INDIANA DEPARTMENT OF TRANSPORTATION

100 North Senate Avenue
Room N925 CM
Indianapolis, Indiana 46204

PHONE: (317) 232-5502
FAX: (317) 232-5551

Eric Holcomb, Governor
Joe McGuinness, Commissioner

AGENDA

July 19, 2018 Standards Committee Meeting

MEMORANDUM

June 29, 2018

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Agenda for the July 19, 2018 Standards Committee Meeting

A Standards Committee meeting is scheduled for 09:00 a.m. on July 19, 2018 in the N955 Bay Window Conference Room. Please enter meeting through the double doors directly in front of the conference room.

The following items are listed for consideration:

A. GENERAL BUSINESS ITEMS

OLD BUSINESS

(No items on this agenda)

NEW BUSINESS

1. Approval of the Minutes from the June 21, 2018 meeting

B. CONCEPTUAL PROPOSAL ITEMS

OLD BUSINESS

(No items on this agenda)

NEW BUSINESS

(No items on this agenda)

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

OLD BUSINESS

(No items on this agenda)

NEW BUSINESS

Item No. 1 (2018 SS) Mr. Boruff pg 4

Recurring Special Provision:

808-T-190	~~LONGITUDINAL~~*CENTER LINE* RUMBLE STRIPES*, EDGE LINE RUMBLE STRIPES, AND SHOULDER RUMBLE STRIPS*

Recurring Plan Details:

808-T-190d	~~CENTERLINE LONGITUDINAL RUMBLE STRIPE~~ *MILLED LONGITUDINAL RUMBLE STRIPS INDEX SHEET* (PAGE 1)
808-T-190d	~~EDGELINE~~*CENTERLINE* LONGITUDINAL RUMBLE STRIPE (PAGE 2)
808-T-190d	*EDGELINE* LONGITUDINAL RUMBLE STRIPE~~S AT INTERSECTION, DRIVE, OR RAILROAD CROSSING~~ (PAGE 3)
808-T-190d	*BREAK IN LONGITUDINAL RUMBLE STRIPE NEAR AN INTERSECTION DRIVE, OR RAILROAD CROSSING (PAGE 4)*
808-T-190d	*SHOULDER LONGITUDINAL RUMBLE STRIP (UNDIVIDED HIGHWAY) (PAGE 5)*
808-T-190d	*BREAK IN SHOULDER LONGITUDINAL RUMBLE STRIP NEAR AN INTERSECTION, DRIVE, OR RAILROAD (PAGE 6)*

Item No. 2 (2018 SS) Mr. Beeson pg 20

711.65	Bolted Connections Using High Strength Bolts
802.07(b)	Overhead Sign Structures
908.09	Structural Plate Pipe, Pipe-Arches, and Arches
909.02(a)	Zink Primers
910.02	Structural Steel
910.11	Guardrail Accessories, Fittings, and Hardware
910.19	Overhead Sign Structures
910.20	Steel Bridge Railing Components
922.09	Pedestal Poles and Cast Aluminum Pedestal Bases
922.10	Signal Supports

Recurring Special Provision:

620-R-483	SOUND BARRIER SYSTEMS

Item No. 3 (2018 SS) Mr. Goldner pg 30

801.02	Materials
919.01(b)1	Reflective Sheeting

Item No. 4 (2018 SS)	Mr. Beeson	pg 34
702.22	Curing Concrete	
704.06	Curing	

Item No. 5 (2018 SS)	Mr. Beeson	pg 39
101.01	Abbreviations	
907.28	Reinforced Thermosetting Resin Pipe and Pipe Fittings	
909.02	For Metal	
915.04	Elastomeric Bearings	
915.05	Bearing Assemblies with Polytetrafluoroethylene, PTFE, Sliding Surfaces	
919.01	Traffic Signs	
922.03	Signal Head Components	

Recurring Special Provisions:

620-R-483	SOUND BARRIER SYSTEMS
801-T-194	AUTOMATED FLAGGER ASSISTANCE DEVICE

Item No. 6 (2018 SS)	Mr. Beuchel	pg 51
Recurring Special Provision:		
100-C-203	INDIANA DEPARTMENT OF ADMINISTRATION M/WBE AND ~~IVBE~~*IVOSB* PARTICIPATION POLICY FOR INDIANA DEPARTMENT OF TRANSPORTATION CONSTRUCTION PROJECTS	

Item No. 7 (2018 SS)	Mr. Beeson	pg 56
910.03	Permanent Metal Forms	

cc: Committee Members
FHWA
ICI

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Property owners adjacent to state highways with rumble stripes have expressed concerns about the noise generated from the rumble stripes. As a result, INDOT has experimented with sinusoidal corrugations that reduce the amount of external noise generated. A JTRP study (SPR-4016) found that a 12 inch wavelength sinusoidal corrugation pattern has the best overall performance.

PROPOSED SOLUTION: Revise the recurring special provision and plan detail to use the sinusoidal corrugation pattern for rumble stripes.

APPLICABLE STANDARD SPECIFICATIONS: 606 and 808

APPLICABLE STANDARD DRAWINGS: No

APPLICABLE DESIGN MANUAL SECTION: 502-2.09

APPLICABLE SECTION OF GIFE: No

APPLICABLE RECURRING SPECIAL PROVISIONS: Yes 808-T-190 and 808-T-190d

PAY ITEMS AFFECTED: No

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Working group review by Dana Plattner, Dave Boruff, and Matt Thomas

IMPACT ANALYSIS (attach report): Yes, attached.

Submitted By: Joe Bruno on behalf of Dave Boruff

Title: Traffic Administration Engineer

Organization: INDOT

Phone Number: (317) 234-7949

Date: 5/25/18

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

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? No

Construction time? No

Customer satisfaction? Yes

Congestion/travel time? No

Ride quality? Yes

Will this proposal reduce operational costs or maintenance effort? Yes

Will this item improve safety:

For motorists? Yes

For construction workers? No

Will this proposal improve quality for:

Construction procedures/processes? Yes

Asset preservation? Yes

Design process? No

Will this change provide the contractor more flexibility? No

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: N/A

REVISION TO RECURRING SPECIAL PROVISION AND PLAN DETAILS

808-T-190 LONGITUDINAL RUMBLE STRIPES

(Note: Proposed changes shown highlighted gray)

808-T-190 ~~LONGITUDINAL~~*CENTER LINE* RUMBLE STRIPES*, EDGE LINE RUMBLE STRIPES, AND SHOULDER RUMBLE STRIPS*

(Revised xx-xx-18)

The Standard Specifications are revised as follows:

SECTION 606, BEGIN LINE 1, DELETE AND INSERT AS FOLLOWS:

SECTION 606 –PAVEMENT CORRUGATIONS

606.01 Description

(a) All Corrugations

This work shall consist of placing corrugations in the pavement in accordance with 105.03. Corrugations shall not be constructed within the limits of reinforced concrete bridge approaches or on bridge decks.

The operation shall be coordinated such that milled materials do not encroach on the pavement lanes carrying traffic and all milled materials are disposed of in accordance with 104.07. *When corrugations are installed for center line and edge line rumble stripes, milled materials shall be swept and vacuumed following the milling operation.*

The corrugation shall be constructed by cutting smooth strips in existing or newly constructed pavement. The operation shall be conducted by means of a cutting machine that provides a series of smooth cuts without tearing or snagging. The equipment shall include guides to maintain uniformity and consistency in the alignment of the strips.

Longitudinal rumble stripes are the combination of either the center line pavement marking placed in the center line corrugation or the edge line pavement marking placed in the edge line corrugation. They shall be installed as shown in the plans and as specified herein.

Longitudinal rumble strips are corrugations placed in the shoulder near the travel lane. They shall be installed as shown on the plans and as specified herein.

(b) ~~**Blank**~~***Center Line and Edge Line Corrugations***

When corrugations are installed for center line and edge line rumble stripes, control points ~~*that*~~ *are required as a guide for milling corrugations and shall be spotted with paint for the full length of the road to be milled. Control points along tangent sections shall be spaced at a maximum interval of 100 ft. Control points along curve sections shall be spaced to ensure the accurate location of the milled corrugations. The location of control points shall be approved prior to the milling operations.*

REVISION TO RECURRING SPECIAL PROVISION AND PLAN DETAILS

808-T-190 LONGITUDINAL RUMBLE STRIPES

If snowplowable raised pavement markers exist where center line corrugations are being placed into the existing surface, the prismatic reflectors in these markers shall be ~~removed~~temporarily covered and corrugations gapped a maximum of 60 in. and not within 6 in. of the markers.

~~*In the presence of D-1 pavement joints or castings which conflict with the location of the corrugations, the corrugations shall be gapped a maximum of 5 ft and not within 6 in. of the joint or casting.*~~

~~*Corrugations retrofitted installed within the HMA traveled way and on HMA shoulder contiguous with a HMA traveled way or a HMA auxiliary lane shall be sealed using liquid asphalt sealant in accordance with 401.15.*~~

~~***1. Installation Tolerances***~~

~~*Lateral deviation of milled center line or edge line corrugations shall not exceed 1 in. in 100 ft. The alignment of all pavement markings placed within rumble stripes shall be ± 1/2 in. of its specified location.*~~

~~***2. Maintenance of Traffic***~~

~~*The rumble stripe traffic control procedures shall be submitted to the Engineer and shall be in accordance with 808.08. Vehicles used in performing the milling, sweeper, vacuum or sealing operations shall have a rear escort vehicle that follows at a distance of 100 to 500 ft.*~~

MATERIALS

606.02 Materials

Materials shall be in accordance with the following:

Pavement Markings 808

CONSTRUCTION REQUIREMENTS

606.03 General Requirements

In the presence of D-1 pavement joints or castings which conflict with the location of the corrugations, the corrugations shall be gapped a maximum of 5 ft and not within 6 in. of the joint or casting.

On non-freeways, corrugations installed within the HMA traveled way or within 6 in. of a HMA longitudinal joint shall be sealed using liquid asphalt sealant in accordance with 401.15. Corrugations shall not be installed on non-freeway pccp sections.

On freeways, liquid asphalt sealant shall not be used for corrugations on HMA sections and corrugations shall not be installed on PCCP until the PCCP has cured for a minimum of 14 days. The milling operations for installing corrugations on PCCP shall not exceed 12 mph.

REVISION TO RECURRING SPECIAL PROVISION AND PLAN DETAILS
808-T-190 LONGITUDINAL RUMBLE STRIPES

1. Installation Tolerances

Lateral deviation of milled center line or edge line corrugations shall not exceed 1 in. in 100 ft. The alignment of all pavement markings placed within rumble stripes shall be ± 1/2 in. of its specified location.

2. Maintenance of Traffic

The rumble stripe traffic control procedures shall be submitted to the Engineer and shall be in accordance with 808.08. Vehicles used in performing the milling, sweeper, vacuum or sealing operations shall have a rear escort vehicle that follows at a distance of 100 to 500 ft.

606.02~~3~~*34* Method of Measurement

HMA and PCCP pavement corrugations will be measured by the linear foot, measured parallel to the center line of the roadway. Gaps longer than 20 ft will not be included in the measurement for milled corrugations.

606.03~~4~~*45* Basis of Payment

HMA and PCCP pavement corrugations will be paid for at the contract unit price per linear foot, when specified.

Payment will be made under:

Pay Item	**Pay Unit Symbol**
Milled HMA Corrugations	LFT
Milled PCCP Corrugations	LFT

The cost of ~~removal of~~temporarily covering existing prismatic reflectors in rumble strip retrofit sections shall be included in the cost of the pay items.

Milling, sweeping, vacuum cleaning, operation protection and maintenance of traffic associated with these pay items and all necessary incidentals shall be included in the cost of the pay items.

Where corrugations are placed in an existing HMA surface, liquid asphalt sealant shall be included in the cost of the pay items.

SECTION 808, BEGIN LINE 52, INSERT AS FOLLOWS:

808.04 Longitudinal Markings *and Milled Corrugations*

SECTION 808, AFTER LINE 92, INSERT AS FOLLOWS:

The center line shall be placed within the milled corrugation when center line rumble stripes are specified. Placement of the center line marking in the milled corrugation does not alter the pavement marking performance requirements of section 808.07.

REVISION TO RECURRING SPECIAL PROVISION AND PLAN DETAILS

808-T-190 LONGITUDINAL RUMBLE STRIPES

SECTION 808, AFTER LINE 108, INSERT AS FOLLOWS:

The edge line shall be placed in the milled corrugation when edge line rumble stripes are specified. Placement of the edge line marking in the milled corrugation does not alter the pavement marking performance requirements of section 808.07.

(d) Barrier Lines

Barrier lines shall be used as specified or directed. Barrier line markings shall be solid lines of the size and color specified or as directed.

