quality for:

Construction procedures/processes? Yes  
Asset preservation? Yes  
Design process? Yes

Will this change provide the contractor more flexibility? Yes

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? Yes

Is this proposal needed for compliance with:

Federal or State regulations? No  
AASHTO or other design code? No

Is this item editorial? Yes

Provide any further information as to why this proposal should be placed on the Standards

Committee meeting Agenda: This relatively minor change should simplify the construction of terminal joints and reduce the risk of errors in the field.

REVISION TO STANDARD DRAWINGS

E 503-BATJ-01 TERMINAL JOINT INDEX AND GENERAL NOTES (EXISTING, NO CHANGES PROPOSED)

INDEX	
SHEET NO.	SUBJECT
1	Terminal Joint Index and General Notes
2	Terminal Joint, Type PCCP
3	Terminal Joint, Type HMA

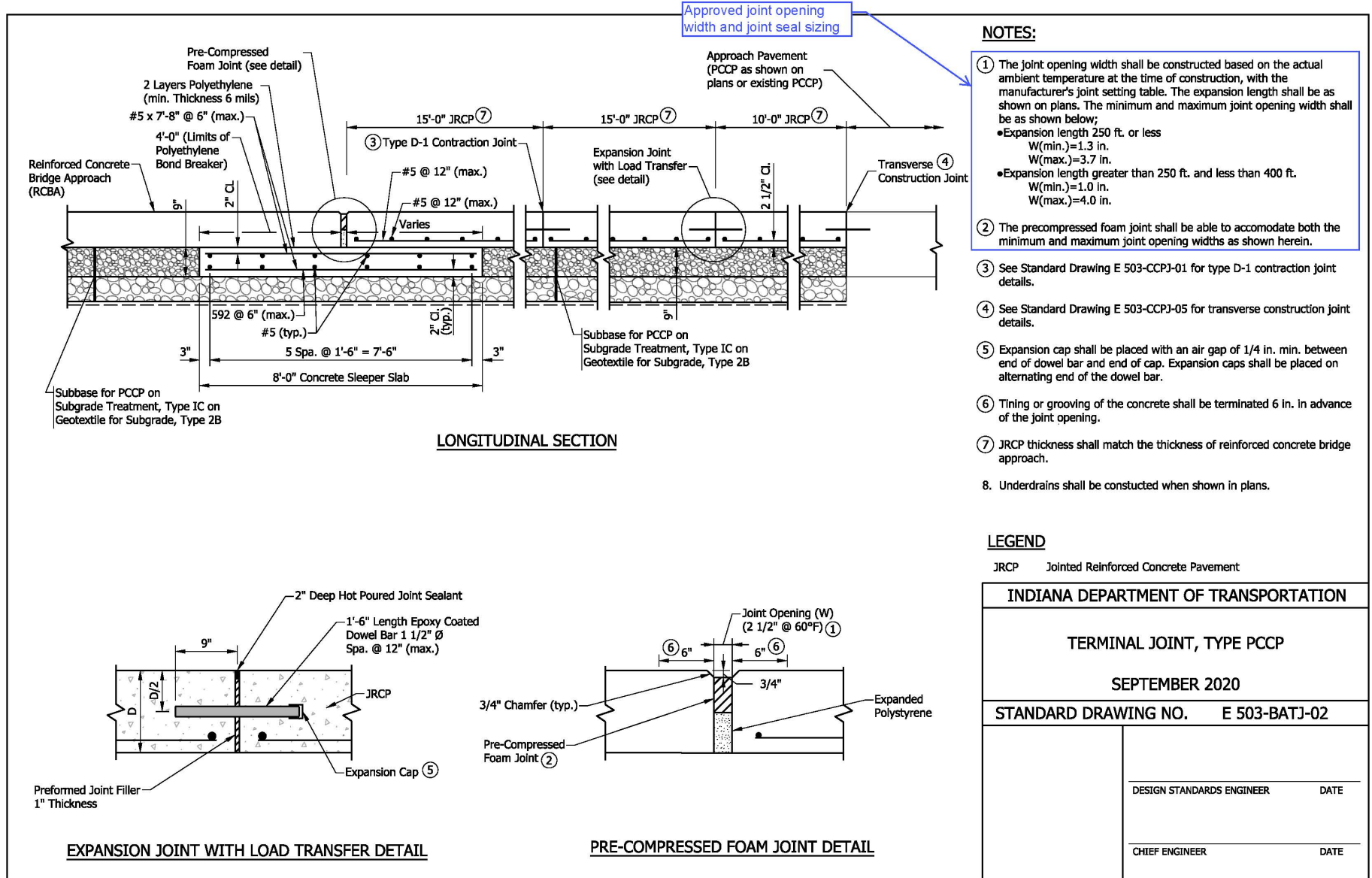
GENERAL NOTES:

1. When the approach pavement is Continuously Reinforced Concrete Pavement (CRCP) or HMA over CRCP, the details shall be as shown elsewhere on the plans.
2. Width of concrete sleeper slab shall match width of reinforced concrete bridge approach slab.
3. Reinforcing bars shall be epoxy coated.
4. Sleeper slab and terminal joint shall be concrete, Class A.
5. The driving surface of the concrete lug shall be surface sealed.

INDIANA DEPARTMENT OF TRANSPORTATION	
<p style="text-align: center;"> <b>TERMINAL JOINT INDEX AND GENERAL NOTES</b>                  SEPTEMBER 2020             </p>	
STANDARD DRAWING NO. E 503-BATJ-01	
	_____ DESIGN STANDARDS ENGINEER      DATE
	_____ CHIEF ENGINEER      DATE

REVISION TO STANDARD DRAWINGS

E 503-BATJ-02 TERMINAL JOINT, TYPE PCCP (WITH MARKUPS)



Approved joint opening width and joint seal sizing

- NOTES:**
- ① The joint opening width shall be constructed based on the actual ambient temperature at the time of construction, with the manufacturer's joint setting table. The expansion length shall be as shown on plans. The minimum and maximum joint opening width shall be as shown below;
    - Expansion length 250 ft. or less  
W(min.)=1.3 in.  
W(max.)=3.7 in.
    - Expansion length greater than 250 ft. and less than 400 ft.  
W(min.)=1.0 in.  
W(max.)=4.0 in.
  - ② The precompressed foam joint shall be able to accommodate both the minimum and maximum joint opening widths as shown herein.
  - ③ See Standard Drawing E 503-CCPJ-01 for type D-1 contraction joint details.
  - ④ See Standard Drawing E 503-CCPJ-05 for transverse construction joint details.
  - ⑤ Expansion cap shall be placed with an air gap of 1/4 in. min. between end of dowel bar and end of cap. Expansion caps shall be placed on alternating end of the dowel bar.
  - ⑥ Tining or grooving of the concrete shall be terminated 6 in. in advance of the joint opening.
  - ⑦ JRPC thickness shall match the thickness of reinforced concrete bridge approach.
  8. Underdrains shall be constructed when shown in plans.

**LEGEND**

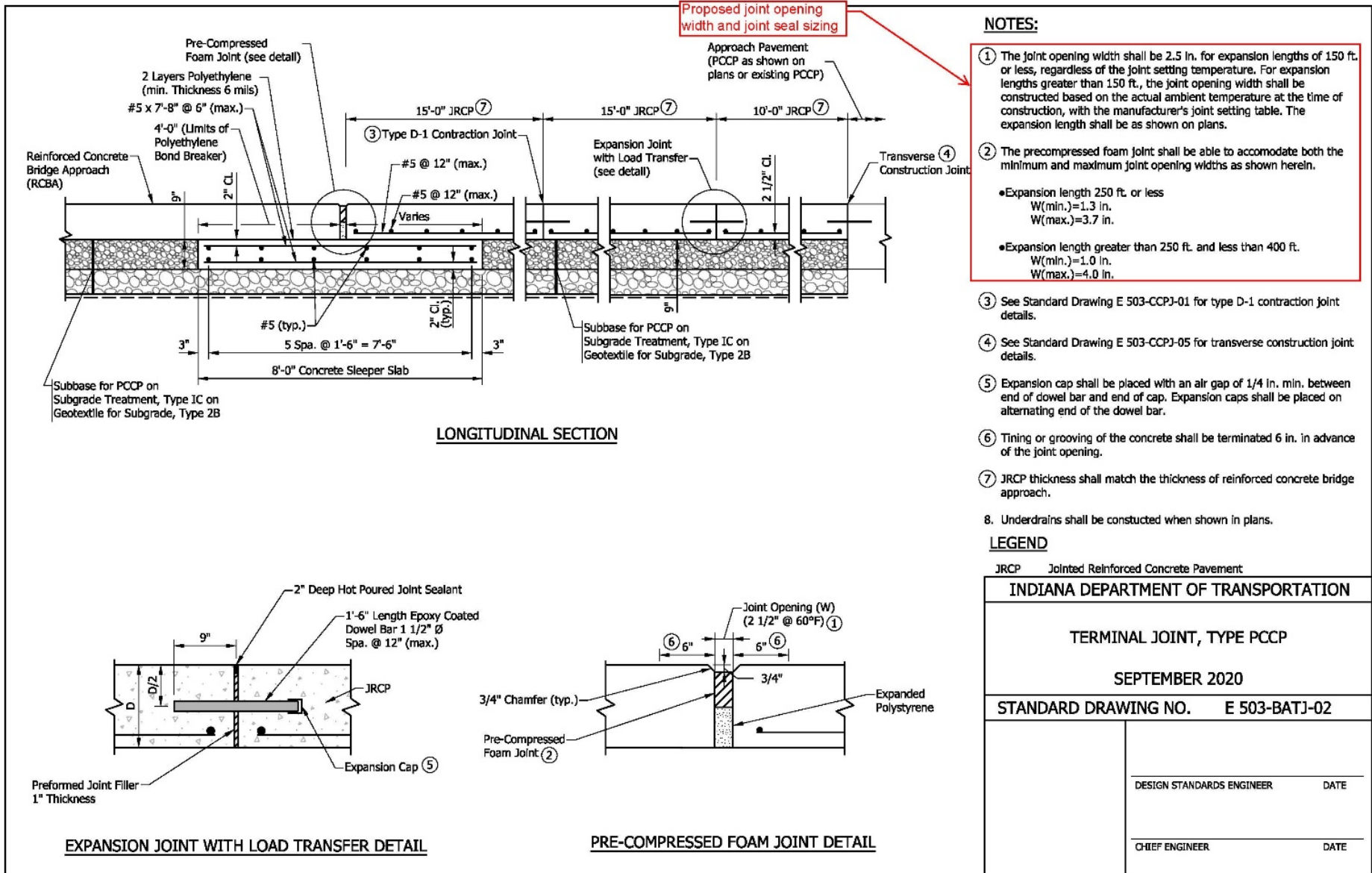
JRPC    Jointed Reinforced Concrete Pavement

<b>INDIANA DEPARTMENT OF TRANSPORTATION</b>	
<b>TERMINAL JOINT, TYPE PCCP</b>	
<b>SEPTEMBER 2020</b>	
<b>STANDARD DRAWING NO.    E 503-BATJ-02</b>	
DESIGN STANDARDS ENGINEER	DATE
CHIEF ENGINEER	DATE



