04-29-11 LETTING ITEM 044

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	RICHLAND	53	1
	ILLINOIS	CONTRACT NO. 74482		

• (5-2VB-1,5-2HB,5-2VB-2)BR-2

D-97-065-10

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

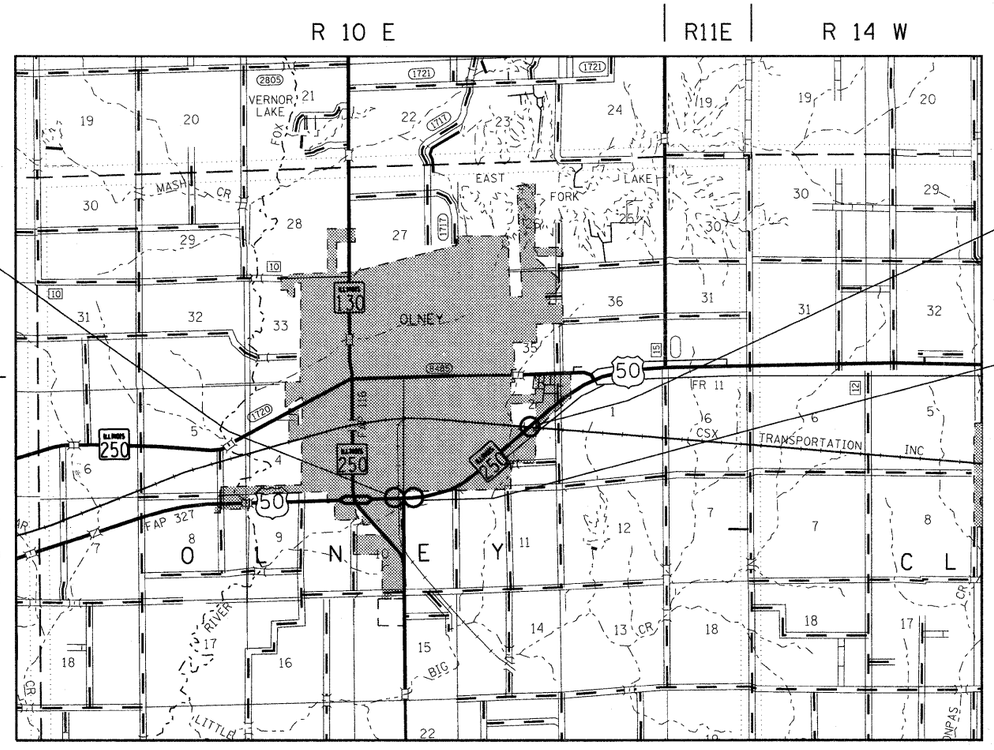
PROPOSED
HIGHWAY PLANS

F.A.P. ROUTE 327 (U.S. RTE. 50)
SECTION (5–2VB–1,5–2HB,5–2VB–2)BR–2
PROJECT F-0327(052)
BRIDGE REPAIR
RICHLAND COUNTY
C–97–132–10

FOR INDEX OF SHEETS, SEE SHEET NO. 2

ADT = 3,475 (2009)

LOCATION OF SECTION INDICATED THUS: –



N

STA. 24 + 17.45
S.N. 080–0003, 5–2VB–1
274', 3–SPAN
STEEL PLATE BEAM GIRDER

STA. 102 + 56.50
S.N. 080–0005, 5–2VB–2
209', 3–SPAN
STEEL PLATE BEAM GIRDER

STA. 27 + 80.25
S.N. 080–0004, 5–2HB
145', 3–SPAN
STEEL PLATE BEAM GIRDER

0 100' 200' 300' — 1" = 100'
0 10' 20' 30' — 1" = 10'
0 50' 100' — 1" = 50'
0 50' 100' — 1" = 40'
0 50' 100' — 1" = 30'
0 50' 100' — 1" = 20'

FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1–800–892–0123
OR 811

PROJECT ENGINEER: TOM RONAN
PROJECT MANAGER: JEFF DAVISON
PHONE: 217–342–8320

CONTRACT NO. 74482

GROSS LENGTH = 1869.17 FT. = 0.35 MILE
NET LENGTH = 1869.17 FT. = 0.35 MILE

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Jan 31 20 11
Roger L. Driskell /sw
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 25 20 11
Scott E. Stitt, P.E. /sw
acting ENGINEER OF DESIGN AND ENVIRONMENT

March 25 20 11
Christine M. Reed /sw
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

INDEX OF SHEETS

STANDARDS IN THE PLANS

000001-06	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15'(4.5m) AWAY
701006-03	OFF-ROAD OPERATIONS, 2L, 2W, 15'(4.5m) TO 24"(600mm) FROM PAVEMENT EDGE
701201-04	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS > 45 MPH
701311-03	LANE CLOSURE, 2L, 2W, MOBVING OPERATIONS, DAY ONLY
701321-11	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701901-01	TRAFFIC CONTROL DEVICES
704001-06	TEMPORARY CONCRETE BARRIER
780001-02	TYPICAL PAVEMENT MARKINGS
781001-03	TYPICAL APPLICATIONS RAISED REFLECTIVE PAVEMENT MARKERS
701011-02	

GENERAL NOTES

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2007; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" INDICATED ON THE CHECK SHEET, AND "THE SPECIAL PROVISIONS" INCLUDED IN THE PROPOSAL.

THE WORK IN SECTION (5-2VB-1,5-2HB,5-2VB-2)BR-2 INCLUDES PATCHING AND JOINT REPAIR, HYDROSCARIFICATION, MICROSILICA OVERLAY AND STEEL BRIDGE RAIL MODIFICATIONS TO S.N. 080-0003,080-0004 AND 080-0005.

PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR RESPONSIBILITY TO VERIFY SUCH DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO THE CONSTRUCTION OR ORDERING OF MATERIAL. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION OR A CHANGE IN THE SCOPE OF THE WORK. THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

THE PROPOSED PROJECT BEGINS APPROXIMATELY 0.4 MILES EAST OF OF THE JUNCTION OF IL 130 AND U.S. 50 AND EXTENDS IN AN EASTERLY DIRECTION A DISTANCE OF 2.0 MILES IN OLNEY, IL.

ALL ELEVATIONS SHOWN IN PLANS ARE BASED ON U.S.G.S. DATUM.

• (5-2VB-1,5-2HB,5-2VB-2)BR-2

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS AND GENERAL NOTES

SCALE: NA | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	RICHLAND	53	2
		CONTRACT NO. 74482		
	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES URBAN	80% FEDERAL 20% STATE CONSTRUCTION TYPE CODE SN 080-0003 0014	SN 080-0004 0014	SN 080-0005 0014
50102400	CONCRETE REMOVAL	CU YD	46.6	12.8	14.2	19.6
50157300	PROTECTIVE SHIELD	SQ YD	485	225	96	164
50300100	FLOOR DRAINS	EACH	32	16	16	
50300255	CONCRETE SUPERSTRUCTURE	CU YD	46.6	12.8	14.2	19.6
50300260	BRIDGE DECK GROOVING	SQ YD	1570	486	445	639
50300300	PROTECTIVE COAT	SQ YD	107	29	34	44
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	5090	1840	1660	1590
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	5520	1460	1680	2380
50800515	BAR SPLICERS	EACH	92	28	32	32
52000110	PREFORMED JOINT STRIP SEAL	FOOT	246	74	74	98
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	24	12	6	6
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	12		6	6
52100520	ANCHOR BOLTS, 1"	EACH	72	24	24	24
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	6	2	2	2
67100100	MOBILIZATION	L SUM	1	0.33	0.33	0.34
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	2	0.5	0.5	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	0.33	0.33	0.34
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	2	0.5	0.5	1
70106700	TEMPORARY RUMBLE STRIPS	EACH	12	3	3	6
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1100	343.8	343.8	412.4
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1100	343.8	343.8	412.4
* 78100105	RAISED REFLECTIVE PAVEMENT MARKER (BRIDGE)	EACH	7	2	2	3
78300100	PAVEMENT MARKING REMOVAL	SQ FT	1187	340	334	513
* X7800610	URETHANE PAVEMENT MARKING - LINE 4"	FOOT	3981	1203.5	1202.5	1575
XZ191200	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 1/2"	SQ YD	1628	514	455	659
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	36	12	12	12
Z0004556	HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SQ YD	1661	521	467	673
Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SQ YD	1628	514	455	659
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	50	16	7	27
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	26	15	11	
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	57	18	9	30
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	1	1	2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	4	1	1	2
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	0.5		0.5

* SPECIALTY ITEM

▪ (5-2VB-1.5-2HB,5-2VB-2)BR-2

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	PLOT DATE = $DATE$	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: NA | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	▪	RICHLAND	53	3
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

PAVEMENT MARKING REMOVAL SCHEDULE

LOCATION				QUANTITY (SQ. FT.)
20+45.80	TO	23+28.10	RT/LT/CL	211.7
23+28.10	TO	24+90.10	RT	54.0
24+90.10	TO	26+88.10	RT/LT/CL	148.5
26+88.10	TO	28+32.56	RT	48.1
28+32.56	TO	31+14.55	RT/LT/CL	211.5
98+56.03	TO	101+52.00	RT/LT/CL	222.0
101+52.00	TO	103+61.00	RT	69.7
103+61.00	TO	106+56.45	RT/LT/CL	221.6
			TOTAL =	1,186.9

RELOCATE TEMPORARY CONCRETE BARRIER SCHEDULE

LOCATION			LENGTH (FEET)
22+37.10	TO	29+23.24	687.5
100+47.10	TO	104+65.89	412.5
		PROJECT TOTAL	1,100.0

URETHANE PAVEMENT MARKING-LINE 4" SCHEDULE

LOCATION			QUANTITY YELLOW (FOOT)	QUANTITY WHITE (FOOT)
20+45.80	TO	31+14.55	267.2	2,137.5
98+56.03	TO	105+56.45	175.1	1,400.8
		TOTAL =	442.3	3,538.3
			PROJECT TOTAL	3,980.6

RAISED REFLECTIVE PAVEMENT MARKERS (BRIDGE) SCHEDULE

LOCATION	QUANTITY (EACH)
SN 080-0003	2
SN 080-0004	2
SN 080-0005	3
PROJECT TOTAL	7

TEMPORARY CONCRETE BARRIER SCHEDULE

LOCATION			LENGTH (FEET)
22+37.10	TO	29+23.24	687.5
100+47.10	TO	104+65.89	412.5
		TOTAL	1,100.0

• (5-2VB-1,5-2HB,5-2VB-2)BR-2

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

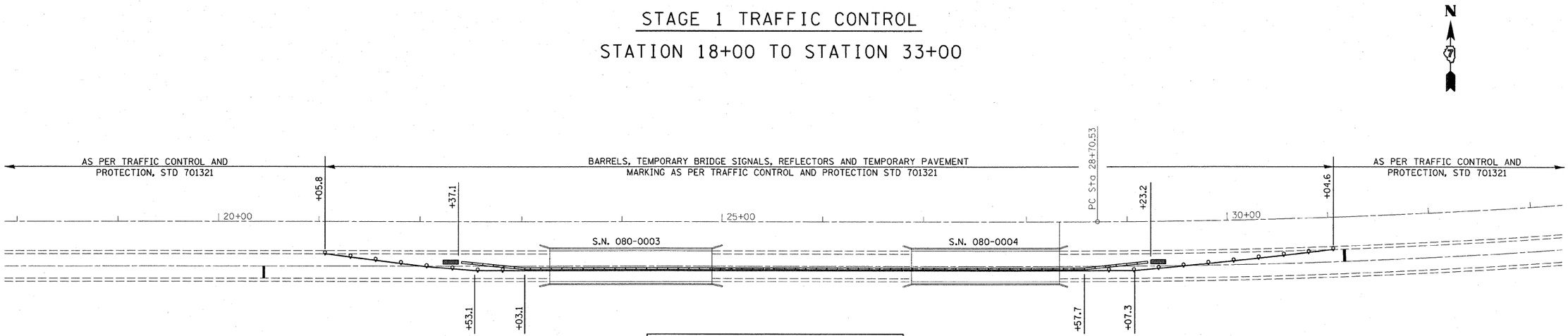
SCHEDULE OF QUANTITIES

SCALE: NA | SHEET NO. 1 OF 1 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	RICHLAND	53	4
		CONTRACT NO. 74482		
	ILLINOIS	FED. AID PROJECT		

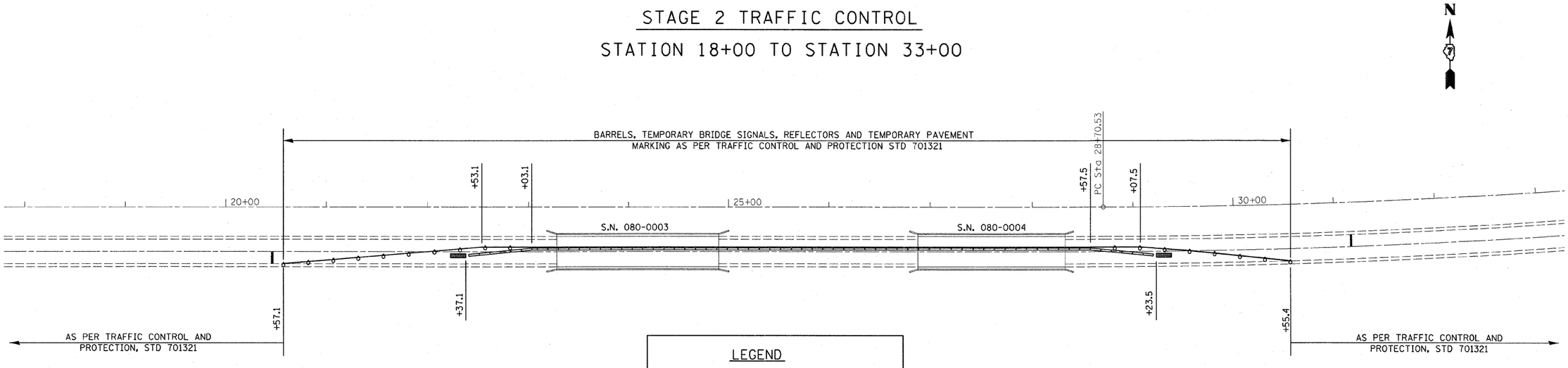
STAGE 1 TRAFFIC CONTROL

STATION 18+00 TO STATION 33+00



STAGE 2 TRAFFIC CONTROL

STATION 18+00 TO STATION 33+00



• (5-2VB-1,5-2HB,5-2VB-2)BR-2

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

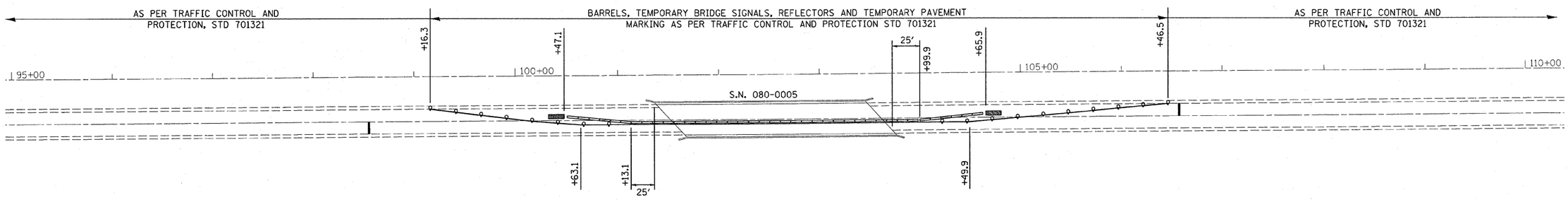
TRAFFIC CONTROL DETAIL

SCALE: 50 | SHEET NO. 1 OF 2 SHEETS | STA. 18+00 | TO STA. 33+00

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	RICHLAND	53	5
		CONTRACT NO. 74482		
		ILLINOIS	FED. AID PROJECT	

STAGE 1 TRAFFIC CONTROL

STATION 95+00 TO STATION 110+00

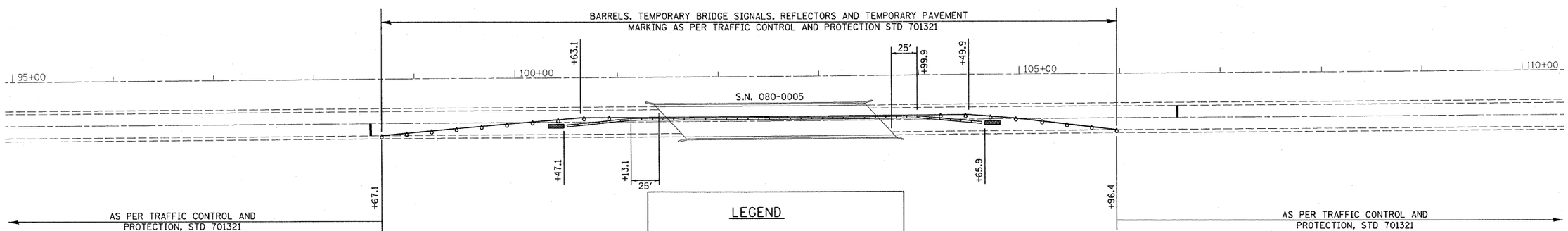


LEGEND

- IMPACT ATTENUATOR
- TEMPORARY CONCRETE BARRIER
- TEMPORARY PAVEMENT MARKING

STAGE 2 TRAFFIC CONTROL

STATION 95+00 TO STATION 110+00



LEGEND

- IMPACT ATTENUATOR
- TEMPORARY CONCRETE BARRIER
- TEMPORARY PAVEMENT MARKING

• (5-2VB-1,5-2HB,5-2VB-2)BR-2

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

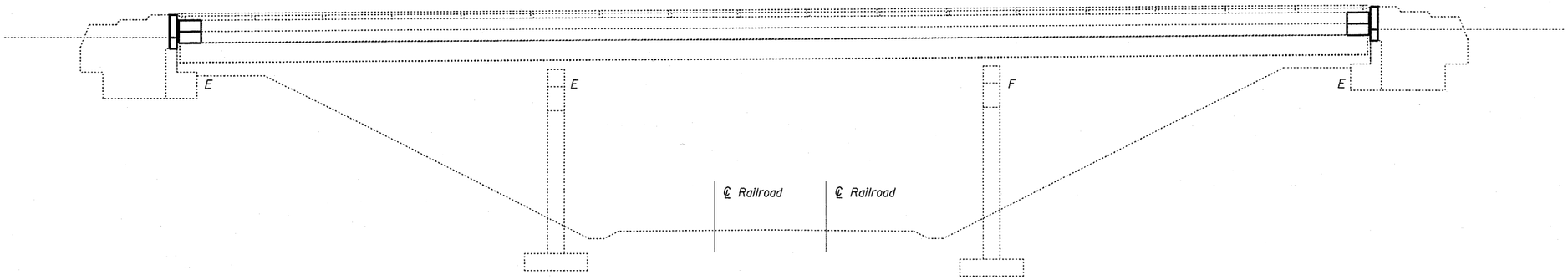
TRAFFIC CONTROL DETAIL

SCALE: 50 | SHEET NO. 2 OF 2 SHEETS | STA. 95+00 | TO STA. 110+00

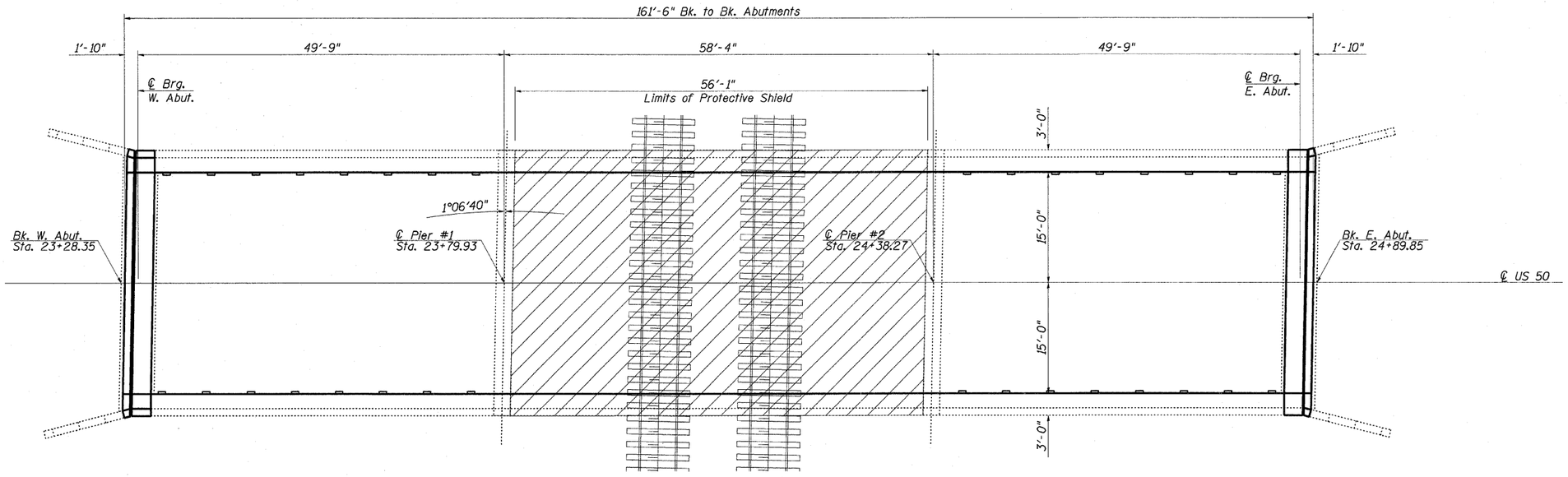
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	RICHLAND	53	6
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

The existing three span continuous steel multi-beam structure was constructed in 1963 as FAP 13 section 5 2VB-1 at Sta. 24+09.10. SN. 080-0003 carries FAP 327 (US 50). The proposed project consists of new expansion joints, full depth deck repair, new microsilica wearing surface, new elastomeric bearings, and new deck drains.

