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

APPROVED MINUTES

November 18, 2010 Standards Committee Meeting

(Added Note on page 20 as Approved at December 16, 2010 Meeting)

December 22, 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 9th Floor Conference Center. The meeting was adjourned at 10:00 a.m.

The following committee members were in attendance:

Mark Miller, Chairman	Dave Andrewski, 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 McQueen, 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. Andrewski 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ACTION: WITHDRAWN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 Dawings:
701-BPIL-04 SPLICING PIPE PILES
701-BPIL-05 STEEL H-PILE SPLICE PROCEDURE
701-BPIL-06 ALTERNATE STEEL H-PILE SPLICE

ACTION: PASSED AS REVISED

Item No. 03 11/18/10 (2010 SS) Mr. Pankow page 14
105.08(a) Construction Engineering by the State
105.08(b) Construction Engineering by the Contractor

ACTION: ~~WITHDRAWN~~ PASSED AS SUBMITTED

Item No. 04 11/18/10 (2010 SS) Mr. Pankow page 17
703.06 Placing and Fastening
707.04 Steel and Concrete Requirements

ACTION: PASSED AS ~~SUBMITTED~~ REVISED

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)

Mr. Walker
Date: 11/18/10

SPECIFICATION REVISIONS

REVISION TO THE RECURRING SPECIAL PROVISIONS

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

Item No. 01 11/18/10 (2010 SS)
Mr. Walker
Date: 11/18/10

REVISION TO THE RECURRING SPECIAL PROVISIONS

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: ____ Passed as Submitted ____ Passed as Revised __x__ 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	____ 20__ Standard Specifications Book ____ Revise List of Pay Items ____ Create RSP (No.____) Effective ____Letting RSP Sunset Date: ____ ____ Revise RSP (No.____) Effective ____Letting RSP Sunset Date: ____ Standard Drawing Effective ____ ____ Create RPD (No. ____) Effective ____Letting ____ 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

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

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

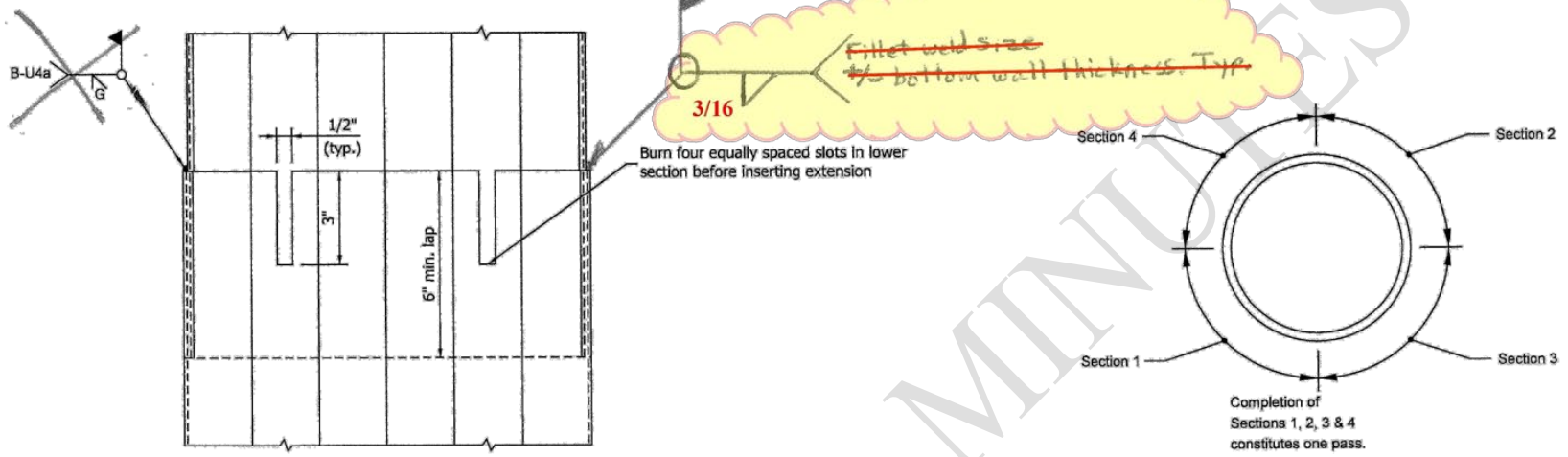
Full length piles shall be placed in the leads if practical. However, if splicing is necessary, the following methods shall be used.

