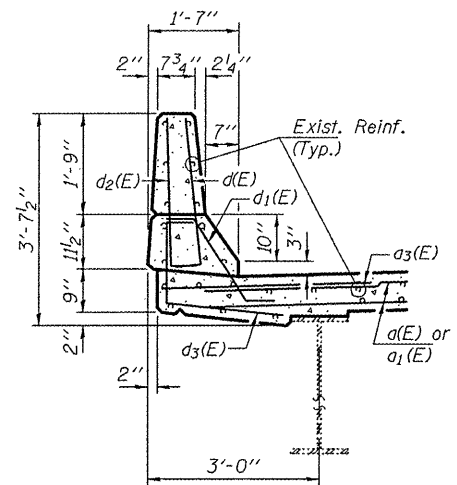


Pay code	Item	Unit	Total	Urban		Urban	Urban	Urban	Rural	Rural	Rural	Rural	Rural	Rural	Rural	
				Total	Rural	SN 084-2000	SN 084-0014	SN 084-0016	SN 084-0018	SN 084-0019	SN 084-0020	SN 084-0022	SN 084-0023	SN 084-0088	SN 084-0100	SN 084-0101
<del>10300100</del>	CHANNEL EXCAVATION	CU YD	82.0	82.0	0.0	82.0										
<del>28100105</del>	STONE RIPRAP, CLASS A3	SQ YD	99.0	60.0	39.0			60.0		14.0		18.0	7.0			
<del>28100205</del>	STONE RIPRAP, CLASS A3	TON	46.0	30.0	16.0	30.0								8.0	8.0	
<del>28200200</del>	FILTER FABRIC	SQ YD	99.0	60.0	39.0			60.0		14.0		18.0	7.0			
<del>50102400</del>	CONCRETE REMOVAL	CU YD	191.1	102.3	88.8		42.3	60.0	26.2	17.4	26.8	9.4	9.0			
<del>50104650</del>	SLOPE WALL REMOVAL	SQ YD	81.0	7.0	74.0			7.0			56.0		18.0			
<del>50157300</del>	PROTECTIVE SHIELD	SQ YD	36	0.0	36					36						
<del>50300255</del>	CONCRETE SUPERSTRUCTURE	CU YD	193.3	103.1	90.2		42.3	60.8	26.4	18.0	27.0	9.6	9.2			
<del>50300300</del>	PROTECTIVE COAT	SQ YD	549.7	282.4	267.3		101.5	180.9	68.5	46.5	75.0	25.3	52.0			
<del>50800205</del>	REINFORCEMENT BARS, EPOXY COATED	POUND	22,980.0	11,770.0	11,210.0		5,020	6,750	3,140	1,730	3,840	1,240	1,260			
<del>50800515</del>	BAR SPLICERS	EACH	280.0	104.0	176.0		56	48	48	24	56	24	24			
<del>51100100</del>	SLOPE WALL 4"	SQ YD	25.0	7.0	18.0			7					18.0			
<del>51100300</del>	SLOPE WALL 6"	SQ YD	56.0	0.0	56.0						56.0					
<del>52000110</del>	PREFORMED JOINT STRIP SEAL	FOOT	1,342.0	685.0	657.0		283.0	402.0	189.0	119.0	217.0	66.0	66.0			
<del>59300100</del>	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	40.0	0.0	40.0											40.0
<del>X0325305</del>	STRUCTURAL REPAIR OF CONCRETE (DEPTH = OR < 5 INCHES)	SQ FT	2.0	2.0			2.0									
<del>X0325303</del>	STRUCTURAL REPAIR OF CONCRETE (DEPTH > 5 INCHES)	SQ FT	6.5		6.5				6.5							
<del>Z0001800</del>	APPROACH SLAB REPAIR (PARTIAL DEPTH)	SQ YD	14.0	0.0	14.0				1.0	11.0	2.0					
<del>Z0016002</del>	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	14.0	0.0	14.0				14.0							
<del>Z0016200</del>	DECK SLAB REPAIR (PARTIAL)	SQ YD	122.0	0.0	122.0				48.0	34.0	40.0					
<del>Z0065730</del>	SLOPE WALL SLURRY PUMPING	CU YD	427.0	244.0	183.0		54.0	190.0		40.0	87.0	56.0				
	BRIDGE ABUTMENT DRAIN PIPE (6")	FOOT	78.0	78.0	0.0		78.0									

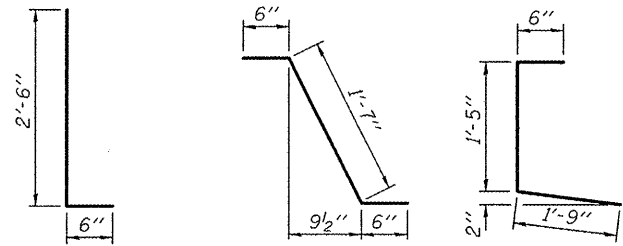
Rev. 5-26-10

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>SCHEDULES</b>			F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
#FILE#		DRAWN -	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA.	TO STA.	55	84 2(RS-3)	SANGAMON	156	11
		CHECKED -	REVISED -		CONTRACT NO. 72D43									
		DATE -	REVISED -		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT									

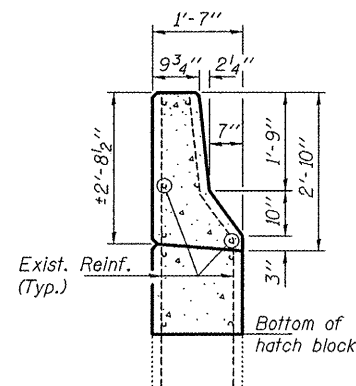
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



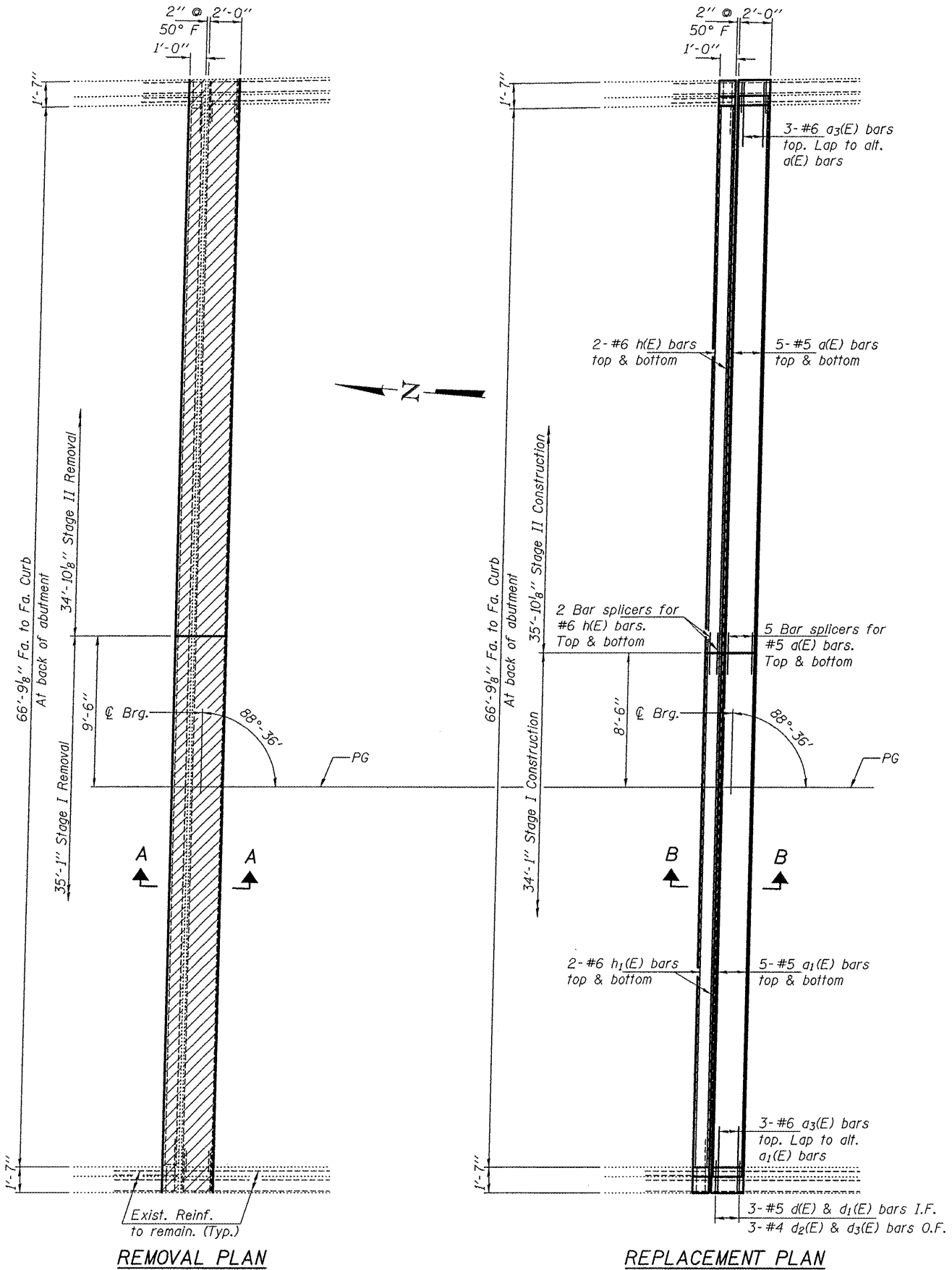
TYPICAL PARAPET SECTION



BARS d(E) & d<sub>2</sub>(E) BAR d<sub>1</sub>(E) BAR d<sub>3</sub>(E)



SECTION THRU APPROACH PARAPET

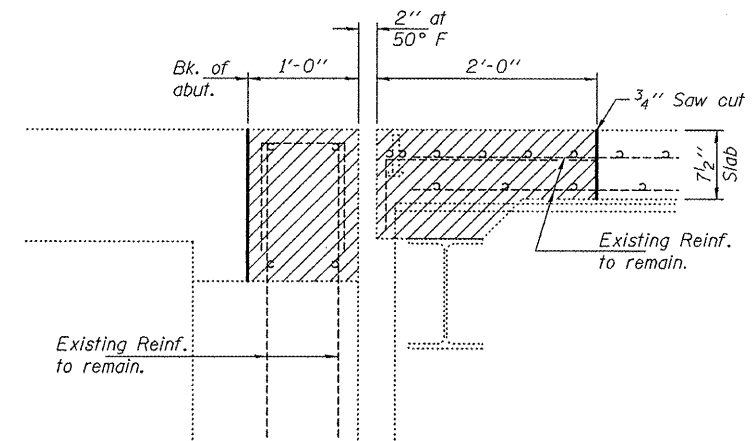


REMOVAL PLAN

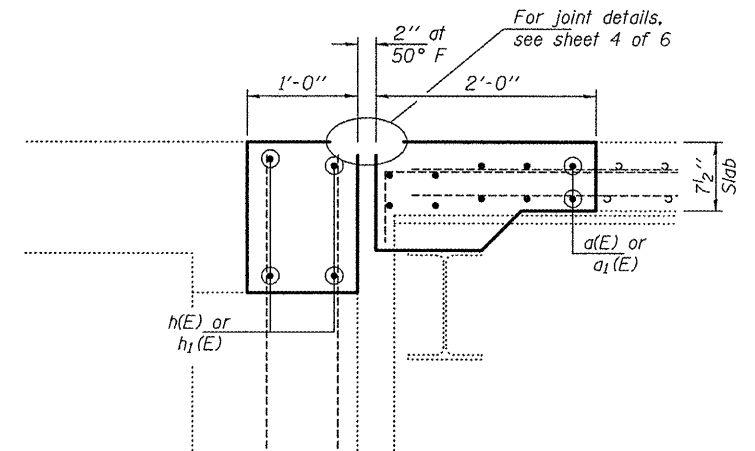
REPLACEMENT PLAN

Notes:  
Hatched areas indicate removal.

SHEET NO. 2 6 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84 2(RS-3)	SANGAMON	156	114
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
			CONTRACT NO. 72D43		



SECTION A-A  
(Near  $\varnothing$  Roadway)  
(Dimensions are at RT L's to end of deck)



SECTION B-B  
(Near  $\varnothing$  Roadway)  
(Dimensions are at RT L's to end of deck)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	20	#5	34'-10"	—
a <sub>1</sub> (E)	20	#5	33'-1"	—
a <sub>3</sub> (E)	12	#6	4'-0"	—
d(E)	12	#5	3'-0"	L
d <sub>1</sub> (E)	12	#5	2'-7"	L
d <sub>2</sub> (E)	12	#4	3'-0"	L
d <sub>3</sub> (E)	12	#4	3'-8"	L
h(E)	8	#6	35'-6"	—
h <sub>1</sub> (E)	8	#6	33'-9"	—
Concrete Removal			Cu. Yd.	20.5
Concrete Superstructure			Cu. Yd.	20.5
Reinforcement Bars, Epoxy Coated			Lbs.	2440

JOINT REPLACEMENT DETAILS  
FAI 55 OVER SANGAMON AVE.  
SN 084-0014 & 0015

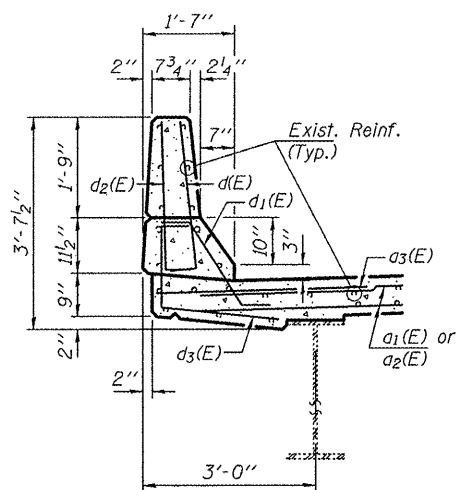
DESIGNED	IJL
CHECKED	VHV
DRAWN	ballva
CHECKED	IJL VHV

MAY 7, 2010  
EXAMINED *Carl Hoyer*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

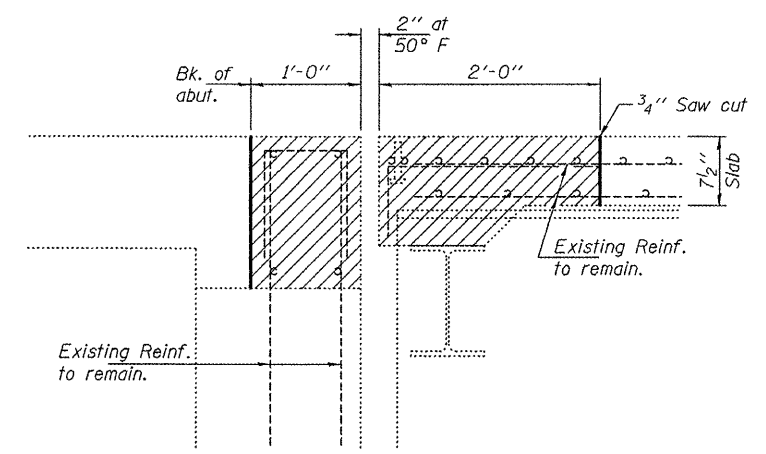
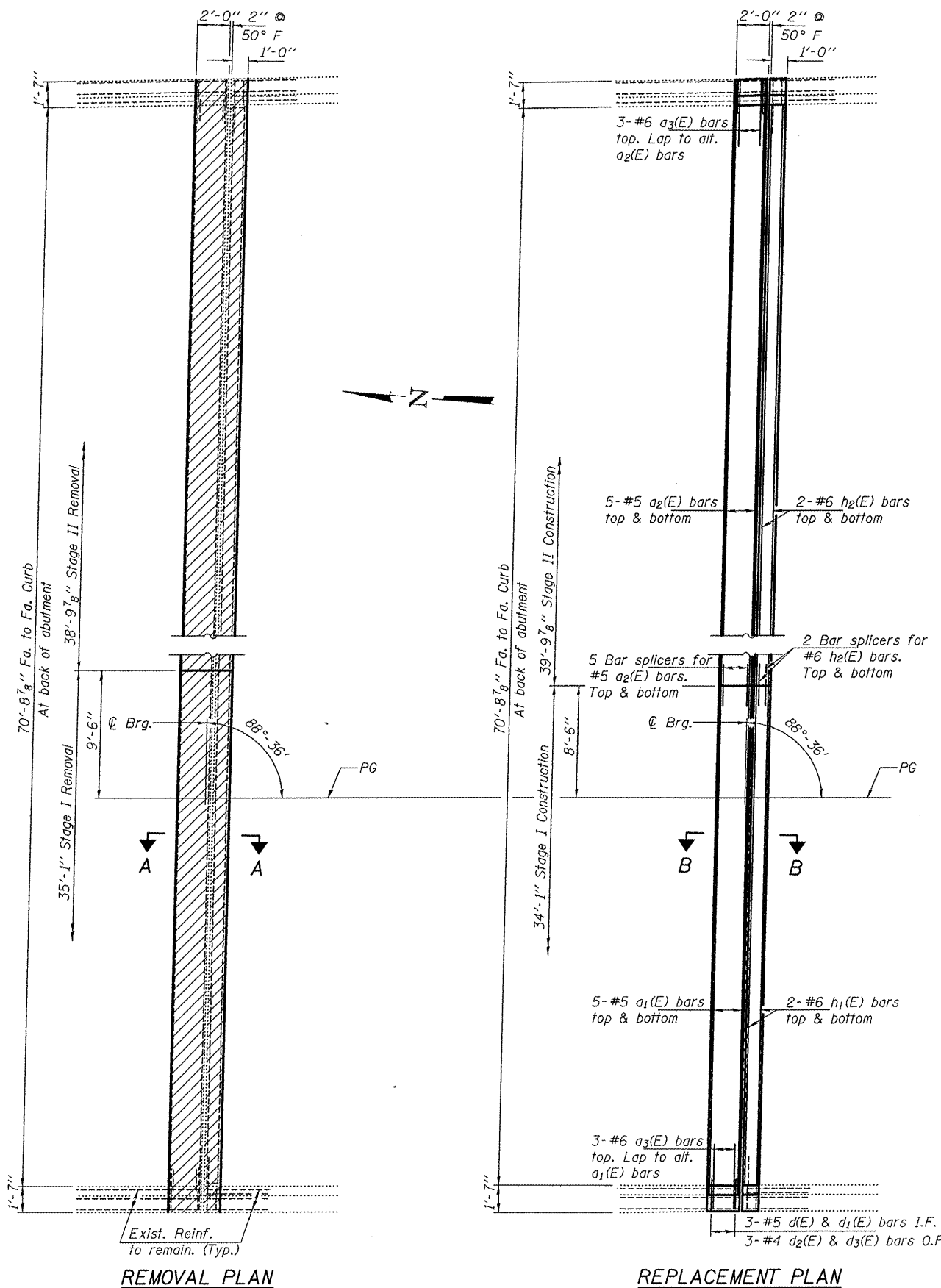
SN 084-0015, North Abutment.  
SN 084-0014, South Abutment similar by rotation

Rev. 5-26-10

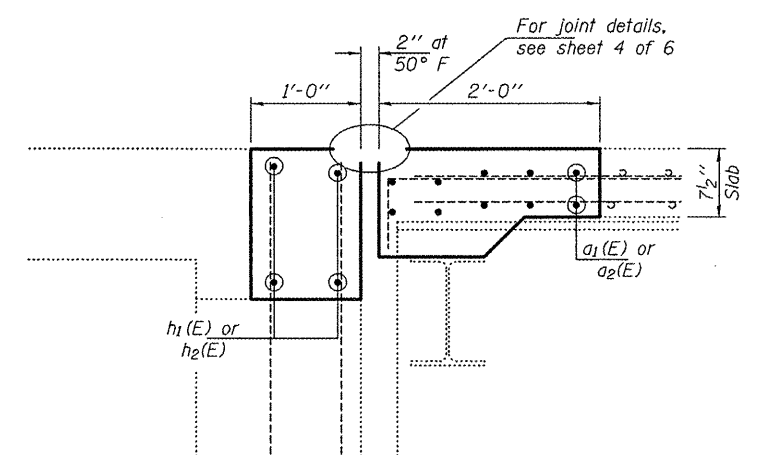
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



TYPICAL PARAPET SECTION



SECTION A-A  
(Near Centerline Roadway)  
(Dimensions are at RT L's to end of deck)



SECTION B-B  
(Near Centerline Roadway)  
(Dimensions are at RT L's to end of deck)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a1(E)	20	#5	33'-1"	—
a2(E)	20	#5	38'-10"	—
a3(E)	12	#6	4'-0"	—
d(E)	12	#5	3'-0"	L
d1(E)	12	#5	2'-7"	L
d2(E)	12	#4	3'-0"	L
d3(E)	12	#4	3'-8"	L
h1(E)	8	#6	33'-9"	—
h2(E)	8	#6	39'-6"	—
Concrete Removal			Cu. Yd.	21.8
Concrete Superstructure			Cu. Yd.	21.8
Reinforcement Bars, Epoxy Coated			Lbs.	2580

JOINT REPLACEMENT DETAILS  
FAI 55 OVER SANGAMON AVE.  
SN 084-0014 & 0015

Notes:  
Hatched areas indicate removal.  
See sheet 2 of 5 for bar details.  
See sheet 2 of 5 for section thru approach parapet.

DESIGNED	IJL
CHECKED	VHV
DRAWN	baliva
CHECKED	IJL VHV

MAY 7, 2010  
EXAMINED *Carl Proyer*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

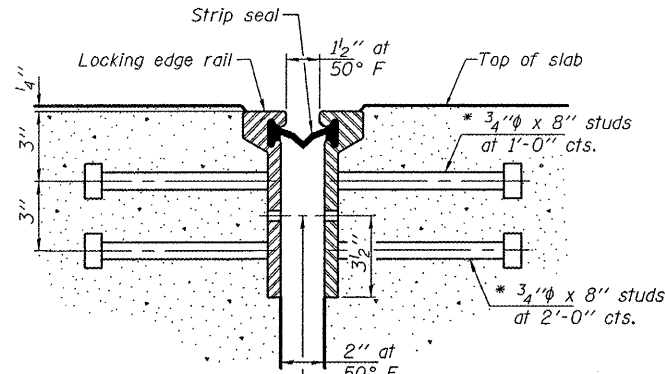
SN 084-0015, South Abutment.  
SN 084-0014, North Abutment similar by rotation

SHEET NO. 3	F.A.I. RTE. 55	SECTION 84 2(RS-3)	COUNTY SANGAMON	TOTAL SHEETS 156	SHEET NO. 115
6 SHEETS	FED. ROAD DIST. NO. ILLINOIS		FED. AID PROJECT CONTRACT NO. 72D43		

Rev. 5-26-10

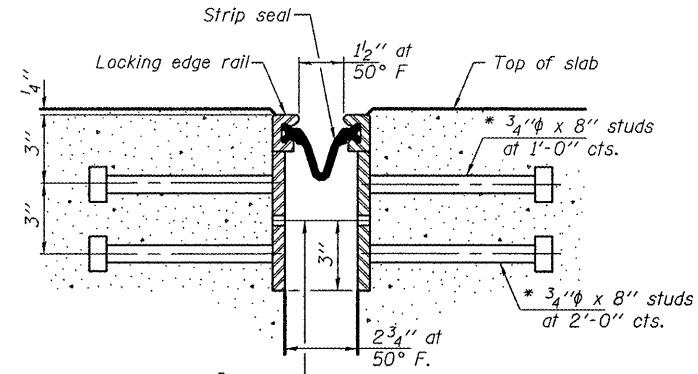
\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



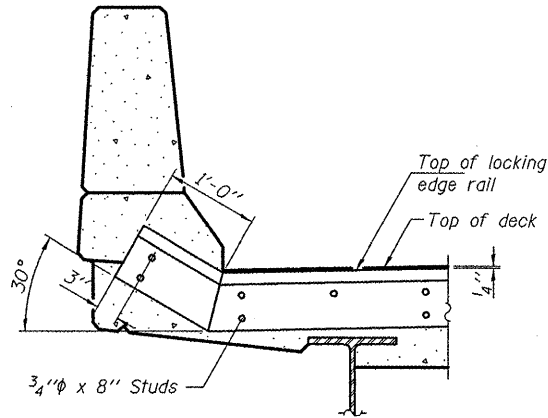
7/16" holes at 4'-0" cts. for 3/8" bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU  
ROLLED RAIL JOINT

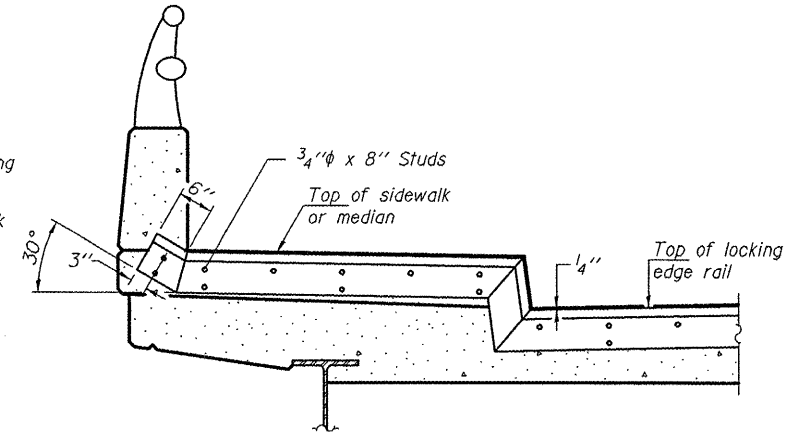


7/16" holes at 4'-0" cts. for 3/8" bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU  
WELDED RAIL JOINT



AT PARAPET  
See Section A-A for end treatment of skews > 30°.



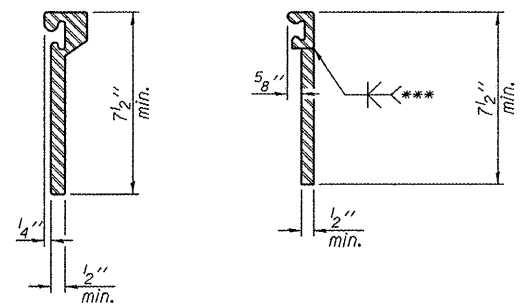
AT SIDEWALK OR MEDIAN  
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches. The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed. The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State. All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications. Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.



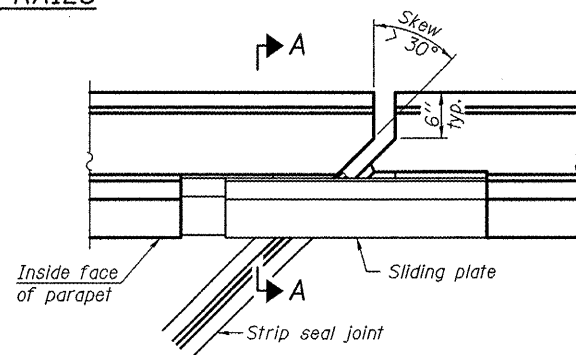
ROLLED  
EXTRUDED RAIL

WELDED RAIL

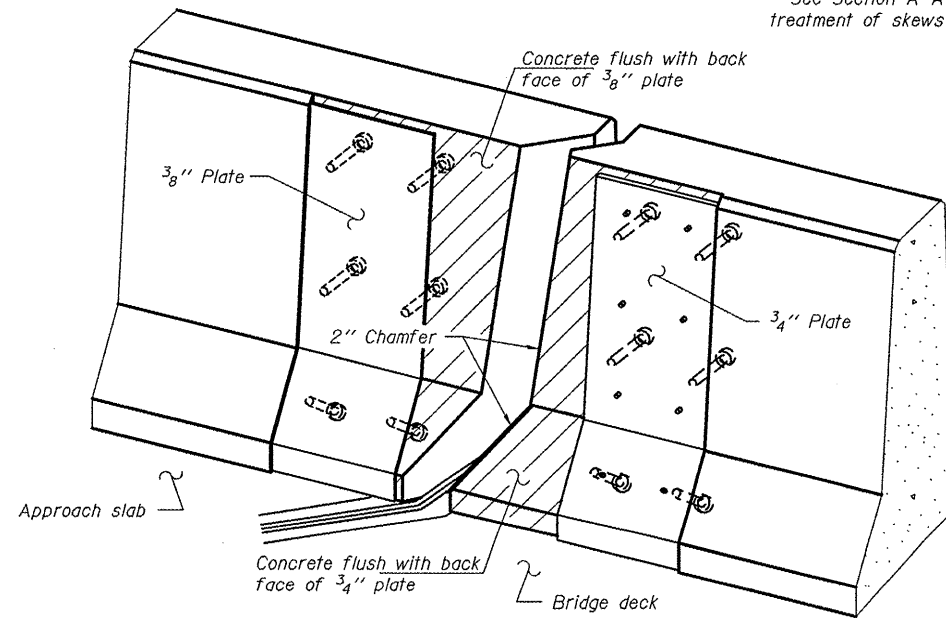
LOCKING EDGE  
RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

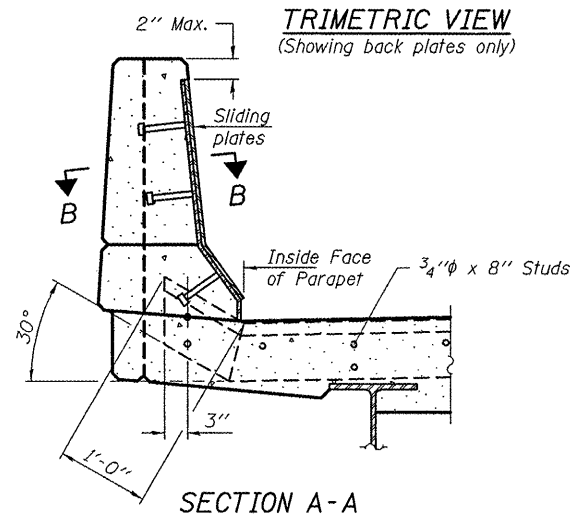
LOCKING EDGE RAILS



PLAN

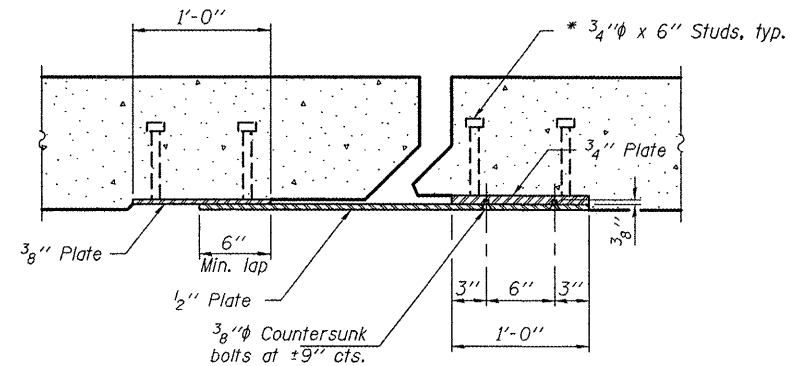


TRIMETRIC VIEW  
(Showing back plates only)



SECTION A-A

POINT BLOCK DETAILS  
(for skews > 30°)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	283

PREFORMED JOINT STRIP SEAL  
FAI 55 OVER SANGAMON AVE.  
SN 084-0014 & 0015

DESIGNED	IJL
CHECKED	VHV
DRAWN	ballva
CHECKED	IJL VHV

MAY 7, 2010  
EXAMINED *Carl Hoyer*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

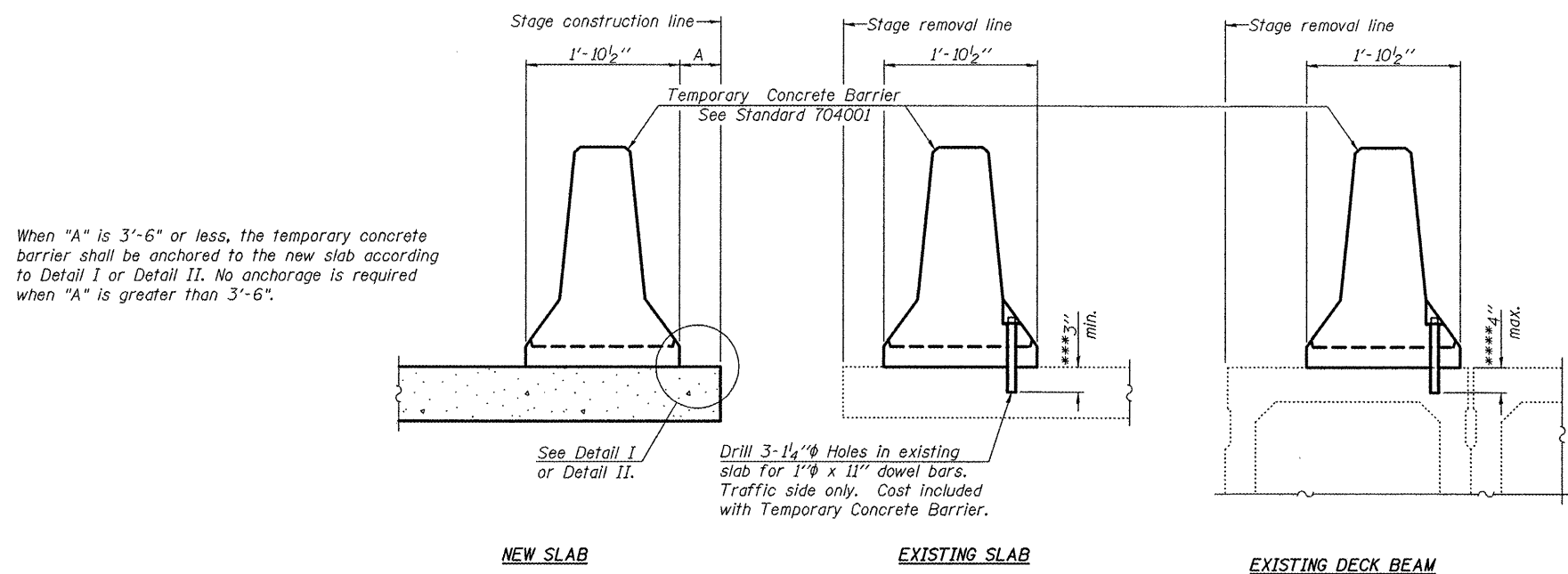
EJ-SSJ

11-1-09

SHEET NO. 4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
6 SHEETS	55	84 2(RS-3)	SANGAMON	156	116
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		

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STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".