N



ELEVATION



PLAN

LIMITS OF PROTECTIVE SHIELD

Expires 11/30/2012

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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		DRAWN - KLB	REVISED -				327	•	Richland	53	7
	PLOT SCALE = 20.0000 ' / IN.	CHECKED - MEA	REVISED -						CONTRACT NO. 74482		
	PLOT DATE = 1/27/2011	DATE - 11/30/10	REVISED -		SCALE: NA	SHEET NO. 1 OF 15 SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		

GENERAL NOTES

Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the contractor's responsibility to verify dimensions and details in the field, and to make necessary approved adjustments prior to construction or material acquisition. Such variations shall not be cause for additional compensation or change in the scope of work. The contractor will be paid for the quantity actually furnished at the unit bid price for the work.

Reinforcement bars shall conform to the requirements of ASTM A 706 GRADE 60. See Special Provisions.

Reinforcement Bars designated (E) shall be epoxy coated.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included in CONCRETE REMOVAL.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

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

The existing hot-mix asphalt wearing surface is not known to contain asbestos.

Removal and re-installation of handrail sections and support posts at both abutment locations will be necessary for construction of the expansion joints. The existing handrail sections and support posts shall be reused. New bolts and shim plates as detailed in the plans, are to be provided and installed for the re-installation of the handrail and supports. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

Prior to pouring the new concrete deck, all heavy and loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain, unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel, and the cost will be included in the pay item covering removal of the existing concrete.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36 unless otherwise noted.

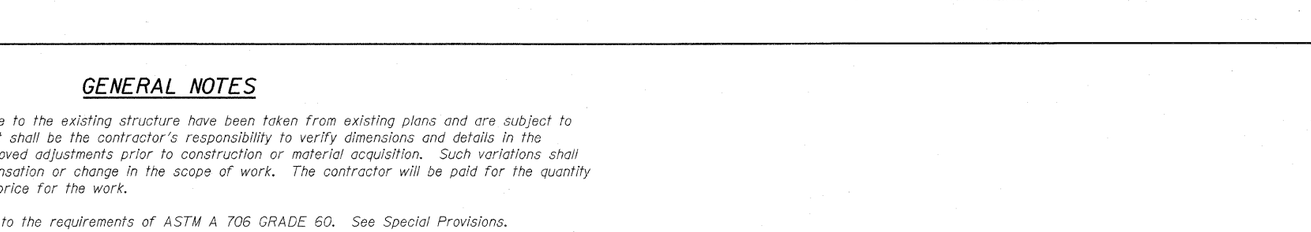
Removal and re-installation of the curb mounted steel bridge rail at various locations will be necessary for construction of the deck repair. The existing steel bridge rail and support posts shall be reused. New anchor rods and fabric bearing pads, as detailed in the plans, are to be provided and installed for the re-installation of the curb mounted steel bridge rail and supports. This work and all materials shall be included in the contract unit price for DECK SLAB REPAIR (FULL DEPTH).

Removal and replacement of the safety walk will be necessary to remove or replace the existing deck drains. This work and all materials shall be included in the constract unit price for DECK SLAB REPAIR (FULL DEPTH).

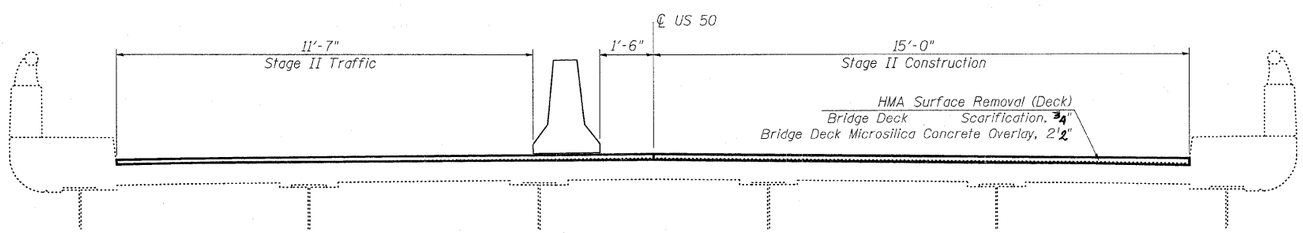
TOTAL BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	12.8
Concrete Superstructure	Cu. Yd.	12.8
Reinforcement Bars, Epoxy Coated	Pound	1460
Bar Splicers	Each	28
Preformed Joint Strip Seal	Foot	74.0
Bridge Deck Scarification, 3/4"	Sq Yd	514
Bridge Deck Microsilica Concrete Overlay, 2 1/2"	Sq Yd	514
Bridge Deck Grooving	Sq Yd	486
* Protective Coat	Sq Yd	29
Deck Slab Repair (Full Depth, Type I)	Sq Yd	15
Deck Slab Repair (Full Depth, Type II)	Sq Yd	18
Floor Drains	Each	16
Structural Repair of Concrete (<5")	Sq Ft	16
Protective Shield	Sq Yd	225
Elastomeric Bearing Assembly, Type I	Each	12
Jack and Remove Existing Bearings	Each	12
Furnishing and Erecting Structural Steel	Pound	1840
Anchor Bolts 1"ϕ	Each	24
HMA Surface Removal (Deck)	Sq Yd	521

* Protective coat is to be applied to the new concrete areas near the joints only.



STAGE I LOOKING EAST



STAGE II LOOKING EAST

*(5-2VB-1.5-2HB,5-2VB-2)BR-2

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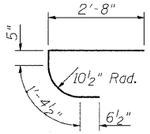
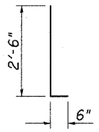
		DRAWN - KLB	REVISED -					327	•	Richland	53	8
	PLOT SCALE = 20.0000 ' / IN.	CHECKED - MEA	REVISED -							CONTRACT NO. 74482		
	PLOT DATE = 1/27/2011	DATE - 11/30/10	REVISED -		SCALE: NA	SHEET NO. 2 OF 15 SHEETS	STA. TO STA.		ILLINOIS	FED. AID PROJECT		

Hatched area indicates removal.

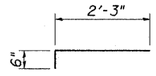


Bar c(E)



Bar d1(E)

Bar d2(E)



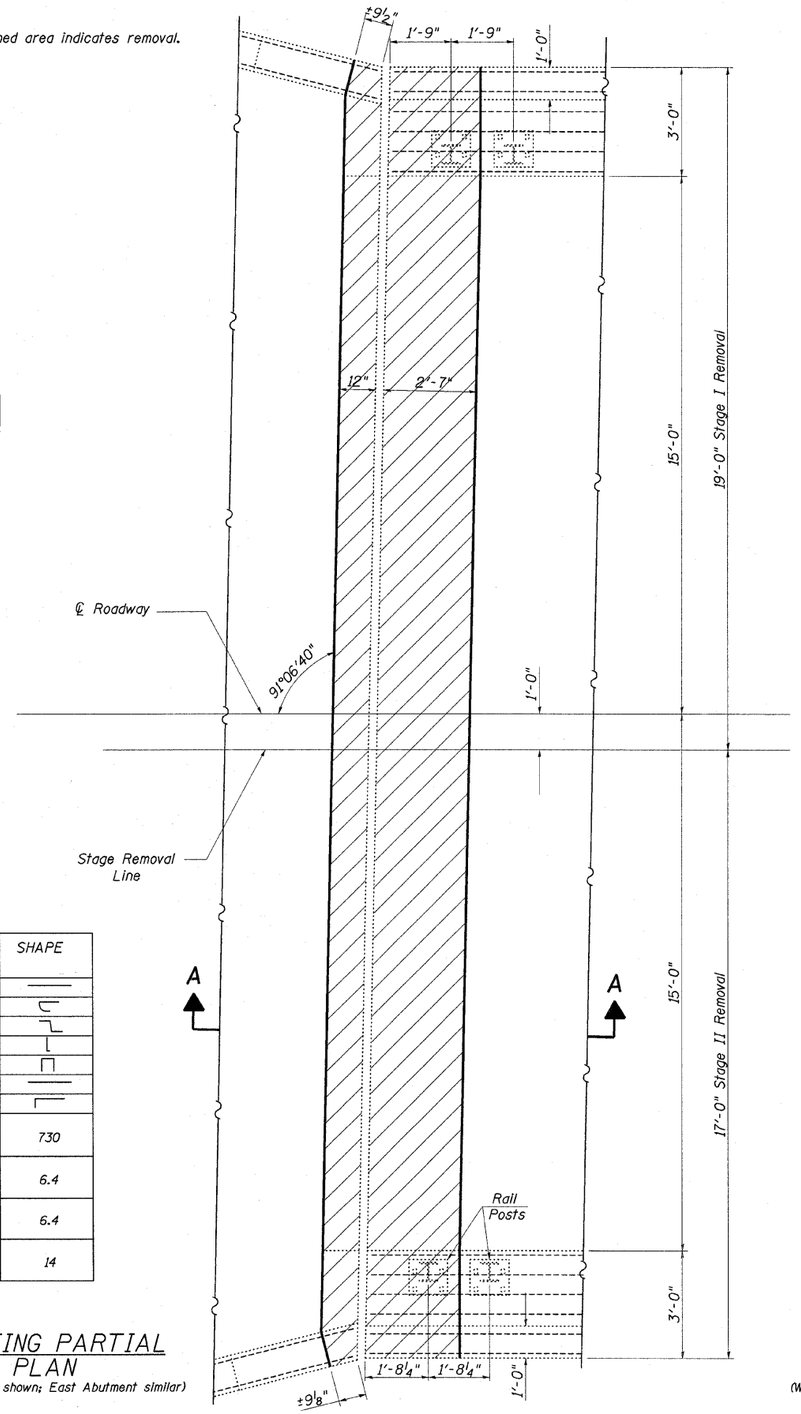
Bar x(E)

Bar d(E)

BILL OF MATERIAL

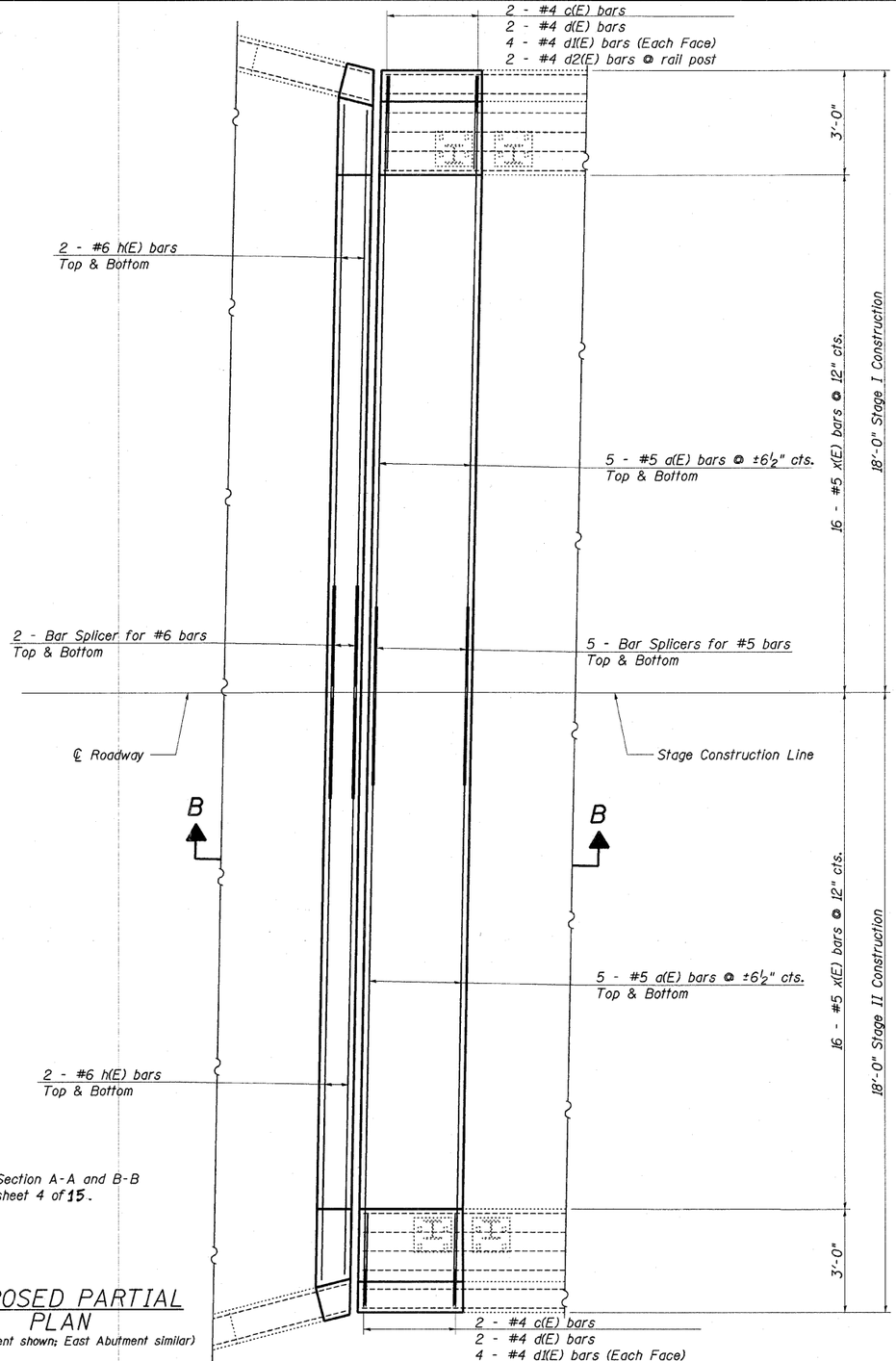
PER ABUTMENT

BAR	TOTAL	SIZE	LENGTH	SHAPE
a (E)	20	#5	17'-8"	
c (E)	4	#4	5'-0"	
d (E)	4	#4	2'-3"	
d1(E)	16	#4	3'-0"	
d2(E)	4	#4	2'-1"	
h (E)	8	#6	16'-8"	
x (E)	32	#5	2'-9"	
REINFORCEMENT BARS (EP. CTD.)			POUND	730
CONCRETE REMOVAL			CU YD	6.4
CONCRETE SUPERSTRUCTURE			CU YD	6.4
BAR SPLICERS			EACH	14



EXISTING PARTIAL PLAN

(West Abutment shown; East Abutment similar)



For Section A-A and B-B
see sheet 4 of 15.

PROPOSED PARTIAL PLAN

(West Abutment shown; East Abutment similar)

•(5-2VB-1,5-2HB,5-2VB-2)BR-2

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	PLOT DATE = 1/27/2011	CHECKED - MEA	REVISED -	
		DATE - 12/1/10	REVISED -	

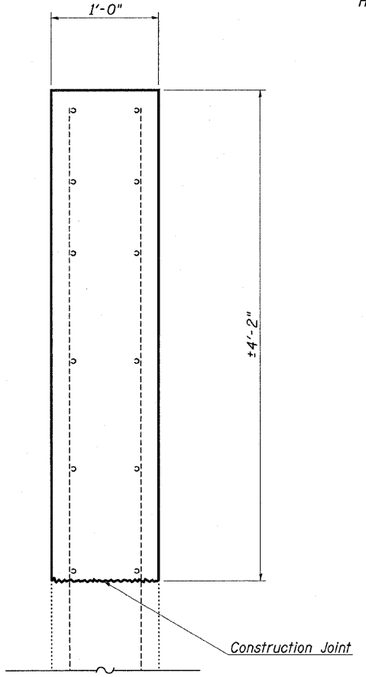
EXPANSION JOINT REPLACEMENT DETAILS
SN. 080-0003

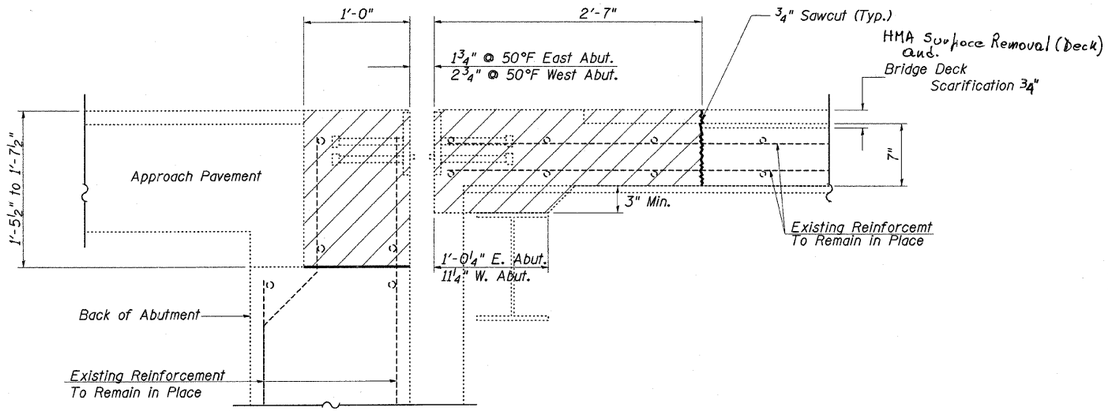
SCALE: NA | SHEET NO. 3 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	9
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

Hatched area indicates removal.