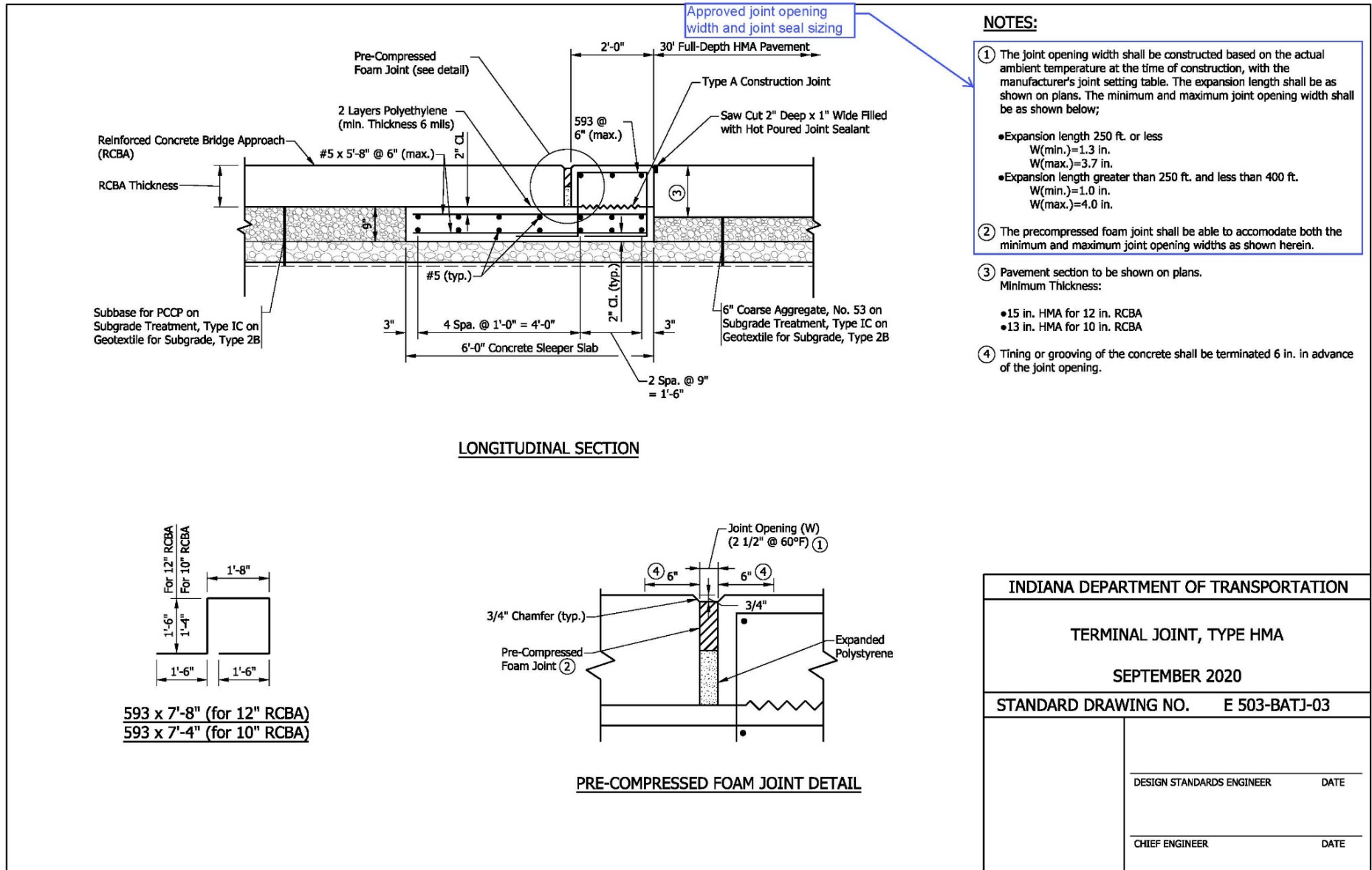
REVISION TO STANDARD DRAWINGS

E 503-BATJ-02 TERMINAL JOINT, TYPE PCCP (PROPOSED CHANGES SHOWN)



REVISION TO STANDARD DRAWINGS

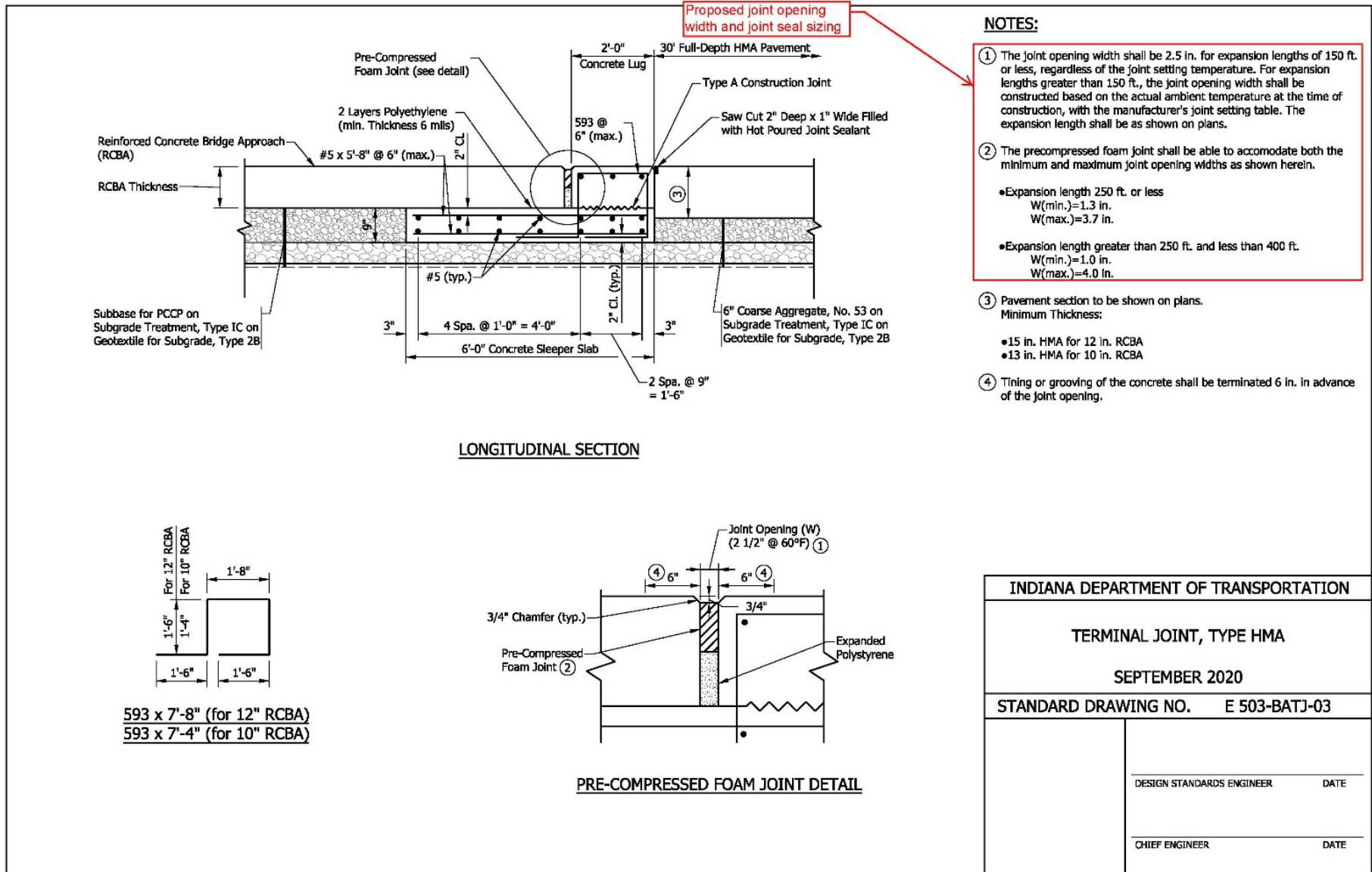
E 503-BATJ-03 TERMINAL JOINT, TYPE HMA (WITH MARKUPS)



<b>INDIANA DEPARTMENT OF TRANSPORTATION</b>	
<b>TERMINAL JOINT, TYPE HMA</b>	
<b>SEPTEMBER 2020</b>	
<b>STANDARD DRAWING NO. E 503-BATJ-03</b>	
DESIGN STANDARDS ENGINEER	DATE
CHIEF ENGINEER	DATE

REVISION TO STANDARD DRAWINGS

E 503-BATJ-03 TERMINAL JOINT, TYPE HMA (PROPOSED CHANGES SHOWN)



COMMENTS AND ACTION

E 503-BATJ-01 thru -03 TERMINAL JOINT

DISCUSSION:

This item was introduced and presented by Mr. Orton, assisted by Mr. White, who explained that the terminal joint standard drawings that were submitted and approved at the July 18, 2019 Standards Committee Meeting show that the setting width of the pre-compressed foam shall be determined based on actual ambient temperature at the time of construction. Concerns were raised at the Indiana Constructors, Inc., ICI, meeting on August 8, 2019 about this variability in joint setting widths.

Mr. White provided a rather detailed explanation of this process with his PowerPoint presentation. Mr. White explained that in order to address the variable joint setting width concern, the Department reviewed the thermal movements and determined conditions which would allow a constant setting width, regardless of changes in ambient temperature. The proposed joint setting width, as shown above, will be constant for expansion lengths less than or equal to 150 ft, which will apply to most terminal joint installations. The joint setting width will remain dependent on ambient temperature for expansion lengths greater than 150 ft.

Mr. White stated that this relatively minor change should simplify the construction of terminal joints and reduce the risk of errors in the field, and that no revisions to the specifications or special provisions are required.

<p>Motion: Mr. Orton                  Second: Mr. Dave                  Ayes: 9                  Nays: 0                  FHWA Approval: YES</p>	<p>Action:  <input checked="" type="checkbox"/> Passed as Submitted  <input type="checkbox"/> Passed as Revised  <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected:                   503 (PCCP Joints) - No changes due to this proposal</p>	<p><input type="checkbox"/> 2022 Standard Specifications   <input type="checkbox"/> Revise Pay Items List</p>
<p>Recurring Special Provision affected:                   503-R-692 - No Changes Due To This Proposal</p>	<p><input type="checkbox"/> Create RSP (No. __)                  Effective:                  RSP Sunset Date:</p>
<p>Standard Drawing affected:                   E 503-BATJ-02 &amp; 03 (RPD 503-R-692d 2&amp;3 of 3)</p>	<p><input type="checkbox"/> Revise RSP (No. __)                  Effective:                  RSP Sunset Date:</p>
<p>Design Manual Sections affected:                   17.5.09(01), 402-7.02(03), and 409-2.04 – No changes due to this proposal</p>	<p><input checked="" type="checkbox"/> Standard Drawing E 503-BATJ                  Effective: <u>September 1, 2020</u></p>
<p>GIFE Sections cross-references:                   8.7.4 - No changes due to this proposal</p>	<p><input checked="" type="checkbox"/> Revise RPD (No. 503-R-692d)                  Effective: <u>March 1, 2020</u></p>
	<p><input type="checkbox"/> GIFE Update   <input type="checkbox"/> SiteManager Update</p>

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS  
REVISION TO STANDARD SPECIFICATIONS

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PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Various minor issues have arisen:

- Need an option to reduce the cost of aggregate shoulder.
- Further improvements of 401 specifications regarding mix design and RAP usage can be made.
- The spec has no minimum HMA/SMA temperatures for non density-controlled mixes.
- Increased costs due to being too prescriptive on 402 mix.
- Discrepancy in specs regarding HMA for Underdrains.
- Confusion on coarse aggregate requirements for Cat 4 surface mixtures.

PROPOSED SOLUTION: Allow plant processed RAP to be used on shoulders. Update HMA mix design requirements. Add minimum HMA temp for mixture not controlled by cores. Allow 402 HMA type substitution. Clarify coarse aggregate requirements.

For record: We are proposing 9.5mm dense grade HMA be allowed to go finer. Finer graded mixtures tend to be more compactible and less permeable, adding to pavement life. After analyzing available data, no correlation was found between the PCS control point and friction numbers. It is proposed to match what is already allowed on 12.5mm mixtures, which is used as a surface course.

APPLICABLE STANDARD SPECIFICATIONS: 303, 401, 402, 410, 718, 904

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS:

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: INDOT/APAI Steering Committee.

IMPACT ANALYSIS (attach report):

Submitted By: Matt Beeson for Nathan Awwad

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317-522-9662

Date: 9/24/19

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS  
REVISION TO STANDARD SPECIFICATIONS

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IMPACT ANALYSIS REPORT CHECKLIST

*Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.*

Does this item appear in any other specification sections? N

Will approval of this item affect the Approved Materials List? N

Will this proposal improve:

Construction costs? Y  
Construction time? N  
Customer satisfaction? Y  
Congestion/travel time? N  
Ride quality? Y

Will this proposal reduce operational costs or maintenance effort? Y

Will this item improve safety:

For motorists? N  
For construction workers? N

Will this proposal improve quality for:

Construction procedures/processes? Y  
Asset preservation? Y  
Design process? Y

Will this change provide the contractor more flexibility? Y

Will this proposal provide clarification for the Contractor and field personnel? Y

Can this item improve/reduce the number of potential change orders? Y

Is this proposal needed for compliance with:

Federal or State regulations? N  
AASHTO or other design code? N

Is this item editorial? N

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: This is a culmination of "minor" specification changes that have been compiled over the last 9 months.