(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~~*2* splices exposed to view in each length of piling after driving is completed. A mechanical splice shall not be used in integral end bents.

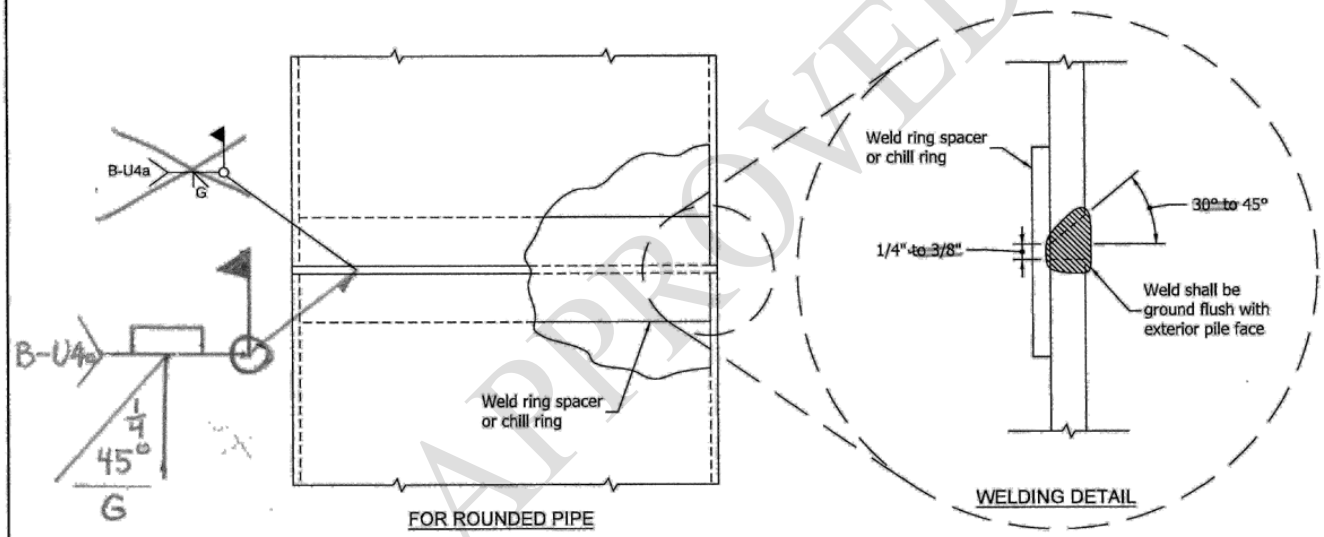
REVISION TO THE STANDARD DRAWINGS

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



FOR FLUTED PIPE

WELDING SEQUENCE



FOR ROUNDED PIPE

WELDING DETAIL

INDIANA DEPARTMENT OF TRANSPORTATION

SPLICING PIPE PILES IN FIELD

SEPTEMBER 2010

STANDARD DRAWING NO. E 701-BPIL-04

RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE

REVISION TO THE STANDARD DRAWINGS

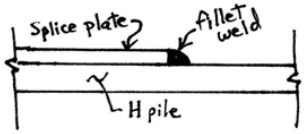
PROPOSED REVISION TO 701-BPIL-05 STEEL H-PILE SPLICE PROCEDURE (DRAFT)

PROCEDURE FOR SPLICING PARTIALLY DRIVEN PILING

WEB VIEWS (this column) FLANGE VIEWS (this column)

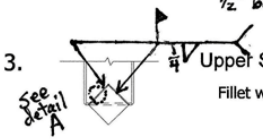
1. Upper Section
   Prepare outside of both flanges and one side of web by beveling to a 45 deg angle. Grind all surfaces to be welded.

2. Lower Section
   Prepare top of pile to be extended by squaring all surfaces. Grind all surfaces to be welded, extending ½" beyond weld area(s).