TYPICAL WINGWALL REMOVAL AND REPLACEMENT

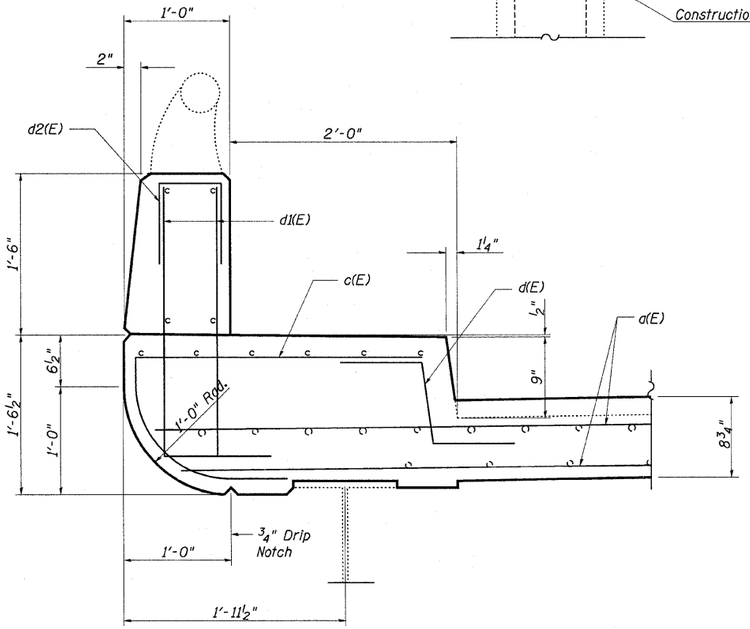




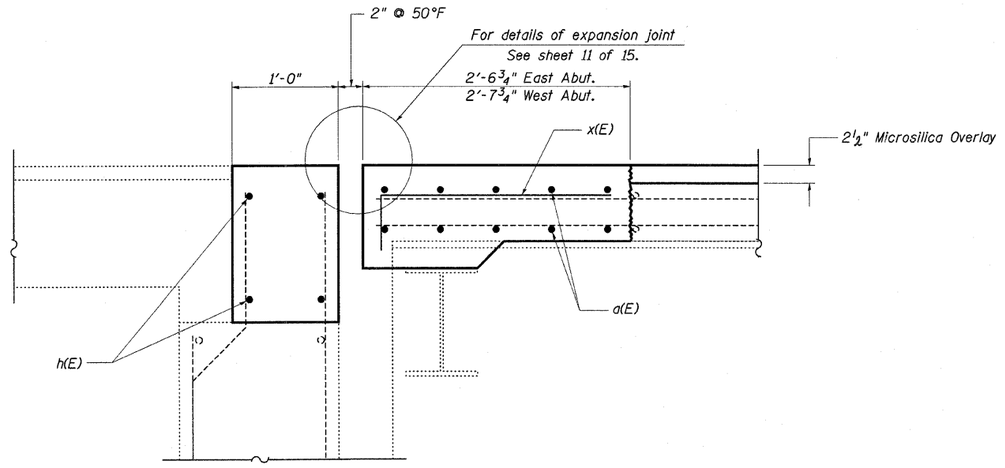
SECTION A-A

(Dimensions at Rt. L's to end of deck)

○ Existing Reinforcement
● Proposed Reinforcement



SECTION THRU PARAPET



SECTION B-B

(Dimensions at Rt. L's to end of deck)

•(5-2VB-1,5-2HB,5-2VB-2)BR-2

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		DRAWN - KLB	REVISED -
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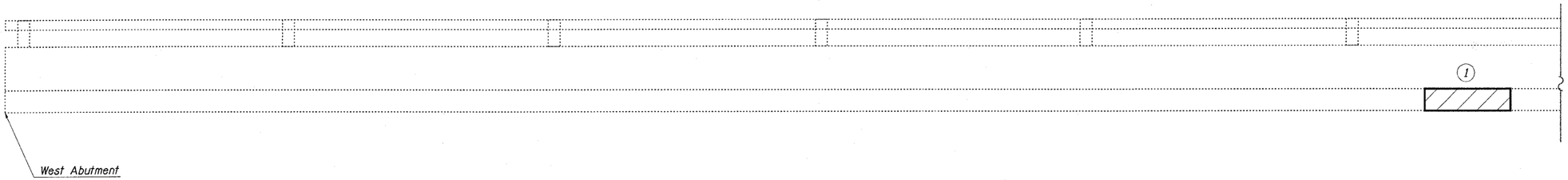
	PLOT DATE = 1/27/2011	DATE - 12/1/10	REVISED -

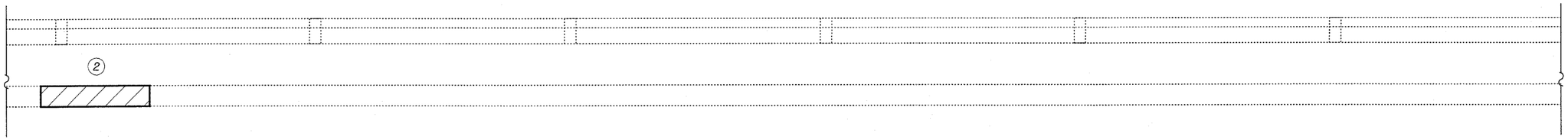
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

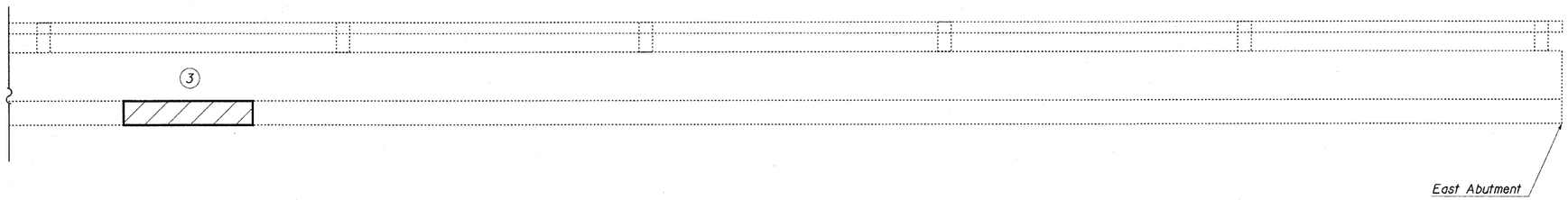
EXPANSION JOINT REPLACEMENT DETAILS
SN. 080-0003

SCALE: NA | SHEET NO. 4 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	10
		CONTRACT NO. 74482		
	ILLINOIS	FED. AID PROJECT		







STRUCTURAL REPAIR

Cost included in Structural Repair of Concrete (Depth < 5")

Patch Number	Station	Area Sq Ft
1	23+78	2.3
2	23+84	3.0
3	24+43	3.0
	Total	8.3

NORTH PARAPET

Looking North

•(5-2VB-1,5-2HB,5-2VB-2)BR-2

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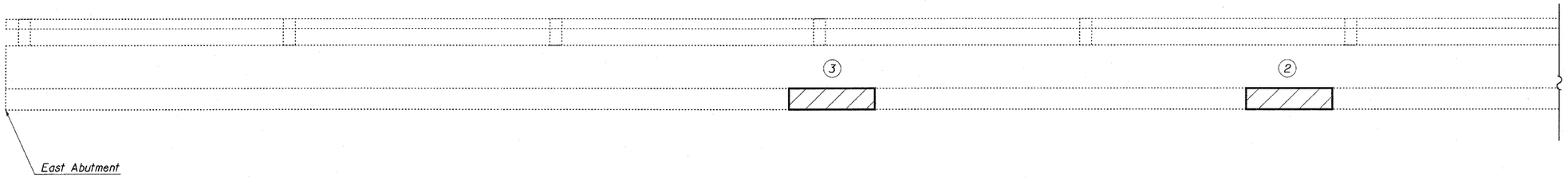
	PLOT DATE = 1/27/2011	DATE - 12/1/10	REVISED -

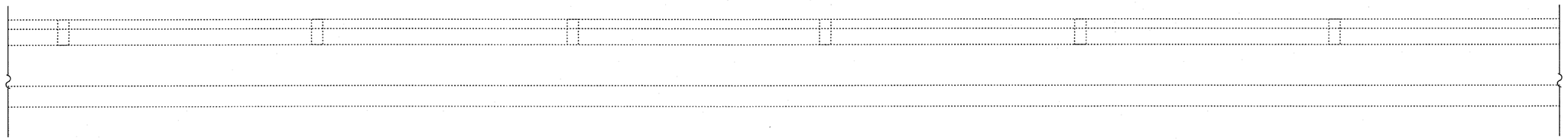
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

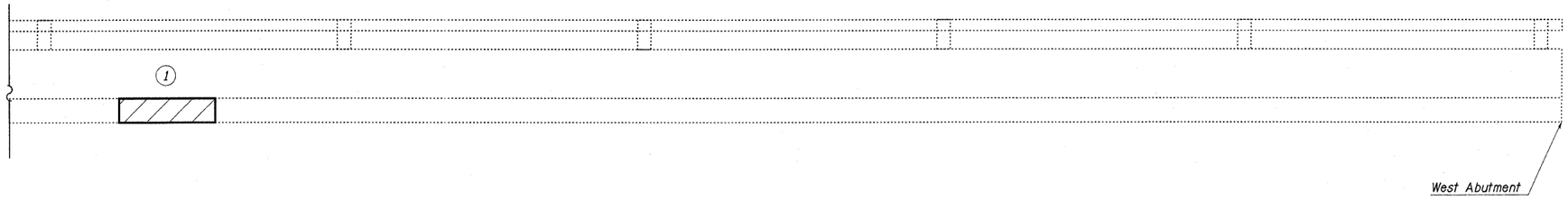
STRUCTURAL REPAIR – PARAPET
SN. 080-0003

SCALE: NA | SHEET NO. 5 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	11
		CONTRACT NO. 74482		
	ILLINOIS FED. AID PROJECT			







STRUCTURAL REPAIR

Cost included in Structural Repair of Concrete (Depth < 5")

Patch Number	Station	Area Sq Ft
1	24+57	2.3
2	24+41	2.3
3	23+70	2.3
	Total	6.9

SOUTH PARAPET

Looking South

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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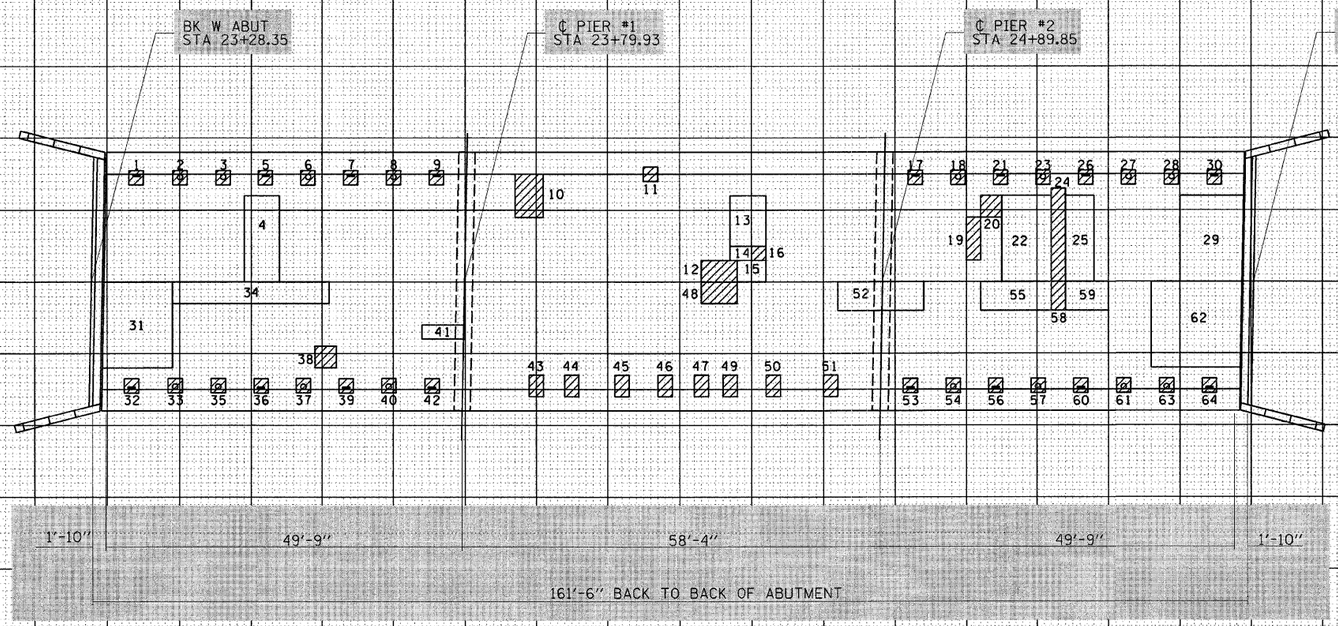
		DATE - 12/1/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL REPAIR – PARAPET
SN. 080-0003

SCALE: NA | SHEET NO. 6 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	12
		CONTRACT NO. 74482		
	ILLINOIS	FED. AID PROJECT		



EXISTING DECK DRAIN TO BE ELIMINATED

EXISTING DECK DRAIN TO BE REPLACED SEE SHEET 10 OF 40 FOR DETAILS.

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
1	2.0 x 2.0		4.0		
2	2.0 x 2.0		4.0		
3	2.0 x 2.0		4.0		
4	5.0 x 12.0	60.0			
5	2.0 x 2.0		4.0		
6	2.0 x 2.0		4.0		
7	2.0 x 2.0		4.0		
8	2.0 x 2.0		4.0		
9	2.0 x 2.0		4.0		
10	4.0 x 6.0			24.0	
11	2.0 x 2.0		4.0		
12	5.0 x 3.0			15.0	
13	5.0 x 7.0	35.0			
14	3.0 x 2.0	6.0			
15	4.0 x 3.0	12.0			
16	2.0 x 2.0		4.0		
17	2.0 x 2.0		4.0		
18	2.0 x 2.0		4.0		

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
19	2.0 x 6.0			12.0	
20	3.0 x 3.0			9.0	
21	2.0 x 2.0		4.0		
22	7.0 x 12.0	84.0			
23	2.0 x 2.0		4.0		
24	2.0 x 13.0			26.0	
25	4.0 x 12.0	48.0			
26	2.0 x 2.0		4.0		
27	2.0 x 2.0		4.0		
28	2.0 x 2.0		4.0		
29	9.0 x 12.0	108.0			
30	2.0 x 2.0		4.0		
31	10.0 x 12.0	120.0			
32	2.0 x 2.0		4.0		
33	2.0 x 2.0		4.0		
34	22.0 x 3.0	66.0			
35	2.0 x 2.0		4.0		
36	2.0 x 2.0		4.0		

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
37	2.0 x 2.0		4.0		
38	3.0 x 3.0			9.0	
39	2.0 x 2.0		4.0		
40	2.0 x 2.0		4.0		
41	6.0 x 3.0	18.0			
42	2.0 x 2.0		4.0		
43	2.0 x 3.0			6.0	
44	2.0 x 3.0			6.0	
45	2.0 x 3.0			6.0	
46	2.0 x 3.0			6.0	
47	2.0 x 3.0			6.0	
48	5.0 x 3.0			15.0	
49	2.0 x 3.0			6.0	
50	2.0 x 3.0			6.0	
51	2.0 x 3.0			6.0	
52	12.0 x 4.0	48.0			
53	2.0 x 2.0		4.0		
54	2.0 x 2.0		4.0		

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
55	10.0 x 4.0	40.0			
56	2.0 x 2.0		4.0		
57	2.0 x 2.0		4.0		
58	2.0 x 4.0			8.0	
59	6.0 x 4.0	24.0			
60	2.0 x 2.0		4.0		
61	2.0 x 2.0		4.0		
62	13.0 x 12.0	156.0			
63	2.0 x 2.0		4.0		
64	2.0 x 2.0		4.0		
	TOTAL	825	136	166	

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
	PARTIAL DEPTH				
	(FOR INFORMATION ONLY)				
	825 / 9 =	91.7			
	USE	92 SQ YD			
	FULL DEPTH, TYPE 1				
	136 / 9 =	15.1			
	USE	15 SQ YD			
	FULL DEPTH, TYPE 2				
	166 / 9 =	18.4			
	USE	18 SQ YD			

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.

PATCHING LEGEND

PARTIAL DEPTH (FOR INFORMATION ONLY)

FULL DEPTH

DATE OF SURVEY: 09-15-10
SURVEY BY: MEA, ESS, KLB
METHOD OF SURVEY: VISUAL

BRIDGE DECK PATCHING
RICHLAND COUNTY
LOCATION

SN 080-0003

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

003

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PLOT DATE = 1/27/2011

DESIGNED KLB | DRAWN KLB | CHECKED MEA | DATE 12/2/10
REVISED - | REVISED - | REVISED - | REVISED -

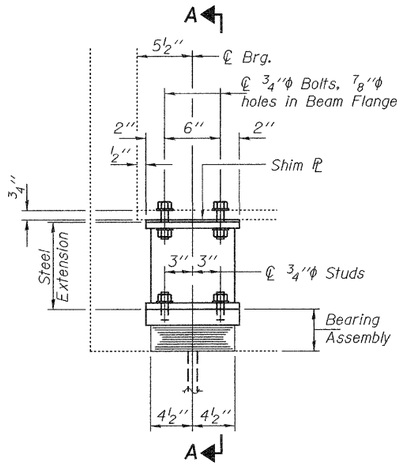
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING
SN. 080-0003

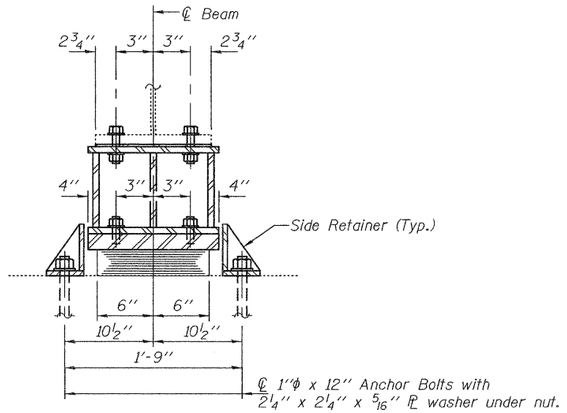
SCALE: NA | SHEET NO. 7 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	13
		CONTRACT NO. 74482		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

BRIDGE DECK PATCHING



ELEVATION AT ABUTMENT



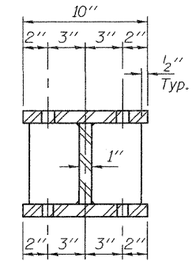
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

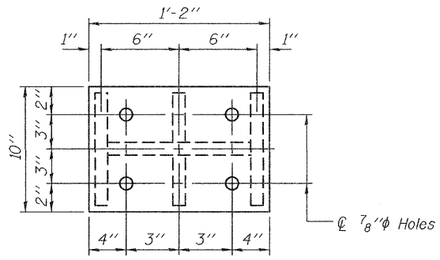
BEAM REACTIONS

RP	(K)	20.7
RL	(K)	55.7
Imp.	(K)	15.9
R (Total)	(K)	92.3

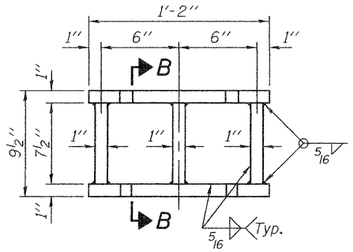
Notes:
Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
Min. jack capacity = 45 Tons.
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type I.



SECTION B-B



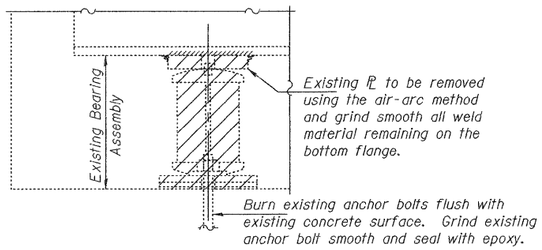
PLAN TOP AND BOTTOM PLATE



STEEL EXTENSION DETAIL

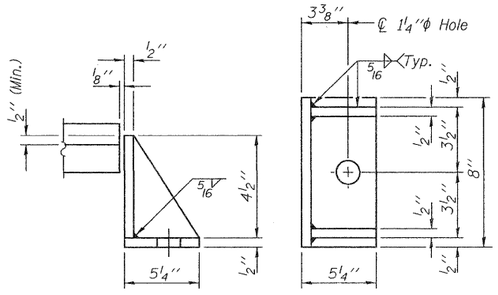
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6
Jack and Remove Existing Bearings	Each	6
Furnishing and Erecting Structural Steel	Pound	960
Anchor Bolts 1"ϕ	Each	12

TYI/REPS

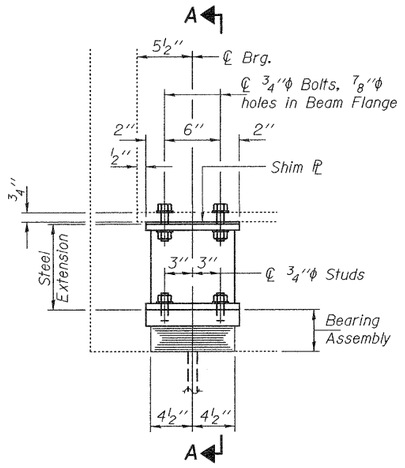
DESIGNED	-	ADY	
CHECKED	-	DAB	
DRAWN	-	Kyle M. Steffen	
CHECKED	-	ADY	DAB

EXAMINED — ACTING ENGINEER OF STRUCTURAL SERVICES
PASSED — ACTING ENGINEER OF BRIDGES AND STRUCTURES
DATE - MARCH 14, 2011

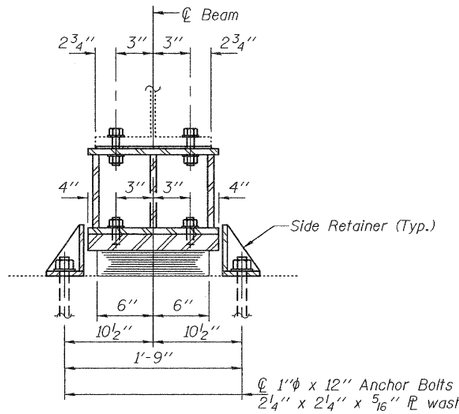
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT DETAILS AT EAST ABUTMENT
SN 080-0003
SHEET NO. 1 OF 2 SHEETS

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
99	(5-2VB-1, 5-2HB, 5-2VB-2)BR-2	RICHLAND	53	14
		CONTRACT NO. 74482		
	ILLINOIS	FED. AID PROJECT		



ELEVATION AT ABUTMENT



℄ 1"ϕ x 12" Anchor Bolts with 2¼" x 2¼" x 5/16" PL washer under nut.

SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

BEAM REACTIONS

RP	(K)	20.7
RL	(K)	55.7
Imp.	(K)	15.9
R (Total)	(K)	92.3

Notes:
Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

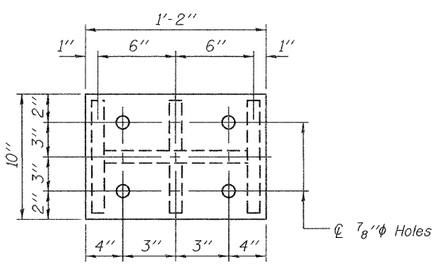
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Min. jack capacity = 45 Tons.

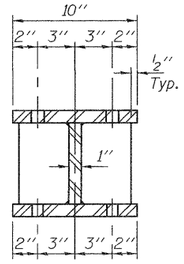
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

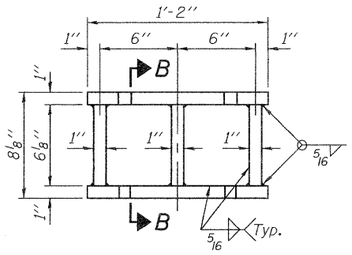
Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type I.



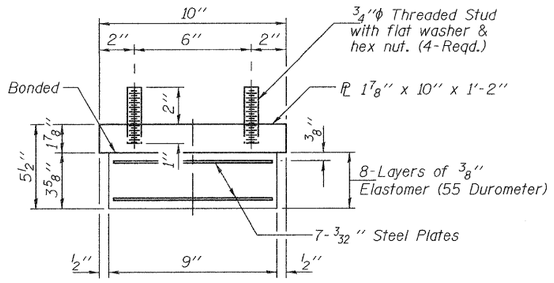
PLAN TOP AND BOTTOM PLATE



SECTION B-B

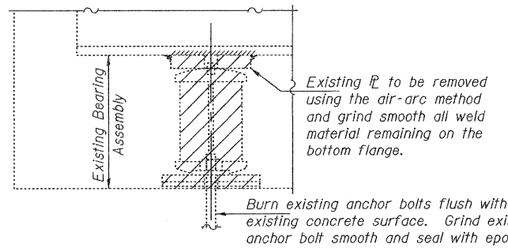


STEEL EXTENSION DETAIL



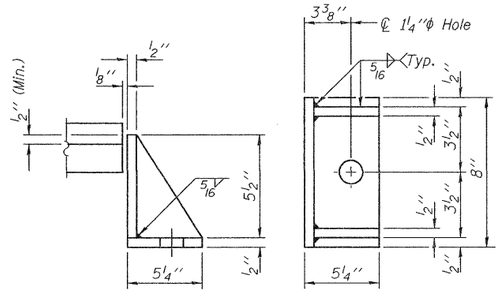
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



SIDE RETAINER

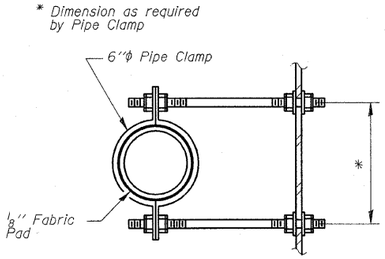
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BILL OF MATERIAL

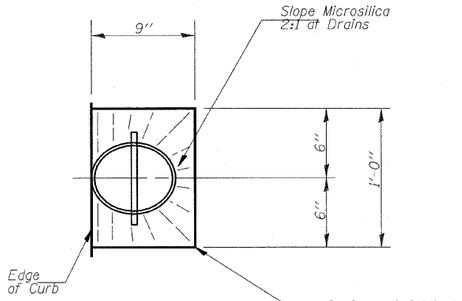
Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6
Jack and Remove Existing Bearings	Each	6
Furnishing and Erecting Structural Steel	Pound	880
Anchor Bolts 1"ϕ	Each	12

TYI/REPS

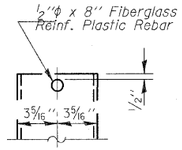
DESIGNED - ADY	EXAMINED	Joyce F. Dibble ACTING ENGINEER OF STRUCTURAL SERVICES	DATE - MARCH 14, 2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARING REPLACEMENT DETAILS AT WEST ABUTMENT SN 080-0003	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - DAB						99	(5-2VB-1, 5-2HB, 5-2VB-2)BR-2	RICHLAND	53	15
DRAWN - Kyle M. Steffen	PASSED	A Carl Tracy ACTING ENGINEER OF BRIDGES AND STRUCTURES			SHEET NO. 2 OF 2 SHEETS			CONTRACT NO. 74482		
CHECKED - ADY DAB							ILLINOIS FED. AID PROJECT			



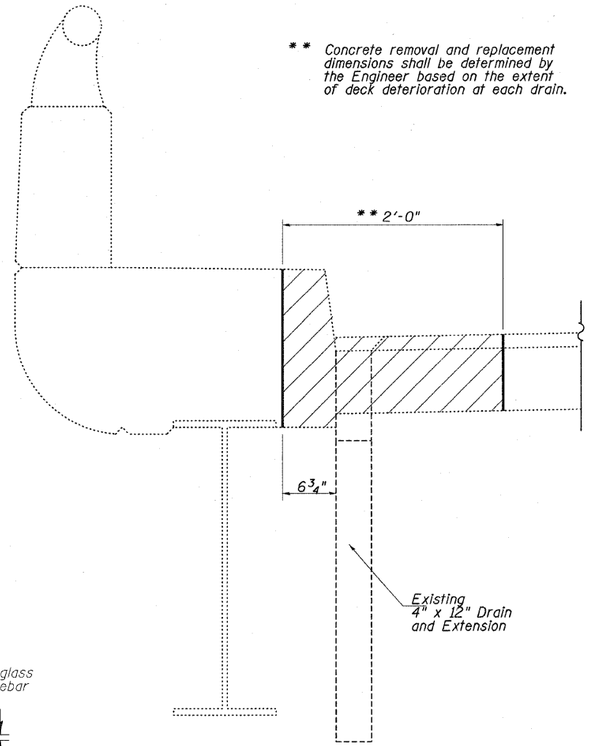
SECTION A-A



TOP PLAN



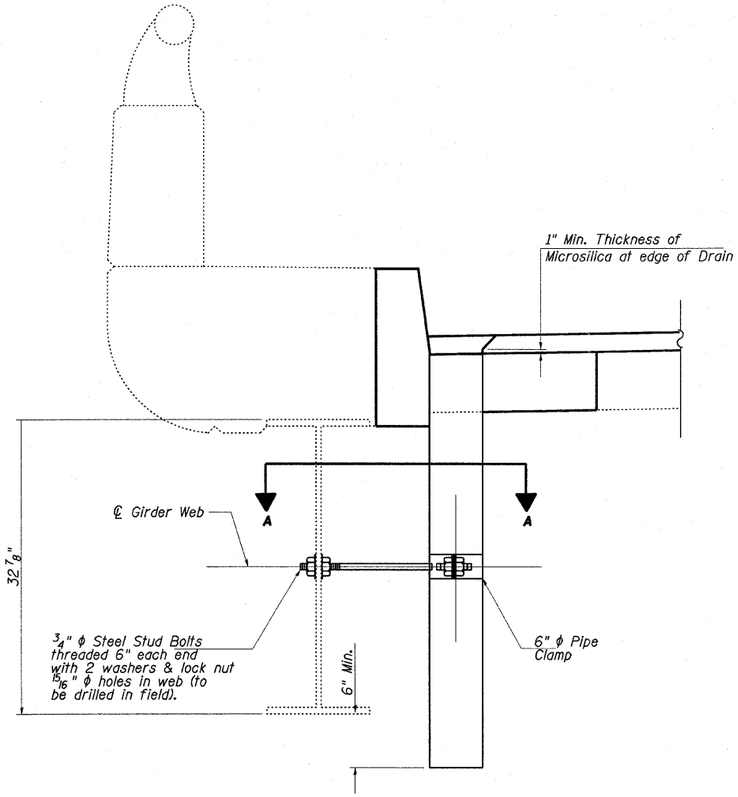
FIBERGLASS PIPE



SECTION THRU EXISTING FLOOR DRAIN

Hatched area indicates concrete removal at floor drain replacement.

Note: Concrete removal and replacement quantities for drains are included in Deck Slab Repair as shown on "Bridge Deck Patching" plan sheets.

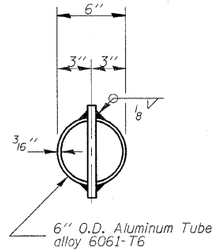


DRAIN REPLACEMENT DETAIL

Note: See "Bridge Deck Patching" plan sheets for Floor Drain replacement or elimination locations. See "Total Bill of Materials" for each structure for quantities.

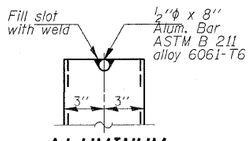
Notes: The floor drains shall be painted to match the outside of the fascia beams.
Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 30,000 p.s.i. minimum.
Galvanize clamping device according to AASHTO M232.
Cost of clamping device and galvanizing is included with Floor Drains.

The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Society of Protective Coating's Spec. SSPC-SP1 prior to painting.



TOP PLAN

(Showing Aluminum Tube)



ALUMINUM TUBE

•(5-2VB-1,5-2HB,5-2VB-2)BR-2

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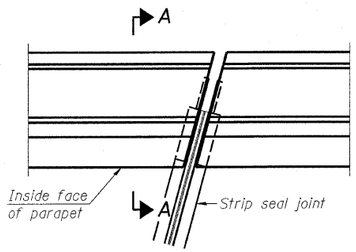
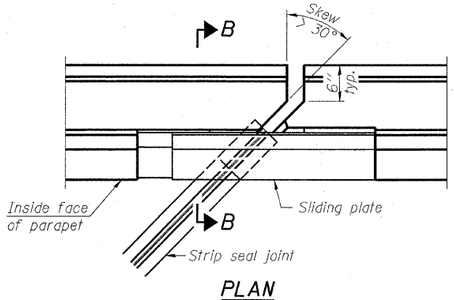
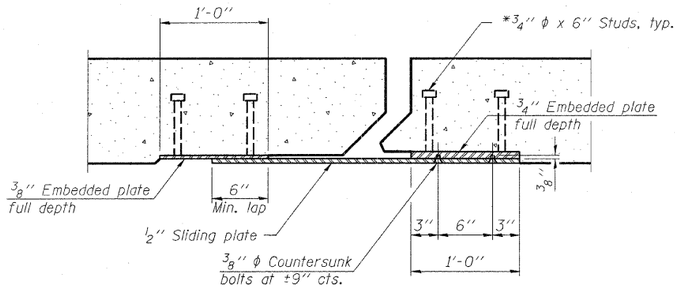
		DRAWN - KLB	REVISED -			327	•	Richland	53	16
	PLOT SCALE = 28.0000 ' / IN.	CHECKED - MEA	REVISED -					CONTRACT NO. 74482		
	PLOT DATE = 1/27/2011	DATE - 12/1/10	REVISED -		SCALE: NA / SHEET NO. 10 OF 15 SHEETS / STA. / TO STA.			ILLINOIS FED. AID PROJECT		



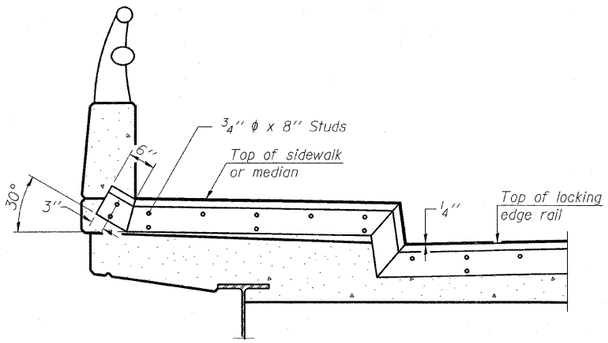
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

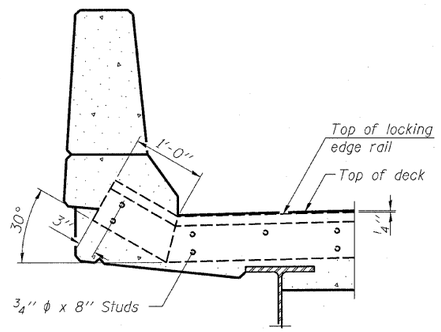


SECTION C-C

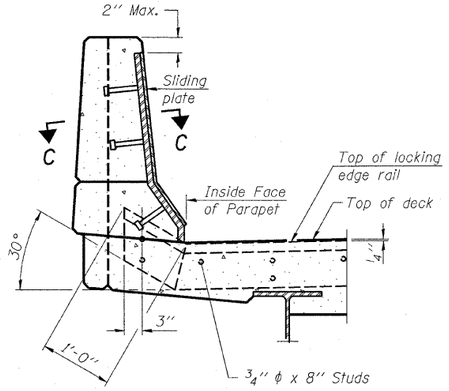


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

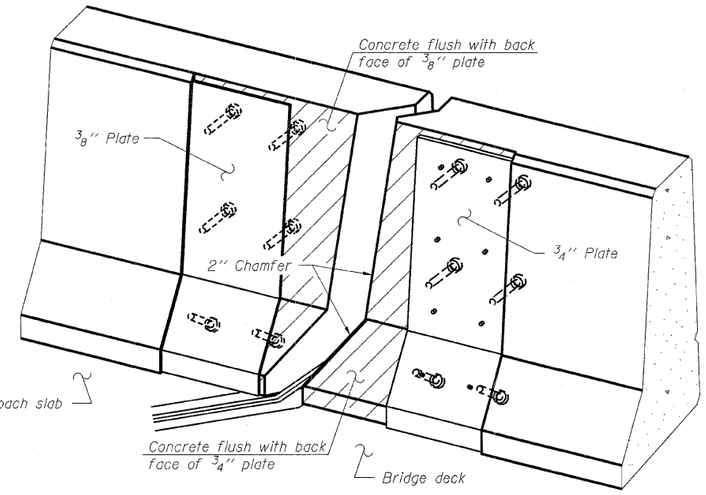
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



SECTION A-A



SECTION B-B



TRIMETRIC VIEW
(Showing back plates only)

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.

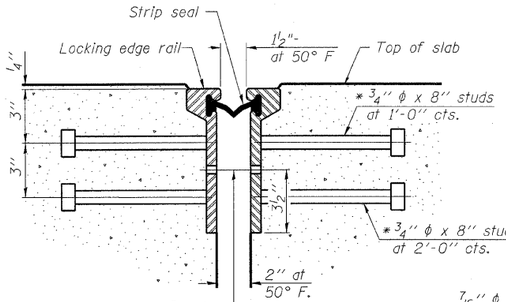
The manufacturer's recommended installation methods shall be followed.

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.

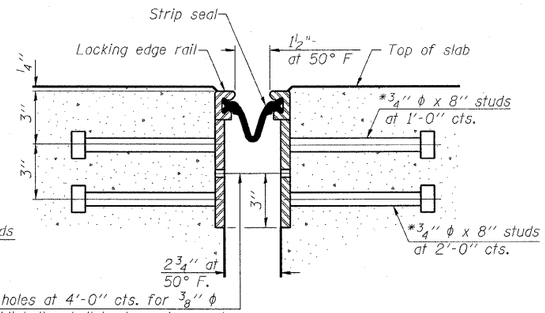
Maximum space between rail segments at stage lines shall be 3/16", sealed with a suitable sealant.

Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.



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.

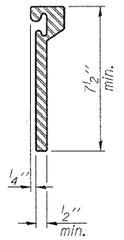
SECTION THRU ROLLED RAIL JOINT



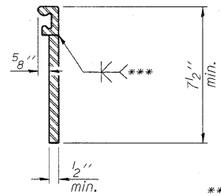
7/16" ϕ holes at 4'-0" cts. for 3/8" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

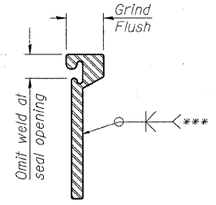
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED EXTRUDED RAIL



WELDED RAIL



*** Back gouge not required if complete joint penetration is verified by mock-up.

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	74.0

EJ-SSJ 7-1-10

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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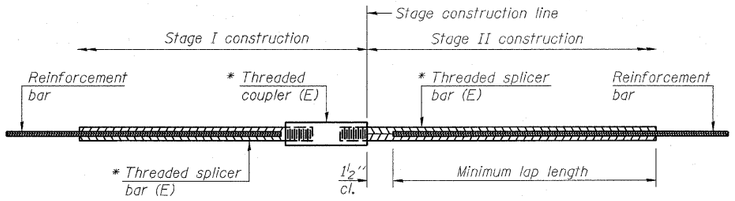
		DATE - 12/1/10	REVISED -		SCALE: NA SHEET NO. 11 OF 15 SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

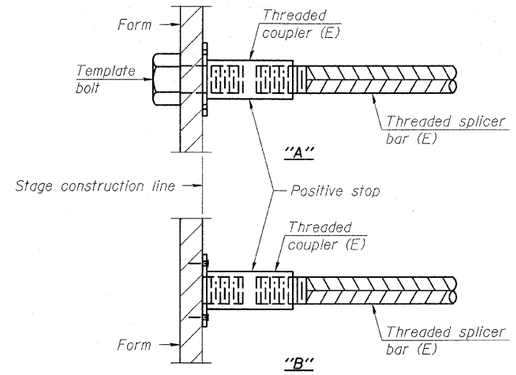
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

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
Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

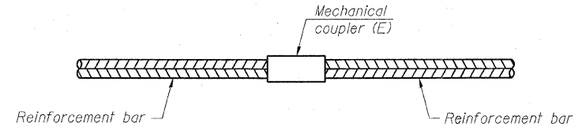
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#5	20	Table 3
Hatchblock	#6	8	Table 3



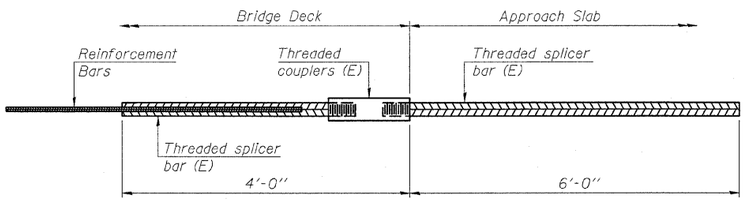
INSTALLATION AND SETTING METHODS

"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.



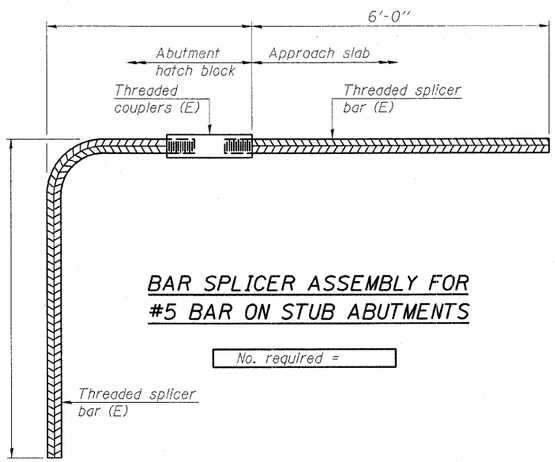
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

No. 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.