NEW SLAB

See Detail I or Detail II.

Drill 3-1/4"  $\phi$  Holes in existing slab for 1"  $\phi$  x 11" dowel bars. Traffic side only. Cost included with Temporary Concrete Barrier.

EXISTING SLAB

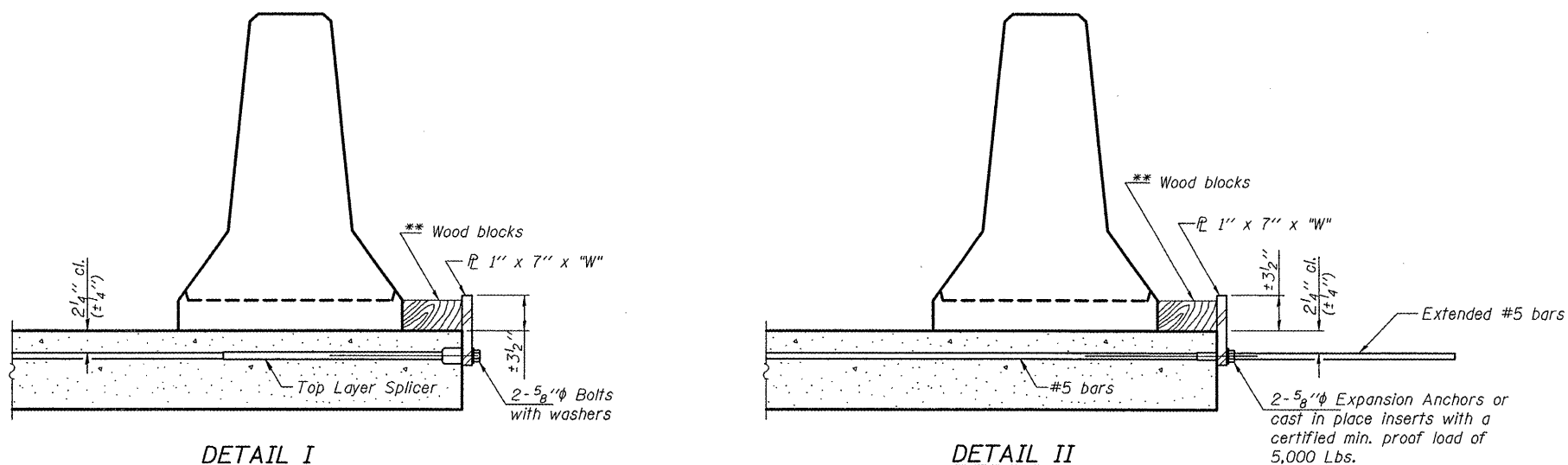
EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

NOTES

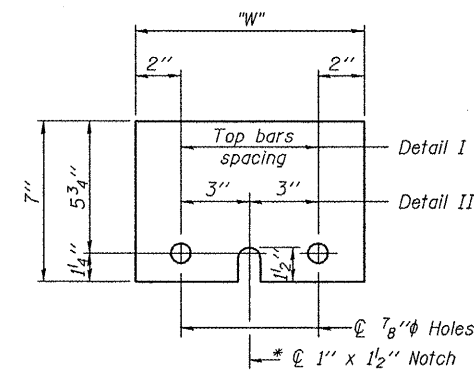
- Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel  $\bar{L}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each barrier panel.
- Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel  $\bar{L}$  to the concrete slab or concrete wearing surface with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\bar{C}$  of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

- \*\*\* Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.
- \*\*\*\* If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I

DETAIL II



STEEL RETAINER  $\bar{L}$  1" x 7" x 10"

\* Required only with Detail II

\*\* Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

TEMPORARY CONCRETE BARRIER  
FAI 55 OVER SANGAMON AVE.  
SN 084-0014 & 0015

DESIGNED	IJL
CHECKED	VHV
DRAWN	ballva
CHECKED	IJL VHV

MAY 7, 2010  
EXAMINED *Carl Poyser*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

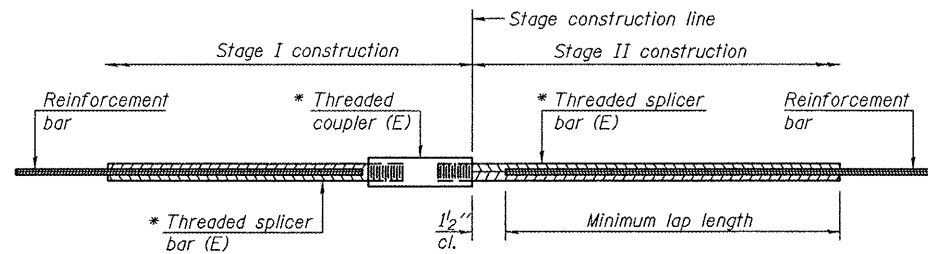
R-27

11-1-09

SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84 2(RS-3)	SANGAMON	156	117
6 SHEETS	CONTRACT NO. 72D43				
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT		

$\Delta$  Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**STANDARD BAR SPLICER ASSEMBLY**

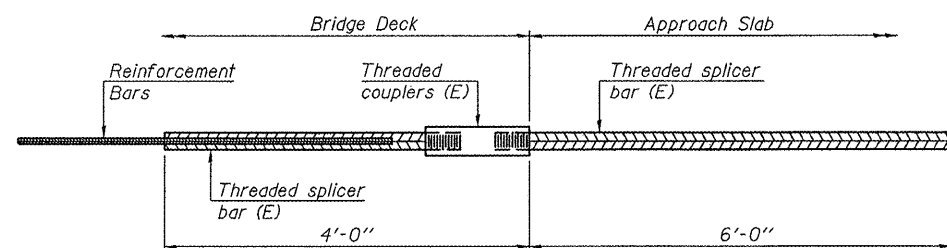
Minimum Lap Lengths				
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

Table 1: Black bar, 0.8 Class C  
Table 2: Black bar, Top bar lap, 0.8 Class C  
Table 3: Epoxy bar, 0.8 Class C  
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

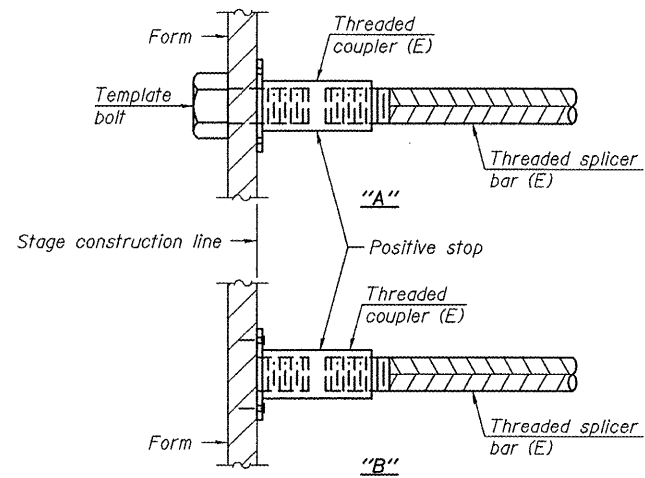
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
N. Abutment (0014)	#5	10	3
N. Abutment (0014)	#6	4	3
S. Abutment (0014)	#5	10	3
S. Abutment (0014)	#6	4	3
N. Abutment (0015)	#5	10	3
N. Abutment (0015)	#6	4	3
S. Abutment (0015)	#5	10	3
S. Abutment (0015)	#6	4	3



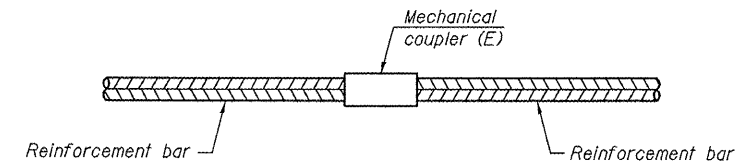
**BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

No. required =



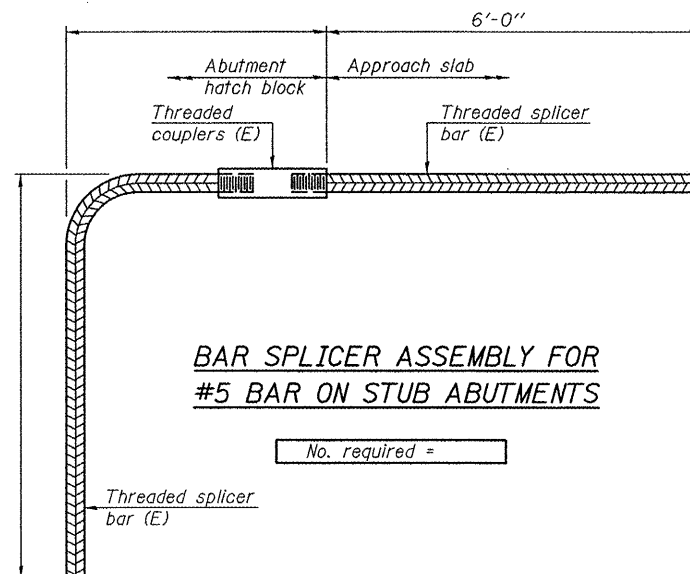
**INSTALLATION AND SETTING METHODS**

"A": Set bar splicer assembly by means of a template bolt.  
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.



**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required =

**NOTES**

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
All reinforcement shall be lapped and tied to the splicer bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
See special provision for Mechanical Splicers.  
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
STRUCTURE NO.**

DESIGNED	IJL
CHECKED	VHV
DRAWN	balva
CHECKED	IJL VHV

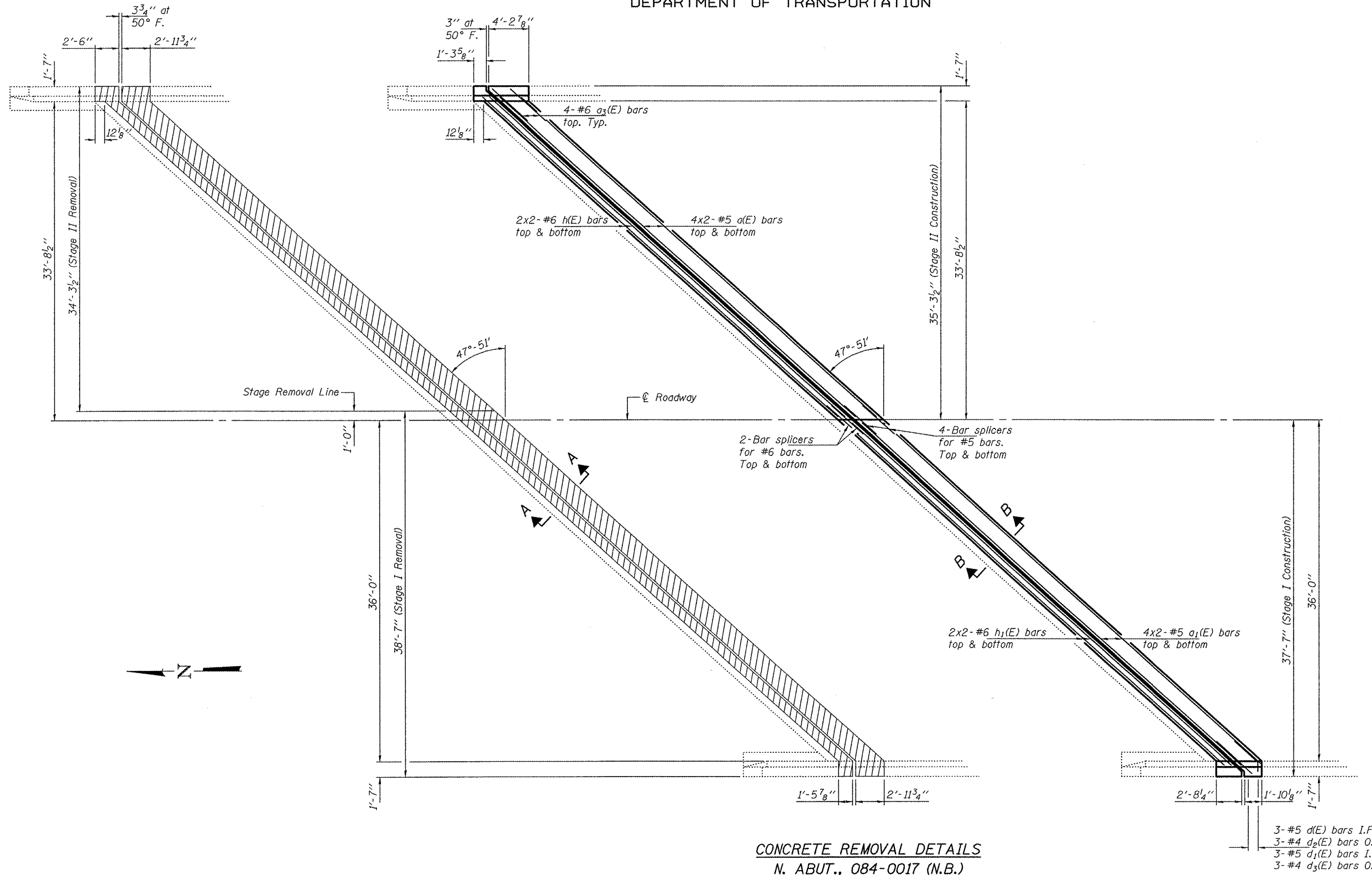
MAY 7, 2010  
EXAMINED *Carl Kruger*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

BSD-1 11-1-09

SHEET NO. 6 6 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84 2(RS-3)	SANGAMON	156	118
CONTRACT NO. 72D43					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



CONCRETE REMOVAL DETAILS  
N. ABUT., 084-0017 (N.B.)

CONCRETE REPLACEMENT DETAILS  
N. ABUT., 084-0017 (N.B.)

CONCRETE REMOVAL &  
REPLACEMENT DETAILS  
SN 084-0017 (N.B.)

DESIGNED	IJL
CHECKED	ATH
DRAWN	Kyle M. Steffen
CHECKED	IJL ATH

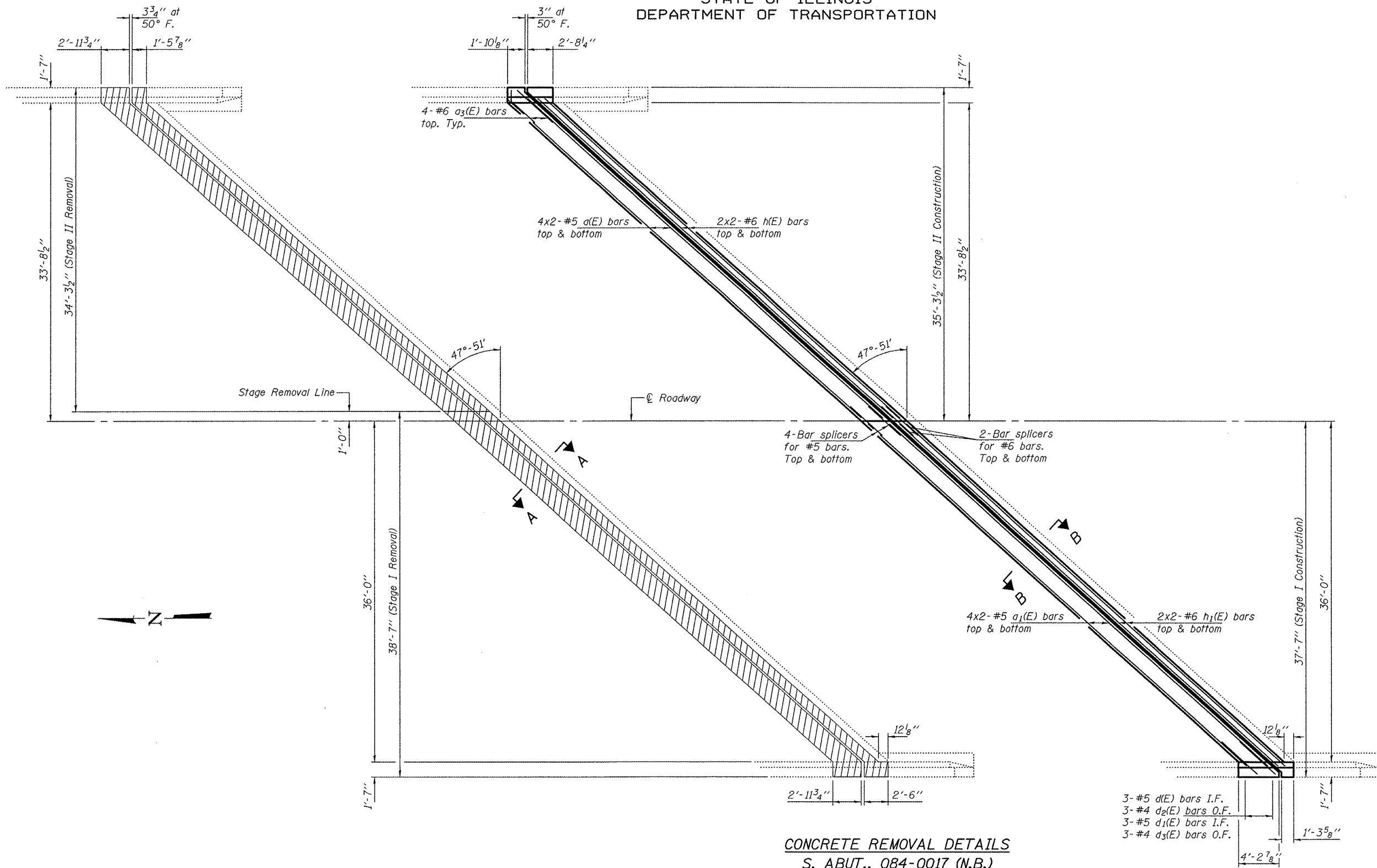
MAY 7, 2010  
EXAMINED *Carl Krueger*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

Notes:  
Hatched areas indicate removal.  
Bend a3(E) bars in field as necessary.  
For Sections A-A & B-B, bar details and  
Bill of Material, see sheet 6 of 8.

SHEET NO. 2 8 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84-2(RS-3)	SANGAMON	156	120
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 72D43					

Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



CONCRETE REMOVAL DETAILS  
S. ABUT., 084-0017 (N.B.)

CONCRETE REPLACEMENT DETAILS  
S. ABUT., 084-0017 (N.B.)

CONCRETE REMOVAL &  
REPLACEMENT DETAILS  
SN 084-0017 (N.B.)

Notes:  
Hatched areas indicate removal.  
Bend  $a_3(E)$  bars in field as necessary.  
For Sections A-A & B-B, bar details and  
Bill of Material, see sheet 6 of 8.

DESIGNED	IJL
CHECKED	ATH
DRAWN	Kyle M. Steffen
CHECKED	IJL ATH

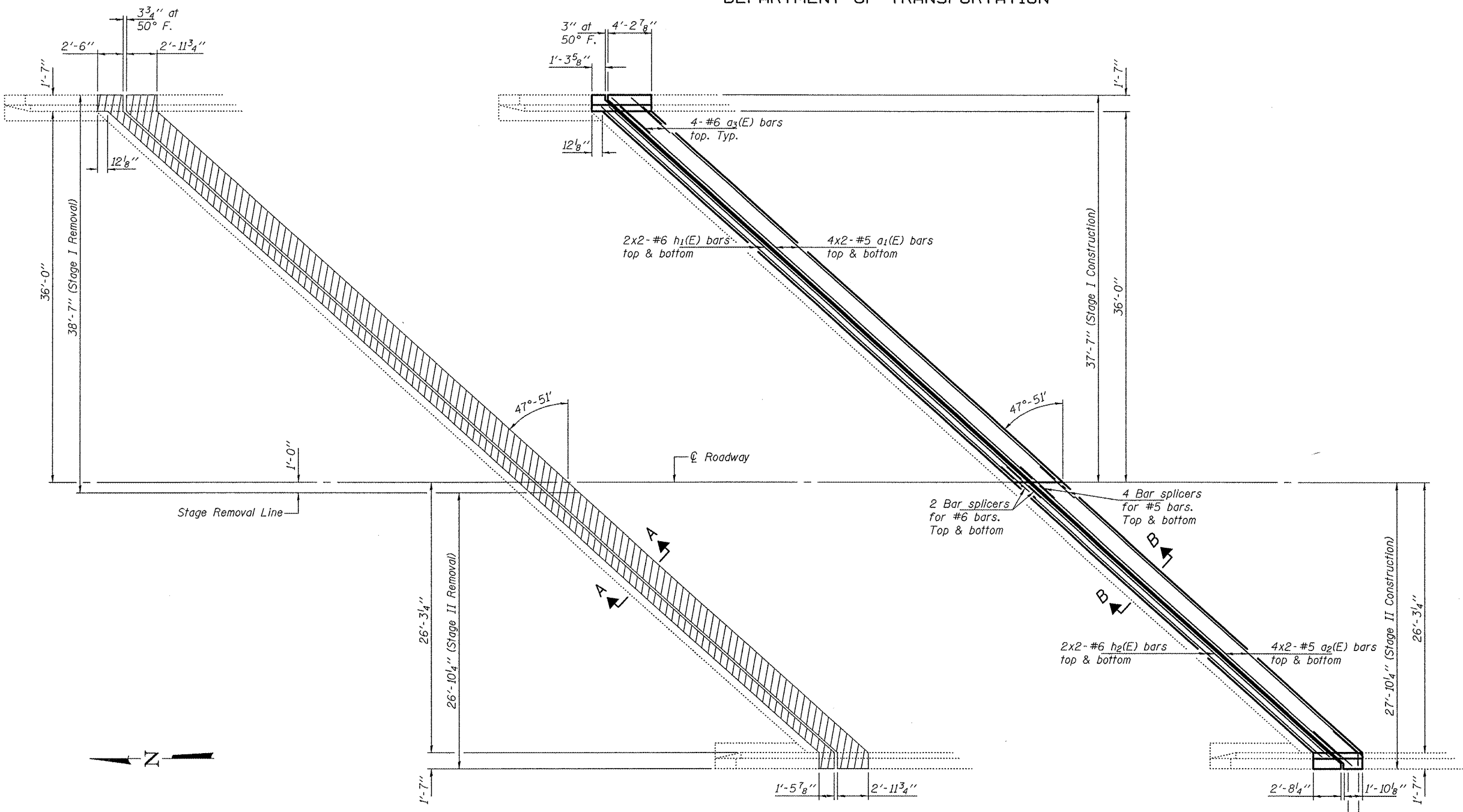
MAY 7, 2010  
EXAMINED *Carl Perry*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 3 8 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84-2(RS-3)	SANGAMON	156	121
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 72D43					

Rev. 5-26-10



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**CONCRETE REMOVAL DETAILS**  
**N. ABUT., 084-0016 (S.B.)**

**CONCRETE REPLACEMENT DETAILS**  
**N. ABUT., 084-0016 (S.B.)**

**CONCRETE REMOVAL & REPLACEMENT DETAILS**  
**SN 084-0016 (S.B.)**

DESIGNED	IJL
CHECKED	ATH
DRAWN	Kyle M. Steffen
CHECKED	IJL ATH

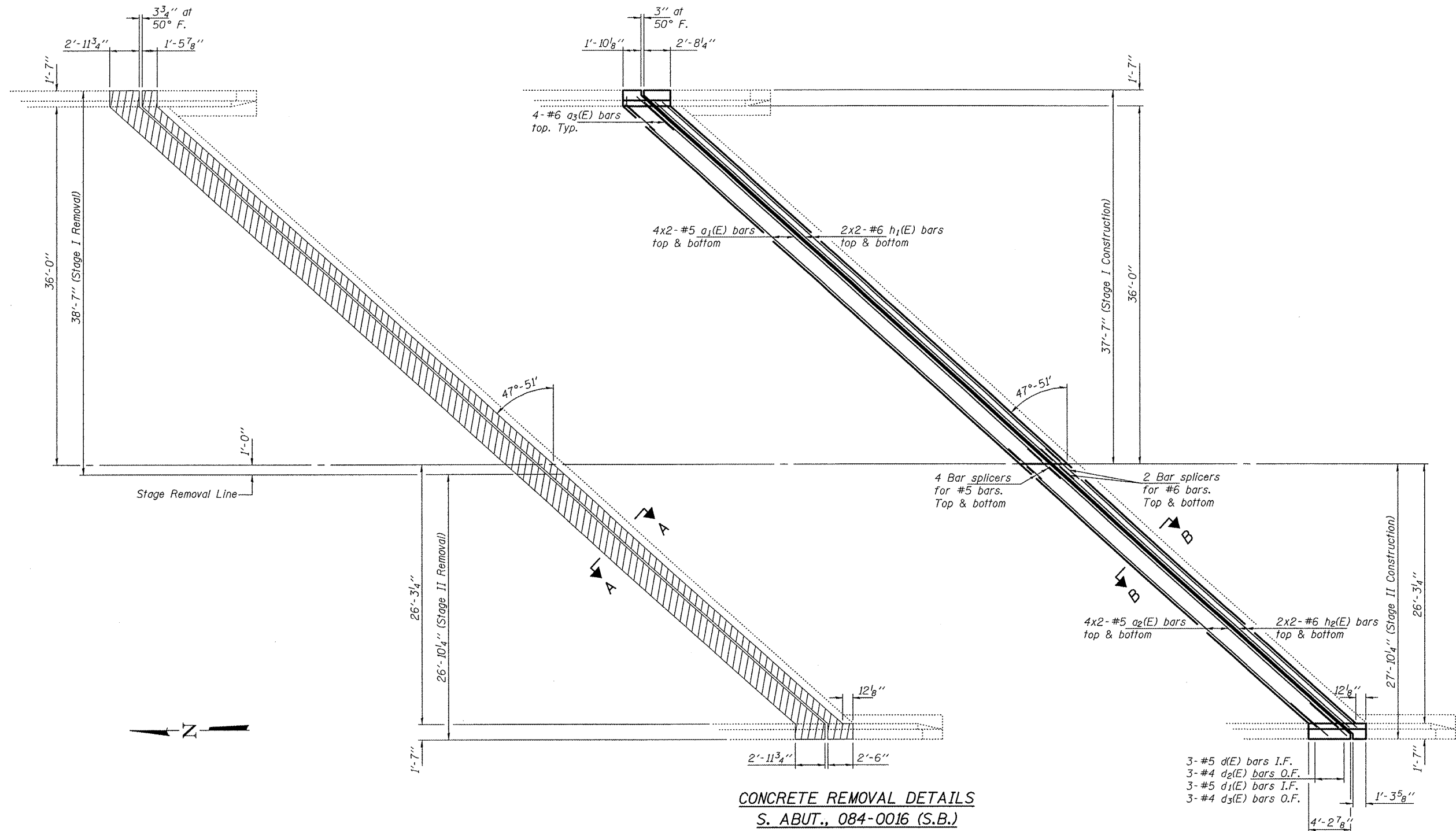
MAY 7, 2010  
EXAMINED *A. Carl Poyner*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

Notes:  
Hatched areas indicate removal.  
Bend a3(E) bars in field as necessary.  
For Sections A-A & B-B, bar details and  
Bill of Material, see sheet 6 of 8.