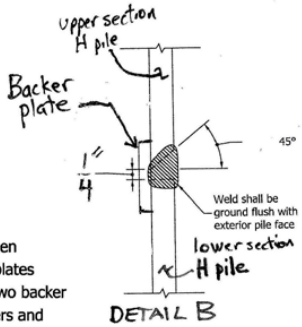
DETAIL A

3. Upper Section
   Fillet weld web splice plate to upper section. at 2 locations.



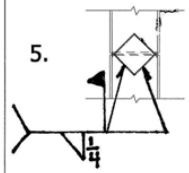
4. Lower Section
   Tack weld two backer plates to inside of flange.


END VIEW



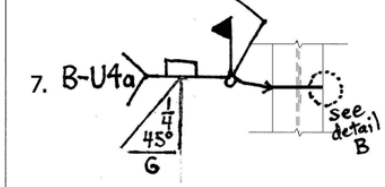
DETAIL B

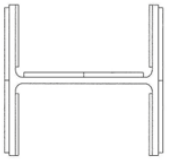
5. Combine Sections
   Lift and hold upper section into place, maintaining 1/4" gap between upper and lower pile sections by using the remaining two backer plates as a guide. Plumb the pile. Tack weld the untacked side of the two backer plates to the inside upper flange. Remove the backer plate spacers 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. Combined Section
   Complete Joint Penetration (CJP) weld the web.

7. Combined Section
   Complete Joint Penetration (CJP) weld both flanges. Grind weld smooth with the pile.



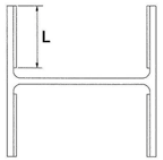

COMPLETED SPLICE END VIEW

8. Combined Section
   Fillet weld the flange splice plates to the flanges.

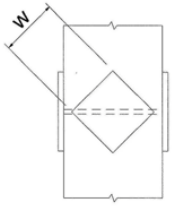
NOTES :

1. Steel H piling may be spliced in a horizontal position prior to driving using splice plates and web and flange penetration welds as shown below.
2. Use 3/8 in. thick square splice plates and 1/4 in. fillet welds. All fillet welds shall be single pass.
3. Use 1/4 in. thick backer plates.

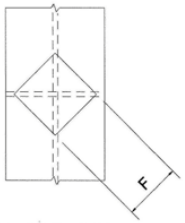
SPLICE PLATE AND BACKER PLATE DIMENSIONS & PLACEMENT



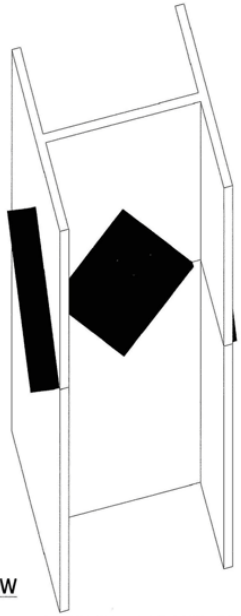
END VIEW



WEB VIEW



FLANGE VIEW


COMPLETED SPLICE ISOMETRIC
(backer plates not shown)

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"

INDIANA DEPARTMENT OF TRANSPORTATION

STEEL H-PILE SPLICE PROCEDURE

STANDARD DRAWING NO.