REVISION TO STANDARD SPECIFICATIONS

~~SECTION 303 – AGGREGATE PAVEMENTS OR SHOULDERS~~

~~303.02 MATERIALS~~

SECTION 401 - QC/QA HMA PAVEMENT

401.05 VOLUMETRIC MIX DESIGN

401.11 PREPARATION OF SURFACES TO BE OVERLAID

401.14 SPREADING AND FINISHING

401.19 PAY FACTORS

SECTION 402 - HMA PAVEMENT

402.04 DESIGN MIX FORMULA

402.09 ACCEPTANCE OF MIXTURES

402.13 SPREADING AND FINISHING

SECTION 410 - QC/QA HMA - SMA PAVEMENT

410.14 SPREADING AND FINISHING

SECTION 718 - UNDERDRAINS

718.02 MATERIALS

SECTION 904 - AGGREGATES

904.03 COARSE AGGREGATES

The Standard Specifications are revised as follows:

~~SECTION 303, BEGIN LINE 9, INSERT AS FOLLOWS:~~

**303.02 Materials**

Materials shall be in accordance with the following:

~~Coarse Aggregate, Class D or Higher, Size No. 53\* .....904~~

~~Coarse Aggregate, Class D or Higher, Size No. 73\* .....904~~

~~\*\*—Reclaimed asphalt pavement, RAP, may be used in lieu of coarse aggregate on aggregate shoulders. The RAP shall be obtained from a Certified HMA Plant in accordance with 401.02. The plant produced stockpile shall be comprised of RAP processed so that 100% will pass the 2 in. (50 mm) sieve.~~

~~\*\*—Surface courses only, when specified.~~

SECTION 401, BEGIN LINE 68, DELETE AND INSERT AS FOLLOWS:

The single percentage of aggregate passing each required sieve shall be within the limits of the following gradation tables:

Sieve Size	Dense Graded, Mixture Designation – Control Point (Percent Passing)				
	25.0 mm	19.0 mm	12.5 mm	9.5 mm	4.75 mm**
50.0 mm					
37.5 mm	100.0				
25.0 mm	90.0 - 100.0	100.0			
19.0 mm	< 90.0	90.0 - 100.0	100.0		
12.5 mm		< 90.0	90.0 - 100.0	100.0	100.0
9.5 mm			< 90.0	90.0 - 100.0	95.0 - 100.0
4.75 mm				< 90.0	90.0 - 100.0
2.36 mm	19.0 - 45.0	23.0 - 49.0	28.0 - 58.0	32.0 - 67.0*	
1.18 mm					30.0 - 55.0
600 µm					
300 µm					
75 µm	1.0 - 7.0	2.0 - 8.0	2.0 - 10.0	2.0 - 10.0	3.0 - 8.0

## REVISION TO STANDARD SPECIFICATIONS

**SECTION 303 – AGGREGATE PAVEMENTS OR SHOULDERS****303.02 MATERIALS**

## SECTION 401 - QC/QA HMA PAVEMENT

## 401.05 VOLUMETRIC MIX DESIGN

## 401.11 PREPARATION OF SURFACES TO BE OVERLAID

## 401.14 SPREADING AND FINISHING

## 401.19 PAY FACTORS

## SECTION 402 - HMA PAVEMENT

## 402.04 DESIGN MIX FORMULA

## 402.09 ACCEPTANCE OF MIXTURES

## 402.13 SPREADING AND FINISHING

## SECTION 410 - QC/QA HMA - SMA PAVEMENT

## 410.14 SPREADING AND FINISHING

## SECTION 718 - UNDERDRAINS

## 718.02 MATERIALS

## SECTION 904 - AGGREGATES

## 904.03 COARSE AGGREGATES

- \* The mix design gradation shall be less than or equal to the PCS control point ~~58.0 percent~~ *percent* passing the 2.36 mm sieve for all 9.5 mm surface mixtures. The mix design gradation can be greater than the PCS control point ~~58.0 percent~~ *percent* passing the 2.36 mm sieve when used on non-Department maintained facilities.
- \*\* The total blended aggregate gradation for the 4.75 mm mixture shall have a fineness modulus greater than or equal to 3.30 as determined in accordance with AASHTO T 27.

PCS Control Point for Mixture Designation (Percent Passing)

Mixture Designation	25.0 mm	19.0 mm	12.5 mm	9.5 mm	4.75 mm
Primary Control Sieve	4.75 mm	4.75 mm	2.36 mm	2.36 mm	n/a
PCS Control Point	40	47	39	47	n/a

Sieve Size	Open Graded, Mixture Designation – Control Point (Percent Passing)		
	OG9.5 mm	OG19.0 mm	OG25.0 mm
37.5 mm			100.0
25.0 mm		100.0	70.0 – 98.0
19.0 mm		70.0 – 98.0	50.0 – 85.0
12.5 mm	100.0	40.0 – 68.0	28.0 – 62.0
9.5 mm	75.0 – 100.0	20.0 – 52.0	15.0 – 50.0
4.75 mm	10.0 – 35.0	10.0 – 30.0	6.0 – 30.0
2.36 mm	0.0 – 15.0	7.0 – 23.0	7.0 – 23.0
1.18 mm		2.0 – 18.0	2.0 – 18.0
600 µm		1.0 – 13.0	1.0 – 13.0
300 µm		0.0 – 10.0	0.0 – 10.0
150 µm		0.0 – 9.0	0.0 – 9.0
75 µm	0 – 6.0	0.0 – 8.0	0.0 – 8.0
% of Binder	> 3.0	> 3.0	> 3.0

Dust/Calculated Effective Binder Ratio shall be 0.6 to 1.4. The Dust/Calculated Effective Binder Ratio for 4.75 mm mixtures shall be 1.0 to 2.0.



## REVISION TO STANDARD SPECIFICATIONS

**SECTION 303 – AGGREGATE PAVEMENTS OR SHOULDERS****303.02 MATERIALS**

## SECTION 401 - QC/QA HMA PAVEMENT

## 401.05 VOLUMETRIC MIX DESIGN

## 401.11 PREPARATION OF SURFACES TO BE OVERLAID

## 401.14 SPREADING AND FINISHING

## 401.19 PAY FACTORS

## SECTION 402 - HMA PAVEMENT

## 402.04 DESIGN MIX FORMULA

## 402.09 ACCEPTANCE OF MIXTURES

## 402.13 SPREADING AND FINISHING

## SECTION 410 - QC/QA HMA - SMA PAVEMENT

## 410.14 SPREADING AND FINISHING

## SECTION 718 - UNDERDRAINS

## 718.02 MATERIALS

## SECTION 904 - AGGREGATES

## 904.03 COARSE AGGREGATES

The optimum binder content shall produce a  $\Delta P_b \leq 0.20$  as determined in accordance with ITM 591 and the following air voids at  $N_{des}$ :

Air Voids at Optimum Binder Content								
	Dense Graded					Open Graded		
Mixture Designation	25.0 mm	19.0 mm	12.5 mm	9.5 mm	4.75 mm	25.0 mm	19.0 mm	9.5 mm
Air Voids	5.0%	5.0%	5.0%	5.0%	5.0%	15.0% - 20.0%	<del>10.0</del> 12.0%	<del>15.0</del> 17.0%

SECTION 401, BEGIN LINE 132, DELETE AND INSERT AS FOLLOWS:

VOIDS FILLED WITH ASPHALT, VFA, CRITERIA @ $N_{des}$	
ESAL	VFA, %
< 3,000,000	60 – 73
3,000,000 to < 10,000,000	60 – 70
$\geq 10,000,000$	60 – 70

Notes:

- For 4.75 mm mixtures, the specified VFA range shall be 67% to 79%.
- For 9.5 mm mixtures, the specified VFA range shall be ~~68~~69% to ~~71~~72% for design traffic levels  $\geq 3,000,000$  ESALs.
- For 25.0 mm mixtures, the specified lower limit of the VFA shall be 62% for design traffic levels < 300,000 ESALs.
- For OG mixtures, VFA is not applicable.

SECTION 401, BEGIN LINE 360, INSERT AS FOLLOWS:

Rubblized concrete pavements shall be primed in accordance with 405. PCCP, milled asphalt surfaces, *and new and existing asphalt surfaces*, ~~and asphalt surfaces~~ shall be tacked in accordance with 406. Contact surfaces of curbing, gutters, manholes, and other structures shall be tacked in accordance with 406.

SECTION 401, BEGIN LINE 381, INSERT AS FOLLOWS:

**401.14 Spreading and Finishing**

The mixture shall be placed upon an approved surface by means of laydown

## REVISION TO STANDARD SPECIFICATIONS

**SECTION 303 - AGGREGATE PAVEMENTS OR SHOULDERS****303.02 MATERIALS**

## SECTION 401 - QC/QA HMA PAVEMENT

## 401.05 VOLUMETRIC MIX DESIGN

## 401.11 PREPARATION OF SURFACES TO BE OVERLAID

## 401.14 SPREADING AND FINISHING

## 401.19 PAY FACTORS

## SECTION 402 - HMA PAVEMENT

## 402.04 DESIGN MIX FORMULA

## 402.09 ACCEPTANCE OF MIXTURES

## 402.13 SPREADING AND FINISHING

## SECTION 410 - QC/QA HMA - SMA PAVEMENT

## 410.14 SPREADING AND FINISHING

## SECTION 718 - UNDERDRAINS

## 718.02 MATERIALS

## SECTION 904 - AGGREGATES

## 904.03 COARSE AGGREGATES

equipment in accordance with 409.03(c). Prior to paving, both the planned quantity and lay rate shall be adjusted by multiplying by the MAF. When mixture is produced from more than one DMF for a given pay item, the MAF will be applied to the applicable portion of the mixture for each. The temperature of each mixture at the time of spreading shall be less than 315°F whenever PG 64-22 or PG 70-22 binders are used or not more than 325°F whenever PG 76-22 binder is used. *No mixture shall be paved placed on a previously paved course that has not cooled to below 175°F. For mixtures compacted in accordance with 402.15, the temperature of each mixture at the time of spreading shall not be less than 245°F.*

SECTION 401, BEGIN LINE 749, DELETE AND INSERT AS FOLLOWS:

Air Voids		
Dense Graded	Open Graded	Pay Factor
Deviation from Spec (±%)	Deviation** (±%)	
≤ 0.5	≤ 3.0	1.05
> 0.5 and ≤ 1.7	> 3.0 and ≤ 4.0	1.00
	4.1	0.98
1.8	4.2	0.96
	4.3	0.94
	4.4	0.92
1.9	4.5	0.90
2.0	4.6	0.84
	4.7	0.78
	4.8	0.72
	4.9	0.66
	5.0	0.60
> 2.0	> 5.0	Submitted to the Office of Materials Management*
* Test results will be considered and adjudicated as a failed material in accordance with normal Department practice as listed in 105.03.		
** Deviation shall be from 17.5% for OG25.0 mm and OG19.0 mm mixtures and shall be from <del>12.5</del> 14.5% for OG9.5 mm mixtures.		

REVISION TO STANDARD SPECIFICATIONS

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SECTION 303 - AGGREGATE PAVEMENTS OR SHOULDERS

303.02 MATERIALS

SECTION 401 - QC/QA HMA PAVEMENT

401.05 VOLUMETRIC MIX DESIGN

401.11 PREPARATION OF SURFACES TO BE OVERLAID

401.14 SPREADING AND FINISHING

401.19 PAY FACTORS

SECTION 402 - HMA PAVEMENT

402.04 DESIGN MIX FORMULA

402.09 ACCEPTANCE OF MIXTURES

402.13 SPREADING AND FINISHING

SECTION 410 - QC/QA HMA - SMA PAVEMENT

410.14 SPREADING AND FINISHING

SECTION 718 - UNDERDRAINS

718.02 MATERIALS

SECTION 904 - AGGREGATES

904.03 COARSE AGGREGATES

SECTION 402, AFTER LINE 38, INSERT AS FOLLOWS:

*A Type D mixture may be used in lieu of a Type C or a Type B mixture and a Type C mixture may be used in lieu of a Type B mixture.*

SECTION 402, BEGIN LINE 99, DELETE AND INSERT AS FOLLOWS:

**402.09 Acceptance of Mixtures**

Acceptance of mixtures will be in accordance with the Frequency Manual on the basis of a type D certification in accordance with 916. The test results shown on the certification shall be the quality control tests representing the material supplied and include air voids and binder content. Air voids tolerance shall be  $\pm 1.52.0\%$  and binder content tolerance shall be  $\pm 0.7\%$  from DMF.

