Mr. Strain
Date: 03/15/12

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

PROPOSAL TO STANDARDS COMMITTEE

PROBLEM(S) ENCOUNTERED: In the review of bridge standards several inconsistences were found and many lacked clarity of the intent of the drawing.

PROPOSED SOLUTION: The bridge standard drawing sections 700 thru 706 have been revised to improve the intent of the drawing, eliminate errors and omissions and to promote a standard presentation.

APPLICABLE STANDARD SPECIFICATIONS: Sections 609, 704, and 706

APPLICABLE STANDARD DRAWINGS:

Current Designation	Proposed Designation
701-BPIL-02	701-BPIL-01
701-BPIL-04	701-BPIL-02
701-BPIL-05	701-BPIL-03 & 04
701-BPIL-06	701-BPIL-05
702-BCAW-01	Delete
702-CJTA-01	
703-BRST-01	
704-BDAF-01	704-BDCG-05
704-BDCG-01	704-BDCG-04
704-BDCG-02	704-BDCG-02
704-BDCG-03	704-BDCG-01
704-BDCG-04	704-BDCG-03
704-SBFD-01	
706-BRRW-01	706-MSRW-01
706-BRRW-02	706-MSRW-02
706-BRRW-03	706-MSRW-03
706-BRRW-04	706-MSRW-04
706-BRRW-05	706-MSRW-05
706-BRRW-06	706-MSRW-06
706-BRRW-07	706-MSRW-07
706-BRRW-08	706-MSRW-08
706-BRRW-09	706-MSRW-09

SPECIFICATION, SPECIAL PROVISIONS AND DRAWINGS

REVISION TO STANDARD SPECIFICATIONS AND DRAWINGS

(continued)

Current Designation	Proposed Designation
706-BRRW-10	706-MSRW-10
706-TASE-01	~~706~~*609*-TBAE-01
706-TASE-02	~~706~~*609*-TBAE-02
706-TASE-03	~~706~~*609*-TBAE-03
706-TASE-04	Delete
706-TASE-05	~~706~~*609*-TBAE-04

APPLICABLE DESIGN MANUAL SECTION: none

APPLICABLE SECTION OF GIFE: none

APPLICABLE RECURRING SPECIAL PROVISIONS: none

PAY ITEMS AFFECTED: none

Submitted By: Randy Strain

Title: Bridge Standard and Policy Engineer

Organization: INDOT

Phone Number: 317-232-3339

Date: Feb 14, 2012

APPLICABLE SUB-COMMITTEE ENDORSEMENT: none

REVISION TO STANDARD SPECIFICATIONS

SECTION 609 – REINFORCED CONCRETE BRIDGE APPROACHES
609.03 GENERAL REQUIREMENTS

The Standard Specifications are revised as follows:

SECTION 609, BEGIN LINE 22, INSERT AS FOLLOWS:

609.03 General Requirements

Subgrade shall be prepared in accordance with 207. Subbase shall be prepared in accordance with 302. *The RCBA extension shall be placed only where a concrete bridge-railing transition shall be located on the RCBA. If the transition shall be placed on the bridge, the RCBA shall be placed as shown on the plans.*

REVISION TO STANDARD SPECIFICATIONS

SECTION 704 – CONCRETE FLOOR SLABS
704.02 MATERIALS
704.08 BASIS OF PAYMENT
SECTION 706 – BRIDGE RAILINGS
706.04 CONCRETE RAILING WITH REINFORCED CONCRETE MOMENT SLAB

The Standard Specifications are revised as follows:

SECTION 704, BEGIN LINE 09, INSERT AS FOLLOWS:

704.02 Materials

Materials shall be in accordance with the following:

Castings.....910.05
Concrete, Class C.....702
Joint Materials.....910.05
Profile Wall Polyvinyl Chloride Pipe *907.22*
Reinforcing Bars 910.01
Smooth Wall Polyvinyl Chloride Pipe.....*907.23*

SECTION 704, BEGIN LINE 184, INSERT AS FOLLOWS:

The cost of forms, curing, finishing, preformed expansion joints within structure limits, *slab bridge floor drains,* and necessary incidentals shall be included in the cost of the pay items.

SECTION 706, BEGIN LINE 81, INSERT AS FOLLOWS:

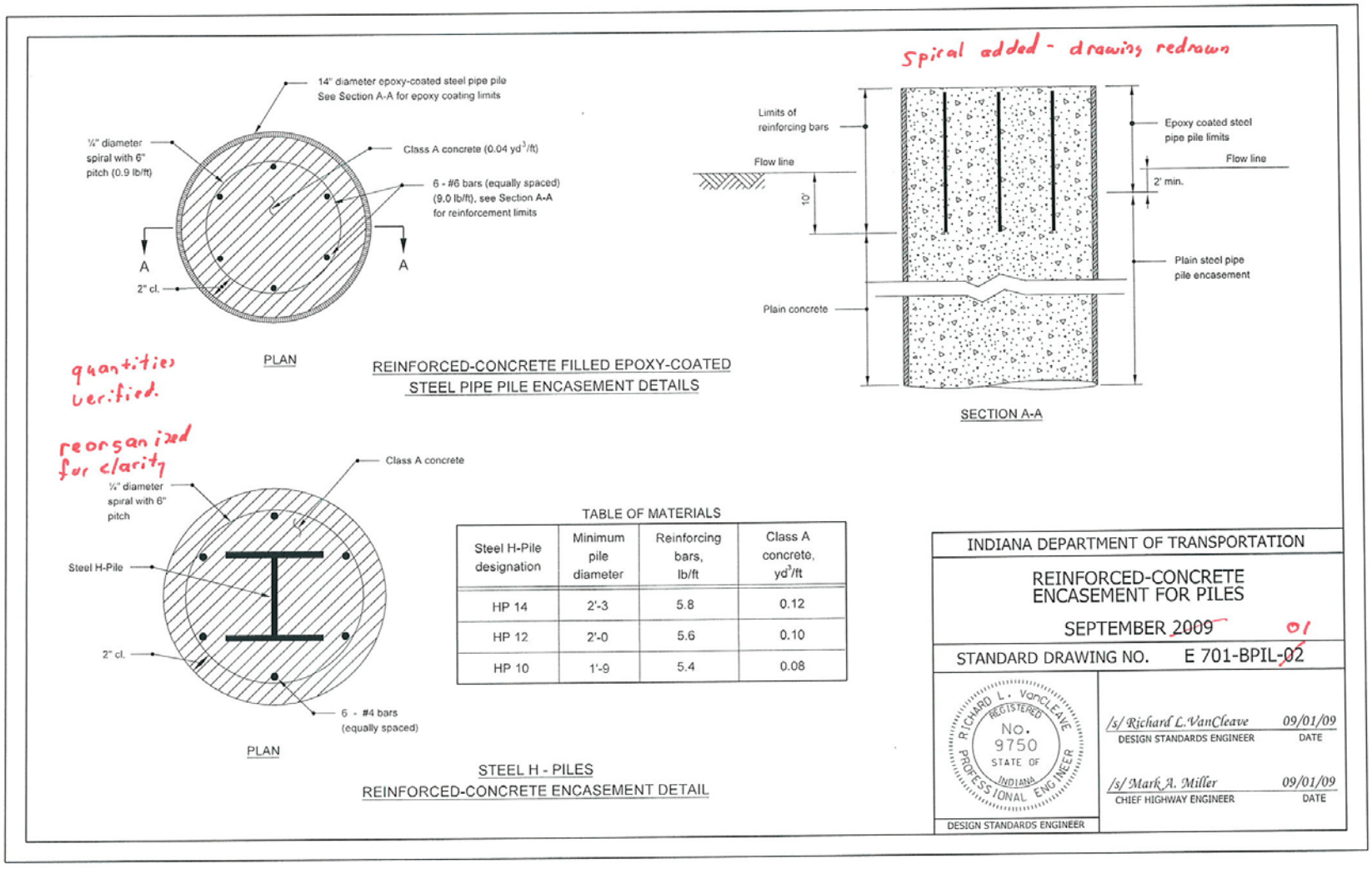
Moment slabs shall be formed with either steel or wood forms in accordance with 508.04(c)1 or 508.04(c)2. Vibration of the concrete shall be in accordance with 702.20(c). *The thickness of the moment slab shall match that of the adjoining PCCP, but it shall not be less than 12 in.*

The underdrains for MSE walls layer shall be compacted in accordance with 302.06(b). *The MSE-wall coping may be precast or cast in place.*

Type D-1 contraction joints and dowel bar assemblies shall be in accordance with 503. *The locations of the transverse joints in the moment slab and the railing shall be the same.*

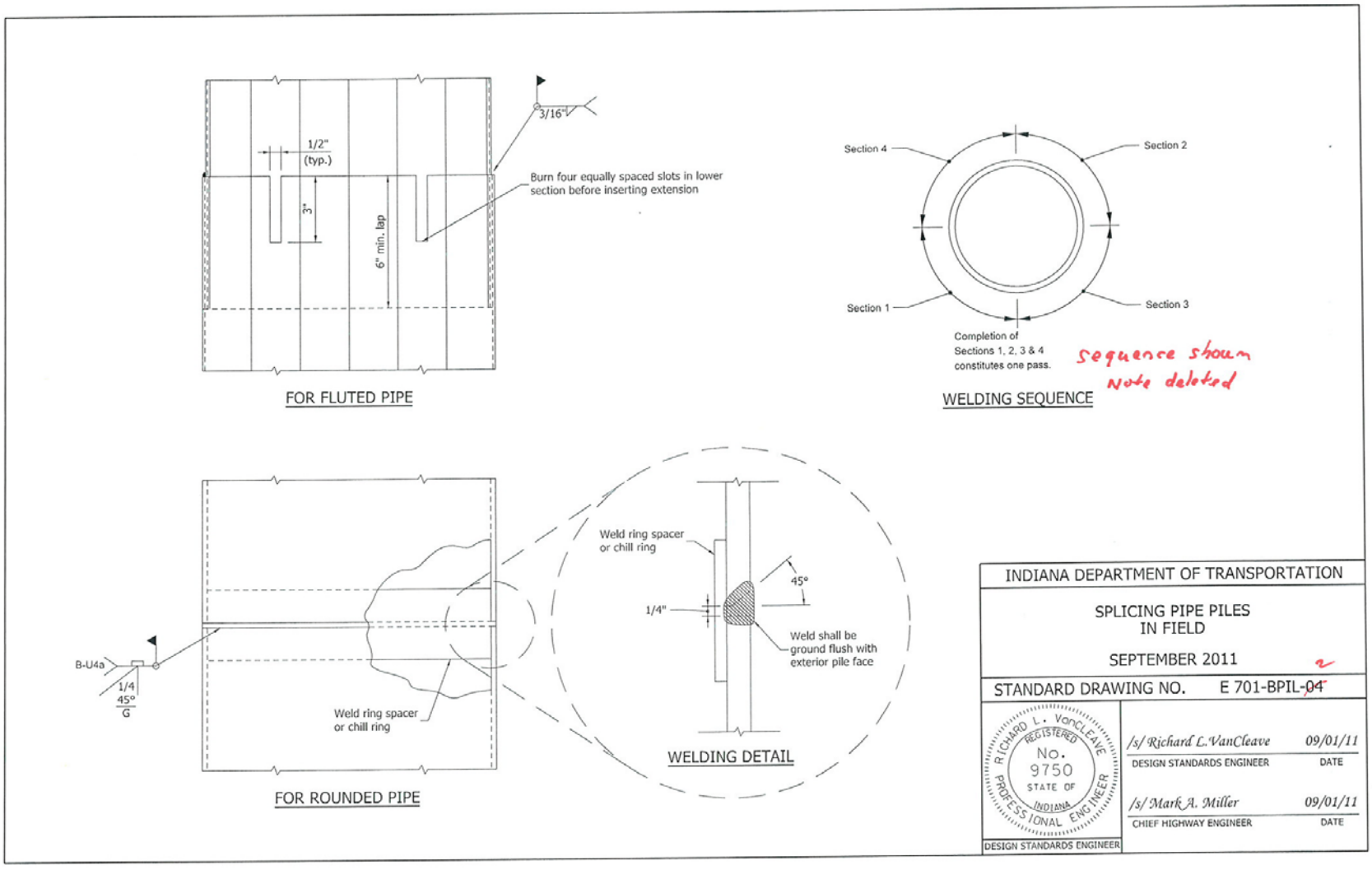
REVISION TO STANDARD DRAWINGS

EXISTING 701-BPIL-02 REINFORCED-CONCRETE ENCASEMENT FOR PILES (WITH MARKUPS)



REVISION TO STANDARD DRAWINGS

EXISTING 701-BPIL-04 SPLICING PIPE PILES IN FIELD (WITH MARKUPS)



REVISION TO STANDARD DRAWINGS

EXISTING 701-BPIL-05 STEEL H-PILE SPLICE PROCEDURE (WITH MARKUPS)

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 1/2" beyond weld area(s).
3. Upper Section
   Fillet weld web splice plate to upper section at 2 locations.
   See Detail A
4. Lower Section
   Tack weld two backer plates to inside of flange.
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.
   See Detail B
7. Combined Section
   Complete Joint Penetration (CJP) weld both flanges. Grind weld smooth with the pile.
8. Combined Section
   Fillet weld the flange splice plates to the flanges.

END VIEW

Splice plate — Fillet weld — H Pile

DETAIL A

COMPLETED SPLICE ISOMETRIC
(backer plates not shown)

H Pile - upper section
Backer Plate
1/4"
45°
Weld shall be ground flush with exterior pile face
H Pile - lower section

DETAIL B

COMPLETED SPLICE END VIEW

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 AND 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"

INDIANA DEPARTMENT OF TRANSPORTATION

STEEL H-PILE
SPLICE PROCEDURE

SEPTEMBER 2011

STANDARD DRAWING NO. E 701-BPIL-05

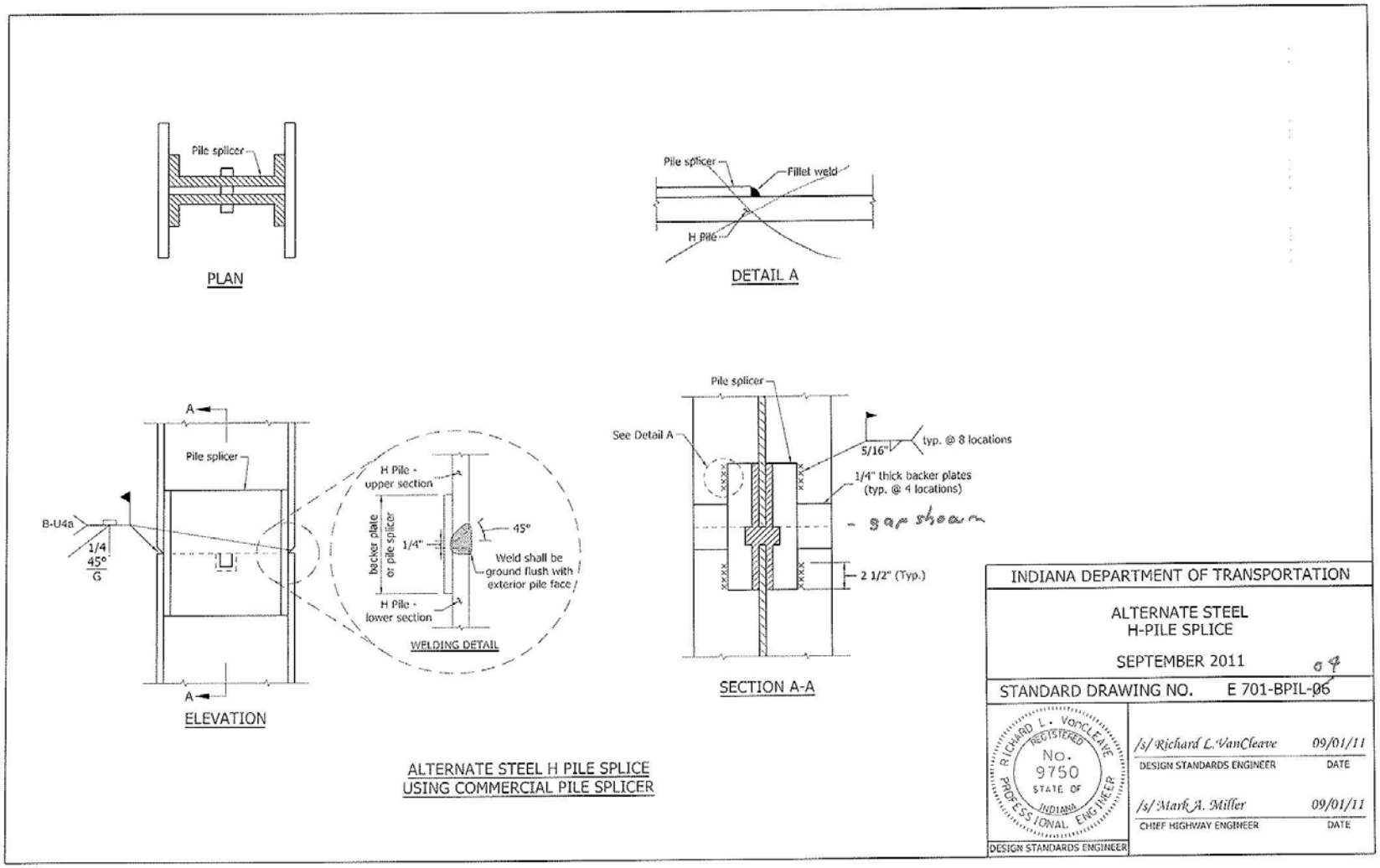
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF INDIANA PROFESSIONAL ENGINEER
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/11
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/11
CHIEF HIGHWAY ENGINEER DATE

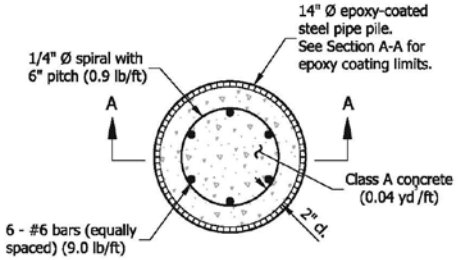
REVISION TO STANDARD DRAWINGS

EXISTING 701-BPIL-06 ALTERNATE STEEL H-PILE SPLICE (WITH MARKUPS)

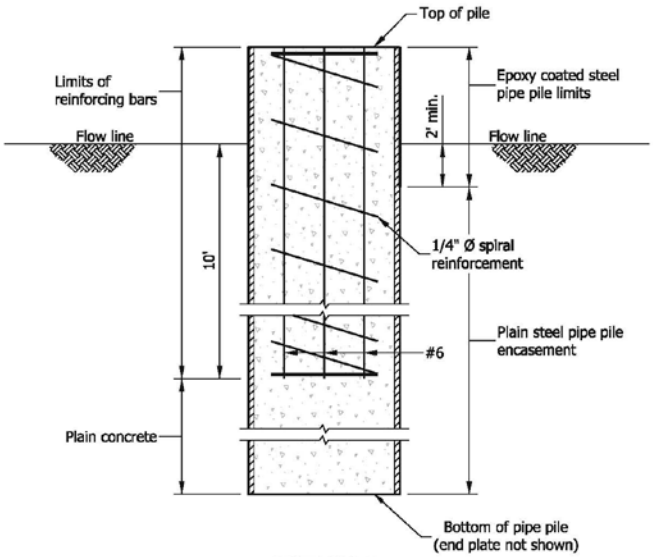


REVISION TO STANDARD DRAWINGS

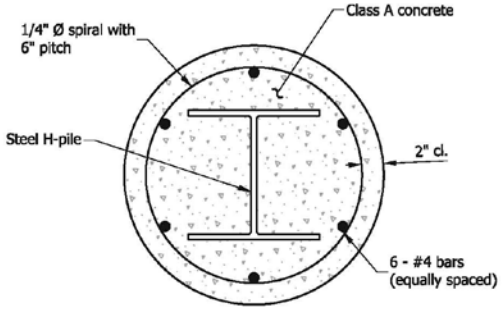
701-BPIL-01 REINFORCED-CONCRETE ENCASEMENT FOR PILES (DRAFT)



REINFORCED-CONCRETE FILLED EPOXY-COATED STEEL PIPE PILE ENCASEMENT PLAN VIEW



SECTION A-A



STEEL H - PILES
REINFORCED-CONCRETE ENCASEMENT PLAN VIEW

TABLE OF MATERIALS			
Steel H-Pile designation	Minimum pile diameter	Reinforcing bars, lb/ft	Class A concrete, yd³/ft
HP 14	2'-3"	5.8	0.12
HP 12	2'-0"	5.6	0.10
HP 10	1'-9"	5.4	0.08

INDIANA DEPARTMENT OF TRANSPORTATION

REINFORCED-CONCRETE ENCASEMENT FOR PILES

SEPTEMBER 2012

STANDARD DRAWING NO. E 701-BPIL-01

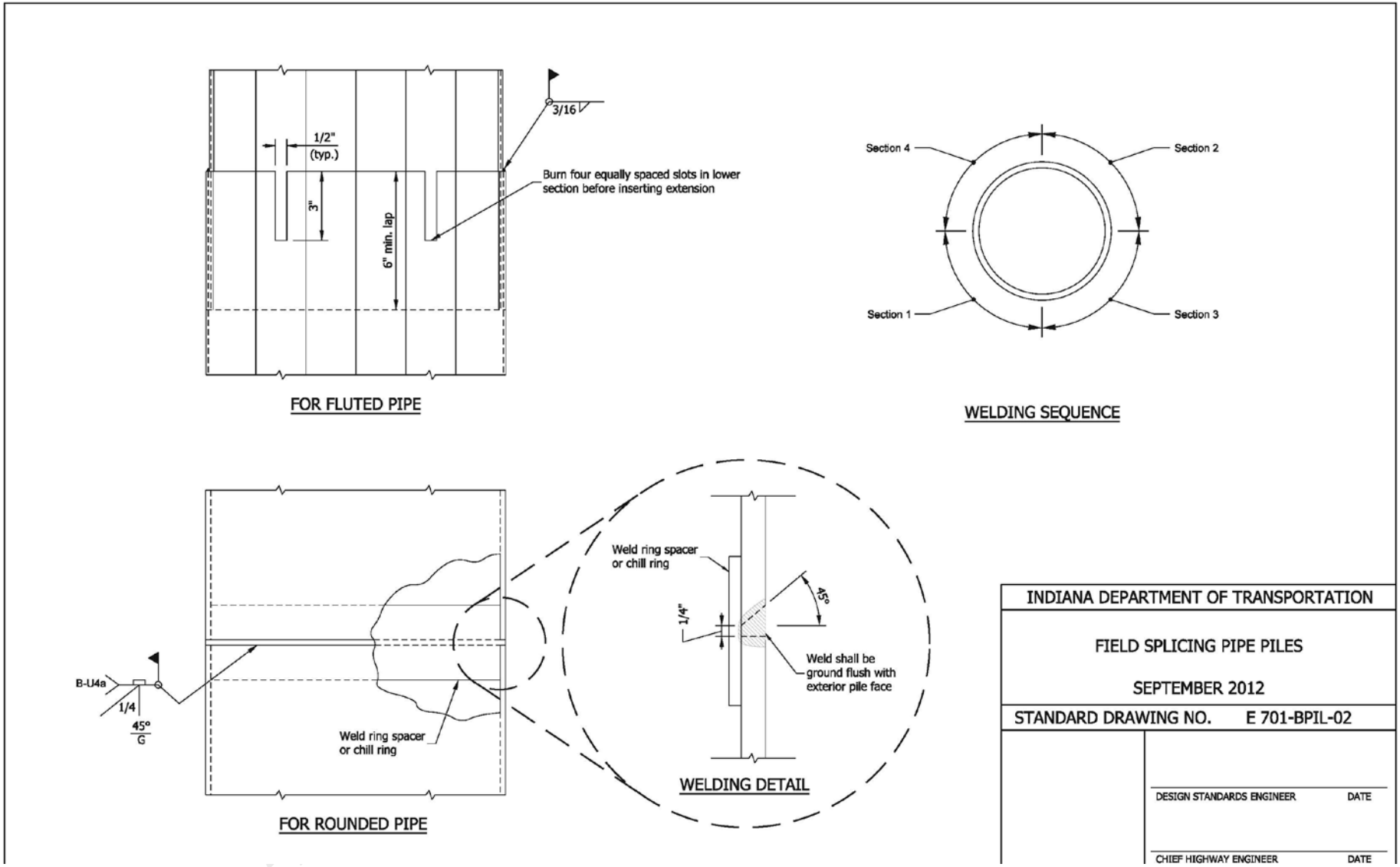
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

701-BPIL-02 FIELD SPLICING PIPE PILES (DRAFT)

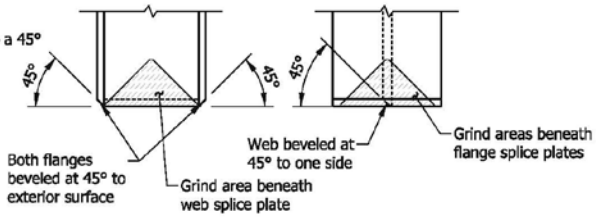


REVISION TO STANDARD DRAWINGS

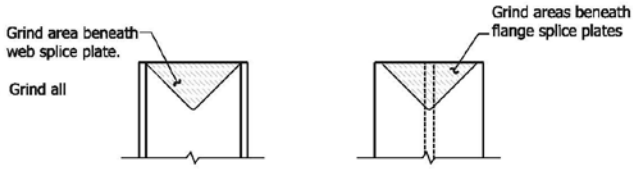
701-BPIL-03 STEEL H-PILE SPLICE (DRAFT)

PROCEDURE FOR SPLICING PARTIALLY DRIVEN PILING

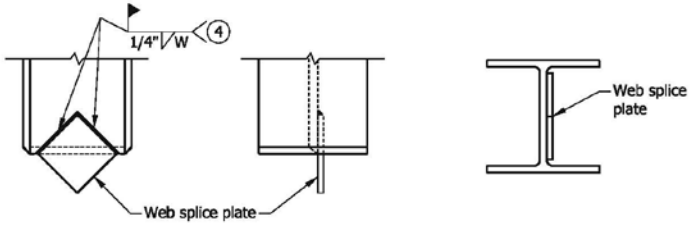
1. Upper Pile Section
Prepare outside of both flanges and one side of web by beveling to a 45° angle. Prepare all surfaces to be welded by grinding.