(e) Markings in Retrofitted Corrugations

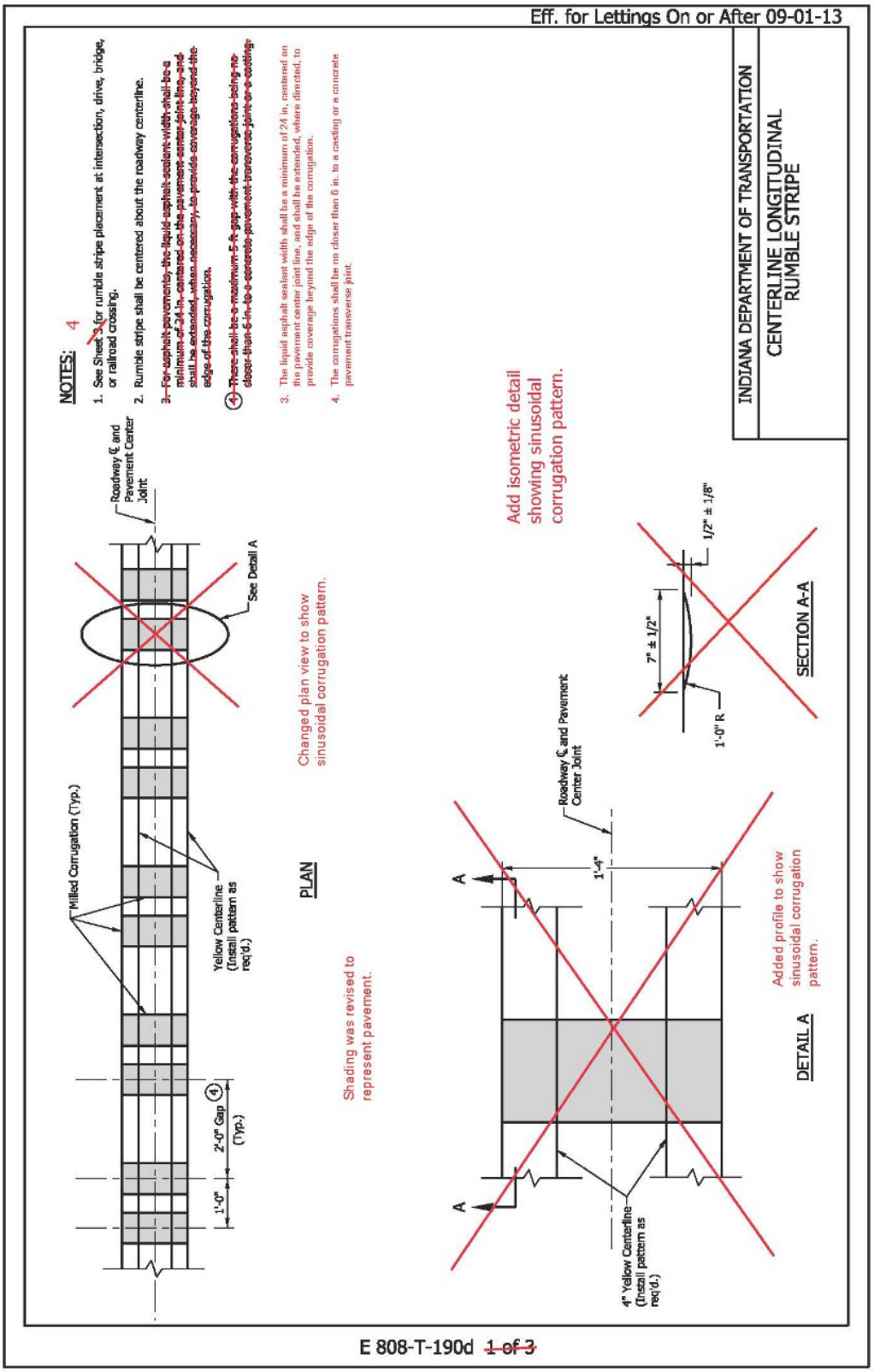
In sections where corrugations are being placed in the existing surface all existing pavement markings shall be removed in accordance with 808.10 and any existing sealants shall be routed or grinded out. Temporary pavement markings placed in accordance with 801.12 shall be offset a sufficient distance from the longitudinal joint so as to not to obstruct the installation of the corrugations or the application of the liquid asphalt sealant.

The Contractor shall make a record of the existing pavement marking locations so that such markings may be replicated later with the appropriate adjustments for edge line rumble stripes. This record shall show longitudinal and transverse dimensions. The record shall be submitted to and approved by the District Traffic Engineer prior to the removal of existing pavement markings. The District Traffic Section shall be notified two weeks prior to applying pavement markings so as to allow the District Traffic Section to verify the pavement marking plan.

REVISION TO RECURRING SPECIAL PROVISION AND PLAN DETAILS

808-T-190d CENTERLINE LONGITUDINAL RUMBLE STRIPE (PAGE 1, WITH MARKUPS)

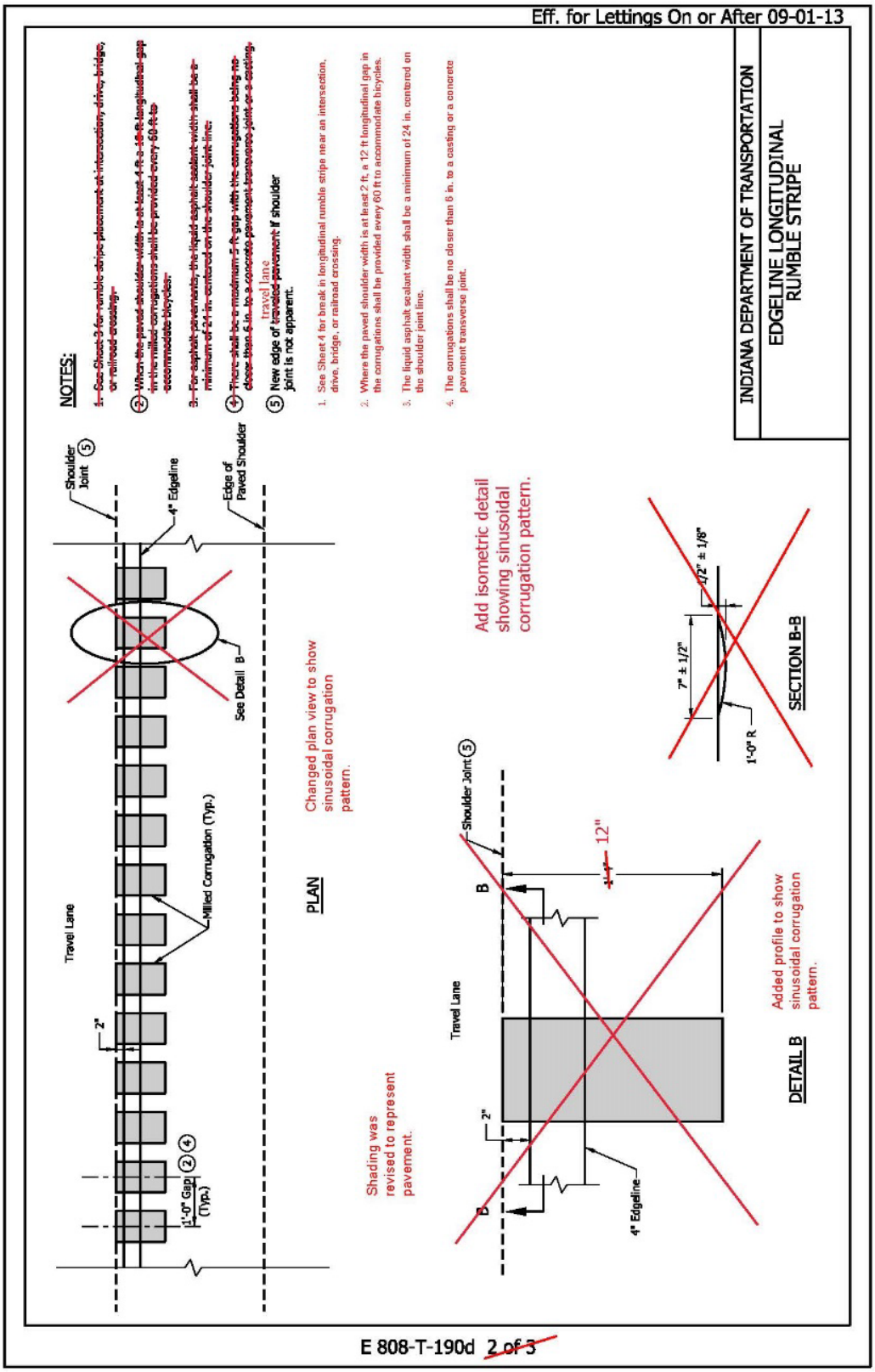
Added Index Sheet as Sheet 1 of 6
Added New Sheets 5 and 6



Details Moved to Sheet 2 of 6

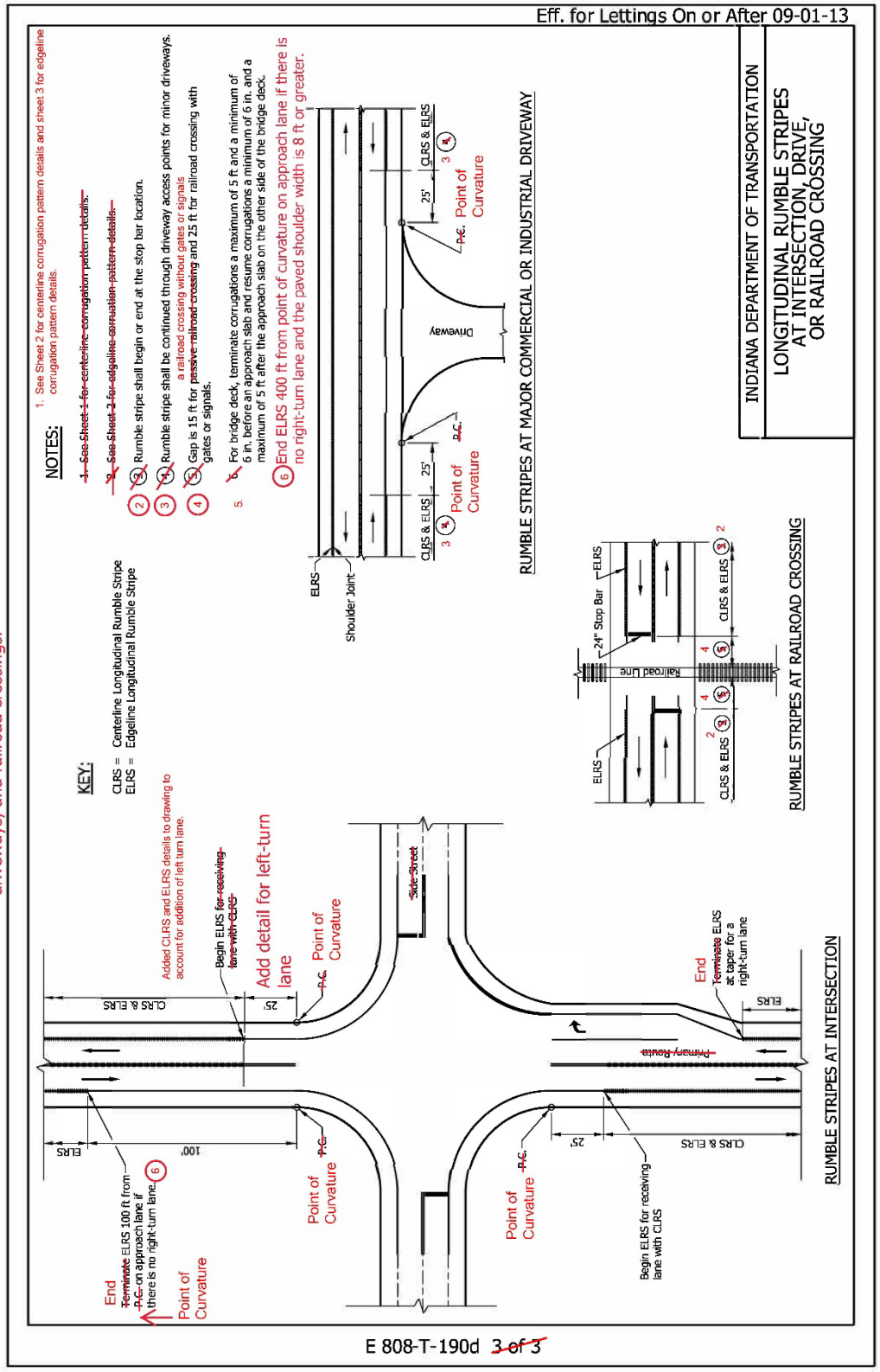
REVISION TO RECURRING SPECIAL PROVISION AND PLAN DETAILS

808-T-190d EDGELINE LONGITUDINAL RUMBLE STRIPE (PAGE 2, WITH MARKUPS)



REVISION TO RECURRING SPECIAL PROVISION AND PLAN DETAILS

808-T-190d LONGITUDINAL RUMBLE STRIPES AT INTERSECTION, DRIVE, OR RAILROAD CROSSING (PAGE 3, WITH MARKUPS)