SECTION 402, BEGIN LINE 176, INSERT AS FOLLOWS:

The temperature of each mixture at the time of spreading shall be less than 315°F whenever PG 64-22 or PG 70-22 binders are used. *The temperature of each mixture at the time of spreading shall not be less than 245°F. No mixture shall be paved placed on a previously paved course that has not cooled to less than 175°F.*

SECTION 410, BEGIN LINE 251, INSERT AS FOLLOWS:

**410.14 Spreading and Finishing**

The mixture shall be placed upon an approved surface by means of a paver or other mechanical devices in accordance with 409.03. Mixtures in areas inaccessible to mechanical devices may be placed by other methods. The temperature of mixture at the time of spreading shall be no more than 315°F whenever PG 70-22 binder is used or no more than 325°F whenever PG 76-22 binder is used. The temperature of mixture at the time of spreading shall be no more than 315°F whenever PG 70-22 binder is used or no more than 325°F whenever PG 76-22 binder is used. *The temperature of each mixture shall not be less than 245°F at the time of spreading when placed with paving equipment in accordance with 409.03(c)2 or 409.03(c)3. No mixture shall be paved placed on a previously paved course that has not cooled to less than 175°F.*

REVISION TO STANDARD SPECIFICATIONS

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~~SECTION 303 - AGGREGATE PAVEMENTS OR SHOULDERS~~

~~303.02 MATERIALS~~

SECTION 401 - QC/QA HMA PAVEMENT

401.05 VOLUMETRIC MIX DESIGN

401.11 PREPARATION OF SURFACES TO BE OVERLAID

401.14 SPREADING AND FINISHING

401.19 PAY FACTORS

SECTION 402 - HMA PAVEMENT

402.04 DESIGN MIX FORMULA

402.09 ACCEPTANCE OF MIXTURES

402.13 SPREADING AND FINISHING

SECTION 410 - QC/QA HMA - SMA PAVEMENT

410.14 SPREADING AND FINISHING

SECTION 718 - UNDERDRAINS

718.02 MATERIALS

SECTION 904 - AGGREGATES

904.03 COARSE AGGREGATES

SECTION 718, BEGIN LINE 32, DELETE AND INSERT AS FOLLOWS:

The mixture for HMA for underdrains shall be Intermediate OG19.0 mm in accordance with 401. An ESAL Category 4 in accordance with 401.04 and a PG Binder 76-22 shall be used. A MAF in accordance with 401.05 will not apply. Acceptance of the HMA for underdrains will be in accordance with 402.09, *except the air voids tolerance shall be  $\pm 3.5\%$ .*

SECTION 904, BEGIN LINE 254, INSERT AS FOLLOWS:

- c. ESAL Category 4 and type D surface mixtures. High friction aggregates including ACBF slag, SF slag, sandstone or aggregates in accordance with ITM 221 shall be used *and at a minimum shall comprise 50% by volume of the coarse aggregate.*

Crushed dolomite and polish resistant aggregates may be used up to a maximum 50% by volume of the coarse aggregate material retained on the No. 4 (4.75 mm) sieve when blended with a high friction aggregate.

Crushed stone and gravel may be used up to a maximum 20% by volume of the coarse aggregate material retained on the No. 4 (4.75 mm) sieve when blended with a high friction aggregate.

COMMENTS AND ACTION

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**303.02 MATERIALS**

401.05 VOLUMETRIC MIX DESIGN  
401.11 PREPARATION OF SURFACES TO BE OVERLAID  
401.14 SPREADING AND FINISHING  
401.19 PAY FACTORS  
402.04 DESIGN MIX FORMULA  
402.09 ACCEPTANCE OF MIXTURES  
402.13 SPREADING AND FINISHING  
410.14 SPREADING AND FINISHING  
718.02 MATERIALS  
904.03 COARSE AGGREGATES

**DISCUSSION:**

Mr. Beeson introduced and presented this item stating that this proposal is a culmination of "minor" specification changes that have been compiled over the last 9 months. Mr. Beeson stressed the importance of these changes.

For all of the reasons stated on the proposal sheet, Mr. Beeson proposes to incorporate these changes to allow plant processed RAP to be used on shoulders, update HMA mix design requirements, add minimum HMA temp for mixture not controlled by cores, allow 402 HMA type substitution, and clarify coarse aggregate requirements.

Mr. Beeson clarified that they are proposing 9.5mm dense grade HMA be allowed to go finer. Finer graded mixtures tend to be more compactible and less permeable, adding to pavement life. After analyzing available data, no correlation was found between the PCS control point and friction numbers. It is proposed to match what is already allowed on 12.5mm mixtures, which is used as a surface course.

Mr. Koch commented that RAP is great for holding shoulders prone to washing out, but further maintenance can be difficult. Mr. Koch shared that most locations in the Ft Wayne District, it is easier to regrade or berm the existing aggregate, and asked if #53 and #73 can remain instead of RAP. A brief discussion revealed that the use of RAP has been problematic in the past and the decision had been made to go back to the use of the aggregates instead of RAP due to the maintenance issues. Mr. Beeson said that he'll take the RAP shoulder changes out of the proposal, and that it can be discussed outside of this meeting at a future date. At Mr. Beeson's recommendation, the revisions to 303.02 have been removed.

Following further discussions and for clarification purposes, additional editorial revisions are as shown highlighted above.

COMMENTS AND ACTION

303.02 MATERIALS

- 401.05 VOLUMETRIC MIX DESIGN
- 401.11 PREPARATION OF SURFACES TO BE OVERLAID
- 401.14 SPREADING AND FINISHING
- 401.19 PAY FACTORS
- 402.04 DESIGN MIX FORMULA
- 402.09 ACCEPTANCE OF MIXTURES
- 402.13 SPREADING AND FINISHING
- 410.14 SPREADING AND FINISHING
- 718.02 MATERIALS
- 904.03 COARSE AGGREGATES

(CONTINUED)

<p>Motion: Mr. Beeson                  Second: Mr. Koch                  Ayes: 9                  Nays: 0                  FHWA Approval: YES</p>	<p>Action:</p> <p><input type="checkbox"/> Passed as Submitted  <input checked="" type="checkbox"/> Passed as Revised  <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected:</p> <p>303.02 pg 253; 401.05 pg 288; 401.11 pg 297;                  401.14 pg 297; 401.19 pg 304; 402.04 pg 313;                  402.09 pg 315; 402.13 pg 317; 410.14 pg 343;                  718.02 pg 712; 904.03 pg 951</p> <p>Recurring Special Provision affected:</p> <p style="text-align: center;">NONE</p> <p>Standard Drawing affected:</p> <p style="text-align: center;">NONE</p> <p>Design Manual Sections affected:</p> <p style="text-align: center;">NONE</p> <p>GIFE Sections cross-references:</p> <p style="text-align: center;">NONE</p>	<p><input checked="" type="checkbox"/> 2022 Standard Specifications</p> <p><input type="checkbox"/> Revise Pay Items List</p> <p><input checked="" type="checkbox"/> Create RSP (No. <u>401-R-701, 402-R-702, 410-R-703, 718-R-704, and 904-M-052</u>)                  Effective: <u>March 1, 2020</u>                  RSP Sunset Date:</p> <p><input type="checkbox"/> Revise RSP (No. <u>   </u>)                  Effective:                  RSP Sunset Date:</p> <p><input type="checkbox"/> Standard Drawing                  Effective:</p> <p><input type="checkbox"/> Create RPD (No. <u>   </u>)                  Effective:</p> <p><input checked="" type="checkbox"/> GIFE Update</p> <p><input checked="" type="checkbox"/> SiteManager Update</p>

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED:

There is an error in the table in section 901.07(c) that establishes the criteria for the approved list of Rapid Setting Patch Materials. The table shows a value of 0.03% for shrinkage (ASTM C157) which no rapid setting patch material can meet.

PROPOSED SOLUTION:

Revise the specification requirement to 0.075% which was established under research project SPR-3019 (Field Trials of Rapid Setting Repair Materials). All of the current products on INDOT's approved list for Rapid Setting Patch materials meet the proposed value of 0.075%.

APPLICABLE STANDARD SPECIFICATIONS: 901.07

APPLICABLE STANDARD DRAWINGS: none

APPLICABLE DESIGN MANUAL SECTION: none

APPLICABLE SECTION OF GIFE: none

APPLICABLE RECURRING SPECIAL PROVISIONS:

PAY ITEMS AFFECTED: none

APPLICABLE SUB-COMMITTEE ENDORSEMENT: N/A

IMPACT ANALYSIS (attach report):

Submitted By: Matt Beeson for Mike Nelson

Title: State Materials Engineer

Organization: INDOT Office of Materials Management

Phone Number: 317-522-9662

Date: 9/26/19

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS  
REVISION TO STANDARD SPECIFICATIONS

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IMPACT ANALYSIS REPORT CHECKLIST

*Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.*

Does this item appear in any other specification sections? No

Will approval of this item affect the Approved Materials List? Yes

Will this proposal improve:

Construction costs? N/A

Construction time? N/A

Customer satisfaction? Yes

Congestion/travel time? N/A

Ride quality? Yes

Will this proposal reduce operational costs or maintenance effort? NO

Will this item improve safety:

For motorists? N/A

For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? No

Asset preservation? No

Design process? N/A

Will this change provide the contractor more flexibility? No

Will this proposal provide clarification for the Contractor and field personnel? No

Can this item improve/reduce the number of potential change orders? N/A

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: N/A



## REVISION TO STANDARD SPECIFICATIONS

## SECTION 901 - PCC MATERIALS

## 901.07 RAPID SETTING PATCH MATERIALS

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 901, BEGIN LINE 559, DELETE AND INSERT AS FOLLOWS:

Physical Test	Specification	Requirement
Setting Time: Normal Weather  Hot Weather	ASTM C 266 Initial at 72°F Final at 72°F Initial at 95°F Final at 95°F	10 – 20 min 12 – 35 min 10 – 20 min 12 – 35 min
Compressive Strength, minimum* 1 h 2 h 24 h 28 days	ASTM C 109	72°F, Normal 2,000 psi 3,000 psi 5,000 psi 8,000 psi
Compressive Strength, minimum* 3 h 24 h 28 days	ASTM C 109	95°F, Hot 3,000 psi 5,000 psi 8,000 psi
Relative Dynamic Modulus Procedure B, 300 cycles	ASTM C 666	95% min.
Slant Shear Bond Strength, minimum 28 days	ASTM C 882	2,500 psi
Flexural Strength, 24 h mortar only mortar – aggregate extension	ASTM C 78	500 psi 600 psi
Shrinkage, maximum ( <i>in air</i> ) 28 days	ASTM C 157	<del>0.03</del> 0.075%
Scaling Resistance 5 cycles 25 cycles 50+ cycles	ASTM C 157	0 rating, No scale 0 rating, No scale 1.5 rating, Lt. scale
* Material used shall be neat rapid setting patch material mixed in accordance with the manufacturer's installation instructions.		

COMMENTS AND ACTION

901.07 RAPID SETTING PATCH MATERIALS

DISCUSSION:

This item was introduced and presented by Mr. Beeson, who stated that there is an error in the table in section 901.07(c) that establishes the criteria for the approved list of Rapid Setting Patch Materials. The table shows a value of 0.03% for shrinkage (ASTM C157) which no rapid setting patch material can meet.

Mr. Beeson therefore proposed to revise the specification requirement to 0.075% which was established under research project SPR-3019, Field Trials of Rapid Setting Repair Materials. All of the current products on INDOT's approved list for Rapid Setting Patch materials meet the proposed value of 0.075%.

There was no further discussion and this item passed as submitted.

<p>Motion: Mr. Beeson                  Second: Mr. Koch                  Ayes: 9                  Nays: 0                  FHWA Approval: YES</p>	<p>Action:  <input checked="" type="checkbox"/> Passed as Submitted  <input type="checkbox"/> Passed as Revised  <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections referenced and/or affected:                   501, 502, 507, 731, 735, and 901.07 pg 921</p>	<p><input checked="" type="checkbox"/> 2022 Standard Specifications   <input type="checkbox"/> Revise Pay Items List</p>
<p>Recurring Special Provision references in:                   724-B-309 PRE-COMPRESSED FOAM JOINT;                  738-B-297 POLYMERIC CONCRETE BRIDGE DECK OVERLAY</p>	<p><input type="checkbox"/> Create RSP (No._____) Effective:                  RSP Sunset Date:</p>
<p>Standard Drawing affected:                   NONE</p>	<p><input type="checkbox"/> Revise RSP (No._____) Effective:                  RSP Sunset Date:</p>
<p>Design Manual Sections affected:                   NONE</p>	<p><input type="checkbox"/> Standard Drawing Effective:</p>
<p>GIFE Sections cross-references:                   NONE</p>	<p><input type="checkbox"/> Create RPD (No. ____ ) Effective:</p>
	<p><input type="checkbox"/> GIFE Update   <input checked="" type="checkbox"/> SiteManager Update</p>

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS  
REVISION TO STANDARD SPECIFICATIONS

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PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED:

The 619 specification needs updated to address paint on the top flange of steel members, painting of bearing assemblies, painting of piling, and the environmental and safety requirements.