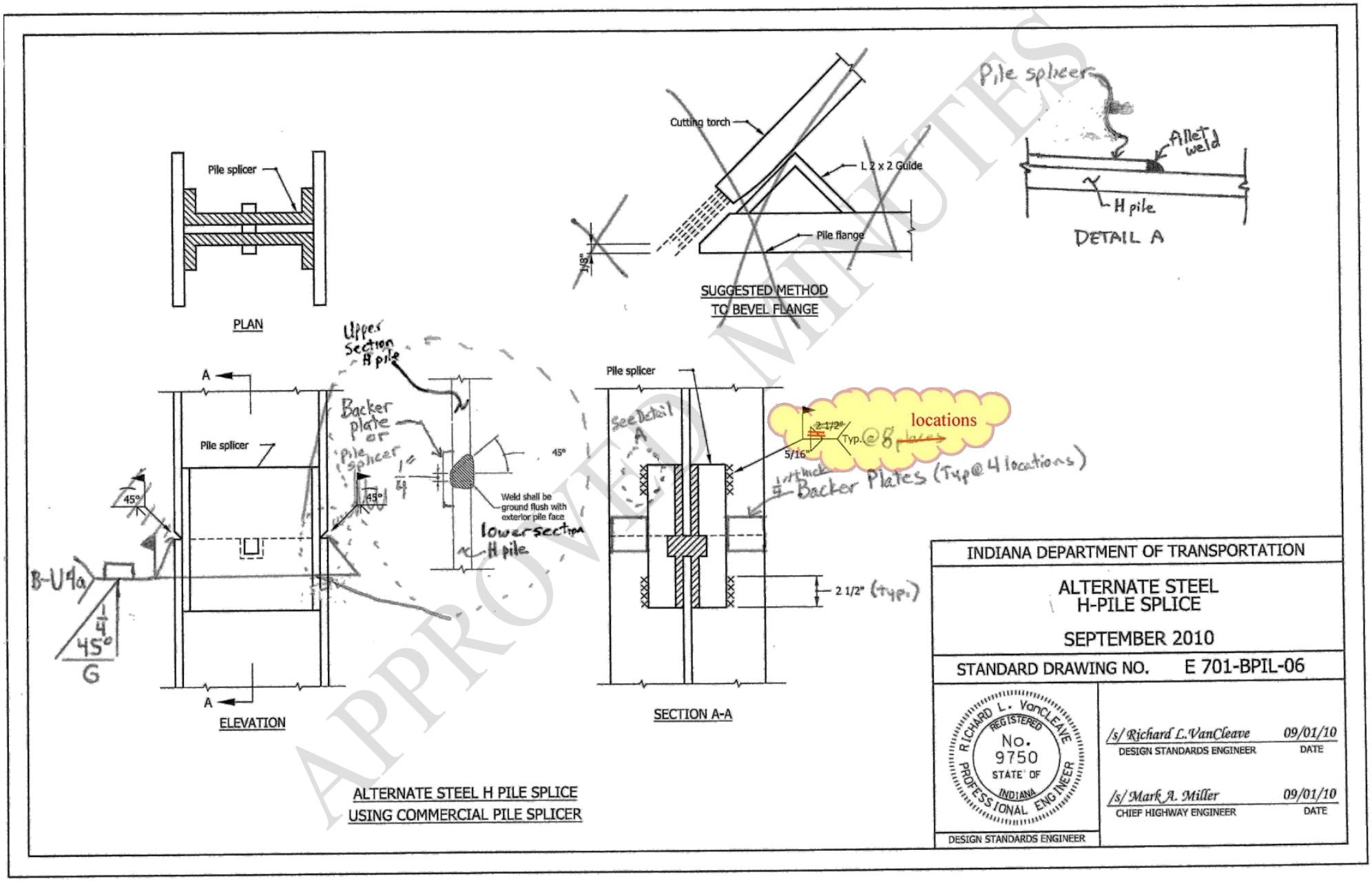
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO THE STANDARD DRAWINGS

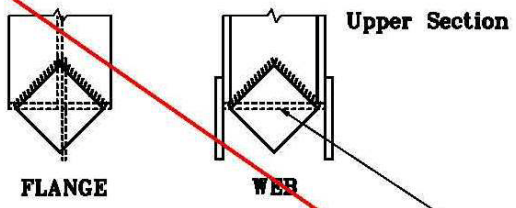
PROPOSED REVISION TO 701-BPIL-06 ALTERNATE STEEL H-PILE SPLICE (REVISED, SEE COMMENTS AND ACTION)



REVISION TO THE STANDARD DRAWINGS

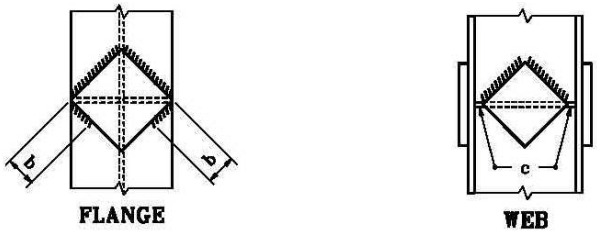
BACKUP NO.1 EXISTING 701-BPIL-05 STEEL H-PILE SPLICE PROCEDURE. (PROPOSED TO BE REPLACED).