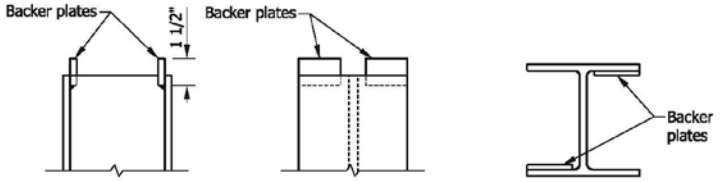
2. Lower Pile Section
Prepare top of pile by restoring it to its original cross section. Grind all surfaces to be welded, extending 1/2" beyond weld area(s).



3. Upper Pile Section
Fillet weld web splice plate to upper pile section at two locations.



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

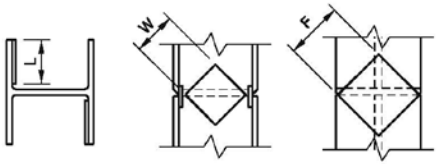


Procedure continued on Standard Drawing E 701-BPIL-04.

NOTES

1. Steel H piling may be spliced in a horizontal position prior to driving, using splice plates and web and flange welds as shown.
2. Two flange splice plates, one web splice plate, and four backer plates will be required per splice.
3. All fillet welds shall be single pass.
④ See table for splice plate dimensions W and F.

SPLICE PLATE AND BACKER PLATE DIMENSIONS



END VIEW | ELEVATION VIEW OF WEB | ELEVATION VIEW OF FLANGE

H-PILE SIZE	HP 10	HP 12	HP 14
Flange Splice Plate, F	7"	8 1/4"	10 1/4"
Web Splice Plate, W	5 3/8"	6 3/4"	8"
Backer Plate Length, L	4 1/8"	5"	6 1/4"

NOTE: Splice plate thickness = 3/8"
Backer plate thickness = 1/4"

INDIANA DEPARTMENT OF TRANSPORTATION

STEEL H-PILE SPLICE

SEPTEMBER 2012

STANDARD DRAWING NO. E 701-BPIL-03

DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

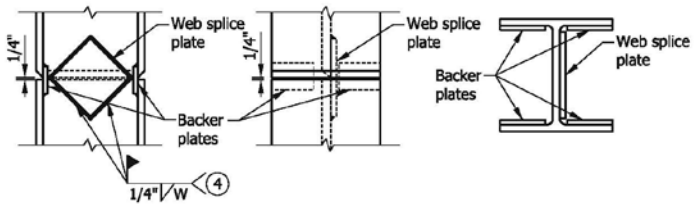
REVISION TO STANDARD DRAWINGS

701-BPIL-04 STEEL H-PILE SPLICE (CONTINUED) (DRAFT)

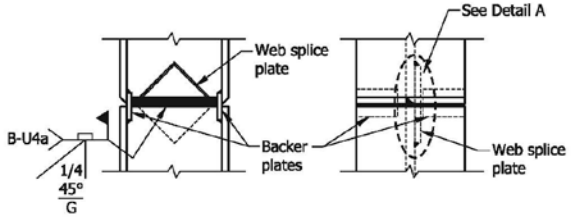
PROCEDURE FOR SPLICING PARTIALLY DRIVEN PILING (cont.)

5. Combine Pile Sections
Lift and hold upper pile section into place, maintaining 1/4" gap between upper and lower pile sections by using the remaining two backer plates as a spacing 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.

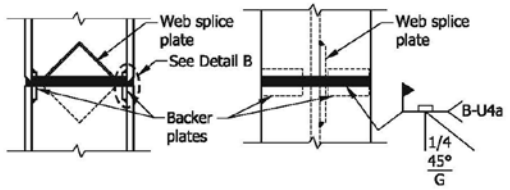
WEB ELEVATION FLANGE ELEVATION END VIEW



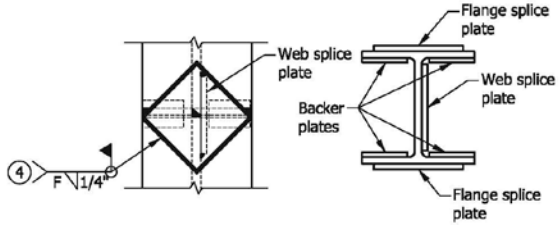
6. Combined Pile Section
Complete Joint Penetration (CJP) weld the web. See Detail A.



7. Combined Pile Section
Complete Joint Penetration (CJP) weld both flanges. Grind weld smooth with the pile exterior face. See Detail B.

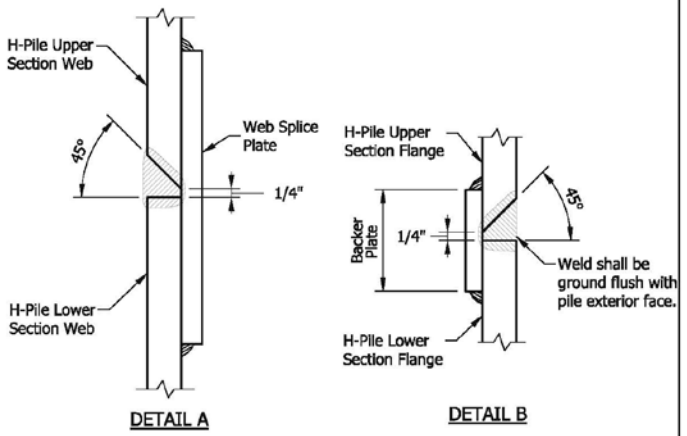


8. Combined Pile Section
Fillet weld the flange splice plates to the flanges.



NOTES

1. Steel H piling may be spliced in a horizontal position prior to driving, using splice plates and web and flange welds as shown.
2. Two flange splice plates, one web splice plate, and four backer plates will be required per splice.
3. All fillet welds shall be single pass.
4. See Standard Drawing E 701-BPIL-03 table for splice plate dimensions W and F.



INDIANA DEPARTMENT OF TRANSPORTATION

STEEL H-PILE SPLICE (CONTINUED)

SEPTEMBER 2012

STANDARD DRAWING NO. E 701-BPIL-04

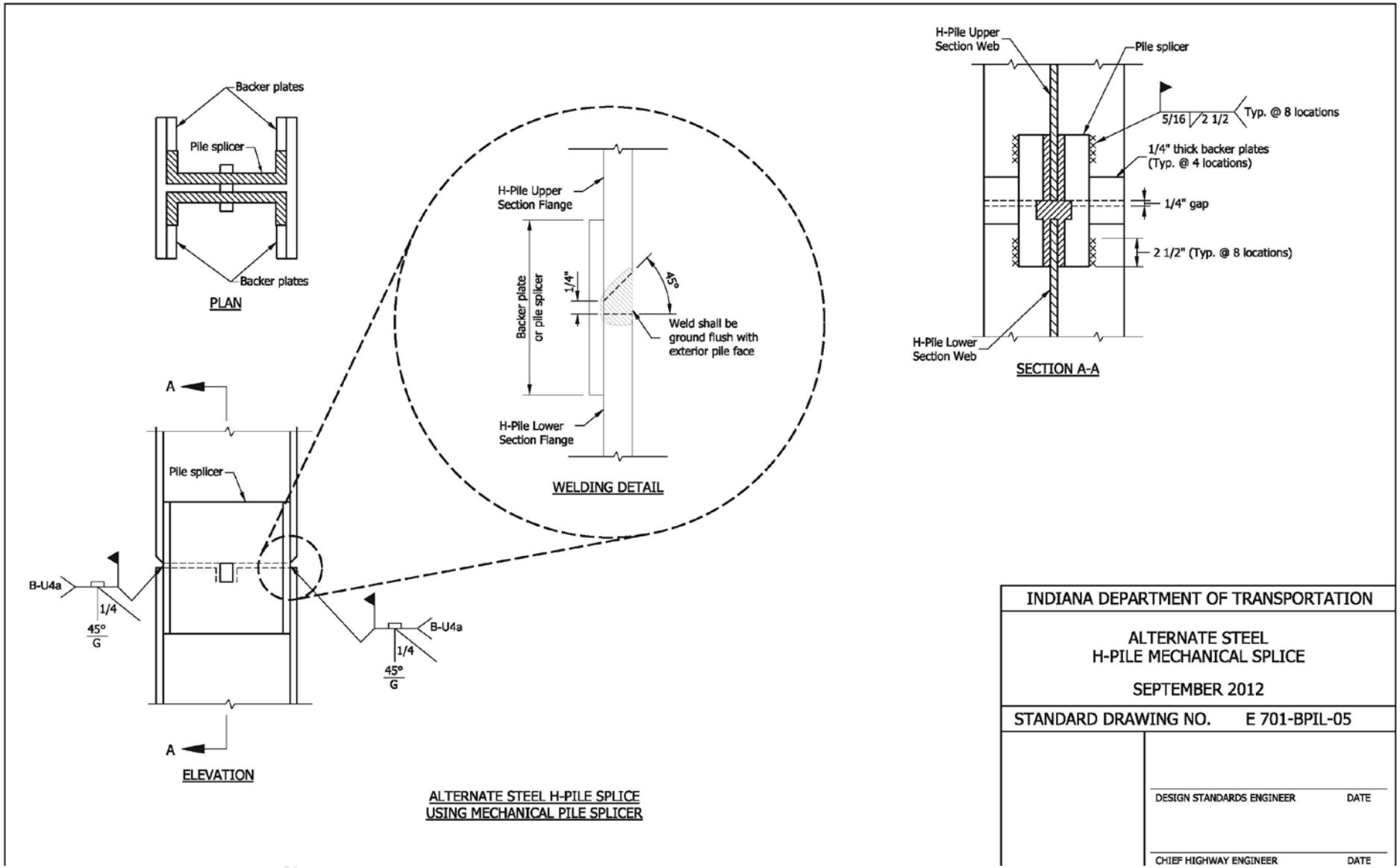
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

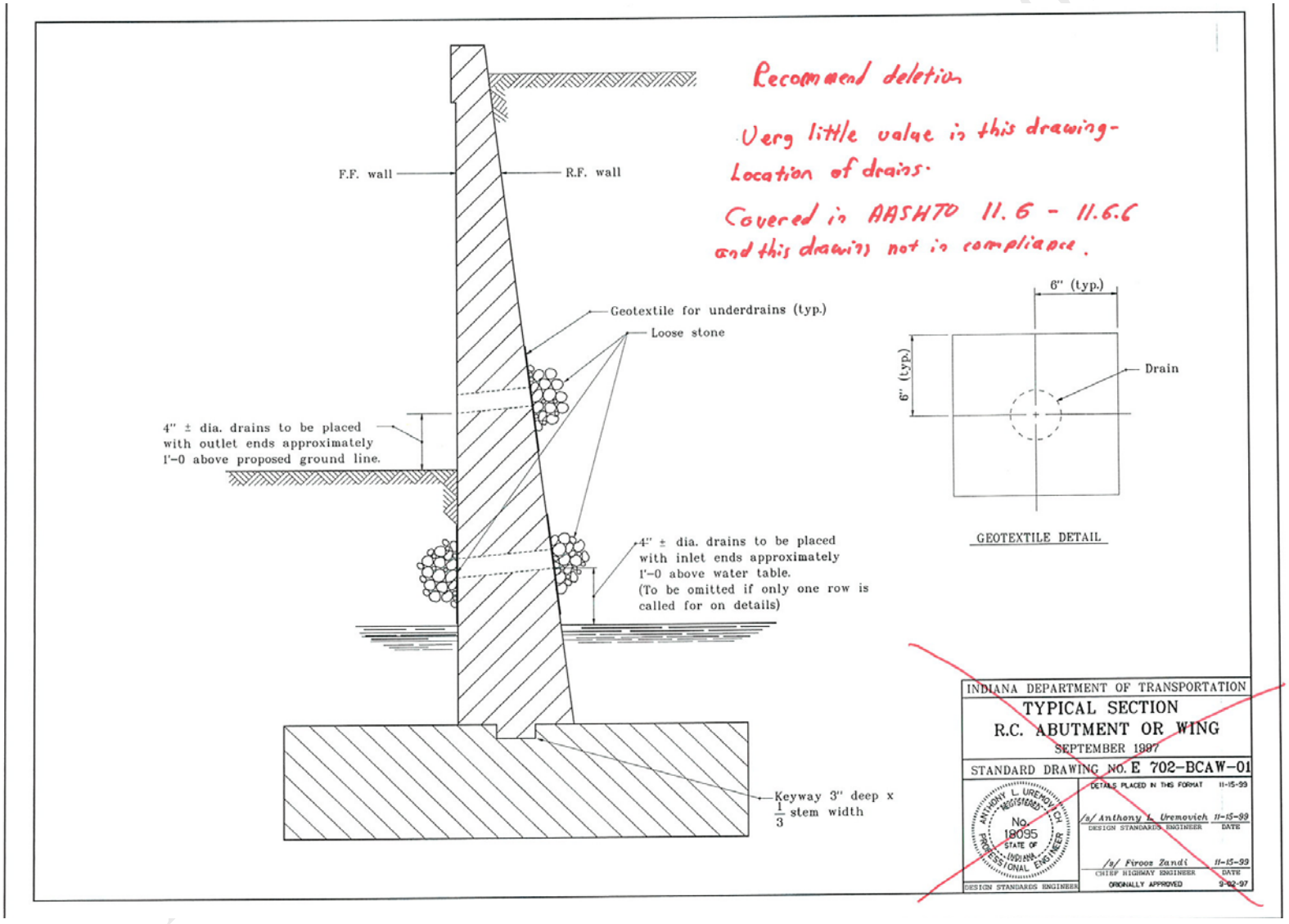
REVISION TO STANDARD DRAWINGS

701-BPIL-05 ALTERNATE STEEL H-PILE MECHANICAL SPLICE (DRAFT)



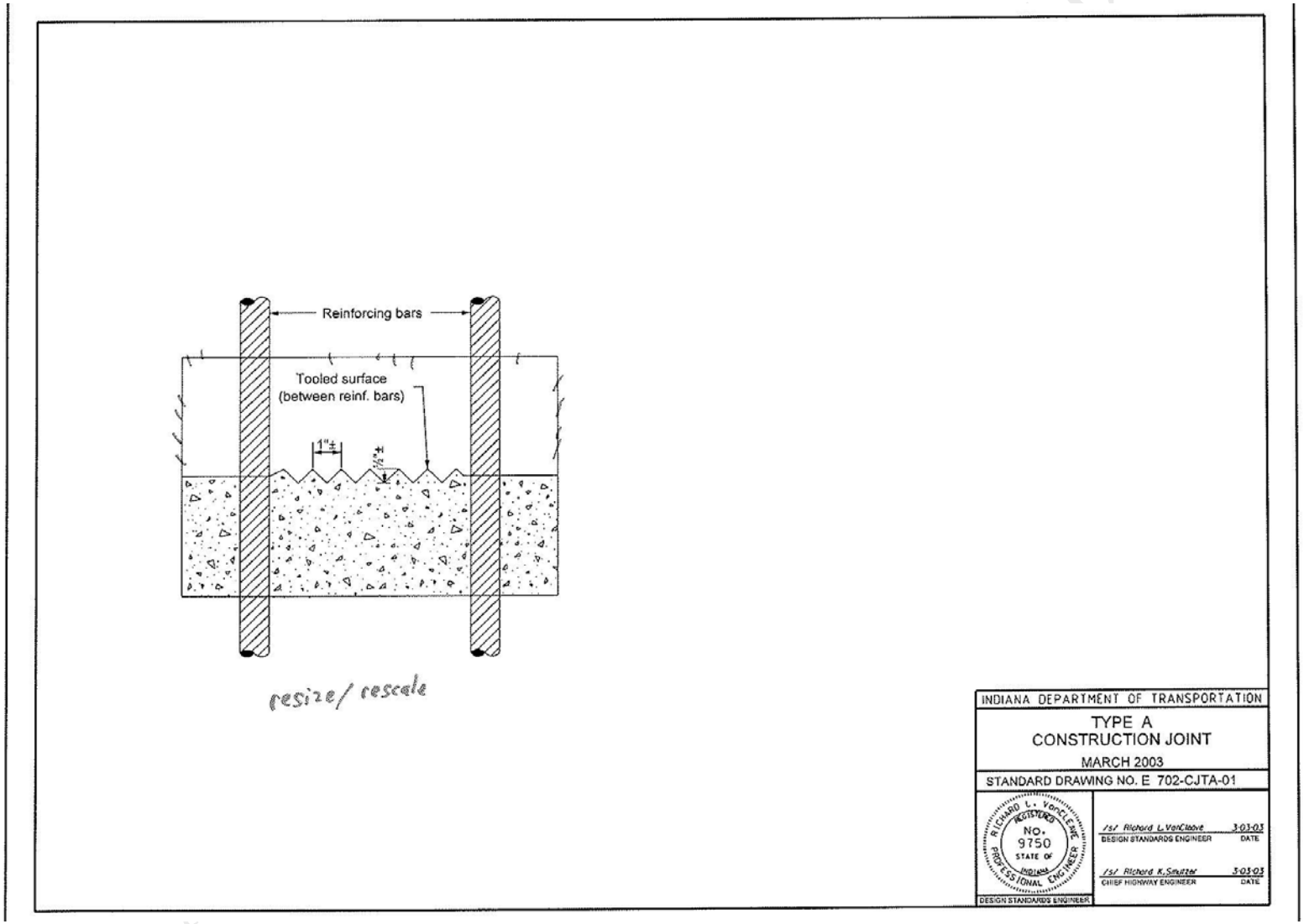
REVISION TO STANDARD DRAWINGS

EXISTING 702-BCAW-01 TYPICAL SECTION R.C. ABUTMENT OR WING (PROPOSED TO DELETE)



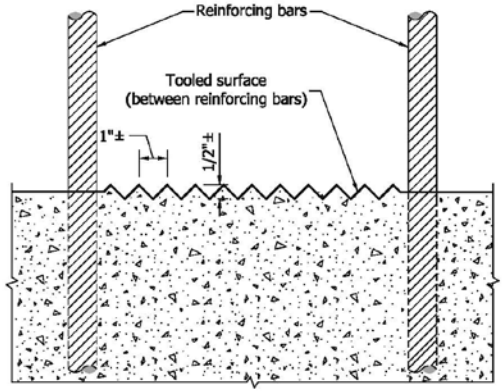
REVISION TO STANDARD DRAWINGS

EXISTING 702-CJTA-01 TYPE A CONSTRUCTION JOINT (WITH MARKUPS)



REVISION TO STANDARD DRAWINGS

702-CJTA-01 TYPE A CONSTRUCTION JOINT (DRAFT)



INDIANA DEPARTMENT OF TRANSPORTATION

TYPE A
CONSTRUCTION JOINT

MARCH 2003

STANDARD DRAWING NO. E 702-CJTA-01

DETAILS PLACED IN THIS FORMAT 09/01/12

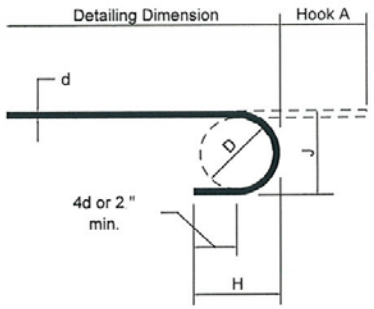
DESIGN STANDARDS ENGINEER DATE

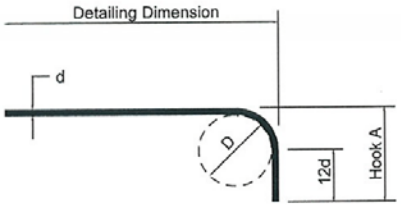
CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

EXISTING 703-BRST-01 BAR BENDING DETAILS (WITH MARKUPS)





STANDARD HOOKS					
		180* HOOK			90* HOOK
BAR SIZE	D , in.	HOOK A	J	H	HOOK A
#3	2¼	5"	3"	4"	6"
#4	3¼	6"	4"	4 "	8"
#5	3¾	7"	5"	5"	10"
#6	4½	8"	6"	6"	1'-0
#7	5½	10"	7"	7"	1'-2
#8	6	11"	8"	8"	1'-4
#9	9½	1'-3	11¾ "	10½ "	1'-7
#10	11	1'-5	1'-1¾	11¾ "	1'-10
#11	12	1'-7	1'-2¾	1'-1	2'-0
#14	18½	2'-3	1'-9⅝	1'-5¾	2'-6½
#18	24	3'-0	2'-4½	1'-11¼	3'-5⅜

REINFORCING BAR NOTES

1. All dimensions on bending diagrams are measured out to out of bars.
2. All dimensions on details are measured on centerlines of bars, except where COVER is indicated.
3. Bent bars are given an alphanumeric bar mark (e.g. 588). The last two digits (e.g. 88) indicate the mark. The characters preceding the last two digits (e.g. 5) indicate the size of the bar.
4. Straight bars are designated by size and length.
5. Standard size hooks shown on this sheet to be used on all hooked bars unless noted.
6. See bridge plans or structure plans for lap and embedment lengths.

SPLICE BAR NOTES

1. All samples of reinforcing steel shall consist of bars 5'-0 in length.
2. For straight bars make cut 5'-0 from end.
3. For bent bars use bars that have straight portion longer than 120 diameters plus 6'-0 and make cuts 60 diameters plus 6" and 60 diameters plus 5'-6 from the same bend point or hooked end.
4. Splice bars to lap with bars from which test samples are cut, making laps of 60 diameters at each cut end.

Note added for Standard drawing bent bars

INDIANA DEPARTMENT OF TRANSPORTATION
BAR BENDING DETAILS
MARCH 2003
STANDARD DRAWING NO. E 703-BRST-01

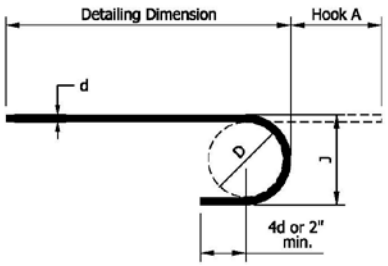
RICHARD L. VanCLEAVE REGISTERED No. 9750 STATE OF Indiana PROFESSIONAL ENGINEER
DESIGN STANDARDS ENGINEER

/s/ Richard L VanCleave 3-03-03
DESIGN STANDARDS ENGINEER DATE

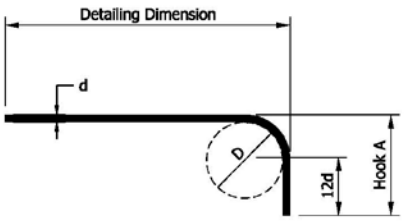
/s/ Richard K. Smutzer 3-03-03
CHIEF HIGHWAY ENGINEER DATE

REVISION TO STANDARD DRAWINGS

703-BRST-01 BAR BENDING DETAILS (DRAFT)



180° HOOK



90° HOOK

REINFORCING BAR NOTES

1. All dimensions on bending diagrams shall be measured out-to-out of bars.
2. All dimensions on details shall be measured on centerlines of bars, except where cover or cl. is indicated.
3. Bent bars will be given a numeric bar mark, e.g., 588. The last two digits, e.g., 88, indicate the mark. The characters preceding the last two digits, e.g., 5, indicate the size of the bar.
4. Bent reinforcing bars' marks on standard drawings will consist of the first digit as the bar size; the second digit, 7, indicating that it shall be placed in a bridge railing, or 8, indicating that it shall be placed in a bridge-railing transition, or 9, indicating that it shall be placed elsewhere; and the third and fourth digits as the serial number for that bar size.
5. Straight bars will be designated by size and length.
6. Standard size hooks shown shall be used on all hooked bars unless noted.
7. See the plans for lap and embedment lengths.