PROPOSED SOLUTION:

Incorporate the proposed changes into the specifications.

APPLICABLE STANDARD SPECIFICATIONS: 202 and 619

APPLICABLE STANDARD DRAWINGS: none

APPLICABLE DESIGN MANUAL SECTION: none

APPLICABLE SECTION OF GIFE: 5.24

APPLICABLE RECURRING SPECIAL PROVISIONS: create new RSP

PAY ITEMS AFFECTED: create new pay items

APPLICABLE SUB-COMMITTEE ENDORSEMENT: This proposal was reviewed by the INDOT-ICI bridge committee on 3/21/19. An ad-hoc committee consisting of: Nicole Fohey-Breting, Kirk Frederick, Derrick Hauser, Laura Hilden, Marlene Mathas, Greg Pankow, Tim Perkins, and Jim Reilman worked on this proposal.

IMPACT ANALYSIS (attach report):

Submitted By: Matt Beeson for Jim Reilman

Title: State Materials Engineer

Organization: INDOT Office of Materials Management

Phone Number: 317-522-9662

Date: 9/26/19

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS  
REVISION TO STANDARD SPECIFICATIONS

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IMPACT ANALYSIS REPORT CHECKLIST

*Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.*

Does this item appear in any other specification sections? No

Will approval of this item affect the Approved Materials List? No

Will this proposal improve:

Construction costs? N/A

Construction time? N/A

Customer satisfaction? N/A

Congestion/travel time? N/A

Ride quality? N/A

Will this proposal reduce operational costs or maintenance effort? N/A

Will this item improve safety:

For motorists? N/A

For construction workers? N/A

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? Yes

Design process? Yes

Will this change provide the contractor more flexibility? N/A

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? Yes

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda:

REVISION TO STANDARD SPECIFICATIONS

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SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

202.13 METHOD OF MEASUREMENT

202.14 BASIS OF PAYMENT

SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

The Standard Specifications are revised as follows:

SECTION 202, BEGIN LINE 92, INSERT AS FOLLOWS:

**202.03 Removal of Bridges, Culverts, and Other Drainage Structures**

Bridges, culverts, and other drainage structures in use by traffic shall not be removed in whole or in part until satisfactory arrangements have been made to accommodate traffic. Any excavation adjacent to the structure or to its approaches shall be shored adequately to avoid damage to them or to traffic.

When a reinforced concrete arch bridge is to be removed, either in whole or in part, the work shall include the removal of miscellaneous items within the limits of the structure, which must be removed prior to or in conjunction with the removal of the structure. These miscellaneous items shall include but shall not be limited to: concrete and asphalt pavements; concrete and asphalt sidewalks; and fill within the arches regardless of content.

*For all painted or coated structural steel including beams, girders, diaphragms, cross frames, plates, and all other structural steel items that become the property of the Contractor through either a complete bridge removal in accordance with 202.03(a) or the removal of portions of a bridge in accordance with 202.03(b), the Contractor shall either:*

- 1. take the steel to a recycling facility for proper disposal, or*
- 2. take ownership of the steel.*

*For ~~bridges~~ structures shown in the contract documents as being built before 1995, the Contractor shall assume that the existing coating contains hazardous materials and that mill scale exists on the steel.*

*If the Contractor elects to take the steel to a recycling facility, a receipt from the facility shall be provided. The receipt from the recycling facility shall show the name of the facility that accepted the material, address, city, state, zip code, contract number, bridge number, date material was received from the Contractor, weight of the material accepted by the recycling facility, and detailed description of the items given to the recycling facility.*

*If the Contractor elects to take ownership of the steel, the ~~Contractor shall assume that the steel has mill scale beneath the existing coating.~~ The steel shall be cleaned in accordance with 619.14 prior to its removal from the project.*

SECTION 202, BEGIN LINE 519, INSERT AS FOLLOWS:

Removal of present structure or portions thereof will not be measured for payment.

REVISION TO STANDARD SPECIFICATIONS

---

SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

202.13 METHOD OF MEASUREMENT

202.14 BASIS OF PAYMENT

SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

*For steel that the Contractor elects to take to a recycling facility, handling, hauling, and all other activities involved with removing and properly disposing of existing steel at a recycling facility will not be measured for payment.*

*For steel that will become the property of the Contractor, required cleaning of existing steel, removal of mill scale, testing, disposal of the waste stream, containment, and all other items involved with removing and properly disposing of the existing coating will not be measured for payment.*

Pavement removal will be measured by the square yard of the area removed.

SECTION 202, BEGIN LINE 749, INSERT AS FOLLOWS:

The cost of all handling of the product, removal of the product from the tank, disposal, all required packaging, and transportation shall be included in the cost of underground storage tank, liquid waste disposal.

All necessary cleanup of spills caused by the Contractor will not be paid for.

*For steel that the Contractor elects to take to a recycling facility, the cost of handling, hauling, and all other costs involved with removing and properly disposing of existing steel at a recycling facility shall be included in the cost of present structure remove, or present structure remove, portions pay item. The Department will withhold a payment equal to 50% of the present structure remove, or present structure remove, portions pay item until the Contractor presents a receipt from the recycling facility indicating that the recycling facility is now in possession of the steel.*

*For steel that will become the property of the Contractor, the cost of cleaning existing steel, removal of mill scale, testing, disposal of the waste stream, containment, and all other costs involved with removing and properly disposing of the existing coating shall be included in the cost of present structure remove, or present structure remove, portions pay item. The Department will withhold payment of 50% of the present structure remove, or present structure remove, portions pay item until the Contractor presents a receipt from the facility where the waste stream disposal occurred.*

SECTION 619, BEGIN LINE 3, DELETE AND INSERT AS FOLLOWS:

**619.01 Description**

This work shall consist of preparing surfaces, disposing of waste residue, and applying paint or another coating to steel bridges, steel piling, bearing assemblies, or other steel items in accordance with 105.03.

**MATERIALS**

REVISION TO STANDARD SPECIFICATIONS

- SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS
- 202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES
- 202.13 METHOD OF MEASUREMENT
- 202.14 BASIS OF PAYMENT
- SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

**619.02 Materials**

Materials shall be in accordance with the following:

Epoxy Intermediate Paint .....	909.02(b)
Finish Coat for Weathering Steel .....	909.02(e)
Multi-Component Inorganic Zinc Silicate Primer .....	909.02(a)1
Organic Zinc Primer.....	909.02(a)2
Polyurethane Finish Coat .....	909.02(c)
Structural Steel Coating Systems .....	909.03
Waterborne Finish Paint.....	909.02(d)

~~Material~~ Safety data sheets shall be provided in the QCP for all materials to be delivered to the project site.

SECTION 619, BEGIN LINE 32, DELETE AND INSERT AS FOLLOWS:

**619.03 Quality Control and Quality Assurance**

The Contractor shall be responsible for the quality of work on the contract and shall ensure that all work has been performed by accepted quality control methods. A QCP shall be prepared and submitted by the Contractor in accordance with ITM 803. No work may begin until written notice has been received that the QCP was accepted by the Engineer. The QC manager shall furnish the current referenced SSPC Standards at the project site.

Cleaning and painting shall be done by a Contractor certified as SSPC-QP 2 for cleaning and painting existing bridge steel on steel ~~bridges constructed structures shown in the contract documents as being built~~ before 1995, regardless of whether the existing coating is advertised as non hazardous based or hazardous based. Cleaning and painting shall be done by a Contractor that at a minimum is certified as SSPC-QP 1 for cleaning and painting new bridge steel or for cleaning and painting existing bridge steel on steel ~~bridges constructed structutres shown in the contract documents as being built~~ after 1994.

SECTION 619, BEGIN LINE 87, DELETE AND INSERT AS FOLLOWS:

**619.04 Prosecution of Work**

Prosecution of work shall be in accordance with the applicable requirements of ~~108.03~~ 108.04.

SECTION 619, BEGIN LINE 128, DELETE AND INSERT AS FOLLOWS:

**619.07 Environmental and Safety and Environmental Requirements**

~~P~~Safety requirements, pollution control, and waste disposal of existing paint residue and debris shall be in accordance with the following requirements.

**(a) Safety Requirements**

The containment system shall be in accordance with 619.07(b)1a or 619.07(b)1b, as applicable, based on the year the structure was built as shown in the contract.

## REVISION TO STANDARD SPECIFICATIONS

## SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

## 202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

## 202.13 METHOD OF MEASUREMENT

## 202.14 BASIS OF PAYMENT

## SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

~~Workers shall be protected in accordance with IOSHA requirements~~ The Contractor shall follow OSHA rules and regulations and be responsible for determining the level of hazards that are present in the containment during the removal of the existing bridge coating operation. Once the Contractor establishes the level of hazard present, the Contractor shall be responsible for furnishing personal protective equipment to provide the degree of protection necessary for the established level of hazard. All Contractor and Department personnel on the project site shall wear personal protective equipment to the level of hazard as determined by the sampling and monitoring requirements performed by the Contractor. The protective equipment shall be furnished by the Contractor, including to Department personnel. Training shall be given to all personnel who are provided with the personal protective equipment. Personal protective equipment shall include, but not be limited to, clean air supplied respirators, air purifying respirators, conventional hoods as applicable, eye protection, and protective clothing. ~~Two rooms for changing and washing shall be provided on bridges containing hazardous based coatings.~~

**(ab) Pollution Control**

Pollution control shall consist of two different operations. One shall be controlling and containing the atmosphere generated during the coating removal operation. The other shall be controlling and containing the solid waste stream generated as a result of the coating removal operation.

**1. Containment for Advertised Non-Hazardous Sites Pollution Control During Existing Coating Removal Operations**

~~Blasting materials, scrapings, wire brushings, and paint particles shall be contained in accordance with SSPC Guide 6, Class 2A with method A, level 2 emissions, specifically for non-hazardous primed bridges~~ During existing coating removal operations, the Contractor shall recognize that the environment created by removal of the existing coating from the structure may create an atmosphere in which hazards to personnel on the jobsite are likely to be generated, and thus the Contractor shall be responsible for controlling and protecting the exposure of all workers and the surrounding environment from the hazards.

The characterization of the level of hazard of the existing coating that the Department considers to be present on the structure will be dictated by the year the structure was built as ~~indicated in a. or b.~~ described below. The characterization of the level of hazard of the existing coating is not related to the results of the TCLP.

**a. Containment for Structures Built Before 1995**

For structures shown in the contract documents as being built before 1995, the Contractor shall provide a containment system in order to contain all blasting materials, scrapings, wire brushings, and paint particles in accordance with SSPC-Guide 6, Class 2A or greater with method A, level 1 emission control capability. The Contractor shall take



## REVISION TO STANDARD SPECIFICATIONS

## SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

## 202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

## 202.13 METHOD OF MEASUREMENT

## 202.14 BASIS OF PAYMENT

## SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

*samples and monitor the work environment in accordance with IOSHA requirements and shall provide personal protective equipment appropriate to the conditions present within the work environment.*

***b. Containment for Structures Built After 1994***

*For structures shown in the contract documents as being built after 1994, the Contractor shall provide a containment system in order to contain all blasting materials, scrapings, wire brushings, and paint particles in accordance with SSPC-Guide 6, Class 2A or greater with method A, level 3 emission control capability. The Contractor shall take samples and monitor the work environment in accordance with IOSHA requirements and shall provide personal protective equipment appropriate to the conditions present within the work environment.*

**~~2. Containment for Advertised Hazardous Sites~~**

~~Blasting materials, scrapings, wire brushings, and paint particles shall be contained in accordance with SSPC Guide 6, Class 2A or better with method A, level 0 emissions, for hazardous primed bridges.~~

Regardless of the level of containment as listed above, if a spill, as defined in IDEM Regulation 327 IAC 2-6.1 does occur, all work shall stop and immediate action shall be taken to clean up the site. Spills of material, that enter or threaten to enter the water, shall be handled in accordance with IDEM Regulation 327 IAC 2-6.1. The IDEM Emergency Response Branch, the local health department, and all water intake users within 500 ft of the bridge shall be immediately contacted and advised of the spill. Written documentation of all such contacts and actions shall be kept. All applicable Federal, State, and local rules and regulations described in ~~619.07(b)~~ 619.07(b)2b(1) shall be observed.