BSD-1 7-1-10

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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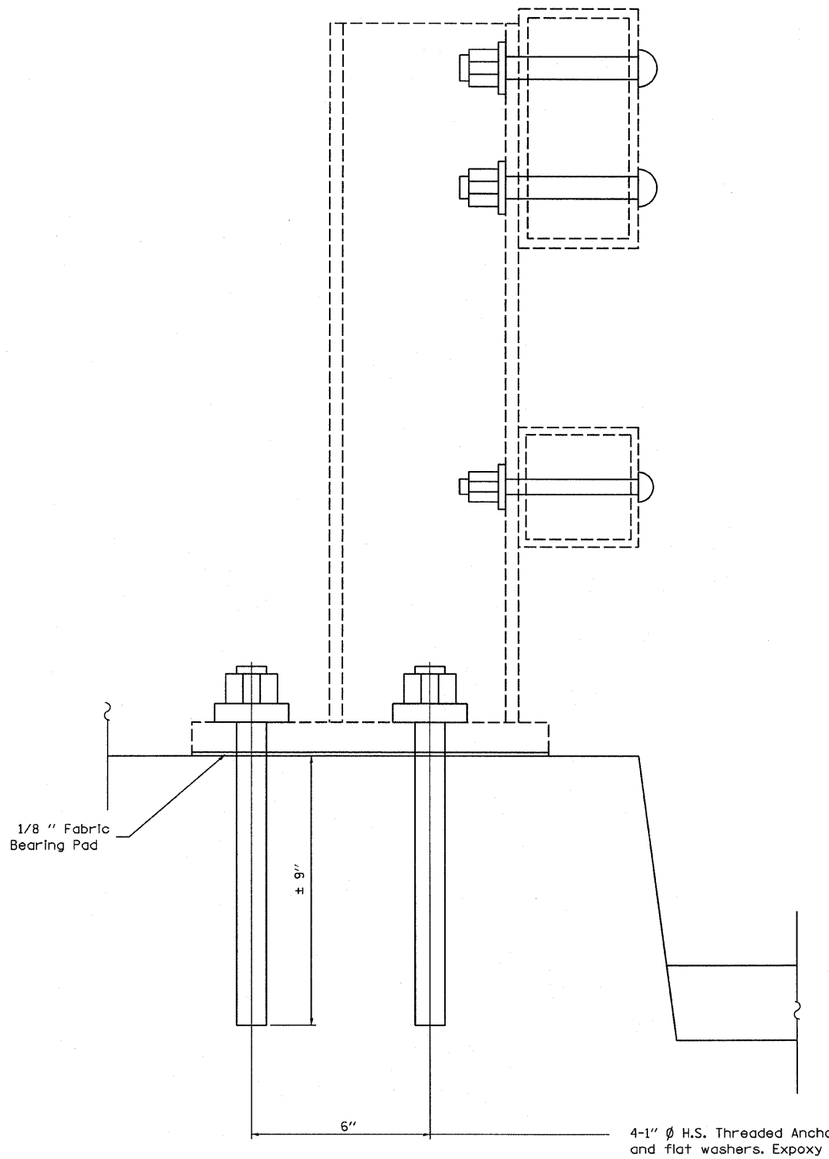
	PLOT DATE = 1/27/2011	DATE - 12/1/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 080-0003

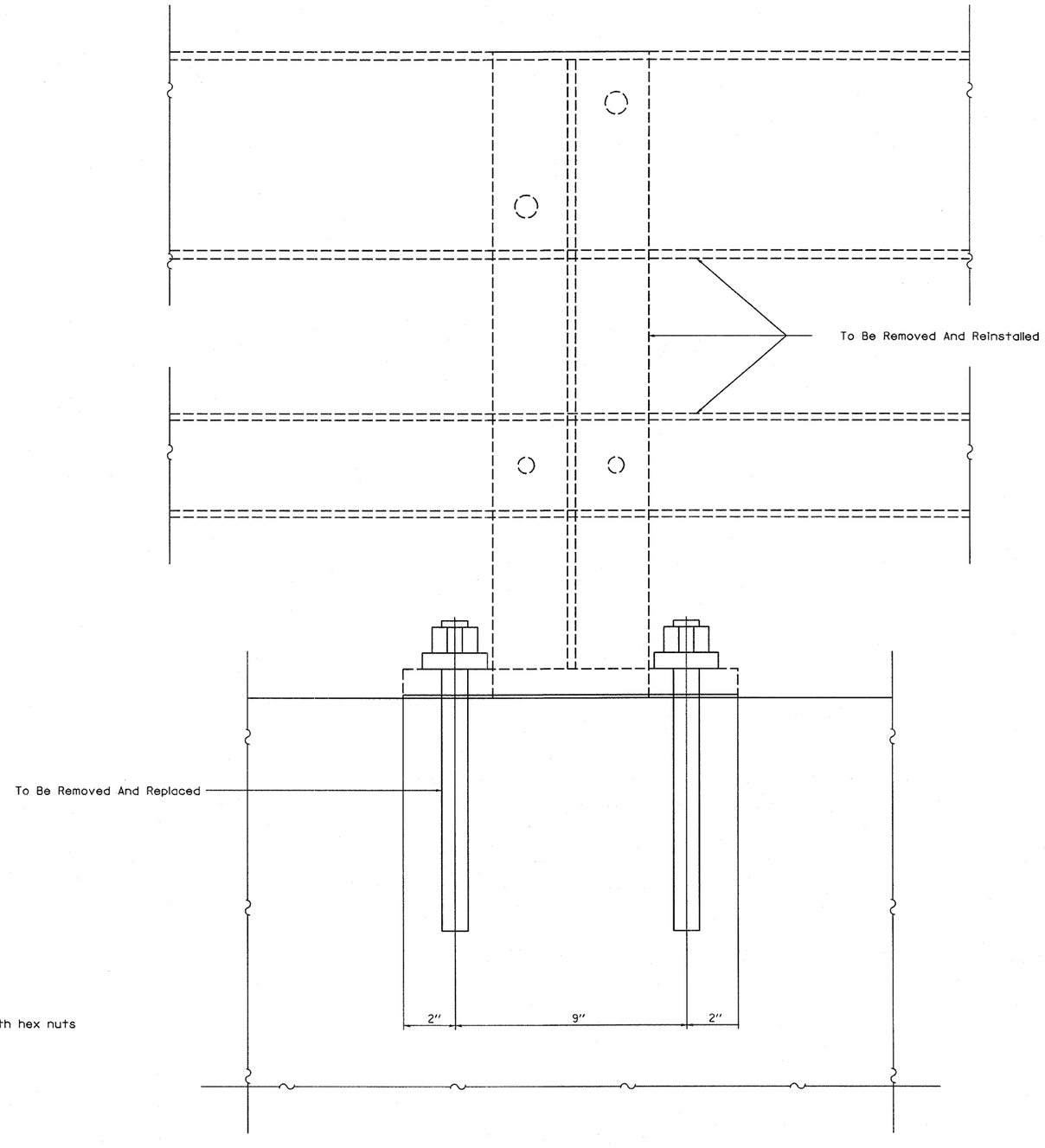
SCALE: NA | SHEET NO. 12 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	18
		CONTRACT NO. 74482		
	ILLINOIS FED. AID PROJECT			



4-1" Ø H.S. Threaded Anchor Rods with hex nuts and flat washers. Expoxy grouted.

Note: New epoxy grouted threaded anchor rods will be required at each location where posts are connected to new construction. Cost shall be included with Concrete Superstructure.



*(5-2VB-1.5-2HB,5-2VB-2)BR-2

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		DRAWN ESS	REVISED -					327	•	Richland	53	19
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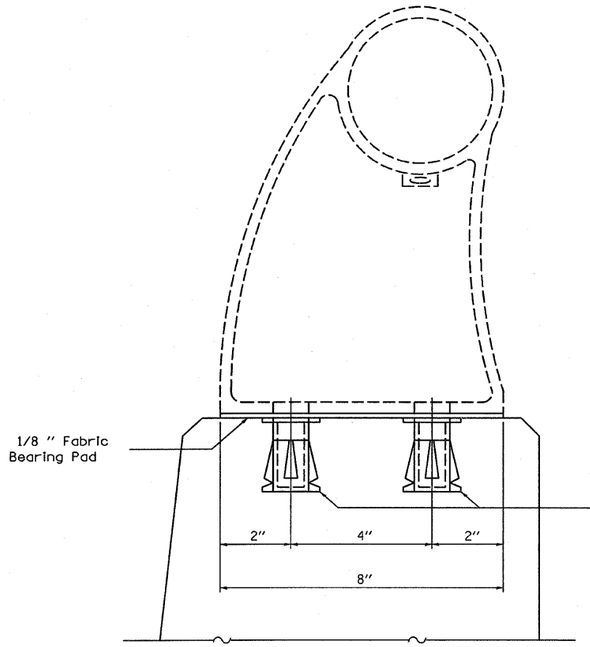

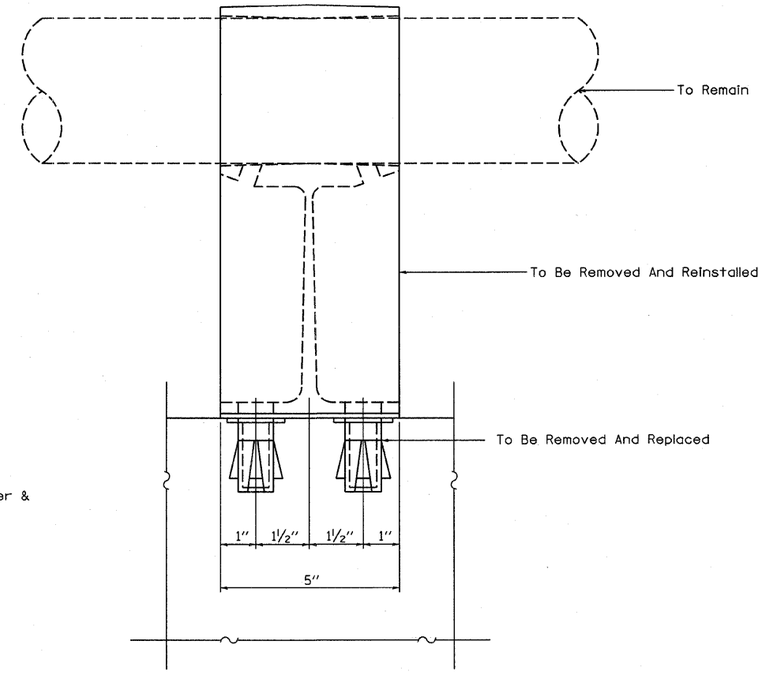

Note: New epoxy grouted threaded studs will be required at each location where posts are connected to new construction. Cost shall be included with Concrete Superstructure.

*(5-2VB-1.5-2HB,5-2VB-2)BR-2

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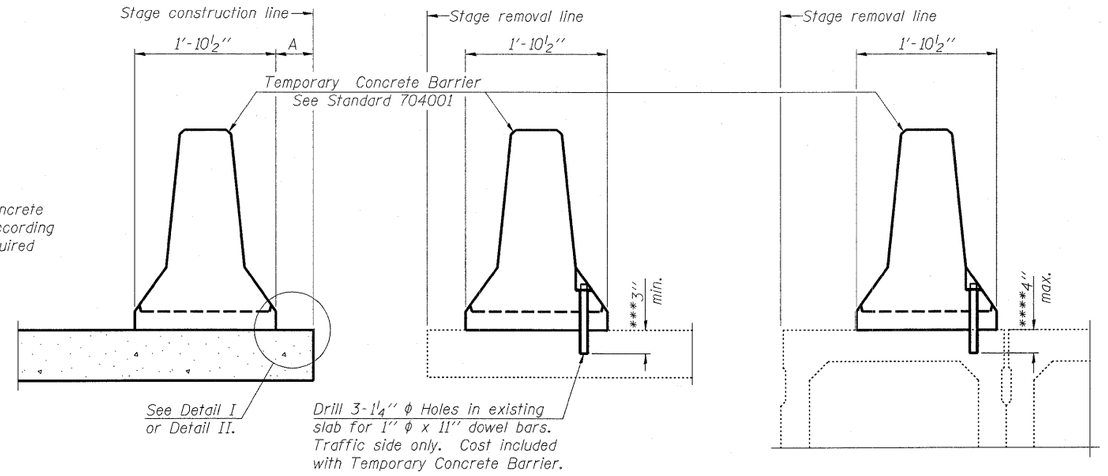
When "A" is 3'-6" or less, the temporary concrete barrier shall be anchored to the new slab according to Detail I or Detail II. No anchorage is required when "A" is greater than 3'-6".



NEW SLAB | EXISTING SLAB | EXISTING DECK BEAM

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" 'x "W" steel ℙ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel ℙ to the concrete slab or concrete wearing surface with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

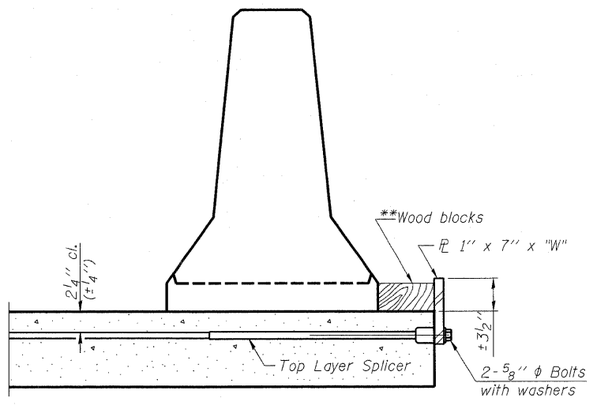
Cost of anchorage is included with Temporary Concrete Barrier.

The 1" x 7" x "W" 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.

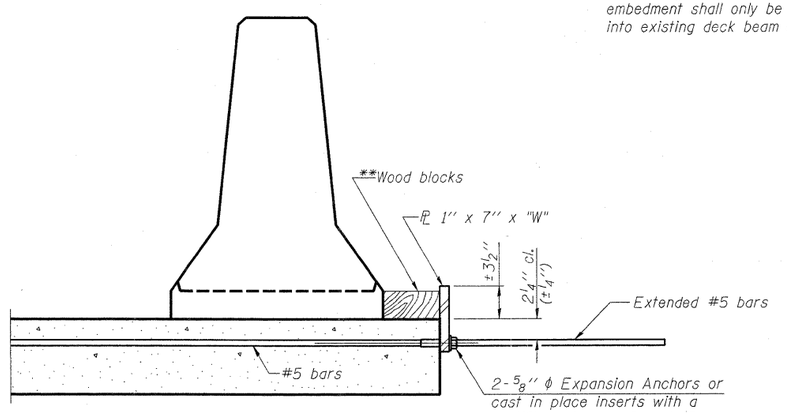
SECTIONS THRU SLAB OR DECK BEAM

*** 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.



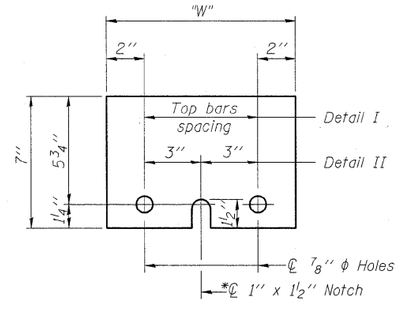
DETAIL I



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 ℙ 1" x 7" x "W"

* Required only with Detail II

R-27 7-1-10

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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		DRAWN KLB	REVISED -
	PLOT SCALE = 20.0000 ' / IN.	CHECKED MEA	REVISED -
	PLOT DATE = 1/27/2011	DATE 12/1/2010	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

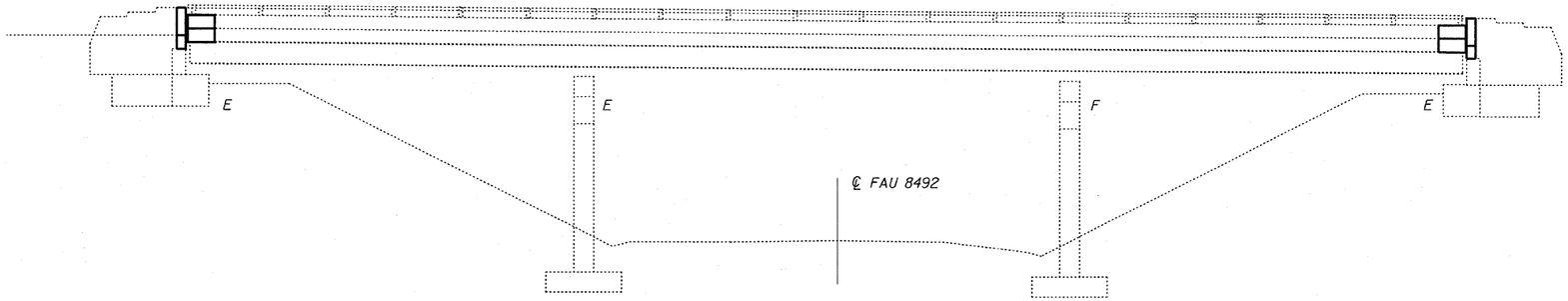
TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 080-0003

SCALE: NA | SHEET NO. 15 OF 15 SHEETS | STA. | TO STA.

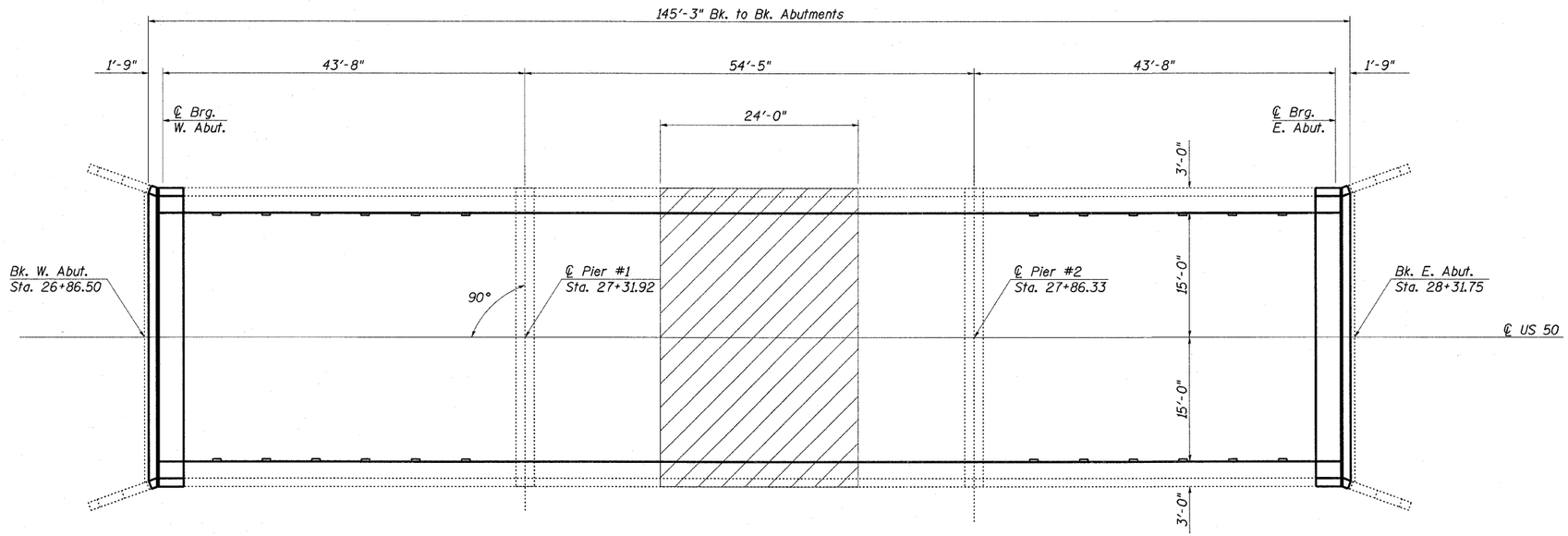
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	21
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

The existing three span continuous steel multi-beam strcuture was constructed in 1963 as FAP 13 section 5-2HB at Sta. 27+60.60. SN. 080-0004 carries FAP 327 (US 50) over FAU 8492 (Whittle Ave). The proposed project consists of new expansion joints, full depth deck repair, new microsilica wearing surface, new elastomeric bearings, and new deck drains.

N

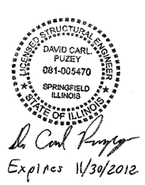


ELEVATION



PLAN

LIMITS OF PROTECTIVE SHIELD



Expires 11/30/2012

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
SN. 080-0004

SCALE: NA | SHEET NO. 1 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	22
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

GENERAL NOTES

Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the contractor's responsibility to verify dimensions and details in the field, and to make necessary approved adjustments prior to construction or material acquisition. Such variations shall not be cause for additional compensation or change in the scope of work. The contractor will be paid for the quantity actually furnished at the unit bid price for the work.

Reinforcement bars shall conform to the requirements of ASTM A 706 GRADE 60. See Special Provisions.

Reinforcement Bars designated (E) shall be epoxy coated.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included in CONCRETE REMOVAL.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

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

The existing hot-mix asphalt wearing surface is not known to contain asbestos.

Removal and reinstallation of handrail sections and support posts at both abutments will be necessary for construction of the expansion joints. The existing handrail sections and support posts shall be reused. New bolts, shim plates, as detailed in the plans, are to be provided and installed for the reinstallation of the handrail and supports. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

Prior to pouring the new concrete deck, all heavy and loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain, unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel, and the cost will be included in the pay item covering removal of the existing concrete.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36 unless otherwise noted.