STANDARD END HOOKS				
		180° HOOK		90° HOOK
BAR SIZE	D	HOOK A	J	HOOK A
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	1'-0"
#7	5 1/4"	10"	7"	1'-2"
#8	6"	11"	8"	1'-4"
#9	9 1/2"	1'-3"	11 3/4"	1'-7"
#10	10 3/4"	1'-5"	1'-1 1/4"	1'-10"
#11	12"	1'-7"	1'-2 3/4"	2'-0"
#14	18 1/4"	2'-3"	1'-9 3/4"	2'-7"
#18	24"	3'-0"	2'-4 1/2"	3'-5"

INDIANA DEPARTMENT OF TRANSPORTATION

BAR BENDING DETAILS

SEPTEMBER 2012

STANDARD DRAWING NO. E 703-BRST-01

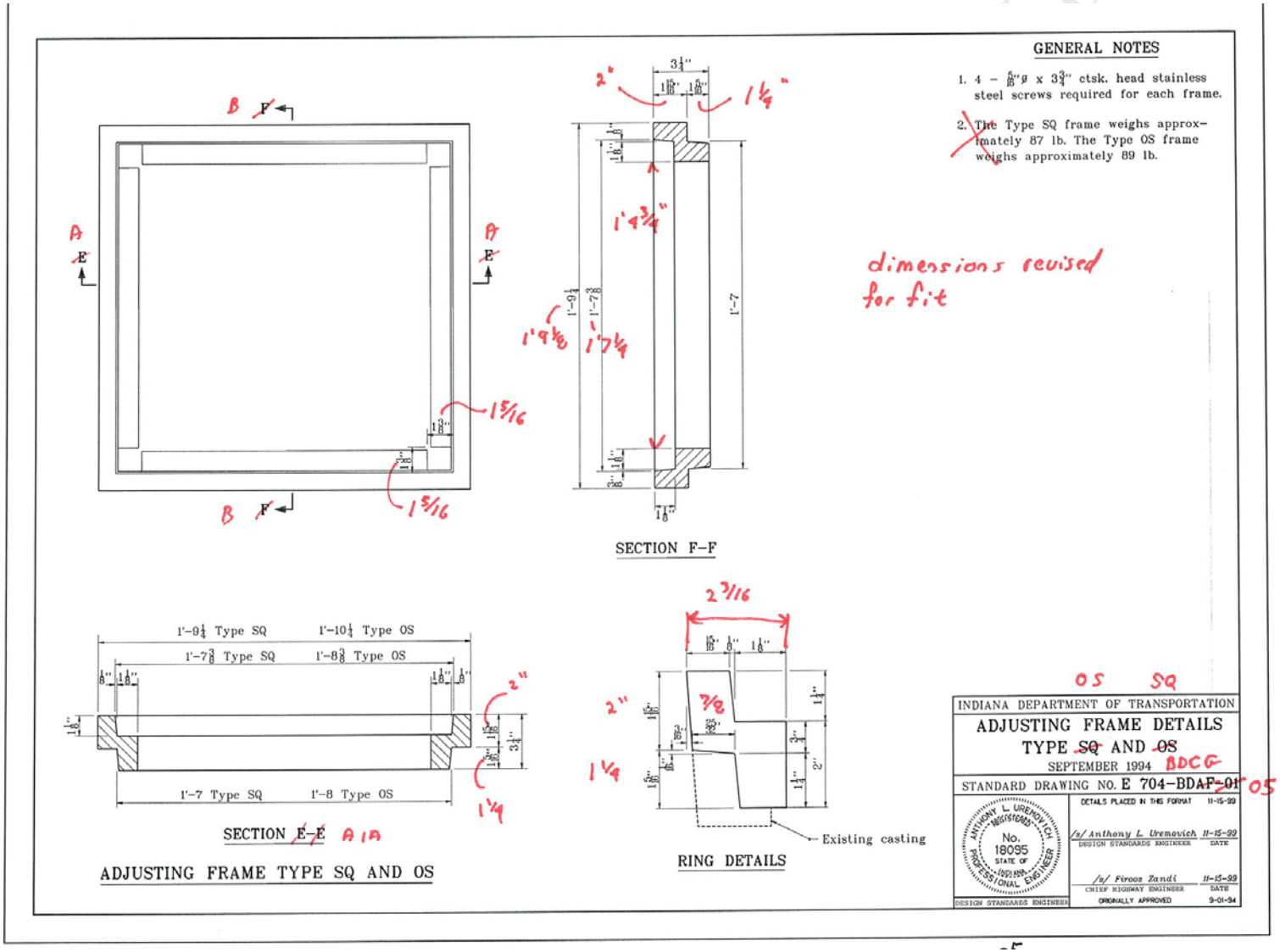
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

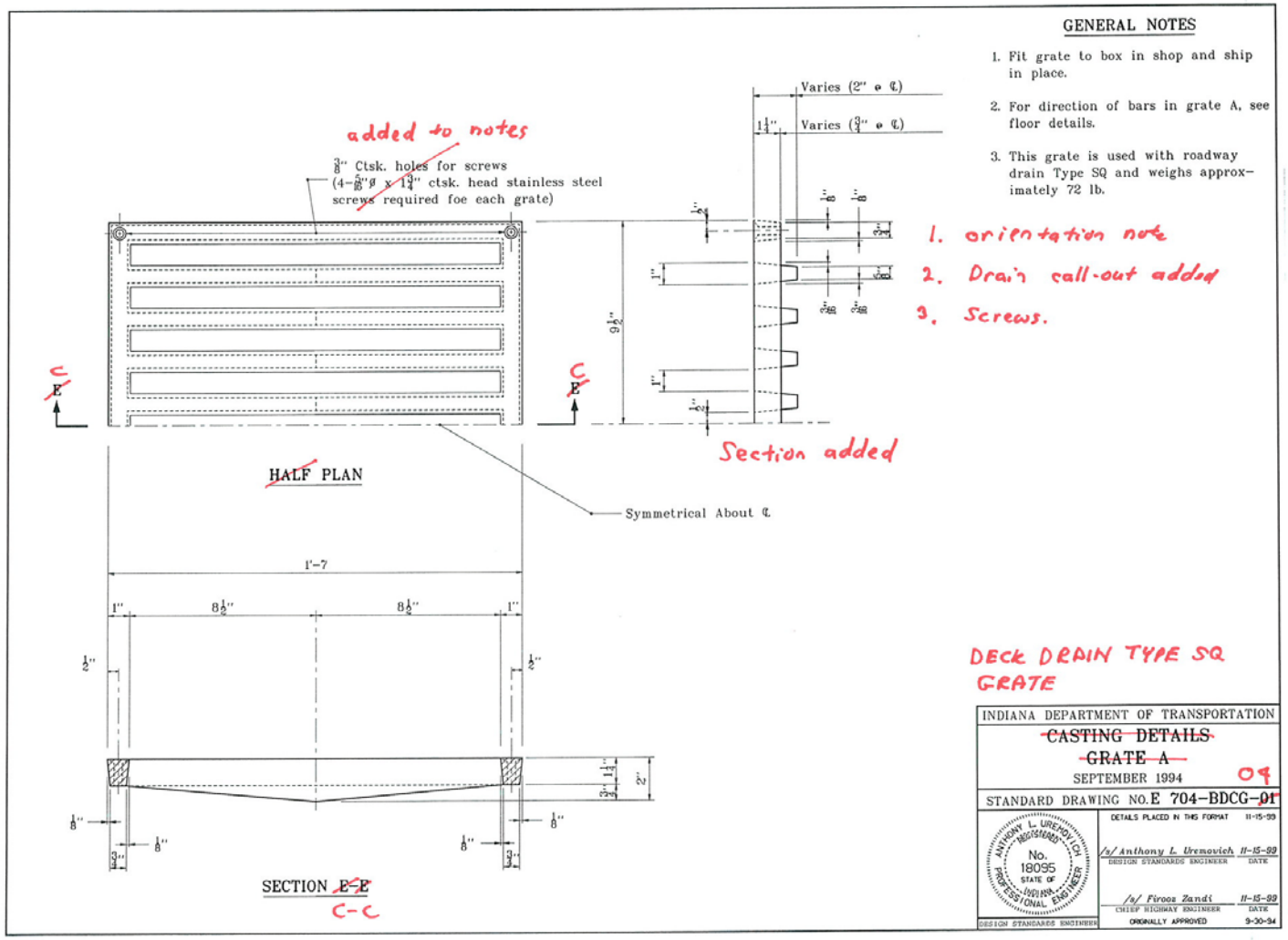
REVISION TO STANDARD DRAWINGS

EXISTING 704-BDAF-01 ADJUSTING FRAME DETAILS TYPE SQ AND OS (WITH MARKUPS)



REVISION TO STANDARD DRAWINGS

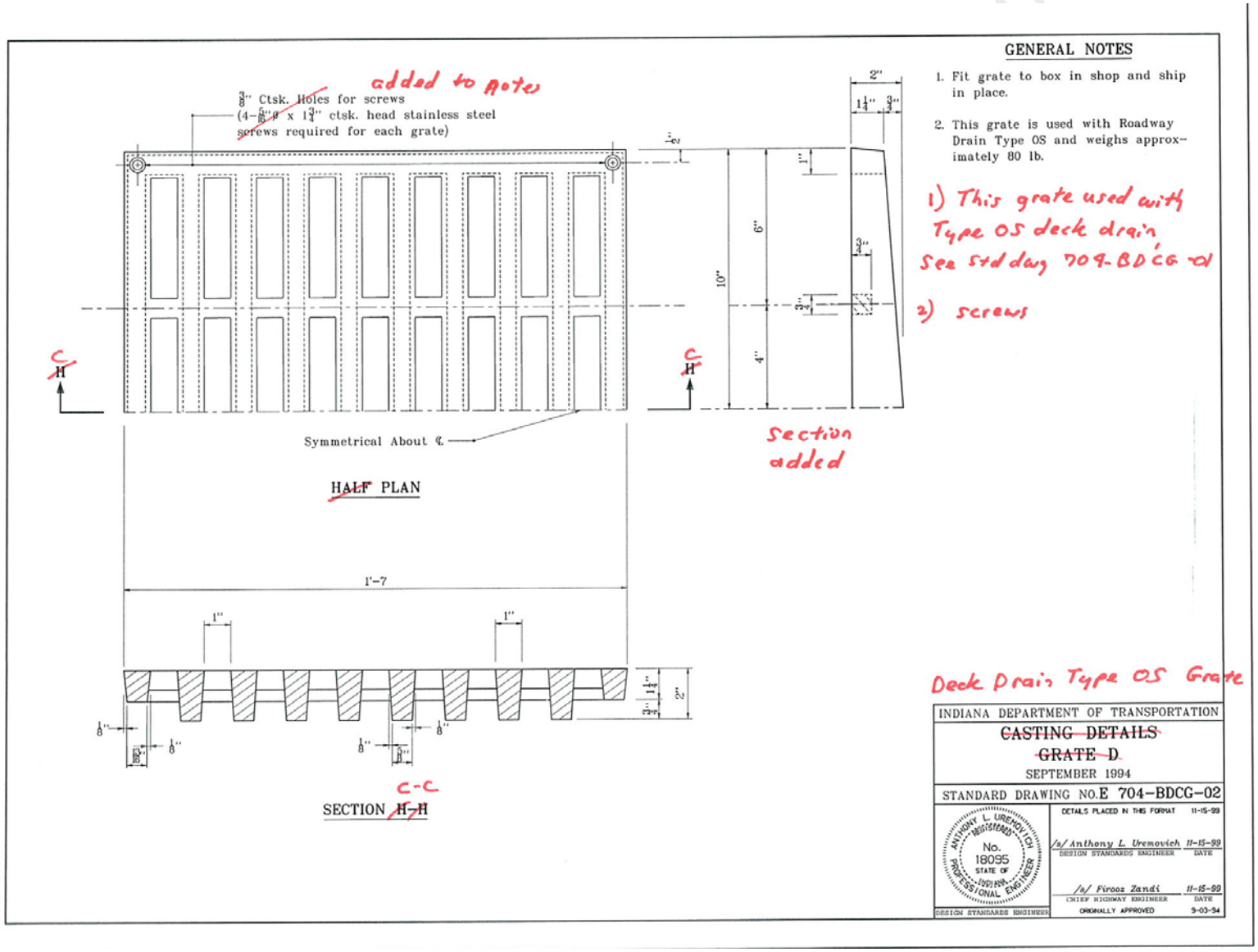
EXISTING 704-BDCG-01 CASTING DETAILS GRATE A (WITH MARKUPS)



09

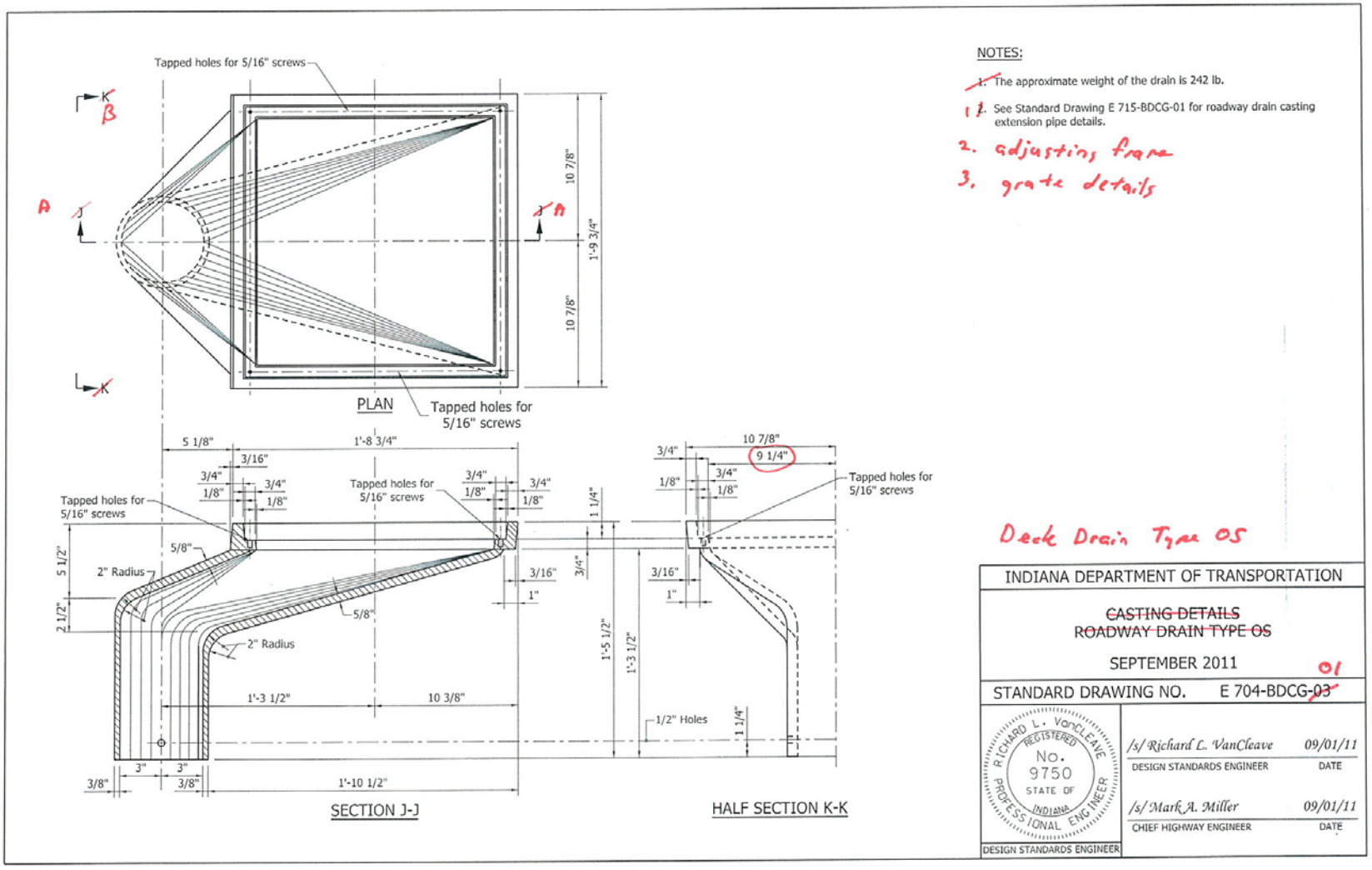
REVISION TO STANDARD DRAWINGS

EXISTING 704-BDCG-02 CASTING DETAILS GRATE D (WITH MARKUPS)



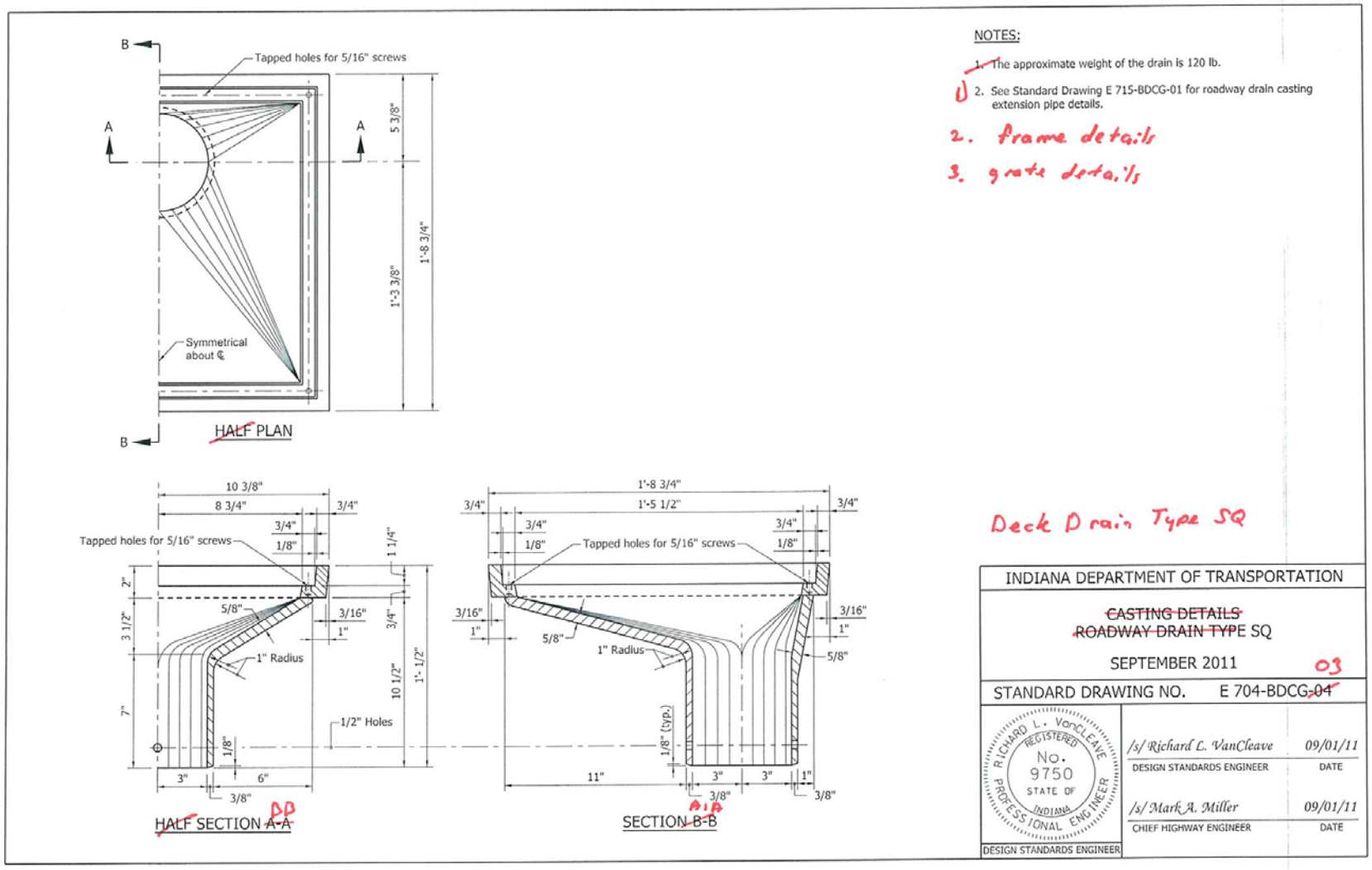
REVISION TO STANDARD DRAWINGS

EXISTING 704-BDCG-03 CASTING DETAILS ROADWAY DRAIN TYPE OS (WITH MARKUPS)



REVISION TO STANDARD DRAWINGS

EXISTING 704-BDCG-04 CASTING DETAILS ROADWAY DRAIN TYPE SQ (WITH MARKUPS)



NOTES:

1. The approximate weight of the drain is 120 lb.
2. See Standard Drawing E 715-BDCG-01 for roadway drain casting extension pipe details.

2. frame details
3. grate details

Deck Drain Type SQ

INDIANA DEPARTMENT OF TRANSPORTATION

CASTING DETAILS
ROADWAY DRAIN TYPE SQ

SEPTEMBER 2011 03

STANDARD DRAWING NO. E 704-BDCG-04

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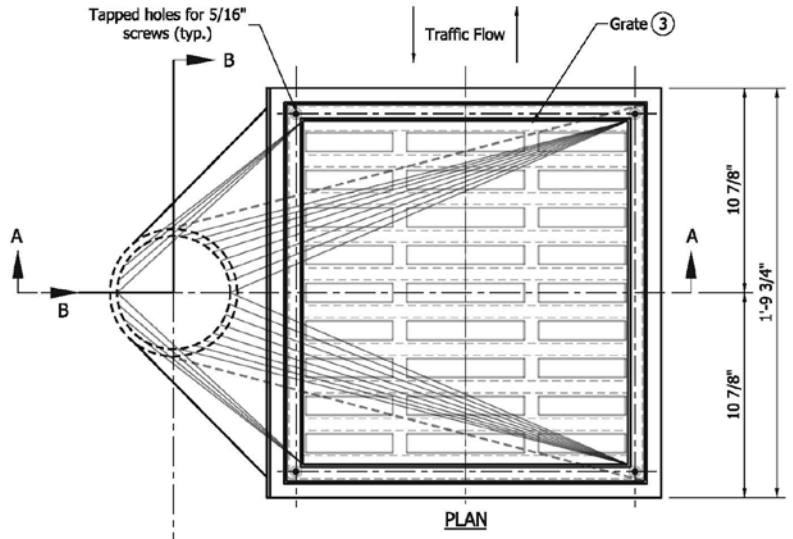
DESIGN STANDARDS ENGINEER DATE

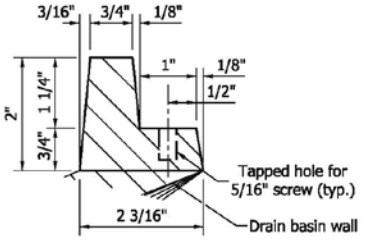
/s/ Mark A. Miller 09/01/11
CHIEF HIGHWAY ENGINEER DATE

REVISION TO STANDARD DRAWINGS

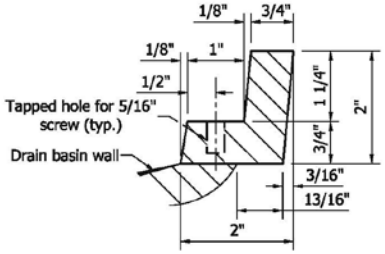
704-BDCG-01 DECK DRAIN TYPE OS (DRAFT)



PLAN



TYPICAL GRATE SHELF PROFILE A
(OUTLET SIDE OF BASIN)

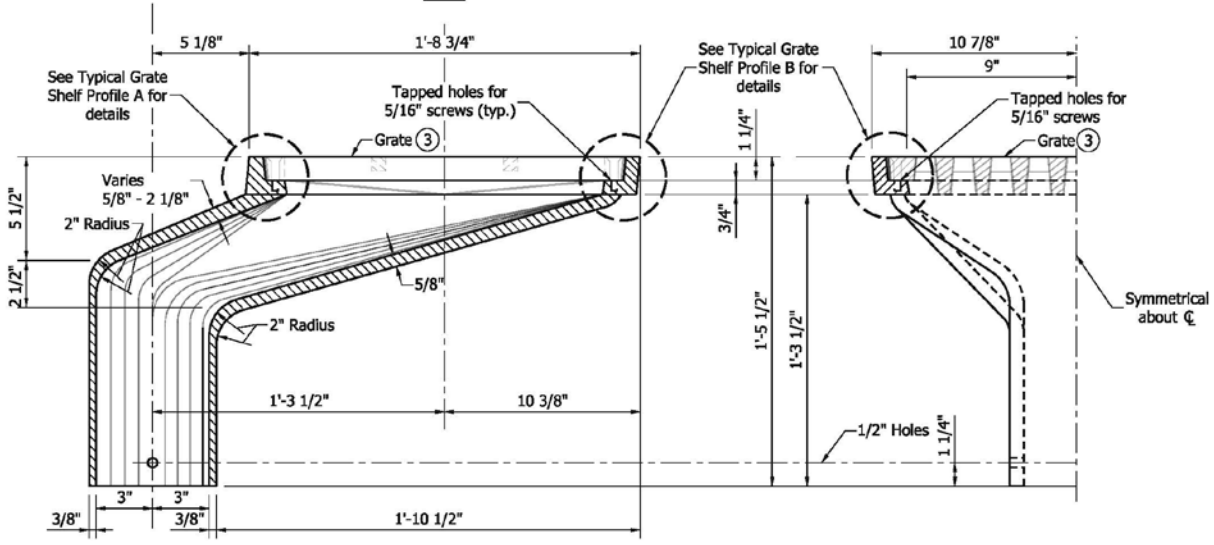


TYPICAL GRATE SHELF PROFILE B
(NON-OUTLET SIDE OF BASIN)

NOTES

1. See Standard Drawing E 715-BDCG-01 for deck drain casting extension pipe details.
2. See Standard Drawing E 704-BDCG-05 for adjusting frame details.

(3) See Standard Drawing E 704-BDCG-02 for grate details.



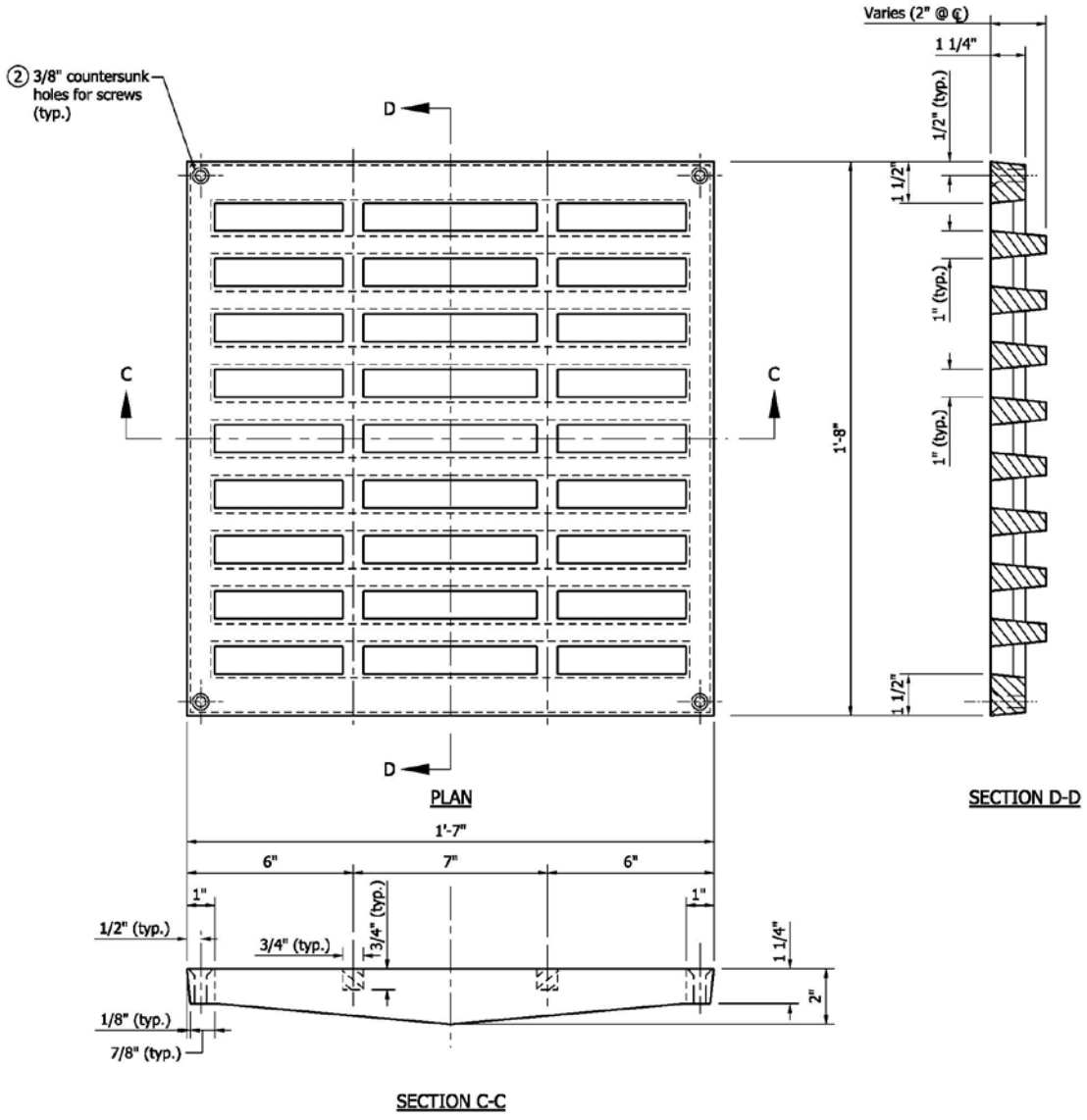
SECTION A-A

HALF SECTION B-B

INDIANA DEPARTMENT OF TRANSPORTATION	
DECK DRAIN TYPE OS SEPTEMBER 2012	
STANDARD DRAWING NO. E 704-BDCG-01	
DESIGN STANDARDS ENGINEER	DESIGN STANDARDS ENGINEER DATE CHIEF HIGHWAY ENGINEER DATE

REVISION TO STANDARD DRAWINGS

704-BDCG-02 DECK DRAIN TYPE OS GRATE (DRAFT)



NOTES

1. This grate used with Type OS deck drain. See Standard Drawing E 704-BDCG-01 for deck drain details.

(2) 4 - 5/16" x 1 3/4" flat-head stainless steel screws required for each grate.