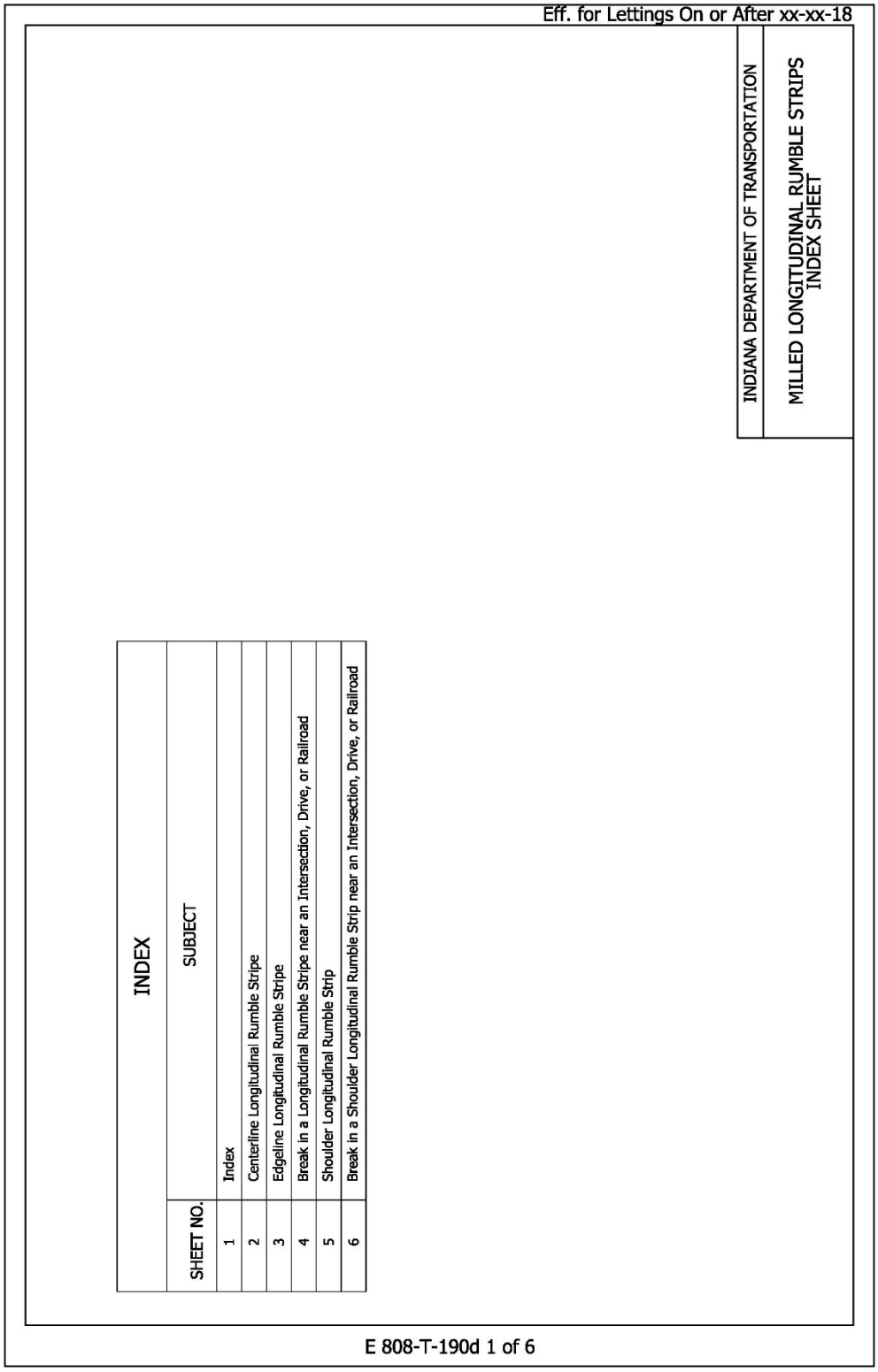


Add details for shoulder rumble strips (nonfreeway) and sheet showing typical breaks for shoulder rumble strips at intersections, driveways, and railroad crossings.

Details Moved to Sheet 4 of 6

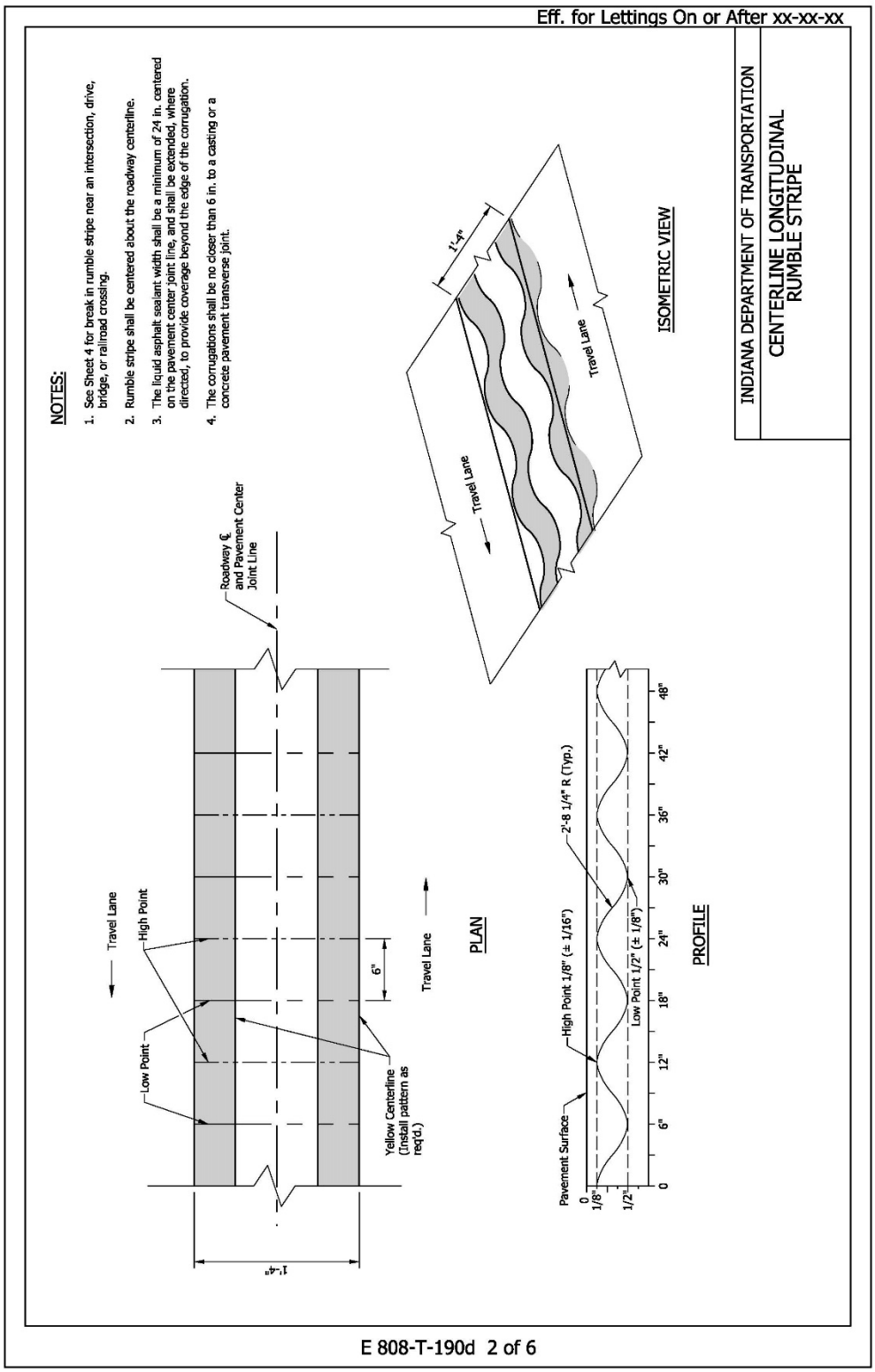
REVISION TO RECURRING SPECIAL PROVISION AND PLAN DETAILS

808-T-190d MILLED LONGITUDINAL RUMBLE STRIPS INDEX SHEET (PAGE 1, DRAFT)



REVISION TO RECURRING SPECIAL PROVISION AND PLAN DETAILS

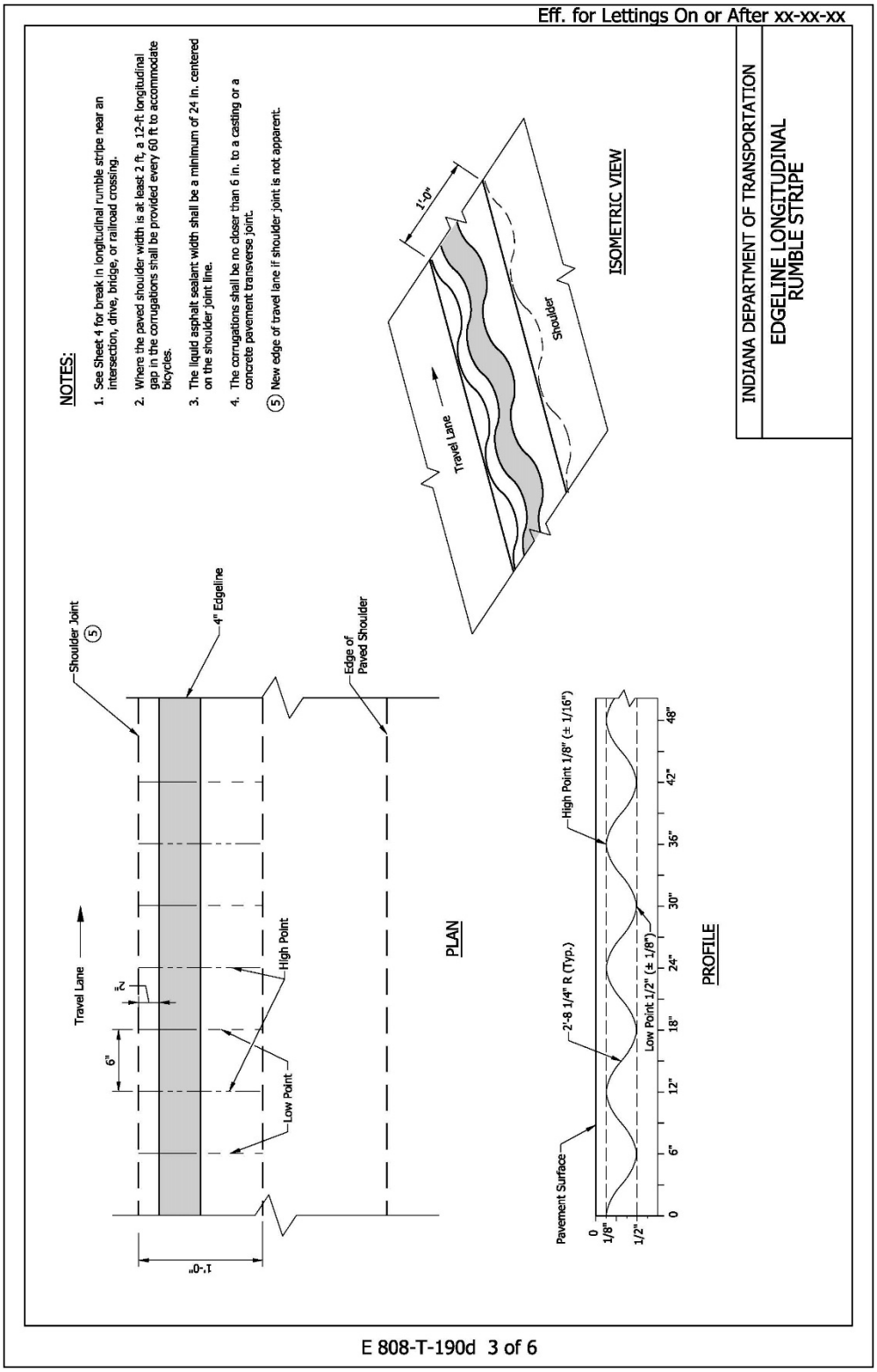
808-T-190d CENTERLINE LONGITUDINAL RUMBLE STRIPE (PAGE 2, DRAFT)



E 808-T-190d 2 of 6

REVISION TO RECURRING SPECIAL PROVISION AND PLAN DETAILS

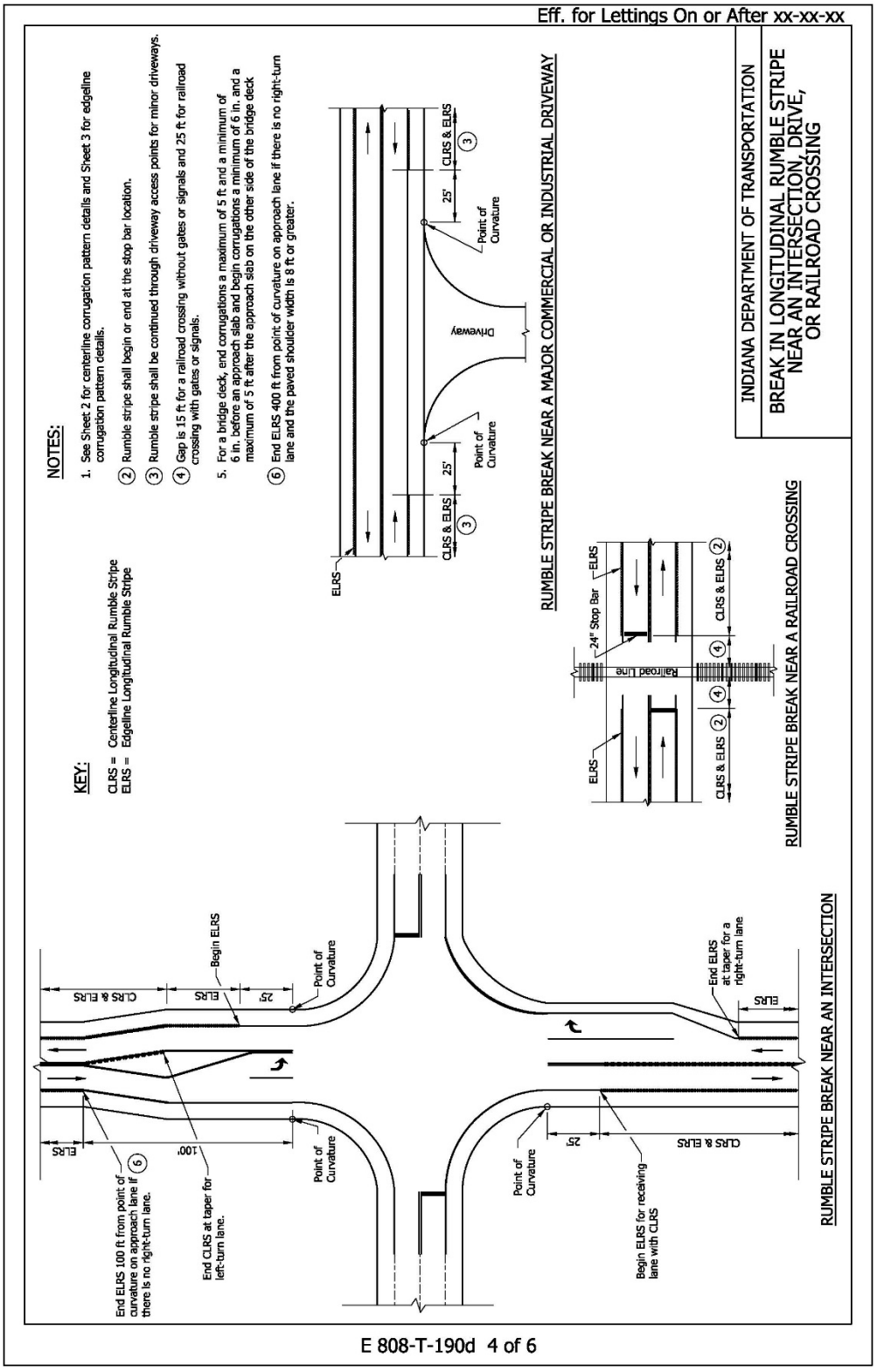
808-T-190d EDGELINE LONGITUDINAL RUMBLE STRIPE (PAGE 3, DRAFT)