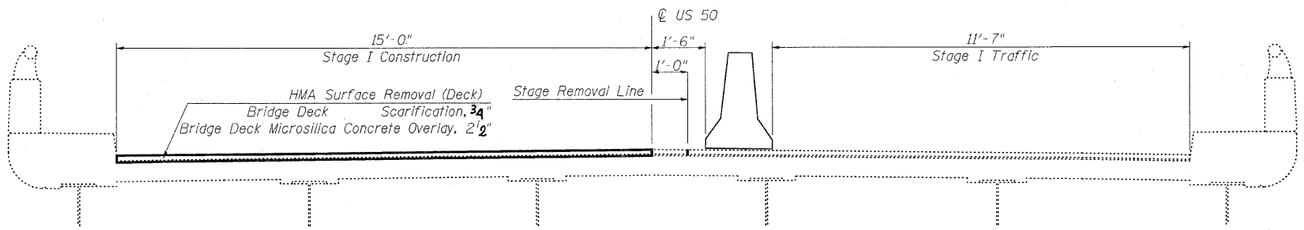
Removal and replacement of a portion of the safety walk will be necessary to eliminate or replace the existing deck drains. This work and all materials shall be included in the contract unit price for DECK SLAB REPAIR (FULL DEPTH).

Removal and re-installation of the curb mounted steel bridge rail at various locations will be necessary for construction of the deck repair. The existing steel bridge rail and support posts shall be reused. New anchor rods and fabric bearing pads, as detailed in the plans, are to be provided and isntalled for the re-installation of the curb mounted steel bridge rail and supports. This work and all materials shall be included in the contract unit price for DECK SLAB REPAIR (FULL DEPTH).

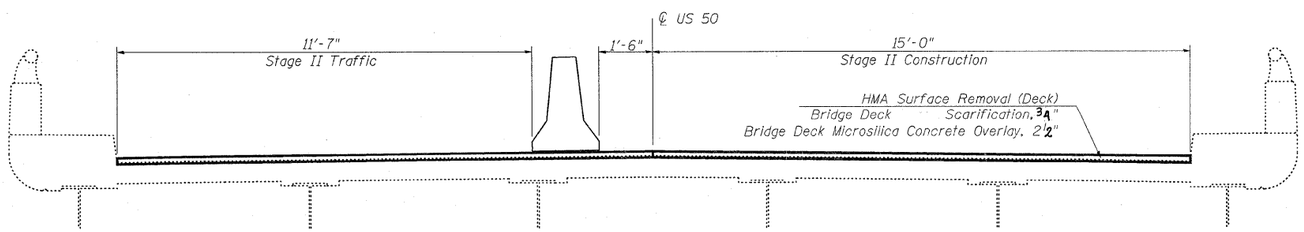
TOTAL BILL OF MATERIALS

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	14.2
Concrete Superstructure	Cu. Yd.	14.2
Reinforcement Bars, Epoxy Coated	Pound	1680
Bar Splicers	Each	32
Preformed Joint Strip Seal	Foot	74.0
Bridge Deck Scarification, 3/4"	Sq Yd	455
Bridge Deck Microsilica Concrete Overlay, 2 1/2"	Sq Yd	455
Bridge Deck Grooving	Sq Yd	445
* Protective Coat	Sq Yd	34
Deck Slab Repair (Full Depth, Type I)	Sq Yd	11
Deck Slab Repair (Full Depth, Type II)	Sq Yd	9
Floor Drains	Each	16
Structural Repair of Concrete (5")	Sq Ft	7
Protective Shield	Sq Yd	96
Elastomeric Bearing Assembly, Type I	Each	6
Elastomeric Bearing Assembly, Type II	Each	6
Jack and Remove Existing Bearings	Each	12
Furnishing and Erecting Structural Steel	Pound	1660
Anchor Bolts 1"ϕ	Each	24
HMA Surface Removal (Deck)	Sq Yd	467

* Protective coat is to be applied to the new concrete areas near the joints only.



STAGE I LOOKING EAST



STAGE II LOOKING EAST

•(5-2VB-1,5-2HB,5-2VB-2)BR-2

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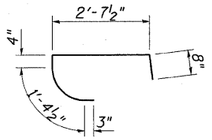
	PLOT DATE = 1/27/2011	DATE 12/1/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

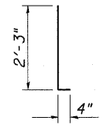
GENERAL NOTES & BILL OF MATERIALS
SN. 080-0004

SCALE: NA | SHEET NO. 2 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	23
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

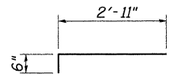


Bar c1(E)



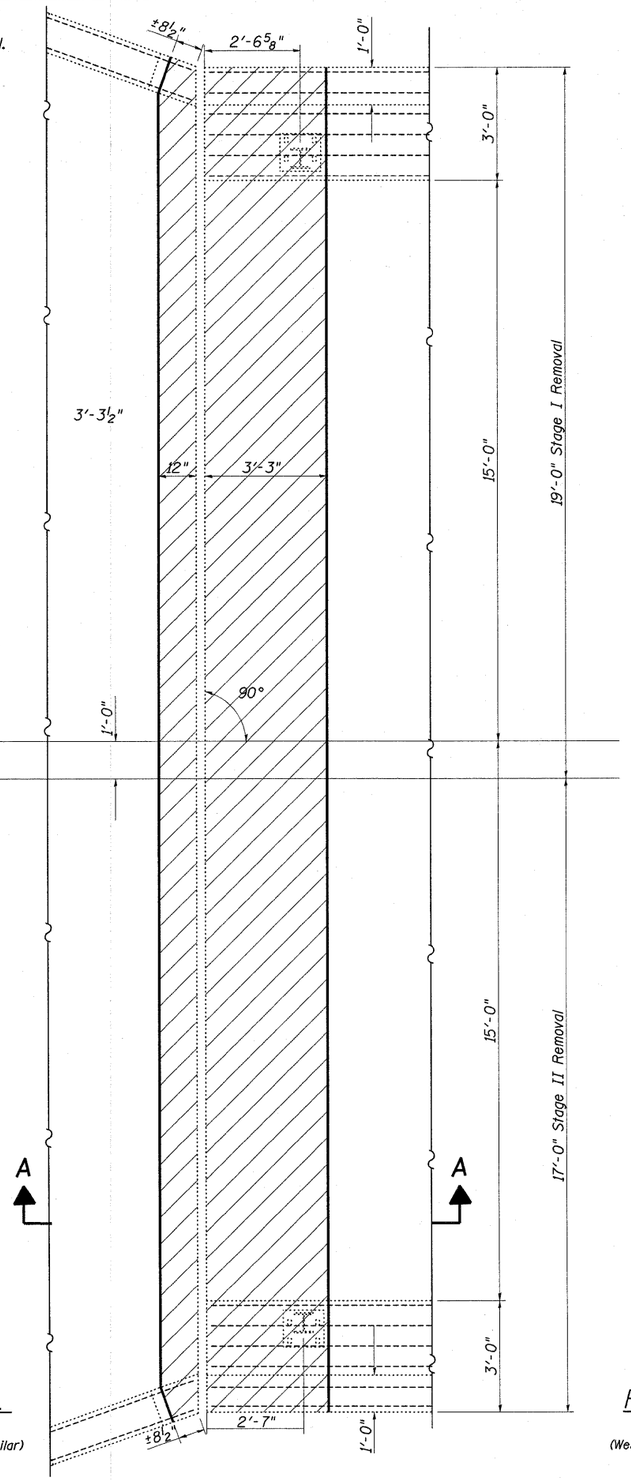
Bar d3(E)

Bar d2(E)



Bar x1(E)

Hatched area indicates removal.



℄ Roadway

Stage Removal Line

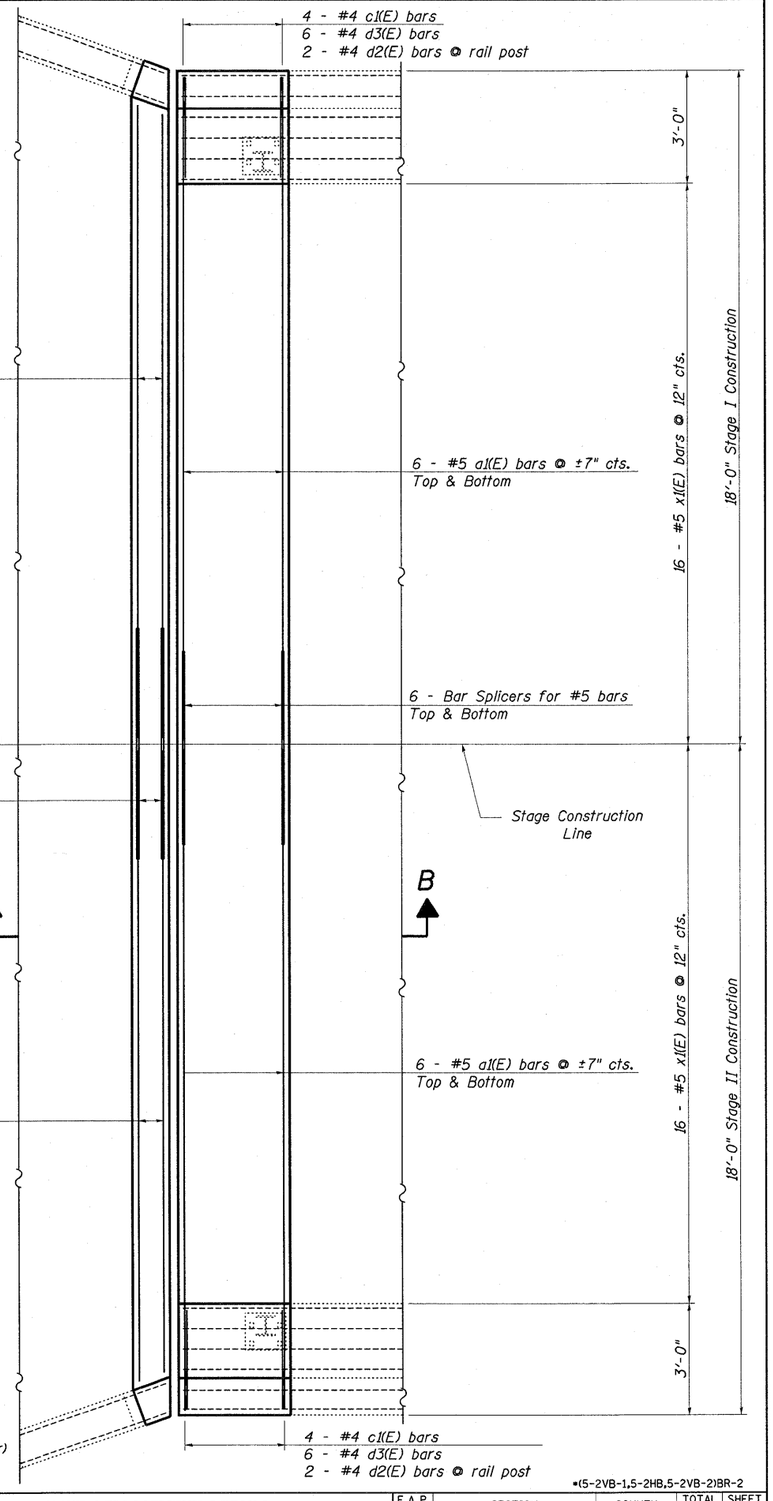
BILL OF MATERIAL

PER ABUTMENT

BAR	TOTAL	SIZE	LENGTH	SHAPE
a1(E)	24	#5	17'-8"	
c1(E)	8	#4	5'-3"	
d3(E)	24	#4	2'-7"	
d2(E)	4	#4	2'-1"	
h1(E)	8	#6	16'-9"	
x1(E)	32	#5	3'-5"	
REINFORCEMENT BARS (EP. CTD.)			POUND	840
CONCRETE REMOVAL			CU YD	7.1
CONCRETE SUPERSTRUCTURE			CU YD	7.1
BAR SPLICERS			EACH	16

EXISTING PARTIAL PLAN

(West Abutment shown; East Abutment similar)



For Section A-A and B-B see Sheet 18 of 40.

PROPOSED PARTIAL PLAN

(West Abutment shown; East Abutment similar)

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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	PLOT DATE = 1/27/2011	DATE 12/1/10	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

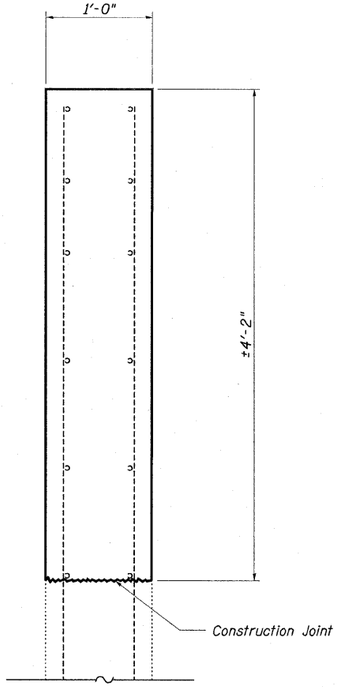
EXPANSION JOINT REPLACEMENT DETAILS
SN. 080-0004

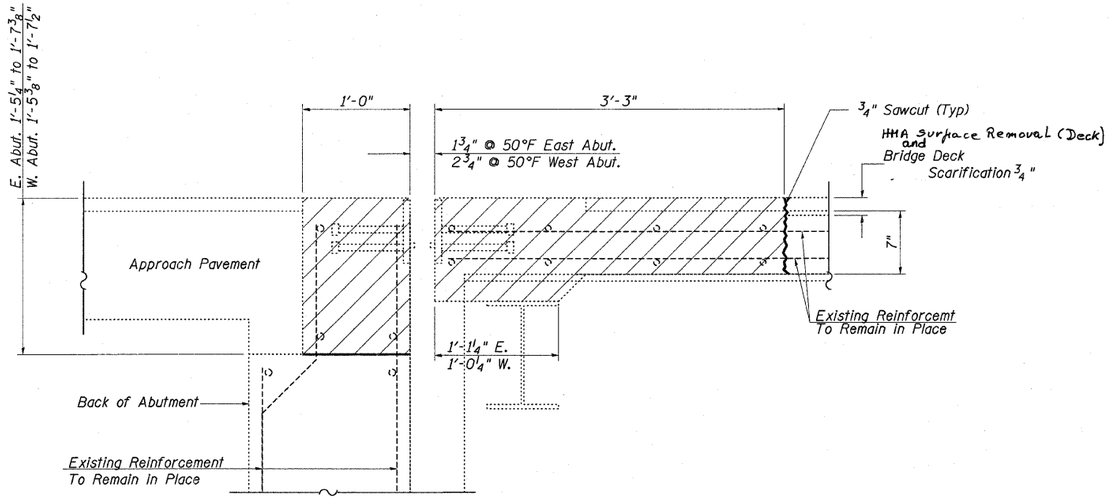
SCALE: NA | SHEET NO. 3 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	24
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

TYPICAL WINGWALL REMOVAL AND REPLACEMENT

Hatched area indicates removal.

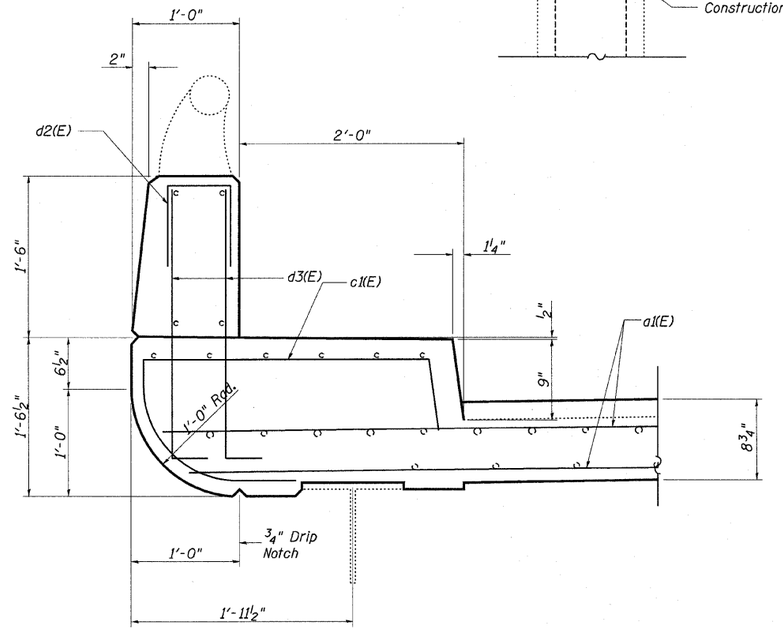




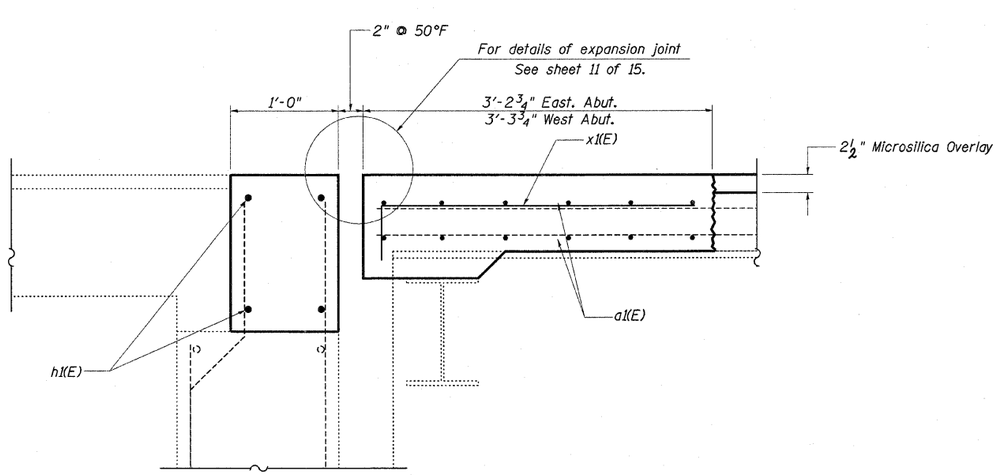
SECTION A-A

(Dimensions at Rt. L's to end of deck)

○ Existing Reinforcement
● Proposed Reinforcement



SECTION THRU PARAPET



SECTION B-B

(Dimensions at Rt. L's to end of deck)

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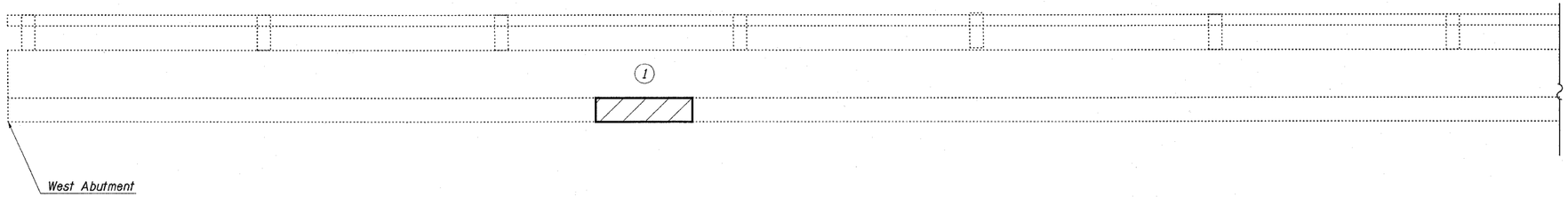
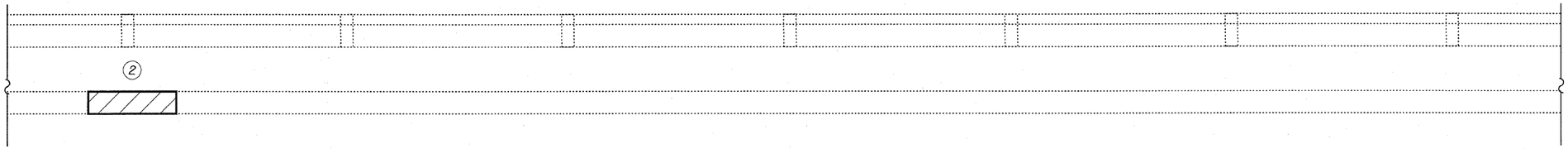
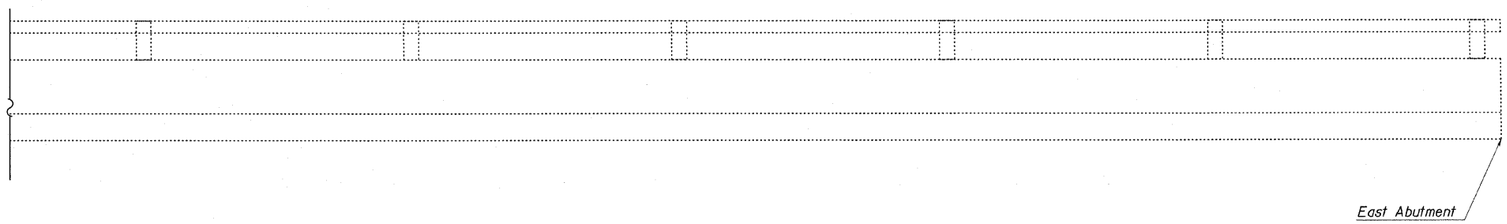
	PLOT DATE = 1/27/2011	CHECKED MEA	REVISED -		
		DATE 12/1/10	REVISED -		