SHEET NO. 4 8 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84-2(RS-3)	SANGAMON	156	122
CONTRACT NO. 72D43					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



DESIGNED	IJL
CHECKED	ATH
DRAWN	Kyle M. Steffen
CHECKED	IJL ATH

MAY 7, 2010  
 EXAMINED *Carl Proyer*  
 ENGINEER OF STRUCTURAL SERVICES  
 PASSED *Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

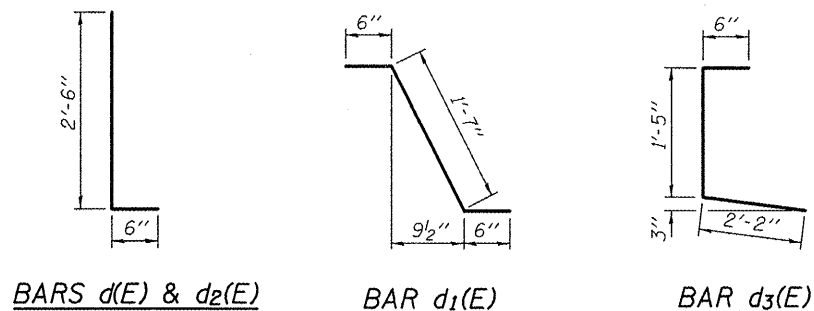
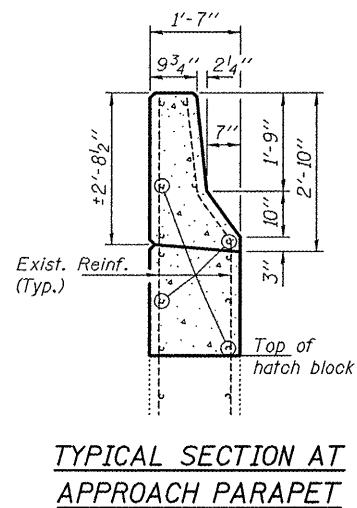
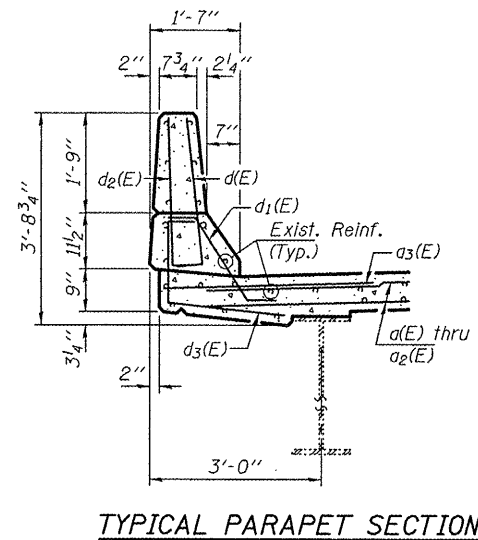
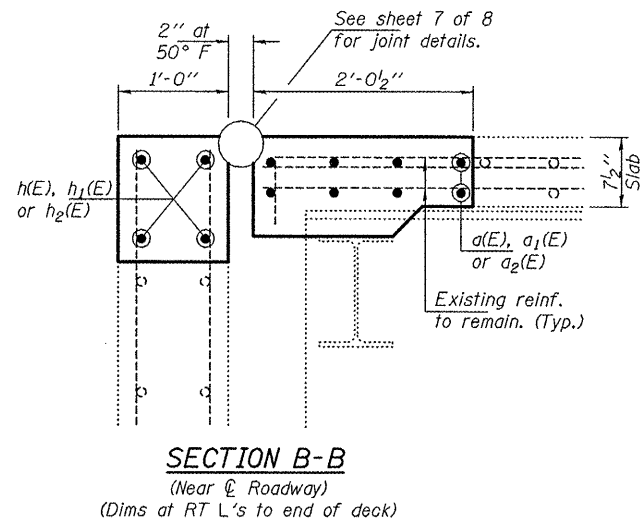
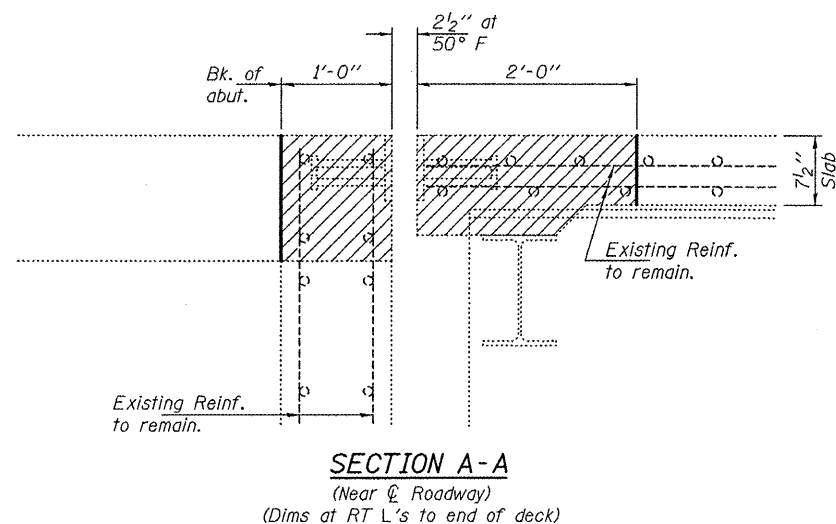
**CONCRETE REPLACEMENT DETAILS**  
S. ABUT., 084-0016 (S.B.)

**CONCRETE REMOVAL & REPLACEMENT DETAILS**  
SN 084-0016 (S.B.)

SHEET NO. 5 8 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84-2(RS-3)	SANGAMON	156	123
FED. ROAD DIST. NO.			ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 72D43					

Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**Min. Bar Laps**  
#5 = 3'-3"  
#6 = 3'-10"

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	32	#5	27'-2"	—
a <sub>1</sub> (E)	64	#5	28'-10"	—
a <sub>2</sub> (E)	32	#5	21'-7"	—
a <sub>3</sub> (E)	32	#6	6'-0"	—
d(E)	24	#5	3'-0"	L
d <sub>1</sub> (E)	24	#5	2'-7"	L
d <sub>2</sub> (E)	24	#4	3'-0"	L
d <sub>3</sub> (E)	24	#4	4'-1"	L
h(E)	16	#6	28'-2"	—
h <sub>1</sub> (E)	32	#6	29'-11"	—
h <sub>2</sub> (E)	16	#6	22'-8"	—
Concrete Removal			Cu. Yd.	60.0
Concrete Superstructure			Cu. Yd.	60.8
Reinforcement Bars, Epoxy Coated			Pound	6750

Bars indicated thus 4 x 2-#5 etc. indicates 4 lines of bars with 2 lengths per line.

DESIGNED	IJL
CHECKED	ATH
DRAWN	Kyle M. Steffen
CHECKED	IJL    ATH

MAY 7, 2010  
EXAMINED *A. Carl Pappas*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

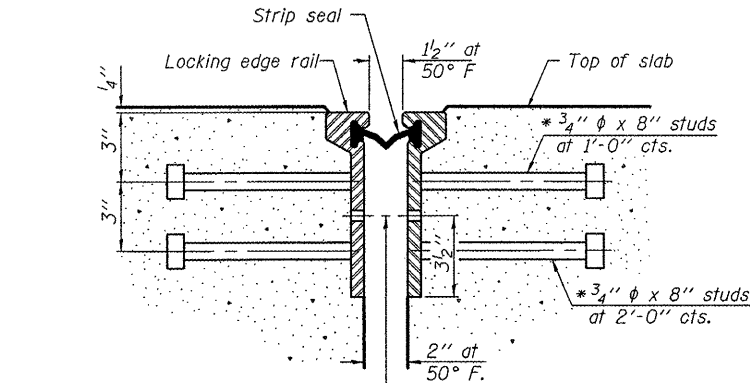
**REPAIR DETAILS**  
SN 084-0016 (S.B.) & 0017 (N.B.)

SHEET NO. 6 8 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84-2(RS-3)	SANGAMON	156	124
FED. ROAD DIST. NO.			ILLINOIS	FED. AID PROJECT	
			CONTRACT NO. 72D43		

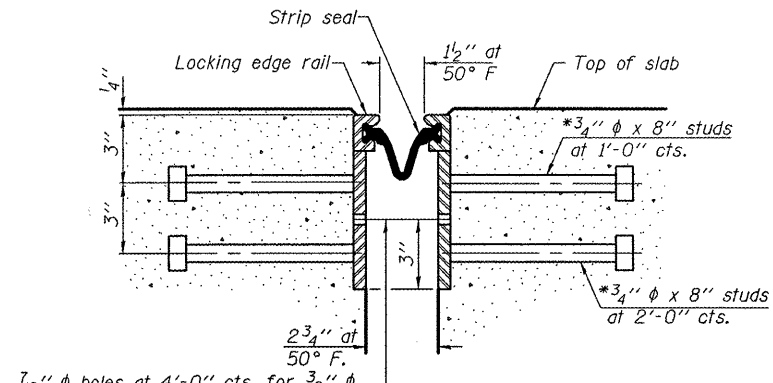
Rev. 5-26-10

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



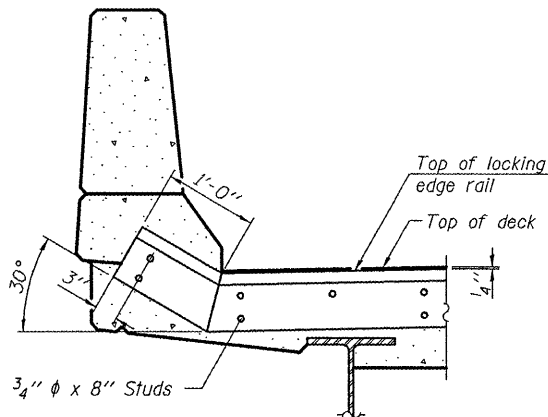
SECTION THRU  
ROLLED RAIL JOINT



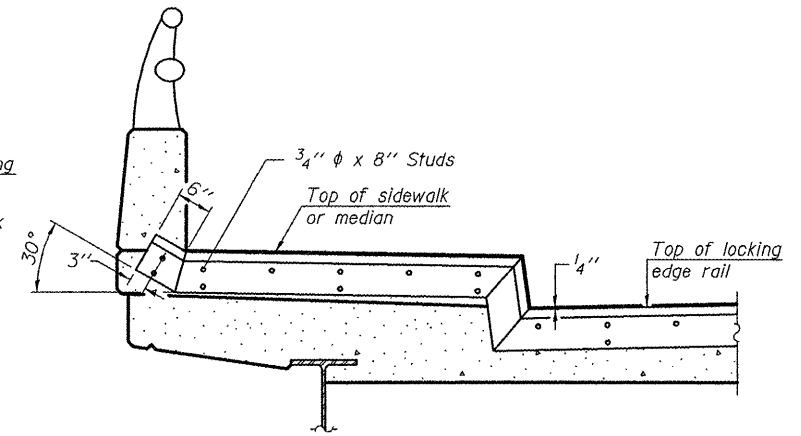
SECTION THRU  
WELDED RAIL JOINT

7/16 inch diameter holes at 4 foot 0 inch centers for 3/8 inch diameter bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

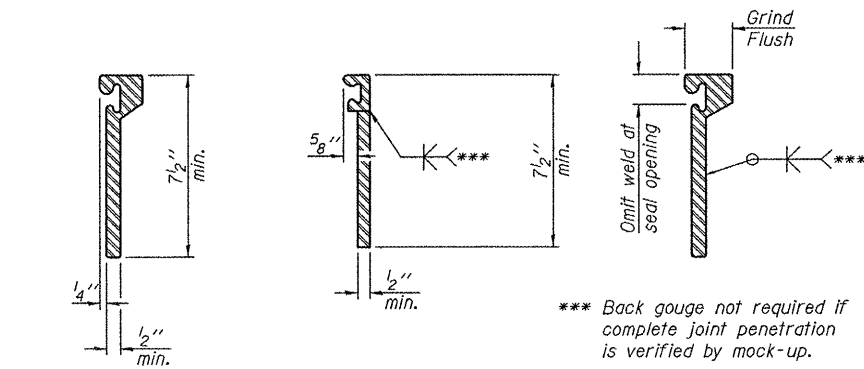
7/16 inch diameter holes at 4 foot 0 inch centers for 3/8 inch diameter bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.



AT PARAPET  
See Section A-A for end treatment of skews > 30°.



AT SIDEWALK OR MEDIAN  
Shorter plates with a single row of studs at 12 inch centers may be necessary on medians which are shallower than 9 inches. See manufacturer's recommendation.

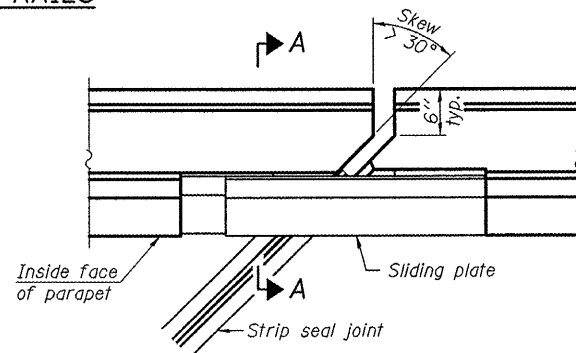


ROLLED  
EXTRUDED RAIL

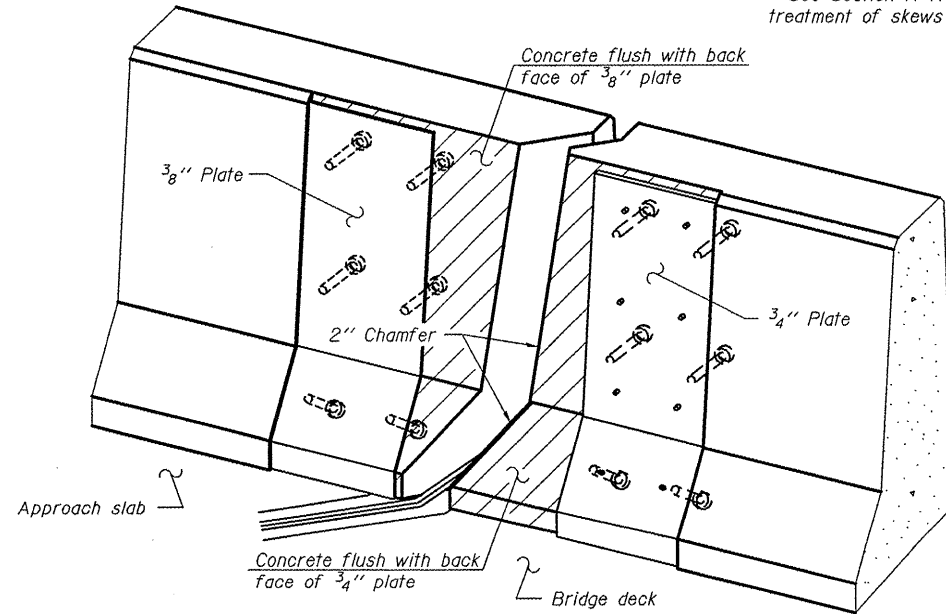
WELDED RAIL

**LOCKING EDGE RAIL SPLICE**  
The inside of the locking edge rail groove shall be free of weld residue.  
Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

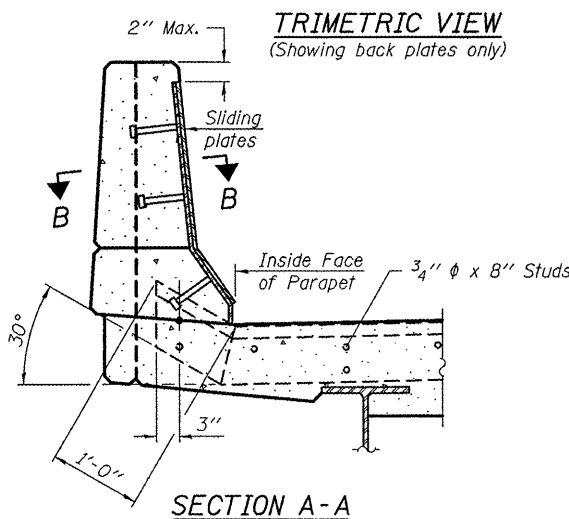


PLAN

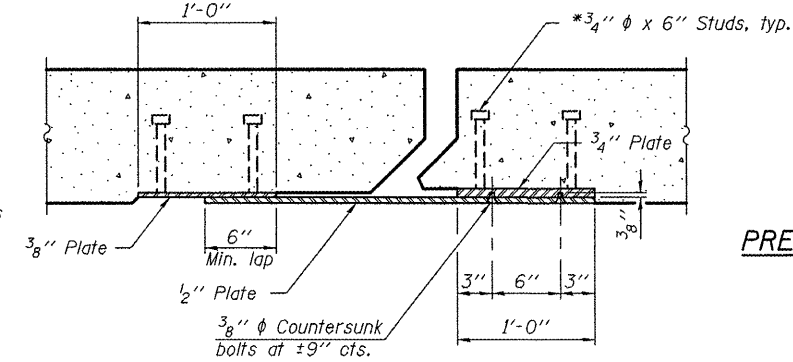


TYPICAL END TREATMENTS

**Notes:**  
The strip seal shall be made continuous and shall have a minimum thickness of 1/4 inch. The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.  
The manufacturer's recommended installation methods shall be followed.  
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.  
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.  
Maximum space between rail segments at stage lines shall be 3/16 inch, sealed with a suitable sealant.



POINT BLOCK DETAILS  
(for skews > 30°)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	402

PREFORMED JOINT STRIP SEAL  
STRUCTURE NO.

PREFORMED JOINT STRIP SEAL  
SN 084-0016 (S.B.) & 0017 (N.B.)

DESIGNED	IJL
CHECKED	ATH
DRAWN	Kyle M. Steffen
CHECKED	IJL ATH

MAY 7, 2010  
EXAMINED *Carl Kreyer*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

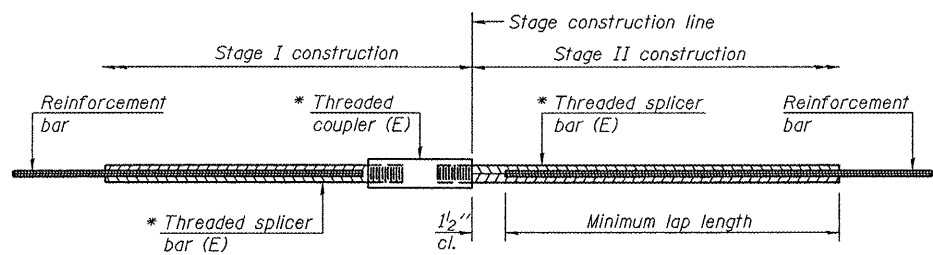
EJ-SSJ

11-1-09

SHEET NO. 7	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
8 SHEETS	55	84-2(RS-3)	SANGAMON	156	125
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
			CONTRACT NO. 72D43		

Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

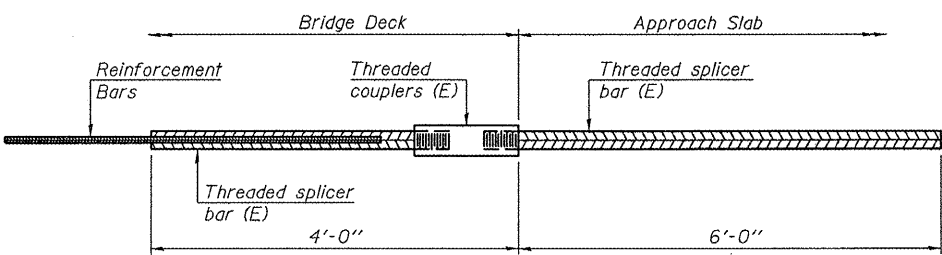
Bar size to be spliced	Minimum Lap Lengths			
	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

Table 1: Black bar, 0.8 Class C  
Table 2: Black bar, Top bar lap, 0.8 Class C  
Table 3: Epoxy bar, 0.8 Class C  
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

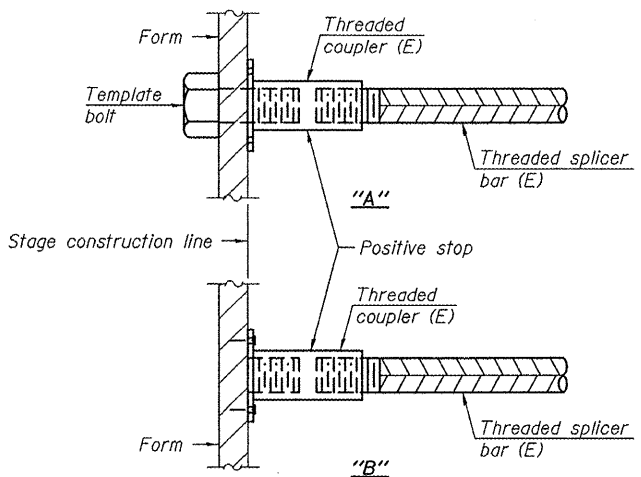
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
N. Abut. (0016)	#5	8	3
N. Abut. (0016)	#6	4	3
S. Abut. (0016)	#5	8	3
S. Abut. (0016)	#6	4	3
N. Abut. (0017)	#5	8	3
N. Abut. (0017)	#6	4	3
S. Abut. (0017)	#5	8	3
S. Abut. (0017)	#6	4	3



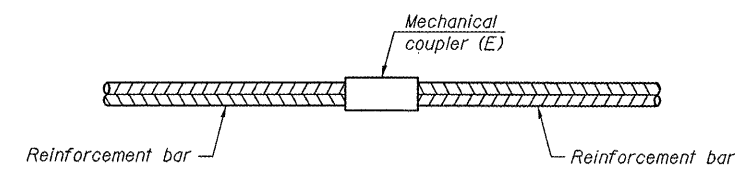
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



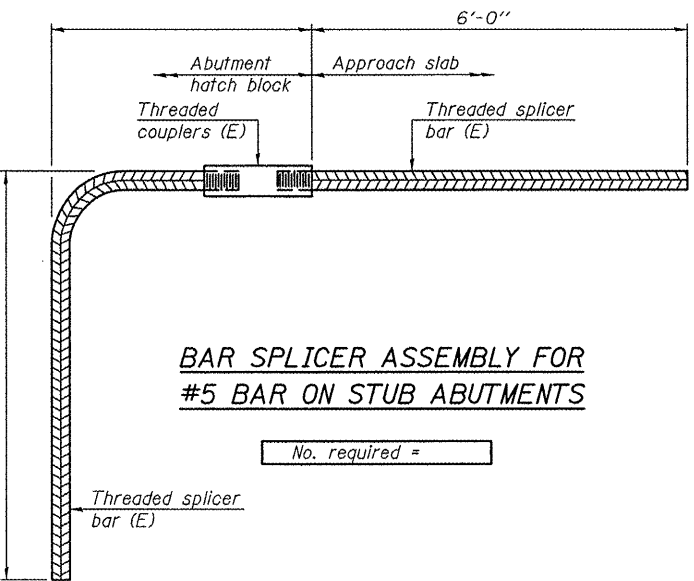
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
All reinforcement shall be lapped and tied to the splicer bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
See special provision for Mechanical Splicers.  
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
SN 084-0016 (S.B.) & 0017 (N.B.)

DESIGNED	IJL
CHECKED	ATH
DRAWN	Kyle M. Steffen
CHECKED	IJL ATH

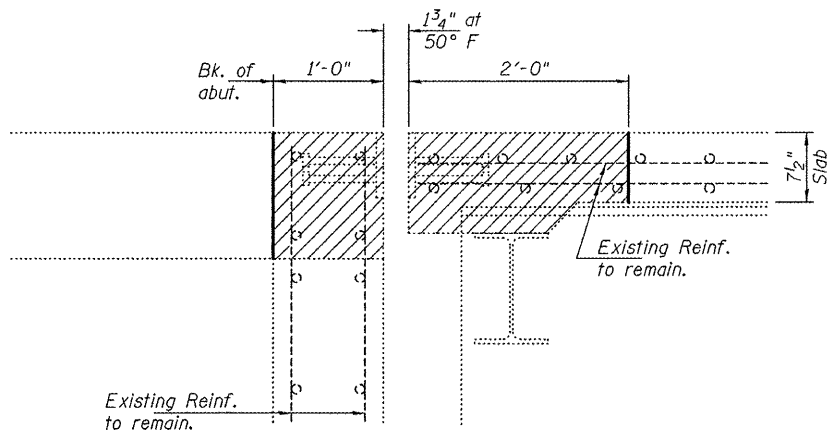
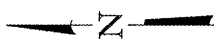
MAY 7, 2010  
EXAMINED *Carl Poyner*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

BSD-1 11-1-09

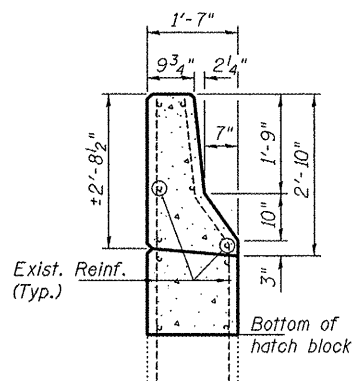
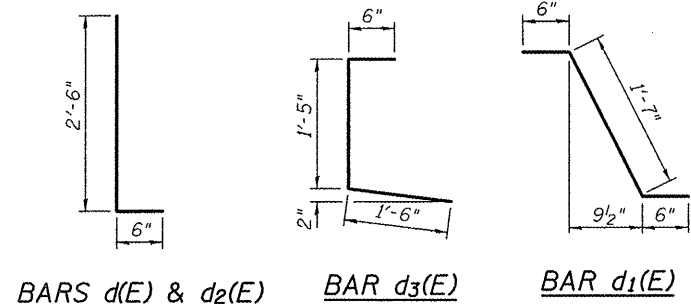
SHEET NO. 8 8 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84-2(RS-3)	SANGAMON	156	126
CONTRACT NO. 72D43					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

Rev. 5-26-10

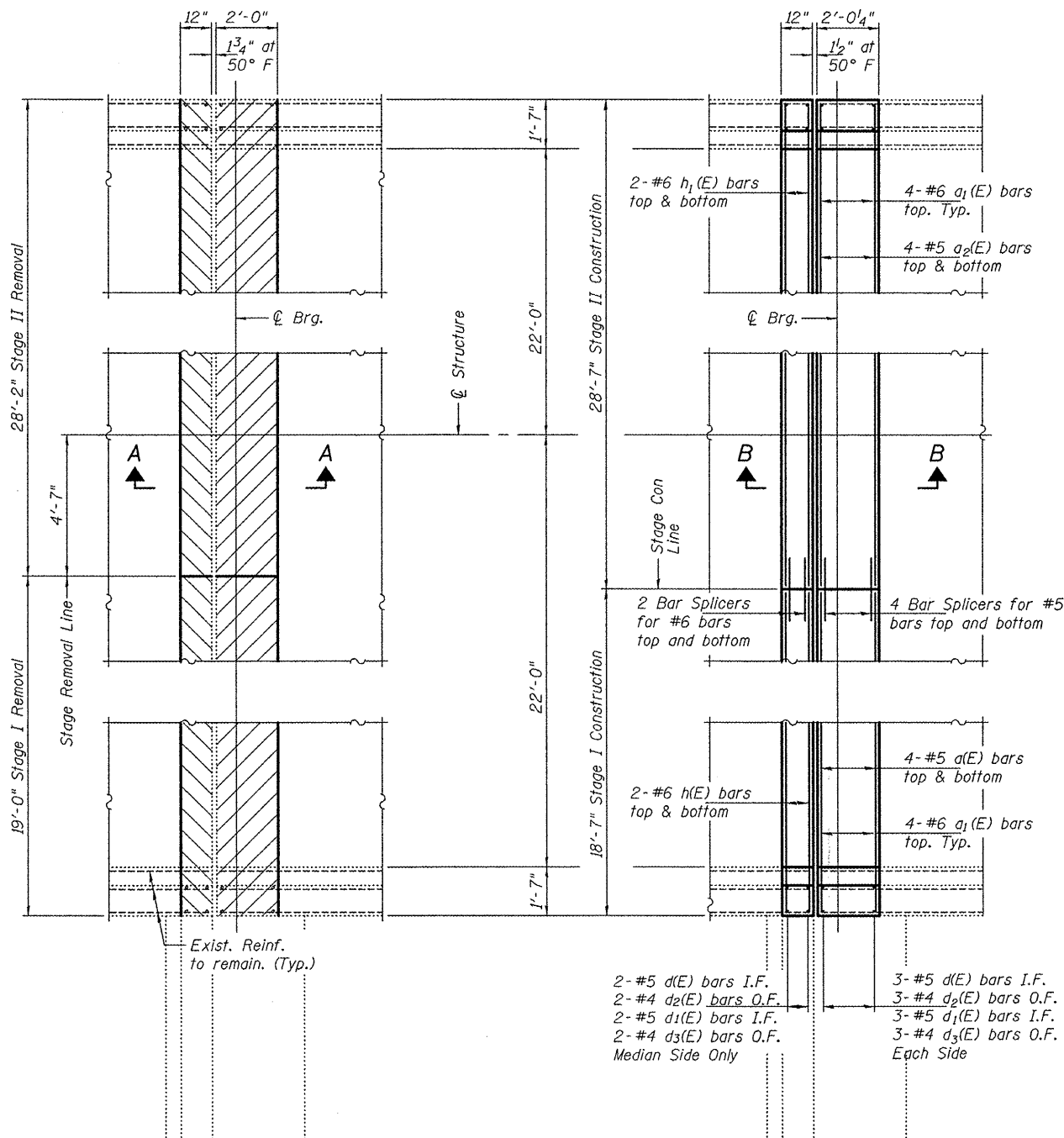
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**SECTION A-A**  
(Near Centerline Roadway)  
(Dims at RT L's to end of deck)



**SECTION THRU APPROACH PARAPET**



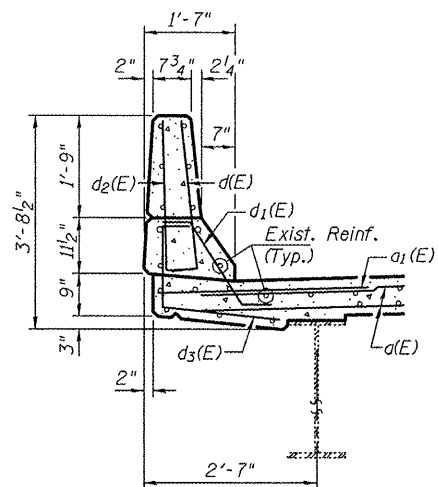
**REMOVAL PLAN**

(N. Abut. SN: 084-0018 Shown)  
(Other abutments similar)

**REPLACEMENT PLAN**

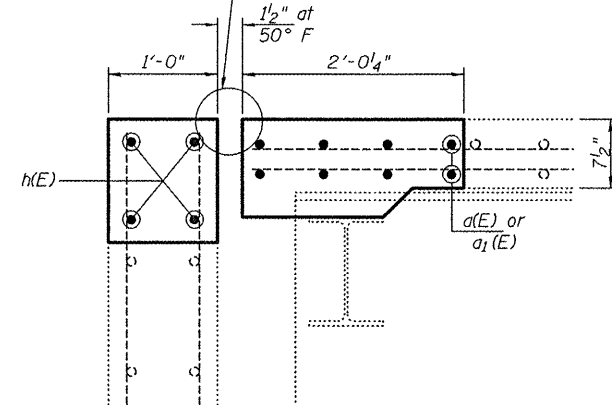
(N. Abut. SN: 084-0018 Shown)  
(Other abutments similar)

Notes:  
Hatched areas indicate removal.



**TYPICAL PARAPET SECTION**

For joint details  
see sheet 3 of 5



**SECTION B-B**

(Near Centerline Roadway)  
(Dims at RT L's to end of deck)

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	32	#5	18'-4"	—
a1(E)	32	#6	4'-0"	—
a2(E)	32	#5	28'-4"	—
d(E)	32	#5	3'-0"	L
d1(E)	32	#5	2'-7"	L
d2(E)	32	#4	3'-0"	L
d3(E)	32	#4	3'-5"	L
h(E)	16	#6	18'-4"	—
h1(E)	16	#6	28'-4"	—
Concrete Removal			Cu. Yd.	26.2
Concrete Superstructure			Cu. Yd.	26.4
Reinforcement Bars, Epoxy Coated			Lbs.	3,140

**DETAILS**

SN 084-0018 and 0019

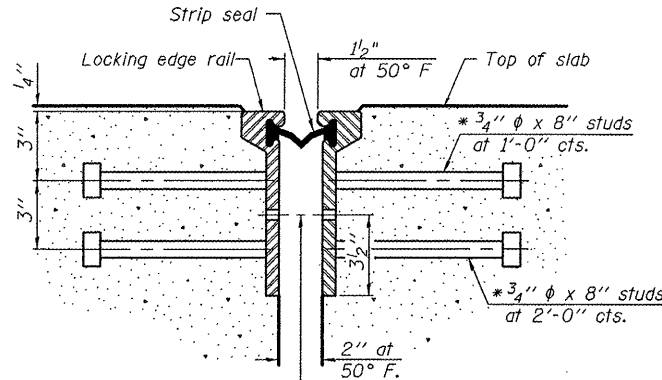
DESIGNED	I.J.L.
CHECKED	A.T.H.
DRAWN	Drew Christopher
CHECKED	I.J.L., A.T.H.