E 808-T-190d 3 of 6

REVISION TO RECURRING SPECIAL PROVISION AND PLAN DETAILS

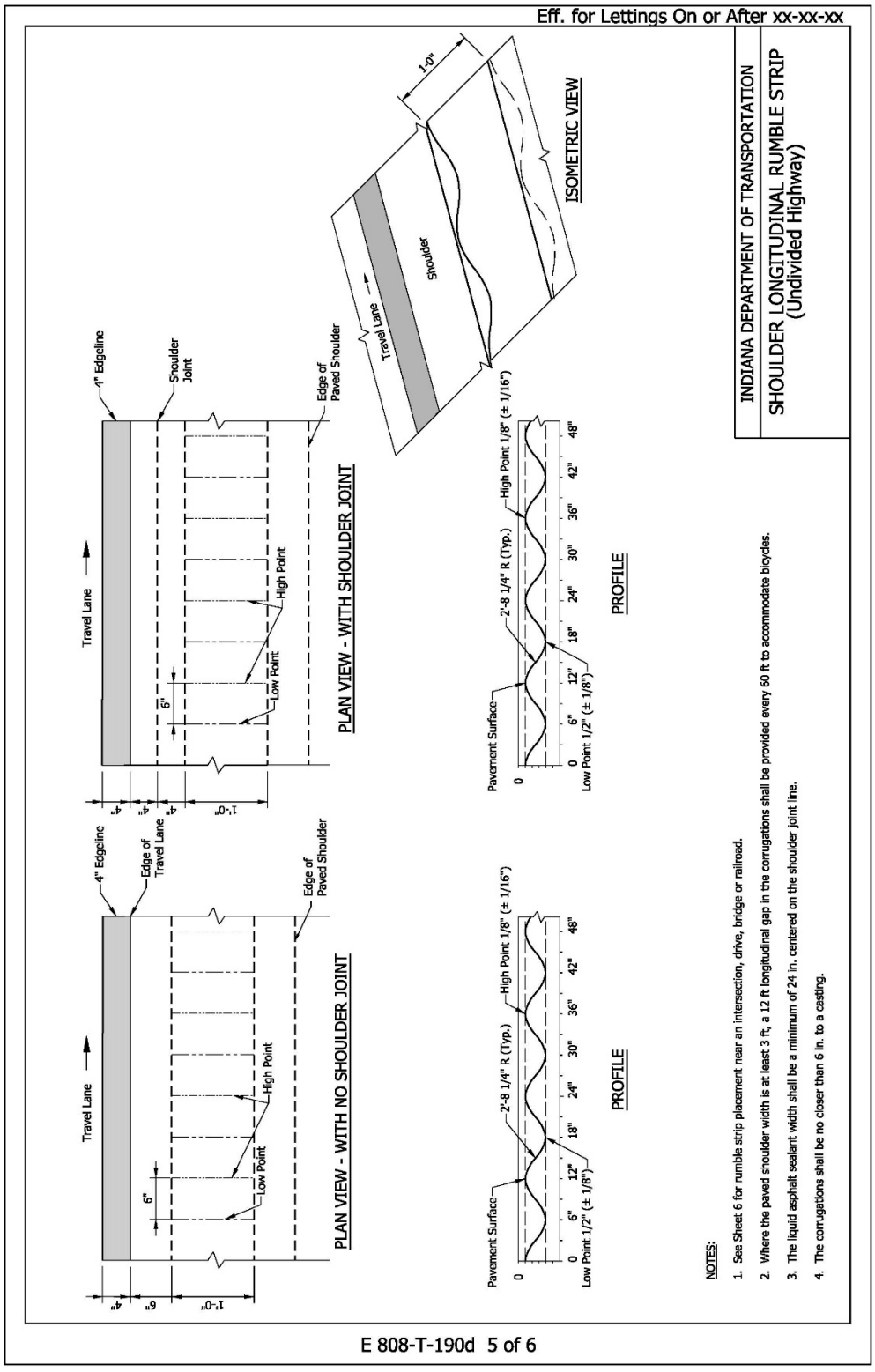
808-T-190d BREAK IN LONGITUDINAL RUMBLE STRIPE NEAR AN INTERSECTION DRIVE, OR RAILROAD CROSSING (PAGE 4, DRAFT)



E 808-T-190d 4 of 6

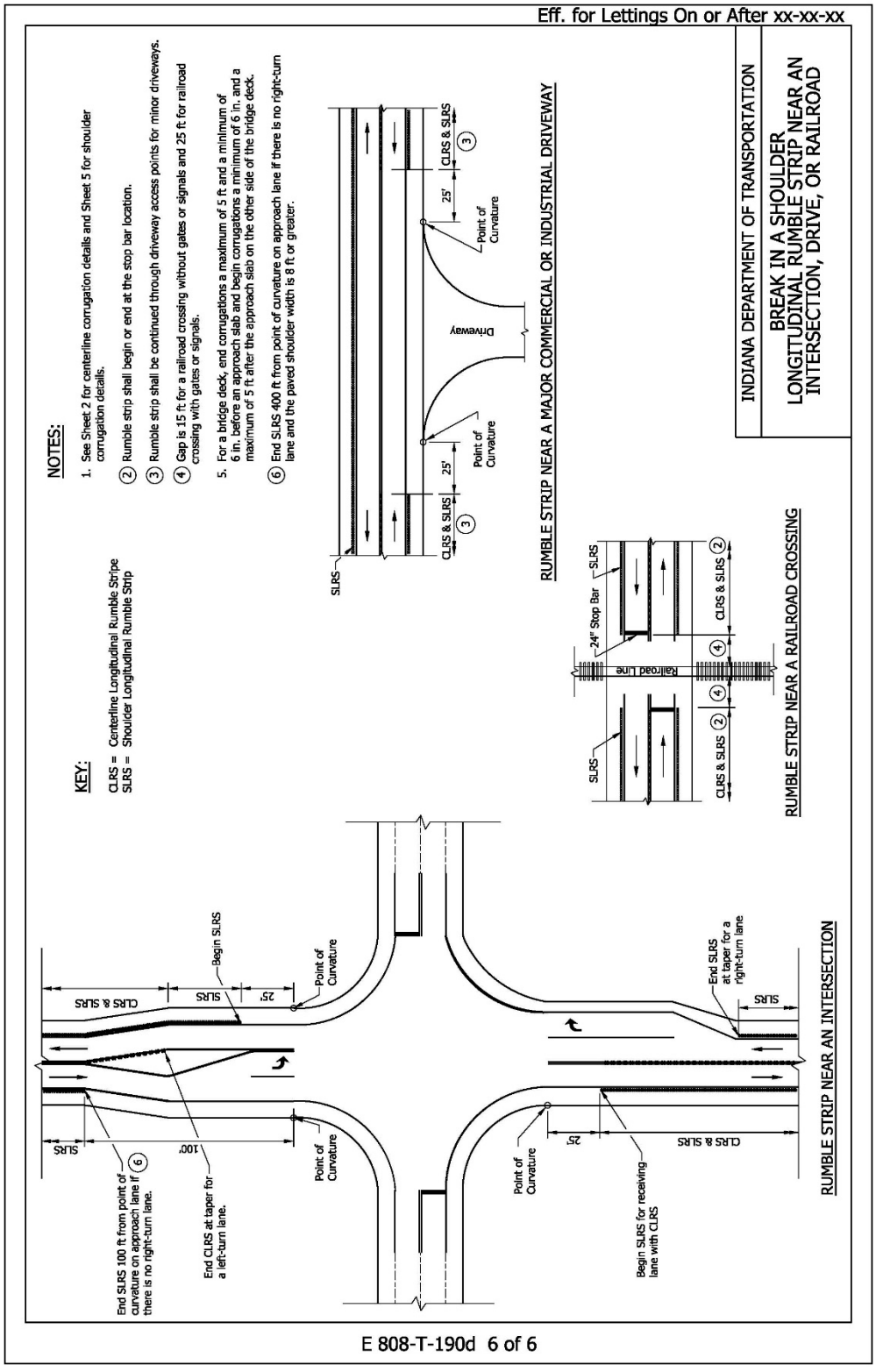
REVISION TO RECURRING SPECIAL PROVISION AND PLAN DETAILS

808-T-190d SHOULDER LONGITUDINAL RUMBLE STRIP (UNDIVIDED HIGHWAY) (PAGE 5, DRAFT)



REVISION TO RECURRING SPECIAL PROVISION AND PLAN DETAILS

808-T-190d BREAK IN SHOULDER LONGITUDINAL RUMBLE STRIP NEAR AN INTERSECTION, DRIVE, OR RAILROAD (PAGE 6, DRAFT)



E 808-T-190d 6 of 6

COMMENTS AND ACTION

RECURRING SPECIAL PROVISION 808-T-190
RECURRING PLAN DETAILS 808-T-190d

DISCUSSION:

Motion: Second: Ayes: Nays: FHWA Approval:	Action: _____ Passed as Submitted _____ Passed as Revised __ __ Withdrawn
Standard Specifications Sections referenced and/or affected: SECTION 606, begin pg 428; SECTION 808, begin pg 829. Recurring Special Provision and Plan Details affected: 808-T-190 LONGITUDINAL RUMBLE STRIPES; 808-T-190d LONGITUDINAL RUMBLE STRIPES DETAILS Standard Drawing affected: NONE Design Manual Sections affected: 502-2.09 GIFE Sections cross-references: NONE	_____ 2020 Standard Specifications _____ Revise Pay Items List _____ Create RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Revise RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Standard Drawing Effective _____ Create RPD (No. _____) Effective _____ Letting _____ GIFE Update _____ SiteManager Update

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Editorial-type updates to specification references to ASTM A 325 and A 490 bolts.

PROPOSED SOLUTION: Include the proposed updates in the 2020 specification book.

APPLICABLE STANDARD SPECIFICATIONS: 711, 802, 908, 909, 910, and 922

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: 620-R-483

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: None

IMPACT ANALYSIS (attach report): attached

Submitted By: Matt Beeson

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317-522-9662

Date: 6/25/18

Mr. Beeson
Date: 7/19/18

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

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?

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? N/A

Asset preservation? N/A

Design process? N/A

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? N/A

Is this proposal needed for compliance with:

Federal or State regulations? N/A

AASHTO or other design code? Yes

Is this item editorial? Yes

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: editorial change. ASTM eliminated A 325 and A 490 specifications and replaced them with F 3125. This proposal updates INDOT specifications and provisions.

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISION

SECTION 711 - STEEL STRUCTURES
711.65 BOLTED CONNECTIONS USING HIGH STRENGTH BOLTS
SECTION 802 - SIGNS
802.07(b) OVERHEAD SIGN STRUCTURES
SECTION 908 - METAL PIPE
908.09 STRUCTURAL PLATE PIPE, PIPE-ARCHES, AND ARCHES
SECTION 909 - PAINT AND LIQUID EPOXY
909.02(a) ZINK PRIMERS
SECTION 910 - METAL MATERIALS
910.02 STRUCTURAL STEEL
910.11 GUARDRAIL ACCESSORIES, FITTINGS, AND HARDWARE
910.19 OVERHEAD SIGN STRUCTURES
910.20 STEEL BRIDGE RAILING COMPONENTS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.09 PEDESTAL POLES AND CAST ALUMINUM PEDESTAL BASES
922.10 SIGNAL SUPPORTS
620-R-483 SOUND BARRIER SYSTEMS

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 711, BEGIN LINE 957, DELETE AND INSERT AS FOLLOWS:

(a) General

This subsection covers the assembly of structural joints using ASTM ~~A 325~~*F 3125* high strength carbon steel bolts, or equivalent fasteners, tightened to a high tension. The bolts are to be used in holes provided in accordance with 711.21, 711.22, and 711.23.

SECTION 711, BEGIN LINE 981, DELETE AND INSERT AS FOLLOWS:

(d) Installation

1. Bolt Tension

Each fastener shall be tightened to provide, when all fasteners in the joint are tight, at least the minimum bolt tension shown in Table A for the size of fastener used.

TABLE A

BOLT TENSION FOR ASTM ~~A 325~~*F 3125* BOLTS

Bolt Size, in.	Minimum Bolt Tension,* lbs
1/2	12,050
5/8	19,200
3/4	28,400
7/8	39,250
1	51,500
1 1/8	~~56,450~~*64,900*
1 1/4	~~71,700~~*82,400*
1 3/8	~~85,450~~*98,200*
1 1/2	~~104,000~~*119,500*

* Equal to the proof load ~~(length measurement method)~~ given in ASTM ~~A 325~~*F 3125*

SECTION 802, BEGIN LINE 111, DELETE AND INSERT AS FOLLOWS:

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISION

SECTION 711 - STEEL STRUCTURES
711.65 BOLTED CONNECTIONS USING HIGH STRENGTH BOLTS
SECTION 802 - SIGNS
802.07(b) OVERHEAD SIGN STRUCTURES
SECTION 908 - METAL PIPE
908.09 STRUCTURAL PLATE PIPE, PIPE-ARCHES, AND ARCHES
SECTION 909 - PAINT AND LIQUID EPOXY
909.02(a) ZINK PRIMERS
SECTION 910 - METAL MATERIALS
910.02 STRUCTURAL STEEL
910.11 GUARDRAIL ACCESSORIES, FITTINGS, AND HARDWARE
910.19 OVERHEAD SIGN STRUCTURES
910.20 STEEL BRIDGE RAILING COMPONENTS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.09 PEDESTAL POLES AND CAST ALUMINUM PEDESTAL BASES
922.10 SIGNAL SUPPORTS
620-R-483 SOUND BARRIER SYSTEMS

Fasteners for chord splice connections shall be high-strength bolts conforming to ASTM ~~A 325~~*F 3125* with matching lock nuts having steel inserts. Installation shall be in accordance with 711.65. Other bolts and hardware shall conform to the requirements of 910.19.

