



# INDIANA DEPARTMENT OF TRANSPORTATION

*Driving Indiana's Economic Growth*

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Indianapolis, Indiana 46204

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**Mitchell E. Daniels, Jr., Governor**  
**Michael B. Cline, Commissioner**

## FINAL DRAFT MINUTES

### November 18, 2010 Standards Committee Meeting (No Changes to First Draft Minutes)

December 09, 2010

TO: Standards Committee

FROM: Scott Trammell, Secretary

RE: Minutes for the November 18, 2010 Standards Committee Meeting

The Standards Committee meeting was called to order by Mr. Miller at 9:01 a.m. on November 18, 2010 in the 9<sup>th</sup> Floor Conference Center. The meeting was adjourned at 10:00 a.m.

The following committee members were in attendance:

Mark Miller, Chairman	Dave Andrews, Pvmt. Engineering
Greg Pankow, Constr. Mgmt.	Bob Cales, Contract Admin.
Richard VanCleave*, Rdway Services	Dave Boruff, Traffic Admin.
Randy Strain, Str. Services	Jim Keefer, Fort Wayne Dist.
Ron Walker, Office of Materials Mgmt.	Tom Caplinger, Crawfordsville Dist.

*\*Proxy for John Wright*

Also in attendance were the following:

Bren George, FHWA	Jim Reilman, INDOT
Scott Trammell, Secretary	Steve Fisher, INDOT Sitemanager
Dan M <sup>c</sup> Queen, INDOT	Paul Berebitsky, ICA
Nayyar Siddiki, INDOT, OMM	Joseph Bruno, INDOT
Lana Podorvanova, INDOT	Tony Uremovich, INDOT
Latosha Higgins, INDOT (item 05)	

The following agenda items were considered.

#### A. GENERAL BUSINESS ITEMS

##### OLD BUSINESS

*(No items were considered)*

NEW BUSINESS

(continued)

1. Approval of the October 21, 2010 Minutes  
Mr. Andrews Motion, Mr. Cales second.  
Motion carried - Minutes approved.

B. CONCEPTUAL PROPOSAL ITEMS

OLD BUSINESS

(No items were considered)

NEW BUSINESS

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

OLD BUSINESS

(No items were considered)

NEW BUSINESS

Item No. 01 11/18/10 (2010 SS) Mr. Walker page 04

Recurring Special Provision:  
203-R-XXX

LIGHT WEIGHT DEFLECTOMETER TESTING

ACTION:

WITHDRAWN

Item No. 02 11/18/10 (2010 SS) Mr. Pankow page 07

701.11(a)

Steel Piles

Standard Drawings:

701-BPIL-04  
701-BPIL-05  
701-BPIL-06

SPLICING PIPE PILES  
STEEL H-PILE SPLICE PROCEDURE  
ALTERNATE STEEL H-PILE SPLICE

ACTION:

PASSED AS REVISED

Item No. 03 11/18/10 (2010 SS) Mr. Pankow page 14

105.08(a)  
105.08(b)

Construction Engineering by the State  
Construction Engineering by the  
Contractor

ACTION:

WITHDRAWN

Item No. 04 11/18/10 (2010 SS) Mr. Pankow page 17

703.06  
707.04

Placing and Fastening  
Steel and Concrete Requirements

ACTION:

PASSED AS SUBMITTED

(continued)

Item No. 05 11/18/10 (2010 SS) Mr. Pankow page 21  
103.05(a) Non-Discrimination of Employees  
107.01 Laws to be Observed

ACTION: WITHDRAWN

Item No. 06 11/18/10 (2010 SS) Mr. Boruff page 24  
805.10 MAGNETOMETER AND MICROLOOP DETECTORS  
805.15 METHOD OF MEASUREMENT  
805.16 BASIS OF PAYMENT

Recurring Special Provision:  
922-T-168 TRAFFIC SIGNAL MATERIALS

Recurring Plan Details:  
805-T-175d *MICROLOOP DETECTOR PROBES CROSS SECTION  
DETAIL*

ACTION: WITHDRAWN

cc: Committee Members (11)  
FHWA (2)  
ICA (1)

FINAL DRAFT MINUTES

SPECIFICATION REVISIONS  
REVISION TO THE RECURRING SPECIAL PROVISIONS

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PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: A Recurring Special Provision for Light Weight Deflectometer (LWD) testing is needed to determine the stiffness of granular materials used for embankments. The Dynamic Cone Penetrometer is not capable of measuring the stiffness of these materials because of the restriction of penetration by the larger aggregate sizes in these materials

PROPOSED SOLUTION: Adopt a Recurring Special Provision for LWD testing that would be used for granular materials.

APPLICABLE STANDARD SPECIFICATIONS: 203.23 and 203.24

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: None

Submitted By: Ron Walker

Title: Manager, Office of Materials Management

Organization: INDOT

Phone Number: 317-610-7251x204

Date: October 14, 2010

APPLICABLE SUB-COMMITTEE ENDORSEMENT? Office of Geotechnical Engineering

REVISION TO THE RECURRING SPECIAL PROVISIONS

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PROPOSED RECURRING SPECIAL PROVISION 203-R-XXX LIGHT WEIGHT DEFLECTOMETER TESTING

203-R-XXX LIGHT WEIGHT DEFLECTOMETER TESTING

(Adopted xx-xx-xx)

The Standard Specifications are revised as follows:

SECTION 203, BEGIN LINE 831, DELETE AS FOLLOWS:

**203.23 Embankment Other Than Rock and Shale, With Density Control**

~~Unless otherwise specified, all embankments shall be compacted to at least 95% of their maximum dry density. The moisture content shall be controlled within -2 and +1 percentage points of optimum moisture content. Maximum density and optimum moisture content shall be determined in accordance with AASHTO T 99 using method A for soil and method C for granular materials.~~

SECTION 203, AFTER LINE 909, INSERT AS FOLLOWS:

**203.24.1 Compaction Acceptance with Light Weight Deflectometer**

*The compaction will be determined by testing with a Light Weight Deflectometer, LWD, in accordance with ITM 508. The moisture content shall be controlled within -3 and -1 percentage points of the optimum moisture content determined in accordance with AASHTO T 99 Method C.*

*The Department will establish the criteria for LWD acceptance of compaction by performing optimum moisture, maximum density, and gradation testing in accordance with AASHTO T 99 Method C, T 11, and T 27 respectively, on representative samples of the material. The minimum deflection required will be determined based on a test section for each material type.*

*Test sections shall be constructed in the presence of a representative of the Office of Geotechnical Engineering with the available equipment of the Contractor to determine the roller type, pattern, and number of passes for the minimum required deflection. The material shall be placed in a 6 in. (150 mm) lift in accordance with 301. The Engineer will select an area approximately 100 ft (30 m) by 20 ft (6 m) for the test section. The subgrade shall be proofrolled in accordance with 203.26 prior to construction of the lift.*

*In the test sections, moisture tests will be performed in accordance with ITM 506 at 2 random locations, and LWD testing will be performed at 10 random locations concurrently with density testing performed in accordance with AASHTO T 310. The locations will be determined in accordance with ITM 802. The density shall meet the requirements of 301.06. The moisture content shall be controlled within -3 and -1 percentage points of the optimum moisture content. The average deflection will be determined from the 10 LWD tests.*

COMMENTS AND ACTION

RECURRING SPECIAL PROVISION 203-R-XXX LIGHT WEIGHT DEFLECTOMETER TESTING

DISCUSSION: Presented and explained by Mr. Walker.  
 LWD testing will only be conducted on select jobs, due in part that there is a limited number of equipment available for testing.  
 The number of projects can be expanded as more experience is gained over the next year.  
 This is a Recurring Special Provision and the jobs will be selected by the Office of Materials Management and Geotech Dept. Discussion about project selection and language of the provision.