EXAMINED	May 7, 2010
PASSED	Ralph E. Anderson

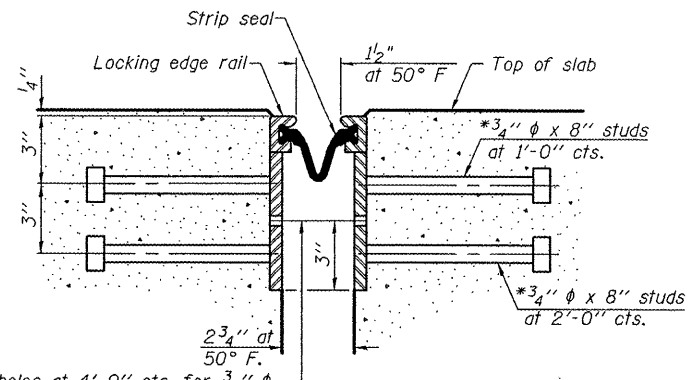
SHEET NO. 2	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84-2(RS-3)	Sangamon	156	128
5 SHEETS	FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		CONTRACT NO. 72D43

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

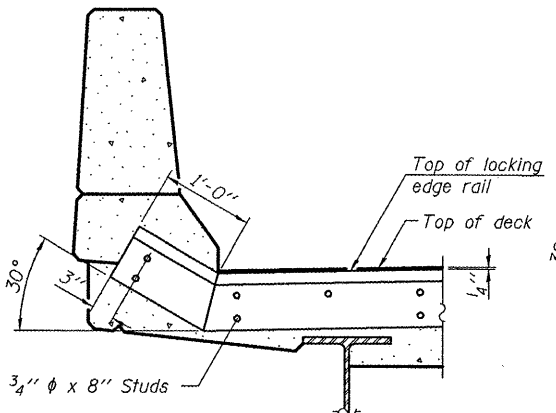
\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



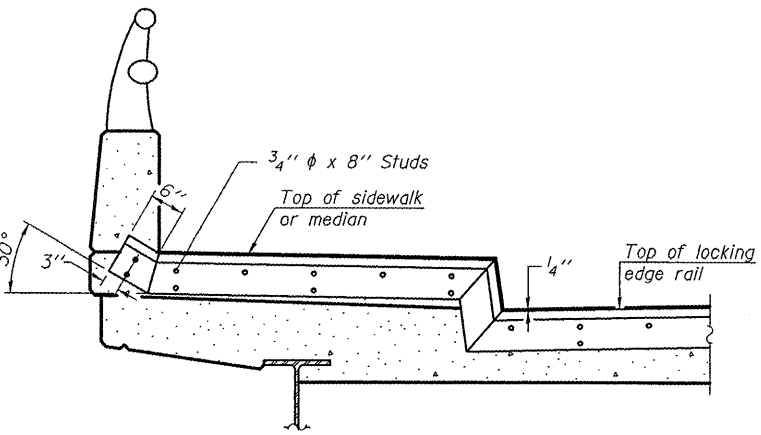
SECTION THRU ROLLED RAIL JOINT



SECTION THRU WELDED RAIL JOINT



AT PARAPET  
See Section A-A for end treatment of skews > 30°.



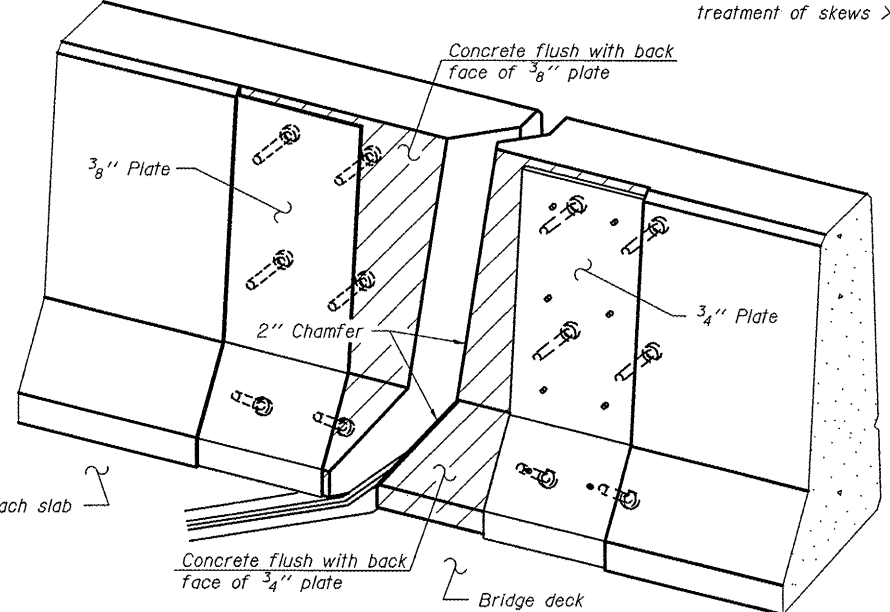
AT SIDEWALK OR MEDIAN  
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

7/16" φ holes at 4'-0" cts. for 3/8" φ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

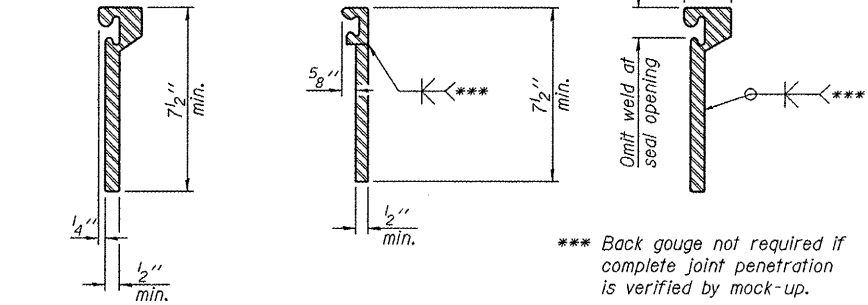
7/16" φ holes at 4'-0" cts. for 3/8" φ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

TYPICAL END TREATMENTS

Notes:  
The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.  
The manufacturer's recommended installation methods shall be followed.  
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.  
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.  
Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.



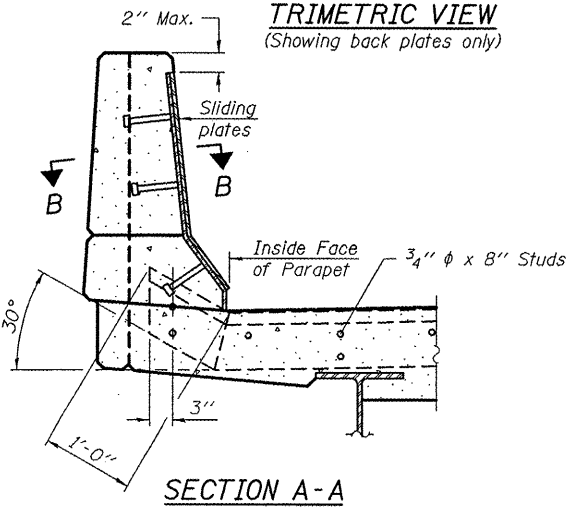
Approach slab  
Concrete flush with back face of 3/8" plate  
Bridge deck  
Concrete flush with back face of 3/4" plate



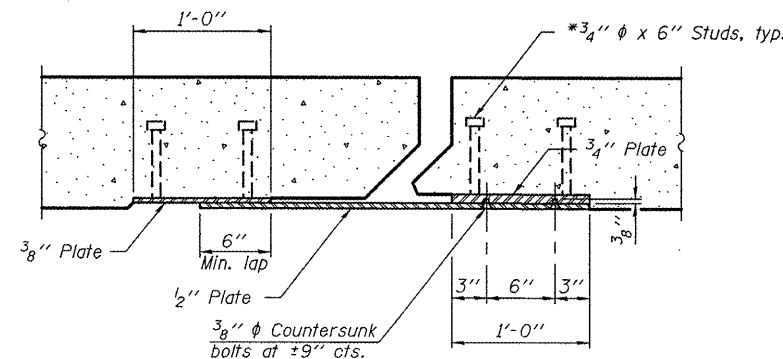
ROLLED EXTRUDED RAIL

WELDED RAIL

LOCKING EDGE RAIL SPLICE  
The inside of the locking edge rail groove shall be free of weld residue.  
Rolled rail shown, welded rail similar.

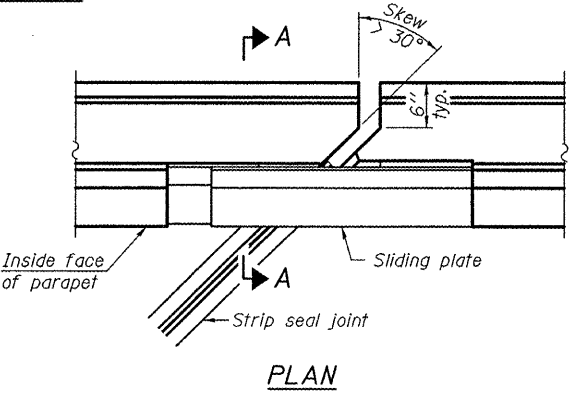


SECTION A-A  
POINT BLOCK DETAILS (for skews > 30°)



SECTION B-B

LOCKING EDGE RAILS



PLAN

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	189

STRIP SEAL DETAILS  
SN 084-0018 and 0019

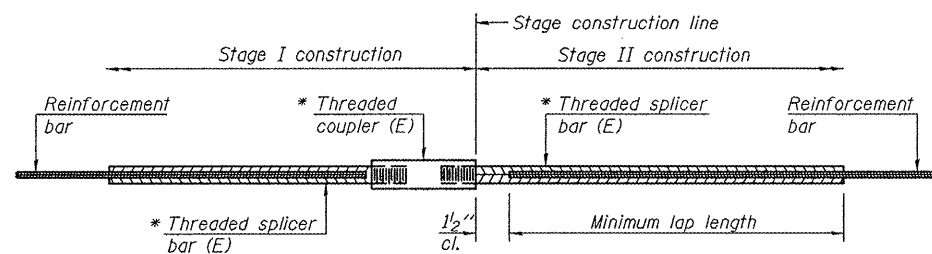
DESIGNED	I.J.L.
CHECKED	A.T.H.
DRAWN	Drew Christopher
CHECKED	I.J.L. A.T.H.

May 7, 2010  
EXAMINED *Carl Proyer*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 3 5 SHEETS	F.A.I. RTE. 55	SECTION 84-2(RS-3)	COUNTY Sangamon	TOTAL SHEETS 156	SHEET NO. 129
	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 72D43	

Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

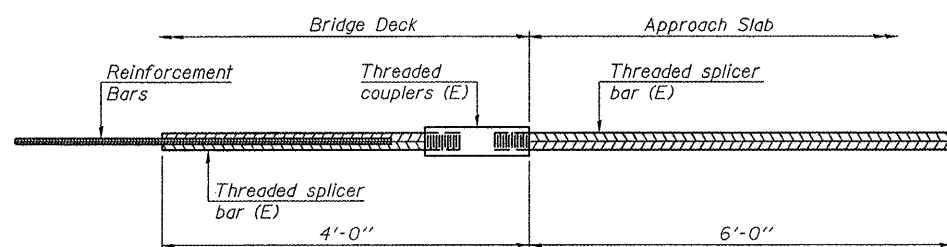
Minimum Lap Lengths				
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

Table 1: Black bar, 0.8 Class C  
Table 2: Black bar, Top bar lap, 0.8 Class C  
Table 3: Epoxy bar, 0.8 Class C  
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

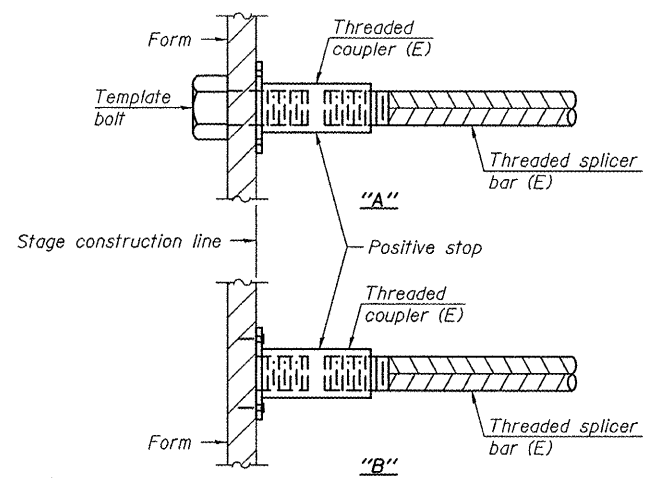
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
N. Abut. (0018)	#5	8	3
N. Abut. (0018)	#6	4	3
S. Abut. (0018)	#5	8	3
S. Abut. (0018)	#6	4	3
N. Abut. (0019)	#5	8	3
N. Abut. (0019)	#6	4	3
S. Abut. (0019)	#5	8	3
S. Abut. (0019)	#6	4	3



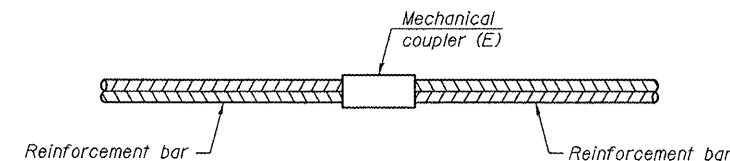
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



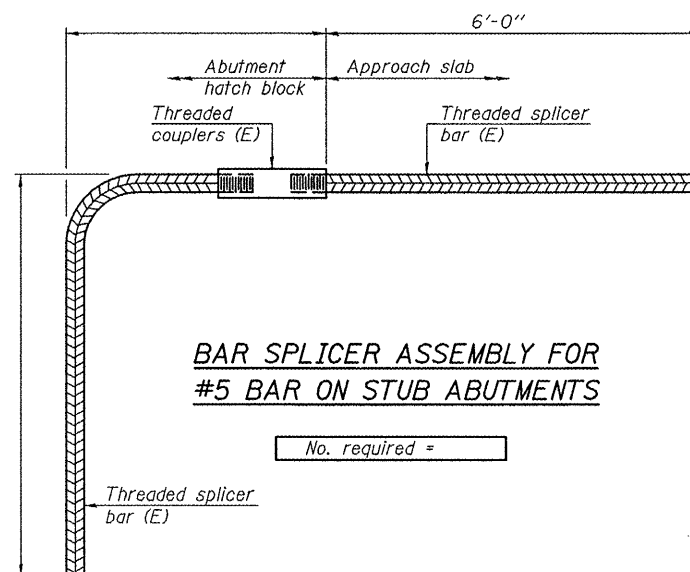
INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt.  
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
All reinforcement shall be lapped and tied to the splicer bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
See special provision for Mechanical Splicers.  
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

DESIGNED I.J.L.  
CHECKED A.T.H.  
DRAWN Drew Christopher  
CHECKED I.J.L. A.T.H.

May 7, 2010  
EXAMINED *Carl Krueger*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

BSD-1 11-1-09




BAR SPLICER DETAILS  
SN 084-0018 and 0019

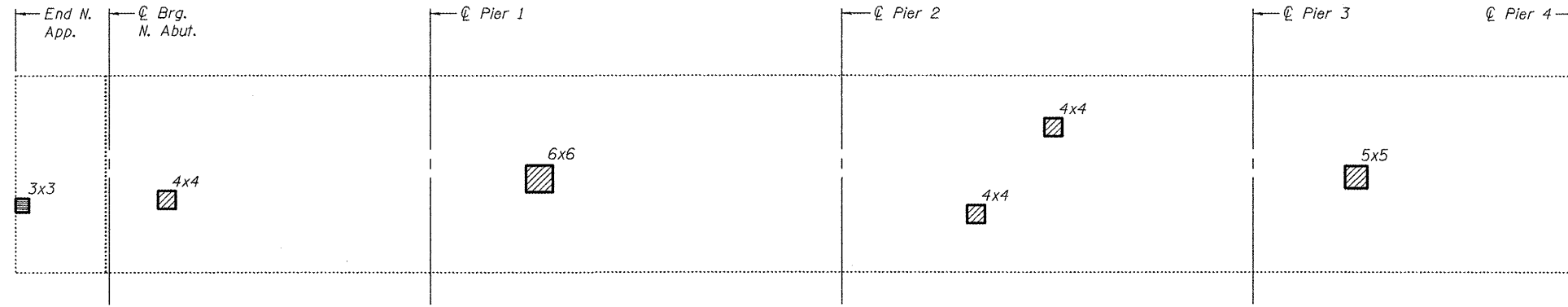
SHEET NO. 4 5 SHEETS	F.A.I. RTE. 55	SECTION 84-2(RS-3)	COUNTY Sangamon	TOTAL SHEETS 156	SHEET NO. 130
	CONTRACT NO. 72D43			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	



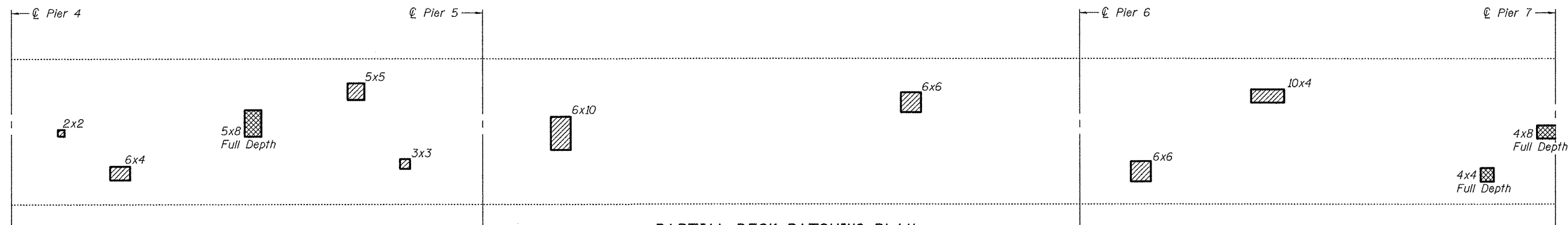
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on As-built Plans.

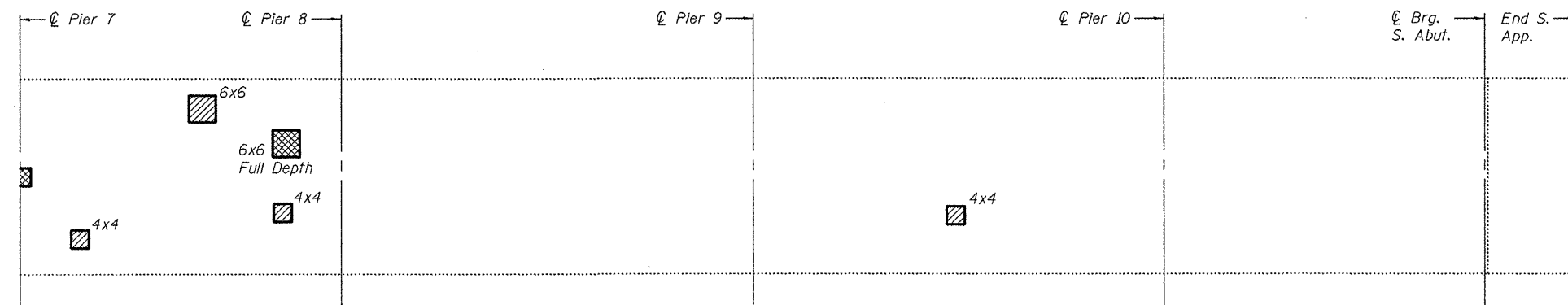
-  Partial Depth Patch
-  Full Depth Patch
-  Approach Slab Repair (Partial Depth)



PARTIAL DECK PATCHING PLAN



PARTIAL DECK PATCHING PLAN



PARTIAL DECK PATCHING PLAN

DESIGNED	I.J.L.
CHECKED	A.T.H.
DRAWN	Drew Christopher
CHECKED	I.J.L. A.T.H.

May 7, 2010  
 EXAMINED *Carl Prosky*  
 ENGINEER OF STRUCTURAL SERVICES  
 PASSED *Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

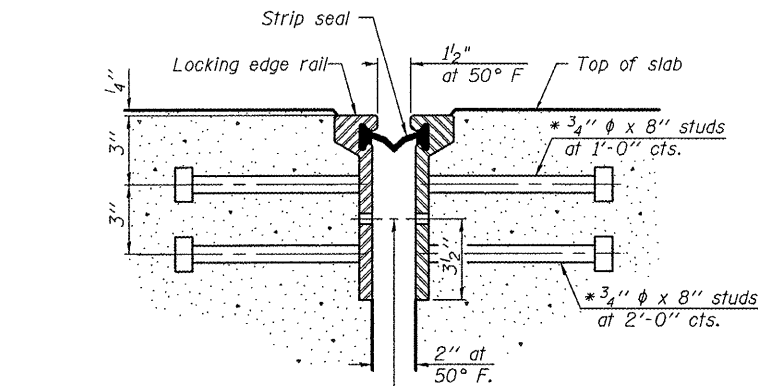
DECK PATCHING PLAN  
SN 084-0018 and 0019

SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84-2(RS-3)	Sangamon	156	131
5 SHEETS	FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT	CONTRACT NO. 72D43	



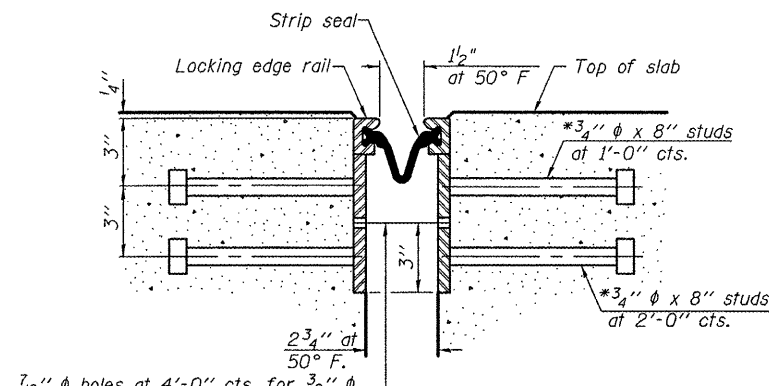
\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



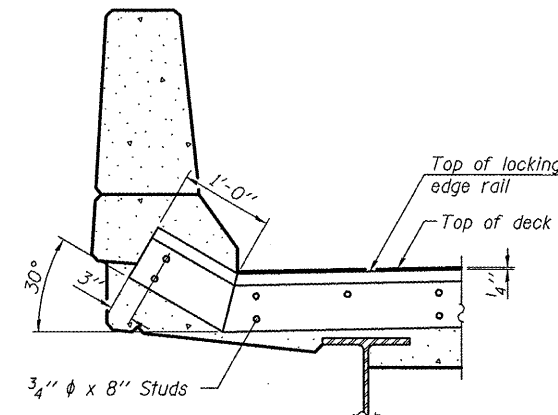
7/16"  $\phi$  holes at 4'-0" cts. for 3/8"  $\phi$  bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU  
ROLLED RAIL JOINT

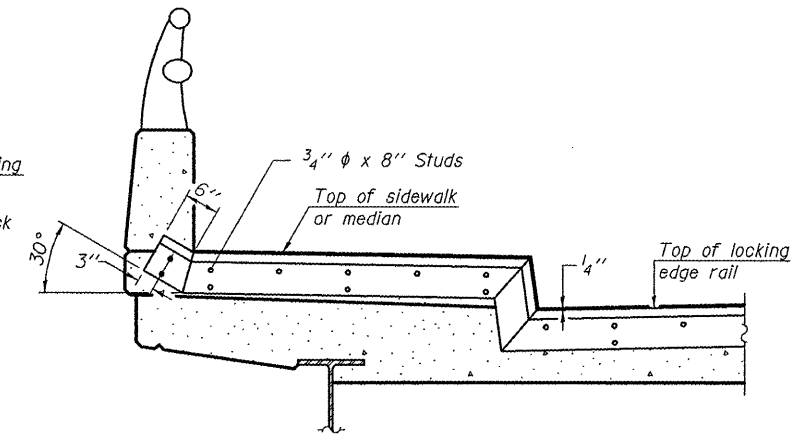


7/16"  $\phi$  holes at 4'-0" cts. for 3/8"  $\phi$  bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU  
WELDED RAIL JOINT

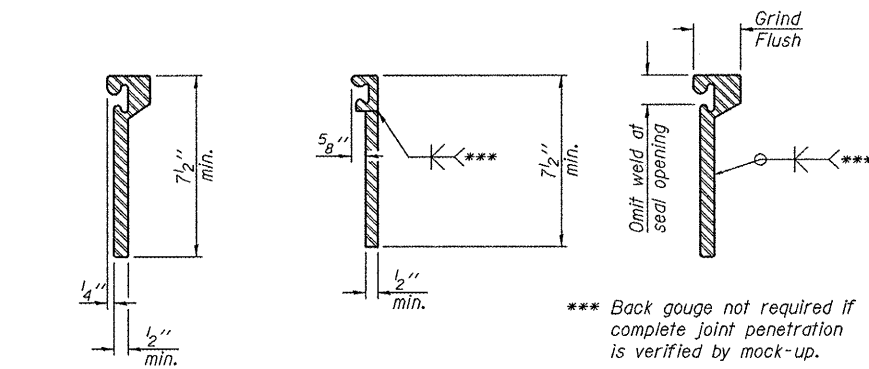


AT PARAPET  
See Section A-A for end treatment of skews > 30°.



AT SIDEWALK OR MEDIAN  
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.

TYPICAL END TREATMENTS

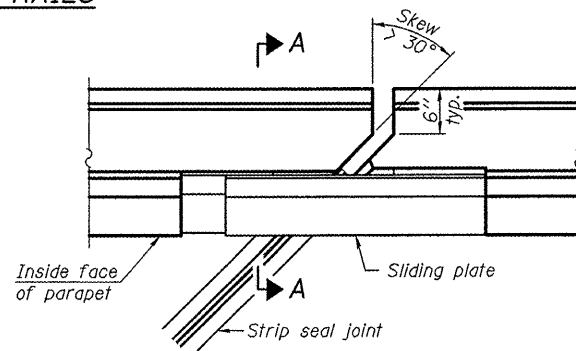


ROLLED  
EXTRUDED RAIL

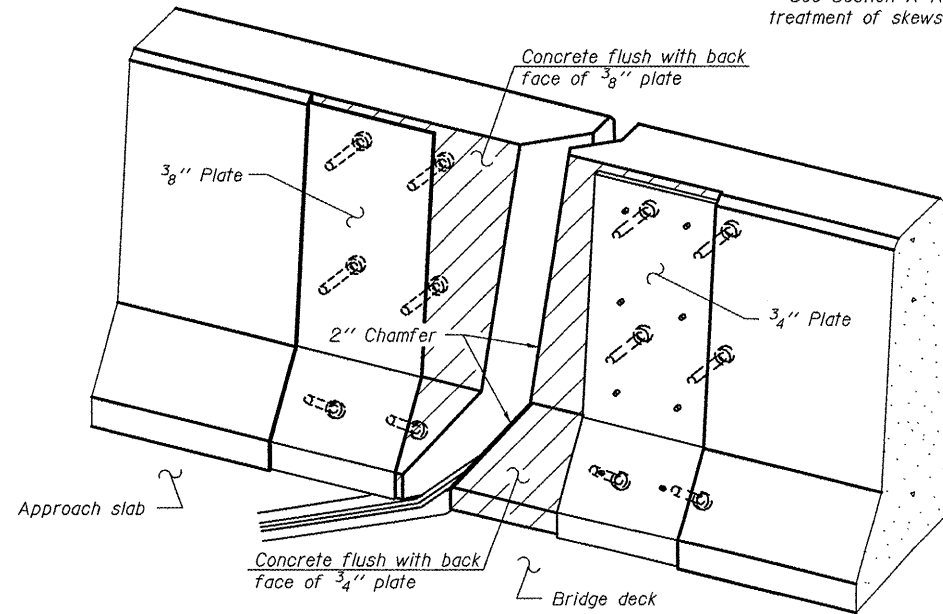
WELDED RAIL

**LOCKING EDGE RAIL SPLICE**  
The inside of the locking edge rail groove shall be free of weld residue.  
Rolled rail shown, welded rail similar.

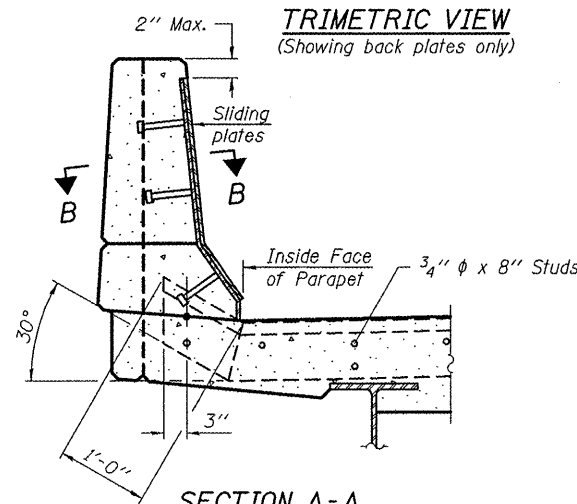
LOCKING EDGE RAILS



PLAN

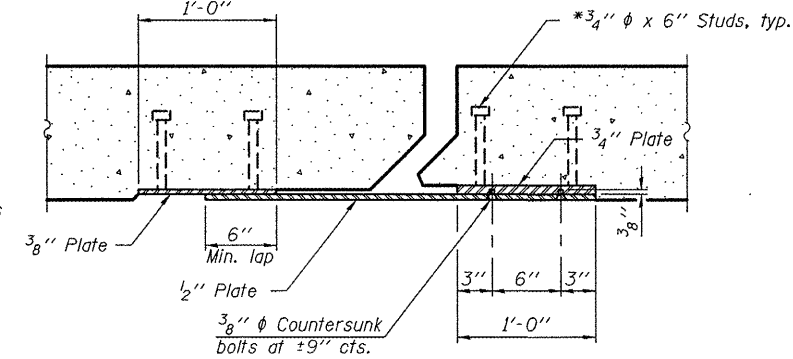


TRIMETRIC VIEW  
(Showing back plates only)



SECTION A-A

POINT BLOCK DETAILS  
(for skews > 30°)



SECTION B-B

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches. The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities. The manufacturer's recommended installation methods shall be followed. The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State. All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications. Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	119

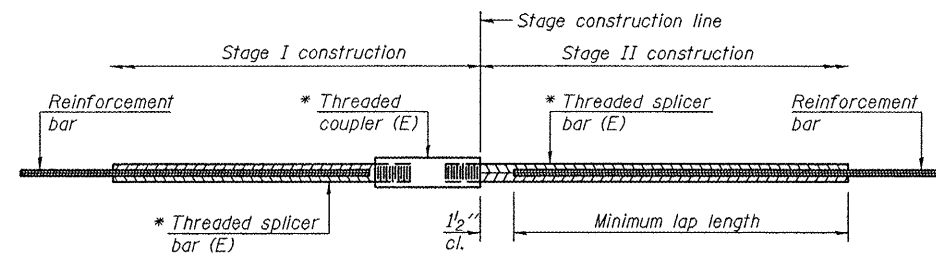
STRIP SEAL DETAILS  
SN 084-0020

DESIGNED	I.J.L.
CHECKED	A.T.H.
DRAWN	Drew Christopher
CHECKED	I.J.L. A.T.H.