SECTION 908, BEGIN LINE 151, DELETE AND INSERT AS FOLLOWS:

2. Assembly bolts shall be in accordance with ASTM ~~A 325~~*F 3125*, or ASTM A 449. Nuts shall be in accordance with ASTM A 563, grade C or ASTM ~~A 325~~*F 3125*. Assembly bolts, nuts, and washers shall be galvanized in accordance with ASTM A 153, or be mechanically galvanized and conform to the coating thickness, adherence, and quality requirements of ASTM A 153, class C.

SECTION 909, BEGIN LINE 49, DELETE AND INSERT AS FOLLOWS:

Inorganic zinc primer for use on faying surfaces at all slip-critical structural bolted connections using ASTM ~~A 325 or ASTM A 490~~*F 3125* high-strength bolts in primary members shall meet class B slip coefficient in accordance with Test Method to Determine the Slip Coefficient for Coatings Used in Bolted Joints as adopted by the Research Council on Structural Connections.

SECTION 909, BEGIN LINE 90, DELETE AND INSERT AS FOLLOWS:

Organic zinc primer for use on faying surfaces at all slip-critical structural bolted connections using ASTM ~~A 325 or ASTM A 490~~*F 3125* high-strength bolts in primary members shall meet class B slip coefficient in accordance with Test Method to Determine the Slip Coefficient for Coatings Used in Bolted Joints as adopted by the Research Council on Structural Connections.

SECTION 910, BEGIN LINE 189, DELETE AND INSERT AS FOLLOWS:

All fasteners used in conjunction with ASTM A 709, grade 50W steel shall be friction type high-strength steel bolts in accordance with ASTM ~~A 325~~*F 3125* type ~~III~~*3*. Certification and a sample shall be submitted to the Engineer prior to start of erection.

SECTION 910, BEGIN LINE 225, DELETE AND INSERT AS FOLLOWS:

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISION

SECTION 711 - STEEL STRUCTURES
711.65 BOLTED CONNECTIONS USING HIGH STRENGTH BOLTS
SECTION 802 - SIGNS
802.07(b) OVERHEAD SIGN STRUCTURES
SECTION 908 - METAL PIPE
908.09 STRUCTURAL PLATE PIPE, PIPE-ARCHES, AND ARCHES
SECTION 909 - PAINT AND LIQUID EPOXY
909.02(a) ZINK PRIMERS
SECTION 910 - METAL MATERIALS
910.02 STRUCTURAL STEEL
910.11 GUARDRAIL ACCESSORIES, FITTINGS, AND HARDWARE
910.19 OVERHEAD SIGN STRUCTURES
910.20 STEEL BRIDGE RAILING COMPONENTS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.09 PEDESTAL POLES AND CAST ALUMINUM PEDESTAL BASES
922.10 SIGNAL SUPPORTS
620-R-483 SOUND BARRIER SYSTEMS

(g) High Strength Bolts, Nuts, and Washers

1. General Use

High strength bolts shall be in accordance with ASTM ~~A 325~~*F 3125*. Type 3 bolts will be required if the structural steel is to remain unpainted. High strength nuts shall be of the grade and finish specified in ASTM ~~A 325~~*F 3125* and in accordance with ASTM A 563 or ASTM A 194. High strength washers shall be of the type specified in ASTM ~~A 325~~*F 3125* and in accordance with ASTM F 436. The bolts, washers, and nuts shall be coated after fabrication in accordance with ASTM A 153, class C or ASTM B 695, class 55.

SECTION 910, BEGIN LINE 250, DELETE AND INSERT AS FOLLOWS:

c. Tests

(1) Rotational Capacity

High strength fasteners shall be subjected to the rotational capacity test in accordance with ASTM ~~A 325~~*F 3125*, Section S4. The fastener shall complete two times the required number of turns from snug tight conditions in accordance with AASHTO LRFD Bridge Construction Specifications, in a Skidmore-Wilhelm calibrator or equivalent tension measuring device without stripping or failure. During this test, the maximum recorded tension shall be at least 1.15 times the required fastener tension indicated in AASHTO LRFD Bridge Construction Specifications. The measured torque required to produce the required fastener tension shall not exceed the value obtained by the following equation.

SECTION 910, BEGIN LINE 296, DELETE AND INSERT AS FOLLOWS:

Bolts, washers, and nuts utilized in the U channel steel post splice as shown on the plans shall be in accordance with ASTM A 449, SAE J429-G7.9, or ASTM ~~A 325~~*F 3125* and shall be galvanized.

SECTION 910, BEGIN LINE 681, DELETE AND INSERT AS FOLLOWS:

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISION

SECTION 711 - STEEL STRUCTURES
711.65 BOLTED CONNECTIONS USING HIGH STRENGTH BOLTS
SECTION 802 - SIGNS
802.07(b) OVERHEAD SIGN STRUCTURES
SECTION 908 - METAL PIPE
908.09 STRUCTURAL PLATE PIPE, PIPE-ARCHES, AND ARCHES
SECTION 909 - PAINT AND LIQUID EPOXY
909.02(a) ZINK PRIMERS
SECTION 910 - METAL MATERIALS
910.02 STRUCTURAL STEEL
910.11 GUARDRAIL ACCESSORIES, FITTINGS, AND HARDWARE
910.19 OVERHEAD SIGN STRUCTURES
910.20 STEEL BRIDGE RAILING COMPONENTS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.09 PEDESTAL POLES AND CAST ALUMINUM PEDESTAL BASES
922.10 SIGNAL SUPPORTS
620-R-483 SOUND BARRIER SYSTEMS

High strength bolts shall be in accordance with ASTM ~~A 325~~*F 3125* or ASTM A 449. High strength nuts shall be in accordance with ASTM A 563, grade B or better. Galvanizing shall be in accordance with ASTM A 153 or mechanically galvanized and conform to the coating thickness, adherence, and quality requirements for class C of ASTM A 153. Foundation plates and bearing plates shall be in accordance with ASTM A 36, and shall be galvanized after fabrication in accordance with ASTM A 123, except the weight of zinc coating per square foot of actual surface shall average no less than 2.0 oz and shall be no less than 1.8 oz for any individual specimen. Welding shall be in accordance with AWS D1.1.

SECTION 910, BEGIN LINE 1381, DELETE AND INSERT AS FOLLOWS:

Gusset, flange, and base plates shall be in accordance with ASTM A 36 and shall be galvanized after fabrication in accordance with ASTM A 123. Base plates for upright poles shall develop the full strength of the poles. Castings for the vertical pole top and horizontal arm and cap shall be in accordance with ASTM A 126 and shall be galvanized with a minimum coating of 2 oz/sq ft. Bolts and nuts, except anchor bolts, shall be in accordance with ASTM ~~A 325~~*F 3125*, Type 1. Two nuts for use in plumbing upright poles shall be furnished with each anchor bolt. Anchor bolts for overhead steel structures shall be in accordance with 910.19(a). Steel bolts, nuts, washers, and the top ends of anchor bolts shall be coated in accordance with ASTM A 153 or be mechanically galvanized and conform to the coating thickness, adherence, and quality requirements of ASTM A 153, class C. Welding shall be in accordance with 711.32.

SECTION 910, BEGIN LINE 1419, DELETE AND INSERT AS FOLLOWS:

(e) Threaded rods, nuts, and washers shall be in accordance with ASTM ~~A 325~~*F 3125*.

SECTION 922, BEGIN LINE 1049, DELETE AND INSERT AS FOLLOWS:

The base shall be attached to a foundation by four anchor bolts, with an anchor bolt circle of 12 3/4 in. Slotted lugs shall be integrally cast into the four corners of the base for attachment of the anchor bolts. The anchor bolts shall be steel in accordance to ASTM A

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISION

SECTION 711 - STEEL STRUCTURES
711.65 BOLTED CONNECTIONS USING HIGH STRENGTH BOLTS
SECTION 802 - SIGNS
802.07(b) OVERHEAD SIGN STRUCTURES
SECTION 908 - METAL PIPE
908.09 STRUCTURAL PLATE PIPE, PIPE-ARCHES, AND ARCHES
SECTION 909 - PAINT AND LIQUID EPOXY
909.02(a) ZINK PRIMERS
SECTION 910 - METAL MATERIALS
910.02 STRUCTURAL STEEL
910.11 GUARDRAIL ACCESSORIES, FITTINGS, AND HARDWARE
910.19 OVERHEAD SIGN STRUCTURES
910.20 STEEL BRIDGE RAILING COMPONENTS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.09 PEDESTAL POLES AND CAST ALUMINUM PEDESTAL BASES
922.10 SIGNAL SUPPORTS
620-R-483 SOUND BARRIER SYSTEMS

36. The diameter of the anchor bolt shall be 3/4 in. with a minimum length of 18 in. ± 1/2 in., plus 2 1/2 to 3 in. right angle hook on the unthreaded end. The top 4 in. of the bolt shall be threaded with 10 NC threads. The threads, plus 3 in., shall be coated after fabrication in accordance with ASTM A 153 or be mechanically galvanized and in accordance with the coating thickness, adherence, and quality requirements of ASTM A 153, class C. Each anchor bolt shall be provided with two hex head nuts in accordance with ASTM ~~A 325~~*F 3125* and three washers. Two of the washers shall have a minimum 2 in. and maximum 2 1/8 in. outside diameter and be in accordance to ANSI B 27, type B regular series and one shall be a nominal 3/4 in. series W washer, in accordance with ASTM F 436.

SECTION 922, BEGIN LINE 1219, DELETE AND INSERT AS FOLLOWS:

4. Hardware

Bolts for the pole splice shall be in accordance with ASTM ~~A 490~~*F 3125* and shall be galvanized. The contact area for both pole splice plates shall be class B in accordance with AASHTO Standard Specifications for Highway Bridges, Table 10.32.3C with a minimum slip coefficient of 0.5. The surfaces shall be blast cleaned with class B coatings. The arm flange plate connection bolts shall be in accordance with ASTM ~~A 325~~*F 3125*. All other hardware shall be in accordance with ASTM A 307 and galvanized in accordance with ASTM A 153, or be mechanically galvanized and in accordance with the coating thickness, adherence, and quality requirements of ASTM A 153, class C. A cast pole cap shall be in accordance with ASTM A 126 and shall be galvanized with a minimum coating of 2 oz/sq ft.

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISION

SECTION 711 - STEEL STRUCTURES
711.65 BOLTED CONNECTIONS USING HIGH STRENGTH BOLTS
SECTION 802 - SIGNS
802.07(b) OVERHEAD SIGN STRUCTURES
SECTION 908 - METAL PIPE
908.09 STRUCTURAL PLATE PIPE, PIPE-ARCHES, AND ARCHES
SECTION 909 - PAINT AND LIQUID EPOXY
909.02(a) ZINK PRIMERS
SECTION 910 - METAL MATERIALS
910.02 STRUCTURAL STEEL
910.11 GUARDRAIL ACCESSORIES, FITTINGS, AND HARDWARE
910.19 OVERHEAD SIGN STRUCTURES
910.20 STEEL BRIDGE RAILING COMPONENTS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.09 PEDESTAL POLES AND CAST ALUMINUM PEDESTAL BASES
922.10 SIGNAL SUPPORTS
620-R-483 SOUND BARRIER SYSTEMS

(Note: Proposed changes shown highlighted gray. Only excerpts that are affected are shown)

620.04 Materials
Materials shall be in accordance with the following:

Cast-in-Place Portland Cement Concrete, Class A.....702
Coarse Aggregate, Class A or Higher, Size No. 91.....904
Coarse Aggregate, Class D or Higher, Size No. 5.....904
Coarse Aggregate, Class D or Higher, Size No. 8.....904
Concrete Masonry Units.....905.06
Fine Aggregate, Size No. 23.....904
Joint Mortar.....901.08, 907.12
Paint.....909.02
Portland Cement.....901.01(b)
Precast Concrete.....707
Reinforcing Bars.....910.01
Structural Aluminum Posts.....910.14(d)
Structural Steel.....910
Water.....913.01

Steel structural components shall be in accordance with ASTM A 36. Structural steel components shall be hot dipped galvanized in accordance with ASTM A 123, coating grade 100 or painted in accordance with 619.11 and 619.12. Exposed surfaces of galvanized components shall be coated in accordance with 619.09(b). The galvanized surfaces shall be prepared using a light brush-off blast cleaning in accordance with SSPC-SP16. The surface profile shall be 15 to 30 microns in accordance with ASTM D 4417, prior to painting.

All structural steel hardware shall be in accordance with ASTM ~~A 325~~F3125 and shall be hot dipped galvanized in accordance with ASTM A 153 or shall be made of

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISION

SECTION 711 - STEEL STRUCTURES
711.65 BOLTED CONNECTIONS USING HIGH STRENGTH BOLTS
SECTION 802 - SIGNS
802.07(b) OVERHEAD SIGN STRUCTURES
SECTION 908 - METAL PIPE
908.09 STRUCTURAL PLATE PIPE, PIPE-ARCHES, AND ARCHES
SECTION 909 - PAINT AND LIQUID EPOXY
909.02(a) ZINK PRIMERS
SECTION 910 - METAL MATERIALS
910.02 STRUCTURAL STEEL
910.11 GUARDRAIL ACCESSORIES, FITTINGS, AND HARDWARE
910.19 OVERHEAD SIGN STRUCTURES
910.20 STEEL BRIDGE RAILING COMPONENTS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.09 PEDESTAL POLES AND CAST ALUMINUM PEDESTAL BASES
922.10 SIGNAL SUPPORTS
620-R-483 SOUND BARRIER SYSTEMS

nonferrous material or stainless steel. All other non-structural fastening devices shall be made of nonferrous metal or stainless steel. Plastic members shall be connected with either screws or bolts. Aluminum members shall be connected with stainless steel fasteners. Anchor bolts shall be of the size shown with a minimum of 10 in. of 7NC threads on the upper end. Anchor bolts shall be in accordance with ASTM F 1554. The threads, nuts, and washers shall be galvanized in accordance with ASTM A 153 or be mechanically galvanized and conform to the coating thickness, adherence, and quality requirements of ASTM A 153, where required.