INDIANA DEPARTMENT OF TRANSPORTATION

DECK DRAIN TYPE OS GRATE

SEPTEMBER 2012

STANDARD DRAWING NO. E 704-BDCG-02

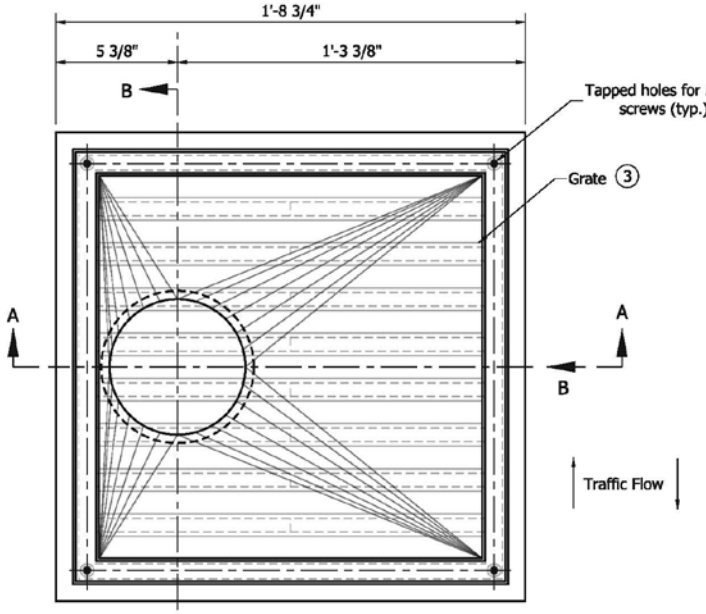
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

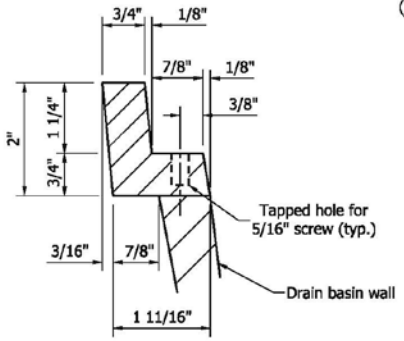
DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

704-BDCG-03 DECK DRAIN TYPE SQ (DRAFT)



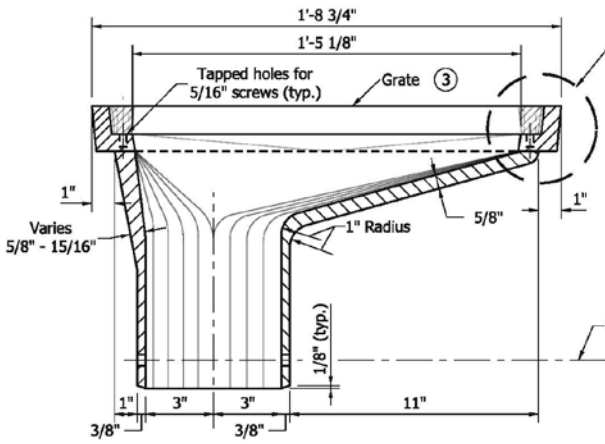
PLAN



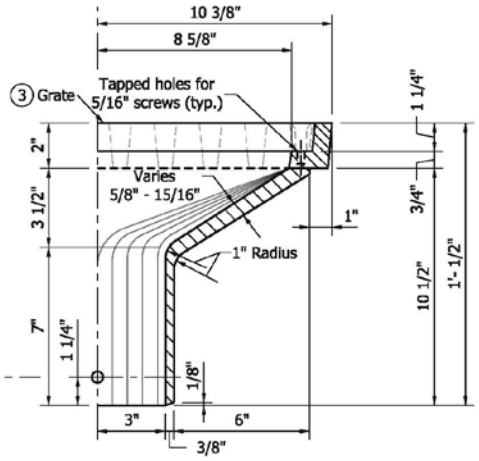
TYPICAL GRATE SHELF PROFILE

NOTES

1. See Standard Drawing E 715-BDCG-01 for deck drain casting extension pipe details.
2. See Standard Drawing E 704-BDCG-05 for adjusting frame details.
3. See Standard Drawing E 704-BDCG-04 for grate details.



SECTION A-A



HALF SECTION B-B

INDIANA DEPARTMENT OF TRANSPORTATION

DECK DRAIN
TYPE SQ

SEPTEMBER 2012

STANDARD DRAWING NO. E 704-BDCG-03

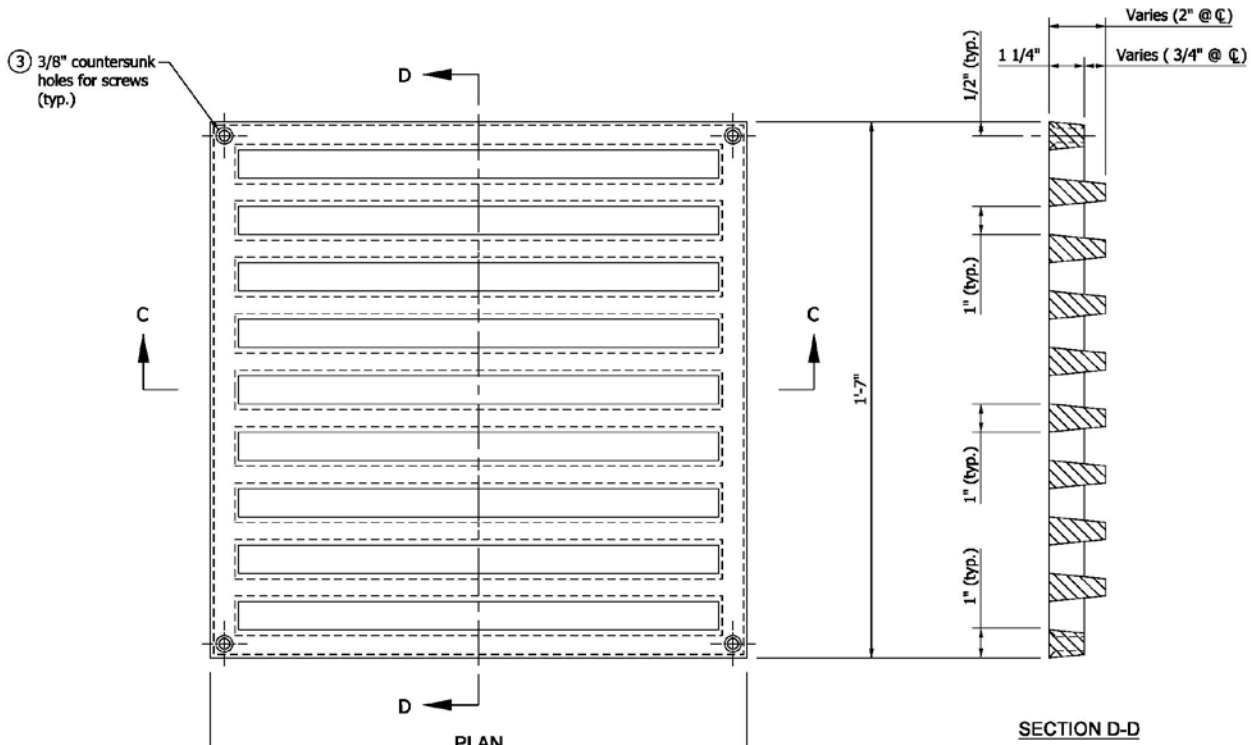
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

704-BDCG-04 DECK DRAIN TYPE SQ GRATE (DRAFT)



NOTES

1. See the floor details on the plans for orientation of the grate.
2. This grate used with Type SQ deck drain. See Standard Drawing E 704-BDCG-03 for deck drain details.

③ 4 - 5/16" x 1 3/4" flat-head stainless steel screws required for each grate.

INDIANA DEPARTMENT OF TRANSPORTATION

DECK DRAIN TYPE SQ GRATE

SEPTEMBER 2012

STANDARD DRAWING NO. E 704-BDCG-04

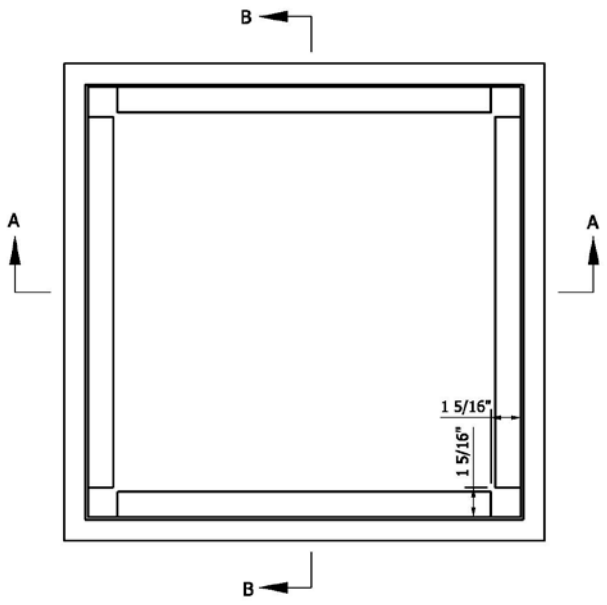
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

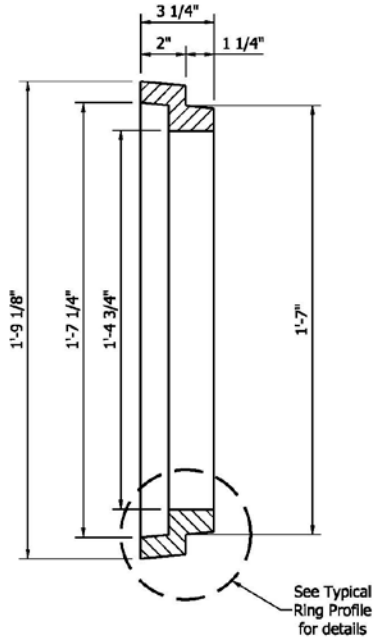
DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

704-BDCG-05 DECK DRAIN TYPE OS OR SQ ADJUSTING FRAME (DRAFT)



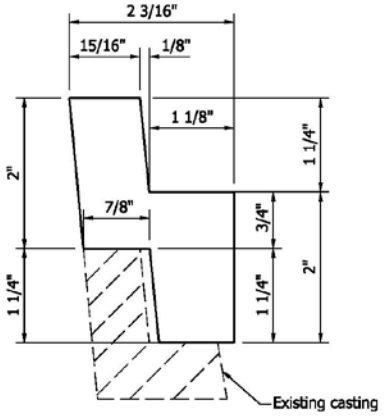
PLAN VIEW



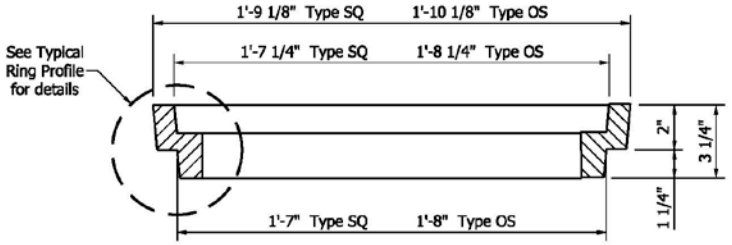
SECTION B-B

NOTES

1. 4 - 5/16" x 3 3/4" flat-head stainless steel screws required when frame is used.



TYPICAL RING PROFILE



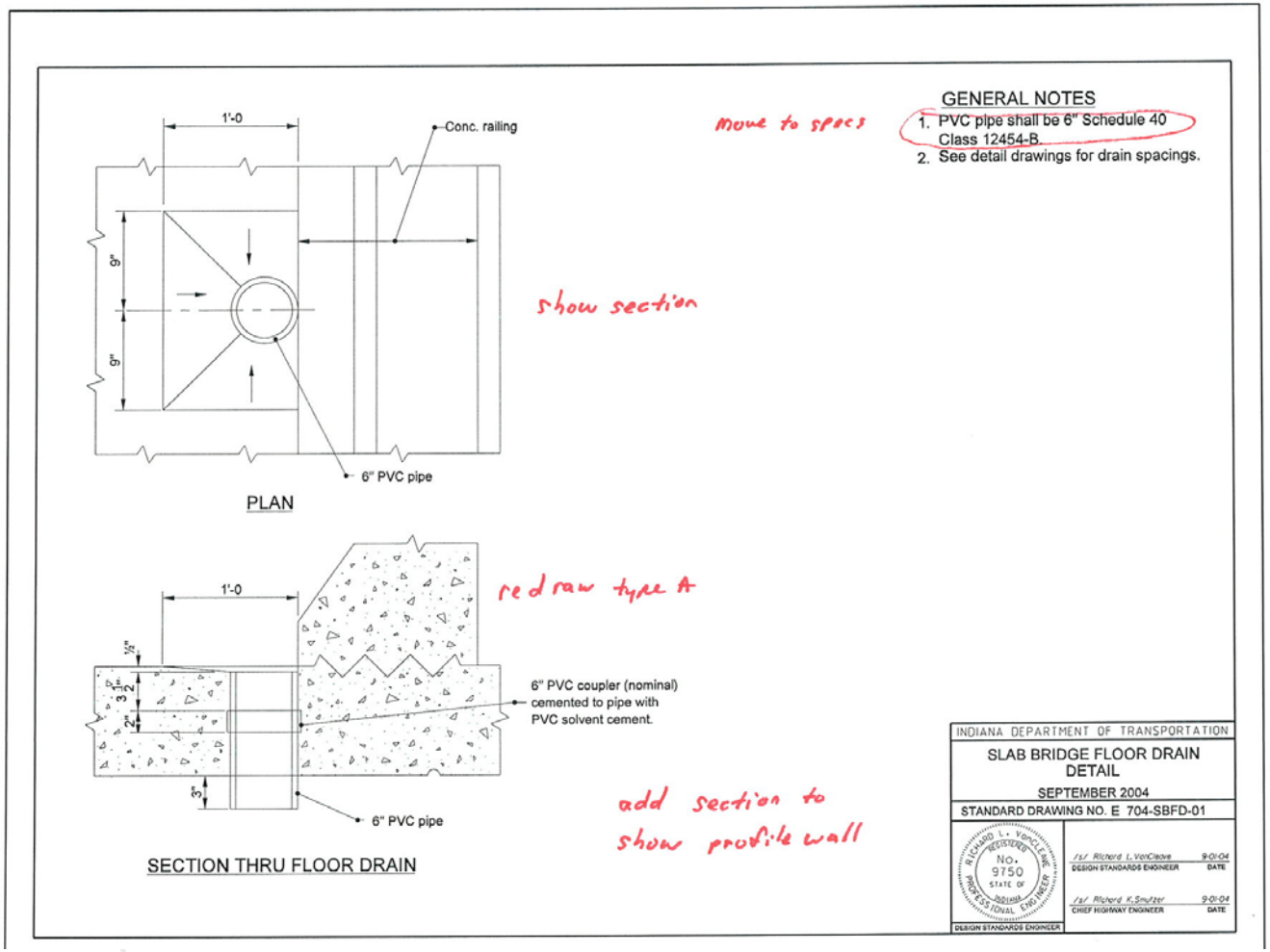
SECTION A-A

INDIANA DEPARTMENT OF TRANSPORTATION	
DECK DRAIN TYPE OS OR SQ ADJUSTING FRAME SEPTEMBER 2012	
STANDARD DRAWING NO. E 704-BDCG-05	
	DESIGN STANDARDS ENGINEER DATE CHIEF HIGHWAY ENGINEER DATE
DESIGN STANDARDS ENGINEER	

REVISION TO STANDARD DRAWINGS

EXISTING 704-SBFD-01 SLAB BRIDGE FLOOR DRAIN DETAIL (WITH MARKUPS)

704.02 Materials add
907.22 Profile Wall Polyvinyl Chloride Pipe
907.23 Smooth Wall Polyvinyl chloride Pipe

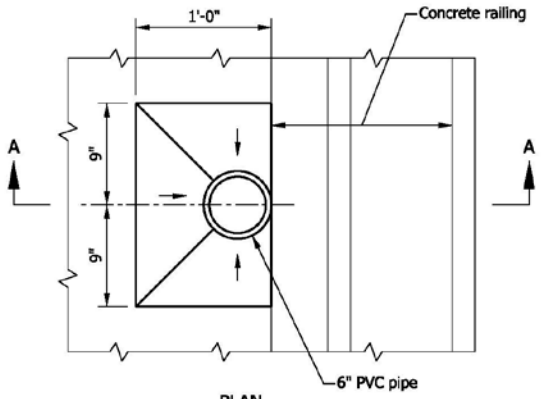


REVISION TO STANDARD DRAWINGS

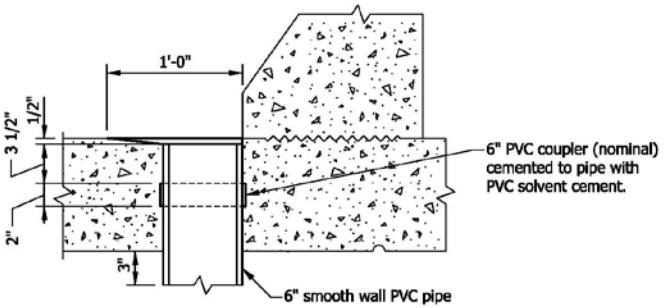
704-SBFD-01 SLAB BRIDGE FLOOR DRAIN DETAIL (DRAFT)

NOTE

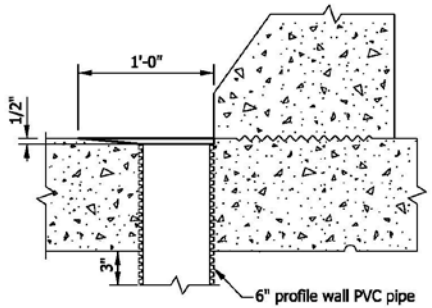
1. See plans for drain spacing.



PLAN



6" SMOOTH WALL PVC PIPE



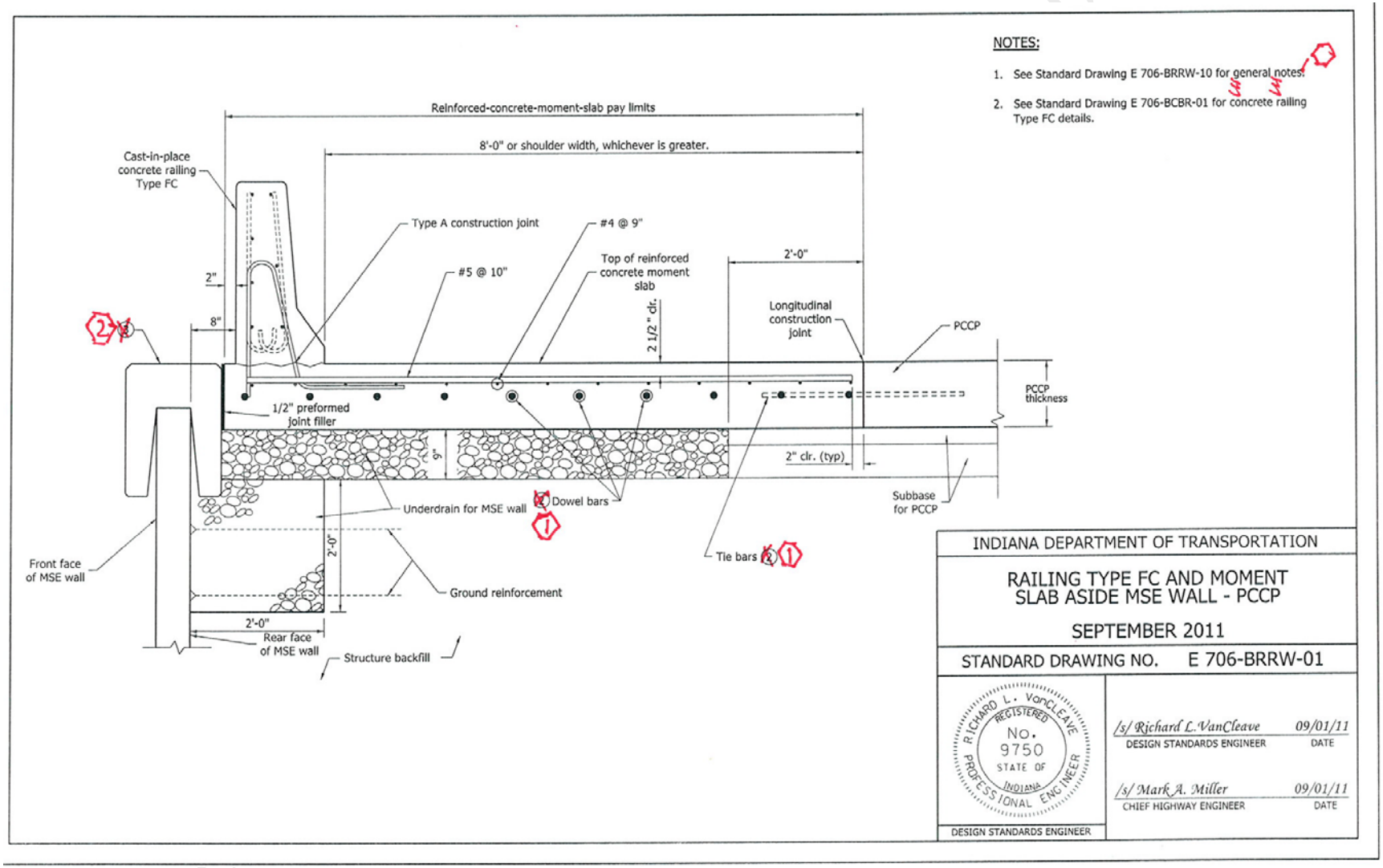
6" PROFILE WALL PVC PIPE

SECTION A-A

INDIANA DEPARTMENT OF TRANSPORTATION	
SLAB BRIDGE FLOOR DRAIN DETAIL SEPTEMBER 2012	
STANDARD DRAWING NO. E 704-SBFD-01	
	DESIGN STANDARDS ENGINEER DATE CHIEF HIGHWAY ENGINEER DATE
DESIGN STANDARDS ENGINEER	

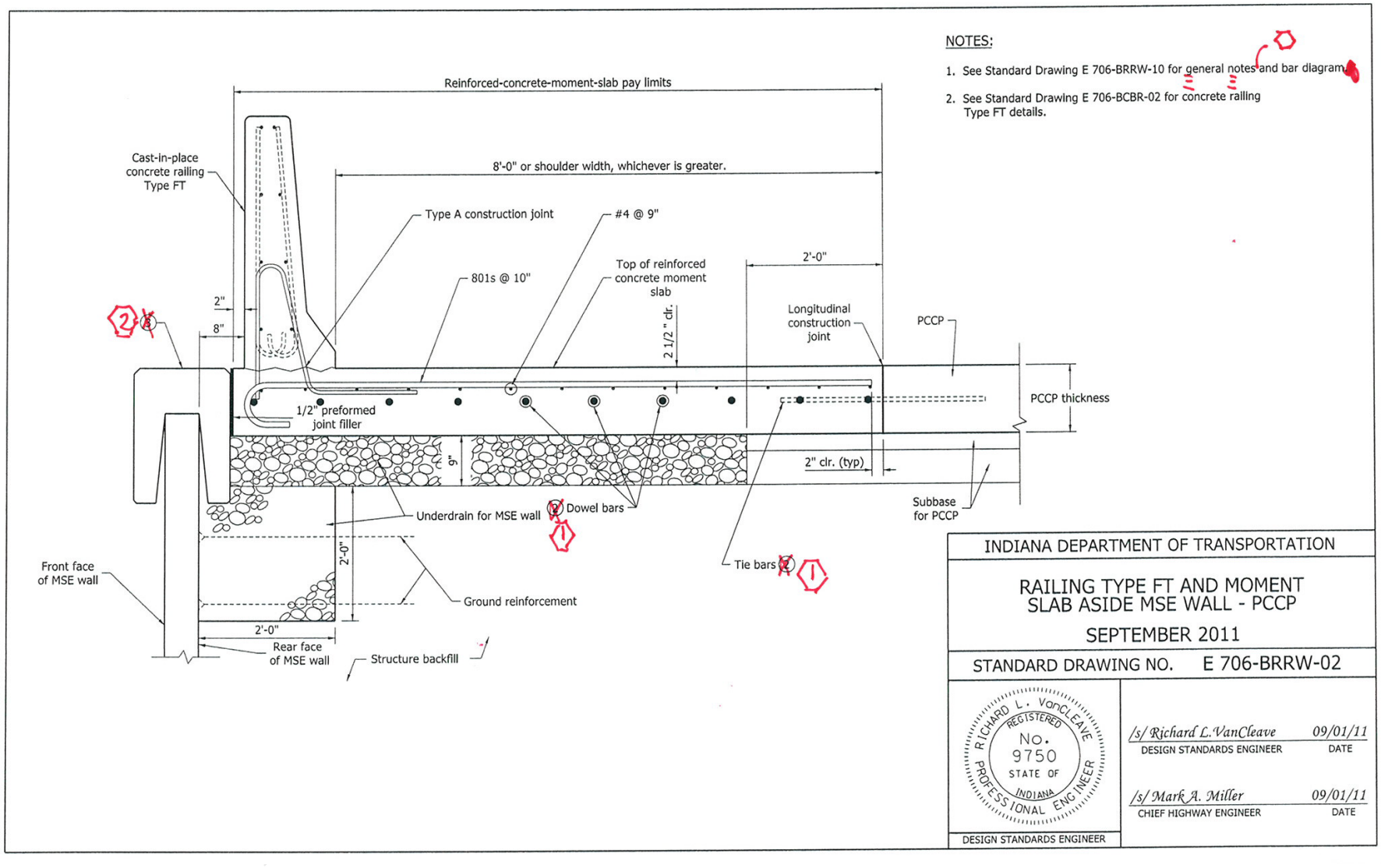
REVISION TO STANDARD DRAWINGS

EXISTING 706-BRRW-01 RAILING TYPE FC AND MOMENT SLAB ASIDE MSE WALL - PCCP (WITH MARKUPS)