EXAMINED	May 7, 2010 <i>Carl Kuyper</i> ENGINEER OF STRUCTURAL SERVICES
PASSED	<i>Ralph E. Anderson</i> ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 3 5 SHEETS	F.A.I. RTE. 55	SECTION 84-2(RS-3)	COUNTY Sangamon	TOTAL SHEETS 156	SHEET NO. 134
	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 72D43	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



STANDARD BAR SPLICER ASSEMBLY

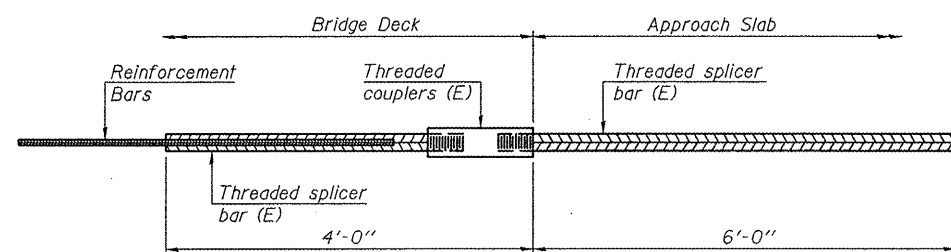
Bar size to be spliced	Minimum Lap Lengths			
	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

Table 1: Black bar, 0.8 Class C  
Table 2: Black bar, Top bar lap, 0.8 Class C  
Table 3: Epoxy bar, 0.8 Class C  
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

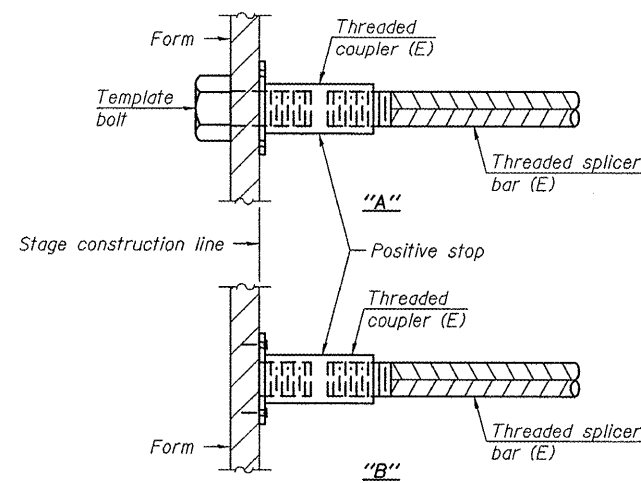
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
N. Abutment	#5	8	3
N. Abutment	#4	4	3
S. Abutment	#5	8	3
S. Abutment	#4	4	3



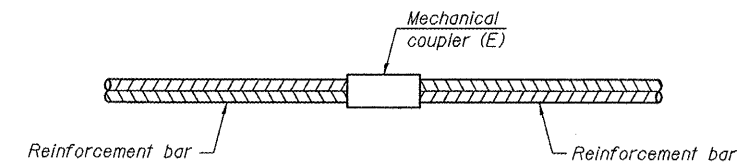
BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS

No. required =



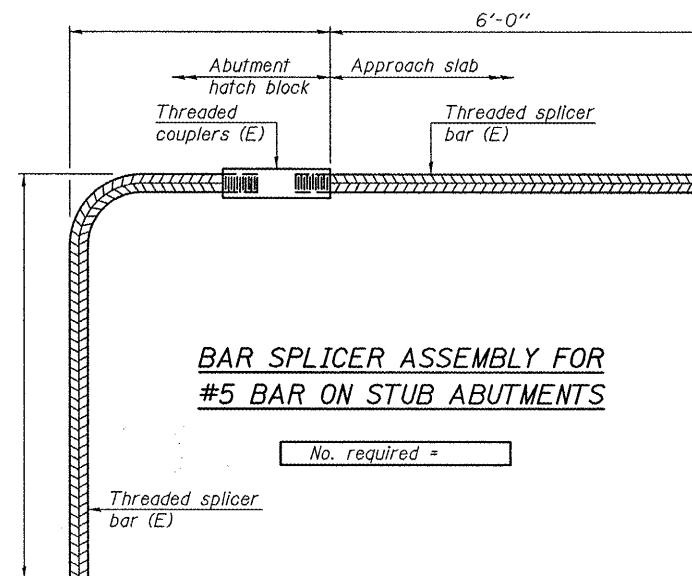
INSTALLATION AND SETTING METHODS

"A": Set bar splicer assembly by means of a template bolt.  
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E): Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
All reinforcement shall be lapped and tied to the splicer bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
See special provision for Mechanical Splicers.  
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

DESIGNED	I.J.L.
CHECKED	A.T.H.
DRAWN	Drew Christopher
CHECKED	I.J.L. A.T.H.

May 7, 2010  
EXAMINED  
ENGINEER OF STRUCTURAL SERVICES  
PASSED  
ENGINEER OF BRIDGES AND STRUCTURES

BSD-1 11-1-09

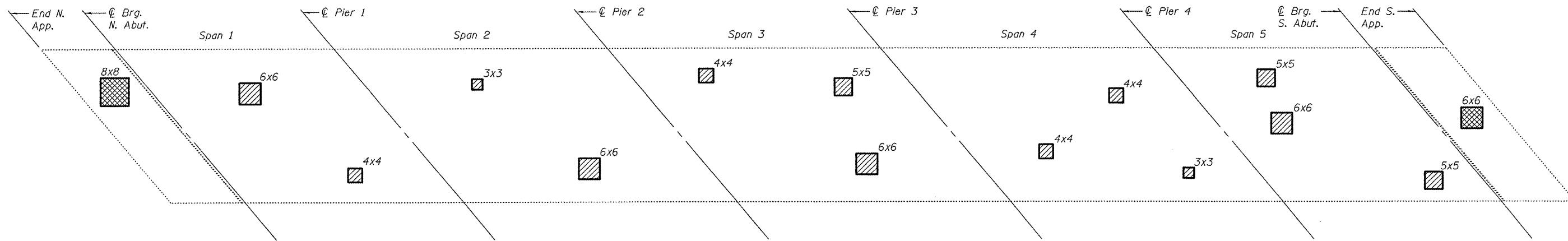
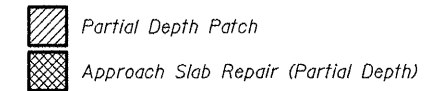
BAR SPLICER DETAILS  
SN 084-0020

SHEET NO. 4 5 SHEETS	F.A.I. RTE. 55	SECTION 84-2(RS-3)	COUNTY Sangamon	TOTAL SHEETS 156	SHEET NO. 135
	CONTRACT NO. 72043			FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT	

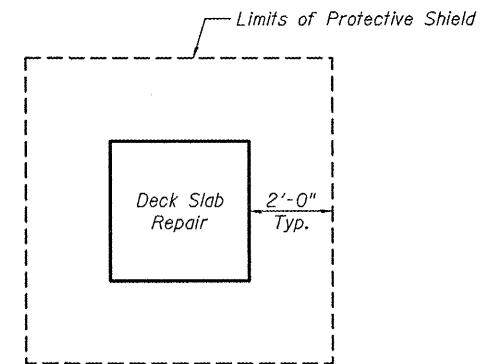
Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on As-built Plans.



DECK PATCHING PLAN



PROTECTIVE SHIELD DETAIL

Deck slab repair area located within 20'-0" of the  $\text{\O}$  of Roadway of BL55 on Span 2 or 10'-0" of the  $\text{\O}$  of RR track on Span 4 should have protective shield installed prior to the start of the work. The protective shield should extend at least 2'-0" all around the repair patch.

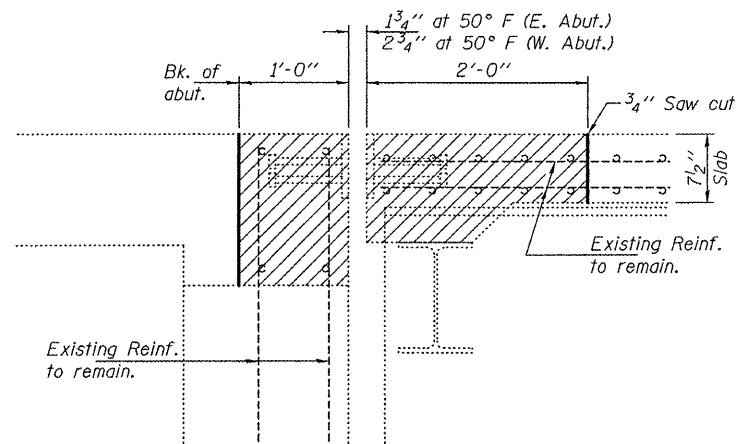
DESIGNED	I.J.L.
CHECKED	A.T.H.
DRAWN	Drew Christopher
CHECKED	I.J.L. A.T.H.

May 7, 2010  
 EXAMINED *Carl Provey*  
 ENGINEER OF STRUCTURAL SERVICES  
 PASSED *Ralph E. Anderson*  
 ENGINEER OF BRIDGES AND STRUCTURES

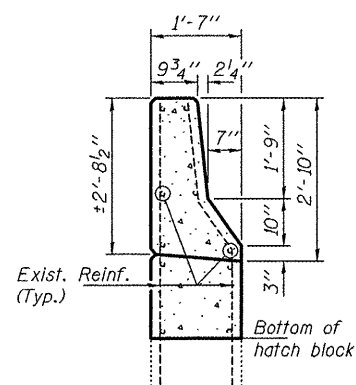
DECK PATCHING DETAILS  
SN 084-0020

SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84-2(RS-3)	Sangamon	156	136
5 SHEETS	FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
			CONTRACT NO. 72D43		

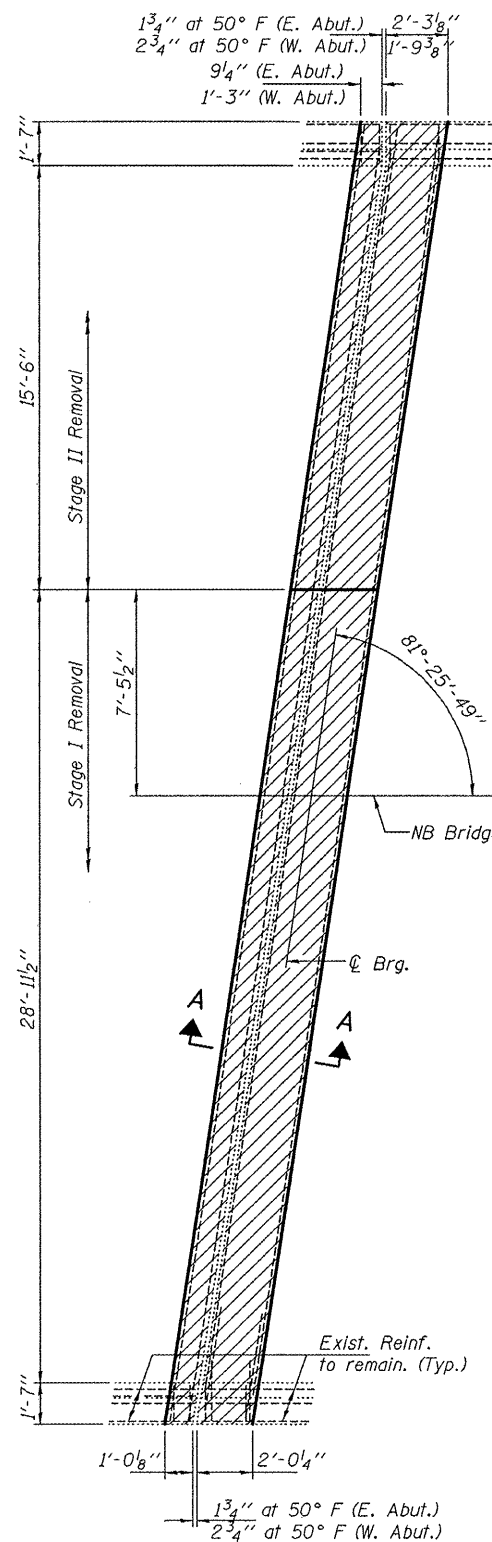
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



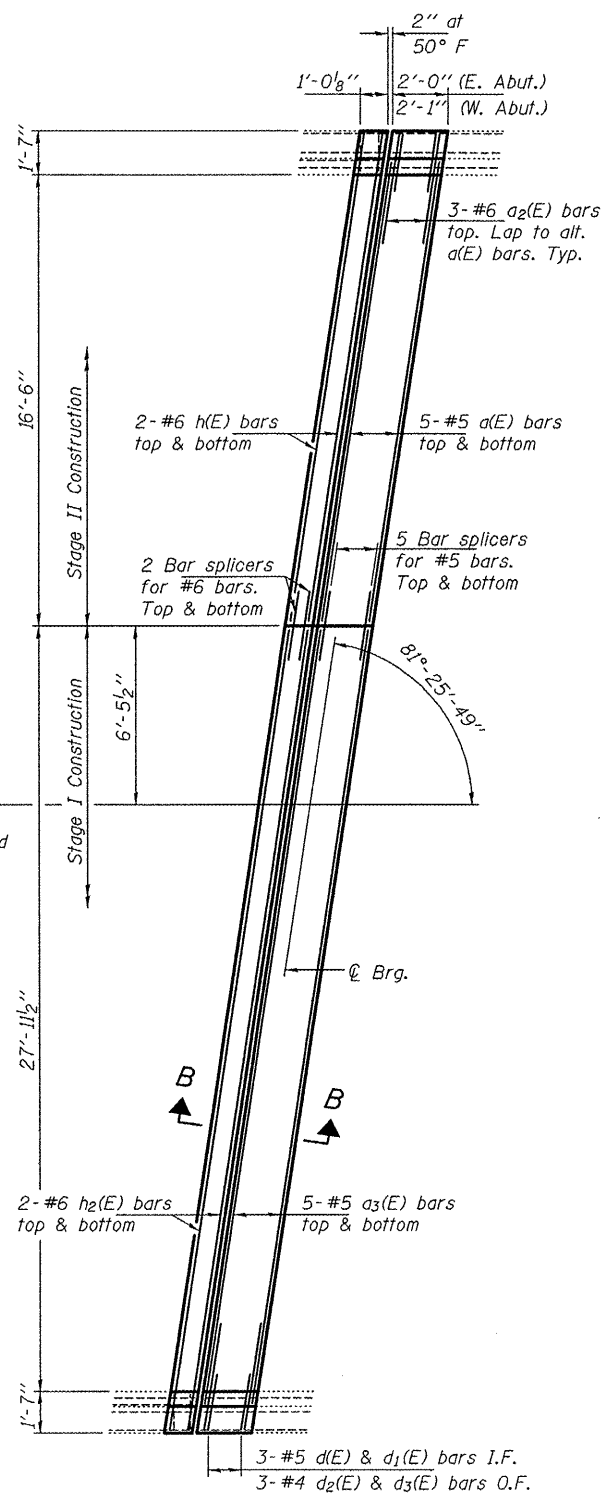
**SECTION A-A**  
(Near Roadway)  
(Dimensions are at RT L's to end of deck)



**SECTION THRU APPROACH PARAPET**

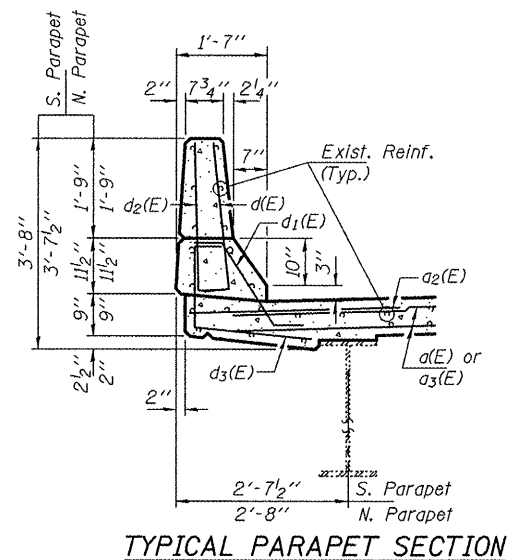


**REMOVAL PLAN**

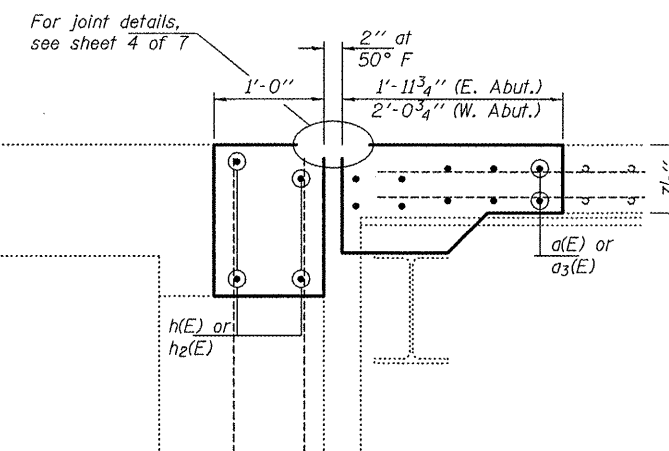


**REPLACEMENT PLAN**

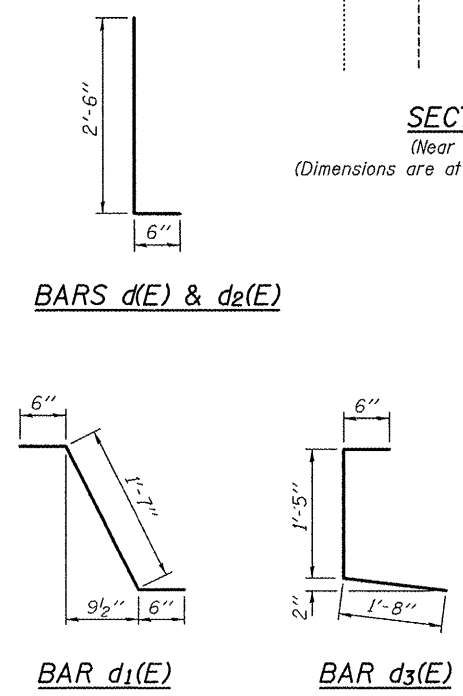
East abutment shown  
West abutment similar by rotation.



**TYPICAL PARAPET SECTION**



**SECTION B-B**  
(Near Roadway)  
(Dimensions are at RT L's to end of deck)



**BARS d(E) & d2(E)**

**BAR d1(E)**

**BAR d3(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	20	#5	17'-3"	—
a2(E)	12	#6	4'-0"	—
a3(E)	20	#5	28'-10"	—
d(E)	12	#5	3'-0"	L
d1(E)	12	#5	2'-7"	L
d2(E)	12	#4	3'-0"	L
d3(E)	12	#4	3'-7"	L
h(E)	8	#6	17'-11"	—
h2(E)	8	#6	29'-6"	—
Concrete Removal			Cu. Yd.	12.1
Concrete Superstructure			Cu. Yd.	12.2
Reinforcement Bars, Epoxy Coated			Lbs.	1730

**JOINT REPLACEMENT DETAILS**  
**FAI 55 OVER FANCY CREEK**  
**SN 084-0022**

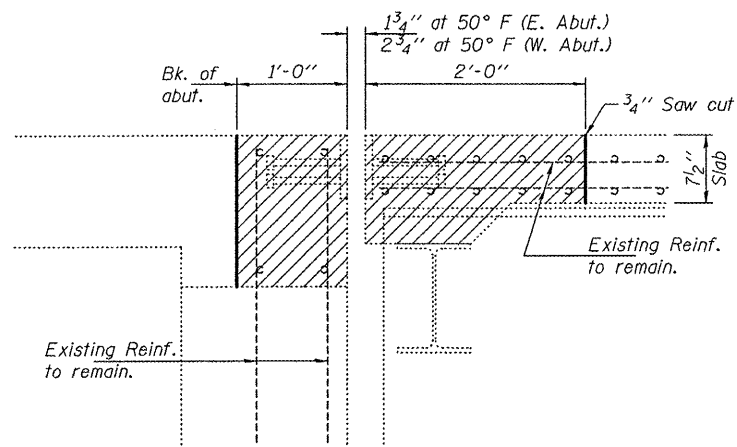
Notes:  
Hatched areas indicate removal.

DESIGNED	IJL
CHECKED	ATH
DRAWN	baliva
CHECKED	IJL ATH

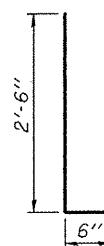
MAY 7, 2010  
EXAMINED *Carl Prosser*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 2 7 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84 2(RS-3)	SANGAMON	156	138
CONTRACT NO. 72D43					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

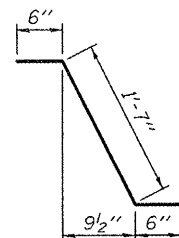
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



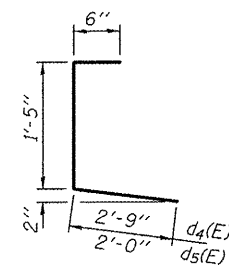
**SECTION A-A**  
(Near Roadway)  
(Dimensions are at RT L's to end of deck)



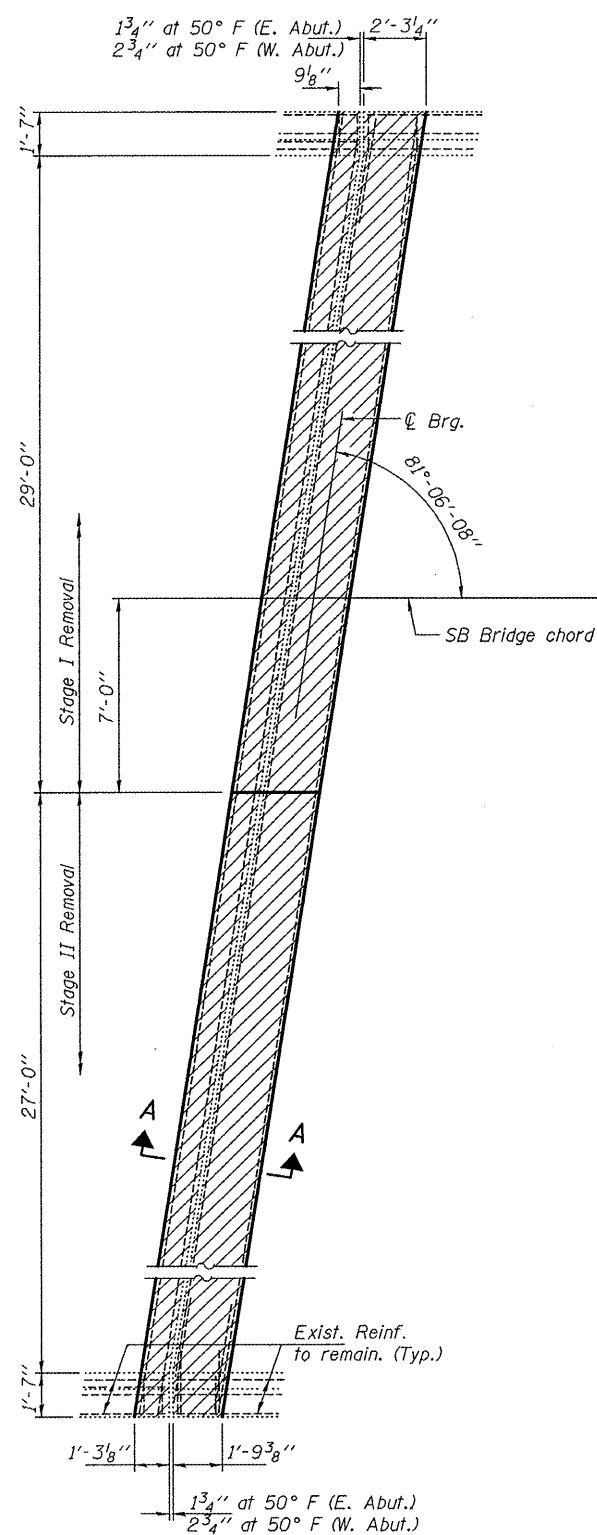
**BARS d(E) & d<sub>2</sub>(E)**



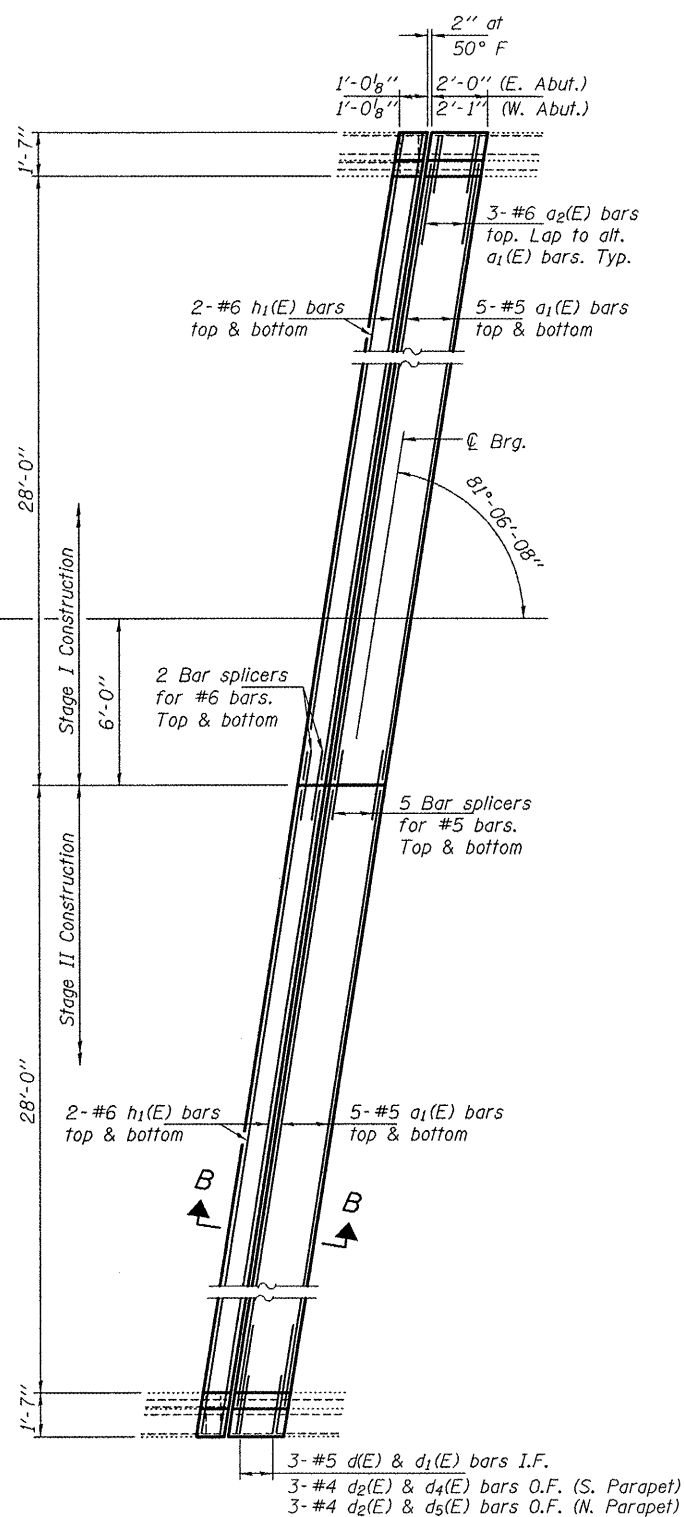
**BAR d<sub>1</sub>(E)**



**BAR d<sub>4</sub>(E) & d<sub>5</sub>(E)**

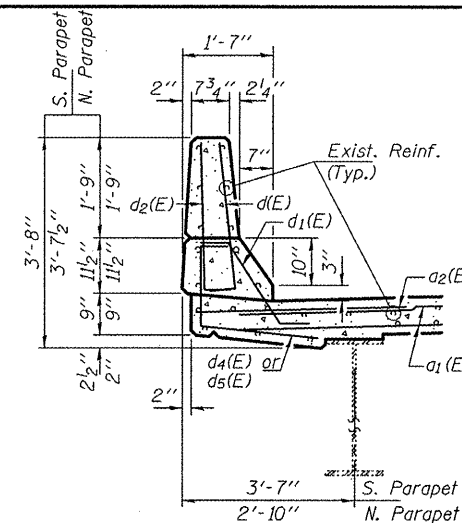


**REMOVAL PLAN**

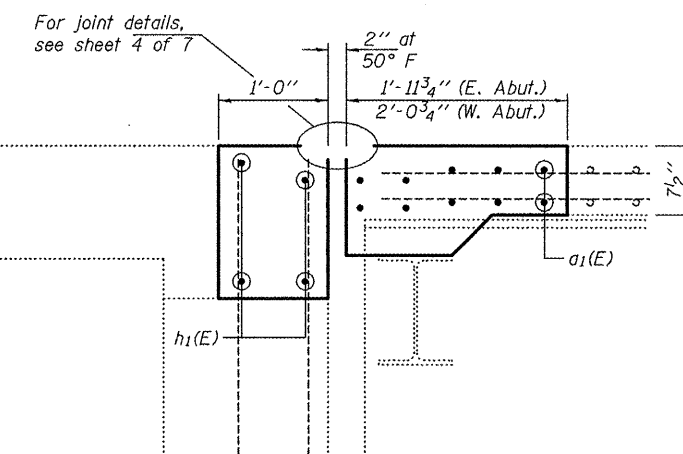


**REPLACEMENT PLAN**

East abutment shown  
West abutment similar by rotation.



**TYPICAL PARAPET SECTION**



**SECTION B-B**  
(Near Roadway)  
(Dimensions are at RT L's to end of deck)

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a <sub>1</sub> (E)	40	#5	28'-10"	—
a <sub>2</sub> (E)	12	#6	4'-0"	—
d(E)	12	#5	3'-0"	L
d <sub>1</sub> (E)	12	#5	2'-7"	L
d <sub>2</sub> (E)	12	#4	3'-0"	L
d <sub>4</sub> (E)	6	#4	4'-8"	L
d <sub>5</sub> (E)	6	#4	3'-11"	L
h <sub>1</sub> (E)	16	#6	29'-7"	—
Concrete Removal			Cu. Yd.	14.7
Concrete Superstructure			Cu. Yd.	14.8
Reinforcement Bars, Epoxy Coated			Lbs.	2110

**JOINT REPLACEMENT DETAILS**

**FAI 55 OVER FANCY CREEK**

**SN 084-0023**

Notes:  
Hatched areas indicate removal.  
For section thru approach parapet, see sheet 2 of 6.