=====

COMMENTS AND ACTION

711.65 BOLTED CONNECTIONS USING HIGH STRENGTH BOLTS
802.07(b) OVERHEAD SIGN STRUCTURES
908.09 STRUCTURAL PLATE PIPE, PIPE-ARCHES, AND ARCHES
909.02(a) ZINK PRIMERS
910.02 STRUCTURAL STEEL
910.11 GUARDRAIL ACCESSORIES, FITTINGS, AND HARDWARE
910.19 OVERHEAD SIGN STRUCTURES
910.20 STEEL BRIDGE RAILING COMPONENTS
922.09 PEDESTAL POLES AND CAST ALUMINUM PEDESTAL BASES
922.10 SIGNAL SUPPORTS
620-R-483 SOUND BARRIER SYSTEMS

DISCUSSION:

Motion: Second: Ayes: Nays: FHWA Approval:	Action: _____ Passed as Submitted _____ Passed as Revised __ __ Withdrawn
Standard Specifications Sections referenced and/or affected: 711.65 pg 614; 802.07 pg 779; 908.09 pg 919; 909.02 pg 922; 910 pg begin 936; 922 pg begin 1073. Recurring Special Provision affected: 620-R-483 SOUND BARRIER SYSTEMS Standard Drawing affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	_____ 2020 Standard Specifications _____ Revise Pay Items List _____ Create RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Revise RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Standard Drawing Effective _____ Create RPD (No. _____) Effective _____ Letting _____ GIFE Update _____ SiteManager Update

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: In an ongoing effort to improve work zone safety, the Department will begin a "phase-in" of the use of certain channelizing devices with fluorescent orange and white sheeting, Type IV. This phase-in will aid in allowing industry to complete the service life of existing devices with Type III sheeting.

PROPOSED SOLUTION: To incorporate these changes into our 801 and 919 (2020 Standard Specifications). Shown below is the two step-phase in:

1) For contracts let on or after September 1, 2019:

   Fluorescent orange and white sheeting, both Type IV or higher, will be required for drums utilized for Maintenance of Traffic on Interstate Routes and Ramps.

2) For contracts let on or after September 1, 2020:
   Fluorescent orange and white sheeting, both Type IV or higher, will be required for the following channelizing devices: drums, tubular markers, vertical panels, and 42 in. cones that are utilized for Maintenance of Traffic on all contracts let by INDOT, including LPA contracts.

APPLICABLE STANDARD SPECIFICATIONS: 801 and 919

APPLICABLE STANDARD DRAWINGS: E 801-TCDV series

APPLICABLE DESIGN MANUAL SECTION: no

APPLICABLE SECTION OF GIFE: no

APPLICABLE RECURRING SPECIAL PROVISIONS: no

PAY ITEMS AFFECTED: no

APPLICABLE SUB-COMMITTEE ENDORSEMENT: no

IMPACT ANALYSIS (attach report): Yes

Submitted By: Rob Goldner
Title: Construction Technical Support Manager, Construction Management

Organization: Indiana Department of Transportation

Phone Number: 317-232-7758

Date: 6/29/18

Mr. Goldner
Date: 7/19/18

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

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? yes

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? n/a

Will this proposal reduce operational costs or maintenance effort? n/a

Will this item improve safety:

For motorists? yes

For construction workers? yes

Will this proposal improve quality for:

Construction procedures/processes? yes

Asset preservation? n/a

Design process? n/a

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? n/a

AASHTO or other design code? yes

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

SECTION 801 - TRAFFIC CONTROLS FOR CONSTRUCTION AND MAINTENANCE OPERATIONS
801.02 MATERIALS
SECTION 919 - TRAFFIC SIGNS
919.01(b)1 REFLECTIVE SHEETING

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 801, BEGIN LINE 40, DELETE AND INSERT AS FOLLOWS:

~~The background of construction signs shall be reflective sheeting in accordance with 919.01(b)1.~~ The *reflective* sheeting type used for construction signs, *channelizing and delineation devices such as drums, tubular markers, vertical panels, and 42 in. cones,* shall be the same for the entire project~~. Reflective sheeting for drums shall be~~ *and shall be* in accordance with 919.01(b)1. The background for all construction signs shall be fluorescent orange reflective sheeting.

SECTION 919, BEGIN LINE 86, DELETE AND INSERT AS FOLLOWS:

1. Reflective Sheeting

Reflective sheeting used for signs, channelizing and delineation devices shall be in accordance with ASTM D 4956.

For contracts let on or after September 1, 2019, Type IV or higher reflective sheeting shall be used for drums utilized on interstate routes and ramps.

For contracts let on or after September 1, 2020, Type IV or higher orange and white reflective sheeting shall be used on all drums, tubular markers, vertical panels, and 42 in. cones.

Type V or higher reflective sheeting shall be used on delineators, except for barrier delineators which shall be Type III or higher.

~~Type III or higher reflective sheeting shall be used on drums~~. Reboundable reflective sheeting shall be used on plastic drums, flexible delineator posts, and other flexible channelizers.

The reflective sheeting shall include an adhesive backing Class 1 or Class 2 in accordance with ASTM D 4956.

COMMENTS AND ACTION

801.02 MATERIALS
919.01(b)1 REFLECTIVE SHEETING

DISCUSSION:

Motion: Second: Ayes: Nays: FHWA Approval:	Action: _____ Passed as Submitted _____ Passed as Revised __ __ Withdrawn
Standard Specifications Sections referenced and/or affected: 801.02 pg 7; 919.01 pg 1030. Recurring Special Provision affected: NONE Standard Drawing affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	_____ 2020 Standard Specifications _____ Revise Pay Items List _____ Create RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Revise RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Standard Drawing Effective _____ Create RPD (No. _____) Effective _____ Letting _____ GIFE Update _____ SiteManager Update

Mr. Beeson
Date: 7/19/18

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: There has been recent confusion regarding the allowable methods for curing bridge deck concrete.

PROPOSED SOLUTION: Incorporate the proposed changes to the 702.22 and 704.06 specification sections into the Standard Specifications.

APPLICABLE STANDARD SPECIFICATIONS: 702.22 and 704.06

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: Section 5, however no changes appear to be necessary

APPLICABLE RECURRING SPECIAL PROVISIONS: create new RSP

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc (Mike Nelson, Greg Pankow, Jim Reilman)

IMPACT ANALYSIS (attach report): attached

Submitted By: Matt Beeson

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317-522-9662

Date: 6/25/18

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

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? No

Construction time? No

Customer satisfaction? Yes

Congestion/travel time? No

Ride quality? No

Will this proposal reduce operational costs or maintenance effort? Yes

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? N/A

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? N/A

Is this proposal needed for compliance with:

Federal or State regulations? N/A

AASHTO or other design code? N/A

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: provide clarification for contractors and INDOT personnel on what curing methods are allowed.

REVISION TO STANDARD SPECIFICATIONS

SECTION 702 - STRUCTURAL CONCRETE
702.22 CURING CONCRETE
SECTION 704 - CONCRETE FLOOR SLABS
704.06 CURING

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 702, BEGIN LINE 1157, INSERT AS FOLLOWS:

702.22 Curing Concrete

Concrete in bridge decks or the top surface of reinforced concrete slab bridges shall be cured continuously 24 h per day for a minimum of 168 h commencing immediately after the surface is able to support the protective covering without deformation. Water curing in accordance with 702.22(a)1 shall be initiated within 60 minutes after the finishing machine completes the final strike off of any portion of the concrete surface. Curing or other protective efforts which may include the use of evaporative retardants shall begin sooner if adverse conditions exist. Adverse conditions include, but are not limited to, high winds, extreme temperatures or low humidity. A work bridge shall be used following the finishing machine to facilitate the placement of curing materials, if necessary. Curing time for bridge decks and the top surface of reinforced concrete slab bridges are not controlled by beam tests and the cure time shall not be reduced. In addition to the minimum of 168 h cure period, curing shall continue until a flexural strength of 550 psi has been attained. Curing of patches or small full depth deck replacement areas on existing bridge decks that are to be overlaid, may be controlled by test beams in accordance with 702.24(a).

Unless otherwise specified, all other concrete shall be cured continuously 24 h per day for at least 96 h commencing immediately after the surface is able to support the protective covering without deformation. ~~If portland-pozzolan cement, type IP or IP-A, or fly ash is used, the concrete shall be cured for at least 120~~*96* ~~h.~~ In addition to the required hours, curing shall continue until the flexural strength stated in 702.13(h) *and 702.24* has been attained.

Membrane forming curing compound may be used in lieu of protective covering curing methods. Where it has been determined that a surface treatment is to be used, the membrane forming curing compound shall not be used. *Membrane forming curing compound shall not be used on bridge decks nor on reinforced concrete slab bridges.*

SECTION 704, BEGIN LINE 146, DELETE AND INSERT AS FOLLOWS:

704.06 Curing

Floor slabs shall be cured in accordance with ~~one of the methods of~~ 702.22*(a)1*. ~~If membrane curing is used, no exposed reinforcement shall be coated with the material.~~ Where it has been determined that a surface treatment to prevent scaling is to be used, the Engineer may prohibit the use of the membrane forming curing compound on ~~the floor slab or~~ any part of the superstructure. All vertical surfaces with exposed reinforcement shall be cured in accordance with 702.22. The floor shall be protected from pedestrian and vehicular

REVISION TO STANDARD SPECIFICATIONS

SECTION 702 - STRUCTURAL CONCRETE
702.22 CURING CONCRETE
SECTION 704 - CONCRETE FLOOR SLABS
704.06 CURING

traffic. If walking is necessary, the surface shall be timber laid on a double burlap cushion or approved equivalent.

COMMENTS AND ACTION

702.22 CURING CONCRETE
704.06 CURING

DISCUSSION:

Motion: Second: Ayes: Nays: FHWA Approval:	Action: _____ Passed as Submitted _____ Passed as Revised __ __ Withdrawn
Standard Specifications Sections referenced and/or affected: 702.22 pg 550; 704.06 pg 564. Recurring Special Provision affected: NONE Standard Drawing affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: SECTION 5	_____ 2020 Standard Specifications _____ Revise Pay Items List _____ Create RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Revise RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Standard Drawing Effective _____ Create RPD (No. _____) Effective _____ Letting _____ GIFE Update _____ SiteManager Update

Mr. Beeson
Date: 7/19/18

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Editorial-type updates to specification references to Federal Standard 595.

PROPOSED SOLUTION: Include the proposed updates in the 2020 specification book.

APPLICABLE STANDARD SPECIFICATIONS: 101, 907, 909, 915, 919, and 922

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: 620-R-483 and 801-T-194

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: None

IMPACT ANALYSIS (attach report): attached

Submitted By: Matt Beeson

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317-522-9662

Date: 6/25/18

[rev. 12/2014]

Mr. Beeson
Date: 7/19/18

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

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? N/A

Asset preservation? N/A

Design process? N/A

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? N/A

Is this proposal needed for compliance with:

Federal or State regulations? N/A

AASHTO or other design code? Yes

Is this item editorial? Yes

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: editorial change. The Federal Standard was cancelled in February 2017 and superseded by the SAE-Aerospace Material Specification Standard 595 as colors used in U.S. Government Procurement. This proposal updates INDOT specifications and provisions.

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS
101.01 ABBREVIATIONS
SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE COMPONENTS
907.28 REINFORCED THERMOSETTING RESIN PIPE AND PIPE FITTINGS
SECTION 909 - PAINT AND LIQUID EPOXY
909.02 FOR METAL
SECTION 915 - BRIDGE PILES AND BEARINGS
915.04 ELASTOMERIC BEARINGS
915.05 BEARING ASSEMBLIES WITH POLYTETRAFLUOROETHYLENE, PTFE, SLIDING SURFACES
SECTION 919 - TRAFFIC SIGNS
919.01 TRAFFIC SIGNS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.03 SIGNAL HEAD COMPONENTS
RSP 620-R-483 SOUND BARRIER SYSTEMS
RSP 801-T-194 AUTOMATED FLAGGER ASSISTANCE DEVICE

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 101, BEGIN LINE 7, DELETE AND INSERT AS FOLLOWS:

101.01 Abbreviations

Wherever the following abbreviations are used in these specifications, the Proposal book, or on the plans, they are to be construed the same as the respective expressions represented.