REVISION TO STANDARD DRAWINGS

EXISTING 706-BRRW-02 RAILING TYPE FT AND MOMENT SLAB ASIDE MSE WALL - PCCP (WITH MARKUPS)

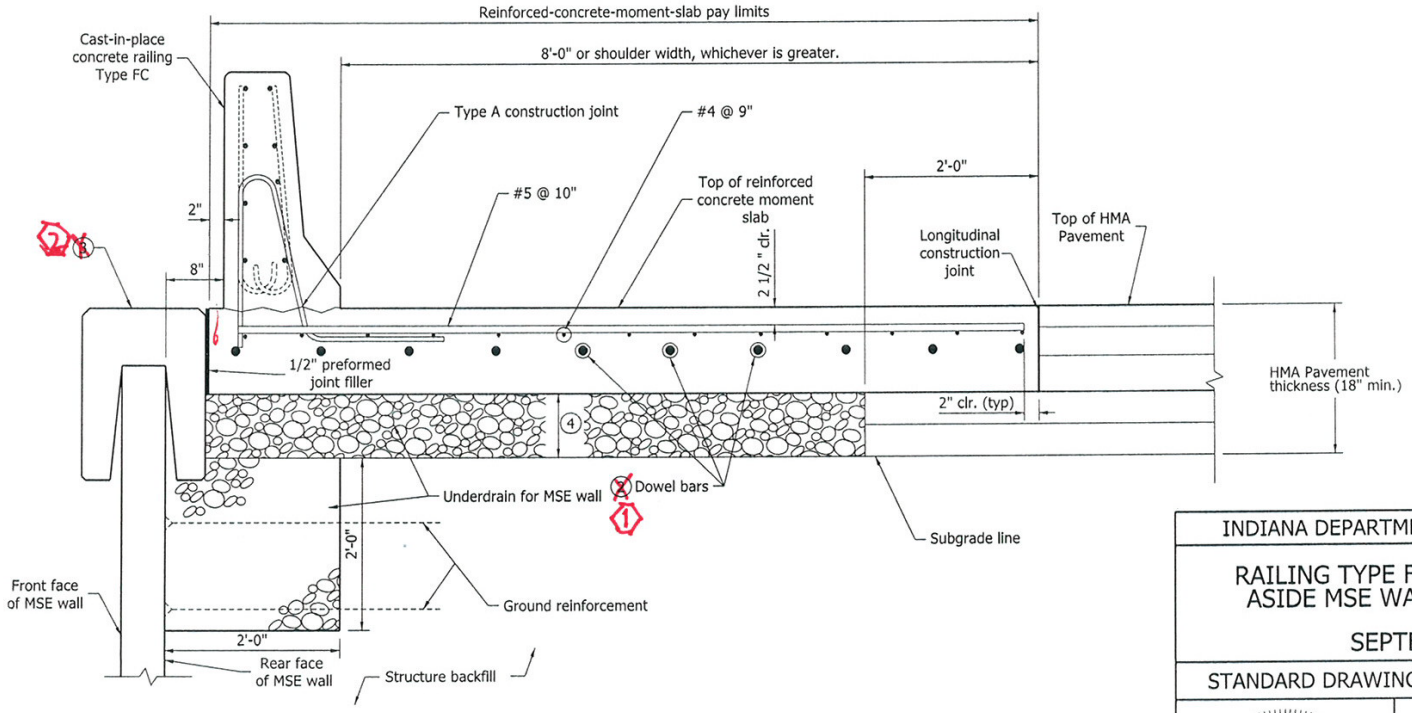


REVISION TO STANDARD DRAWINGS

EXISTING 706-BRRW-03 RAILING TYPE FT AND MOMENT SLAB ASIDE MSE WALL – HMA PAVEMENT (WITH MARKUPS)

NOTES :

1. See Standard Drawing E 706-BRRW-10 for general notes ~~and bar diagrams.~~
2. See Standard Drawing E 706-BCBR-01 for concrete railing Type FC details.



INDIANA DEPARTMENT OF TRANSPORTATION

RAILING TYPE FT AND MOMENT SLAB ASIDE MSE WALL - HMA PAVEMENT

SEPTEMBER 2011

STANDARD DRAWING NO. E 706-BRRW-03

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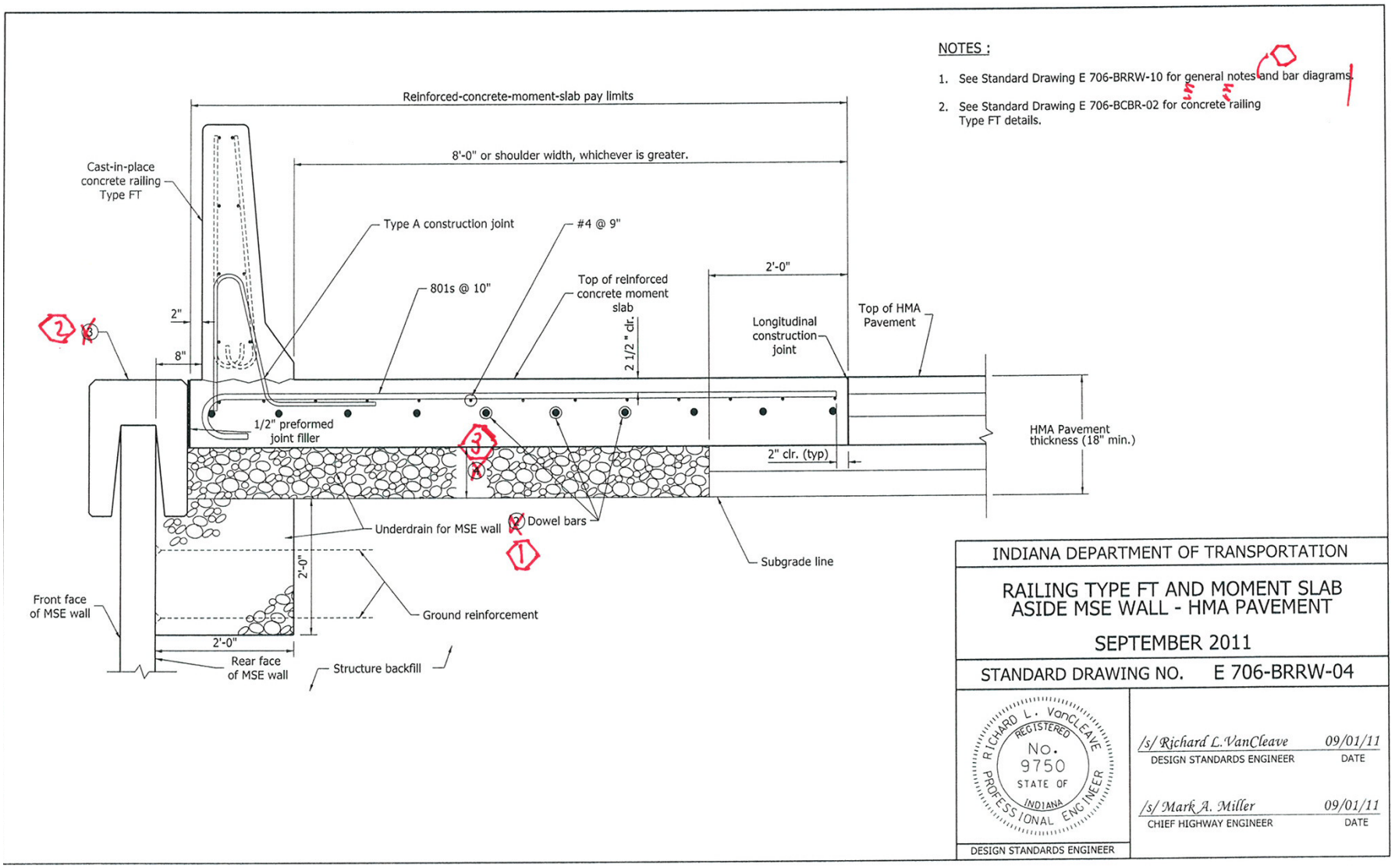
/s/ Mark A. Miller 09/01/11
CHIEF HIGHWAY ENGINEER DATE

REVISION TO STANDARD DRAWINGS

EXISTING 706-BRRW-04 RAILING TYPE FT AND MOMENT SLAB ASIDE MSE WALL – HMA PAVEMENT (WITH MARKUPS)

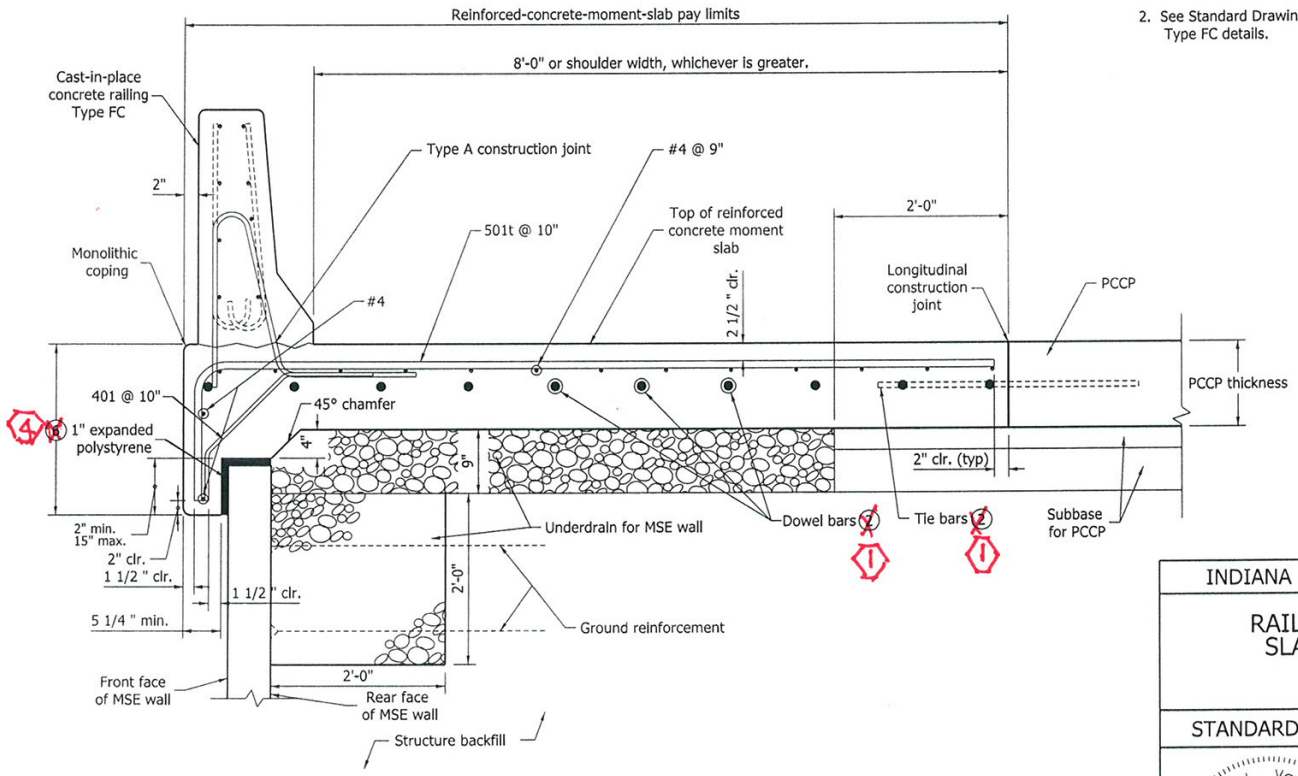


REVISION TO STANDARD DRAWINGS

EXISTING 706-BRRW-05 RAILING TYPE FC AND MOMENT SLAB ATOP MSE WALL – PCCP (WITH MARKUPS)

NOTES :

1. See Standard Drawing E 706-BRRW-10 for general notes and bar diagrams.
2. See Standard Drawing E 706-BCBR-01 for concrete railing Type FC details.



INDIANA DEPARTMENT OF TRANSPORTATION

RAILING TYPE FC AND MOMENT SLAB ATOP MSE WALL - PCCP

SEPTEMBER 2011

STANDARD DRAWING NO. E 706-BRRW-05

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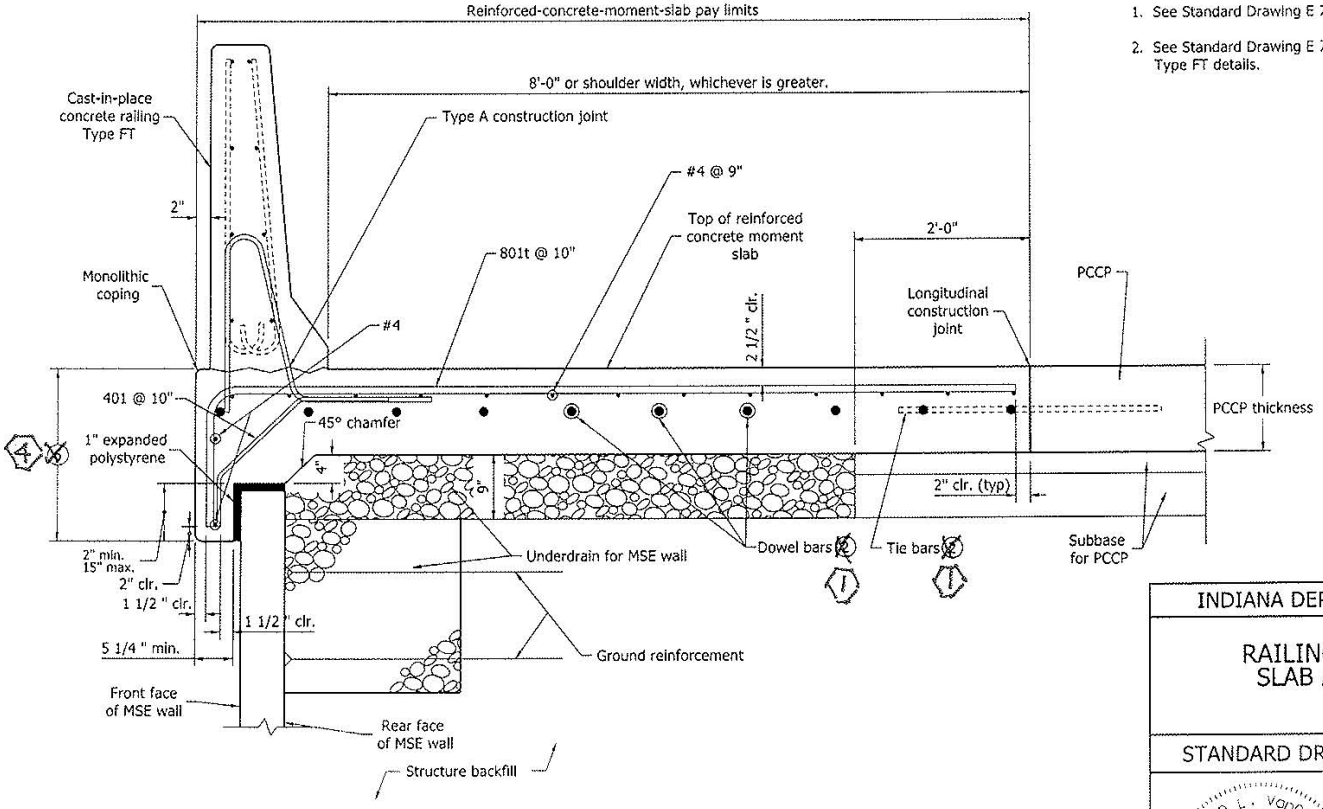
/s/ Mark A. Miller 09/01/11
CHIEF HIGHWAY ENGINEER DATE

REVISION TO STANDARD DRAWINGS

EXISTING 706-BRRW-06 RAILING TYPE FT AND MOMENT SLAB ATOP MSE WALL – PCCP (WITH MARKUPS)

NOTES :

1. See Standard Drawing E 706-BRRW-10 for general notes and bar diagrams.
2. See Standard Drawing E 706-BCBR-02 for concrete railing Type FT details.



INDIANA DEPARTMENT OF TRANSPORTATION

RAILING TYPE FT AND MOMENT SLAB ATOP MSE WALL - PCCP

SEPTEMBER 2011

STANDARD DRAWING NO. E 706-BRRW-06

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DESIGN STANDARDS ENGINEER DATE

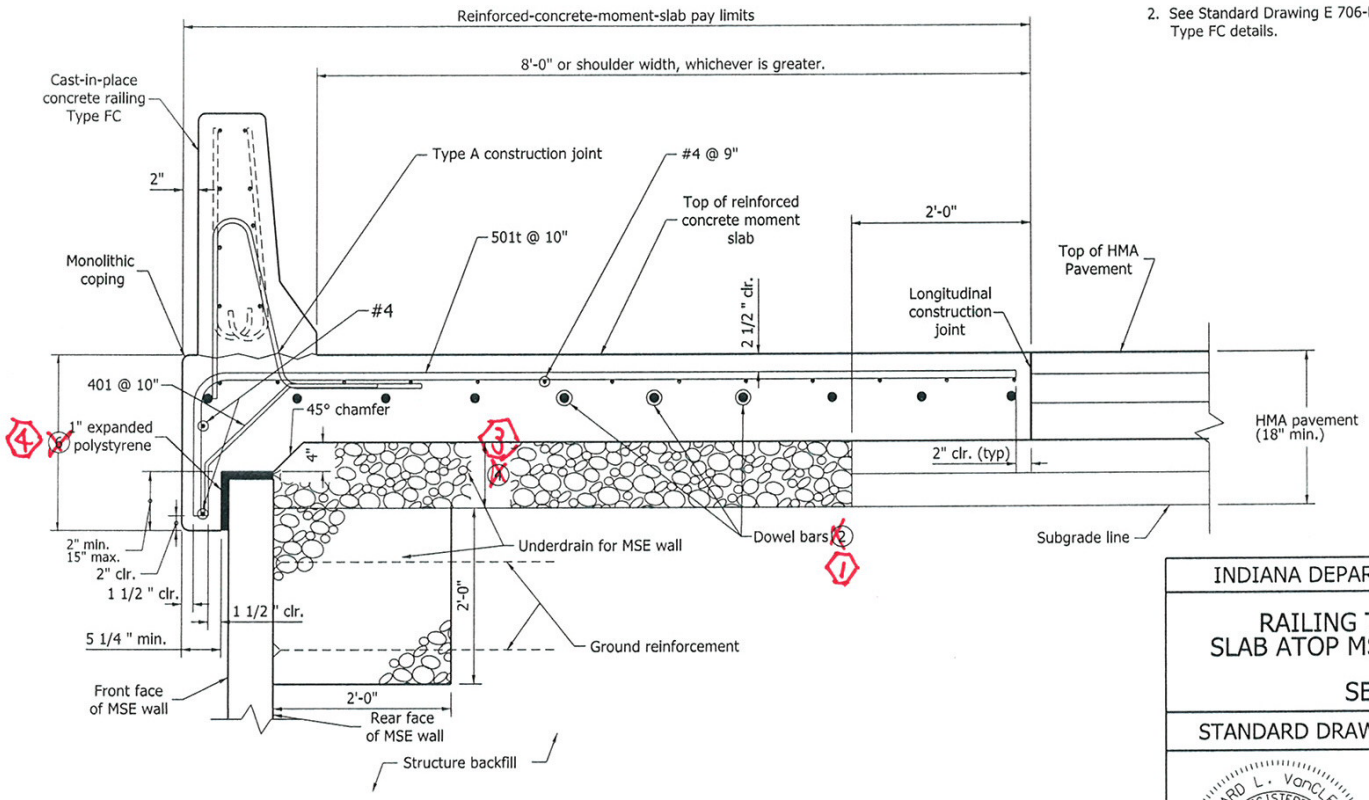
/s/ Mark A. Miller 09/01/11
CHIEF HIGHWAY ENGINEER DATE

REVISION TO STANDARD DRAWINGS

EXISTING 706-BRRW-07 RAILING TYPE FC AND MOMENT SLAB ATOP MSE WALL – HMA PAVEMENT (WITH MARKUPS)

NOTES :

1. See Standard Drawing E 706-BRRW-10 for general notes and bar diagrams.
2. See Standard Drawing E 706-BCBR-01 for concrete railing Type FC details.



INDIANA DEPARTMENT OF TRANSPORTATION

RAILING TYPE FC AND MOMENT SLAB ATOP MSE WALL - HMA PAVEMENT

SEPTEMBER 2011

STANDARD DRAWING NO. E 706-BRRW-07

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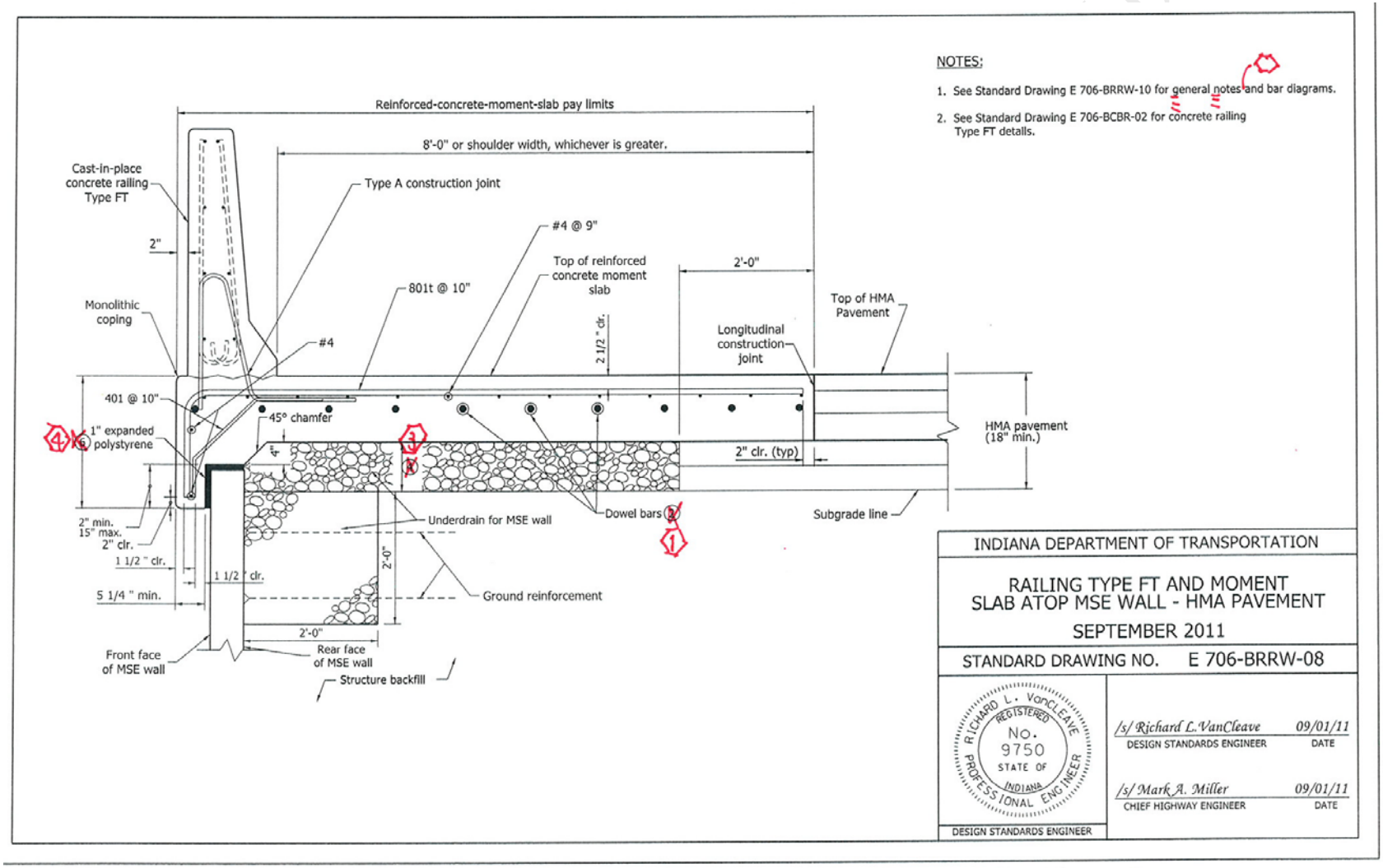
DESIGN STANDARDS ENGINEER

/s/ Richard L. VanCleave 09/01/11
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/11
CHIEF HIGHWAY ENGINEER DATE

REVISION TO STANDARD DRAWINGS

EXISTING 706-BRRW-08 RAILING TYPE FT AND MOMENT SLAB ATOP MSE WALL – HMA PAVEMENT (WITH MARKUPS)



NO CHANGE TO DWG -09

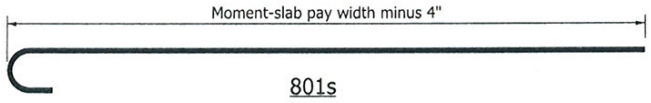
REVISION TO STANDARD DRAWINGS

EXISTING 706-BRRW-10 RAILING AND MOMENT SLAB AT MSE WALL (WITH MARKUPS)

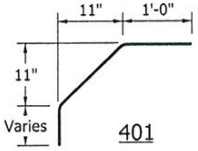
GENERAL NOTES:

To STD SPEC 706

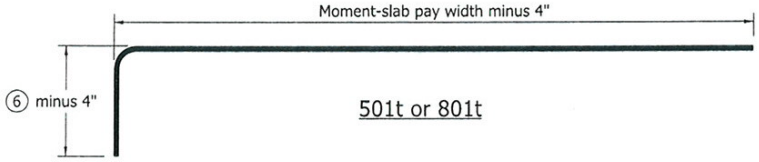
1. ~~The locations of the transverse joints in the moment slab and the railing shall be the same.~~
1. See Standard Drawing E 706-BRRW-09 for plan view and additional reinforcing bars in the railing at the railing joints.
2. ~~The coping by be precast or cast in place.~~ See Standard Drawing E 731-BRRW-01 for coping details.
3. The thickness of the coarse aggregate No. 8 shall be equal to the combined thicknesses of the first two lifts of HMA, but not less than 6 in.
5. ~~The moment-slab thickness shall match that of adjoining PCCP, but shall not be less than 12 in., regardless of pavement type.~~
4. For moment-slab thickness ≤ 15 in., this shall be 2'-0".
   For moment-slab thickness > 15 in., this shall be moment-slab thickness plus 12 in.
5. The moment slab shall be used only within the limits of the MSE wall.
6. Reinforcing bars in the moment slab shall be epoxy coated.