***2. Pollution Control of the Generated Waste Stream***

***3a. Waste Stream Sampling***

Each bridge shall generate a separate waste stream and shall not be commingled with other materials. The sample of waste residue from the bridge shall be obtained at the conclusion of the first day of the *coating* removal operation for that bridge. The sample will be shipped to be tested within 24 h in a manner agreed to by the Department and as described in the QCP. The Engineer will witness the extraction of the waste residue sample. The Department will maintain custody of the waste residue sample until it is shipped. The waste residue sample shall be taken by random method as described in the QCP which reflects representation of the entire bridge. The samples shall be analyzed for all contaminants listed in ITM 803 by the TCLP. All remaining waste residue shall be placed in an approved container. Such containers shall be labeled and maintained to comply with 40 CFR 264.

REVISION TO STANDARD SPECIFICATIONS

---

SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

202.13 METHOD OF MEASUREMENT

202.14 BASIS OF PAYMENT

SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

No waste shall remain on the booms or on any water surface overnight. All blasting debris shall be cleaned up after each day's work. All waste material shall be properly stored at the project site to prevent loss or pollution.

*If the waste stream sample analysis is returned with one or more of the contaminants meeting or exceeding the regulatory level for the respective contaminant, the entire waste stream for that bridge shall be considered to exhibit the characteristic of toxicity and thus shall be characterized as and considered to be hazardous.*

*If the waste stream sample characterization is returned with none of the contaminants meeting or exceeding the regulatory level for the respective contaminant, the entire waste stream for that bridge shall be considered to not exhibit the characteristic of toxicity and thus shall be characterized as and considered to be non-hazardous.*

*The characterization of the waste stream as either hazardous or non-hazardous for disposal shall be based only on the results of the TCLP. The results of the TCLP do not dictate the level of the containment system required ~~as per~~ in accordance with 619.07(b)1.*

If hazardous materials are found *to be present* in the waste residue sample of ~~an advertised, non-hazardous site, the Contractor shall immediately stop all cleaning and painting operations on that bridge a bridge structure shown on the plans in the contract documents as being built after 1994 as having non-hazardous coatings,~~ ~~the Contractor shall immediately notify the Engineer that hazardous materials have been found and, if not addressed in the QCP, the Contractor shall submit revisions to the QCP that detail the necessary changes due to the presence of hazardous materials. The Contractor shall not return to work until the revised QCP is approved in writing.~~

**~~(b)~~b. Waste Disposal**

Regardless of the waste characterization obtained from the waste sample, disposal of existing paint and debris shall be in accordance with SSPC-Guide 7 and the following requirements.

**~~1.~~(1) Laws to be Observed**

Federal and State laws and regulations regulate the disposal of bridge painting debris. Bridge paint debris shall be manifested or certified and shall be disposed of at an appropriate disposal facility.

The Contractor shall have direct knowledge regarding compliance with laws pertaining to pollution control and waste management such as, *but not limited to*, the following.

REVISION TO STANDARD SPECIFICATIONS

---

SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

202.13 METHOD OF MEASUREMENT

202.14 BASIS OF PAYMENT

SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

- a. subtitle C of the RCRA, 40 CFR 261, 262, 263, 265, and 268;
- b. the Solid Waste Rule, 329 IAC 10;
- c. the Hazardous Waste Rule, 329 IAC 3.1;
- d. the Air Pollution Rule 329 IAC 6-4;
- e. the Water Pollution Rule, 327 IAC 2-6.1;
- f. the United States Department of Transportation regulations 49 CFR 172.300; and
- g. OSHA worker safety regulations 29 CFR 1926.

**2.(2) Time Limitations**

The maximum time limit from the date the generated waste is placed in a container and the date the material is transported to a permitted treatment, storage, and disposal facility shall be 90 calendar days.

**3.(3) Marking of Spent Material Containers**

Spent material containers shall be marked with the date that waste residue is first placed in the container. Until laboratory results *described in 619.07(b)2a* are received concerning the category of the waste residue, the containers shall be labeled "LEAD PAINT WASTE DEBRIS" or "ZINC PAINT WASTE DEBRIS", as appropriate. The labeling shall include the contract number, bridge number, sample number, and sample date. Labeling of containers as hazardous waste will not be required until the appropriate laboratory analysis determines the waste residue to be hazardous in accordance with the current RCRA hazardous waste definitions. Immediately upon notice that the waste residue is hazardous, the containers shall be marked in accordance with 49 CFR 172, Subpart D.

**4.(4) Instruction for Disposal of Paint Waste Residue**

~~Sampling and analysis of the paint waste residue shall be performed to determine if the wastes are hazardous. If the waste residue is not found to be hazardous in accordance with current RCRA hazardous waste definitions, the waste residue material shall be disposed of at an appropriate disposal facility. If the waste residue is found to be hazardous, IDEM will be notified and the Engineer will obtain an EPA identification number will be obtained from IDEM. This number will be provided to the Contractor within 30 days of the start of waste generation for bridges having hazardous waste paint debris. The waste residue from different bridges shall not be commingled. The Contractor shall have the following responsibilities:~~

REVISION TO STANDARD SPECIFICATIONS

---

SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

202.13 METHOD OF MEASUREMENT

202.14 BASIS OF PAYMENT

SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

- a. determining the location for disposal, treatment, or recycling of the waste residue, obtaining the Engineer's approval of the site, and arranging with the approved site for acceptance of the materials;
- b. preparing a hazardous waste manifest, as required by Federal and State requirements, for signature;
- c. scheduling the shipment of waste residue to the permitted disposal site;
- d. ensuring that the hazardous waste manifest is carried in the transportation vehicle;
- e. ensuring that all required hazardous materials placards are properly displayed on the vehicle;
- f. ensuring prompt movement of the vehicle to the disposal site; and
- g. returning one copy of signed manifest documents to the Engineer. A copy of the chemical and physical analysis of the waste, all deposit receipts, manifests, and required paperwork for disposal shall be given to the Engineer, and all waste residues disposed of before the ~~contract~~ waste disposal item will be accepted paid.

*If the waste residue is found to be non-hazardous in accordance with current RCRA hazardous waste definitions, the waste residue material shall be disposed of at an appropriate disposal facility.*

**5.(5) Instructions for Disposal of Other Project Generated Waste**

The ~~o~~Other wastes that may be generated on the project include, but are not limited to, spent solvents from cleaning of equipment and empty or partially empty containers of paint, paint thinners, spent abrasives, and solvents. The Contractor shall recycle or dispose of all project generated waste materials.

If the waste is defined as a hazardous waste in accordance with the current RCRA definitions, the waste shall be recycled or disposed of in accordance with ~~619.07(b)~~ 619.07(b)2b(4). All project generated waste and the method of recycling or disposal shall be identified in the QCP.

REVISION TO STANDARD SPECIFICATIONS

---

SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

202.13 METHOD OF MEASUREMENT

202.14 BASIS OF PAYMENT

SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

**619.08 Surface Preparation of Concrete and Steel**

*The tops of all concrete and steel pier caps, concrete abutment caps, and 2 ft down all sides of concrete pier and abutment caps shall be washed. The washing shall be accomplished by means of a pressure washer with potable water. The pressure shall be between 800 and 1,500 psi. If detergents or other additives are added to the water, the surface shall be rinsed with potable water before the detergents dry.*

Cleaning of steel surfaces shall be performed by an SSPC certified contractor. This requirement will not apply to the following:

- (a1) shop cleaning; or
- (b2) sections of beams or other structural members less than 180 sq ft of total area to be painted for the contract where heat-straightening or similar repairs have taken place.

Surfaces to be painted shall be cleaned in accordance with the SSPC classification, unless otherwise specified. Compressed air shall pass through an oil and water extractor before entering another apparatus.

~~Pressure washing in accordance with 619.08(a) and sSolvent cleaning in accordance with 619.08(ba) shall be performed to remove all oils, soluble salts, visible grease, and any other surface contaminants before all other cleaning methods are started.~~

SECTION 619, BEGIN LINE 327, DELETE AND INSERT AS FOLLOWS:

*For ~~bridges~~ structures shown on the contract documents as being built before 1995, the Contractor shall assume that mill scale is present on the existing steel. All mill scale shall be removed as a part of the cleaning operations.*

**~~(a) Pressure Washing~~**

~~All surfaces to be painted and the tops of pier and abutment caps shall be washed. The washing shall be accomplished by means of a low pressure power water washer with potable water. The pressure shall be between 800 and 1,500 psi. If detergents or other additives are added to the water, the surface shall be rinsed with potable water before the detergents dry. All washed surfaces shall be completely free of all oils and soluble salts. The Contractor shall obtain the hold point release for pressure washing prior to beginning other surface preparation activities.~~

**~~(ba) Solvent Cleaning~~**

~~After the hold point for pressure washing cleaning has been released, sSolvent cleaning shall be performed in accordance with SSPC-SP1.~~

REVISION TO STANDARD SPECIFICATIONS

---

SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

202.13 METHOD OF MEASUREMENT

202.14 BASIS OF PAYMENT

SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

*After the hold point for solvent cleaning has been released, one or more of the following cleaning methods shall be performed.*

**(eb) Hand Tool Cleaning**

Hand tool cleaning shall be in accordance with SSPC-SP2.

**(dc) Brush-Off Blast Cleaning**

Brush-off blast cleaning shall be in accordance with SSPC-SP7/NACE No. 4.

**(ed) Commercial Blast Cleaning**

Commercial blast cleaning shall be in accordance with SSPC-SP 6/NACE No. 3.

**(ee) Near-White Blast Cleaning**

Near-white blast cleaning shall be in accordance with SSPC-SP 10/NACE No. 2.

**(ef) White Metal Blast Cleaning**

White metal blast cleaning shall be in accordance with SSPC-SP 5/NACE No. 1.

**(eg) Power Tool Cleaning**

Power tool cleaning shall be in accordance with SSPC-SP 3.

**(eh) Commercial Grade Power Tool Cleaning**

Commercial grade power tool cleaning shall be in accordance with SSPC-SP 15.

**(ei) Power Tool Cleaning to Bare Metal**

Power tool cleaning to bare metal shall be in accordance with SSPC-SP 11.

*All areas within 5 ft on both sides of a bridge deck joint as well as all areas of significant pitting shall be cleaned twice using the same method used for the original cleaning, excluding solvent cleaning.*

SECTION 619, SECTION 545, DELETE AND INSERT AS FOLLOWS:

**(a) Non-Weathering Steel**

All structural steel shall be cleaned in accordance with 619.08(~~ee~~).

All structural steel shall receive an inorganic zinc primer, including faying surfaces of high strength bolted connections and areas in contact with concrete. Surfaces, other than the contact surfaces described above, which are inaccessible after erection shall be painted in the shop with the full paint system required on the completed bridge.

## REVISION TO STANDARD SPECIFICATIONS

## SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

## 202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

## 202.13 METHOD OF MEASUREMENT

## 202.14 BASIS OF PAYMENT

## SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

**(b) Weathering Steel**

All structural steel shall be left unpainted, except as shown on the plans. All diaphragms, stiffeners, and other appurtenances located within the limits shown on the plans shall be included in the painting area. Surfaces to be painted shall be cleaned in accordance with 619.08(~~fe~~). Surfaces shall be painted in accordance with 619.09(a), except the finish coat shall be in accordance with 909.02(e).

**619.12 Field Painting New Steel Bridge**

All structural steel surfaces which are accessible after final erection shall be painted with the remaining coatings specified for structural steel paint system in accordance with 619.09(a) in the field after final erection.

If application of inorganic zinc primer on a steel surface is not performed in the shop before erection of the bridge, the surfaces which are exposed shall be cleaned in accordance with 619.08(a), ~~619.08(b)~~, and 619.08(~~fe~~). These surfaces shall then be painted with the structural steel paint system after final erection.

Surface areas where the inorganic zinc primer was damaged during shipping, handling, and erection shall be cleaned in accordance with 619.08(a), ~~619.08(b)~~, and either 619.08(~~ed~~) or 619.08(~~ji~~). Likewise, all bolt and field connections shall be cleaned in the same manner. All the damaged areas, and bolt and field connections shall then be painted with the inorganic zinc primer applied in the shop. This requirement will not apply to temporary steel bridges.

Where steel surfaces have been painted with the full paint system and the paint coatings have been damaged, the affected steel surface areas shall be cleaned in accordance with 619.08(~~ji~~). Structural steel paint system shall then be re-applied.

For weathering steel girders, caulk shall be applied to act as a drip bead as shown in the plans.