Item withdrawn and to be revisited in Dec 16, 2010 meeting.

Motion: Second: Ayes: Nays:	Action: <input type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input checked="" type="checkbox"/> Withdrawn
Standard Specifications Sections affected: 203.23 pg 156.  Recurring Special Provision with same referenced sections: 203-R-562 DYNAMIC CONE PENETROMETER TESTING FOR EMBANKMENT  Standard Sheets affected: NONE  Design Manual Sections affected: NONE  GIFE Sections cross-references: NONE	<input type="checkbox"/> 20 Standard Specifications Book <input type="checkbox"/> Revise List of Pay Items  <input type="checkbox"/> Create RSP (No.____) Effective ____ Letting RSP Sunset Date: ____  <input type="checkbox"/> Revise RSP (No.____) Effective ____ Letting RSP Sunset Date: ____  <input type="checkbox"/> Standard Drawing Effective ____ <input type="checkbox"/> Create RPD (No. ____) Effective ____ Letting <input type="checkbox"/> Technical Advisory  GIFE Update Req'd.? Y __ N __ By ____ Addition or ____ Revision  Frequency Manual Update Req'd? Y __ N __ By ____ Addition or ____ Revision  Received FHWA Approval? ____

SPECIFICATION REVISIONS  
REVISION TO THE STANDARD SPECIFICATIONS AND DRAWINGS

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PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: The Department is having problems with pile splicing. There have been several pile splices that have failed.

PROPOSED SOLUTION: Modify standard drawings 701-BPIL-04, delete the existing standard drawing 701-BPIL-05 and replace it with a new drawing, and modify 701-BPIL-06. Also incorporate minimum preheat language into 701.11.

APPLICABLE STANDARD SPECIFICATIONS: 701.11

APPLICABLE STANDARD DRAWINGS: 701-BPIL-04, 701-BPIL-05, 701-BPIL-06,

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: None

Submitted By: Greg Pankow

Title: State Construction Engineer

Organization: INDOT

Phone Number: 2-5502

Date: October 25, 2010

APPLICABLE SUB-COMMITTEE ENDORSEMENT? None. Consulted with INDOT Geotech Dept and a Contractor.

REVISION TO THE STANDARD SPECIFICATIONS

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SECTION 701 - DRIVEN PILING  
701.11(a) STEEL PILES

The Standard Specifications are revised as follows:

SECTION 701, BEGIN LINE 751, INSERT AS FOLLOWS:

**701.11 Splicing Piles**

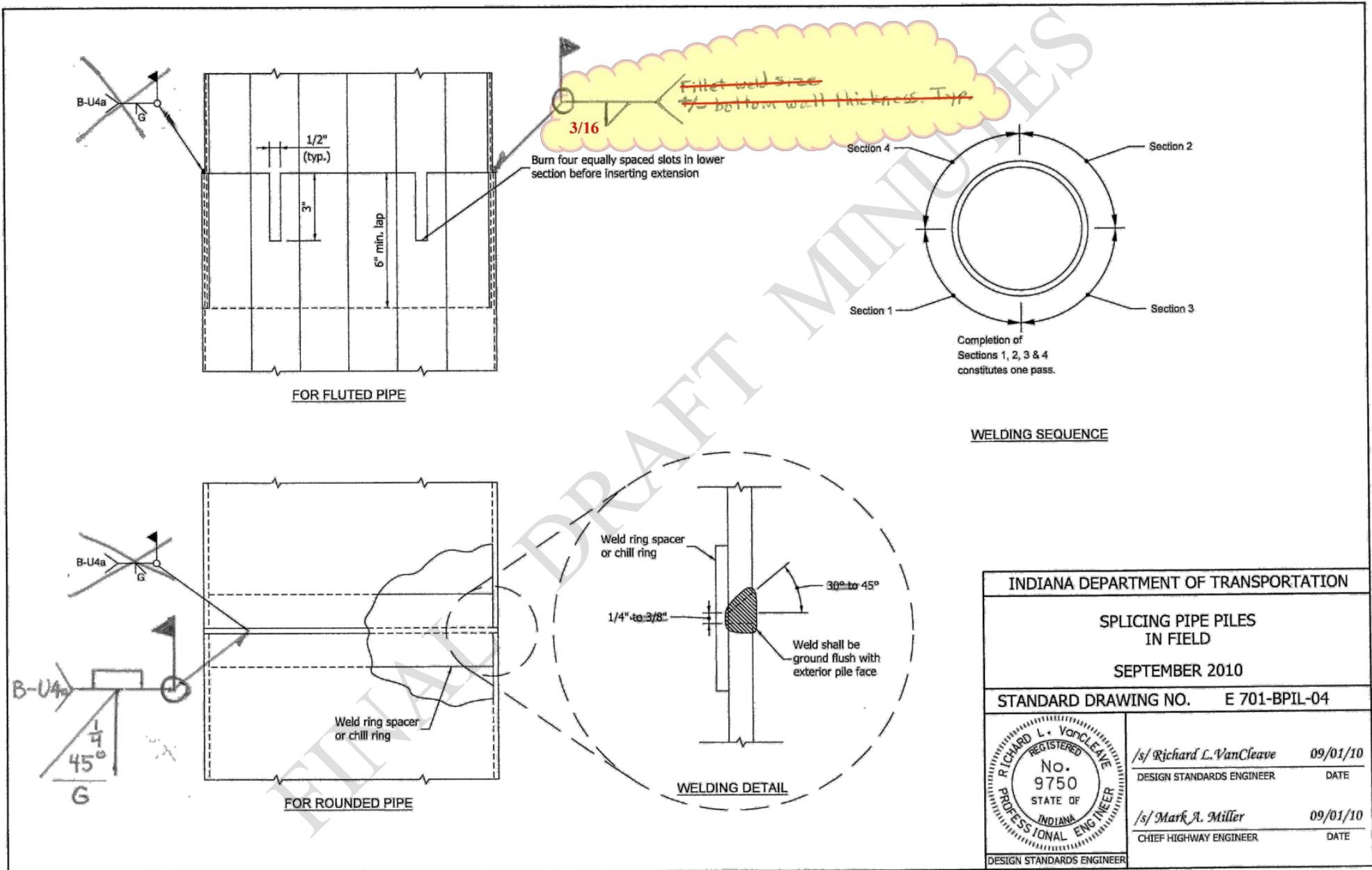
Full length piles shall be placed in the leads if practical. However, if splicing is necessary, the following methods shall be used.

**(a) Steel Piles**

Splicing of steel piles shall be made as shown on the plans. *The top of the pile to be extended shall be restored to its original cross section shape. The mating end of the other pile shall be beveled as shown on the plans. A wire brush or grinder shall be used to remove any scale, dirt, slag, or other foreign material that is detrimental to fabricating a sound weld from all surfaces to be welded.* For H piles, a mechanical splice shall not be used within 20 ft (6 m) of the ground surface unless it is proven that the splice can transfer the full pile strength in compression, tension, and bending. Splices for pipe piles shall be watertight. All work shall be done with approved methods and materials and by welders qualified in accordance with 711.32. *If the temperature of the piles is below 50°F (10°C), both piles to be spliced shall be preheated to a minimum temperature of 70°F (21°C) in the vicinity of the splice immediately prior to welding. The temperature of the piles shall be maintained at a minimum of 50°F (10°C) until the welding is complete. ~~When the temperature of the piles is 0°F (-18°C) or below, no welding shall be performed.~~* There shall not be more than two splices exposed to view in each length of piling after driving is completed. A mechanical splice shall not be used in integral end bents.