801s



401



501t or 801t

INDIANA DEPARTMENT OF TRANSPORTATION

RAILING AND MOMENT SLAB AT MSE WALL

SEPTEMBER 2009

STANDARD DRAWING NO. E 706-BRRW-10

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

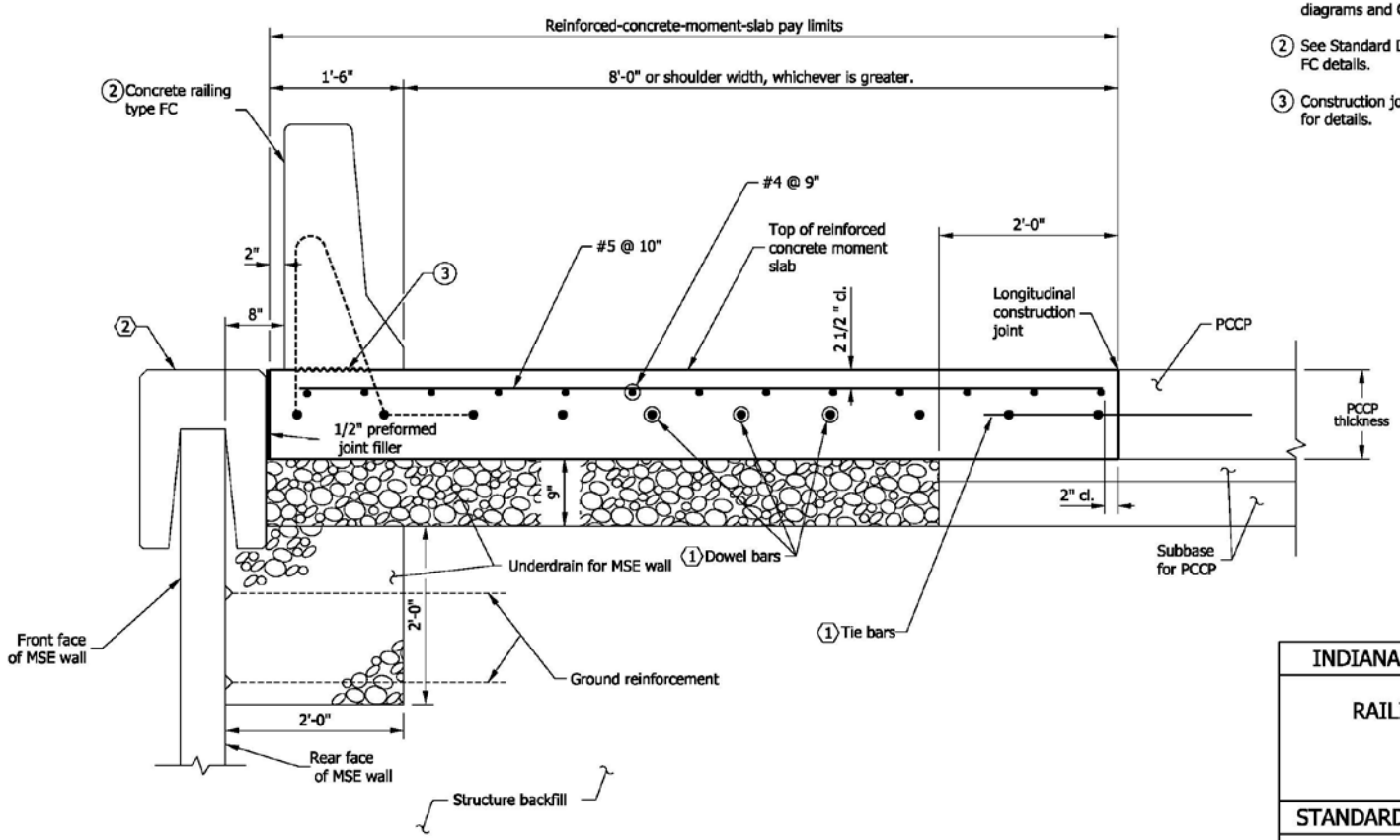
DESIGN STANDARDS ENGINEER

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

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

REVISION TO STANDARD DRAWINGS

706-MSRW-01 RAILING TYPE FC AND MOMENT SLAB ASIDE MSE WALL – PCCP (DRAFT)



NOTES

1. See Standard Drawing E 706-MSRW-10 for reinforcing-bar diagrams and General Notes (7).
2. See Standard Drawing E 706-BRSF-01 for concrete railing type FC details.
3. Construction joint type A. See Standard Drawing E 702-CJTA-01 for details.

INDIANA DEPARTMENT OF TRANSPORTATION

RAILING TYPE FC AND MOMENT SLAB ASIDE MSE WALL - PCCP

SEPTEMBER 2012

STANDARD DRAWING NO. E 706-MSRW-01

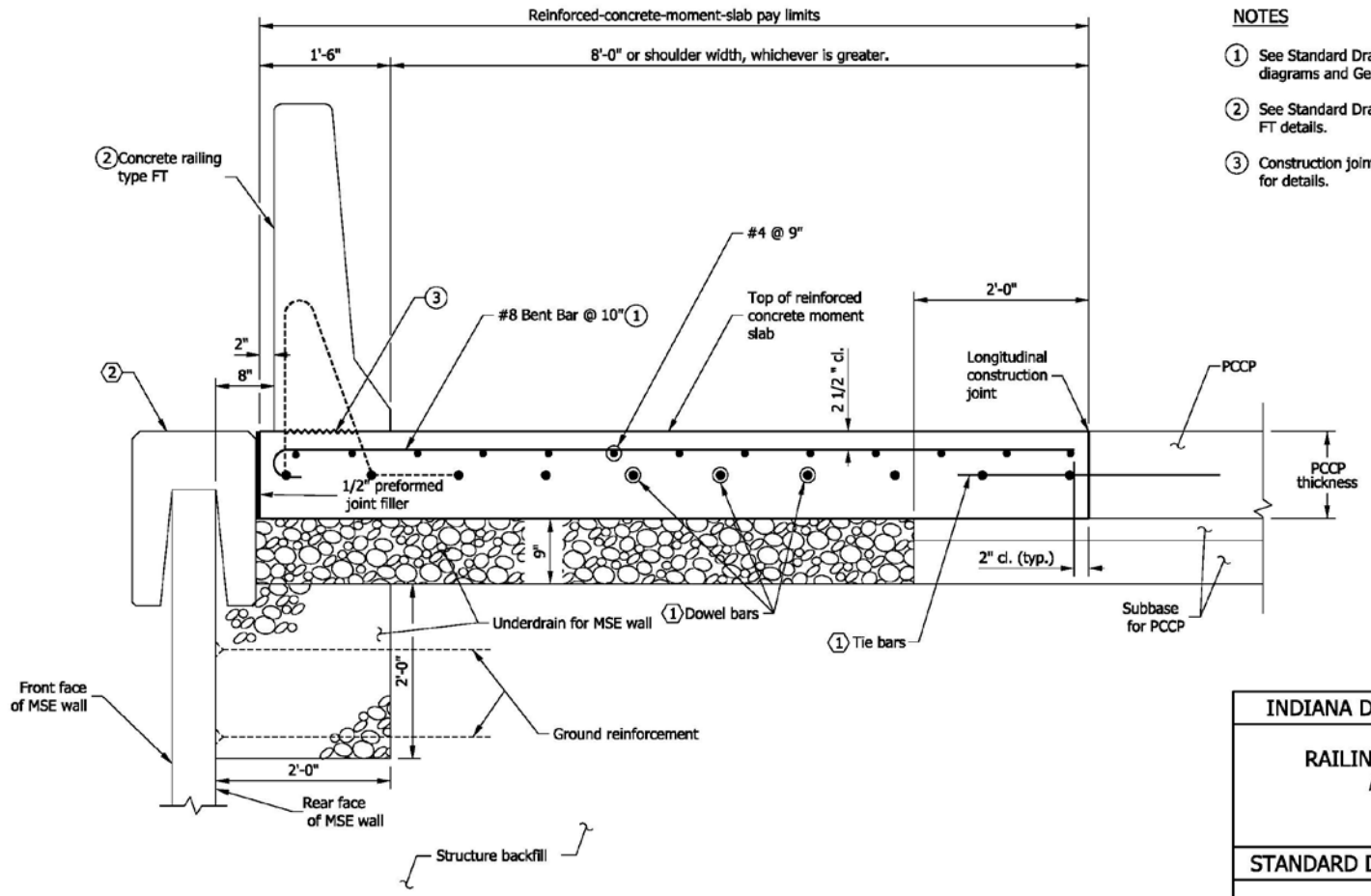
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

706-MSRW-02 RAILING TYPE FT AND MOMENT SLAB ASIDE MSE WALL – PCCP (DRAFT)



NOTES

1. See Standard Drawing E 706-MSRW-10 for reinforcing-bar diagrams and General Notes.
2. See Standard Drawing E 706-BRSF-02 for concrete railing type FT details.
3. Construction joint type A. See Standard Drawing E 702-CJTA-01 for details.

INDIANA DEPARTMENT OF TRANSPORTATION

RAILING TYPE FT AND MOMENT SLAB ASIDE MSE WALL - PCCP

SEPTEMBER 2012

STANDARD DRAWING NO. E 706-MSRW-02

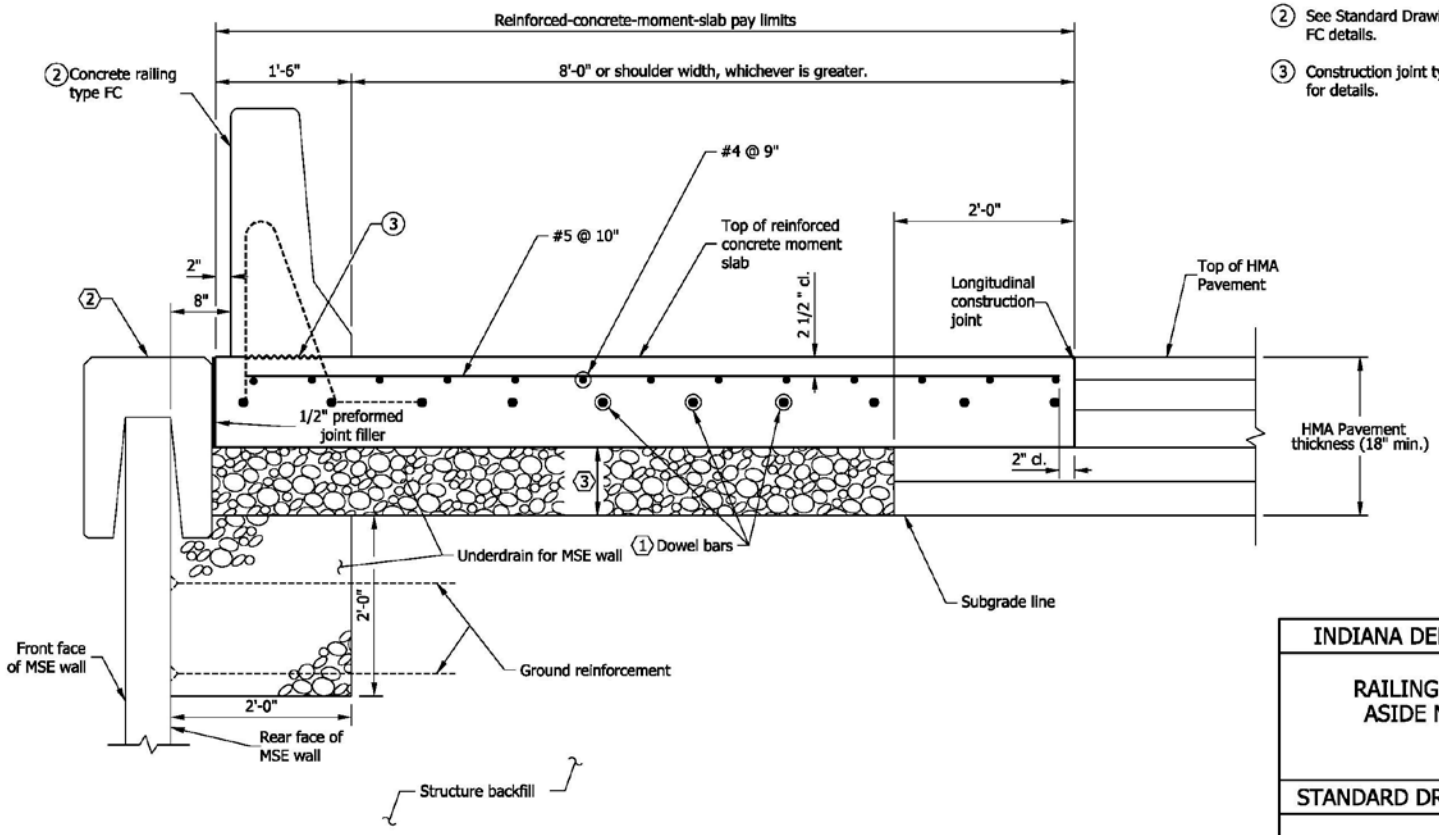
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

706-MSRW-03 RAILING TYPE FC AND MOMENT SLAB ASIDE MSE WALL – HMA PAVEMENT (DRAFT)



NOTES

1. See Standard Drawing E 706-MSRW-10 for reinforcing-bar diagrams and General Notes ⬡.
2. See Standard Drawing E 706-BRSF-01 for concrete railing type FC details.
3. Construction joint type A. See Standard Drawing E 702-CJTA-01 for details.

INDIANA DEPARTMENT OF TRANSPORTATION

RAILING TYPE FC AND MOMENT SLAB ASIDE MSE WALL - HMA PAVEMENT

SEPTEMBER 2012

STANDARD DRAWING NO. E 706-MSRW-03

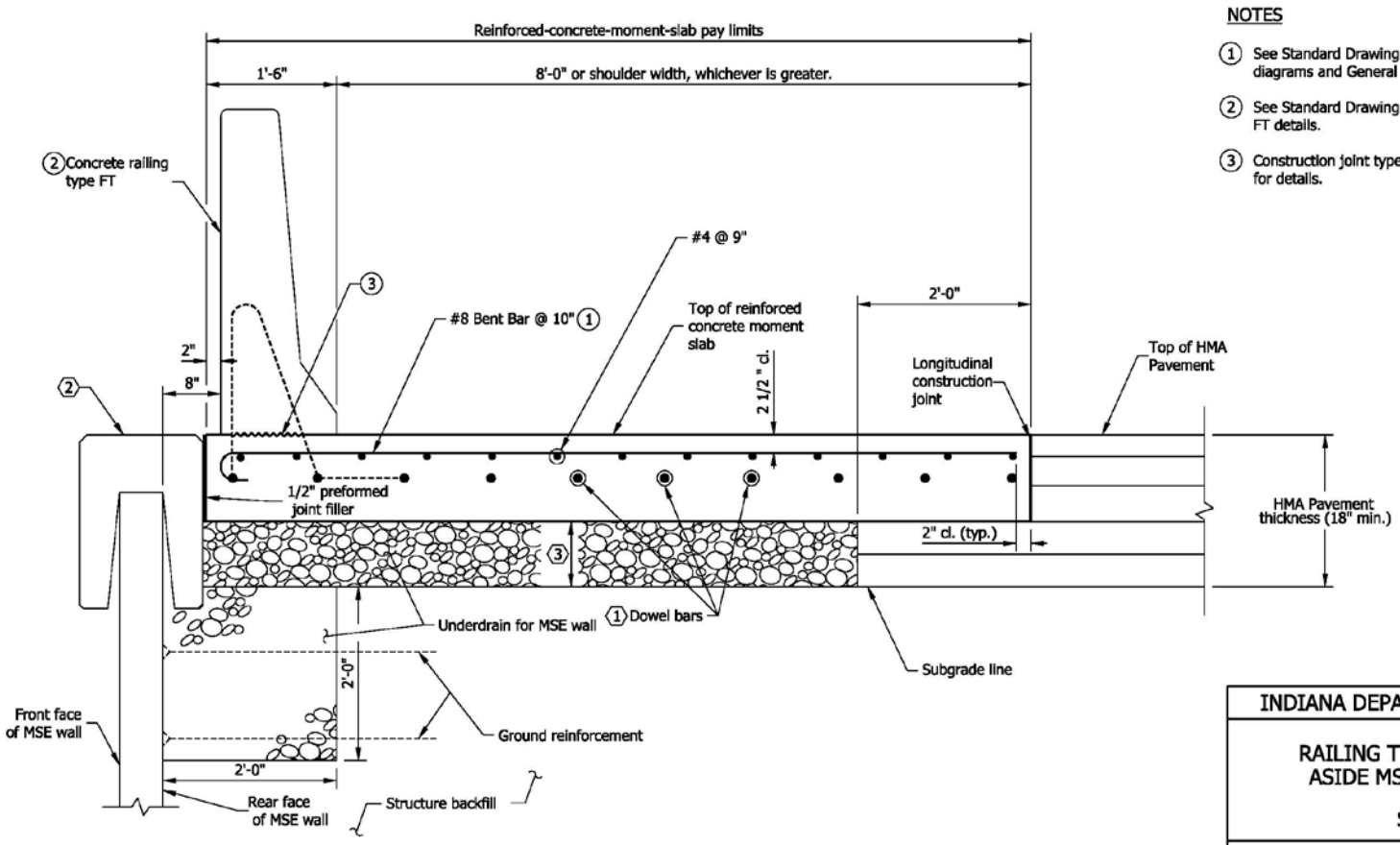
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

706-MSRW-04 RAILING TYPE FT AND MOMENT SLAB ASIDE MSE WALL – HMA PAVEMENT (DRAFT)



NOTES

1. See Standard Drawing E 706-MSRW-10 for reinforcing-bar diagrams and General Notes.
2. See Standard Drawing E 706-BRSF-02 for concrete railing type FT details.
3. Construction joint type A. See Standard Drawing E 702-CJTA-01 for details.

INDIANA DEPARTMENT OF TRANSPORTATION

RAILING TYPE FT AND MOMENT SLAB ASIDE MSE WALL - HMA PAVEMENT

SEPTEMBER 2012

STANDARD DRAWING NO. E 706-MSRW-04

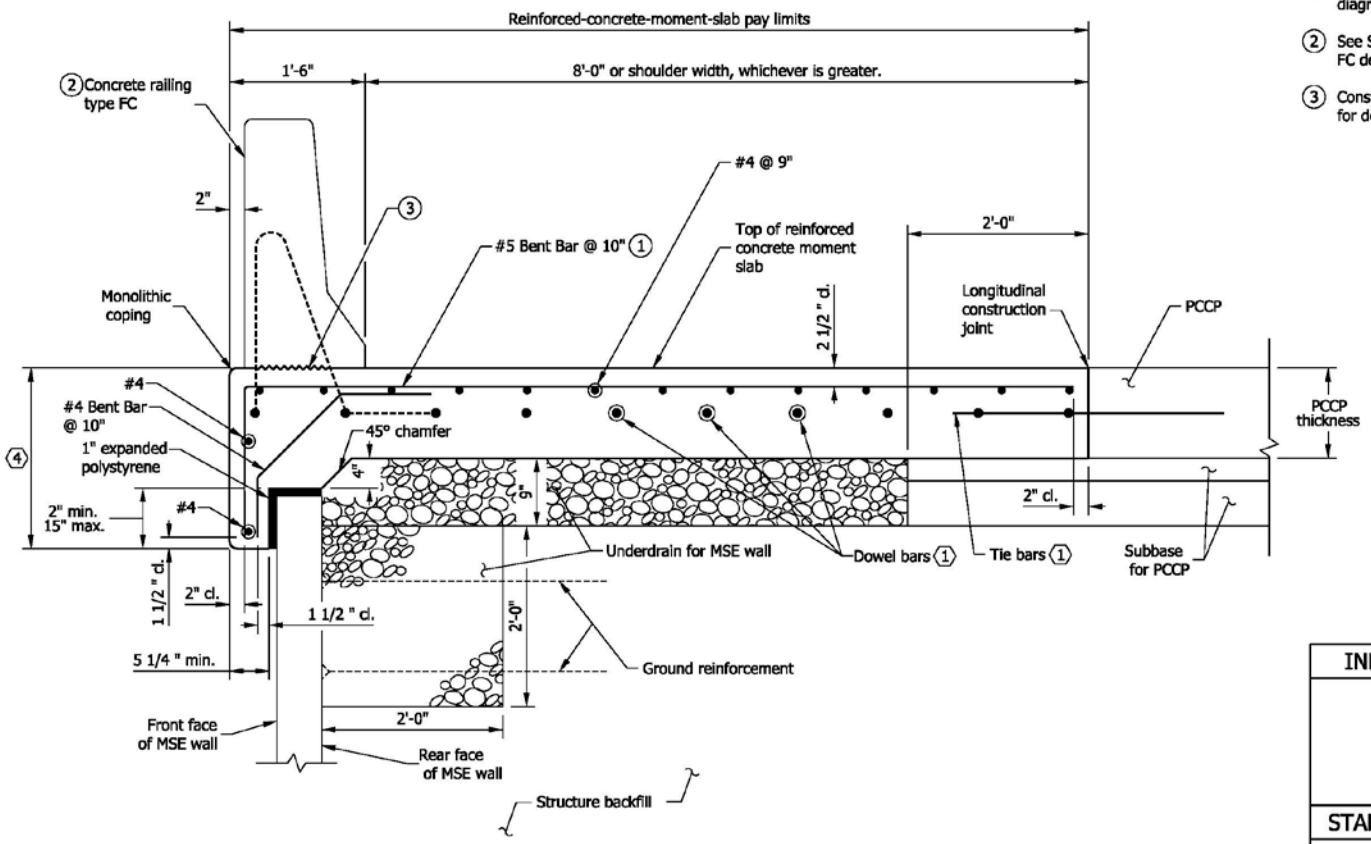
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

706-MSRW-05 RAILING TYPE FC AND MOMENT SLAB ATOP MSE WALL – PCCP (DRAFT)



NOTES

(1) See Standard Drawing E 706-MSRW-10 for reinforcing-bar diagrams and General Notes (4).

(2) See Standard Drawing E 706-BRSF-01 for concrete railing type FC details.

(3) Construction joint type A. See Standard Drawing E 702-CJTA-01 for details.

INDIANA DEPARTMENT OF TRANSPORTATION

RAILING TYPE FC AND MOMENT SLAB ATOP MSE WALL - PCCP

SEPTEMBER 2012

STANDARD DRAWING NO. E 706-MSRW-05

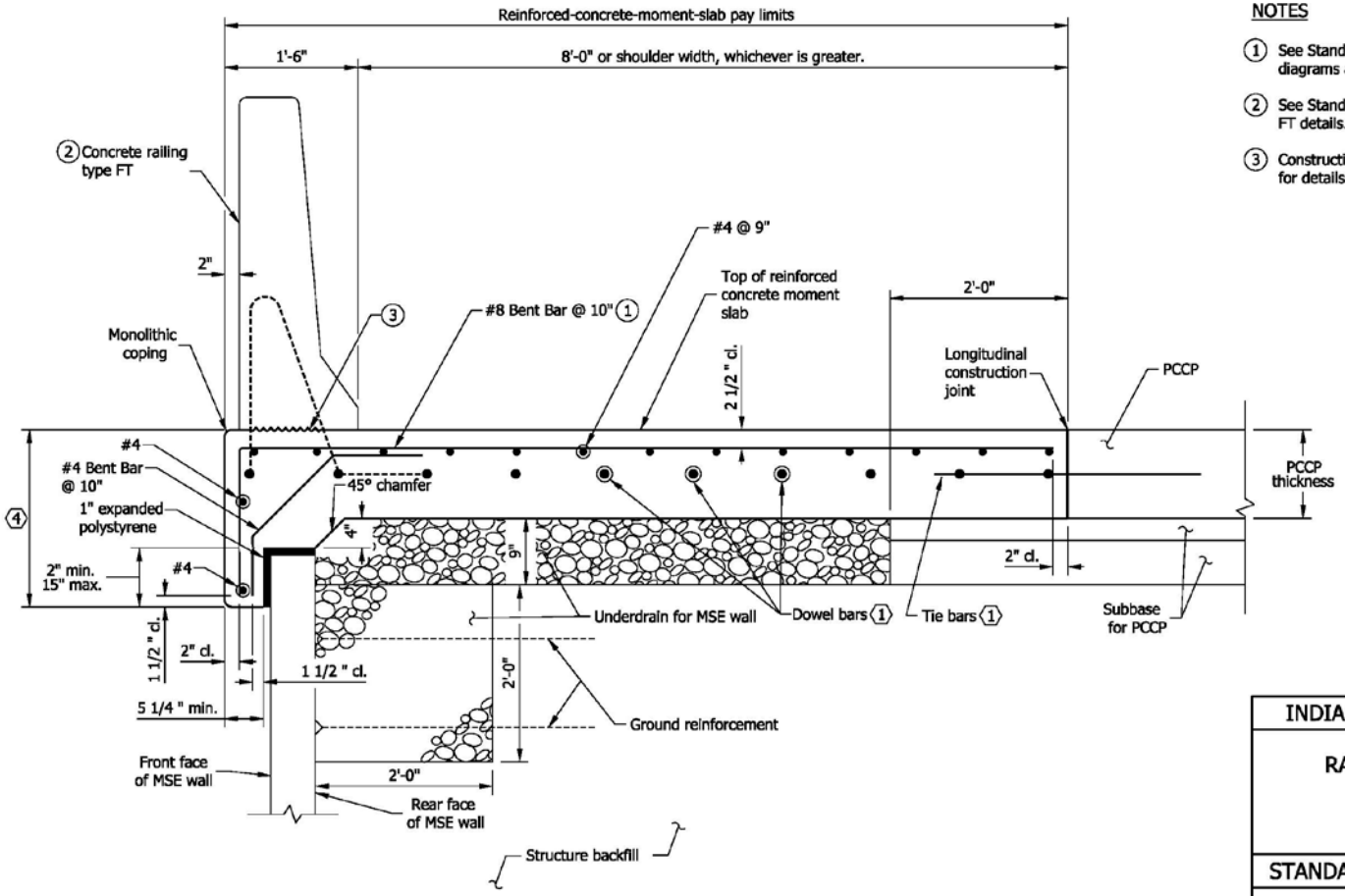
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

706-MSRW-06 RAILING TYPE FT AND MOMENT SLAB ATOP MSE WALL – PCCP (DRAFT)



NOTES

1. See Standard Drawing E 706-MSRW-10 for reinforcing-bar diagrams and General Notes 4.
2. See Standard Drawing E 706-BRSF-02 for concrete railing type FT details.
3. Construction joint type A. See Standard Drawing E 702-CJTA-01 for details.