DESIGNED	IJL
CHECKED	ATH
DRAWN	ballva
CHECKED	IJL ATH

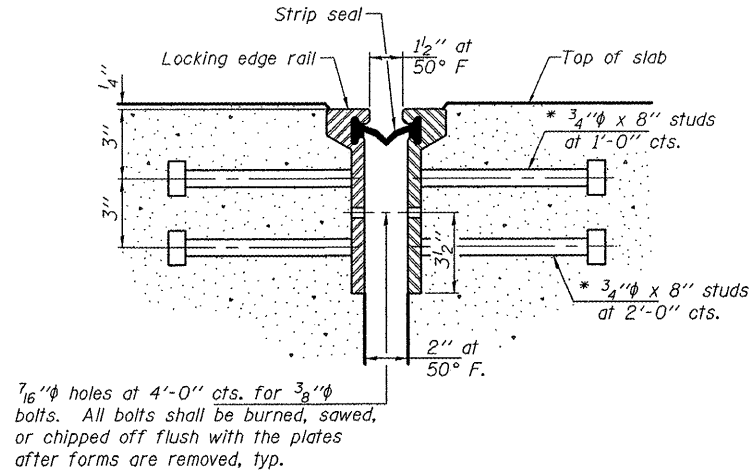
MAY 7, 2010  
EXAMINED *Carl Proyer*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 3 7 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84 2(RS-3)	SANGAMON	156	139
FED. ROAD DIST. NO.			ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 72D43					

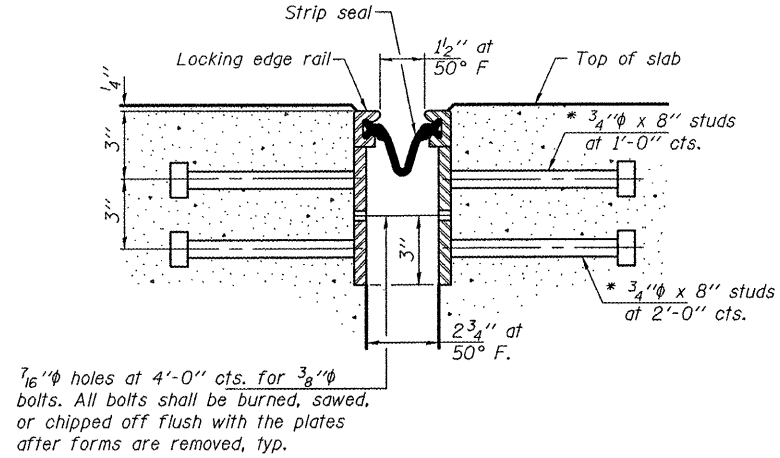
Rev. 5-26-10

\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

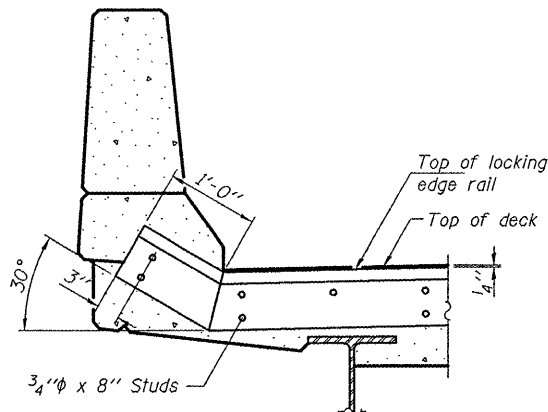
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



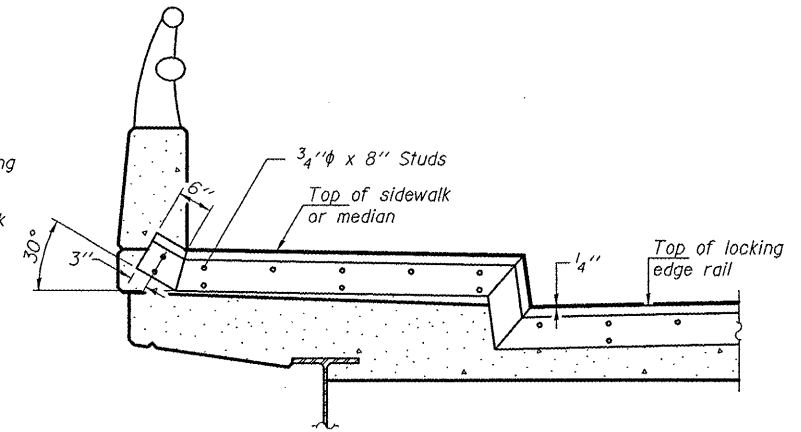
SECTION THRU  
ROLLED RAIL JOINT



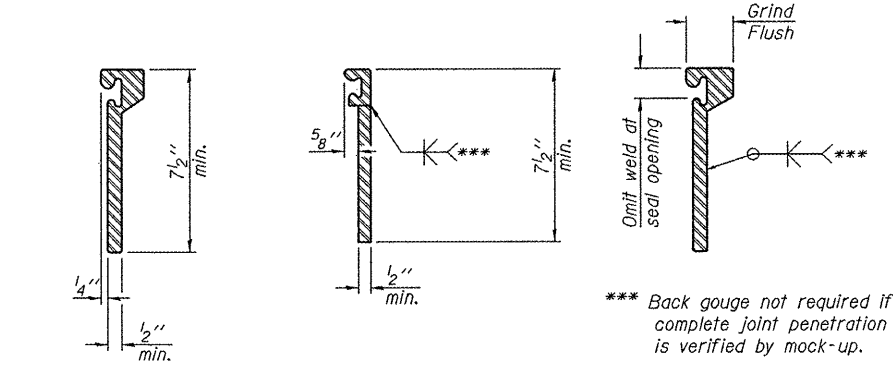
SECTION THRU  
WELDED RAIL JOINT



AT PARAPET  
See Section A-A for end treatment of skews > 30°.



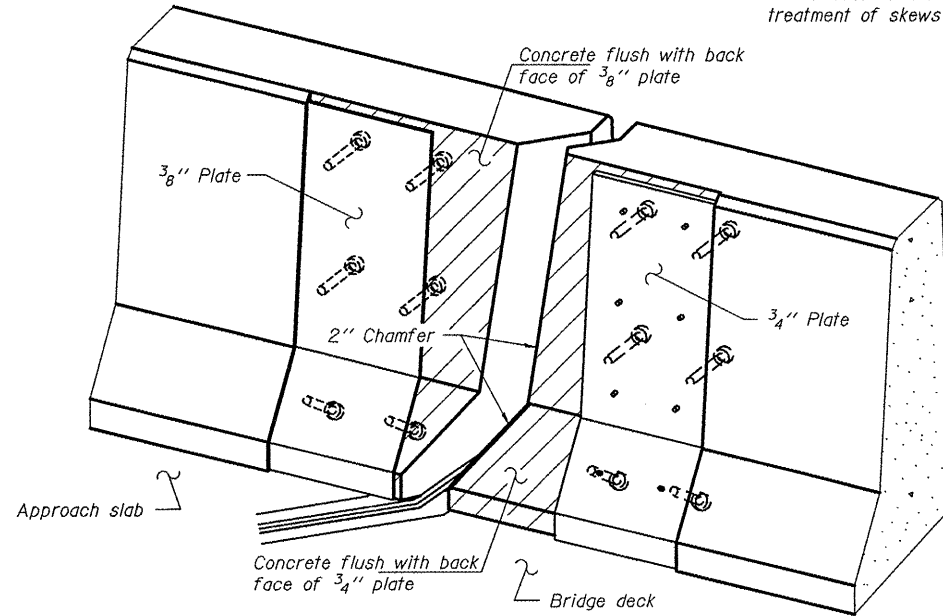
AT SIDEWALK OR MEDIAN  
Shorter plates with a single row of studs at 12 inch cts. may be necessary on medians which are shallower than 9 inch. See manufacturer's recommendation.



ROLLED  
EXTRUDED RAIL

WELDED RAIL

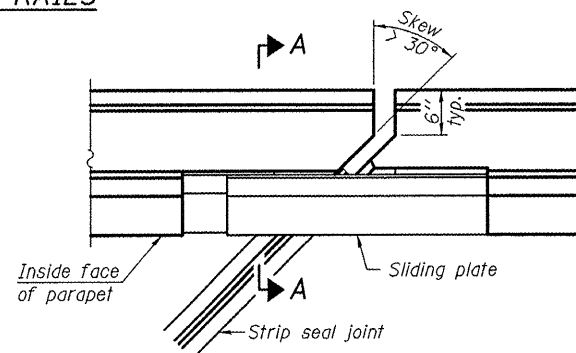
**LOCKING EDGE RAIL SPLICE**  
The inside of the locking edge rail groove shall be free of weld residue.  
Rolled rail shown, welded rail similar.



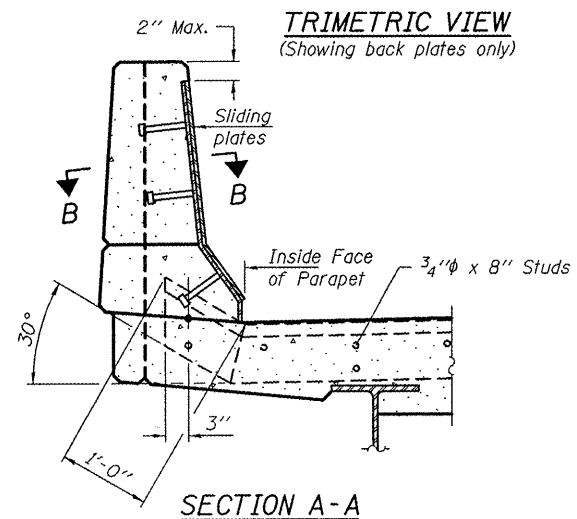
TYPICAL END TREATMENTS

Notes:  
The strip seal shall be made continuous and shall have a minimum thickness of 1/4 inch. The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.  
The manufacturer's recommended installation methods shall be followed.  
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.  
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.  
Maximum space between rail segments at stage lines shall be 3/16 inch, sealed with a suitable sealant.

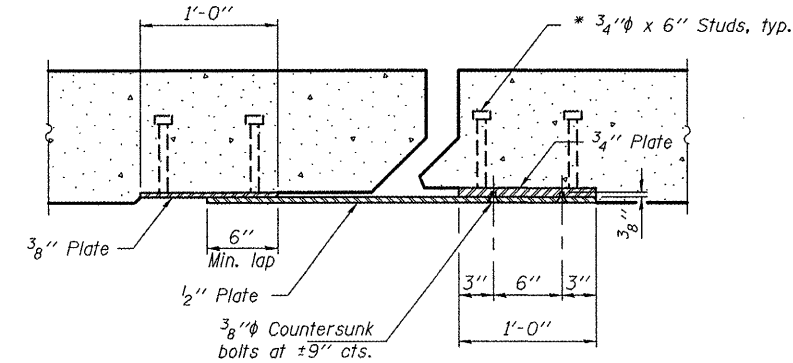
LOCKING EDGE RAILS



PLAN



POINT BLOCK DETAILS  
(for skews > 30°)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	217

PREFORMED JOINT STRIP SEAL  
FAI 55 OVER FANCY CREEK  
SN 084-0022 & 0023

DESIGNED	IJL
CHECKED	ATH
DRAWN	baliva
CHECKED	IJL ATH

MAY 7, 2010  
EXAMINED *Carl Hoyer*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

EJ-SSJ

11-1-09

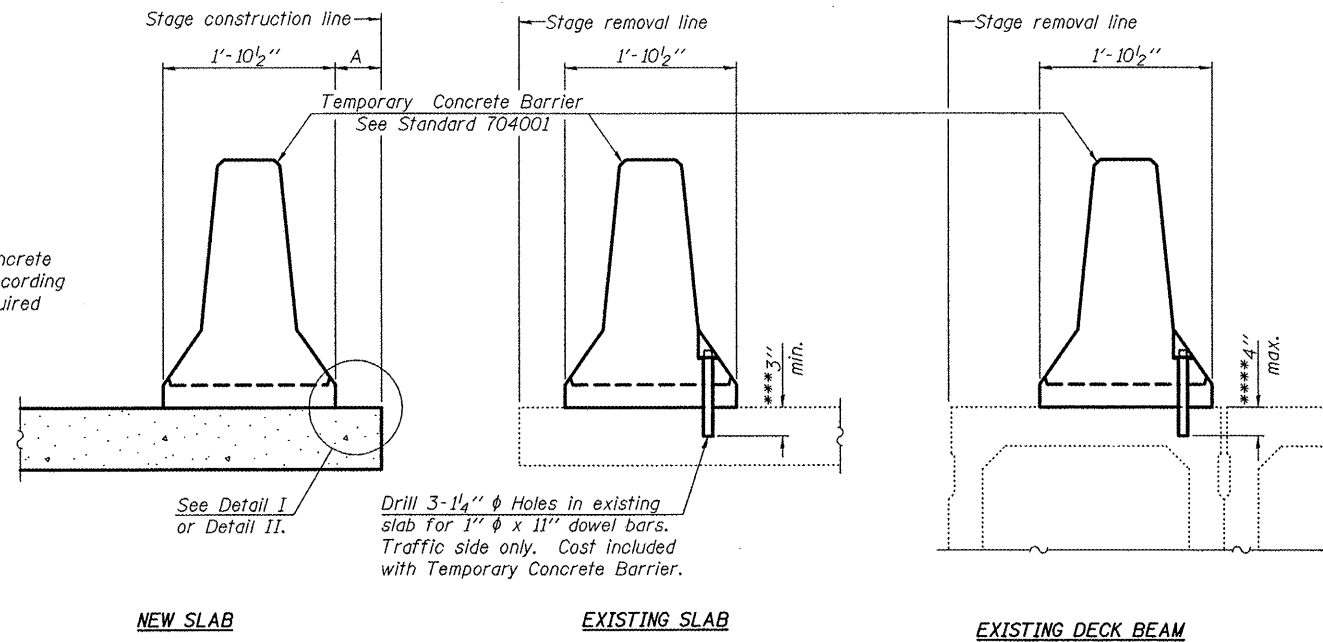
SHEET NO. 4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7 SHEETS	55	84 2(RS-3)	SANGAMON	156	140
FED. ROAD DIST. NO.			ILLINOIS	FED. AID PROJECT	
			CONTRACT NO. 72D43		

Rev. 5-26-10



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB

EXISTING SLAB

EXISTING DECK BEAM

SECTIONS THRU SLAB OR DECK BEAM

Drill 3-1/4"  $\phi$  Holes in existing slab for 1"  $\phi$  x 11" dowel bars. Traffic side only. Cast included with Temporary Concrete Barrier.

See Detail I or Detail II.

NOTES

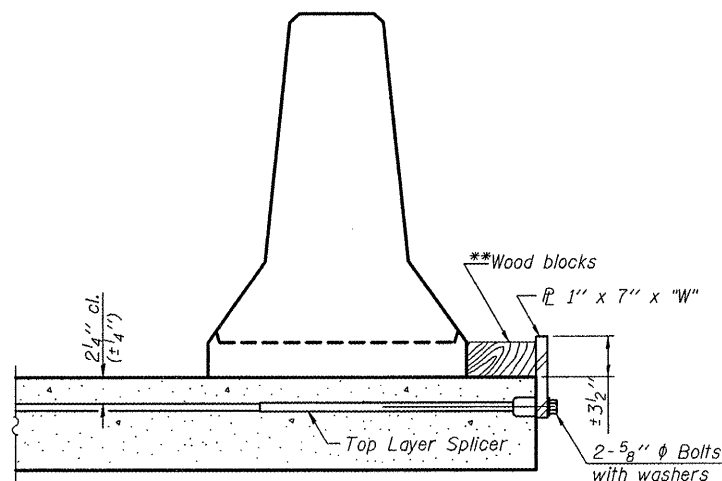
Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel  $\bar{P}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each barrier panel.

Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel  $\bar{P}$  to the concrete slab or concrete wearing surface with 2-5/8"  $\phi$  Expansion Anchors or cast in place Inserts spaced between the top layer of reinforcement at approximate  $\bar{C}$  of each barrier panel.

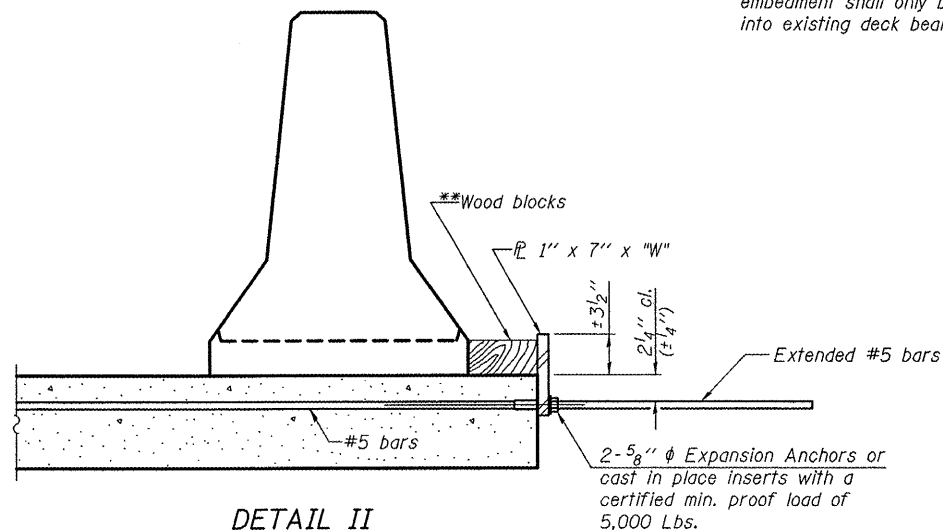
Cost of anchorage is included with Temporary Concrete Barrier. The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

\*\*\* Dimension shown is minimum required embedment into concrete. If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

\*\*\*\* If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



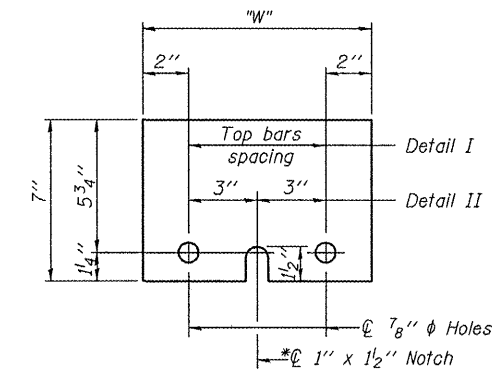
DETAIL I



DETAIL II

\*\* Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"



STEEL RETAINER  $\bar{P}$  1" x 7" x 10"

\* Required only with Detail II

DESIGNED	IJL
CHECKED	ATH
DRAWN	balva
CHECKED	IJL ATH

MAY 7, 2010  
EXAMINED *Carl Roney*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

R-27

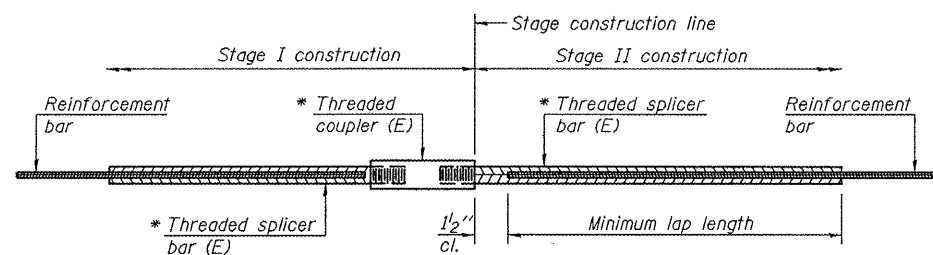
11-1-09

TEMPORARY CONCRETE BARRIER  
FAI 55 OVER FANCY CREEK  
SN 084-0022 & 0023

SHEET NO. 5 7 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84 2(RS-3)	SANGAMON	156	141
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 72D43					

Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**STANDARD BAR SPLICER ASSEMBLY**

Minimum Lap Lengths				
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

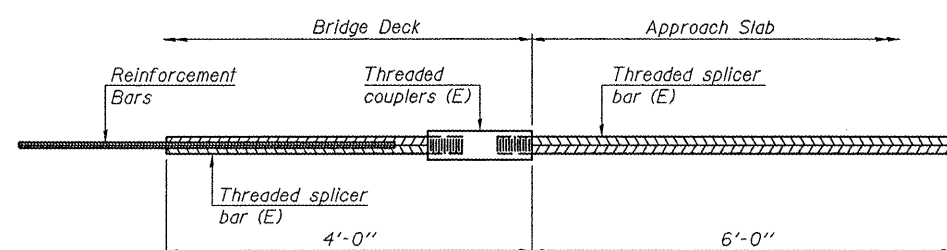
Table 1: Black bar, 0.8 Class C  
Table 2: Black bar, Top bar lap, 0.8 Class C  
Table 3: Epoxy bar, 0.8 Class C  
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

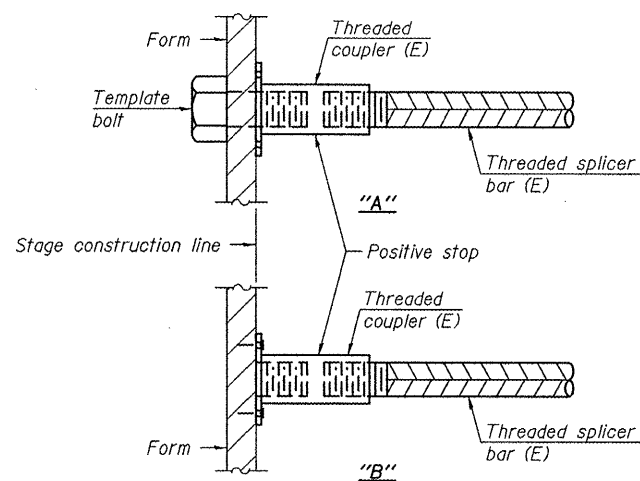
** Location	** Bar size	** No. assemblies required	** Table for minimum lap length
West Abutment	#5	10	3
West Abutment	#6	4	3
East Abutment	#5	10	3
East Abutment	#6	4	3

\*\* Typical each structure



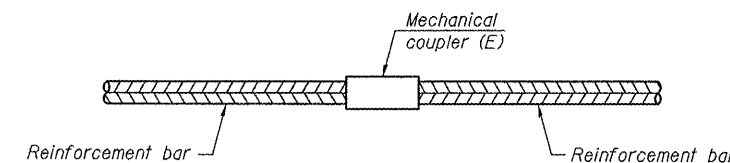
**BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

No. required =



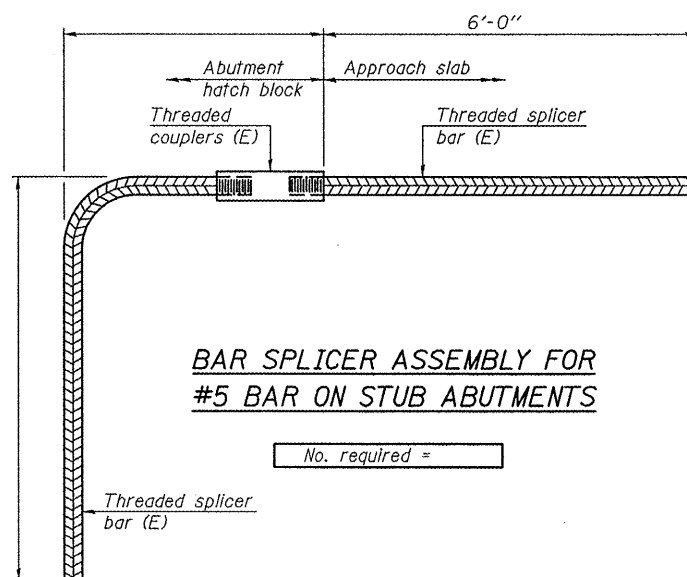
**INSTALLATION AND SETTING METHODS**

"A" : Set bar splicer assembly by means of a template bolt.  
"B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.



**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required =

**NOTES**

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
All reinforcement shall be lapped and tied to the splicer bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
See special provision for Mechanical Splicers.  
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
FAI 55 OVER FANCY CREEK  
SN 084-0022 & 0023**

DESIGNED	IJL
CHECKED	ATH
DRAWN	baliva
CHECKED	IJL ATH

MAY 7, 2010  
EXAMINED *Carl Perry*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES



BSD-1 11-1-09

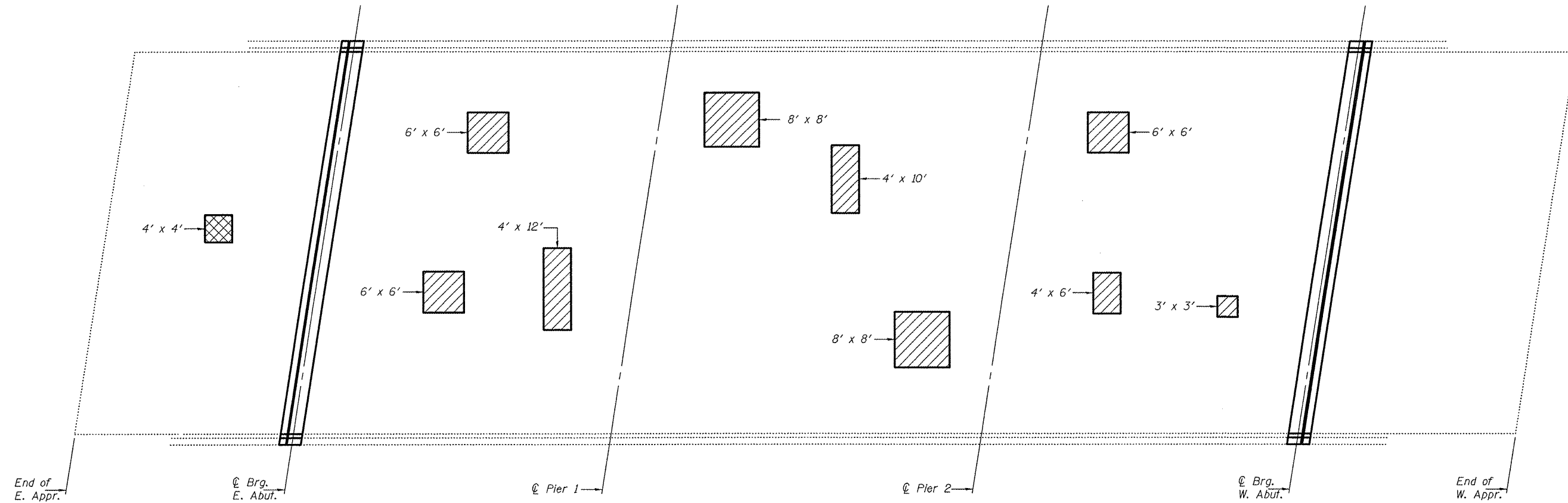
SHEET NO. 6 7 SHEETS	F.A.I. RTE. 55	SECTION 84 2(RS-3)	COUNTY SANGAMON	TOTAL SHEETS 156	SHEET NO. 142
	CONTRACT NO. 72D43				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on As-built Plans.

-  - Approach Slab Repair (Partial Depth)
-  - Deck Slab Repair (Partial)



DECK PATCHING PLAN

**DECK PATCHING DETAILS**  
**FAI 55 OVER FANCY CREEK**  
**SN 084-0023**

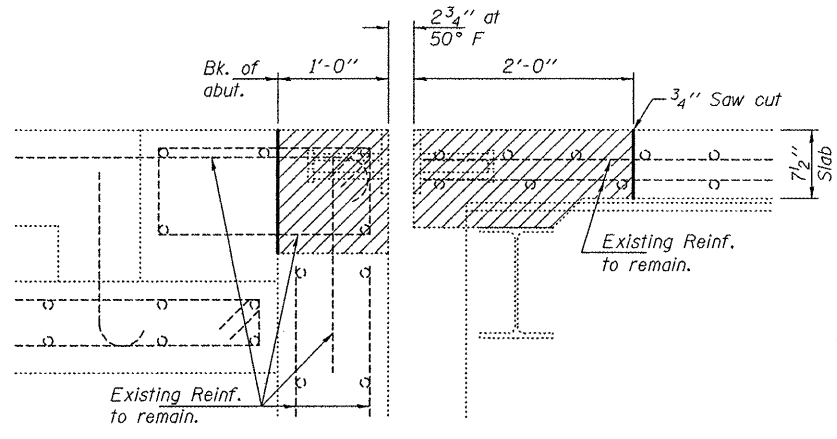
DESIGNED	IJL
CHECKED	ATH
DRAWN	baliva
CHECKED	IJL ATH

MAY 7, 2010  
EXAMINED *Carl Paves*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

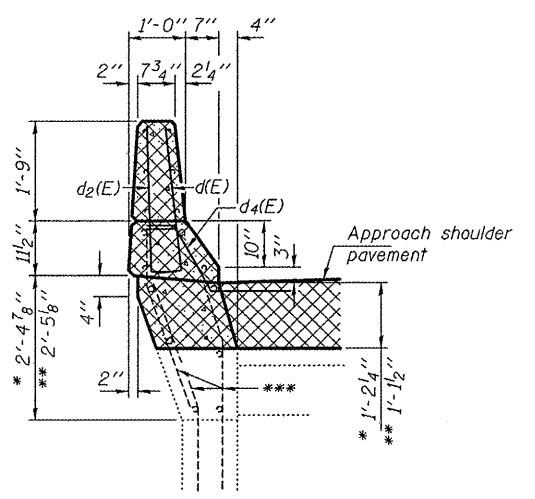
SHEET NO. 7 7 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84 2(RS-3)	SANGAMON	156	143
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 72D43					

**Rev. 5-26-10**

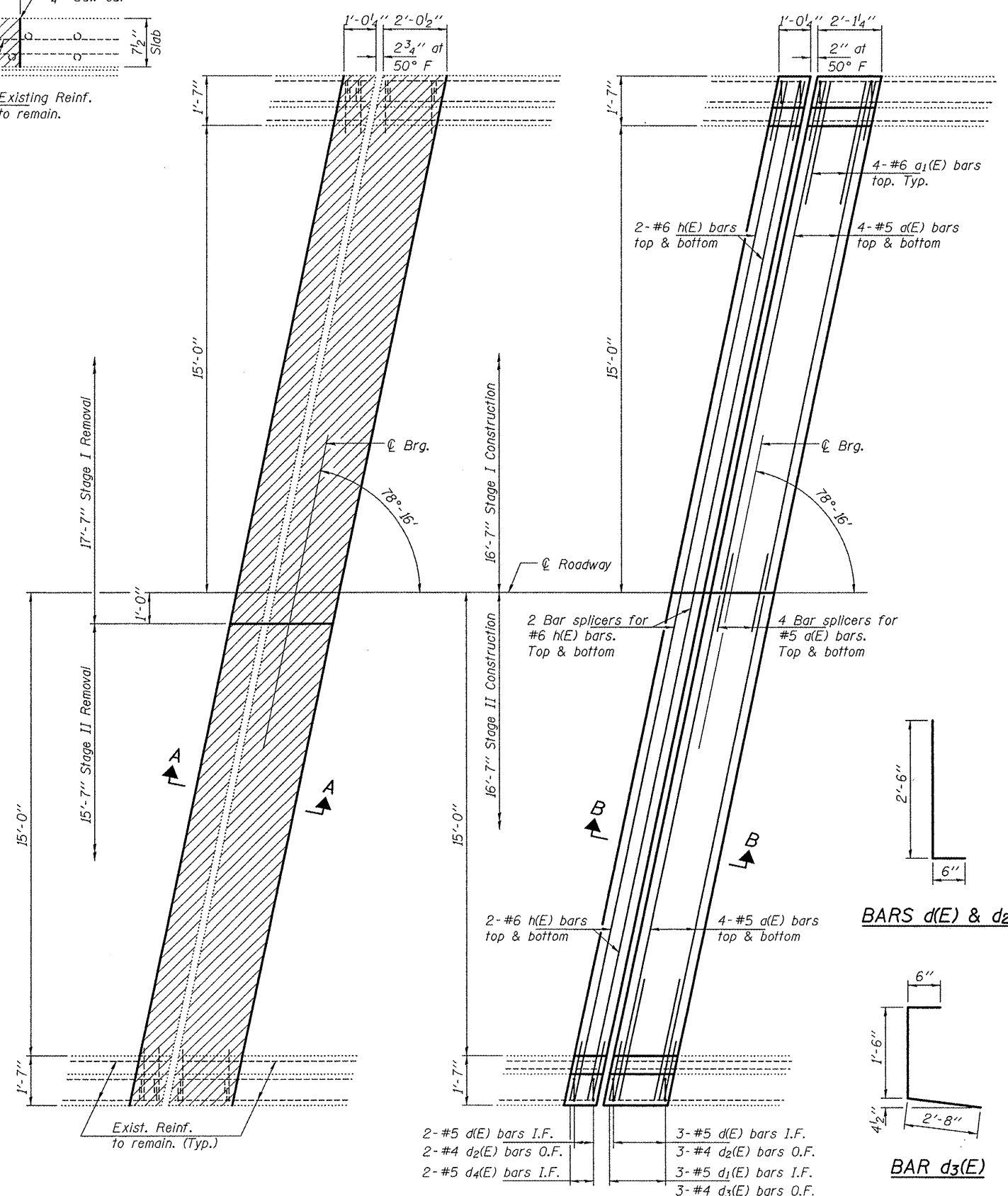
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**SECTION A-A**  
(Near Roadway)  
(Dimensions are at RT L's to end of deck)



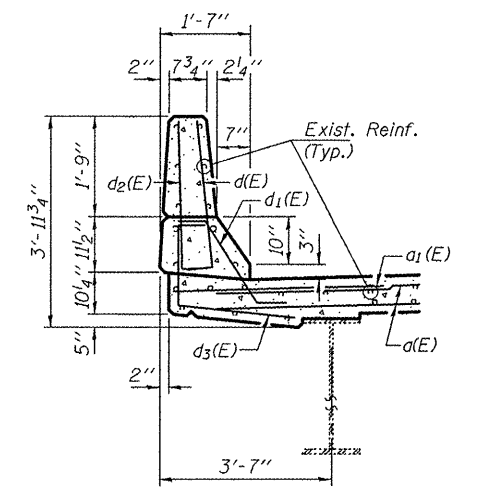
**SECTION THRU APPROACH PARAPET**  
\*\*\* Existing reinforcement to be salvaged.  
(And all longitudinal reinforcement)  
\* South wing  
\*\* North wing



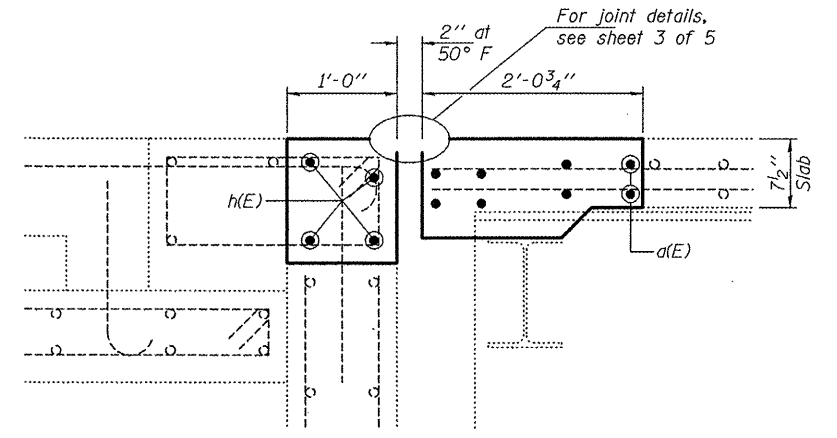
**REMOVAL PLAN**

**REPLACEMENT PLAN**

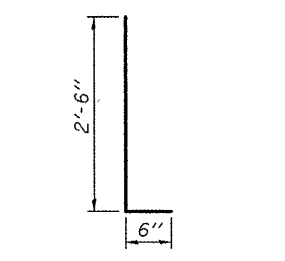
West abutment shown  
East abutment similar by rotation.