REVISION TO THE STANDARD DRAWINGS

PROPOSED REVISION TO 701-BPIL-04 SPLICING PIPE PILES (REVISED, SEE COMMENTS AND ACTION)



REVISION TO THE STANDARD DRAWINGS

PROPOSED REVISION TO 701-BPIL-05 STEEL H-PILE SPLICE PROCEDURE (DRAFT)

### PROCEDURE FOR SPLICING PARTIALLY DRIVEN PILING

	WEB VIEWS (this column)	FLANGE VIEWS (this column)	
1.			<b>Upper Section</b> Prepare outside of both flanges and one side of web by beveling to a 45 deg angle. Grind all surfaces to be welded.
2.			<b>Lower Section</b> Prepare top of pile to be extended by squaring all surfaces. Grind all surfaces to be welded, extending 1/2" beyond weld area(s).
3.			<b>Upper Section</b> Fillet weld web splice plate to upper section. at 2 locations.
4.			<b>Lower Section</b> Tack weld two backer plates to inside of flange.
5.			<b>Combine Sections</b> Lift and hold upper section into place, maintaining 1/4" gap between upper and lower pile sections by using the remaining two backer plates as a guide. Plumb the pile. Tack weld the untacked side of the two backer plates to the inside upper flange. Remove the backer plate spacers and tack weld them to the inside flange portion of the upper and lower sections of the pile. Fillet weld the remaining two sides of the web splice plate to the lower section.
6.			<b>Combined Section</b> Complete Joint Penetration (CJP) weld the web.
7.			<b>Combined Section</b> Complete Joint Penetration (CJP) weld both flanges. Grind weld smooth with the pile.
8.			<b>Combined Section</b> Fillet weld the flange splice plates to the flanges.

**DETAIL A**

**DETAIL B**

### AND BACKER PLATE SPLICE PLATE DIMENSIONS & PLACEMENT

**END VIEW      WEB VIEW      FLANGE VIEW**

### SPLICE PLATE AND BACKER PLATE DIMENSIONS

H-PILE SIZE	HP 10	HP 12	HP 14
FLANGE, F	7"	8 1/4"	10 1/4"
WEB, W	5 3/8"	6 3/4"	8"
LENGTH, L	4 1/8"	5"	6 1/4"