INDIANA DEPARTMENT OF TRANSPORTATION

RAILING TYPE FT AND MOMENT SLAB ATOP MSE WALL - PCCP

SEPTEMBER 2012

STANDARD DRAWING NO. E 706-MSRW-06

DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

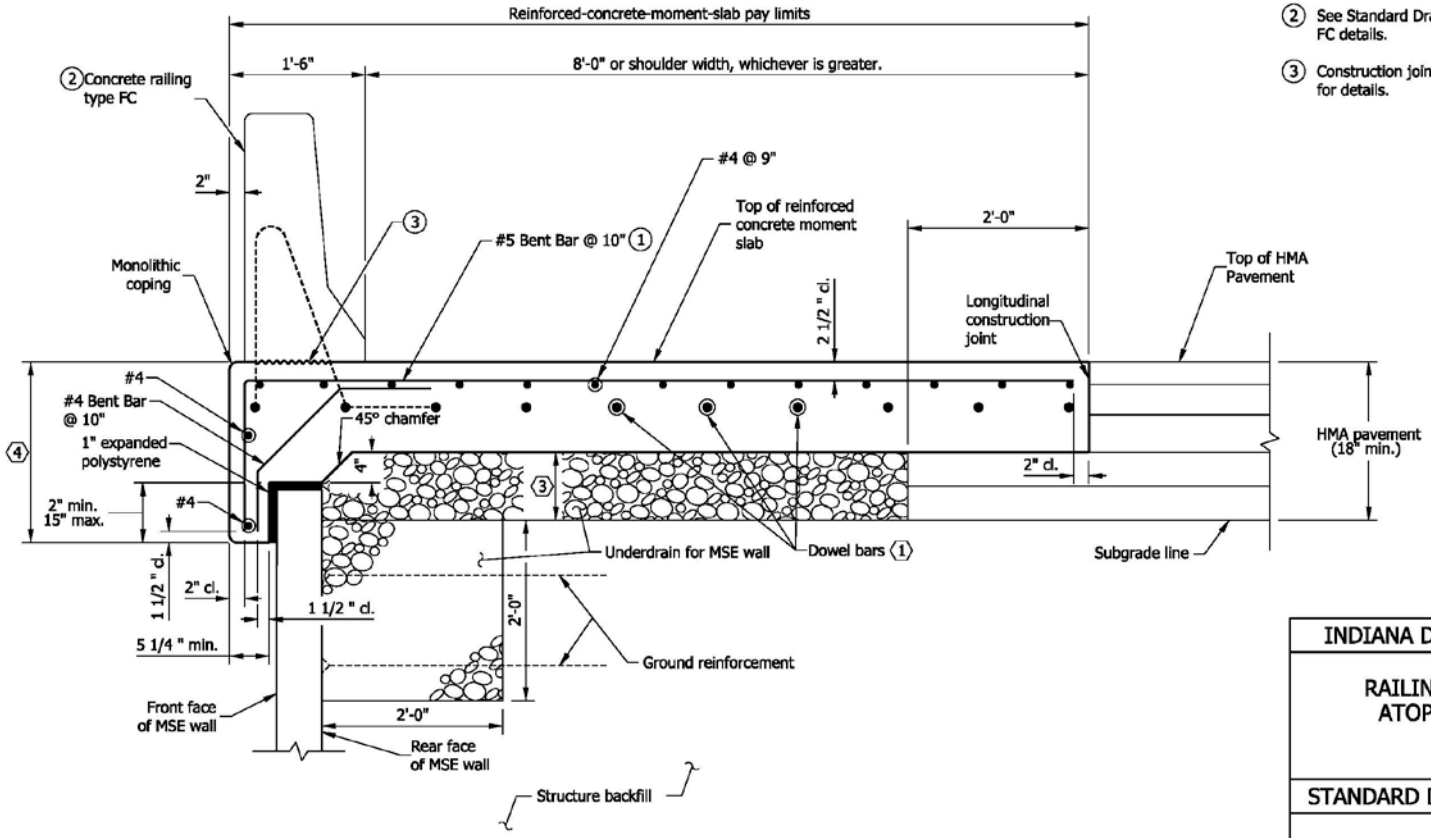
DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

706-MSRW-07 RAILING TYPE FC AND MOMENT SLAB ATOP MSE WALL – HMA PAVEMENT (DRAFT)

NOTES

1. See Standard Drawing E 706-MSRW-10 for reinforcing-bar diagrams and General Notes.
2. See Standard Drawing E 706-BRSF-01 for concrete railing type FC details.
3. Construction joint type A. See Standard Drawing E 702-CJTA-01 for details.



INDIANA DEPARTMENT OF TRANSPORTATION

RAILING TYPE FC AND MOMENT SLAB ATOP MSE WALL - HMA PAVEMENT

SEPTEMBER 2012

STANDARD DRAWING NO. E 706-MSRW-07

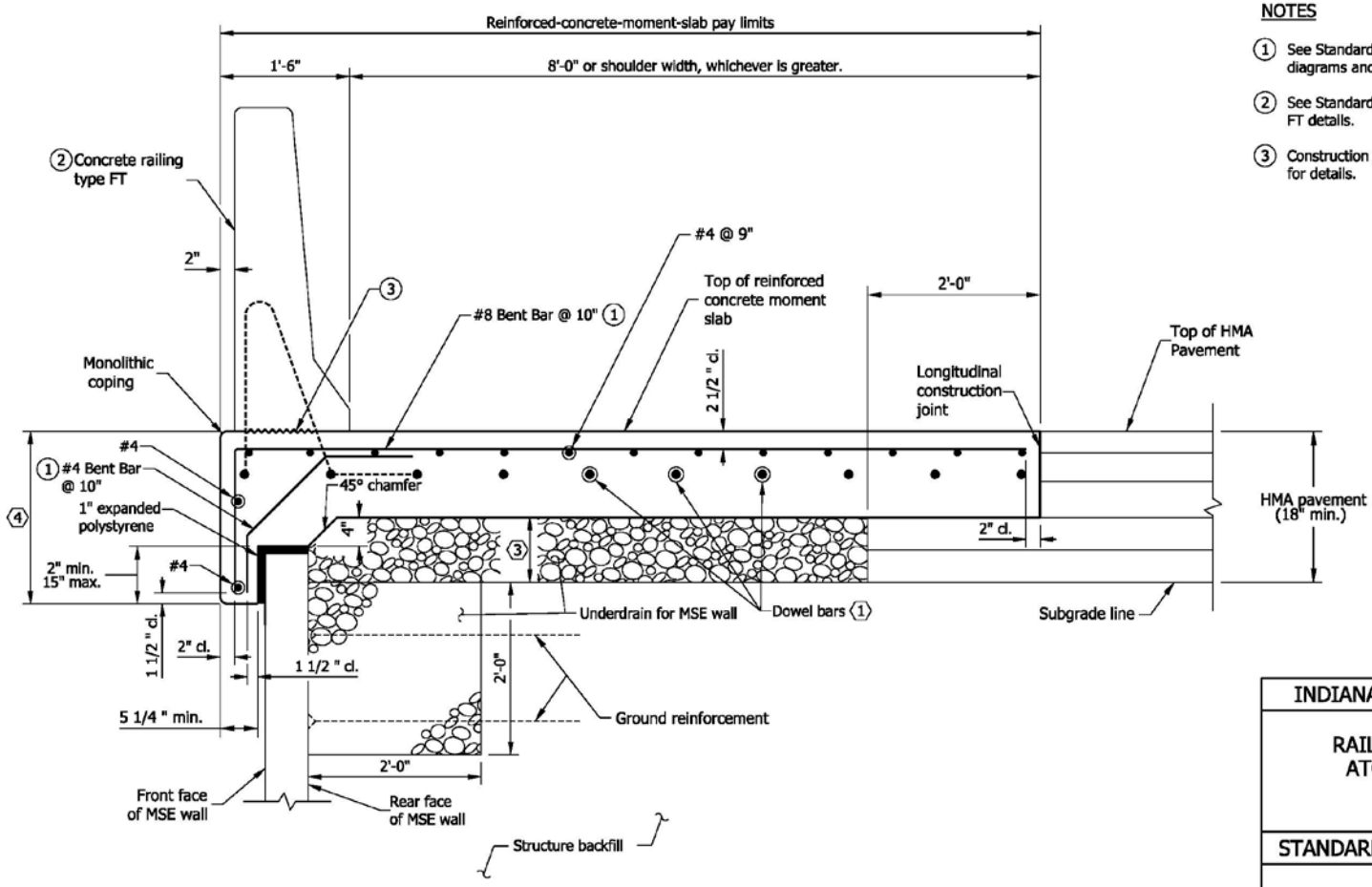
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

706-MSRW-08 RAILING TYPE FT AND MOMENT SLAB ATOP MSE WALL – HMA PAVEMENT (DRAFT)



NOTES

1. See Standard Drawing E 706-MSRW-10 for reinforcing-bar diagrams and General Notes ⬡.
2. See Standard Drawing E 706-BRSF-02 for concrete railing type FT details.
3. Construction joint type A. See Standard Drawing E 702-CJTA-01 for details.

INDIANA DEPARTMENT OF TRANSPORTATION

RAILING TYPE FT AND MOMENT SLAB ATOP MSE WALL - HMA PAVEMENT

SEPTEMBER 2012

STANDARD DRAWING NO. E 706-MSRW-08

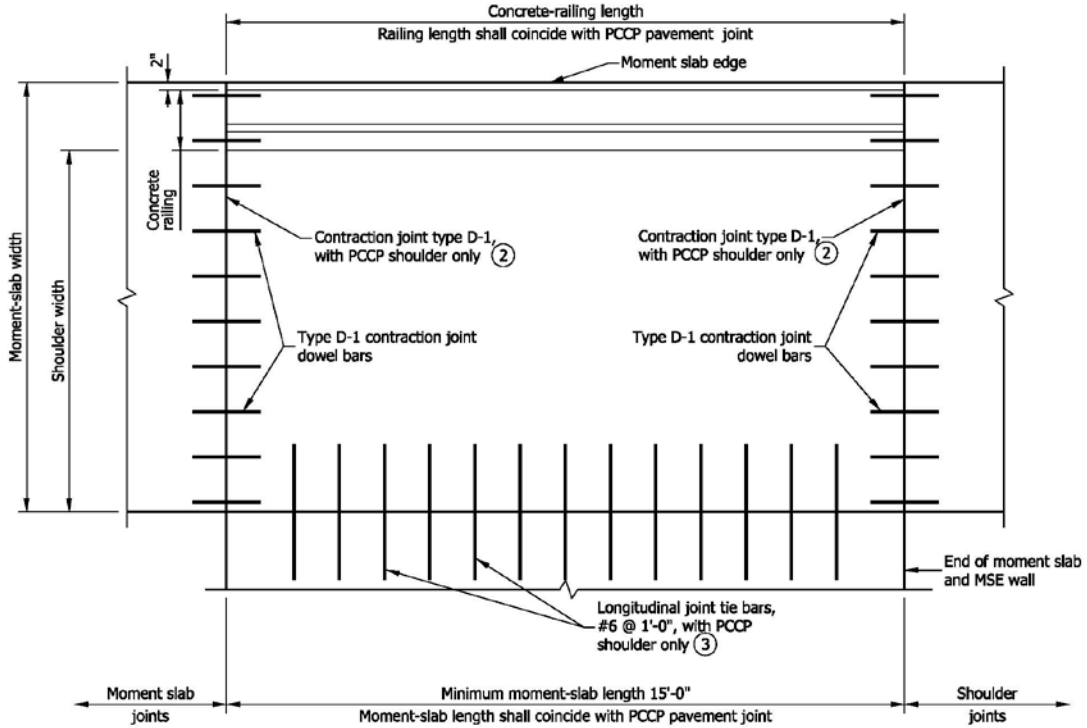
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

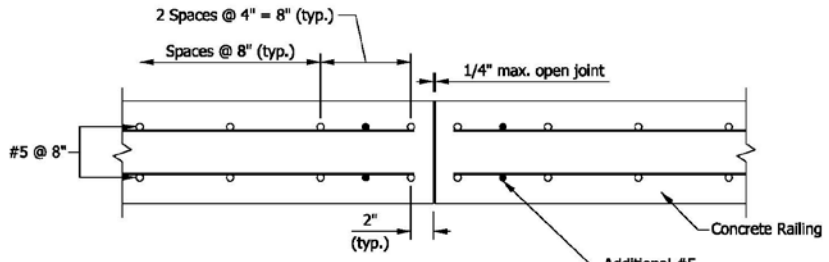
DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

706-MSRW-09 MOMENT SLAB JOINTS (DRAFT)



PLAN - REINFORCED CONCRETE MOMENT SLAB JOINTS



PLAN - CONCRETE RAILING ADDITIONAL VERTICAL STEEL

NOTES

1. Where used with HMA mainline pavement, concrete railing and moment-slab lengths shall coincide and be spaced at 18'-0".
2. See Standard Drawing E 503-CCPJ-01 for contraction joint type D-1 details.
3. See Standard Drawing E 503-CCPJ-02 for joint tie bars details.

INDIANA DEPARTMENT OF TRANSPORTATION

MOMENT SLAB JOINTS

SEPTEMBER 2012

STANDARD DRAWING NO. E 706-MSRW-09

DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

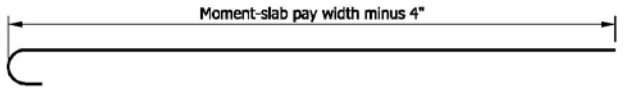
DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

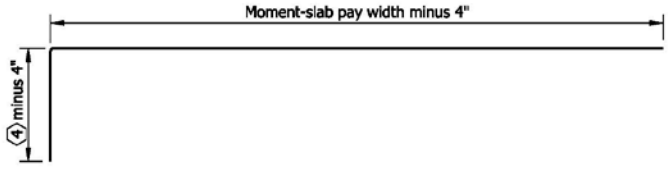
706-MSRW-10 RAILING AND MOMENT SLAB AT MSE WALL (DRAFT)

GENERAL NOTES

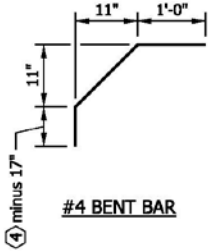
1. See Standard Drawing E 706-MSRW-09 for plan view and additional reinforcing bars in the railing at the railing joints.
2. See Standard Drawing E 731-MSEW-01 for coping details.
3. The thickness of the coarse aggregate No. 8 shall be equal to the combined thicknesses of the first two lifts of HMA, but not less than 6 in.
4. For moment slab thickness ≤ 15 in., this shall be 2'-0".
   For moment slab thickness > 15 in., this shall be moment-slab thickness plus 12 in.
5. The moment slab shall be used only within the limits of the MSE wall.
6. Reinforcing bars in the moment slab shall be epoxy coated.
7. See Standard Drawing E 703-BRST-01 for reinforcing-bar bending diagrams and notes.



#8 BENT BAR
WITH STANDARD 180° HOOK



#5 BENT BAR OR #8 BENT BAR
WITH STANDARD 90° BEND



#4 BENT BAR

INDIANA DEPARTMENT OF TRANSPORTATION

RAILING AND MOMENT SLAB
AT MSE WALL

SEPTEMBER 2012

STANDARD DRAWING NO. E 706-MSRW-10

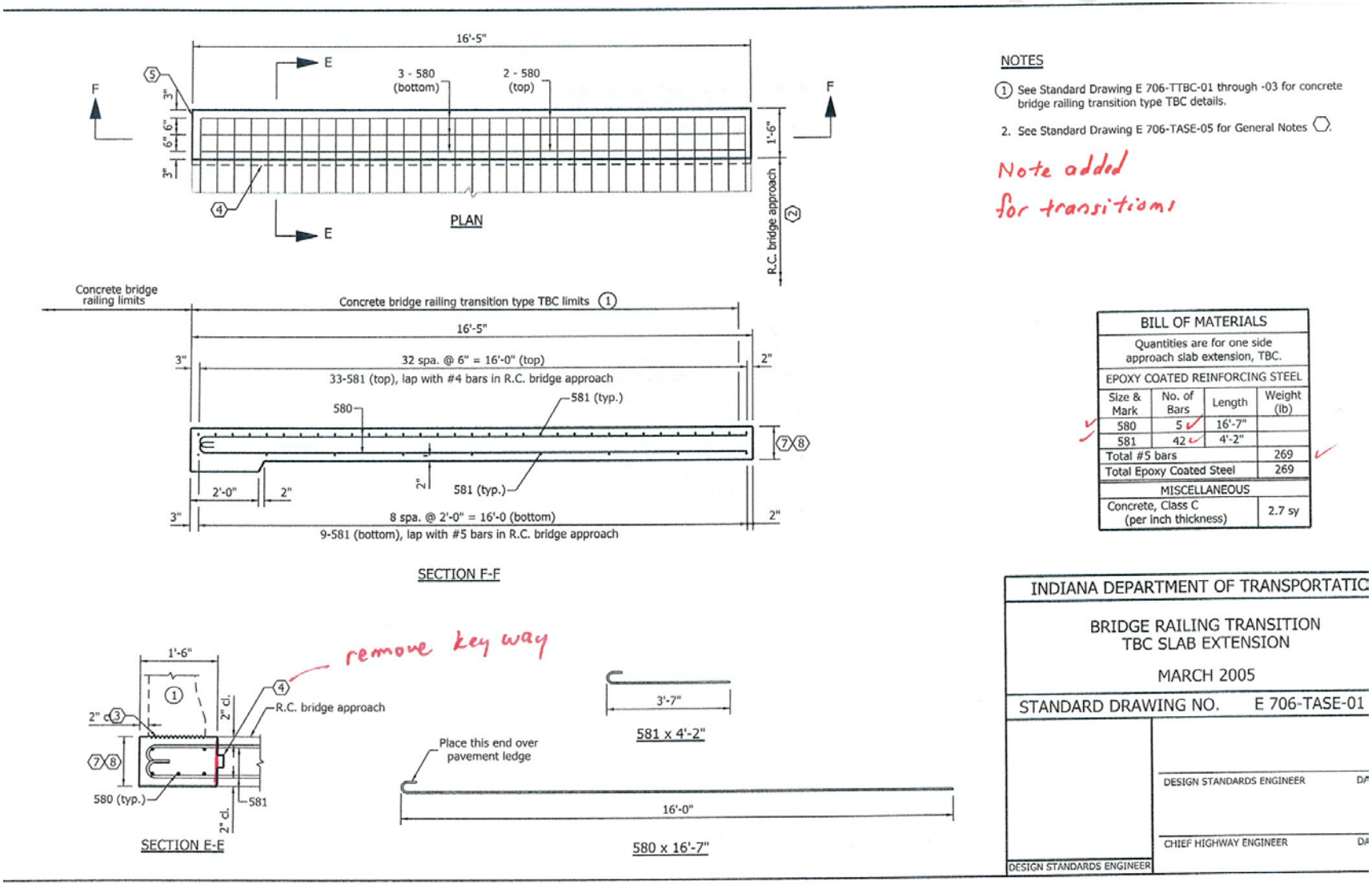
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

EXISTING 706-TASE-01 BRIDGE RAILING TRANSITION TBC SLAB EXTENSION (WITH MARKUPS)



NOTES

1. See Standard Drawing E 706-TTBC-01 through -03 for concrete bridge railing transition type TBC details.
2. See Standard Drawing E 706-TASE-05 for General Notes.

Note added for transitions

BILL OF MATERIALS			
Quantities are for one side approach slab extension, TBC.			
EPOXY COATED REINFORCING STEEL			
Size & Mark	No. of Bars	Length	Weight (lb)
580	5	16'-7"	
581	42	4'-2"	
Total #5 bars			269
Total Epoxy Coated Steel			269
MISCELLANEOUS			
Concrete, Class C (per inch thickness)			2.7 sy

INDIANA DEPARTMENT OF TRANSPORTATIC

BRIDGE RAILING TRANSITION
TBC SLAB EXTENSION

MARCH 2005

STANDARD DRAWING NO. E 706-TASE-01

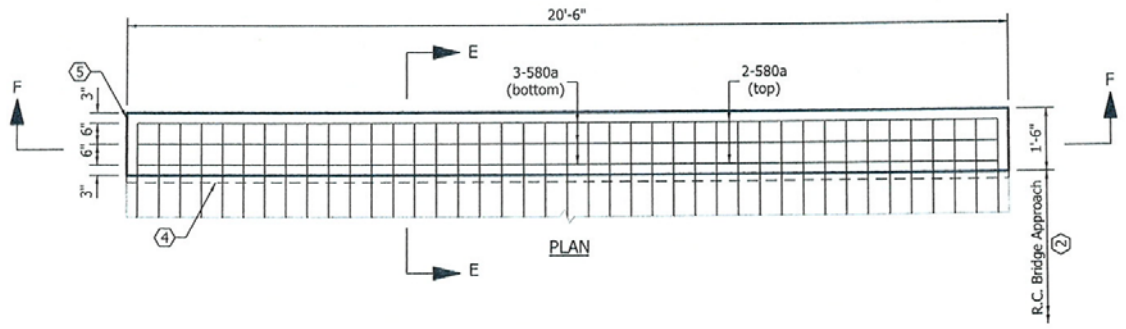
DESIGN STANDARDS ENGINEER

DESIGN STANDARDS ENGINEER

CHIEF HIGHWAY ENGINEER

REVISION TO STANDARD DRAWINGS

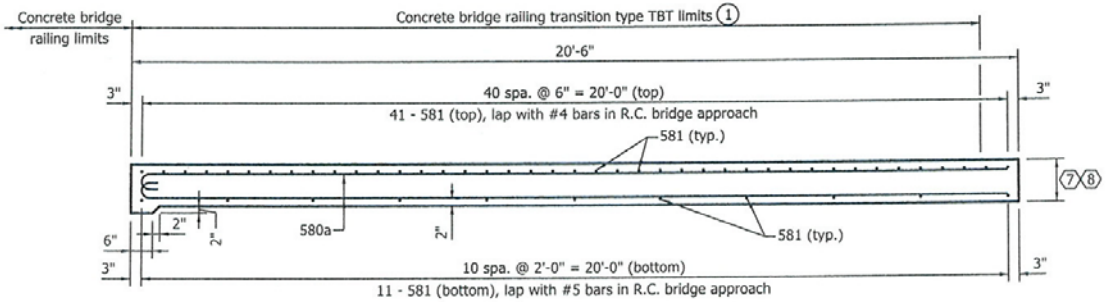
EXISTING 706-TASE-02 BRIDGE RAILING TRANSITION TBT SLAB EXTENSION (WITH MARKUPS)



NOTES

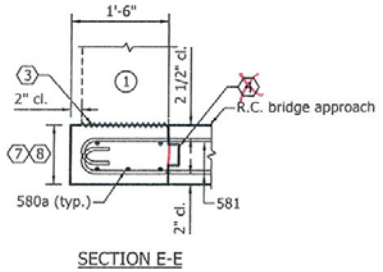
1. See Standard Drawing E 706-TTBT-01 through -03 for concrete bridge railing transition type TBT details.
2. See Standard Drawing E 706-TASE-05 for General Notes

Note for transitions added.

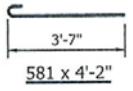


SECTION F-F

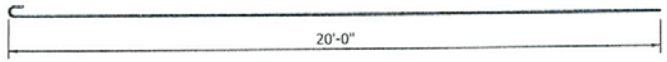
BILL OF MATERIALS			
Quantities are for one side approach slab extension, TBT.			
EPOXY COATED REINFORCING STEEL			
Size & Mark	No. of Bars	Length	Weight (lb)
580a	5	20'-7"	
581	52	4'-2"	
Total #5 Bars			333
Total Epoxy Coated Steel			333
MISCELLANEOUS			
Concrete, Class C (per inch thickness)			3.4 sy



SECTION E-E



581 x 4'-2"



580a x 20'-7"

INDIANA DEPARTMENT OF TRANSPORTATIC

BRIDGE RAILING TRANSITION
TBT SLAB EXTENSION

SEPTEMBER 2011

STANDARD DRAWING NO. E 706-TASE-02

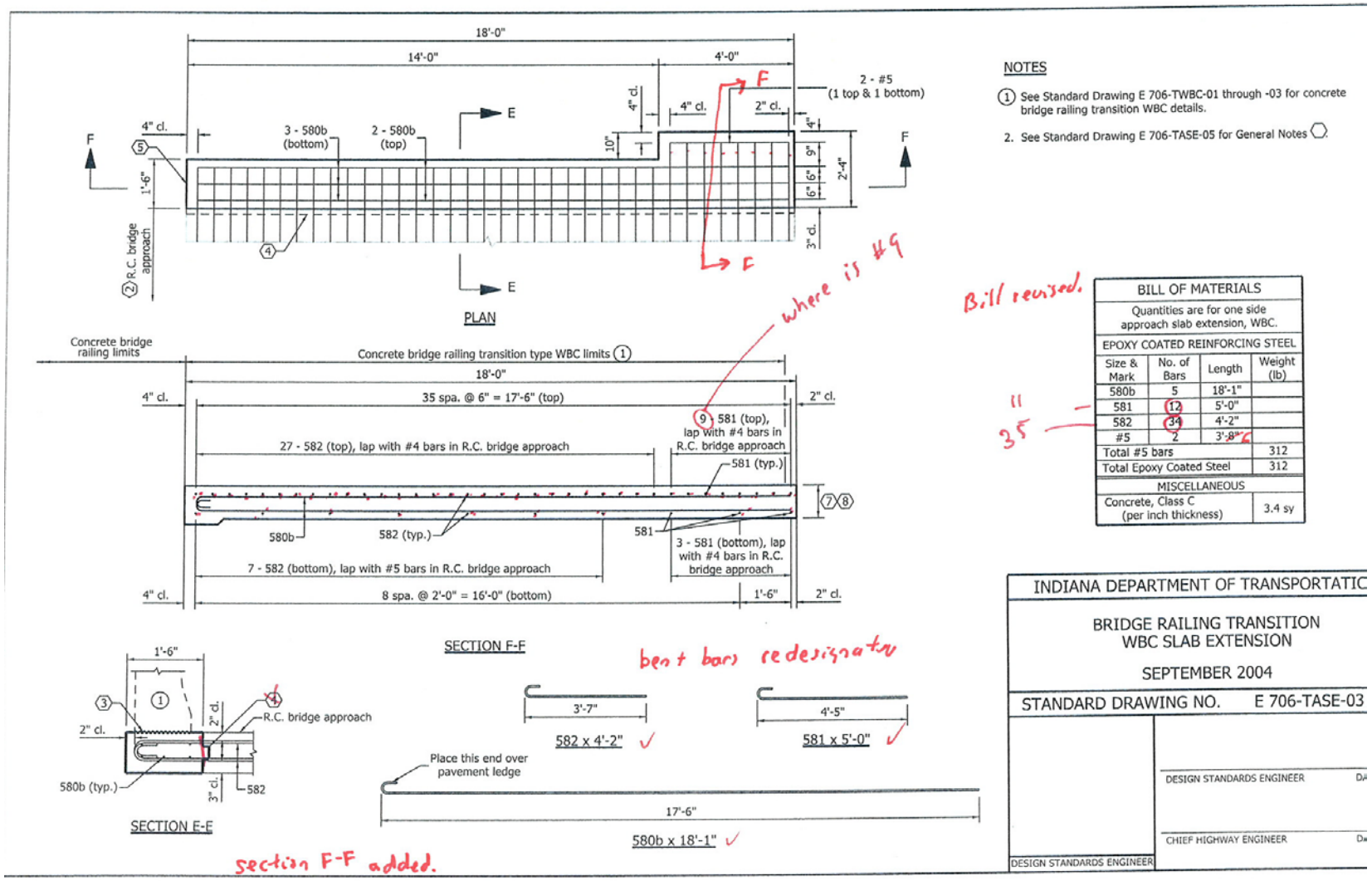
DESIGN STANDARDS ENGINEER

DESIGN STANDARDS ENGINEER D.