AAR	Association of American Railroads
AASHTO	American Association of State Highway and Transportation Officials
ACBF	air-cooled blast furnace slag
AE	asphalt emulsion
AIA	American Institute of Architects
AMRL	AASHTO Materials Reference Laboratory
AMS	*Aerospace Material Specifications*
ANSI	American National Standards Institute
AP	class A aggregate for concrete slabs
APS	accessible pedestrian signal

SECTION 907, BEGIN LINE 356, DELETE AND INSERT AS FOLLOWS:

907.28 Reinforced Thermosetting Resin Pipe and Pipe Fittings

Reinforced thermosetting resin pipe and accompanying fittings shall be in accordance with ASTM D 2996 for the specified sizes. The short-term rupture strength hoop tensile stress shall be a minimum of 30,000 psi. All pipes shall be pigmented resin throughout the wall thickness. The color of the pipe shall match color No. 26400 of ~~Federal Standard 595~~*SAE-AMS-Standard 595*. Painting, gel-coating, or exterior coating of the pipe to obtain the specified color shall not be done. Pipe shall be tested in accordance with ASTM G 154 for 2,500 h of accelerated weathering following cycle 2 as defined in Appendix X2. After testing, the surface of the pipe shall show no fiber exposure, crazing,

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS
101.01 ABBREVIATIONS
SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE COMPONENTS
907.28 REINFORCED THERMOSETTING RESIN PIPE AND PIPE FITTINGS
SECTION 909 - PAINT AND LIQUID EPOXY
909.02 FOR METAL
SECTION 915 - BRIDGE PILES AND BEARINGS
915.04 ELASTOMERIC BEARINGS
915.05 BEARING ASSEMBLIES WITH POLYTETRAFLUOROETHYLENE, PTFE, SLIDING SURFACES
SECTION 919 - TRAFFIC SIGNS
919.01 TRAFFIC SIGNS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.03 SIGNAL HEAD COMPONENTS
RSP 620-R-483 SOUND BARRIER SYSTEMS
RSP 801-T-194 AUTOMATED FLAGGER ASSISTANCE DEVICE

or checking, and may have only a slight chalking or color change. An adhesive recommended by the manufacturer shall be used for joining pipe and fittings. Material furnished shall be covered by a type A certification in accordance with 916. The results of the following tests shall be provided on the type A certification.

SECTION 909, BEGIN LINE 125, DELETE AND INSERT AS FOLLOWS:

(c) Polyurethane Finish Coat

Polyurethane finish coat shall be a two-component polyester or acrylic aliphatic polyurethane suitable for use as a finish coat over epoxy intermediate paint.

The mixed paint shall be in accordance with the requirements as follows:

Volatile organic compounds, ASTM D 3960, max. .....336 g/L
Volume solids, ASTM D 2697, min. 60%
Set-to-touch, ASTM D 1640, 5 mils wet film thickness,
25 ± 1°C, 50 ± 10% relative humidity, min. .....30 minutes
Total solids ASTM D 2369, min. 70%
Specular gloss, 60°, ASTM D 523, min. 75
Viscosity, ASTM D 562, Krebs Units, max. 100
Contrast ratio, ASTM D 2805, 5 ± 0.5 mils
wet film thickness, dried 24 h @ 25 ± 2°C
on Leneta Form 2A or 2C, min. 0.95
Dry hard, ASTM D 1640, 5 mils wet film thickness,
25 ± 1°C, 50 ± 10% relative humidity, max. .....24 h

The infrared spectrum of each component and of the mixed coating shall essentially match the spectrum of the initially approved batch.

The color of the dried paint film shall match the color number of ~~Federal Standard 595~~*SAE-AMS-Standard 595* as follows.

COLOR NO.	COLOR
13538	Yellow

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS
101.01 ABBREVIATIONS
SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE COMPONENTS
907.28 REINFORCED THERMOSETTING RESIN PIPE AND PIPE FITTINGS
SECTION 909 - PAINT AND LIQUID EPOXY
909.02 FOR METAL
SECTION 915 - BRIDGE PILES AND BEARINGS
915.04 ELASTOMERIC BEARINGS
915.05 BEARING ASSEMBLIES WITH POLYTETRAFLUOROETHYLENE, PTFE, SLIDING SURFACES
SECTION 919 - TRAFFIC SIGNS
919.01 TRAFFIC SIGNS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.03 SIGNAL HEAD COMPONENTS
RSP 620-R-483 SOUND BARRIER SYSTEMS
RSP 801-T-194 AUTOMATED FLAGGER ASSISTANCE DEVICE

13711	Buff
14260	Green
15450	Light Blue
17038	Black
17178	Silver
17886	White

SECTION 909, BEGIN LINE 166, DELETE AND INSERT AS FOLLOWS:

3. Mixed Paint Properties

The mixed paint shall be in accordance with the requirements as follows:

Viscosity, ASTM D 562, Krebs Units .....80 – 100
Weight/volume, ASTM D 1475, deviation from
approval formulation, max. .....0.2 lb/gal.
Pigment grind, ASTM D 1210, Hegman, min. 5
Total solids, % by weight, ASTM D 2369, min. 48
Vehicle solids, % by weight of vehicle, min. 37.5
Dry time, ASTM D 1640, 3 mils wet film thickness
on a tin coated steel panel @ 25 ± 1°C and
50 ± 5% relative humidity, max.:
Set-to-touch, h 1
Dry hard, h 24
Contrast ratio, ASTM D 2805, 5 ± 0.5 mils
wet film thickness dried 24 h @ 25 ± 2°C
on Leneta Form 2A or 2C, min. 0.97
Specular gloss, 60°, 10 mils ± 0.5 mils wet film thickness
on a tin coated steel panel, dried 48 h @ 25°C and
50 ± 5% relative humidity, ASTM D 523, max. 30
pH, ASTM E 70 .....7.0 – 9.0
Volatile organic compounds, ASTM D 3960, max. .....1.50 lb/gal.

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS
101.01 ABBREVIATIONS
SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE COMPONENTS
907.28 REINFORCED THERMOSETTING RESIN PIPE AND PIPE FITTINGS
SECTION 909 - PAINT AND LIQUID EPOXY
909.02 FOR METAL
SECTION 915 - BRIDGE PILES AND BEARINGS
915.04 ELASTOMERIC BEARINGS
915.05 BEARING ASSEMBLIES WITH POLYTETRAFLUOROETHYLENE, PTFE, SLIDING SURFACES
SECTION 919 - TRAFFIC SIGNS
919.01 TRAFFIC SIGNS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.03 SIGNAL HEAD COMPONENTS
RSP 620-R-483 SOUND BARRIER SYSTEMS
RSP 801-T-194 AUTOMATED FLAGGER ASSISTANCE DEVICE

The infrared spectrum of the vehicle when extracted from the mixed paint in accordance with ASTM D 3168 shall match the infrared spectrum of the sample submitted for formulation approval.

The mixed paint shall be in accordance with the requirements of Sections 5.4 through 5.17 of SSPC paint specification No. 24.

The cured waterborne finish paint shall not contain toxic heavy metals above the regulatory levels of 40 CFR 261.24.

4. Color

The color of the dried paint film shall match the color number of ~~Federal Standard 595~~*SAE-AMS-Standard 595* as follows.

COLOR NO.	COLOR
23538	Yellow
23717	Buff
24227	Green
24466	Light Green
25526	Light Blue
27038	Black
27780	White

SECTION 909, BEGIN LINE 211, DELETE AND INSERT AS FOLLOWS:

(e) Finish Coat for Weathering Steel

The finish coat shall be an aliphatic polyurethane or a waterborne acrylic paint. It shall be suitable for use as a finish coat over epoxy intermediate paint. The mixed paint shall be in accordance with the requirements as follows:

Specular gloss, 60°, ASTM D 523, max. 25.0
Weight/volume variance from the initially approved
batch, ASTM D 1475, 25°C, max. .....0.048 kg/L

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS
101.01 ABBREVIATIONS
SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE COMPONENTS
907.28 REINFORCED THERMOSETTING RESIN PIPE AND PIPE FITTINGS
SECTION 909 - PAINT AND LIQUID EPOXY
909.02 FOR METAL
SECTION 915 - BRIDGE PILES AND BEARINGS
915.04 ELASTOMERIC BEARINGS
915.05 BEARING ASSEMBLIES WITH POLYTETRAFLUOROETHYLENE, PTFE, SLIDING SURFACES
SECTION 919 - TRAFFIC SIGNS
919.01 TRAFFIC SIGNS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.03 SIGNAL HEAD COMPONENTS
RSP 620-R-483 SOUND BARRIER SYSTEMS
RSP 801-T-194 AUTOMATED FLAGGER ASSISTANCE DEVICE

Total solids variance from the initially approved batch, ASTM D 2369, max. 2.0%
Volatile Organic Compounds, ASTM D 3960, max. .....336 g/L

The dried paint film shall match color number 20045 of ~~Federal Standard 595~~*SAE-AMS-Standard 595*.

SECTION 915, BEGIN LINE 242, DELETE AND INSERT AS FOLLOWS:

2. Structural Steel

Structural steel spacer plates, top and bottom load plates, and other steel components, including anchor bolts, exposed to the environment shall be galvanized in accordance with AASHTO M 111, zinc metallized with a coating of 7 mils in accordance with SSPC-CS 23.00, or painted with the structural steel coating system in accordance with 619.09(a). The finish coat for painted steel shall be in accordance with 909.02(d). The color shall be in accordance with ~~Federal Standard 595~~*SAE-AMS-Standard 595*, color No. 20045.

SECTION 915, BEGIN LINE 326, DELETE AND INSERT AS FOLLOWS:

915.05 Bearing Assemblies with Polytetrafluoroethylene, PTFE, Sliding Surfaces

A copy of the manufacturer's design manual shall be submitted for approval when directed.

All steel components shall be in accordance with ASTM A 709, grade 36 unless otherwise shown on the plans. Where these assemblies are to be used in conjunction with a self-weathering steel bridges, the steel components shall be in accordance with ASTM A 709, grade 50W. Stainless steel mating surfaces shall be 14 gage minimum ASTM A 240, type 304 sheets with a maximum surface roughness of 20 Rms.

The PTFE shall be 100% virgin unfilled polymer or 15% glass filled and etched on the bonding side. The properties of the PTFE shall be in accordance with the following:

REQUIREMENT .....TEST METHOD.....VALUE

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS
101.01 ABBREVIATIONS
SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE COMPONENTS
907.28 REINFORCED THERMOSETTING RESIN PIPE AND PIPE FITTINGS
SECTION 909 - PAINT AND LIQUID EPOXY
909.02 FOR METAL
SECTION 915 - BRIDGE PILES AND BEARINGS
915.04 ELASTOMERIC BEARINGS
915.05 BEARING ASSEMBLIES WITH POLYTETRAFLUOROETHYLENE, PTFE, SLIDING SURFACES
SECTION 919 - TRAFFIC SIGNS
919.01 TRAFFIC SIGNS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.03 SIGNAL HEAD COMPONENTS
RSP 620-R-483 SOUND BARRIER SYSTEMS
RSP 801-T-194 AUTOMATED FLAGGER ASSISTANCE DEVICE

Tensile Strength, Min.	ASTM D 638	2,500 psi
Elongation, % Min.	ASTM D 638	200
Specific Gravity	ASTM D 792	2.1 to 2.3

PTFE, where required, shall be bonded to grit blasted steel. The PTFE guides shall be bonded and mechanically fixed into place. The bonding compound used to bond PTFE or elastomeric pads to steel plates shall be in accordance with ASTM D 429, Method B.

All steel surfaces exposed to the environment shall be zinc metalized and shall be 7 mils thick in accordance with SSPC-CS 23.00, or painted in accordance with 619.09(a). The finish coat for painted steel shall be in accordance with ~~Federal Standard 595~~*SAE-AMS-Standard 595*, color No. 20045.

SECTION 919, BEGIN LINE 97, DELETE AND INSERT AS FOLLOWS:

2. Non-reflective Sheeting

Non-reflective sheeting shall be in accordance with ASTM D 4956 except that the sheeting shall not incorporate optical elements. The color shall be black in accordance with ~~Federal Standard 595~~*SAE-AMS-Standard 595*, Color No. 17038.

SECTION 922, BEGIN LINE 735, DELETE AND INSERT AS FOLLOWS:

2. Die-Cast Aluminum Signal Head

The housing, door, and visor of the section shall be made of a die-cast, corrosion resistant, copper free, non-ferrous metal which shall be in accordance with ASTM B 85. All surfaces of the housing, doors, and visor shall be shop painted or powder coated. The finish shall be nonreflecting flat black, color No. 37038, in accordance with ~~Federal Standard 595~~*SAE-AMS-Standard 595*.

SECTION 922, BEGIN LINE 742, DELETE AND INSERT AS FOLLOWS:

(h) Signal Backplates

The traffic signal backplate shall be one piece and made of sheet aluminum. The sheet aluminum shall have a nominal thickness of 0.063 in. and shall be according to ASTM B 209, alloy 5052. The backplate shall be designed to be attached to a signal face without interfering with the opening and closing of the traffic signal door. It shall be

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS
101.01 ABBREVIATIONS
SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE COMPONENTS
907.28 REINFORCED THERMOSETTING RESIN PIPE AND PIPE FITTINGS
SECTION 909 - PAINT AND LIQUID EPOXY
909.02 FOR METAL
SECTION 915 - BRIDGE PILES AND BEARINGS
915.04 ELASTOMERIC BEARINGS
915.05 BEARING ASSEMBLIES WITH POLYTETRAFLUOROETHYLENE, PTFE, SLIDING SURFACES
SECTION 919 - TRAFFIC SIGNS
919.01 TRAFFIC SIGNS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.03 SIGNAL HEAD COMPONENTS
RSP 620-R-483 SOUND BARRIER SYSTEMS
RSP 801-T-194 AUTOMATED FLAGGER ASSISTANCE DEVICE

rectangular in shape with round corners and shall be of such dimensions as to give an exposed margin of 5 in. on each side.

The backplate shall have a 2 in. wide yellow retroreflective strip applied to the outside perimeter of the backplate. The sheeting shall be Type IV in accordance with 919.01(b) and applied in the orientation for the maximum angularity according to the manufacturer's recommendations.

The aluminum backplates shall be shop painted or powder coated. The finish shall be nonreflecting flat black, color No. 37038, in accordance with ~~Federal Standard 595~~*SAE-AMS-Standard 595*.