**COMPLETED SPLICE END VIEW**

**COMPLETED SPLICE ISOMETRIC (backer plates not shown)**

INDIANA DEPARTMENT OF TRANSPORTATION

### STEEL H-PILE SPLICE PROCEDURE

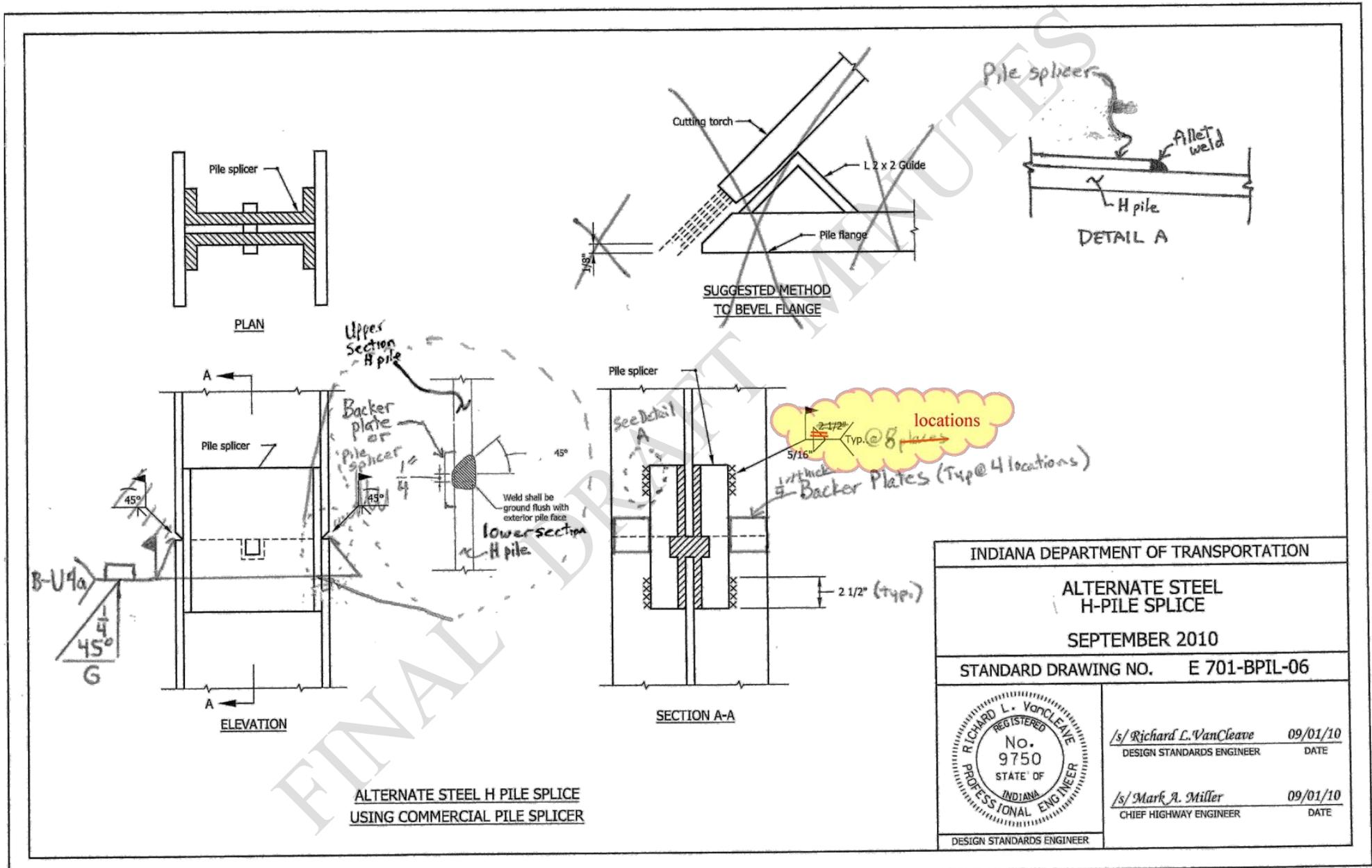
STANDARD DRAWING NO. \_\_\_\_\_

DESIGN STANDARDS ENGINEER _____	DATE _____
CHIEF HIGHWAY ENGINEER _____	DATE _____

DESIGN STANDARDS ENGINEER

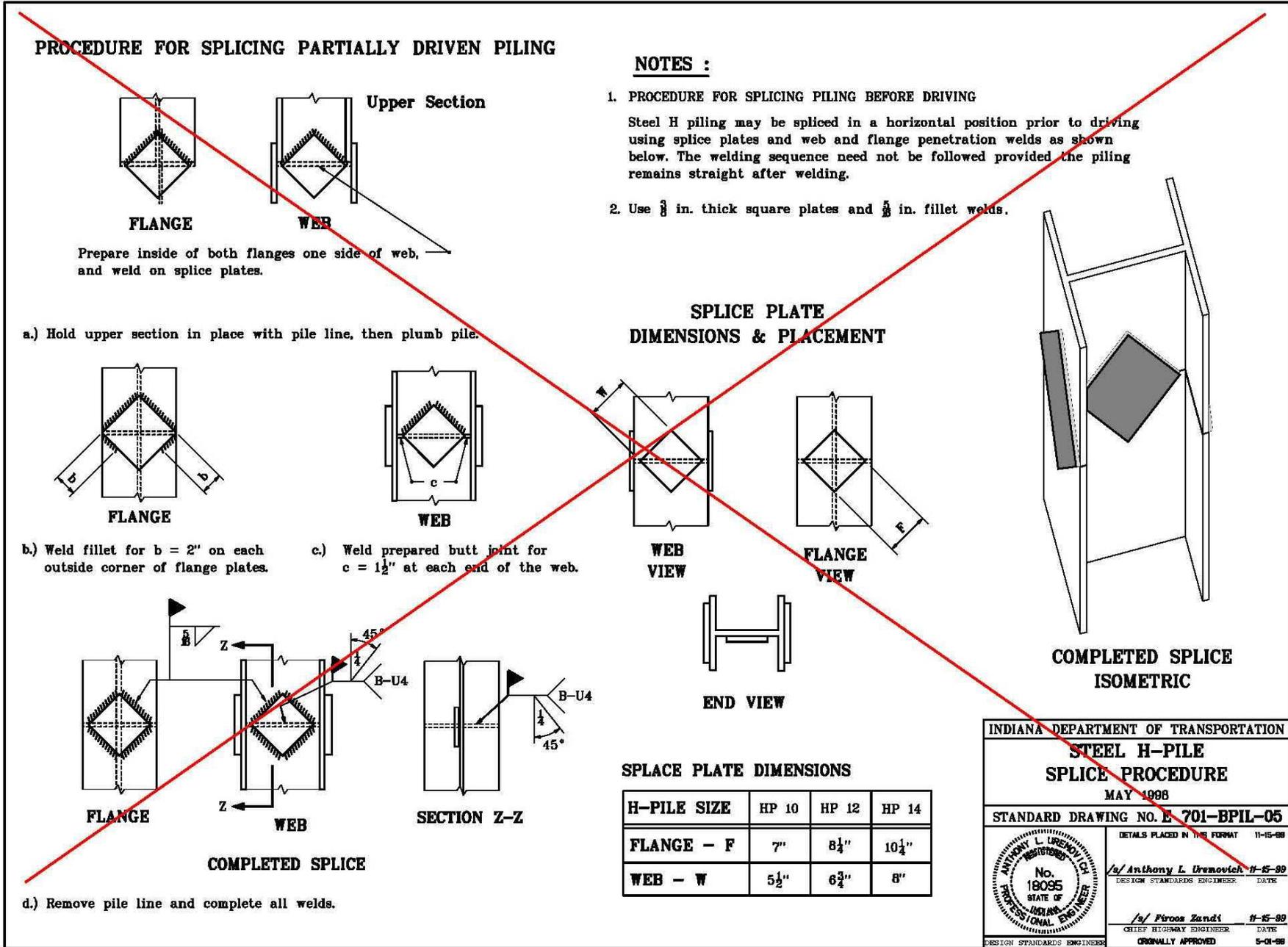
REVISION TO THE STANDARD DRAWINGS

PROPOSED REVISION TO 701-BPIL-06 ALTERNATE STEEL H-PILE SPLICE (REVISED, SEE COMMENTS AND ACTION)



REVISION TO THE STANDARD DRAWINGS

BACKUP NO.1 EXISTING 701-BPIL-05 STEEL H-PILE SPLICE PROCEDURE. (PROPOSED TO BE REPLACED).



COMMENTS AND ACTION

REVISION TO THE STANDARD SPECIFICATIONS AND DRAWINGS

- 701.11(a) STEEL PILES
- 701-BPIL-04 SPLICING PIPE PILES
- 701-BPIL-05 STEEL H-PILE SPLICE PROCEDURE
- 701-BPIL-06 ALTERNATE STEEL H-PILE SPLICE

DISCUSSION: Introduced by Mr. Pankow. Explained by Mr. Reilman.  
 Not everyone is aware of these standard drawings, so this is intended to clarify information. Proposing to strike last italicized sentence that was added to 701.11 (a) ~~When the temperature of the piles is 0°F (-18°C) or below, no welding shall be performed.~~

Mr. Reilman explained the changes they are proposing to the standard drawings shown on page 10 and 11 of the meeting agenda.

Mr. Strain inquired about the best way to illustrate the welds shown to make sure they match AWS code. Mr. Reilman said he will look into them and verify they are accurate and illustrated correctly.

Mr. Pankow made the motion to accept this proposal as revised. Mr. Cales seconded that motion. All approved.

All agreed that the proposed changes will go into the 2012 book as amended. Proposed Revised Draft drawings are included in these minutes. Changes are shown as highlighted in yellow.

<p>Motion: Mr. Pankow          Second: Mr. Cales          Ayes: 9          Nays: 0</p>	<p>Action:  <input type="checkbox"/> Passed as Submitted  <input checked="" type="checkbox"/> Passed as Revised  <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections affected:          701.11 pg 469.</p> <p>Recurring Special Provision affected:          NONE</p> <p>Standard Sheets affected:          701-BPIL-04;          701-BPIL-05;          701-BPIL-06.</p> <p>Design Manual Sections affected:          NONE</p> <p>GIFE Sections cross-references:          SECTION 5.7.6</p>	<p><input checked="" type="checkbox"/> 2012 Standard Specifications Book</p> <p><input type="checkbox"/> Revise List of Pay Items</p> <p><input type="checkbox"/> Create RSP (No.____)          Effective ____ Letting          RSP Sunset Date: ____</p> <p><input type="checkbox"/> Revise RSP (No.____)          Effective ____ Letting          RSP Sunset Date: ____</p> <p>Standard Drawing Effective <b>Sept. 01, 2011</b></p> <p><input type="checkbox"/> Create RPD (No. ____)          Effective ____ Letting</p> <p><input type="checkbox"/> Technical Advisory</p> <p>GIFE Update Req'd.? Y ___ N ___          By ____ Addition or ____ Revision</p> <p>Frequency Manual Update Req'd? Y ___ N ___          By ____ Addition or ____ Revision</p> <p>Received FHWA Approval? <input checked="" type="checkbox"/></p>

SPECIFICATION REVISIONS  
REVISION TO THE STANDARD SPECIFICATIONS

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PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Specifications Section 105.08 contains references to the District Traffic Section in regards to Construction Engineering. Since there is no longer a District Traffic Section, it is recommended that this reference be removed from the Standard Specifications.

PROPOSED SOLUTION: Remove the reference to District Traffic Section from spec section 105.08.