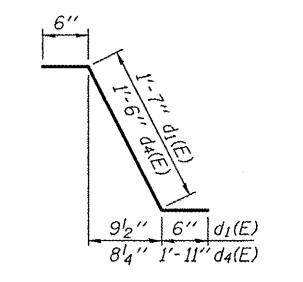
**TYPICAL PARAPET SECTION**



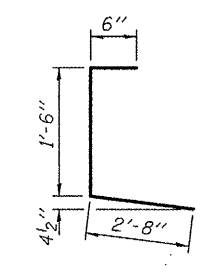
**SECTION B-B**  
(Near Roadway)  
(Dimensions are at RT L's to end of deck)



**BARS d(E) & d2(E)**



**BARS d1(E) & d4(E)**



**BAR d3(E)**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
d(E)	32	#5	16'-4"	—
a1(E)	16	#6	4'-0"	—
d(E)	20	#5	3'-0"	L
d1(E)	12	#5	2'-7"	L
d2(E)	20	#4	3'-0"	L
d3(E)	12	#4	4'-8"	L
d4(E)	8	#5	3'-11"	L
h(E)	16	#6	16'-7"	—
Concrete Removal			Cu. Yd.	9.4
Concrete Superstructure			Cu. Yd.	9.6
Reinforcement Bars, Epoxy Coated			Lbs.	1240

**JOINT REPLACEMENT DETAILS**  
**CH 1 OVER FAI 55**  
**SN 084-0088**

Notes:  
Hatched areas indicate removal.

DESIGNED	IJL
CHECKED	ATH
DRAWN	ballva
CHECKED	IJL ATH

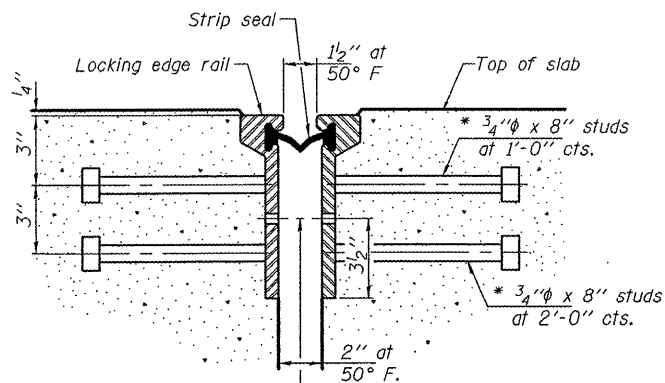
MAY 7, 2010  
EXAMINED *Carl Krusey*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 2	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84 2(RS-3)	SANGAMON	156	145
5 SHEETS		CONTRACT NO. 72D43			
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT			

Rev. 5-26-10

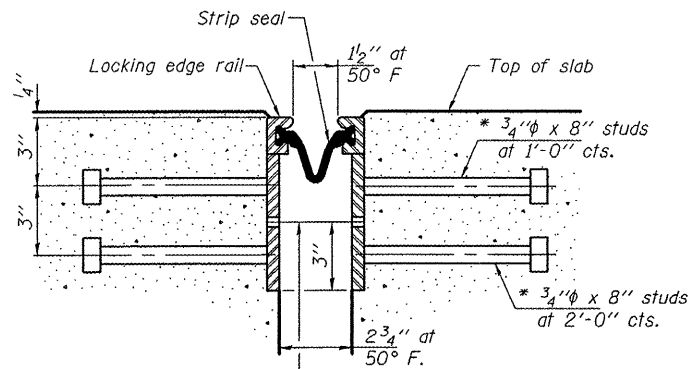
\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



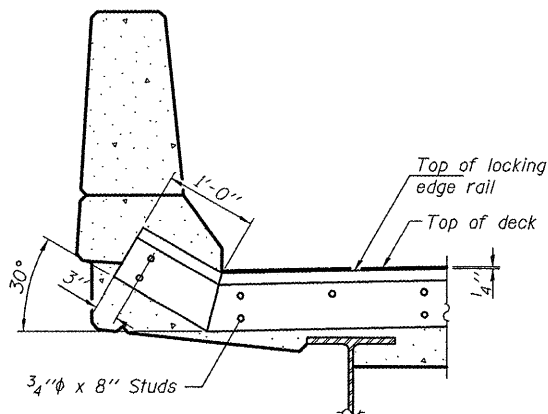
7/16 inch diameter holes at 4 foot 0 inch centers for 3/8 inch diameter bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU  
ROLLED RAIL JOINT

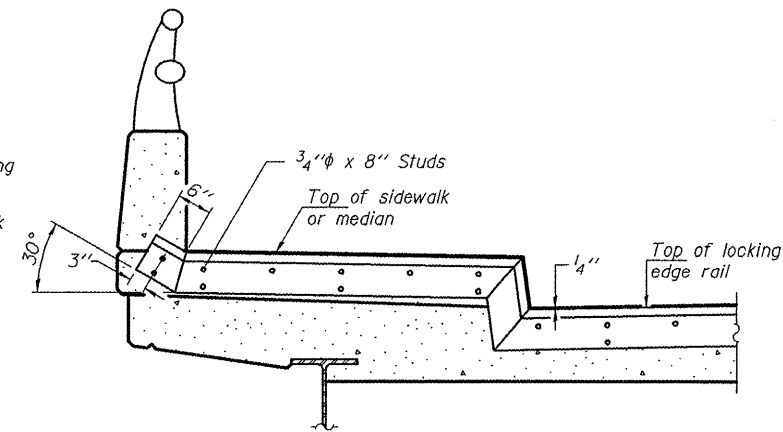


7/16 inch diameter holes at 4 foot 0 inch centers for 3/8 inch diameter bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU  
WELDED RAIL JOINT



AT PARAPET  
See Section A-A for end treatment of skews > 30°.



AT SIDEWALK OR MEDIAN  
Shorter plates with a single row of studs at 12 inch centers may be necessary on medians which are shallower than 9 inches. See manufacturer's recommendation.

TYPICAL END TREATMENTS

Notes:

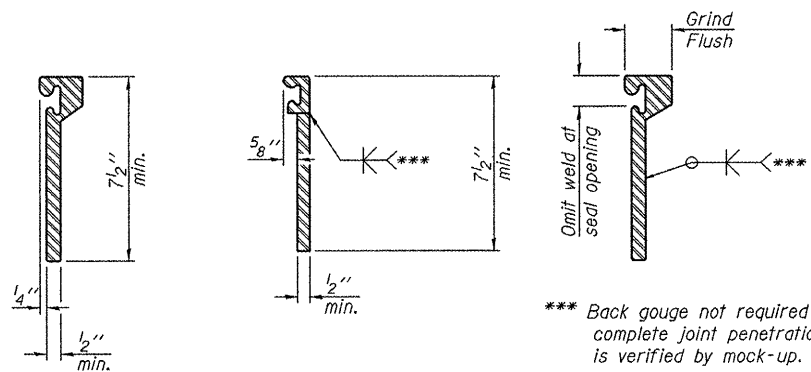
The strip seal shall be made continuous and shall have a minimum thickness of 1/4 inch. The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.

The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.

The manufacturer's recommended installation methods shall be followed. The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

Maximum space between rail segments at stage lines shall be 3/16 inch, sealed with a suitable sealant.

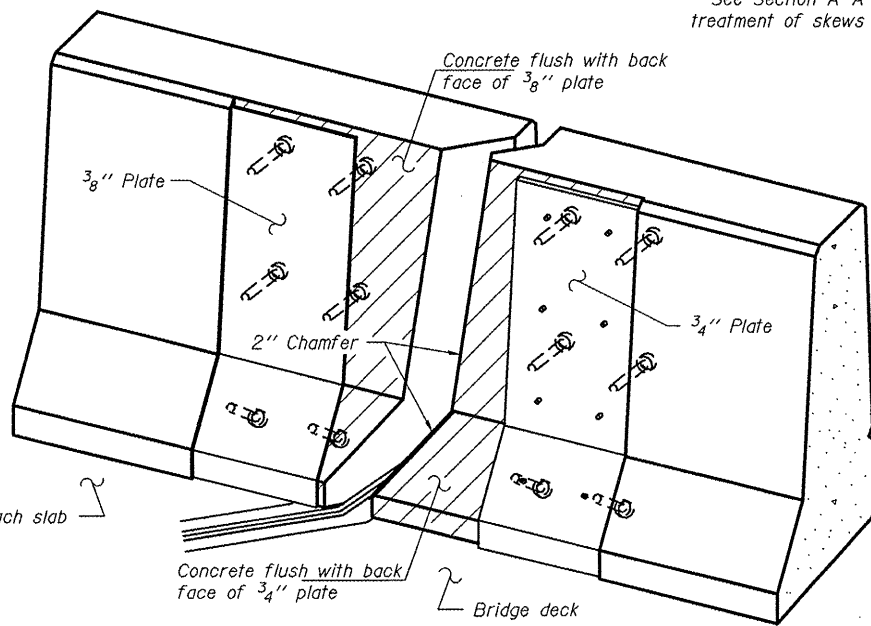


ROLLED  
EXTRUDED RAIL

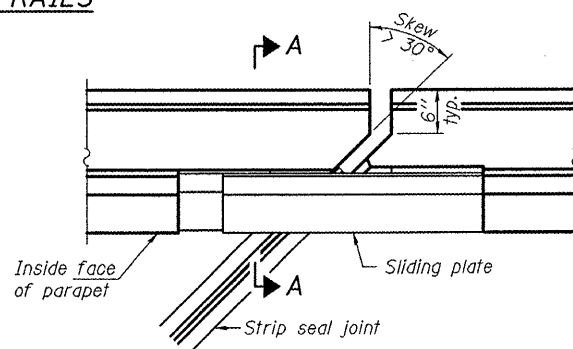
WELDED RAIL

LOCKING EDGE  
RAIL SPLICE

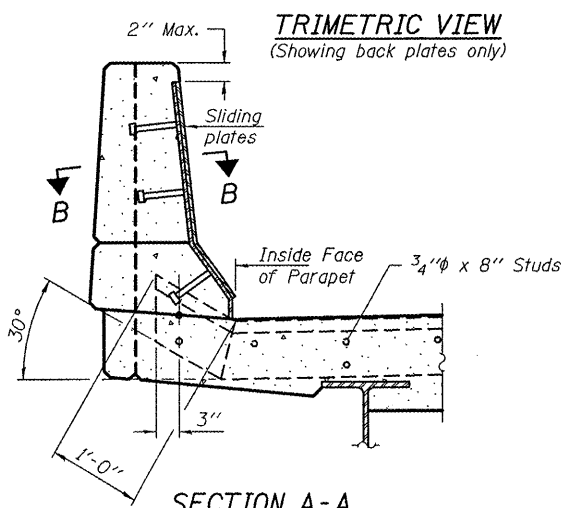
The inside of the locking edge rail groove shall be free of weld residue.  
Rolled rail shown, welded rail similar.



LOCKING EDGE RAILS

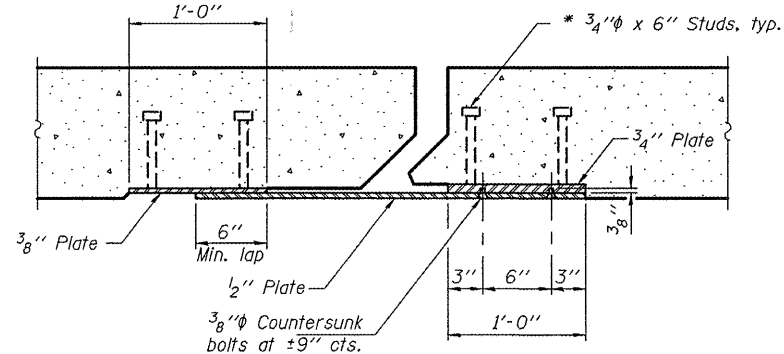


PLAN



SECTION A-A

POINT BLOCK DETAILS  
(for skews > 30°)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	66

PREFORMED JOINT STRIP SEAL  
CH 1 OVER FAI 55  
SN 084-0088

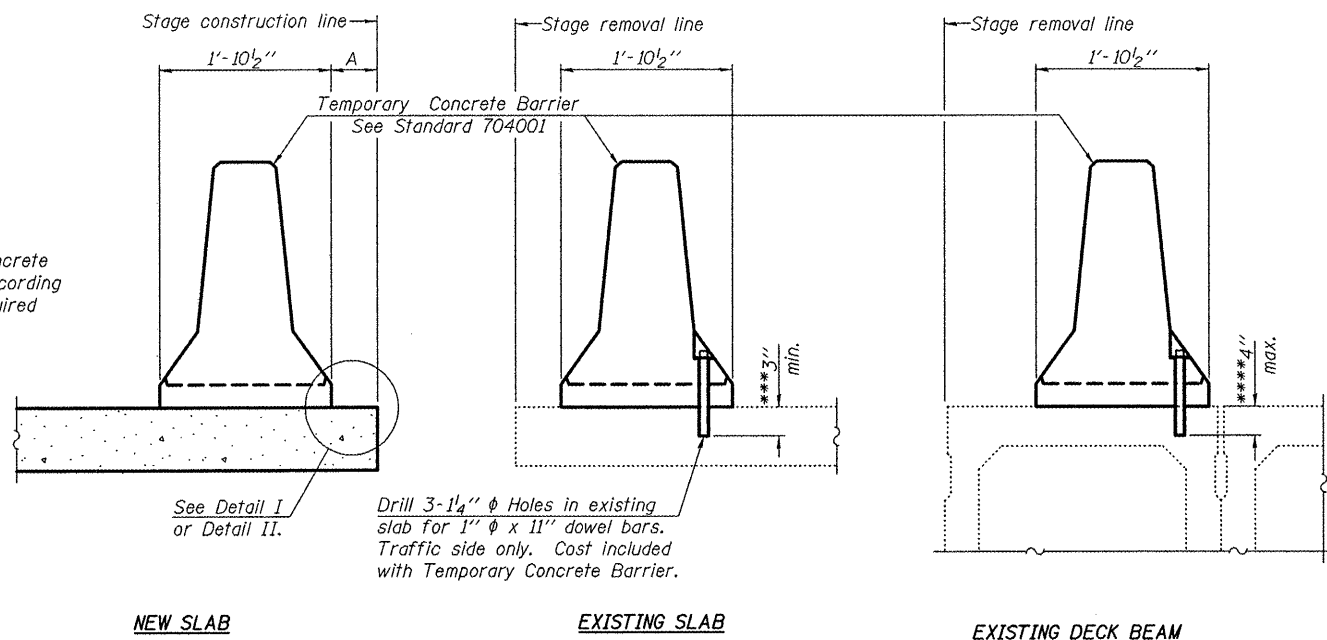
DESIGNED	IJL
CHECKED	ATH
DRAWN	baliva
CHECKED	IJL ATH

MAY 7, 2010  
EXAMINED *Carl Prosser*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

SHEET NO. 3	F.A.I. RTE. 55	SECTION 84 2(RS-3)	COUNTY SANGAMON	TOTAL SHEETS 156	SHEET NO. 146
5 SHEETS	CONTRACT NO. 72D43				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB

EXISTING SLAB

EXISTING DECK BEAM

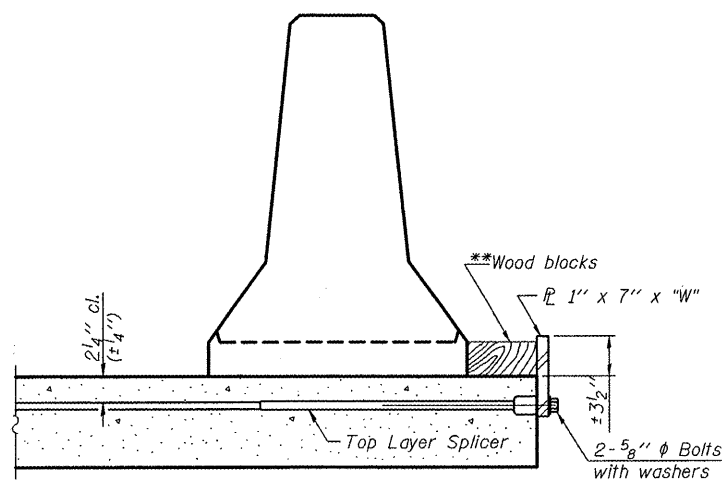
SECTIONS THRU SLAB OR DECK BEAM

NOTES

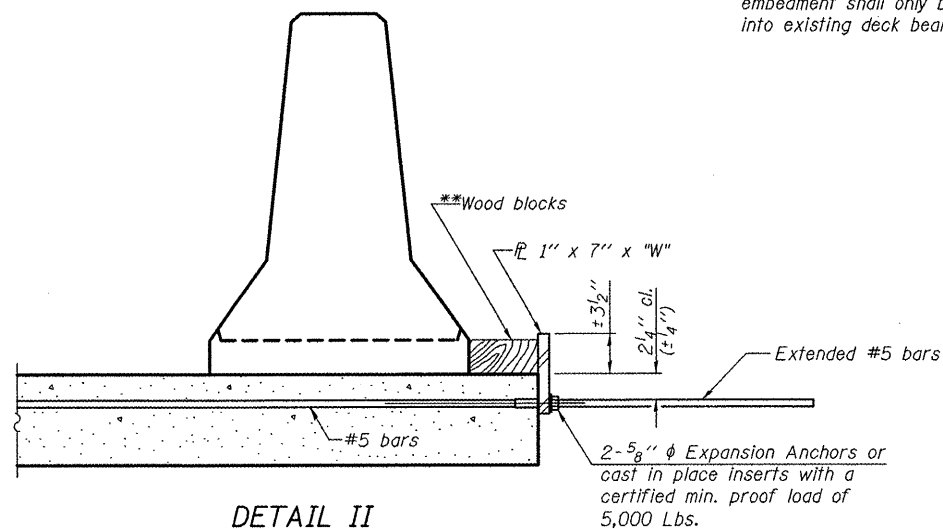
- Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel PL to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate C of each barrier panel.
- Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel PL to the concrete slab or concrete wearing surface with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate C of each barrier panel.
- Cost of anchorage is included with Temporary Concrete Barrier.  
The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

\*\*\* Dimension shown is minimum required embedment into concrete.  
If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

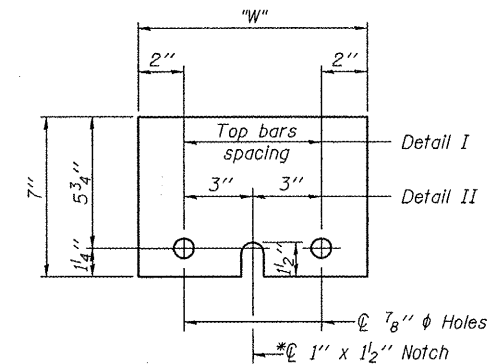
\*\*\*\* If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER PL 1" x 7" x 10"

\* Required only with Detail II

\*\* Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

TEMPORARY CONCRETE BARRIER  
CH 1 OVER FAI 55  
SN 084-0088

DESIGNED	IJL
CHECKED	ATH
DRAWN	ballva
CHECKED	IJL ATH

MAY 7, 2010  
EXAMINED *Carl L. ...*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

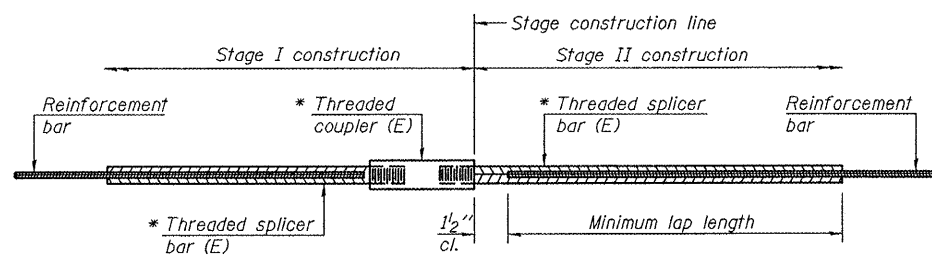
R-27

11-1-09

SHEET NO. 4 5 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84 2(RS-3)	SANGAMON	156	147
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 72D43					

Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**STANDARD BAR SPLICER ASSEMBLY**

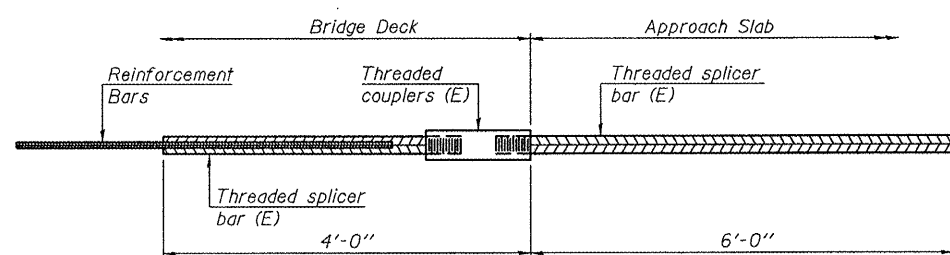
Minimum Lap Lengths				
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

Table 1: Black bar, 0.8 Class C  
Table 2: Black bar, Top bar lap, 0.8 Class C  
Table 3: Epoxy bar, 0.8 Class C  
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

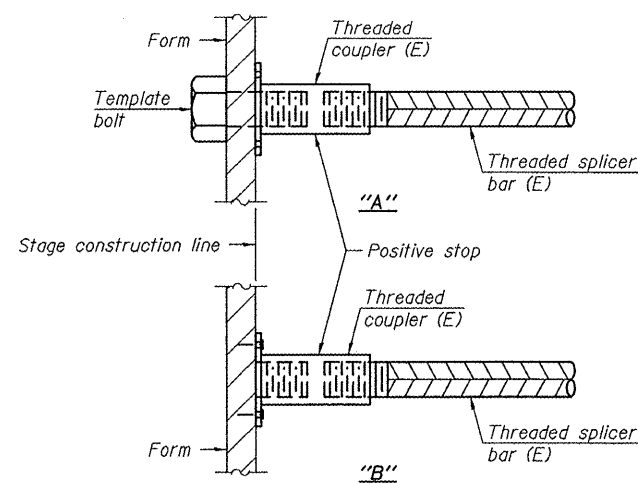
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
West Abutment	#5	8	3
West Abutment	#6	4	3
East Abutment	#5	8	3
East Abutment	#6	4	3



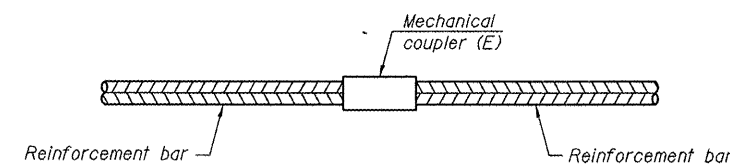
**BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

No. required =



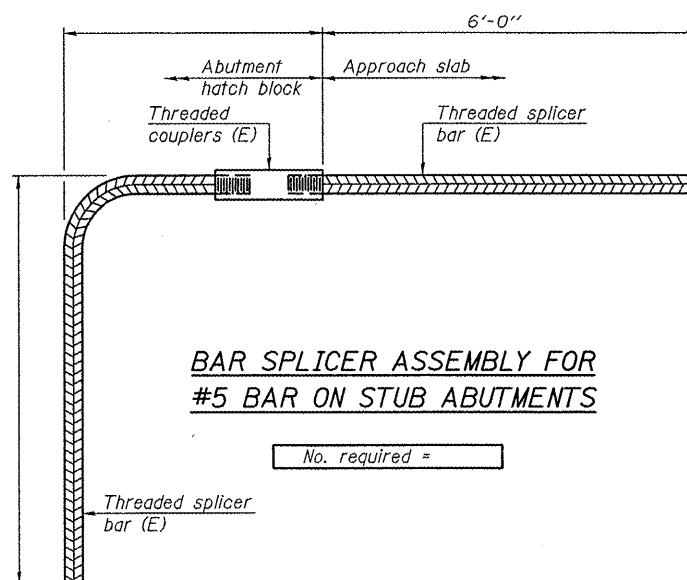
**INSTALLATION AND SETTING METHODS**

"A": Set bar splicer assembly by means of a template bolt.  
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.