**619.13 Painting Existing Steel Bridges**

The surfaces to be cleaned and painted shall include the surfaces of all steel members of the superstructure, substructure, floor beams, stringers, plates, castings, bearing assemblies, ornamental handrails, lattice work, and other steel appurtenances. When shear connectors have been specified, the top of the top flange shall not be painted.

If the contract specifies clean steel bridge, the bridge steel shall be cleaned in accordance with 619.08(a), ~~619.08(b)~~, and either 619.08(~~ed~~) or 619.08(~~ji~~). The structural steel paint system in accordance with 619.09(a) shall be used for painting.

REVISION TO STANDARD SPECIFICATIONS

---

SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

202.13 METHOD OF MEASUREMENT

202.14 BASIS OF PAYMENT

SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

If the contract specifies clean steel bridge, partial, the bridge steel shall be cleaned in accordance with 619.08(a), ~~619.08(b)~~, and either 619.08(~~ed~~), or 619.08(h), ~~or 619.08(j)~~. The partial paint system in accordance with 619.09(b) shall be then used for painting.

**619.14 Handling of Steel Bridge Superstructure to be Removed**

*If the Contractor elects to take ownership of the steel in accordance with 202.03, a QCP shall be submitted in accordance with 619.03~~shall be submitted~~. The entire surface area of the steel shall be cleaned in accordance with 619.08(d) prior to the steel leaving the construction limits and becoming the property of the Contractor. Mill scale shall be assumed to be present on the existing steel. Cleaning in accordance with 619.08(a) shall not be performed. A level of containment in accordance with 619.07(a) shall be used.*

*Testing and disposal of the waste stream produced by this cleaning shall be in accordance with 619.07.*

**619.145 Drain Castings Treatment**

Roadway drain castings located in a bridge deck shall be satisfactorily cleaned in accordance with 619.08(~~dc~~) or 619.08(~~hg~~). The castings shall not be shot-blasted.

The roadway drain castings shall be painted with a black finish coat in accordance with 909.02(c).

If a roadway drain casting extension pipe is damaged or missing, it shall be replaced. The extension pipe shall be in accordance with 715.

**619.16 Clean and Paint Bearing Assemblies**

*When shown on the plans or a pay item is included in the schedule of pay items, all bearing assemblies including top and bottom plates of each assembly shall be cleaned in accordance with 619.08(a) and 619.08(d). Pollution control shall be in accordance with 619.07.*

*If the pay item clean and paint bearing assemblies is listed in the schedule of pay items for a particular structure, the entire bearing assembly shall be painted with the structural steel paint system in accordance with 619.09(a).*

*If the pay item, paint steel bridge, or paint steel bridge, partial, is listed in the schedule of pay items for a particular structure, the entire bearing assembly shall be painted with the structural steel paint system that is being used on the rest of the bridge.*

**619.16.1 Clean and Paint Steel Piling**

*All exposed steel piling shall be cleaned in accordance with 619.08(a) and either 619.08(d) or 619.08(i). The structural steel paint system in accordance with 619.09(a)*



## REVISION TO STANDARD SPECIFICATIONS

## SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

## 202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

## 202.13 METHOD OF MEASUREMENT

## 202.14 BASIS OF PAYMENT

## SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

*shall be applied. The color of the top coat shall be SAE-AMS-STD-595, color No. 13711; buff.*

### **619.1517 Responsibility for Damage**

Unless otherwise specified by the Engineer in writing, full containment shall be provided when performing the surface preparation operation and when applying all coats of paint, except primer coats, with spray equipment. All persons and property shall be protected from damage or injury from the surface preparation operations and painting operations by providing containment as described in the QCP. Persons and property shall include, but not be limited to, pedestrians, vehicles, and other traffic upon or underneath a bridge, all portions of the bridge superstructure and substructure, and all adjacent property. The Contractor shall be responsible for damages in accordance with 107.17.

### **619.1618 Blank Top of Top Flange of Steel Structural Members**

*When shown on the plans or a pay item is included in the schedule of pay items, the top of the top flange of steel structural members shall be cleaned in accordance with 619.08 by a contractor certified as SSPC-QP 2. The Contractor shall assume the existing coating on the top of the top flange contains hazardous materials and mill scale, and shall use pollution control and containment in accordance with 619.07(b)1. A QCP shall be prepared and submitted in accordance with 619.03 ~~shall be prepared and submitted~~. The steel shall be cleaned to a level of cleanliness in accordance with 619.08(d) or 619.08(h), however solvent cleaning in accordance with 619.08(a) shall not be performed.*

*Each bridge shall generate a separate waste stream and shall not be commingled with other materials. The waste stream shall be sampled in accordance with 619.07 and all other requirements of 619.07 shall be followed. Once the result from the waste stream sampling is known and the waste stream is appropriately characterized as hazardous or non-hazardous, all waste shall be disposed of in accordance with 619.07(b).*

### **619.1719 Method of Measurement**

*Cleaning and painting will not be measured for payment of steel structural members, cleaning ~~and painting~~ the top of the top flange of steel structural members, cleaning and painting of bearing assemblies, and cleaning and painting of steel piling will not be measured for payment. Cleaning areas around bridge joints and other areas with significant pitting a second time will not be measured for payment. Disposal of the waste stream generated by the cleaning operation will not be measured for payment.*

Cleaning roadway drain castings, caulking joints of lapping members, and caulking on weathering steel will not be measured for payment.

*For steel that will become the property of the Contractor, cleaning existing steel, removal of mill scale, testing, disposal of the waste stream, containment, and all other*

## REVISION TO STANDARD SPECIFICATIONS

## SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

## 202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

## 202.13 METHOD OF MEASUREMENT

## 202.14 BASIS OF PAYMENT

## SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

*items involved with removing and properly disposing of the existing coating will not be measured as per 202.13.*

~~If an existing bridge is advertised as a structure is shown in the contract documents as being built before 1995 having existing hazardous materials, no measurement will be made of the area covered by mill scale. For bridges advertised as having existing non-hazardous materials.~~ *If an existing bridge coating is advertised as non-hazardous* Otherwise, the area of structural steel covered by mill scale will be measured for payment after a proper cleaning of the entire containment area or an agreed large portion thereof and removing all other existing materials, including all paint and rust. The percentage of the area of structural steel covered by existing mill scale will be representative of this entire area. The pre-established remedies for this changed condition apply in accordance with 104.02(d) and ~~619.18~~ 619.20.

Roadway drain casting extension pipe will be measured in accordance with 715.13.

The estimated weight, length, number of steel spans, surface area of steel, and type of primer shown on the plans or in the Proposal book is incidental information. Such information is approximate only. The Department will not guarantee its accuracy.

#### **619.1820 Basis of Payment**

Existing steel bridges to be cleaned, or partially cleaned, whichever is specified, will be paid for at the contract lump sum price for clean steel bridge or clean steel bridge, partial, at the bridge number specified. *Cleaning the top of the top flange of existing steel bridges will be paid for at the contract lump sum price for clean steel bridge, top flange, at the bridge number specified.* Existing steel bridges to be painted, or partially painted, whichever is specified, will be paid for at the contract lump sum price for paint steel bridge or paint steel bridge, partial, at the bridge number specified.

*When specified as a separate pay item in the contract, cleaning and painting bearing assemblies will be paid for at the contract lump sum price for clean and paint bearing assemblies, at the bridge number specified.*

*When specified as a separate pay item in the contract, cleaning and painting steel piling will be paid for at the contract lump sum price for clean and paint steel piling, at the bridge number specified.*

#### **(a) Pre-Established Remedies for Changed Conditions**

REVISION TO STANDARD SPECIFICATIONS

---

SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

202.13 METHOD OF MEASUREMENT

202.14 BASIS OF PAYMENT

SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

**1. Discovery of Hazardous Materials but No Mill Scale on a Site Advertised as Non-Hazardous Structure Shown in the Contract Documents as Being Built After 1994**

The payment will be an additional 25% of the clean steel bridge item as computed in 619.1820(b)1 in accordance with 109.05 as payment for all additional costs incurred.

**2. Discovery of Mill Scale but No Hazardous Materials on a Site Advertised as Non-Hazardous Structure Shown in the Contract Documents as Being Built After 1994**

If, on a bridge advertised as having existing non-hazardous materials structure shown in the contract documents as being built after 1994 and the presence of hazardous materials has not been confirmed by laboratory analysis, the area of structural steel covered by mill scale comprises greater than 15% of the area of structural steel in accordance with 619.17619.19, additional compensation for the removal of the mill scale will be made as an adjustment to the clean steel bridge item in accordance with the following. The adjustment will be an additional payment of 30% of the clean steel bridge item as computed in accordance with 619.20(b)1 will be made.

- a. For areas of structural steel greater than 15% and up to and including 25% of the area covered by mill scale, an additional payment of 15% of the clean steel bridge item as computed in accordance with 619.18 (b) 1 will be made.
- b. For areas of structural steel greater than 25% and up to and including 50% of the area covered by mill scale, an additional payment of 30% of the clean steel bridge item as computed in accordance with 619.18 (a) 1 will be made.
- c. For areas of structural steel greater than 50% and up to and including 75% of the area covered by mill scale, an additional payment of 45% of the clean steel bridge item as computed in accordance with 619.18 (b) 1 will be made.
- d. For areas of structural steel greater than 75% of the area covered by mill scale, an additional payment of 60% of the clean steel bridge item as computed in accordance with 619.18 (b) 1 will be made.

**3. Discovery of Hazardous Materials and Mill Scale on a Site Advertised as Non-Hazardous Structure Shown in the Contract Documents as Being Built After 1994**

If the laboratory analysis of a waste residue sample on a bridge advertised as having non-hazardous materials structure shown in the contract documents as being built after

REVISION TO STANDARD SPECIFICATIONS

- SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS
- 202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES
- 202.13 METHOD OF MEASUREMENT
- 202.14 BASIS OF PAYMENT
- SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

1994 yields results indicating the presence of hazardous materials, the entire bridge shall be considered as having mill scale and the following pre-established remedy for this changed condition in accordance with 104.02(d) shall apply. If agreed to in writing between the Contractor and the Department, the work shall proceed with the Contractor assuming all risks for removal of mill scale. An additional 55% of the clean steel bridge item as computed in 619.1820(b)1 in accordance with 109.05 will be paid as additional compensation for the removal and disposal of the hazardous materials, the removal of the mill scale, the additional containment required, and all other incidental items associated with the removal of the hazardous materials and mill scale.

**(b) Prices used in Pre-Established Remedies to Changed Conditions**

The following prices will be computed and used as the price for the pay item identified below in all pre-established remedies to changed conditions referenced in this section.

The price for the clean steel bridge item, per bridge, used in all pre-established remedies to changed conditions referenced in this section will be limited to the lesser of the following:

1. 70% of the sum of the clean steel bridge item and paint steel bridge item for that bridge; or
2. the actual amount for the clean steel bridge item for that bridge shown in the Schedule of Pay Items.

Roadway drain casting extension pipe will be paid for in accordance with 715.14.

*For steel that will become the property of the Contractor, ~~the cost of~~ payment for cleaning existing steel, removal of mill scale, testing, disposal of the waste stream, containment, and all other costs involved with removing and properly disposing of the existing coating will be in accordance with 202.14.*

The cost of transportation and disposal of waste materials, waste residues, waste residue containers, and all other debris generated from ~~environmental~~ pollution control and cleaning that is disposed of will be paid for at the contract lump sum price for disposal of cleaning waste, hazardous or non-hazardous, at the bridge number specified.

Payment will be made under:

**Pay Item**

**Pay Unit Symbol**

*Clean and Paint Bearing Assemblies, Br. No. \_\_\_\_ .....LS*

REVISION TO STANDARD SPECIFICATIONS

SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

202.13 METHOD OF MEASUREMENT

202.14 BASIS OF PAYMENT

SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

- Clean and Paint Steel Piling, Br. No. \_\_\_\_\_*.....LS
- Clean Steel Bridge, Partial, QP- \_\_\_\_\_, Br. No. \_\_\_\_\_.....LS
- Clean Steel Bridge, QP- \_\_\_\_\_, Br. No. \_\_\_\_\_.....LS
- Clean Steel Bridge, Top Flanges, QP-2, Br. No. \_\_\_\_\_*.....LS
- Disposal of Cleaning Waste, \_\_\_\_\_, Br. No. \_\_\_\_\_.....LS  
waste type
- Paint Steel Bridge, Br. No. \_\_\_\_\_.....LS
- Paint Steel Bridge, Partial, Br. No. \_\_\_\_\_.....LS

The cost to prepare a QCP shall be included in the cost of the pay items of this section. The cost of providing the Department with access to the bridge and seasonal or weather limitations shall be included in the cost of the pay items of this section.