APPLICABLE STANDARD SPECIFICATIONS: 105.08

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: None

PAY ITEMS AFFECTED: N/A

Submitted By: Greg Pankow

Title: State Construction Engineer

Organization: INDOT

Phone Number: 317-232-5502

Date: 10/27/2010

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Adhoc

REVISION TO THE STANDARD SPECIFICATIONS

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SECTION 105 - CONTROL OF WORK

105.08(a) CONSTRUCTION ENGINEERING BY THE STATE

105.08(b) CONSTRUCTION ENGINEERING BY THE CONTRACTOR

The Standard Specifications are revised as follows:

SECTION 105, BEGIN LINE 211, DELETE AND INSERT AS FOLLOWS:

The Contractor shall be responsible for the accuracy of transfer from the control lines and grades and layout of the work. The Contractor shall notify the Engineer and the ~~District Traffic Section~~ to locate all existing underground traffic signal and lighting wiring. The ~~District Traffic Section~~ *Engineer* will only perform this locate service once per construction season per contract.

SECTION 105, BEGIN LINE 241, DELETE AND INSERT AS FOLLOWS:

caps, bridge seats, and screed elevations. Construction engineering shall also include documenting the underground wiring as located by the ~~District Traffic Section~~ *Department*.

SECTION 105, BEGIN LINE 244, DELETE AND INSERT AS FOLLOWS:

The Contractor shall notify the ~~District Traffic Section~~ *Engineer* to locate all existing underground traffic signal and lighting wiring. The ~~District Traffic Section~~ *Engineer* will only perform this locate service once per construction season per contract.

FINAL DRAFT

COMMENTS AND ACTION

105.08(a) CONSTRUCTION ENGINEERING BY THE STATE  
 105.08(b) CONSTRUCTION ENGINEERING BY THE CONTRACTOR

DISCUSSION: This item was introduced and presented by Mr. Pankow.

We no longer have a District Traffic section, by name.

Will check if GIFE revision is necessary.

Note: GIFE was searched for words "District Traffic Section", "105.08" as conclusion there, no revisions are necessary.

<p>Motion: Mr. Pankow          Second: Mr. Cales          Ayes: 9          Nays: 0</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 affected:          105.08 pg 42 and pg 43</p> <p>Recurring Special Provision affected:          NONE</p> <p>Standard Sheets affected:          NONE</p> <p>Design Manual Sections affected:          NONE</p> <p>GIFE Sections cross-references:          NONE</p>	<p><input checked="" type="checkbox"/> 2012 Standard Specifications Book  <input type="checkbox"/> Revise List of Pay Items</p> <p><input type="checkbox"/> Create RSP (No. ____)          Effective ____ Letting          RSP Sunset Date: ____</p> <p><input type="checkbox"/> Revise RSP (No. ____)          Effective ____ Letting          RSP Sunset Date: ____</p> <p>Standard Drawing Effective ____  <input type="checkbox"/> Create RPD (No. ____)          Effective ____ Letting  <input type="checkbox"/> Technical Advisory</p> <p>GIFE Update Req'd.? Y __ N <input checked="" type="checkbox"/>          By ____ Addition or ____ Revision</p> <p>Frequency Manual Update Req'd? Y __ N __          By ____ Addition or ____ Revision</p> <p>Received FHWA Approval? <input checked="" type="checkbox"/></p>

SPECIFICATIONS REVISION  
REVISION TO THE STANDARD SPECIFICATIONS

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PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Since passage of the specification sections that allow welding on ASTM A 706 reinforcing bars in 2008, the Department has been informed that a neighboring state believes the weld process is negatively affecting the physical properties of the reinforcing bar being welded. As a result of extensive investigation, this neighboring state discontinued allowing the tack welding of reinforcing bars in 2008.

PROPOSED SOLUTION: Delete the portions of the specification that allow welding of reinforcement bars.

APPLICABLE STANDARD SPECIFICATIONS: 703.06, 707.04

APPLICABLE STANDARD DRAWINGS: None

APPLICABLE DESIGN MANUAL SECTION: None

APPLICABLE SECTION OF GIFE: None

APPLICABLE RECURRING SPECIAL PROVISIONS: None

Submitted By: Greg Pankow

Title: State Construction Engineer

Organization: INDOT

Phone Number: 2-5502

Date: October 25, 2010

APPLICABLE SUB-COMMITTEE ENDORSEMENT? Ad hoc committee (Charles Bersch, Bob Dahman, Jim Reilman)

REVISION TO THE STANDARD SPECIFICATIONS

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SECTION 703 - REINFORCING BARS  
703.06 PLACING AND FASTENING

The Standards Specifications are revised as follows:

**SECTION 703, BEGIN LINE 61, DELETE AS FOLLOWS:**

fastened securely at sufficient intervals to hold the bars in place. ~~Welding of reinforcing bars other than those used in precast members will not be permitted.~~ Chairs and supports holding upper layers of reinforcing bars shall support the transverse bars. The upper layer of reinforcing bars in bridge floors shall be tied or fastened at such intervals as necessary to prevent an upward or a lateral movement of a bar from the planned position.

**SECTION 703, BEGIN LINE 117, DELETE AS FOLLOWS:**

~~In lieu of tying, reinforcing bars used in precast and precast prestressed concrete structural members may be welded in accordance with the following:~~

~~(a) All welding procedures and welders to be employed shall be qualified to AWS D1.4. All welds shall either be QC inspected by an AWS Certified Welding Inspector or at a minimum signed off by an AWS Certified Welding Inspector. Welding will be permitted only at intersections of reinforcing bars. Splicing of the reinforcing bars by welding will not be permitted. Welds shall have a satisfactory appearance. As low a current as possible shall be used so as to preclude notching and undercutting and still provide a weld of the intended strength. Notching, or undercutting of the bars, or bars with a loss of cross section resulting from welding will be cause for rejection of the bars so damaged and the bars shall be replaced as directed.~~

~~(b) Reinforcing bars that are welded shall be in accordance with ASTM A 706. Epoxy coated reinforcing that is welded shall have the epoxy coating removed in the vicinity of the weld. Once the welded area has cooled to below 90°F (32°C) and before visible oxidation appears, the weld and surrounding bare metal shall be cleaned and recoated in accordance with 910.01(b)9e.~~

REVISION TO THE STANDARD SPECIFICATIONS

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SECTION 707 - PRECAST AND PRESTRESSED CONCRETE STRUCTURAL MEMBERS  
707.04 STEEL AND CONCRETE REQUIREMENTS

The Standards Specifications are revised as follows:

SECTION 707, BEGIN LINE 80, DELETE AS FOLLOWS:

material on these reinforcing bars shall be removed. Lap splices shall be in accordance with 703.06. ~~In lieu of tying, reinforcing bars may be welded in accordance with 703.06.~~

FINAL DRAFT MINUTES

COMMENTS AND ACTION

703.06 PLACING AND FASTENING  
 707.04 STEEL AND CONCRETE REQUIREMENTS

DISCUSSION: Introduced by Mr. Pankow. Presented by Mr. Reilman.

It has been noticed that other states are experiencing difficulty with welding of reinforcing bars.  
 The intention is to revise the language in our Spec before problems do arise.

Discussion on difference between Welded Wire Fabric (mesh) and rebar welding.

Also proposed revising line 61 of spec section 703.06. Removing the sentence ~~Welding of reinforcing bars other than those used in precast members will not be permitted.~~  
 All agreed and it will be reflected in the 2012 book.

Motion revised by Mr. Pankow.  
 Second by Mr. Cales.