PROCEDURE FOR SPLICING PARTIALLY DRIVEN PILING



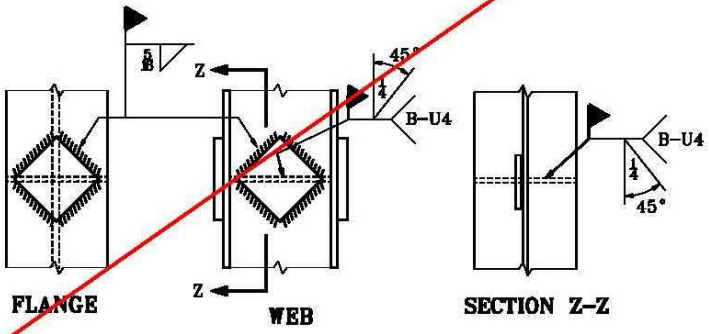
Prepare inside of both flanges one side of web, and weld on splice plates.

a.) Hold upper section in place with pile line, then plumb pile.



b.) Weld fillet for b = 2" on each outside corner of flange plates.

c.) Weld prepared butt joint for c = 1½" at each end of the web.



COMPLETED SPLICE

d.) Remove pile line and complete all welds.

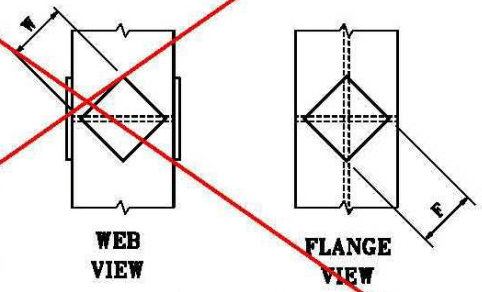
NOTES :

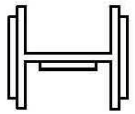
1. PROCEDURE FOR SPLICING PILING BEFORE DRIVING

   Steel H piling may be spliced in a horizontal position prior to driving using splice plates and web and flange penetration welds as shown below. The welding sequence need not be followed provided the piling remains straight after welding.

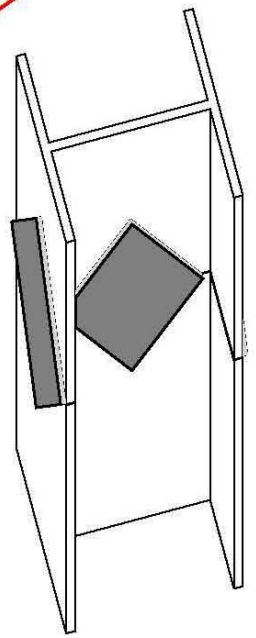
2. Use ⅜ in. thick square plates and ⅝ in. fillet welds.

SPLICE PLATE DIMENSIONS & PLACEMENT





END VIEW



COMPLETED SPLICE ISOMETRIC

SPLACE PLATE DIMENSIONS

H-PILE SIZE	HP 10	HP 12	HP 14
FLANGE – F	7"	8¼"	10¼"
WEB – W	5½"	6¾"	8"

INDIANA DEPARTMENT OF TRANSPORTATION
STEEL H-PILE SPLICE PROCEDURE
MAY 1998
STANDARD DRAWING NO. E 701-BPIL-05

ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DETAILS PLACED IN THIS FORMAT 11-15-98

/s/ Anthony L. Uremovich 11-15-99
DESIGN STANDARDS ENGINEER DATE

/s/ Firoz Zandi 11-15-99
CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER ORIGINALLY APPROVED 5-01-98

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.

Motion: Mr. Pankow Second: Mr. Cales Ayes: 9 Nays: 0	Action: ____ Passed as Submitted _ X__ Passed as Revised ____ Withdrawn
Standard Specifications Sections affected: 701.11 pg 469. Recurring Special Provision affected: NONE Standard Sheets affected: 701-BPIL-04; 701-BPIL-05; 701-BPIL-06. Design Manual Sections affected: NONE GIFE Sections cross-references: SECTION 5.7.6	X 2012 Standard Specifications Book ____ Revise List of Pay Items ____ Create RSP (No.____) Effective ____Letting RSP Sunset Date: ____ ____ Revise RSP (No.____) Effective ____Letting RSP Sunset Date: ____ Standard Drawing Effective Sept. 01, 2011 _____Create RPD (No. ____) Effective ____Letting ____ 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? X

SPECIFICATION REVISIONS

REVISION TO THE STANDARD SPECIFICATIONS

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

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.