If a ~~bridge is advertised as having existing hazardous materials~~ *structure is shown in the contract documents as being built before 1995*, no additional payment will be made for the removal of mill scale. The cost of the removal of mill scale shall be included in the cost of clean steel bridge ~~or~~, clean steel bridge, partial, *clean and paint bearing assemblies, clean and paint steel piling, or clean steel bridge, top flanges.*

If a ~~bridge is advertised as having existing non-hazardous materials~~ *structure is shown in the contract documents as being built after 1994* and the percentage of the area covered by mill scale is less than or equal to ~~15~~25% of the total structural steel surface area of a bridge measured in accordance with ~~619.17~~619.19 no additional payment will be made for the removal of mill scale. The cost of the removal of mill scale shall be included in the cost of clean steel bridge or clean steel bridge, partial.

The cost of furnishing all materials, equipment, and labor required for ~~washing,~~ solvent cleaning, scraping, steel brushing, or other acceptable methods for removing paint in the locations directed shall be included in the cost of clean steel bridge ~~or~~, clean steel bridge, partial, *clean and paint bearing assemblies, clean and paint steel piling, or clean steel bridge, top flange.* The cost of cleaning roadway drain castings shall be included in the cost of clean steel bridge or clean steel bridge, partial.

The cost of providing containment in accordance with ~~619.15~~619.07 and 619.17 and personal protective equipment shall be included in the cost of the pay items of this section.

The cost of furnishing all materials, equipment, and labor required to perform the quality control tasks outlined in 619.03 shall be included in the cost of clean steel bridge or, clean steel bridge, partial, *clean and paint bearing assemblies, clean and paint steel piling, or clean steel bridge, top flange.*

REVISION TO STANDARD SPECIFICATIONS

---

SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

202.13 METHOD OF MEASUREMENT

202.14 BASIS OF PAYMENT

SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

The cost of furnishing all materials including caulk, equipment, and labor to perform caulking and painting, including the stripe coats, with the structural steel paint system or the partial paint system shall be included in the cost of paint steel bridge or paint steel bridge, partial. The cost of switching stripe coat application methods shall be included in the cost of paint steel bridge or paint steel bridge, partial. The cost of furnishing all materials, equipment, and labor to perform painting of the roadway drain castings shall be included in the cost of paint steel bridge or paint steel bridge, partial.

The cost of all equipment, material, labor, testing, use of special cleaning methods, and shipping of waste residue samples shall be included in the cost of the clean steel bridge or, clean steel bridge, partial, *clean and paint bearing assemblies, clean and paint steel piling, or clean steel bridge, top flange, pay item.*

*The cost of cleaning areas around bridge joints and other areas with significant pitting a second time shall be included in the clean steel bridge, clean steel bridge, partial, clean and paint bearing assemblies, or clean steel bridge, top flange pay item.*

*When a pay item is included in the schedule of pay items for clean and paint bearing assemblies, all costs associated with cleaning and painting bearing assemblies, except disposal of cleaning waste, shall be included in the cost of the pay item. If clean steel bridge, clean steel bridge, partial, paint steel bridge, or paint steel bridge, partial are included as pay items in the schedule of pay items, no separate payment will be made for cleaning and painting bearing assemblies on that bridge no. The cost of cleaning and painting bearing assemblies shall be included in the cost of the respective clean steel bridge, clean steel bridge, partial, paint steel bridge, or paint steel bridge, partial pay items for that bridge no.*

*When a pay item is included in the schedule of pay items for clean and paint steel piling, all costs associated with cleaning and painting steel piling except disposal of cleaning waste shall be included in the cost of the pay item.*

COMMENTS AND ACTION

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SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES

202.13 METHOD OF MEASUREMENT

202.14 BASIS OF PAYMENT

SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

DISCUSSION:

Mr. Beeson introduced this item, which was presented by Mr. Reilman, who explained that the 619 specification needs updated to address paint on the top flange of steel members, painting of bearing assemblies, painting of piling, and the environmental and safety requirements.

Mr. Beeson therefore proposed to incorporate the proposed revisions into 202 and 619, as shown above.

In reference to the changes shown for 202.03, Mr. Koch asked if 619.14 was the correct reference. Mr. Reilman explained that the reference to 619.14 is correct, since it references 619.07 and 619.08.

Mr. Koch asked about the language in the proposed 619.19 and 619.20. Once the upper flange is cleaned, the surface will begin to rust, possibly before the deck is cast. Should primer be applied? 619.19 seems to indicate painting, whereas 619.20 mentions just cleaning. Mr. Reilman stated that the words "and painting" should have been deleted, since the top flange does not need any coating and any subsequent rust that may develop would be inconsequential. That language has been revised accordingly.

Mr. Reilman also proposed to add language with regard to Clean and Paint Steel Piling, as shown above, for consistency and clarification. An editorial revision to 619.04 has also been incorporated, as shown highlighted above.

Following further discussions, additional language has been added or revised for clarification for the determination of structures that may contain hazardous materials.

With no further discussion, this item passed as revised.

COMMENTS AND ACTION

SECTION 202 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS  
 202.03 REMOVAL OF BRIDGES, CULVERTS, AND OTHER DRAINAGE STRUCTURES  
 202.13 METHOD OF MEASUREMENT  
 202.14 BASIS OF PAYMENT  
 SECTION 619 - PAINTING BRIDGE STEEL (VARIOUS)

(continued)

Motion: Mr. Beeson Second: Mr. Koch Ayes: 9 Nays: 0 FHWA Approval: YES	Action: <input type="checkbox"/> Passed as Submitted <input checked="" type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn
Standard Specifications Sections referenced and/or affected:  202 pg 136; 619 begin pg 502	<input checked="" type="checkbox"/> 2022 Standard Specifications <input checked="" type="checkbox"/> Revise Pay Items List
Recurring Special Provision affected:  NONE	<input checked="" type="checkbox"/> Create RSP (No. <u>202-R-705 and 619-B-312</u> ) Effective: <u>June 1, 2020</u> RSP Sunset Date: <u>2022 SS book</u>
Standard Drawing affected:  NONE	<input type="checkbox"/> Revise RSP (No. __) Effective: RSP Sunset Date:
Design Manual Sections affected:  NONE	<input type="checkbox"/> Standard Drawing Effective:
GIFE Sections cross-references:  5.24	<input type="checkbox"/> Create RPD (No. __) Effective:  <input checked="" type="checkbox"/> GIFE Update
	<input type="checkbox"/> SiteManager Update



PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Established Prices were a proposed and accepted as a method of payment for storm water features in 2016 as part of the revised Specifications for that section. These Established Prices have not been updated since their inception.

PROPOSED SOLUTION: In order to update the Established Prices for storm water features, costs have been reviewed, updated, and vetted through industry.

APPLICABLE STANDARD SPECIFICATIONS: 205.11 Basis of Payment

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: N/A

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Storm Water Specification Sub-Committee

IMPACT ANALYSIS (attach report): Yes

Submitted By: Kurt Pelz

Title: Construction Management Technical Services Manager

Organization: Construction Management

Phone Number: 317-234-7726

Date: October 10, 2019

IMPACT ANALYSIS REPORT CHECKLIST

*Explain the business case as to why this item should be presented to the Standards Committee for approval. Answer the following questions with Yes, No or N/A.*

Does this item appear in any other specification sections? No

Will approval of this item affect the Approved Materials List? No

Will this proposal improve:

Construction costs? Yes

Construction time? No

Customer satisfaction? No

Congestion/travel time? No

Ride quality? No

Will this proposal reduce operational costs or maintenance effort? Yes

Will this item improve safety:

For motorists? No

For construction workers? No

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? No

Design process? No

Will this change provide the contractor more flexibility? Yes

Will this proposal provide clarification for the Contractor and field personnel? Yes

Can this item improve/reduce the number of potential change orders? Yes

Is this proposal needed for compliance with:

Federal or State regulations? No

AASHTO or other design code? No

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: To improve the overall process for storm water management implementation and Contractor payment.

## REVISION TO STANDARD SPECIFICATIONS

## SECTION 205 - STORMWATER MANAGEMENT

## 205.11 BASIS OF PAYMENT

The Standard Specifications are revised as follows:

SECTION 205, BEGIN LINE 692, DELETE AND INSERT AS FOLLOWS:

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit Symbol</b>	<b>Established Price</b>
Diversion Interceptor Type C .....	LFT .....	<del>\$20.00</del> \$22.50
Fertilizer .....	TON .....	<del>\$725.00</del> \$775.00
Filter Sock .....	LFT .....	<del>\$5.00</del> \$5.50
Manufactured Surface Protection Product .....	SYS .....	<del>\$1.25</del> \$1.35
Mobilization and Demobilization for Surface Stabilization .....	EACH .....	<del>\$650.00</del> \$700.00
No. 2 Stone .....	TON .....	<del>\$25.00</del> \$30.00
Sediment, Remove .....	CYS .....	<del>\$20.00</del> \$22.00
Splashpad .....	TON .....	<del>\$55.00</del> \$60.00
Standard Metal End Section .....	EACH .....	<del>\$340.00</del> \$365.00
Stormwater Management Budget .....	DOL	
SWQCP Preparation and Implementation, Level 1 .....	LS	
SWQCP Preparation and Implementation, Level 2 .....	LS	
Temporary Check Dam, Revetment Riprap .....	TON .....	<del>\$50.00</del> \$65.00
Temporary Check Dam, Traversable .....	LFT .....	<del>\$15.00</del> \$16.00
Temporary Filter Berm .....	LFT .....	<del>\$15.00</del> \$16.00
Temporary Filter Stone .....	TON .....	<del>\$40.00</del> \$45.00
Temporary Geotextile .....	SYS .....	<del>\$2.50</del> \$2.75
Temporary Inlet Protection .....	EACH .....	<del>\$100.00</del> \$110.00
Temporary Mulch Stabilization .....	SYS .....	<del>\$0.25</del> \$0.30
Temporary Mulch .....	TON .....	<del>\$400.00</del> \$425.00
Temporary Revetment Riprap .....	TON .....	<del>\$50.00</del> \$60.00
Temporary Sediment Basin .....	EACH .....	<del>\$3,000.00</del> \$3,200.00
Temporary Sediment Trap .....	TON .....	<del>\$40.00</del> \$42.50
Temporary Seed .....	LBS .....	<del>\$2.50</del> \$2.75
Temporary Silt Fence .....	LFT .....	<del>\$2.00</del> \$2.15
Temporary Slope Drain .....	LFT .....	<del>\$20.00</del> \$21.50
Weekly Inspection .....	EACH .....	<del>\$400.00</del> \$425.00

COMMENTS AND ACTION

205.11 BASIS OF PAYMENT

DISCUSSION:

This item was introduced and presented by Mr. Harris, sitting in for Mr. Pelz, who explained that established prices were proposed and accepted as a method of payment for storm water features in 2016 as part of the revised Specifications for that section. These Established Prices have not been updated since their inception.

Mr. Harris therefore proposed that in order to update the Established Prices for storm water features, costs have been reviewed, updated, and vetted through industry. Mr. Harris stated that the intentions behind this revision is to improve the overall process for storm water management implementation and Contractor payment. Additional minor revisions, as proposed by Mr. Harris, are as shown.

Mr. Osborn inquired of additional revisions to other prices, and Mr. Harris confirmed that more revisions may be forthcoming prior to the release of the 2022 spec book, which is why it is desired to not have the above revisions considered for incorporation into the new spec book at this time.

There was no further discussion and this item passed as revised.

Motion: Mr. Harris Second: Mr. Boruff Ayes: 9 Nays: 0 FHWA Approval: YES	Action: <input type="checkbox"/> Passed as Submitted <input checked="" type="checkbox"/> Passed as Revised <input type="checkbox"/> Withdrawn
Standard Specifications Sections referenced and/or affected:  205 pg 206	<input type="checkbox"/> 2022 Standard Specifications <input checked="" type="checkbox"/> Revise Pay Items List
Recurring Special Provision references in:  NONE	<input checked="" type="checkbox"/> Create RSP (No .205-R-706) Effective: <u>June 1, 2020</u> RSP Sunset Date:
Standard Drawing affected:  NONE	<input type="checkbox"/> Revise RSP (No. __) Effective: RSP Sunset Date:
Design Manual Sections affected:  NONE	<input type="checkbox"/> Standard Drawing Effective:
GIFE Sections cross-references:  NONE	<input type="checkbox"/> Create RPD (No. __) Effective:  <input type="checkbox"/> GIFE Update  <input type="checkbox"/> SiteManager Update