CHIEF HIGHWAY ENGINEER D

REVISION TO STANDARD DRAWINGS

EXISTING 706-TASE-03 BRIDGE RAILING TRANSITION WBC SLAB EXTENSION (WITH MARKUPS)



NOTES

(1) See Standard Drawing E 706-TWBC-01 through -03 for concrete bridge railing transition WBC details.

2. See Standard Drawing E 706-TASE-05 for General Notes ⬡.

BILL OF MATERIALS

Quantities are for one side approach slab extension, WBC.

EPOXY COATED REINFORCING STEEL

Size & Mark	No. of Bars	Length	Weight (lb)
580b	5	18'-1"	
581	12	5'-0"	
582	34	4'-2"	
#5	2	3'-8"	
Total #5 bars			312
Total Epoxy Coated Steel			312

MISCELLANEOUS

Concrete, Class C (per inch thickness)	3.4 sy

INDIANA DEPARTMENT OF TRANSPORTATIC

BRIDGE RAILING TRANSITION
WBC SLAB EXTENSION

SEPTEMBER 2004

STANDARD DRAWING NO. E 706-TASE-03

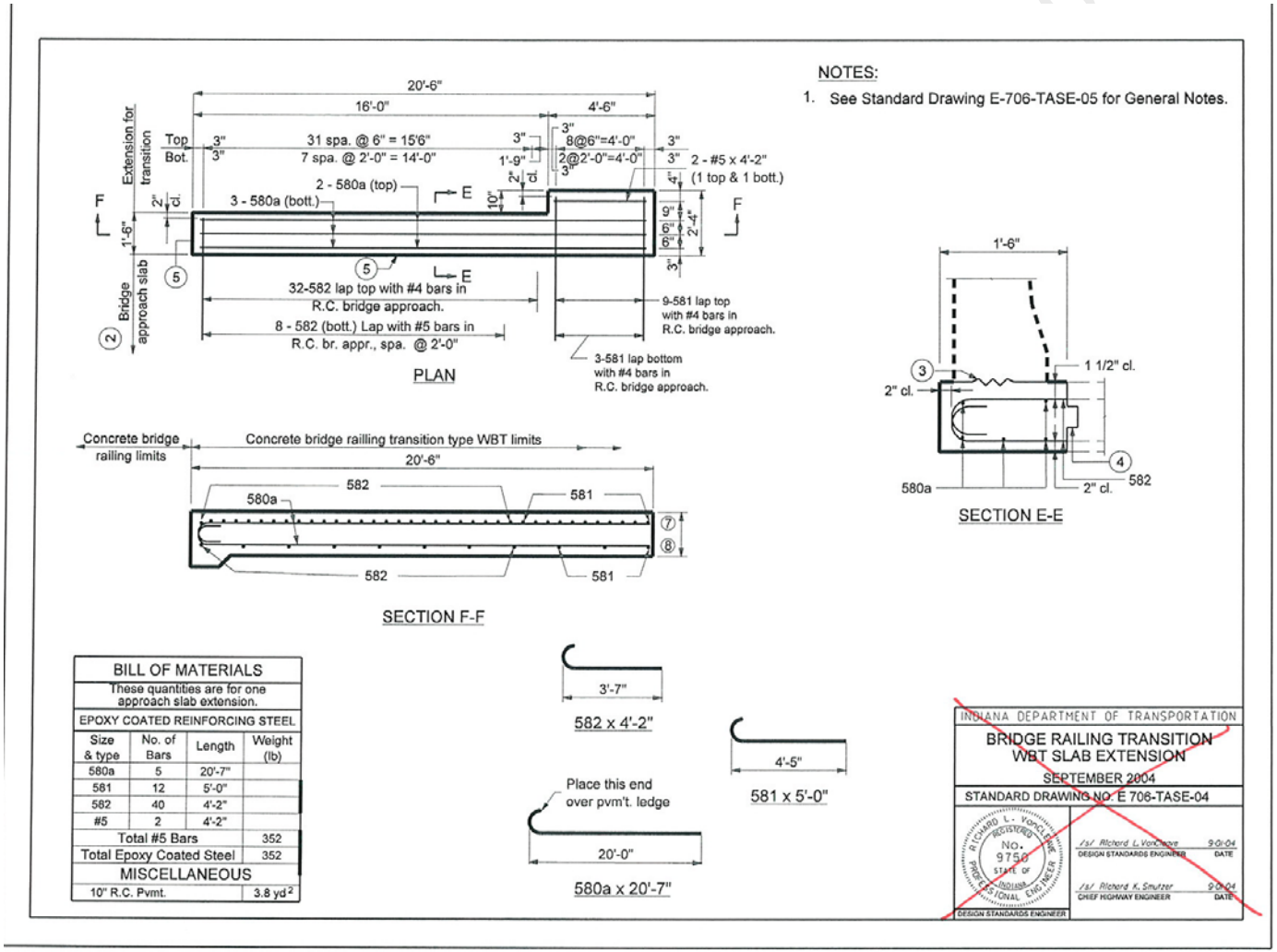
DESIGN STANDARDS ENGINEER

DESIGN STANDARDS ENGINEER

CHIEF HIGHWAY ENGINEER

REVISION TO STANDARD DRAWINGS

EXISTING 706-TASE-04 BRIDGE RAILING TRANSITION WBT SLAB EXTENSION (PROPOSED TO DELETE)



Transition for railing that does not exist

REVISION TO STANDARD DRAWINGS

EXISTING 706-TASE-05 BRIDGE RAILING TRANSITION SLAB EXTENSION GENERAL NOTES (WITH MARKUPS)

NOTES

1. The reinforced concrete bridge approach extension details are only for the limits of the concrete bridge railing transition and shall only apply when the transition is located along the bridge approach slab, adjacent to the bridge. If the transition is positioned along the bridge approach slab, at a location away from the bridge, then the details for the bridge approach slab extension shall be as shown on the plans.

note deleted

(2) See Standard Drawings E 609-RCBA-01 through -07 for details for the reinforced concrete bridge approach.

(3) Type A construction joint. See Standard Drawing E 702-CJTA-01 for details.

(4) Optional nominal 2" x 4" keyway construction joint.

Remove note

(5) This end of the reinforced concrete bridge approach estension shall match the construction at the bridge end as shown on the plans.

6. See Standard Drawing E 703-BRST-01 for bar bending details and reinforcing bar notes.

(7) See Standard Drawing E 609-RCBA-01 for thickness of bridge approach slab to be used with asphalt pavement.

(8) See Standard Drawing E 609-RCBA-02 for thickness of bridge approach slab to be used with a terminal joint and Portland cement concrete pavement.

INDIANA DEPARTMENT OF TRANSPORTATIO

BRIDGE RAILING TRANSITION
SLAB EXTENSION
GENERAL NOTES
SEPTEMBER 2007

STANDARD DRAWING NO. E 706-TASE-05

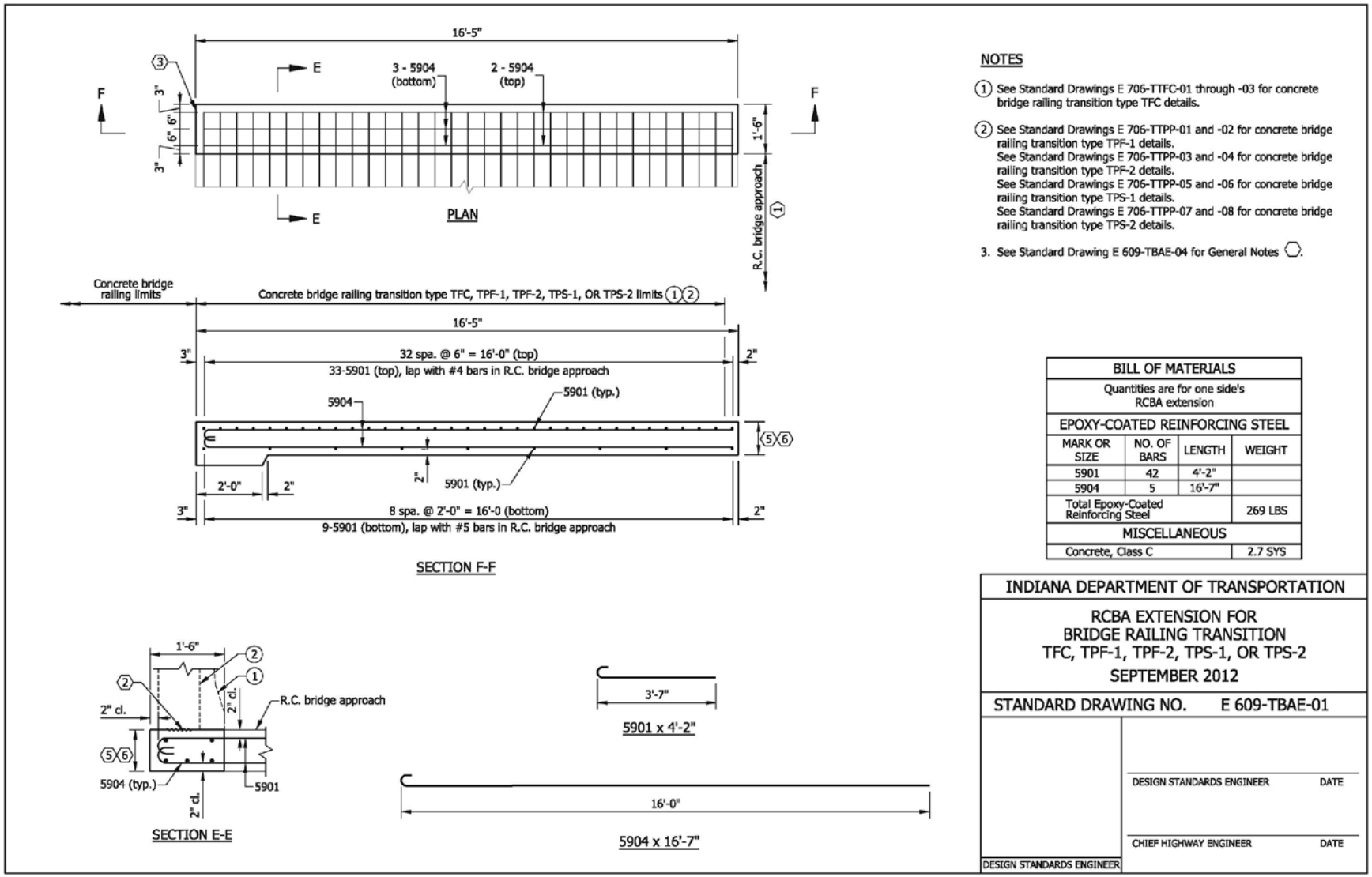
DESIGN STANDARDS ENGINEER DA

CHIEF HIGHWAY ENGINEER DA

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

~~706~~609-TBAE-01 RCBA EXTENSION FOR BRIDGE RAILING TRANSITION TFC, TPF-1, TPF-2, TPS-1, OR TPS-2 (DRAFT)



NOTES

1. See Standard Drawings E 706-TTFC-01 through -03 for concrete bridge railing transition type TFC details.
2. See Standard Drawings E 706-TTPP-01 and -02 for concrete bridge railing transition type TPF-1 details.
   See Standard Drawings E 706-TTPP-03 and -04 for concrete bridge railing transition type TPF-2 details.
   See Standard Drawings E 706-TTPP-05 and -06 for concrete bridge railing transition type TPS-1 details.
   See Standard Drawings E 706-TTPP-07 and -08 for concrete bridge railing transition type TPS-2 details.
3. See Standard Drawing E 609-TBAE-04 for General Notes ⬡.

BILL OF MATERIALS			
Quantities are for one side's RCBA extension			
EPOXY-COATED REINFORCING STEEL			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
5901	42	4'-2"	
5904	5	16'-7"	
Total Epoxy-Coated Reinforcing Steel			269 LBS
MISCELLANEOUS			
Concrete, Class C			2.7 SYS

INDIANA DEPARTMENT OF TRANSPORTATION

RCBA EXTENSION FOR
BRIDGE RAILING TRANSITION
TFC, TPF-1, TPF-2, TPS-1, OR TPS-2
SEPTEMBER 2012

STANDARD DRAWING NO. E 609-TBAE-01

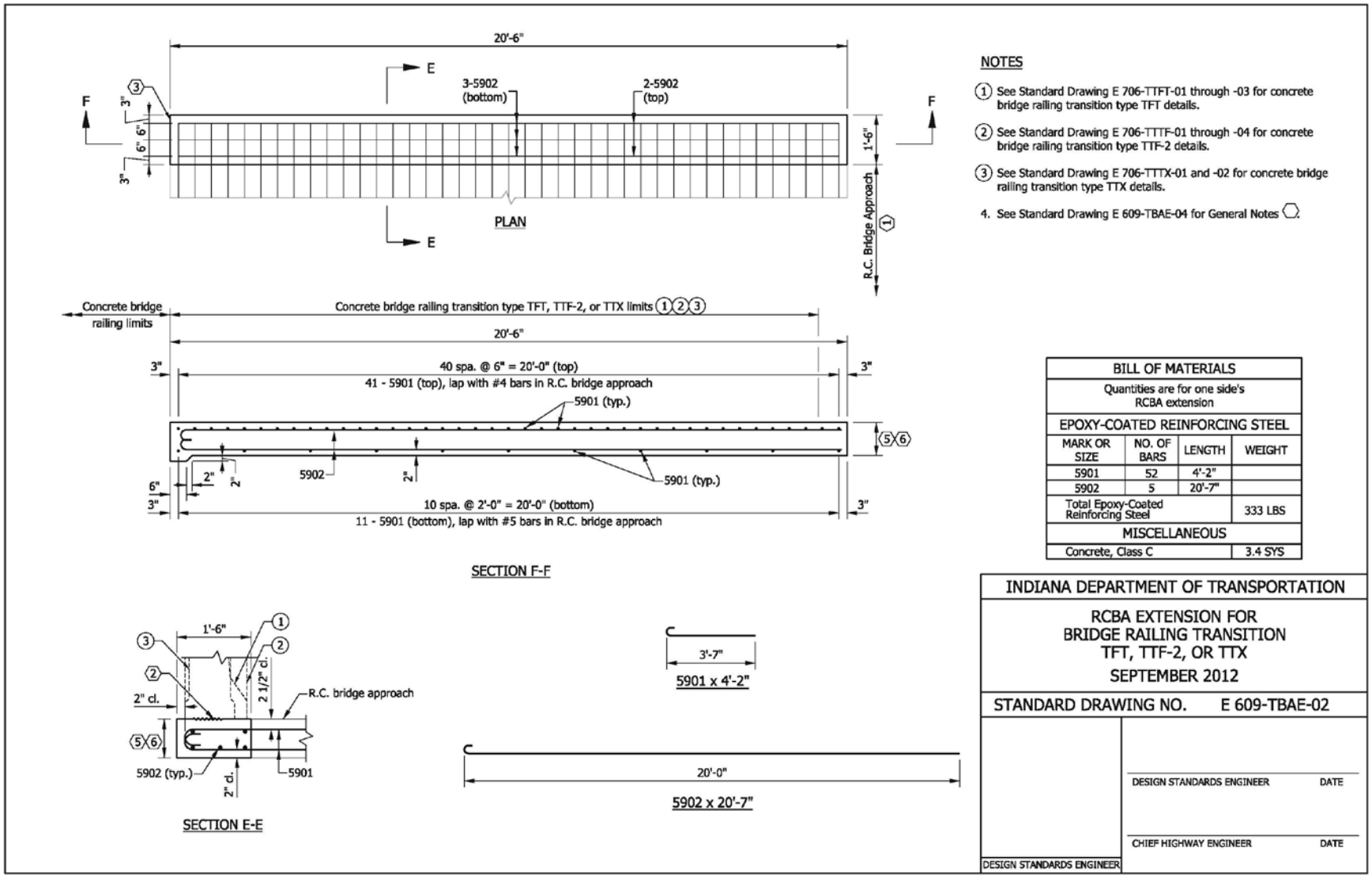
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

~~706~~609-TBAE-02 RCBA EXTENSION FOR BRIDGE RAILING TRANSITION TFT, TTF-2, OR TTX (DRAFT)



NOTES

1. See Standard Drawing E 706-TTFT-01 through -03 for concrete bridge railing transition type TFT details.
2. See Standard Drawing E 706-TTTF-01 through -04 for concrete bridge railing transition type TTF-2 details.
3. See Standard Drawing E 706-TTTX-01 and -02 for concrete bridge railing transition type TTX details.
4. See Standard Drawing E 609-TBAE-04 for General Notes.

BILL OF MATERIALS			
Quantities are for one side's RCBA extension			
EPOXY-COATED REINFORCING STEEL			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
5901	52	4'-2"	
5902	5	20'-7"	
Total Epoxy-Coated Reinforcing Steel			333 LBS
MISCELLANEOUS			
Concrete, Class C			3.4 SYS

INDIANA DEPARTMENT OF TRANSPORTATION

RCBA EXTENSION FOR BRIDGE RAILING TRANSITION TFT, TTF-2, OR TTX

SEPTEMBER 2012

STANDARD DRAWING NO. E 609-TBAE-02

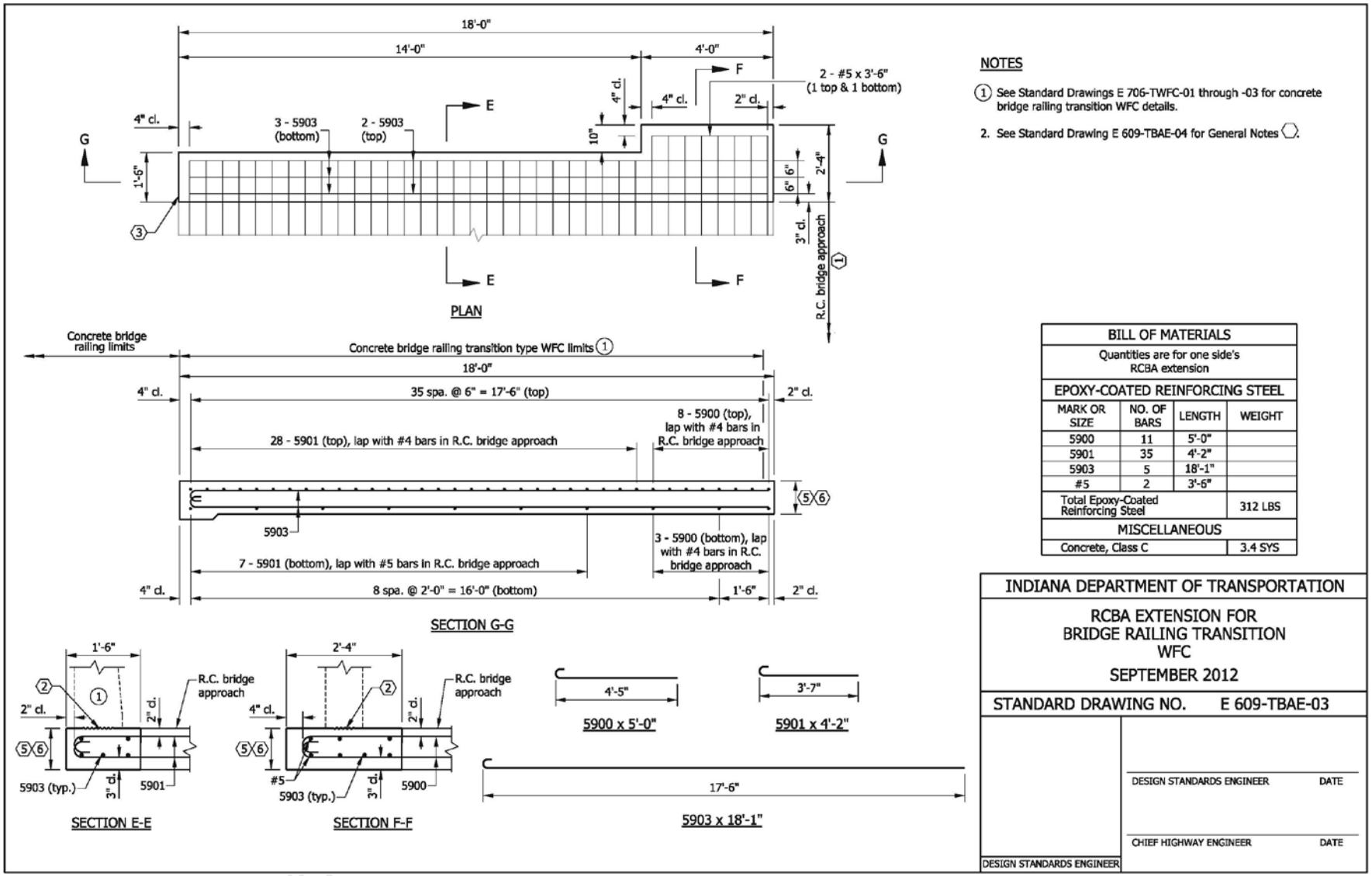
DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

~~706~~609-TBAE-03 RCBA EXTENSION FOR BRIDGE RAILING TRANSITION WFC (DRAFT)



NOTES

1. See Standard Drawings E 706-TWFC-01 through -03 for concrete bridge railing transition WFC details.
2. See Standard Drawing E 609-TBAE-04 for General Notes.

BILL OF MATERIALS			
Quantities are for one side's RCBA extension			
EPOXY-COATED REINFORCING STEEL			
MARK OR SIZE	NO. OF BARS	LENGTH	WEIGHT
5900	11	5'-0"	
5901	35	4'-2"	
5903	5	18'-1"	
#5	2	3'-6"	
Total Epoxy-Coated Reinforcing Steel			312 LBS
MISCELLANEOUS			
Concrete, Class C			3.4 SYS

INDIANA DEPARTMENT OF TRANSPORTATION

RCBA EXTENSION FOR BRIDGE RAILING TRANSITION WFC

SEPTEMBER 2012

STANDARD DRAWING NO. E 609-TBAE-03

DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

REVISION TO STANDARD DRAWINGS

~~706~~609-TBAE-04 RCBA EXTENSION FOR BRIDGE RAILING TRANSITION GENERAL NOTES (DRAFT)

GENERAL NOTES

1. See Standard Drawings E 609-RCBA-01 through -07 for reinforced concrete bridge approach details.
2. Construction joint type A. See Standard Drawing E 702-CJTA-01 for details.
3. This end of the reinforced concrete bridge approach estension shall match the construction at the bridge end as shown on the plans.
4. See Standard Drawing E 703-BRST-01 for reinforcing-bar bending details and notes.
5. See Standard Drawing E 609-RCBA-01 for thickness of RCBA and its extension to be used with asphalt pavement.
6. See Standard Drawing E 609-RCBA-02 for thickness of RCBA and its extension to be used with a terminal joint and portland cement concrete pavement.

INDIANA DEPARTMENT OF TRANSPORTATION

RCBA EXTENSION FOR
BRIDGE RAILING TRANSITION
GENERAL NOTES

SEPTEMBER 2012

STANDARD DRAWING NO. E 609-TBAE-04

DESIGN STANDARDS ENGINEER DATE

CHIEF HIGHWAY ENGINEER DATE

DESIGN STANDARDS ENGINEER

COMMENTS AND ACTION

609.03 GENERAL REQUIREMENTS
704.02 MATERIALS
704.08 BASIS OF PAYMENT
706.04 CONCRETE RAILING WITH REINFORCED CONCRETE MOMENT SLAB
701-BPIL-01 – 06
702-BCAW-01
702-CJTA-01
703-BRST-01
704-BDAF-01
704-BDCG-01 – 04
704-SBFD-01
706-BRRW-01 – 10
706-TASE-01 - 05

DISCUSSION: This item was introduced and presented by Mr. Strain who said that these revisions are an effort to correct inconsistencies. RCBA information was also moved to 609 for clarification.

Mr. Pankow mentioned that NEENAH has been revising some of their castings to reduce weights. Mr. Miller inquired as to why we need a standard drawing showing dimensions of the castings. Mr. Strain replied that it is to show general dimensions. Mr. Strain also commented on the one drawing being removed since the information contained therein is no longer necessary. Final draft of the drawings are shown in these minutes.

Motion: Mr. Strain Second: Mr. Cales Ayes: 7 Nays: 0	Action: __X__ Passed as Submitted ____ Passed as Revised ____ Withdrawn
Standard Specifications Sections affected: 609.03 pg 386; 704.02 pg 520; 704.08 pg 524; 706.04 pg 526 and 527 Recurring Special Provision affected: NONE Standard Sheets affected: SEE PROPOSAL Design Manual Sections affected: NONE GIFE Sections cross-references: NONE	__X__ 2014 Standard Specifications Book ____ Revise Pay Items List __X__ Create RSP (No. TBD) Effective Sept. 01, 2012 Letting RSP Sunset Date: ____ ____ Revise RSP (No.____) Effective ____Letting RSP Sunset Date: ____ Standard Drawing Effective Sept. 01, 2012 ____ 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? YES