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.

Motion: Mr. Pankow Second: Mr. Cales Ayes: 9 Nays: 0	Action: X Passed as Submitted ____ Passed as Revised ____ Withdrawn
Standard Specifications Sections affected: 105.08 pg 42 and pg 43 Recurring Special Provision affected: NONE Standard Sheets affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	X 2012 Standard Specifications Book ____ Revise List of Pay Items ____ Create RSP (No.____) Effective ____Letting RSP Sunset Date: ____ ____ Revise RSP (No.____) Effective ____Letting RSP Sunset Date: ____ Standard Drawing Effective ____ ____ Create RPD (No. ____) Effective ____Letting ____ Technical Advisory GIFE Update Req’d.? Y __ N X By ____ Addition or ____ Revision Frequency Manual Update Req’d? Y__N__ By ____ Addition or ____ Revision Received FHWA Approval? X

Mr. Pankow
Date: 11/18/10

SPECIFICATIONS REVISION

REVISION TO THE STANDARD SPECIFICATIONS

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

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)9c.~~

REVISION TO THE STANDARD SPECIFICATIONS

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.~~

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 reflected in the 2012 book.

Note: The intent of this change was to disallow welding on reinforcing bars when the welds are acting to provide a structural connection or structural capacity. The Department will allow occasional intermittent tack welds on WWR cages or weldable grade reinforcing bars to either hold a cage in position or to attach lifting inserts prior to placing concrete as these welds are not considered to be providing a structural connection or structural capacity.

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

Motion: Mr. Pankow Second: Mr. Cales Ayes: 9 Nays: 0	Action: ____ Passed as Submitted __X__ Passed as Revised ____ Withdrawn
Standard Specifications Sections affected: 703.06 pg 508,509 and pg 510; 707.04 pg 522. Recurring Special Provision affected: NONE Standard Sheets affected: NONE Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	__X__ 2012 Standard Specifications Book ____ Revise List of Pay Items ____ Create RSP (No.____) Effective ____Letting RSP Sunset Date: ____ ____ Revise RSP (No.____) Effective ____Letting RSP Sunset Date: ____ Standard Drawing Effective ____ ____ Create RPD (No. ____) Effective ____Letting ____ 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? X

SPECIFICATION REVISIONS

REVISION TO THE STANDARD SPECIFICATIONS

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

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.

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: ____ Passed as Submitted ____ Passed as Revised _X_ 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	____ 20__ Standard Specifications Book ____ Revise List of Pay Items ____ Create RSP (No.____) Effective ____Letting RSP Sunset Date: ____ ____ Revise RSP (No.____) Effective ____Letting RSP Sunset Date: ____ Standard Drawing Effective ____ ____ Create RPD (No. ____) Effective ____Letting ____ 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

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

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
Extra-Low Voltage (Home-Run) Cable.....*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

Note: Only affected sections of the Recurring Special Provision are shown
Basis for Use: Required for all contracts with 805 pay items

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 Pave-Over Loops

All components of preformed pave-over 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 pave-over loops shall be selected from the Department's list of approved Traffic Signal Control Equipment.

The size of a preformed pave-over 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 pave-over 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

2. *3-in. diameter schedule 80 PVC conduit containing the probes, lead-in cable and carriers;*