<p>Motion: Mr. Pankow          Second: Mr. Cales          Ayes: 9          Nays: 0</p>	<p>Action:  <input type="checkbox"/> Passed as Submitted  <input checked="" type="checkbox"/> Passed as Revised  <input type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections affected:          703.06 pg 508, 509 and pg 510;          707.04 pg 522.</p> <p>Recurring Special Provision affected:          NONE</p> <p>Standard Sheets affected:          NONE</p> <p>Design Manual Sections affected:          NONE</p> <p>GIFE Sections cross-references:          NONE</p>	<p><input checked="" type="checkbox"/> 2012 Standard Specifications Book  <input type="checkbox"/> Revise List of Pay Items  <input type="checkbox"/> Create RSP (No. ___)          Effective ___ Letting          RSP Sunset Date: ___</p> <p><input type="checkbox"/> Revise RSP (No. ___)          Effective ___ Letting          RSP Sunset Date: ___</p> <p>Standard Drawing Effective ___  <input type="checkbox"/> Create RPD (No. ___)          Effective ___ Letting  <input type="checkbox"/> Technical Advisory</p> <p>GIFE Update Req'd.? Y ___ N ___          By ___ Addition or ___ Revision</p> <p>Frequency Manual Update Req'd? Y ___ N ___          By ___ Addition or ___ Revision</p> <p>Received FHWA Approval? <input checked="" type="checkbox"/></p>

SPECIFICATION REVISIONS  
REVISION TO THE STANDARD SPECIFICATIONS

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PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Spec Book language regarding non-discrimination of employees does not reflect the language shown in RSP 100-C-151E Title VI Assurances, which is required to be included in all contracts.

PROPOSED SOLUTION: Add language to the affected spec sections to more closely reflect that shown in RSP 100-C-151E Title VI Assurances.

APPLICABLE STANDARD SPECIFICATIONS: 103.06 (a), 107.01

APPLICABLE STANDARD DRAWINGS: N/A

APPLICABLE DESIGN MANUAL SECTION: N/A

APPLICABLE SECTION OF GIFE: N/A

APPLICABLE RECURRING SPECIAL PROVISIONS: RSP 100-C-151E

PAY ITEMS AFFECTED: None

Submitted By: Greg Pankow

Title: State Construction Engineer

Organization: INDOT

Phone Number: 317-232-5502

Date: 10/26/2010

APPLICABLE SUB-COMMITTEE ENDORSEMENT: Adhoc

REVISION TO THE STANDARD SPECIFICATIONS

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SECTION 103 - AWARD AND EXECUTION OF CONTRACT

103.05(a) NON-DISCRIMINATION OF EMPLOYEES

SECTION 107 - LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

107.01 LAWS TO BE OBSERVED

The Standard Specifications are revised as follows:

SECTION 103, BEGIN LINE 482, DELETE AND INSERT AS FOLLOWS:

The Contractor and its subcontractors shall not discriminate against an employee or applicant for employment, to be employed in the performance of the contract work, with respect to hire, tenure, terms, conditions, or privileges of employment or matters directly or indirectly related to employment, because of race, religion, color, sex, *age*, disability/*handicap*, national origin, ~~or~~ ancestry *or income status*. Breach of this covenant may be regarded as a material breach of the contract.

SECTION 107, BEGIN LINE 36, DELETE AND INSERT AS FOLLOWS:

The Contractor and its subcontractors shall not discriminate against an employee or applicant for employment to be employed in the performance of any contract with respect to his or her hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, sex, *age*, disability/*handicap*, religion, national origin, ~~or~~ ancestry *or income status*. Breach of this covenant may be registered as a material breach of the contract.

FINAL DRAFT

COMMENTS AND ACTION

103.05(a) NON-DISCRIMINATION OF EMPLOYEES  
 107.01 LAWS TO BE OBSERVED

DISCUSSION: Introduced and presented by Mr. Pankow as described above.

Ms. Higgins explained that Ancestry was left in since it is per Indiana law. Legal department is still working with EEO officers. The reference to Income is in there per executive order, as explained by Ms. Higgins.

Bren George from FHWA offered a list of recommendations to be added, and gave a copy of the list to Mr. Miller.

Mr. Pankow recommended this item be withdrawn until the items can be discussed with Tiffany Mulligan, and since we apparently still have some incorrect references in the book.

This item was withdrawn pending further review.

Motion: Second: Ayes: Nays:	Action: <input type="checkbox"/> Passed as Submitted <input type="checkbox"/> Passed as Revised <input checked="" type="checkbox"/> Withdrawn
Standard Specifications Sections cross-references:  103.01(a) pg 13; 103.05(a) pg 23; 107.01 pg 61.  Recurring Special Provision affected:  100-C-151B DISADVANTAGED BUSINESS ENTERPRISE PROCEDURE AND GOOD FAITH EFFORTS  Standard Sheets affected:  NONE  Design Manual Sections affected:  NONE  GIFE Sections cross-references:  NONE	<input type="checkbox"/> 20 Standard Specifications Book <input type="checkbox"/> Revise List of Pay Items <input type="checkbox"/> Create RSP (No. ____) Effective ____ Letting RSP Sunset Date: ____  <input type="checkbox"/> Revise RSP (No. ____) Effective ____ Letting RSP Sunset Date: ____  Standard Drawing Effective ____ <input type="checkbox"/> Create RPD (No. ____) Effective ____ Letting <input type="checkbox"/> Technical Advisory  GIFE Update Req'd.? Y __ N __ By ____ Addition or ____ Revision  Frequency Manual Update Req'd? Y __ N __ By ____ Addition or ____ Revision  Received FHWA Approval? ____

SPECIFICATION REVISIONS

REVISION TO THE STANDARD SPECIFICATIONS AND DRAWINGS

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PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: Sometimes it is difficult to install inductive loop detectors on an approach to a signalized intersection due to poor pavement condition, or due to maintenance of traffic concerns associated with the longer lane closures for standard inductive loop installations.

PROPOSED SOLUTION: Microloop detectors make it possible to install vehicle detection on an approach without cutting loops in the pavement. The microloops are installed in 3" diameter PVC conduit that is bored underneath the pavement from one side across to the other side. The microloop probe sets are wired in series to a traffic monitoring card or controller. Detection is achieved by monitoring the changes in the Earth's magnetic field caused by a passing vehicle. The development of a recurring plan detail and revisions to existing recurring special provisions 805-T-169 and 922-T-168 will ensure that the system is constructed properly when specified.

APPLICABLE STANDARD SPECIFICATIONS: 805.10, 805.15, 805.16, and 922

APPLICABLE STANDARD DRAWINGS: 805-SGLI-03

APPLICABLE DESIGN MANUAL SECTION: Section 77-4.02(03)

APPLICABLE SECTION OF GIFE: NONE

APPLICABLE RECURRING SPECIAL PROVISIONS: 805 T-169, and 922-T-168

PAY ITEMS AFFECTED: Yes

Submitted By: David Boruff, P.E.

Title: Traffic Administration Manager

Organization: INDOT

Phone Number: (317) 899-8626

Date: 10/20/10

APPLICABLE SUB-COMMITTEE ENDORSEMENT? Ad-hoc review by district traffic, contractors, and Traffic Management.

REVISION TO THE STANDARD SPECIFICATIONS AND DRAWINGS

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SECTION 805 - TRAFFIC SIGNALS  
805.10 MAGNETOMETER AND MICROLOOP DETECTORS  
805.15 METHOD OF MEASUREMENT  
805.16 BASIS OF PAYMENT

The Standard Specifications are revised as follows:

SECTION 805, BEGIN LINE 376, INSERT AS FOLLOWS:

**805.10 Magnetometer and Microloop Detectors**

**(a) Testing**

Before installation of Magnetometer or Microloop probes the Contractor shall confirm the adequacy of the magnetic field intensity, to be sure that the range is suitable for their operation.