**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required =

**NOTES**

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
All reinforcement shall be lapped and tied to the splicer bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
See special provision for Mechanical Splicers.  
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS  
CH 1 OVER FAI 55  
SN 084-0088**

DESIGNED	IJL
CHECKED	ATH
DRAWN	baliva
CHECKED	IJL ATH

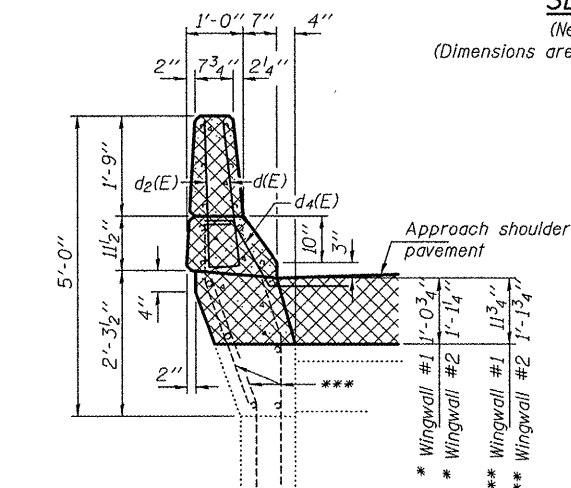
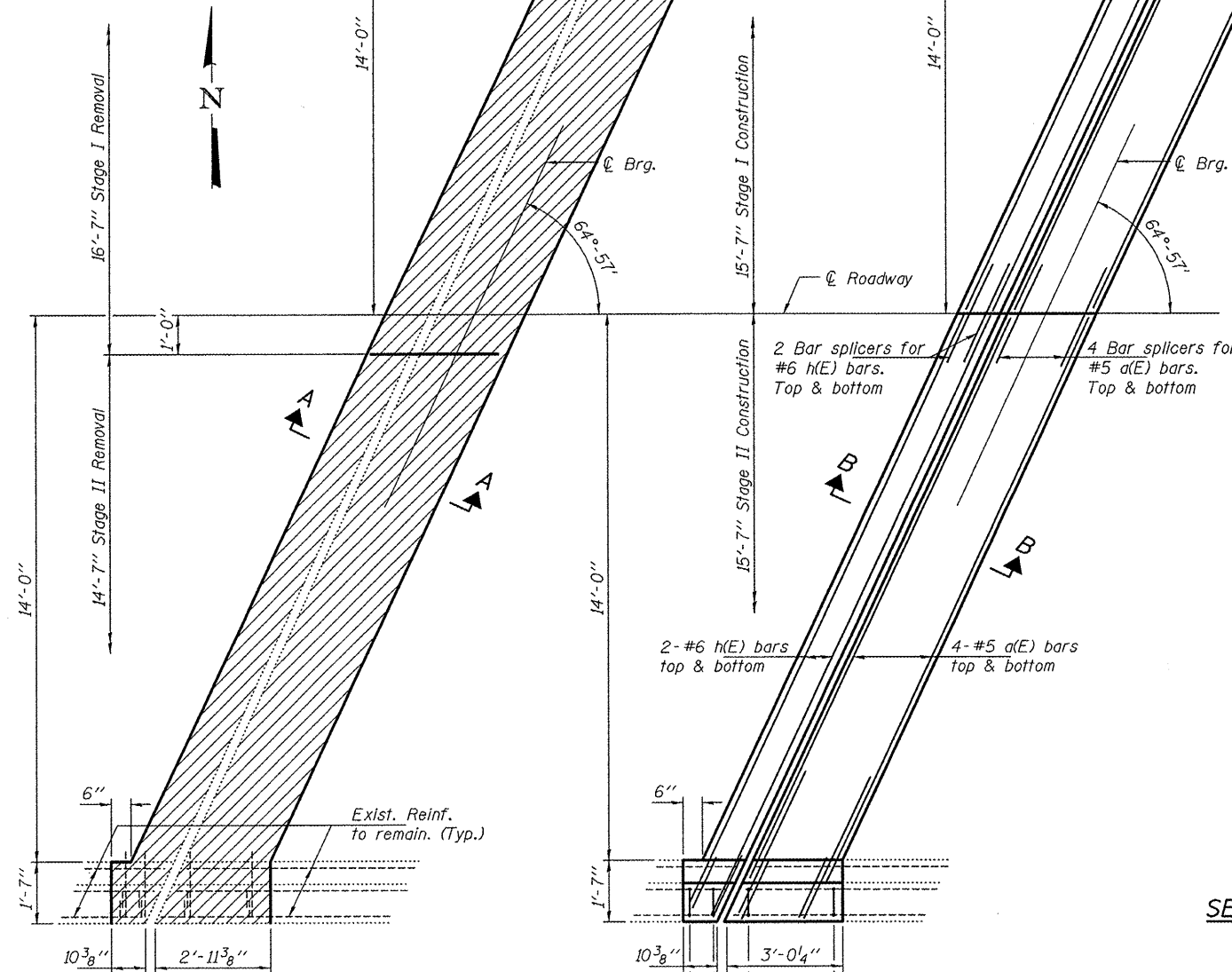
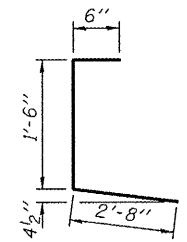
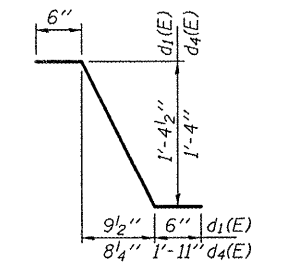
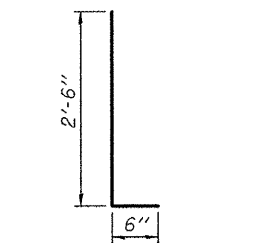
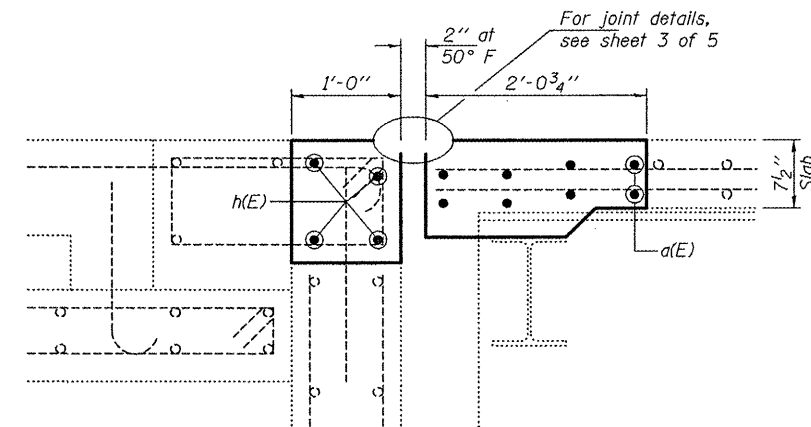
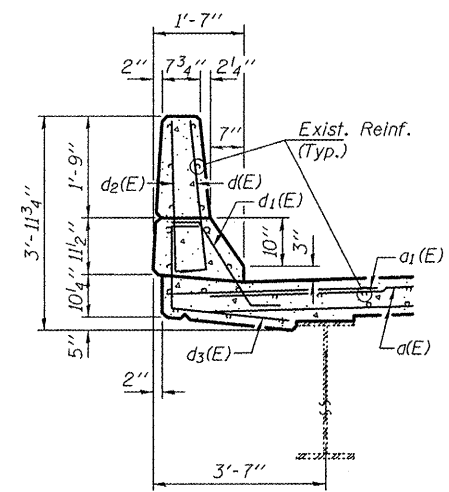
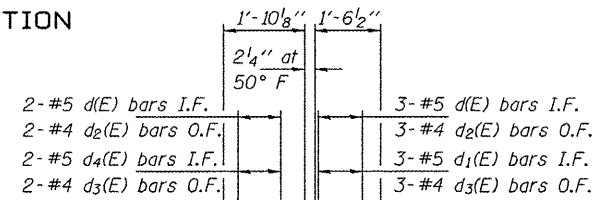
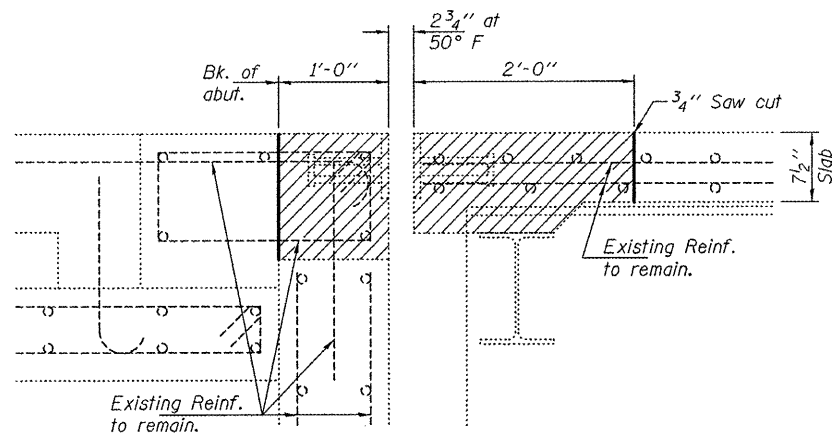
MAY 7, 2010  
EXAMINED *Carl Perry*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

BSD-1 11-1-09

SHEET NO. 5	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5 SHEETS	55	84 2(RS-3)	SANGAMON	156	148
CONTRACT NO. 72D43					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	32	#5	16'-0"	—
a <sub>1</sub> (E)	16	#6	5'-0"	—
d(E)	20	#5	3'-0"	L
d <sub>1</sub> (E)	12	#5	2'-7"	L
d <sub>2</sub> (E)	20	#4	3'-0"	L
d <sub>3</sub> (E)	12	#4	4'-8"	L
d <sub>4</sub> (E)	8	#5	3'-11"	L
h(E)	16	#6	16'-9"	—
Concrete Removal			Cu. Yd.	9.0
Concrete Superstructure			Cu. Yd.	9.2
Reinforcement Bars, Epoxy Coated			Lbs.	1260

**JOINT REPLACEMENT DETAILS**  
TR 33 OVER FAI 55  
SN 084-0100

DESIGNED	IJL
CHECKED	ATH
DRAWN	baliva
CHECKED	IJL ATH

MAY 7, 2010  
EXAMINED *Carl P. ...*  
PASSED *Ralph E. ...*  
ENGINEER OF STRUCTURAL SERVICES  
ENGINEER OF BRIDGES AND STRUCTURES

West abutment shown  
East abutment similar by rotation.

Notes:  
Hatched areas indicate removal.  
Cross hatched areas indicate removal and replacement.

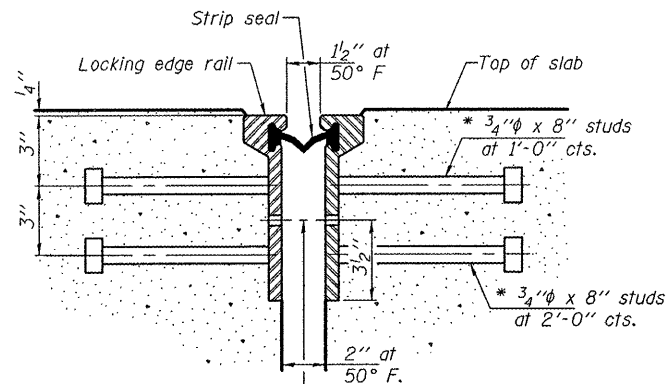
SHEET NO. 2	F.A.I. RTE. 55	SECTION 84 2(RS-3)	COUNTY SANGAMON	TOTAL SHEETS 156	SHEET NO. 150
5 SHEETS			CONTRACT NO. 72D43		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

Rev. 5-26-10



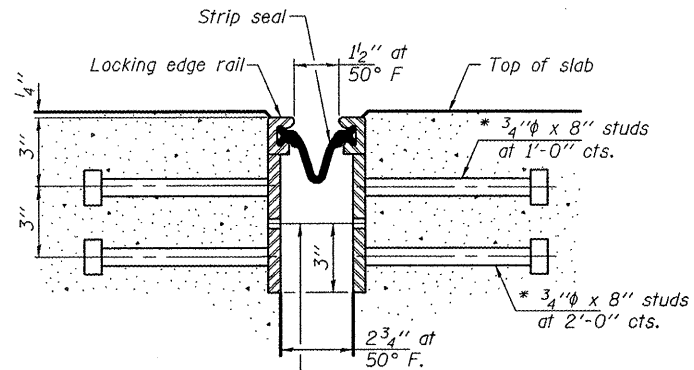
\* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



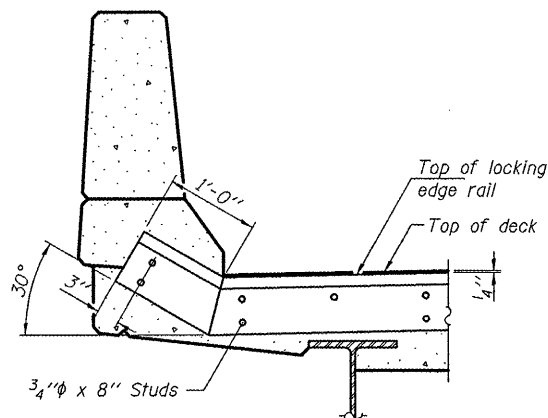
7/16 inch diameter holes at 4 foot 0 inch centers for 3/8 inch diameter bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU  
ROLLED RAIL JOINT

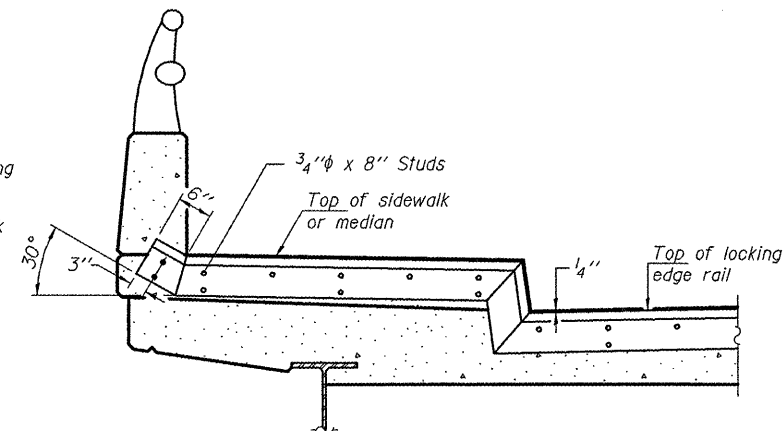


7/16 inch diameter holes at 4 foot 0 inch centers for 3/8 inch diameter bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

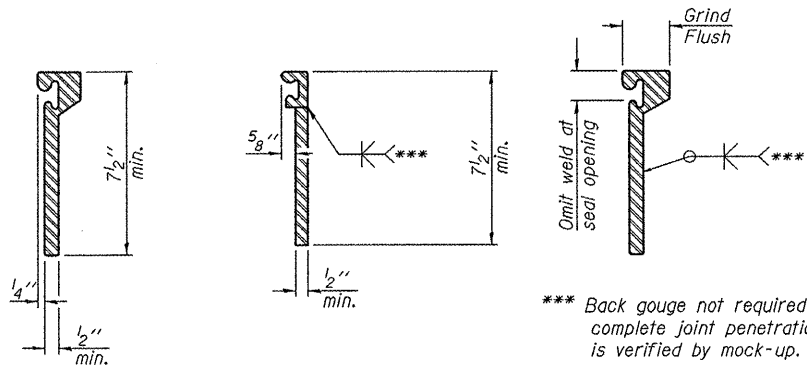
SECTION THRU  
WELDED RAIL JOINT



AT PARAPET  
See Section A-A for end treatment of skews > 30°.



AT SIDEWALK OR MEDIAN  
Shorter plates with a single row of studs at 12 inch centers may be necessary on medians which are shallower than 9 inch. See manufacturer's recommendation.



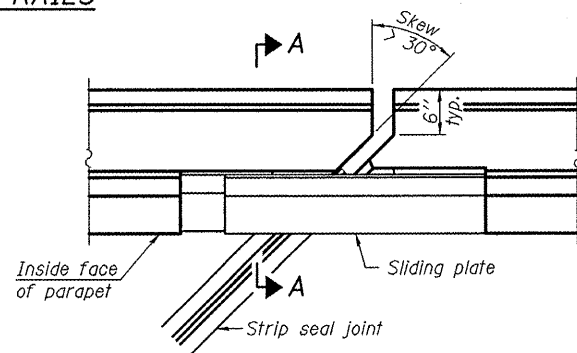
ROLLLED  
EXTRUDED RAIL

WELDED RAIL

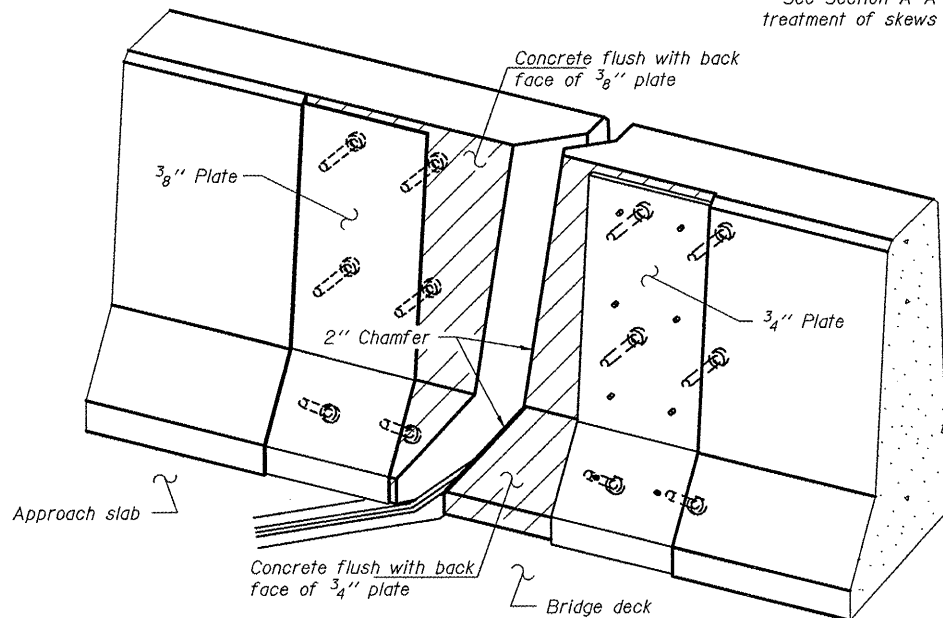
LOCKING EDGE  
RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.  
Rolled rail shown, welded rail similar.

LOCKING EDGE RAILS

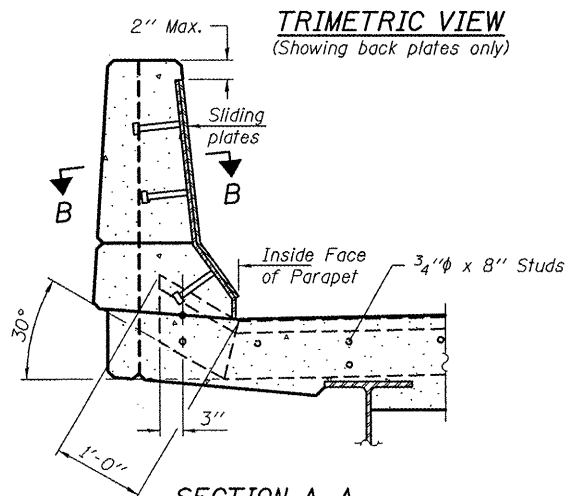


PLAN



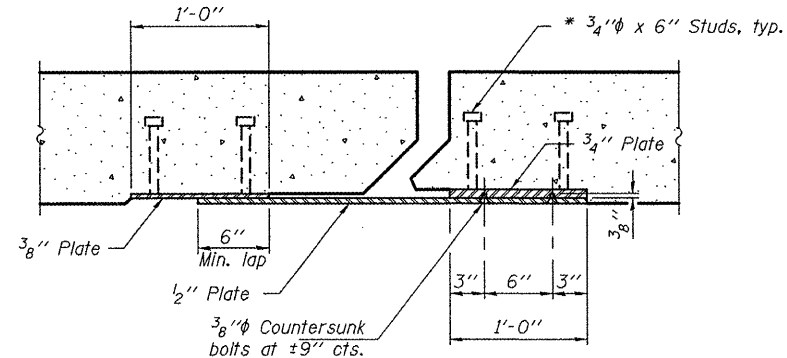
TYPICAL END TREATMENTS

Notes:  
The strip seal shall be made continuous and shall have a minimum thickness of 1/4 inch. The configuration of the strip seal shall match the configuration of the Locking Edge Rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.  
The Locking Edge Rails depicted are conceptual only, except for the minimum dimensions shown. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities.  
The manufacturer's recommended installation methods shall be followed.  
The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.  
All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.  
Maximum space between rail segments at stage lines shall be 3/16 inch, sealed with a suitable sealant.



SECTION A-A

POINT BLOCK DETAILS  
(for skews > 30°)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	66

PREFORMED JOINT STRIP SEAL  
TR 33 OVER FAI 55  
SN 084-0100

DESIGNED	IJL
CHECKED	ATH
DRAWN	ballva
CHECKED	IJL ATH

MAY 7, 2010  
EXAMINED *Carl P. ...*  
PASSED *Ralph E. Anderson*  
ENGINEER OF STRUCTURAL SERVICES  
ENGINEER OF BRIDGES AND STRUCTURES

EJ-SSJ

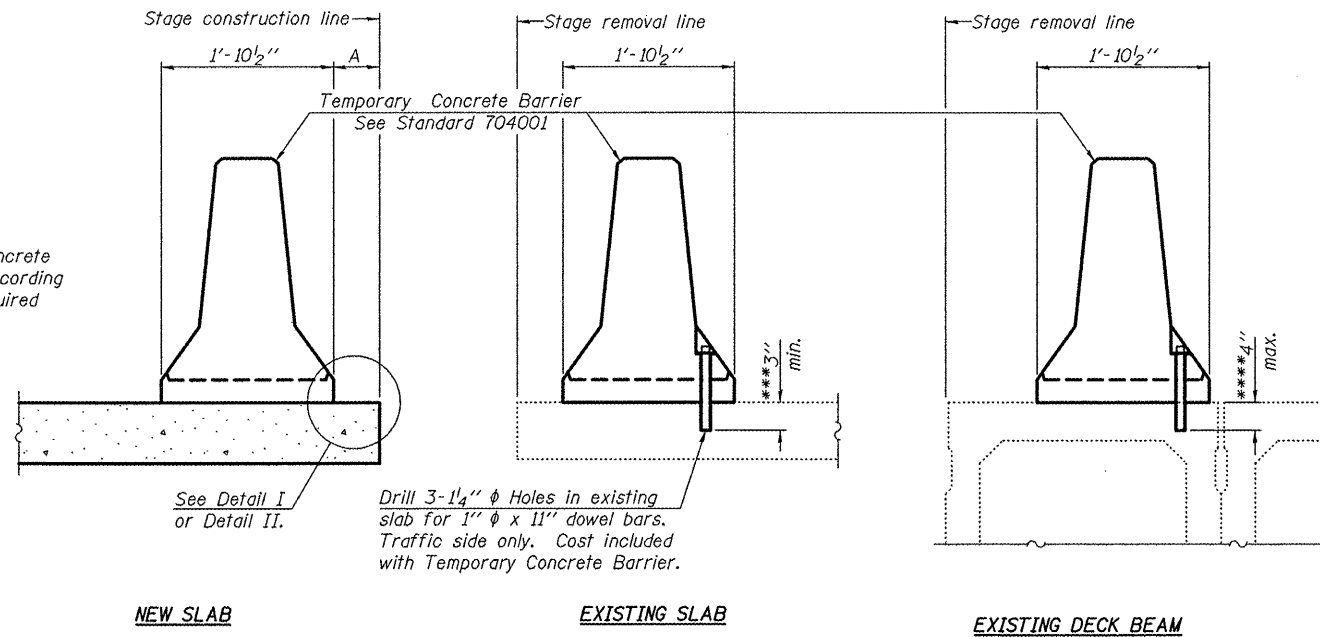
11-1-09

SHEET NO. 3 5 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84 2(RS-3)	SANGAMON	156	151
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		

Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



SECTIONS THRU SLAB OR DECK BEAM

NOTES

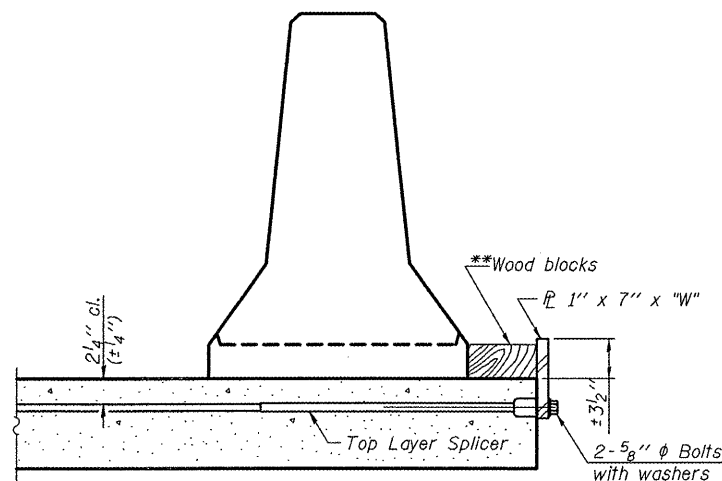
Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel  $\bar{P}$  to the top layer of couplers with 2-5/8"  $\phi$  bolts screwed to coupler at approximate  $\bar{C}$  of each barrier panel.

Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel  $\bar{P}$  to the concrete slab or concrete wearing surface with 2-5/8"  $\phi$  Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate  $\bar{C}$  of each barrier panel.

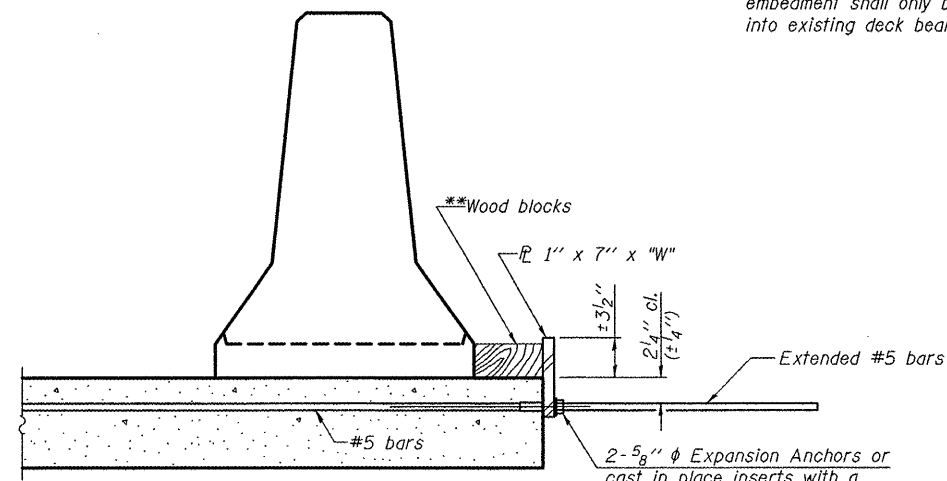
Cost of anchorage is included with Temporary Concrete Barrier.  
The 1" x 7" x 10" plate shall not be removed until stage II construction forms and all reinforcement bars are in place and the concrete is ready to be placed.

\*\*\* Dimension shown is minimum required embedment into concrete.  
If hot-mix asphalt wearing surface is present, minimum embedment shall be in addition to wearing surface depth.

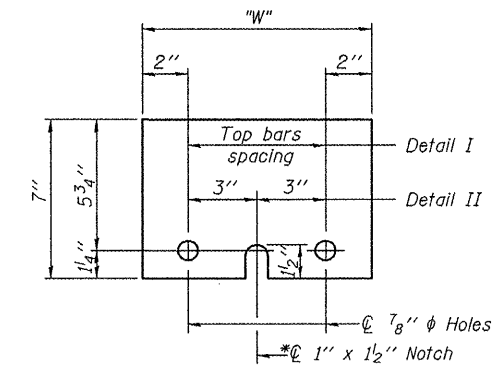
\*\*\*\* If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER  $\bar{P}$  1" x 7" x 10"

\* Required only with Detail II

\*\* Wood blocks may be omitted when required to provide minimum stage traffic lane width. When the wood blocks are omitted, the concrete barrier shall be in direct contact with the steel retainer plate.

"W" = Top bars spacing + 4"

TEMPORARY CONCRETE BARRIER  
TR 33 OVER FAI 55  
SN 084-0100

DESIGNED	IJL
CHECKED	ATH
DRAWN	ballva
CHECKED	IJL ATH

MAY 7, 2010  
EXAMINED *Carl Poyner*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

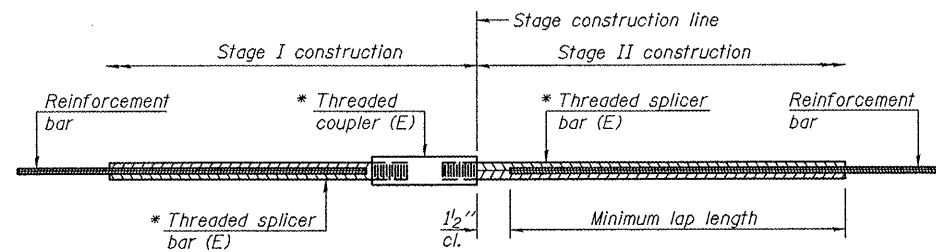
R-27

11-1-09

SHEET NO. 4 5 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84 2(RS-3)	SANGAMON	156	152
FED. ROAD DIST. NO.			ILLINOIS	FED. AID PROJECT	
CONTRACT NO. 72D43					

Rev. 5-26-10

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



**STANDARD BAR SPLICER ASSEMBLY**

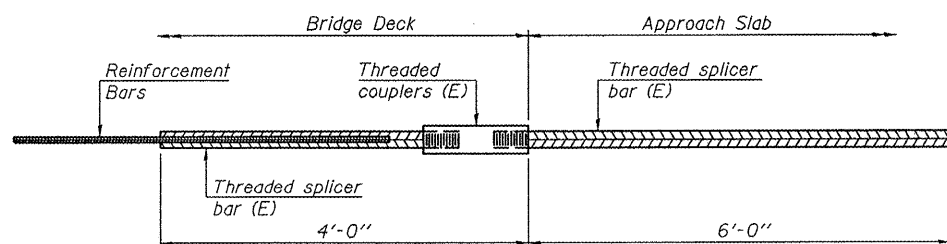
Bar size to be spliced	Minimum Lap Lengths			
	Table 1	Table 2	Table 3	Table 4
3, 4	1'-5"	1'-11"	2'-1"	2'-4"
5	1'-9"	2'-5"	2'-7"	2'-11"
6	2'-1"	2'-11"	3'-1"	3'-6"
7	2'-9"	3'-10"	4'-2"	4'-8"
8	3'-8"	5'-1"	5'-5"	6'-2"
9	4'-7"	6'-5"	6'-10"	7'-9"

Table 1: Black bar, 0.8 Class C  
Table 2: Black bar, Top bar lap, 0.8 Class C  
Table 3: Epoxy bar, 0.8 Class C  
Table 4: Epoxy bar, Top bar lap, 0.8 Class C

Threaded splicer bar length = min. lap length + 1/2" + thread length

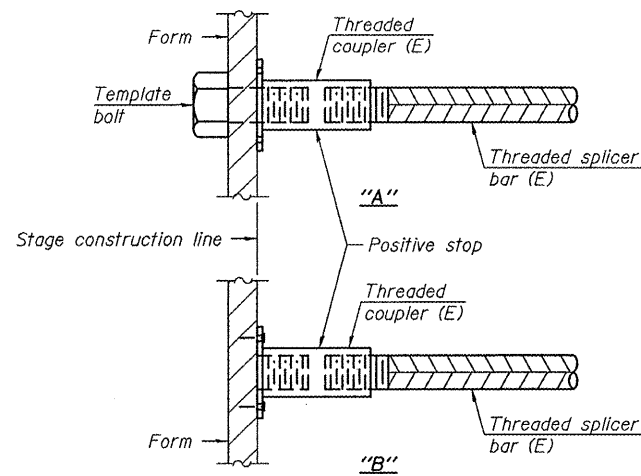
\* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
West Abutment	#5	8	3
West Abutment	#6	4	3
East Abutment	#5	8	3
East Abutment	#6	4	3



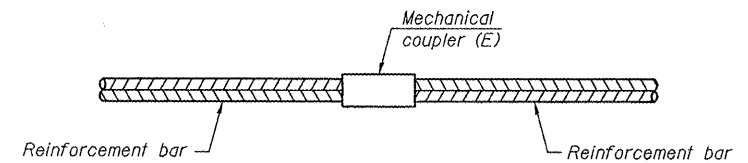
**BAR SPLICER ASSEMBLY FOR #5 BAR ON INTEGRAL OR SEMI-INTEGRAL ABUTMENTS**

No. required =



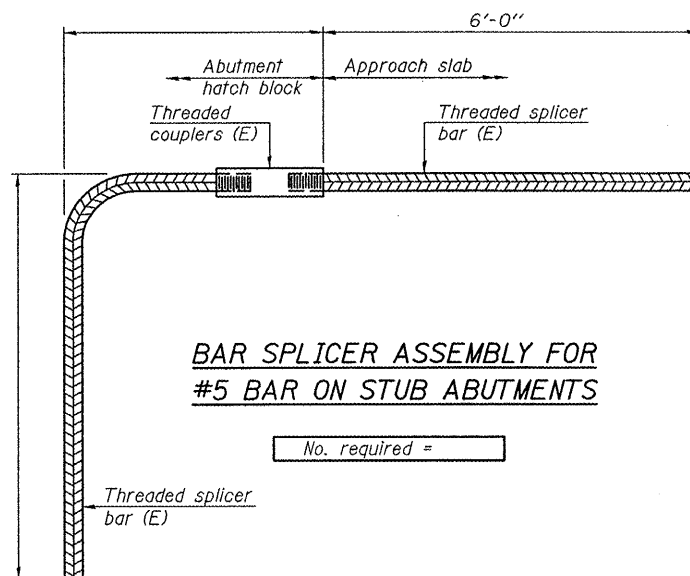
**INSTALLATION AND SETTING METHODS**

"A": Set bar splicer assembly by means of a template bolt.  
"B": Set bar splicer assembly by nailing to wood forms or cementing to steel forms.  
(E) : Indicates epoxy coating.



**STANDARD MECHANICAL SPLICER**

Location	Bar size	No. assemblies required



**BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS**

No. required =

**NOTES**

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.  
All reinforcement shall be lapped and tied to the splicer bars.  
Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.  
See special provision for Mechanical Splicers.  
See approved list of bar splicer assemblies and mechanical splicers for alternatives.

**BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS**  
TR 33 OVER FAI 55  
SN 084-0100

DESIGNED	IJL
CHECKED	ATH
DRAWN	baliva
CHECKED	IJL ATH

MAY 7, 2010  
EXAMINED *Carl Krueger*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

BSD-1 11-1-09

SHEET NO. 5 5 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	55	84 2(RS-3)	SANGAMON	156	153
CONTRACT NO. 72D43					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

Rev. 5-26-10