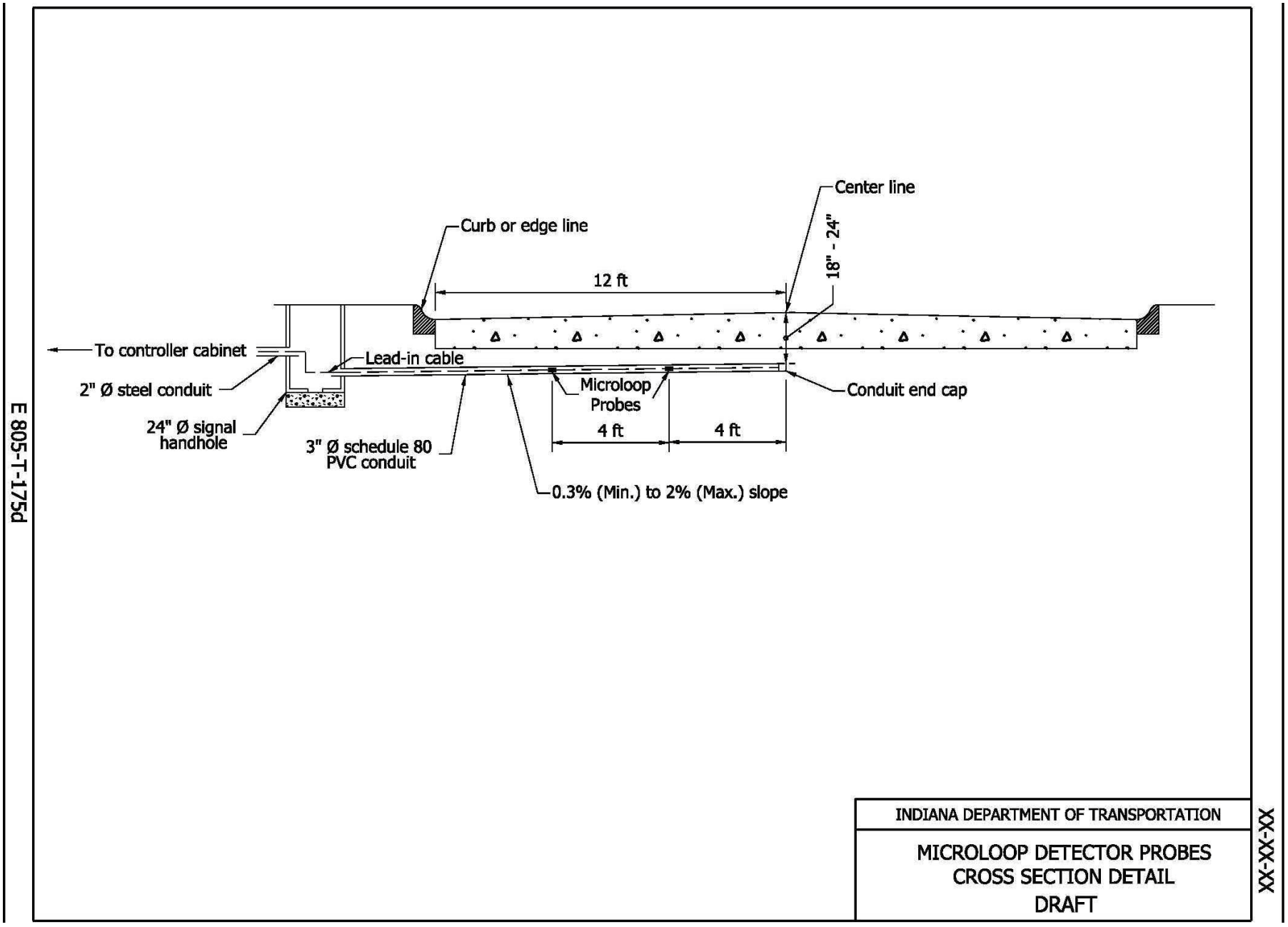
3. *Buried service wire encapsulation kit compatible with microloop detector for all splicing between the lead-in cable and the home run cable;*

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.*

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

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

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COMMENTS AND ACTION

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. Andrewski 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

Motion: Mr. Boruff
Second: Mr. Keefer
Ayes:
Nays:

Action:
____ Passed as Submitted
____ Passed as Revised
_X_ Withdrawn

Standard Specifications Sections affected:

805.10 pg 700;
805.15 pg 702;
805.16 pg 703 and 704;

Recurring Special Provision affected:

805-T-169 TRAFFIC SIGNALS;
922-T-168 TRAFFIC SIGNAL MATERIALS

Standard Sheets affected:

805-SGLI-03 Traffic Signal Loop Detector Housing Installation

Design Manual Sections affected:

SECTION 77-4.02 (03)

GIFE Sections cross-references:

NONE

____ 20__ Standard Specifications Book
____ Revise List of Pay Items

____ Create RSP (No.____)
Effective ____Letting
RSP Sunset Date: ____

____ Revise RSP (No.____)
Effective ____Letting
RSP Sunset Date: ____

Standard Drawing Effective ____
____ Create RPD (No. ____)
Effective ____Letting
____ 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? ____