*The Contractor shall demonstrate that the microloop count data recorded in the controller's detector log is within 5 % of count data obtained visually over a 15-minute period for every detector installation. The test shall be performed by the Contractor in the presence of the Engineer or his/her designated representative. If detector sensitivity or calibration settings are adjusted in order to meet this test, the new settings shall be recorded on the wiring diagram in the cabinet.*

**(b) Installation**

*The microloop detector probes shall be installed at the locations shown on the plans. Arrangement of probes shall be located at maximum distance from steel support under bridges. Probes shall be installed with their long dimension vertical, and with the cable end at the top. Probes shall be firmly supported, so the lateral and vertical motion is restricted. Probes shall be connected in series. The splice shall be soldered by means of hot iron, or pouring or dripping without flames, with rosin core solder and shall be insulated and waterproofed in accordance with the manufacturer's specifications.*

*PVC conduit for the microloop detector probes shall be directionally pushed beneath the pavement at the depth and slope determined by the Manufacturer to ensure proper carrier and probe installation. Actual microloop detector probe location in each lane shall be determined by the manufacturer or manufacturer's representative.*

SECTION 805, BEGIN LINE 452, DELETE AND INSERT AS FOLLOWS:

**805.15 Method of Measurement**

Traffic signal head, pedestrian signal head, pedestrian push button, controller cabinet foundation, M foundation modified to P-1 foundation signal steel strain pole, signal wood pole, signal cantilever structure, signal support foundation, signal service, disconnect hanger, magnetometer detector, microloop detector *probes*, loop detector delay amplifier, signal handhole, signal detector housing, span catenary and tether, and span catenary for flasher will be measured by the number of units installed.

REVISION TO THE STANDARD SPECIFICATIONS AND DRAWINGS

SECTION 805 - TRAFFIC SIGNALS

(CONTINUED)

- 805.10 MAGNETOMETER AND MICROLOOP DETECTORS
- 805.15 METHOD OF MEASUREMENT
- 805.16 BASIS OF PAYMENT

Conduit of the type specified will be measured by the linear foot (meter) from outside to outside of foundations. *Extra-low voltage (home-run) cable*, ~~Signal~~ *signal cable*, and signal interconnect cable will be measured by the linear foot (meter).

SECTION 805, BEGIN LINE 487, INSERT AS FOLLOWS:

If specified as pay items, traffic signal controller and cabinet, traffic signal head, pedestrian signal head, pedestrian push button, controller cabinet foundation, M foundation modified to P-1 foundation, signal steel strain pole, signal wood pole, signal cantilever structure, signal support foundation, signal pedestals, signal service, disconnect hanger, magnetometer detector, microloop detector *probe*, loop detector delay amplifier, signal handhole, signal detector housing, span catenary and tether, and span catenary for flasher will be paid for at the contract unit price per each. Conduit of the type specified, signal cable, interconnect cable, electrical signal cable, loop lead-in cable, *extra-low voltage (home-run) cable*, and saw cut for roadway loop detector and sealant will be paid for at the contract unit price per linear foot (meter).

SECTION 805, BEGIN LINE 520, INSERT AS FOLLOWS:

Disconnect Hanger .....	EACH
<i>Extra-Low Voltage (Home-Run) Cable</i> .....	LFT (m)
Flasher Installation, Location No. _____	LS

SECTION 805, BEGIN LINE 605, INSERT AS FOLLOWS:

The cost of the detector unit, lead-in cable, and all work necessary for proper installation shall be included in the cost of magnetometer detector or microloop detector *probe*. *All work required to provide and install the extra-low voltage (home-run) cable from the handhole adjacent to the detector to the controller cabinet shall be included in the cost of extra-low voltage (home-run) cable.*

REVISION TO STANDARD SPECIFICATIONS, PROVISION AND DRAWINGS  
REVISION TO THE RECURRING SPECIAL PROVISION 922-T-168 TRAFFIC SIGNAL  
MATERIALS

(Basis for Use: Required for all contracts with 805 pay items)

(Proposed changes to the affected sections of the provision are shown as highlighted in gray.)

**922.13 Detection ~~Wire and Sealant~~ Components**

**(a) Loop Detector Lead-in Cable**

*Runs 700 ft (213 m) and less of loop detector lead-in cable shall be in accordance with IMSA 50-2 and shall be stranded 2 conductor No. 16 AWG, 19 strands of No. 29 wire. Runs greater than 700 ft (213 m) shall use 14 AWG wire.*

*The nominal capacitance between conductors shall be 57 pF/ft (187 pF/m) and 98 pF/ft (322 pF/m) between one conductor and the other conductor connected to the shield.*

**(b) Roadway Loop Wire**

*Roadway loop wire shall be 14 AWG gauge IMSA 51-7 duct-loop wire with polyvinyl chloride or polyethylene outer jacket of 1/4 in. (6.3 mm) diameter.*

**(c) Preformed Pavement Loops**

*All components of preformed pavement loops designed for HMA paved-over application shall have a minimum temperature rating exceeding the maximum temperature range for class B HMA mixtures in accordance with 402.07 (300 degrees Fahrenheit (150 degrees Celsius). Preformed pavement loops shall be selected from the Department's list of approved Traffic Signal Control Equipment.*

*The size of a preformed pavement loop shall be 6 ft (1.83 m) diameter, 18.9 ft (5.75 m) circumference round or 6 ft (1.83 m) octagonal, 20.0 ft (6.1 m) perimeter. The loops placed in the same lane shall be spaced 15 ft (4.57 m) from the center of one loop to the center of the next loop.*

*Preformed pavement loops may be constructed as a single loop or as 2, 3 or 4 loops in series. Each individual loop shall be wired with four turns of wire unless otherwise specified. Loops constructed in a series shall also be wired in series.*

**(d) Microloop Detectors**

*Materials for microloop detectors shall be selected from the Department's approved materials list. The microloop detectors selected shall be capable of counting vehicles in addition to detecting vehicle presence.*

*Each microloop detector location shall include the following items:*

- 1. Non-invasive probe, lead-in cable and carriers for microloop detector as shown on the plans;*