SECTION 922, BEGIN LINE 779, DELETE AND INSERT AS FOLLOWS:

1. Housing, Door, and Visor

The housing shall be equipped with mounting device hardware, such as a clamshell, with round openings at the top and bottom for mounting with brackets made of iron pipe standard, to fit the 1 1/2 in. pipe. The round openings shall have a common vertical centerline through the housing to allow for rotation. The round openings shall have a serrated ring, with 72 serrations, which enables locking of the housing in 5° increments. The brackets or the clamshell shall serve as the electrical conduit for the pedestrian signal. The housing shall be black and made of die-cast, corrosion resistant, copper free, non-ferrous metal which shall be in accordance with ASTM B 85.

The door on the front of the housing may be hinged from any side. The door shall be gasketed to maintain a weather-tight enclosure when secured to the housing. The door and the visor shall be made of the same material as the housing or of polycarbonate. All materials shall be clean, smooth, and free from flaws, cracks, blowholes, or other imperfections.

The polycarbonate components shall be black in color. The metal components shall be painted or powder coated. The finish shall be nonreflecting flat black, color No. 37038, in accordance with ~~Federal Standard 595~~*SAE-AMS-Standard 595*.

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS
101.01 ABBREVIATIONS
SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE COMPONENTS
907.28 REINFORCED THERMOSETTING RESIN PIPE AND PIPE FITTINGS
SECTION 909 - PAINT AND LIQUID EPOXY
909.02 FOR METAL
SECTION 915 - BRIDGE PILES AND BEARINGS
915.04 ELASTOMERIC BEARINGS
915.05 BEARING ASSEMBLIES WITH POLYTETRAFLUOROETHYLENE, PTFE, SLIDING SURFACES
SECTION 919 - TRAFFIC SIGNS
919.01 TRAFFIC SIGNS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.03 SIGNAL HEAD COMPONENTS
RSP 620-R-483 SOUND BARRIER SYSTEMS
RSP 801-T-194 AUTOMATED FLAGGER ASSISTANCE DEVICE

(Note: Proposed changes shown highlighted gray.
Only affected excerpts are shown.)

RSP 620-R-483 SOUND BARRIER SYSTEMS is revised as follows:

620.03 Submittals

The Contractor shall submit a minimum of three alternative textured finishes for the wall to the Engineer. These shall include the following colors:

(a) light gray (~~Federal Standard 595~~SAE-AMS-Standard 595, color No. 36492),
(b) light brown (~~Federal Standard 595~~SAE-AMS-Standard 595, color No. 30450),
(c) light tan (~~Federal Standard 595~~SAE-AMS-Standard 595, color No. 37769).

REVISION TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS

SECTION 101 - DEFINITIONS AND TERMS
101.01 ABBREVIATIONS
SECTION 907 - CONCRETE, CLAY, AND PLASTIC DRAINAGE COMPONENTS
907.28 REINFORCED THERMOSETTING RESIN PIPE AND PIPE FITTINGS
SECTION 909 - PAINT AND LIQUID EPOXY
909.02 FOR METAL
SECTION 915 - BRIDGE PILES AND BEARINGS
915.04 ELASTOMERIC BEARINGS
915.05 BEARING ASSEMBLIES WITH POLYTETRAFLUOROETHYLENE, PTFE, SLIDING SURFACES
SECTION 919 - TRAFFIC SIGNS
919.01 TRAFFIC SIGNS
SECTION 922 - TRAFFIC SIGNAL MATERIALS AND EQUIPMENT
922.03 SIGNAL HEAD COMPONENTS
RSP 620-R-483 SOUND BARRIER SYSTEMS
RSP 801-T-194 AUTOMATED FLAGGER ASSISTANCE DEVICE

(Note: Proposed changes shown highlighted gray.
Only affected excerpts are shown.)

RSP 801-T-194 AUTOMATED FLAGGER ASSISTANCE DEVICE is revised as follows:

(g) Trailer

The trailer, if used, shall be designed to withstand a 60 mph wind loading with a 1.3 gust factor when the AFAD is set up in operating position. The trailer shall be painted safety orange, ~~Federal Standard 595~~SAE-AMS-Standard 595, color No. 12300. The trailer shall be provided with a minimum of two leveling jacks, each operated by a crank which locks in place.

COMMENTS AND ACTION

101.01 ABBREVIATIONS
907.28 REINFORCED THERMOSETTING RESIN PIPE AND PIPE FITTINGS
909.02 FOR METAL
915.04 ELASTOMERIC BEARINGS
915.05 BEARING ASSEMBLIES WITH POLYTETRAFLUOROETHYLENE, PTFE, SLIDING SURFACES
919.01 TRAFFIC SIGNS
922.03 SIGNAL HEAD COMPONENTS
RSP 620-R-483 SOUND BARRIER SYSTEMS
RSP 801-T-194 AUTOMATED FLAGGER ASSISTANCE DEVICE

DISCUSSION:

Motion: Second: Ayes: Nays: FHWA Approval:	Action: _____ Passed as Submitted _____ Passed as Revised __ __ Withdrawn
Standard Specifications Sections referenced and/or affected: 101.01 pg 1; 907.28 pg 915; 909.02 pg 921; 915 pg 1008 and 1010; 919.01 pg 1028, and 922.03 pg 1064. Recurring Special Provision affected: 620-R-483 SOUND BARRIER SYSTEMS RSP 801-T-194 AUTOMATED FLAGGER ASSISTANCE DEVICE Standard Drawing affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	_____ 2020 Standard Specifications _____ Revise Pay Items List _____ Create RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Revise RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Standard Drawing Effective _____ Create RPD (No. _____) Effective _____ Letting _____ GIFE Update _____ SiteManager Update

Mr. Beuchel
Date: 7/19/18

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO SPECIAL PROVISIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The term Indiana Veteran Owned Small Business, or IVOSB, is replacing Indiana Veteran Business Enterprise, or IVBE. Additional language should be updated to reflect current practice.

PROPOSED SOLUTION: Update the language per the attached markup.

APPLICABLE STANDARD SPECIFICATIONS: N/A

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: 100-C-203

PAY ITEMS AFFECTED: N/A

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Reviewed by Mike Beuchel, John Wooden, and Jennifer Jansen

IMPACT ANALYSIS (attach report): Yes

Submitted By: Michael Beuchel

Title: Estimating Administrator

Organization: Contract Administration

Phone Number: 317-232-5326

Date: 6/29/18

Mr. Beuchel
Date: 7/19/18

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO SPECIAL PROVISIONS

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? 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? No

Asset preservation? No

Design process? No

Will this change provide the contractor more flexibility? No

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

Can this item improve/reduce the number of potential change orders? No

Is this proposal needed for compliance with:

Federal or State regulations? Yes

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 SPECIAL PROVISION

100-C-203 INDIANA DEPARTMENT OF ADMINISTRATION M/WBE AND IVBE PARTICIPATION POLICY FOR INDIANA DEPARTMENT OF TRANSPORTATION CONSTRUCTION PROJECTS

(Note: Proposed changes shown highlighted gray)

100-C-203 INDIANA DEPARTMENT OF ADMINISTRATION M/WBE AND ~~IVBE~~*IVOSB* PARTICIPATION POLICY FOR INDIANA DEPARTMENT OF TRANSPORTATION CONSTRUCTION PROJECTS

(Revised ~~08-25-15~~ 07-xx-18)

The Indiana Department of Administration, IDOA, and the Indiana Department of Transportation, INDOT, are committed to the participation of Minority and Women's Business Enterprises, MWBE, in the State's procurement and contracting process. As a result, MBE and WBE participation is ~~required or evidence is required of adequate Good Faith Efforts to obtain such participation as a~~ specific~~ation~~*ed* in bids for construction services ~~with subcontracting opportunities~~ in accordance with Indiana Administrative Code 25 IAC~~-~~ 5.

The goals for participation of Minority and Women owned business in the performance of this contract shall be as stated on the proposal page of this Contract Information Book. Contract compliance shall be as set forth and presented on the internet web page found at http://www.in.gov/idoa/mwbe/index.htm and administered by the IDOA.

The IDOA, and INDOT, are committed to the participation of Indiana Veteran~~'s~~ *Owned Small* Business ~~Enterprises~~, ~~IVBE~~ *IVOSB*, in the State's procurement and contracting process. As a result, ~~IVBE~~ *IVOSB* participation is specified in bids for construction services ~~effective July 1, 2013, and shall be~~ in accordance with ~~Senate Enrolled Act No. 564~~ Indiana Administrative Code 25 IAC 9.

The goal for participation of ~~Indiana Veteran owned businesses~~ *IVOSB's* in the performance of this contract shall be as stated on the proposal page of this Contract Information Book. Contract compliance shall be as set forth and presented on the internet web page found at http://www.in.gov/idoa/2862.htm and administered by the IDOA.

~~In December, 2011, the IDOA deployed a software system, the Pay Audit System, for compliance monitoring of the state's diversity spending. The Pay Audit System captures and compares contractual MWBE and IVBE payments from both the Contractors and certified MWBE and IVBE Subcontractors through a web-based interface. This resource helps the State monitor and enforce MWBE and IVBE spending commitments on state contracts.~~

The Contractor and Subcontractors shall report payments as directed by the IDOA. The Contractor and Subcontractors shall keep contact information current with the MWBE and ~~the IVBE~~ *IVOSB* offices.~~, as this information is required for communications from the Pay Audit System and~~

REVISION TO SPECIAL PROVISION

100-C-203 INDIANA DEPARTMENT OF ADMINISTRATION M/WBE AND IVBE PARTICIPATION POLICY FOR INDIANA DEPARTMENT OF TRANSPORTATION CONSTRUCTION PROJECTS

~~the contract compliance group. Information on the Pay Audit System is available over the internet at~~

~~http://www.in.gov/idoa/mwbe/payaudit.htm~~.

The subcontractor payment reporting requirements of this provision shall be in addition to all other reporting requirements set forth in the contract documents.

All Indiana Department of Transportation projects with 100% state funding shall be governed by this provision.

COMMENTS AND ACTION

100-C-203 INDIANA DEPARTMENT OF ADMINISTRATION M/WBE AND IVBE PARTICIPATION POLICY FOR INDIANA DEPARTMENT OF TRANSPORTATION CONSTRUCTION PROJECTS

DISCUSSION:

Motion: Second: Ayes: Nays: FHWA Approval:	Action: _____ Passed as Submitted _____ Passed as Revised __ __ Withdrawn
Standard Specifications Sections referenced and/or affected: SECTION 103 begin pg 13 Recurring Special Provision affected: 100-C-203 INDIANA DEPARTMENT OF ADMINISTRATION M/WBE AND IVBE PARTICIPATION POLICY FOR INDIANA DEPARTMENT OF TRANSPORTATION CONSTRUCTION PROJECTS Standard Drawing affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	_____ 2020 Standard Specifications _____ Revise Pay Items List _____ Create RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Revise RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Standard Drawing Effective _____ Create RPD (No. _____) Effective _____ Letting _____ GIFE Update _____ SiteManager Update

Mr. Beeson
Date: 7/19/18

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The 910.03 specification section is missing a certification type.

PROPOSED SOLUTION: Incorporate the proposed changes to the 910.03 specification sections into the Standard Specifications.

APPLICABLE STANDARD SPECIFICATIONS: 910.03

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: None

PAY ITEMS AFFECTED: None

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Ad hoc (Mike Nelson, Jim Reilman, District Testing Engineers and District Materials Engineers)

IMPACT ANALYSIS (attach report): attached

Submitted By: Matt Beeson

Title: State Materials Engineer

Organization: INDOT

Phone Number: 317-522-9662

Date: 6/25/18

Mr. Beeson
Date: 7/19/18

STANDARD SPECIFICATIONS, SPECIAL PROVISIONS AND STANDARD DRAWINGS

REVISION TO STANDARD SPECIFICATIONS

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? Yes, 702.03

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? N/A

Design process? N/A

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? N/A

Is this proposal needed for compliance with:

Federal or State regulations? N/A

AASHTO or other design code? N/A

Is this item editorial? No

Provide any further information as to why this proposal should be placed on the Standards Committee meeting Agenda: provide clarification for contractors and INDOT personnel on the type of certification required for permanent metal forms.

REVISION TO STANDARD SPECIFICATIONS

SECTION 910 - METAL MATERIALS
910.03 PERMANENT METAL FORMS

(Note: Proposed changes shown highlighted gray)

The Standard Specifications are revised as follows:

SECTION 910, BEGIN LINE 324, DELETE AND INSERT AS FOLLOWS:

910.03 Permanent Metal Forms

Metal bridge deck forms and supports shall be fabricated from steel in accordance with ASTM A 653 for grades A through E having a coating class of G165.

~~Material furnished under this specification shall be covered by the type of certification specified in the Frequency Manual and in accordance with 916.~~ *A type A certification in accordance with 916 shall be provided for all material furnished under this specification.* The certification shall list *the results of* the *following tests:* yield tensile stress~~es~~, the ultimate tensile stress~~es~~, the ultimate tensile elongation~~s~~, the base metal thickness~~es~~, the weight~~s~~ of the galvanized coating, and shall certify that the material complies with the specified material requirements. The properties and parameters shall be listed for each gage (thickness) of material used in the panels and the hardware necessary to erect them. The materials will be sampled at the work site ~~and shall~~ *as specified in the Frequency Manual. The sample will* include a representative portion of a panel of each gage (thickness) to be used and a representative portion of each type and size of hardware necessary to erect the panels, excluding the fasteners.

COMMENTS AND ACTION

910.03 PERMANENT METAL FORMS

DISCUSSION:

Motion: Second: Ayes: Nays: FHWA Approval:	Action: _____ Passed as Submitted _____ Passed as Revised __ __ Withdrawn
Standard Specifications Sections referenced and/or affected: 910.03 pg 944 Recurring Special Provision affected: NONE Standard Drawing affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	_____ 2020 Standard Specifications _____ Revise Pay Items List _____ Create RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Revise RSP (No._____) Effective _____ Letting RSP Sunset Date: _____ Standard Drawing Effective _____ Create RPD (No. _____) Effective _____ Letting _____ GIFE Update _____ SiteManager Update