REVISION TO STANDARD SPECIFICATIONS, PROVISION AND DRAWINGS

REVISION TO THE RECURRING SPECIAL PROVISION 922-T-168 TRAFFIC SIGNAL  
MATERIALS

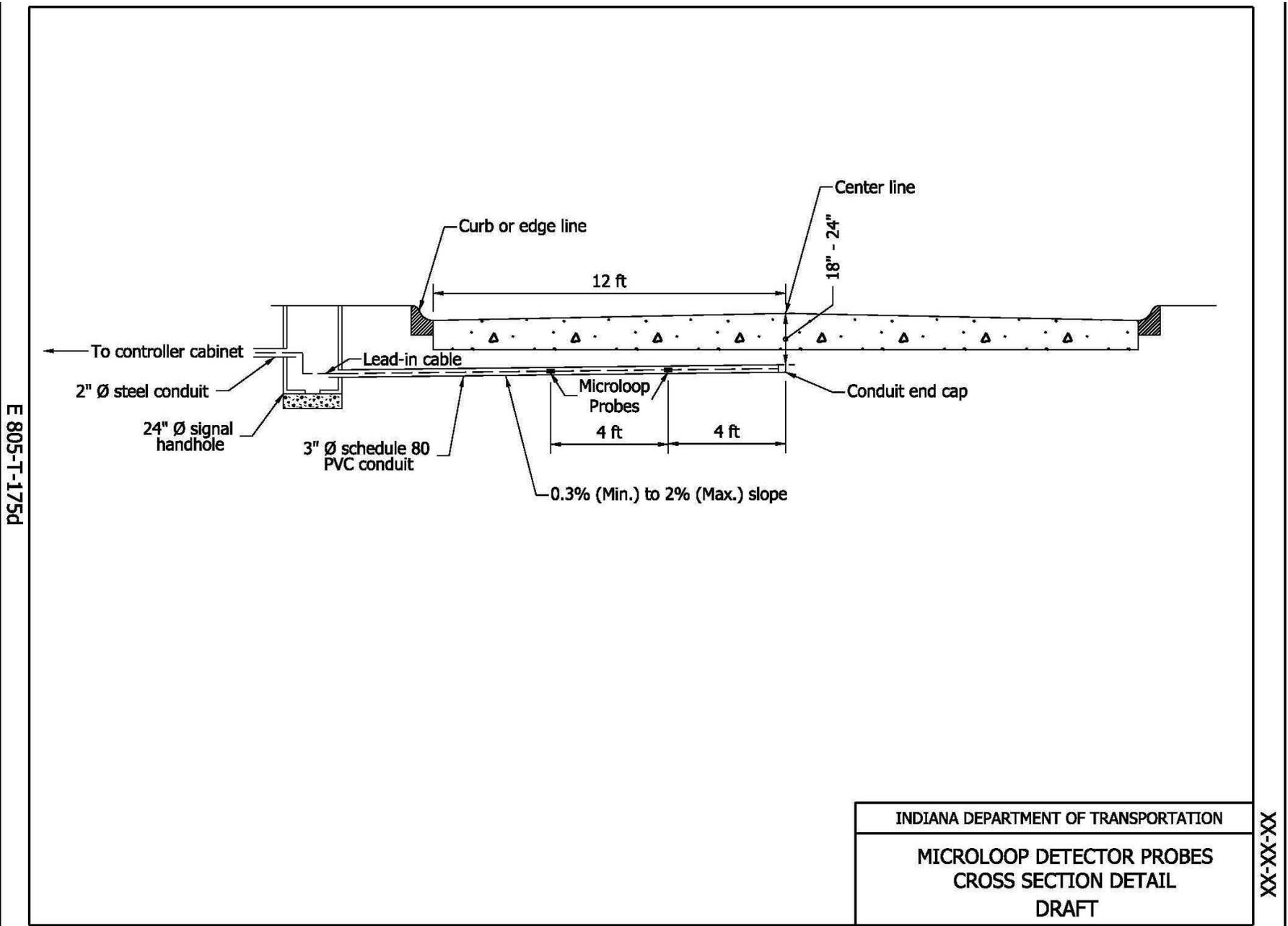
(CONTINUED)

2. *3-in. diameter schedule 80 PVC conduit containing the probes, lead-in cable and carriers;*
3. *Buried service wire encapsulation kit compatible with microloop detector for all splicing between the lead-in cable and the home run cable;*
4. *Installation kit (one for each conduit containing probes);*
5. *All mounting hardware, conduit bushings, wiring, connectors, grounding wires, ground rods, grounding cables, etc. necessary to complete the microloop detector location installation.*

FINAL DRAFT MINUTES

REVISION TO STANDARD SPECIFICATIONS, PROVISION AND DRAWINGS

PROPOSED RECURRING PLAN DETAIL 805-T-175D MICROLOOP DETECTOR PROBES CROSS SECTION DETAIL (DRAFT)



REVISION TO STANDARD SPECIFICATIONS, PROVISION AND DRAWINGS

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PROPOSED RECURRING PLAN DETAIL 805-T-175d MICROLOOP DETECTOR PROBES CROSS SECTION DETAIL (DRAFT)

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FINAL DRAFT MINUTES

COMMENTS AND ACTION

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805.10 MAGNETOMETER AND MICROLOOP DETECTORS

805.15 METHOD OF MEASUREMENT

805.16 BASIS OF PAYMENT

RSP 922-T-168 TRAFFIC SIGNAL MATERIALS

*RPD 805-T-175d MICROLOOP DETECTOR PROBES CROSS SECTION DETAIL*

DISCUSSION: Introduced and presented by Mr. Boruff. Explained by Mr. Bruno.

Mr. Bruno handed out a fresh copy of the intended spec/RSP revisions, proposing to revise RSP 805-T-169. Mr. Boruff and Mr. Pankow explained that this proposal is to match current practice.

Mr. Walker suggested removing language "*his/her representative*" since "Engineer" should cover that.

"*(Home Run) cable*" - only one manufacturer. Discussion on this being a proprietary item.

Mr. Miller mentioned that this will require a public interest finding since it is a proprietary item. Need to take care of it as soon as possible in order to be able to continue to use this product. Mr. Cales said there may be a list somewhere showing a blanket approval of certain items. The blanket approval list is relatively short. Need to check in the Design Manual.

Mr. Miller suggested withdrawing this item for now and bringing it back later.

Mr. Caplinger asked about the depth of the conduit since it is inserted under the existing pavement. Mr. Andrews said it is usually bored and recommended adding language covering damaged pavement during installation.

This item was withdrawn pending further review and clarifications.

COMMENTS AND ACTION

(CONTINUED)

805.10 MAGNETOMETER AND MICROLOOP DETECTORS  
 805.15 METHOD OF MEASUREMENT  
 805.16 BASIS OF PAYMENT  
 RSP 922-T-168 TRAFFIC SIGNAL MATERIALS  
 RPD 805-T-175d MICROLOOP DETECTOR PROBES CROSS SECTION DETAIL

<p>Motion: Mr. Boruff          Second: Mr. Keefer          Ayes:          Nays:</p>	<p>Action:  <input type="checkbox"/> Passed as Submitted  <input type="checkbox"/> Passed as Revised  <input checked="" type="checkbox"/> Withdrawn</p>
<p>Standard Specifications Sections affected:          805.10 pg 700;          805.15 pg 702;          805.16 pg 703 and 704;</p> <p>Recurring Special Provision affected:          805-T-169 TRAFFIC SIGNALS;          922-T-168 TRAFFIC SIGNAL MATERIALS</p> <p>Standard Sheets affected:          805-SGLI-03 Traffic Signal Loop Detector Housing Installation</p> <p>Design Manual Sections affected:          SECTION 77-4.02 (03)</p> <p>GIFE Sections cross-references:          NONE</p>	<p><input type="checkbox"/> 20_ Standard Specifications Book  <input type="checkbox"/> Revise List of Pay Items  <input type="checkbox"/> Create RSP (No.____)          Effective ____ Letting          RSP Sunset Date: ____</p> <p><input type="checkbox"/> Revise RSP (No.____)          Effective ____ Letting          RSP Sunset Date: ____</p> <p>Standard Drawing Effective ____  <input type="checkbox"/> Create RPD (No. ____)          Effective ____ Letting  <input type="checkbox"/> Technical Advisory</p> <p>GIFE Update Req'd.? Y __ N __          By ____ Addition or ____ Revision</p> <p>Frequency Manual Update Req'd? Y __ N __          By ____ Addition or ____ Revision</p> <p>Received FHWA Approval? ____</p>