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	25
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		







STRUCTURAL REPAIR

Cost included in Structural Repair of Concrete (Depth < 5")

Patch Number	Station	Area Sq Ft
1	27+05	2.3
2	27+38	2.3
	Total	4.6

NORTH PARAPET

Looking North

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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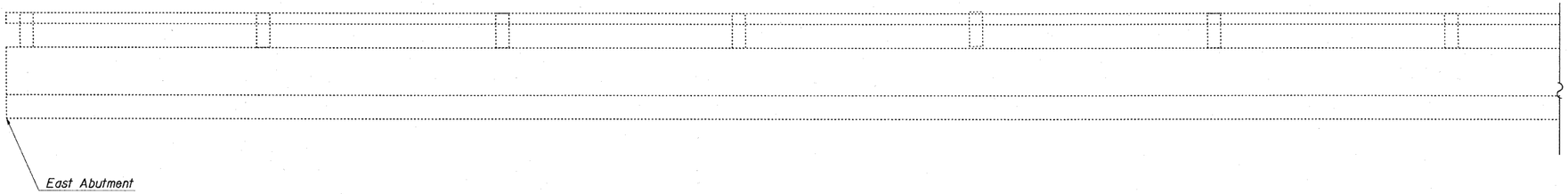
	PLOT DATE = 1/27/2011	DATE 12/2/10	REVISED -

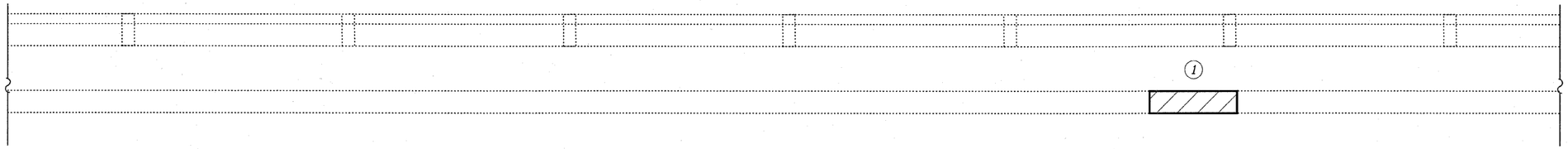
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

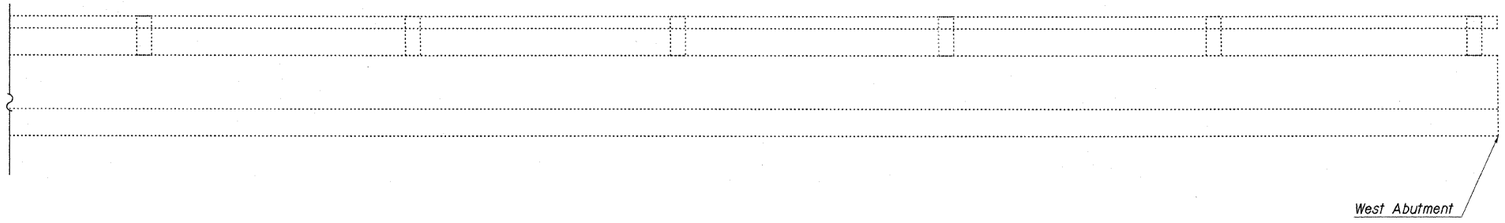
STRUCTURAL REPAIR – PARAPET
SN. 080-0004

SCALE: NA | SHEET NO. 5 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	*	Richland	53	26
		CONTRACT NO. 74482		
	ILLINOIS	FED. AID PROJECT		







STRUCTURAL REPAIR

Cost included in Structural Repair of Concrete (Depth < 5")

Patch Number	Station	Area Sq Ft
1	27+39	2.3
	Total	2.3

SOUTH PARAPET

Looking South

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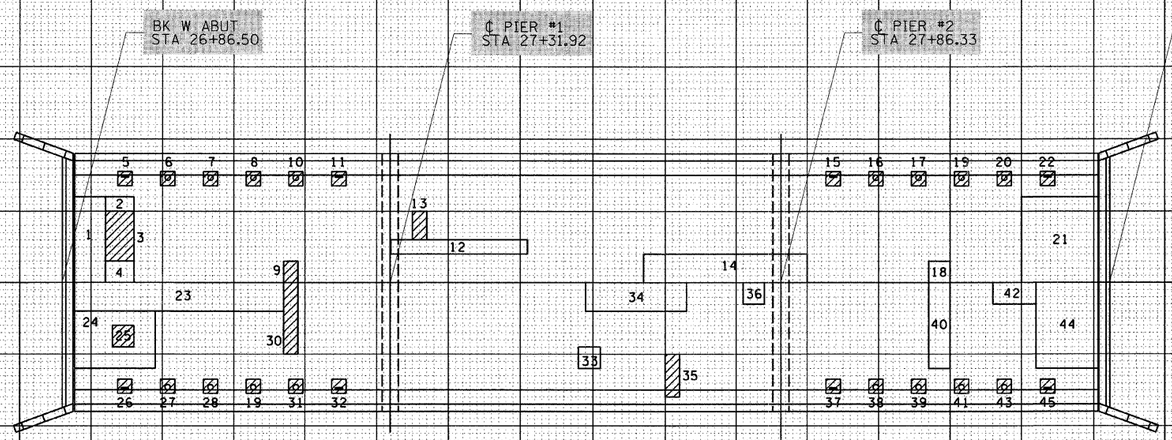
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL REPAIR – PARAPET
SN. 080–0004

SCALE: NA | SHEET NO. 6 OF 15 SHEETS | STA. | TO STA.

*(5-2VB-1.5-2HB,5-2VB-2)BR-2

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	*	Richland	53	27
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		



EXISTING DECK DRAIN TO BE ELIMINATED

EXISTING DECK DRAIN TO BE REPLACED
SEE SHEET 24 OF 40 FOR DETAILS.

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
1	4.0 x 12.0	48.0			
2	4.0 x 2.0	8.0			
3	4.0 x 7.0			28.0	
4	4.0 x 3.0	12.0			
5	2.0 x 2.0		4.0		
6	2.0 x 2.0		4.0		
7	2.0 x 2.0		4.0		
8	2.0 x 2.0		4.0		
9	2.0 x 3.0			6.0	
10	2.0 x 2.0		4.0		
11	2.0 x 2.0		4.0		
12	19.0 x 2.0	38.0			
13	2.0 x 3.0			6.0	
14	23.0 x 4.0	92.0			
15	2.0 x 2.0		4.0		
16	2.0 x 2.0		4.0		
17	2.0 x 2.0		4.0		
18	3.0 x 3.0	9.0			

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
19	2.0 x 2.0		4.0		
20	2.0 x 2.0		4.0		
21	11.0 x 12.0	132.0			
22	2.0 x 2.0		4.0		
23	29.0 x 4.0	116.0			
24	11.0 x 8.0	88.0			
25	3.0 x 3.0			9.0	
26	2.0 x 2.0		4.0		
27	2.0 x 2.0		4.0		
28	2.0 x 2.0		4.0		
29	2.0 x 2.0		4.0		
30	2.0 x 10.0			20.0	
31	2.0 x 2.0		4.0		
32	2.0 x 2.0		4.0		
33	3.0 x 3.0	9.0			
34	14.0 x 4.0	56.0			
35	2.0 x 6.0			12.0	
36	3.0 x 3.0	9.0			

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
37	2.0 x 2.0		4.0		
38	2.0 x 2.0		4.0		
39	2.0 x 2.0		4.0		
40	3.0 x 12.0	36.0			
41	2.0 x 2.0		4.0		
42	6.0 x 3.0	18.0			
43	2.0 x 2.0		4.0		
44	9.0 x 12.0	108.0			
45	2.0 x 2.0		4.0		
	TOTAL	779	96	81	

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
	PARTIAL DEPTH				
	(FOR INFORMATION ONLY)				
	779 / 9 =	86.6			
	USE	87	SQ YD		
	FULL DEPTH, TYPE 1				
	96 / 9 =	10.7			
	USE	11	SQ YD		
	FULL DEPTH, TYPE 2				
	81 / 9 =	9.0			
	USE	9	SQ YD		

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.

PATCHING LEGEND

PARTIAL DEPTH (FOR INFORMATION ONLY)

FULL DEPTH

DATE OF SURVEY: 09-15-10
SURVEY BY: MEA, ESS, KLB
METHOD OF SURVEY: VISUAL

BRIDGE DECK PATCHING
RICHLAND COUNTY
LOCATION

SN 080-0004

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

004

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	PLOT DATE = 1/27/2011	DATE 12/2/10	REVISED -

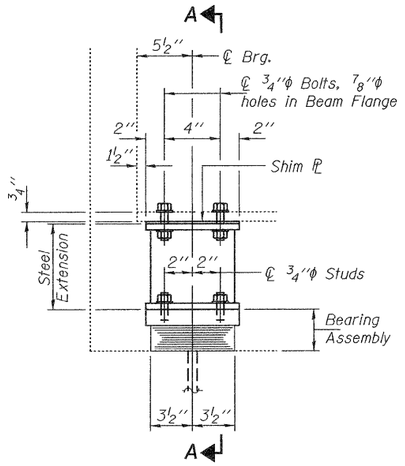
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING
SN. 080-0004

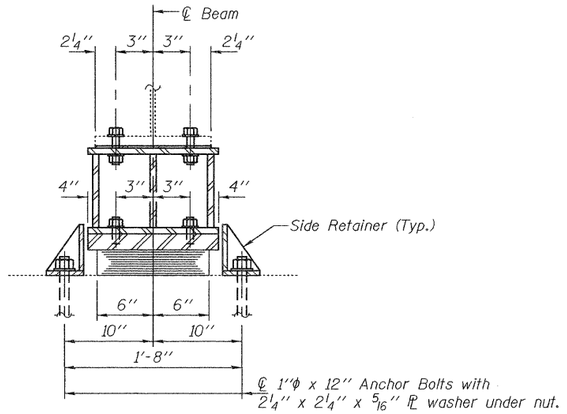
SCALE: NA | SHEET NO. 7 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	28
		CONTRACT NO. 74482		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

BRIDGE DECK PATCHING



ELEVATION AT ABUTMENT



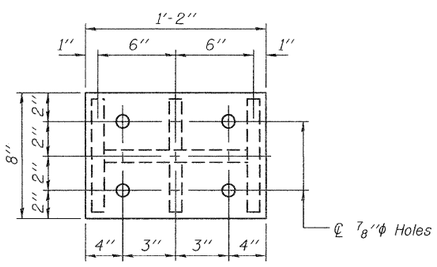
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

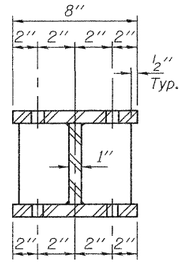
BEAM REACTIONS

RP	(K)	17.5
RL	(K)	31.3
Imp.	(K)	9.3
R (Total)	(K)	58.1

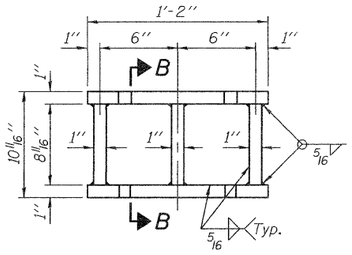
Notes:
Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
Min. jack capacity = 30 Tons.
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type I.



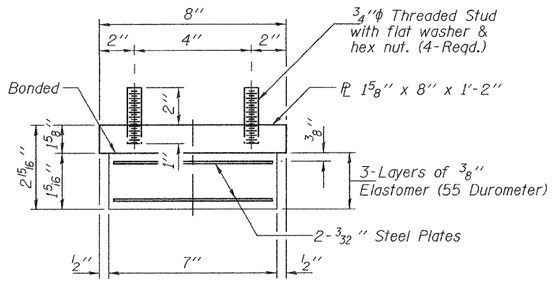
PLAN TOP AND BOTTOM PLATE



SECTION B-B

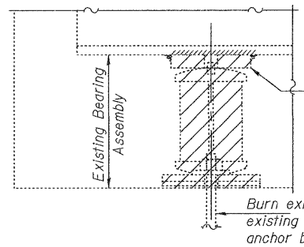


STEEL EXTENSION DETAIL



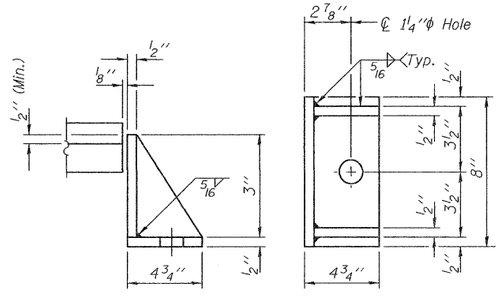
BEARING ASSEMBLY

Note:
Shim plates shall not be placed under Bearing Assembly.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



SIDE RETAINER

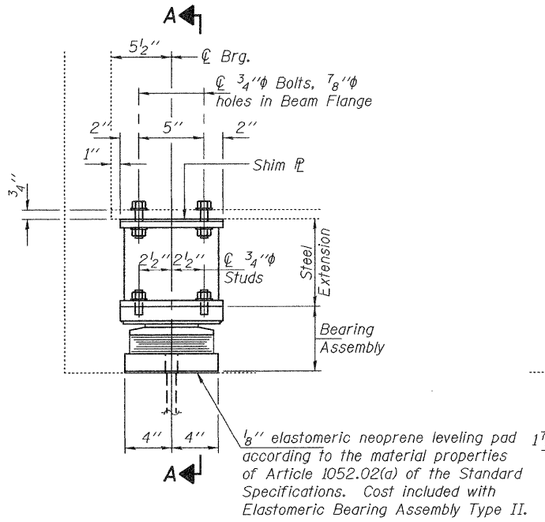
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BILL OF MATERIAL

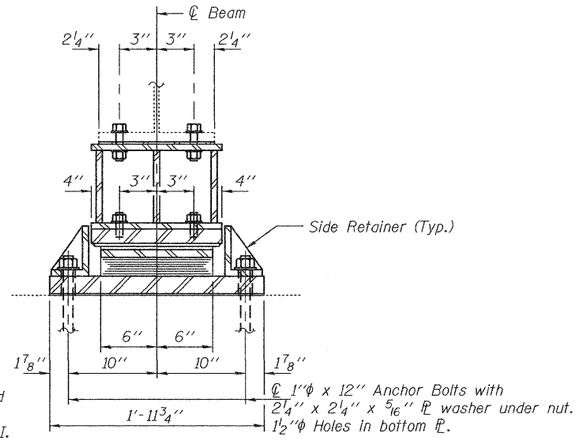
Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6
Jack and Remove Existing Bearings	Each	6
Furnishing and Erecting Structural Steel	Pound	850
Anchor Bolts 1"ϕ	Each	12

TYI/REPS

DESIGNED - ADY	EXAMINED	Joyce F. Dilliff ACTING ENGINEER OF STRUCTURAL SERVICES	DATE - MARCH 14, 2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARING REPLACEMENT DETAILS AT EAST ABUTMENT SN 080-0004	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - DAB						99	(5-2VB-1, 5-2HB, 5-2VB-2)BR-2	RICHLAND	53	29
DRAWN - Kyle M. Steffen	PASSED	A Carl Tunzy ACTING ENGINEER OF BRIDGES AND STRUCTURES			SHEET NO. 1 OF 2 SHEETS			CONTRACT NO. 74482		
CHECKED - ADY DAB								ILLINOIS FED. AID PROJECT		



ELEVATION AT ABUTMENT



SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG.

BEAM REACTIONS

R℄	(K)	17.5
R↳	(K)	31.3
Imp.	(K)	9.3
R (Total)	(K)	58.1

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Min. jack capacity = 30 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

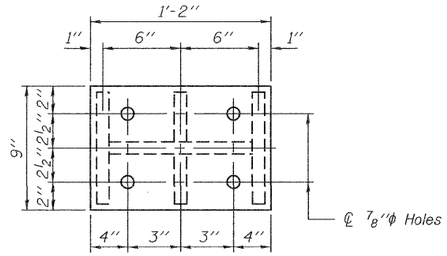
Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

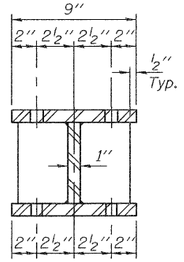
Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The ⅛" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

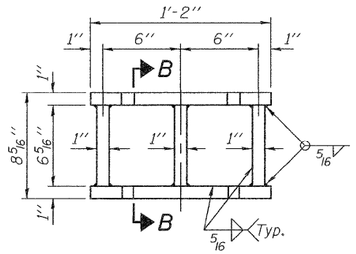
Bonding of ⅛" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



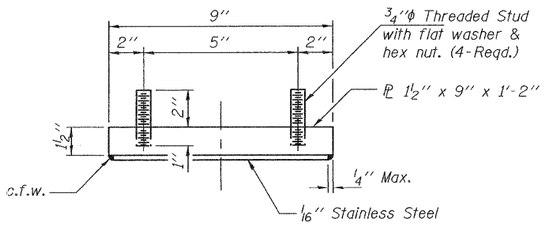
PLAN TOP AND BOTTOM PLATE



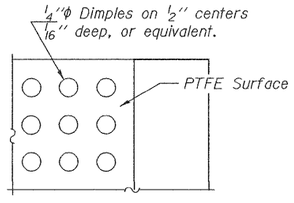
SECTION B-B



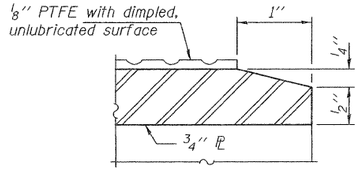
STEEL EXTENSION DETAIL



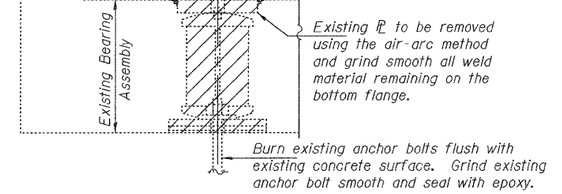
TOP BEARING ASSEMBLY



PLAN-PTFE SURFACE

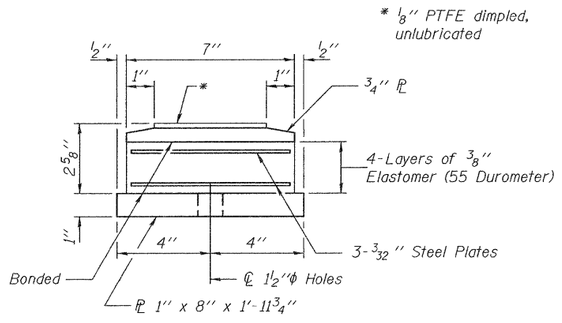


SECTION THRU PTFE

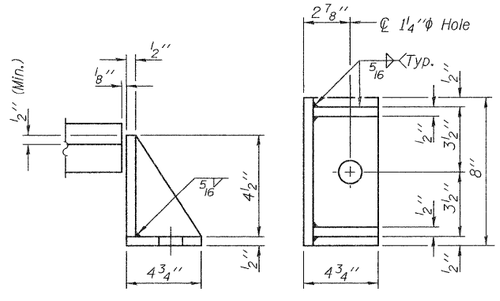


EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

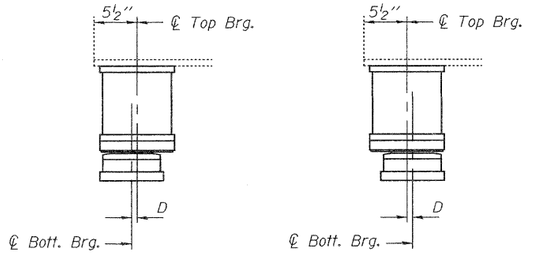


BOTTOM BEARING ASSEMBLY



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SETTING ANCHOR BOLTS AT EXP. BRG.

D = ⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	6
Jack and Remove Existing Bearings	Each	6
Furnishing and Erecting Structural Steel	Pound	810
Anchor Bolts 1"ϕ	Each	12

TYII/REPS

DESIGNED	-	ADY
CHECKED	-	DAB
DRAWN	-	Kyle M. Steffen
CHECKED	-	ADY DAB

EXAMINED

PASSED

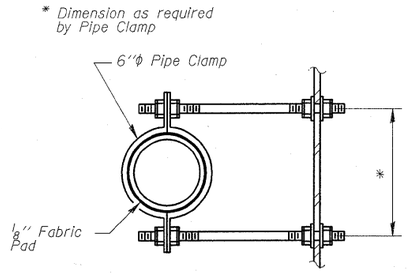
Joyce F. Schiffs
ACTING ENGINEER OF STRUCTURAL SERVICES
Carl Puzey
ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 14, 2011

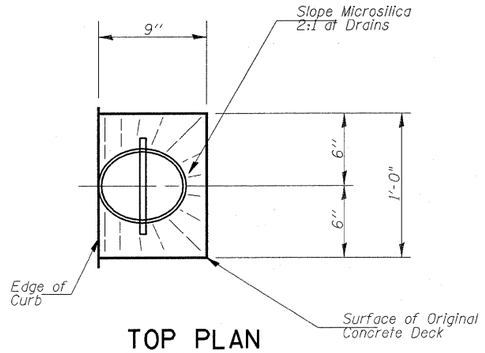
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT DETAILS AT WEST ABUTMENT
SN 080-0004
SHEET NO. 2 OF 2 SHEETS

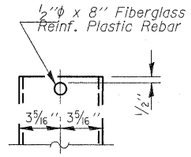
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
99	(5-2VB-1, 5-2HB, 5-2VB-2)BR-2	RICHLAND	53	30
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		



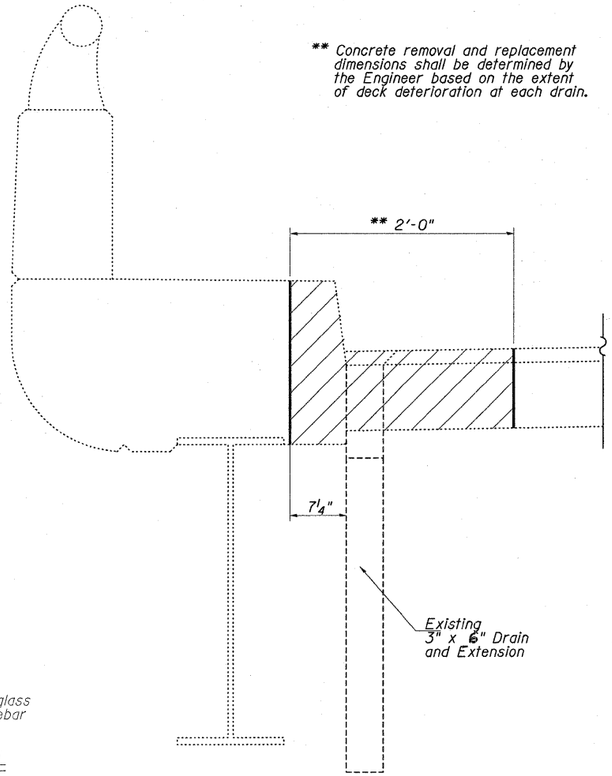
SECTION A-A



TOP PLAN



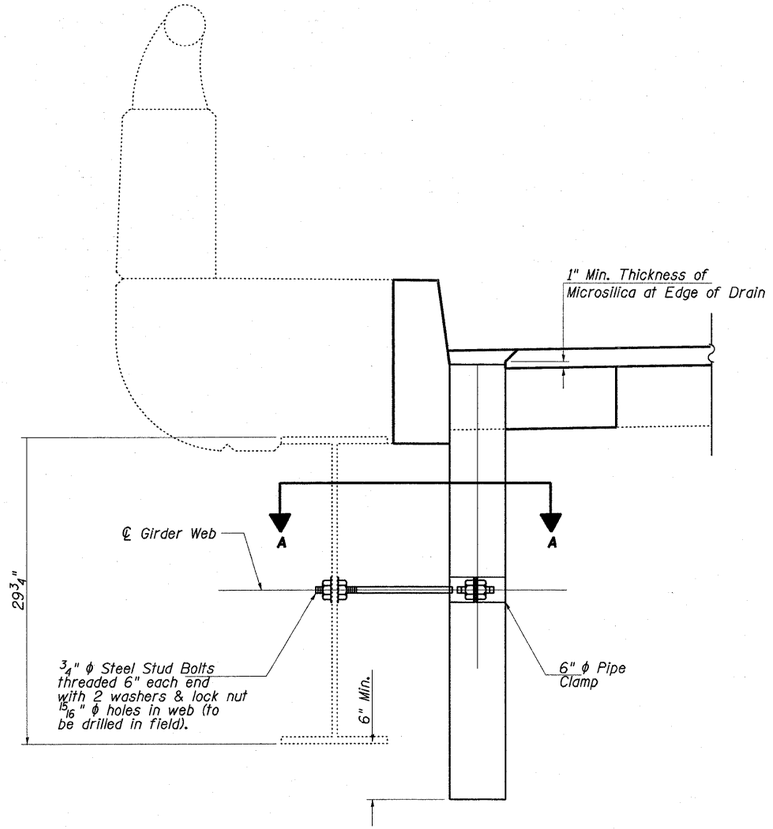
FIBERGLASS PIPE



SECTION THRU EXISTING FLOOR DRAIN

Hatched area indicates concrete removal at floor drain replacement.

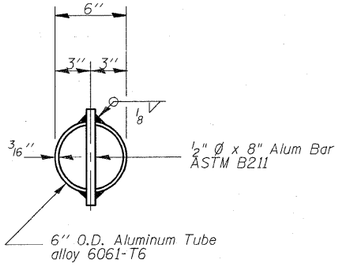
Note: Concrete removal and replacement quantities for drains are included in Deck Slab Repair as shown on "Bridge Deck Patching" plan sheets.



DRAIN REPLACEMENT DETAIL

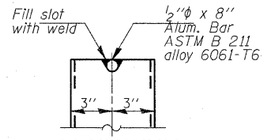
Note: See "Bridge Deck Patching" plan sheets for Floor Drain replacement locations. Plug Existing Deck Drain locations. See "Total Bill of Materials" for each structure for quantities.

Note: The exterior surfaces of the drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drains shall be cleaned according to Society of Protective Coating's Spec. SSPC-SP1 prior to painting. Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoops tensile stress of 30,000 p.s.i. minimum. Galvanize clamping device according to AASHTO M232. Cost of clamping device and galvanized included with Floor Drains.



TOP PLAN

(Showing Aluminum Tube)



ALUMINUM TUBE

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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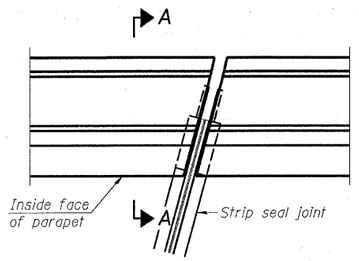
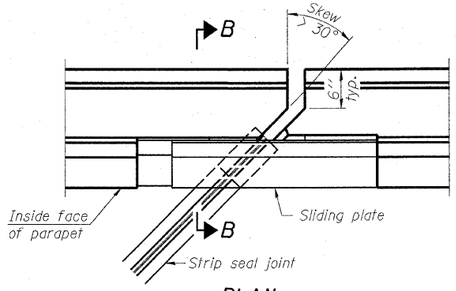
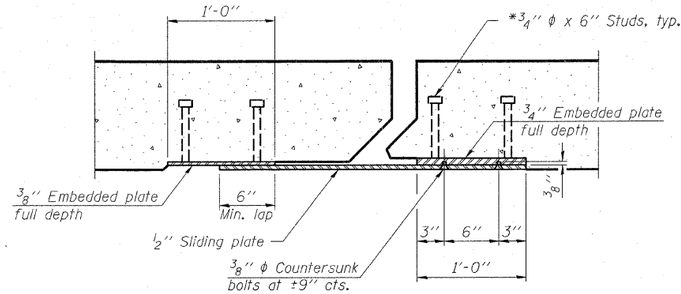
		DRAWN KLB	REVISED -					327	•	Richland	53	31
	PLOT SCALE = 20.0000 ' / IN.	CHECKED MEA	REVISED -							CONTRACT NO. 74482		
	PLOT DATE = 1/27/2011	DATE 12/2/10	REVISED -		SCALE: NA	SHEET NO. 10 OF 15 SHEETS	STA. TO STA.			ILLINOIS FED. AID PROJECT		



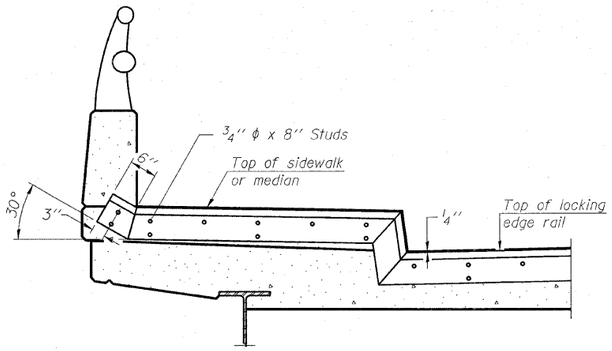
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

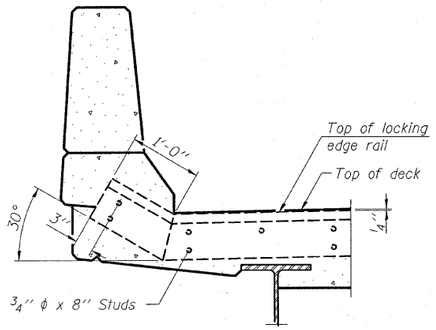


SECTION C-C

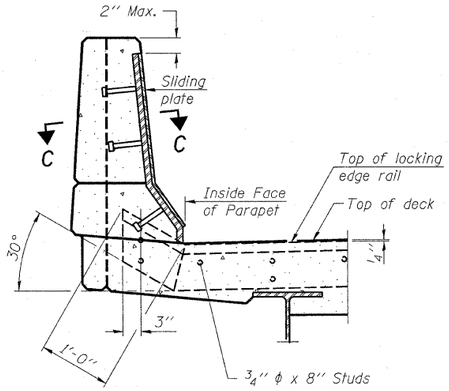


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

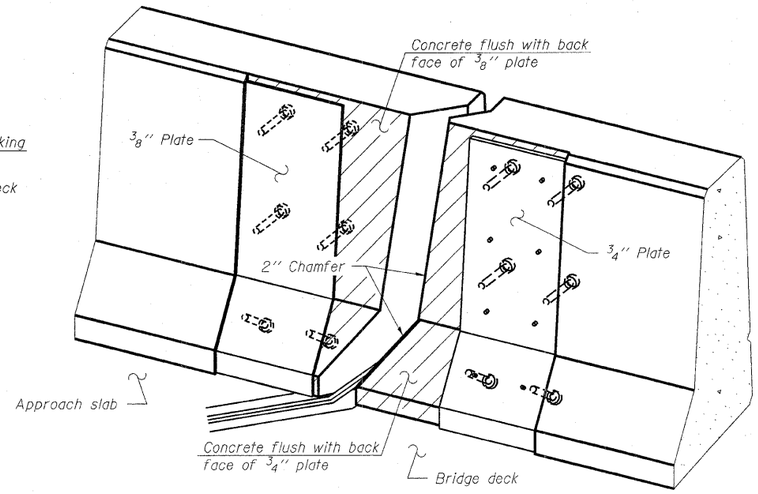
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



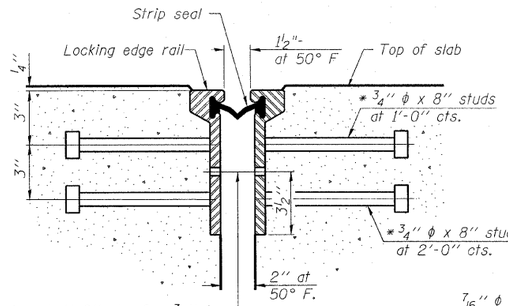
SECTION A-A



SECTION B-B

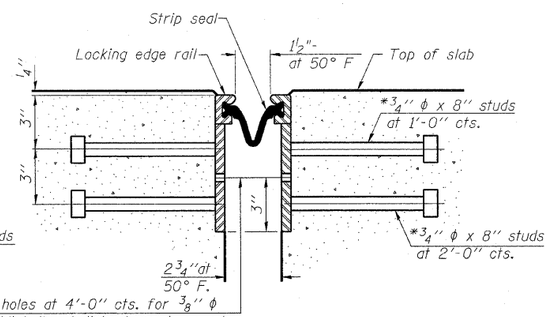


TRIMETRIC VIEW
(Showing back plates only)



7/16" ϕ holes at 4'-0" cts. for ⅜" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

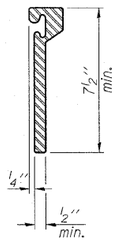
SECTION THRU ROLLED RAIL JOINT



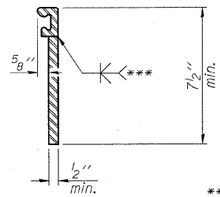
7/16" ϕ holes at 4'-0" cts. for ⅜" ϕ bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

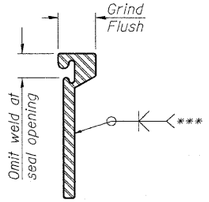
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED EXTRUDED RAIL



WELDED RAIL



*** Back gouge not required if complete joint penetration is verified by mock-up.

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

Notes:

The strip seal shall be made continuous and shall have a minimum thickness of ¼". 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.

Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	74.0

EJ-SSJ 7-1-10

*(5-2VB-1.5-2HB,5-2VB-2)BR-2

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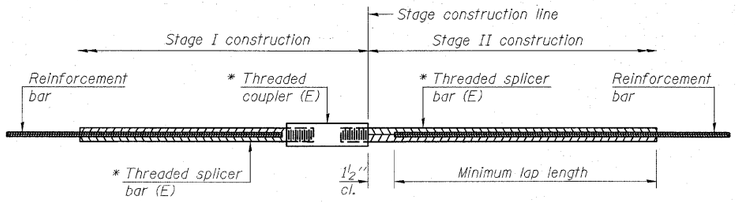
	PLOT SCALE = 20.0000 ' / IN.	DRAWN KLB	REVISED -			327	•	Richland	53	32
	PLOT DATE = 1/27/2011	CHECKED MEA	REVISED -					CONTRACT NO. 74482		
		DATE 12/2/10	REVISED -		SCALE: NA / SHEET NO. 11 OF 15 SHEETS / STA. / TO STA.			ILLINOIS FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

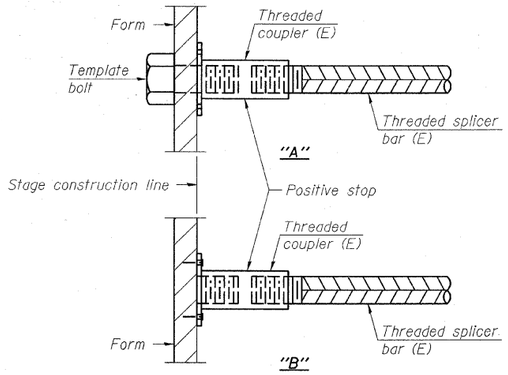
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

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
Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

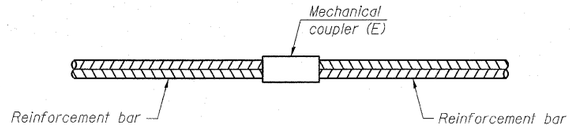
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#5	24	Table 3
Hatchblock	#6	8	Table 3



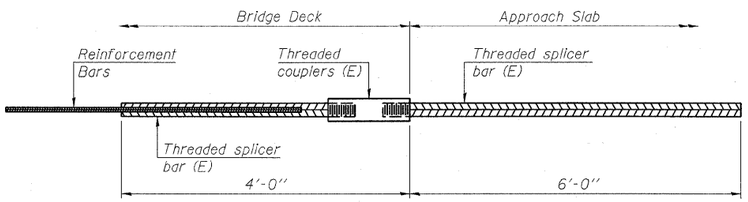
INSTALLATION AND SETTING METHODS

"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.



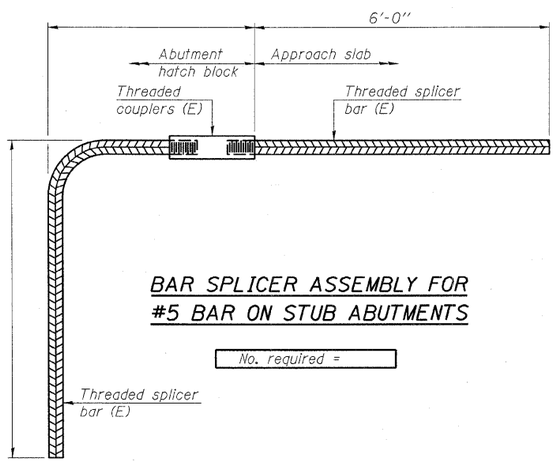
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

No. 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.

BSD-1 7-1-10

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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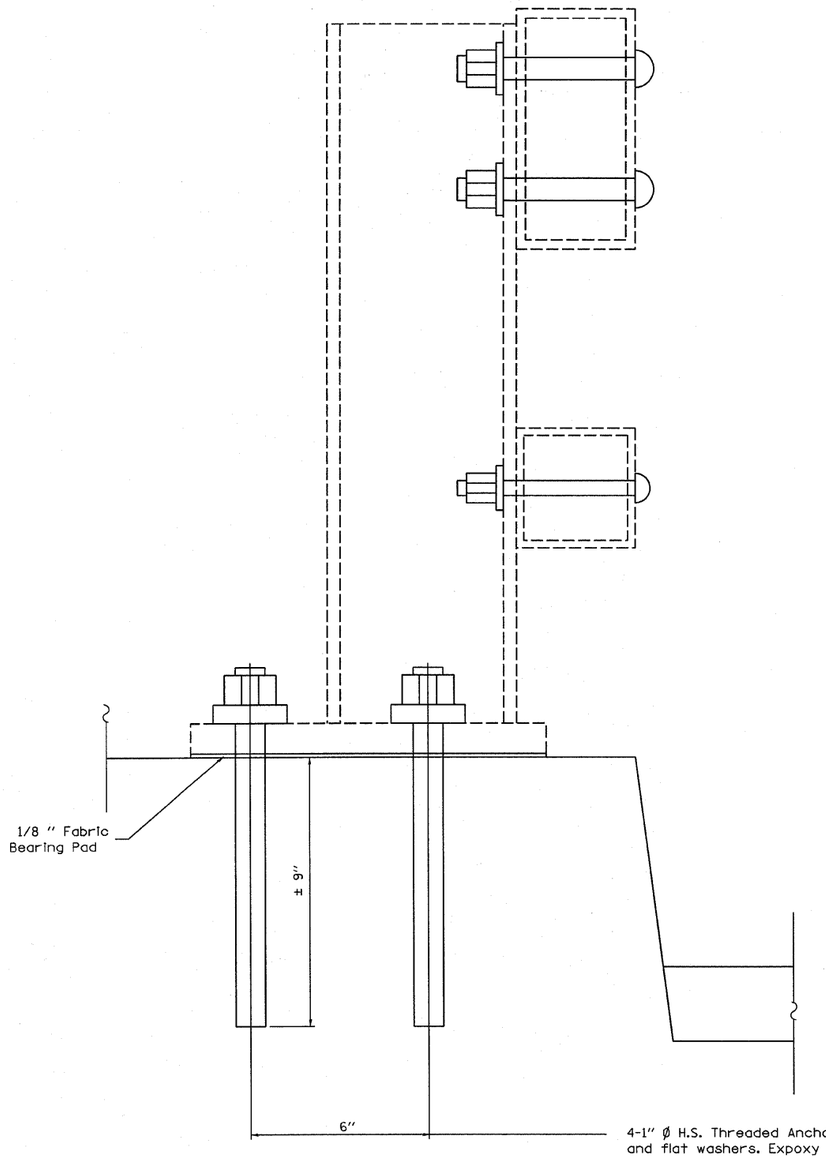
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 080-0004

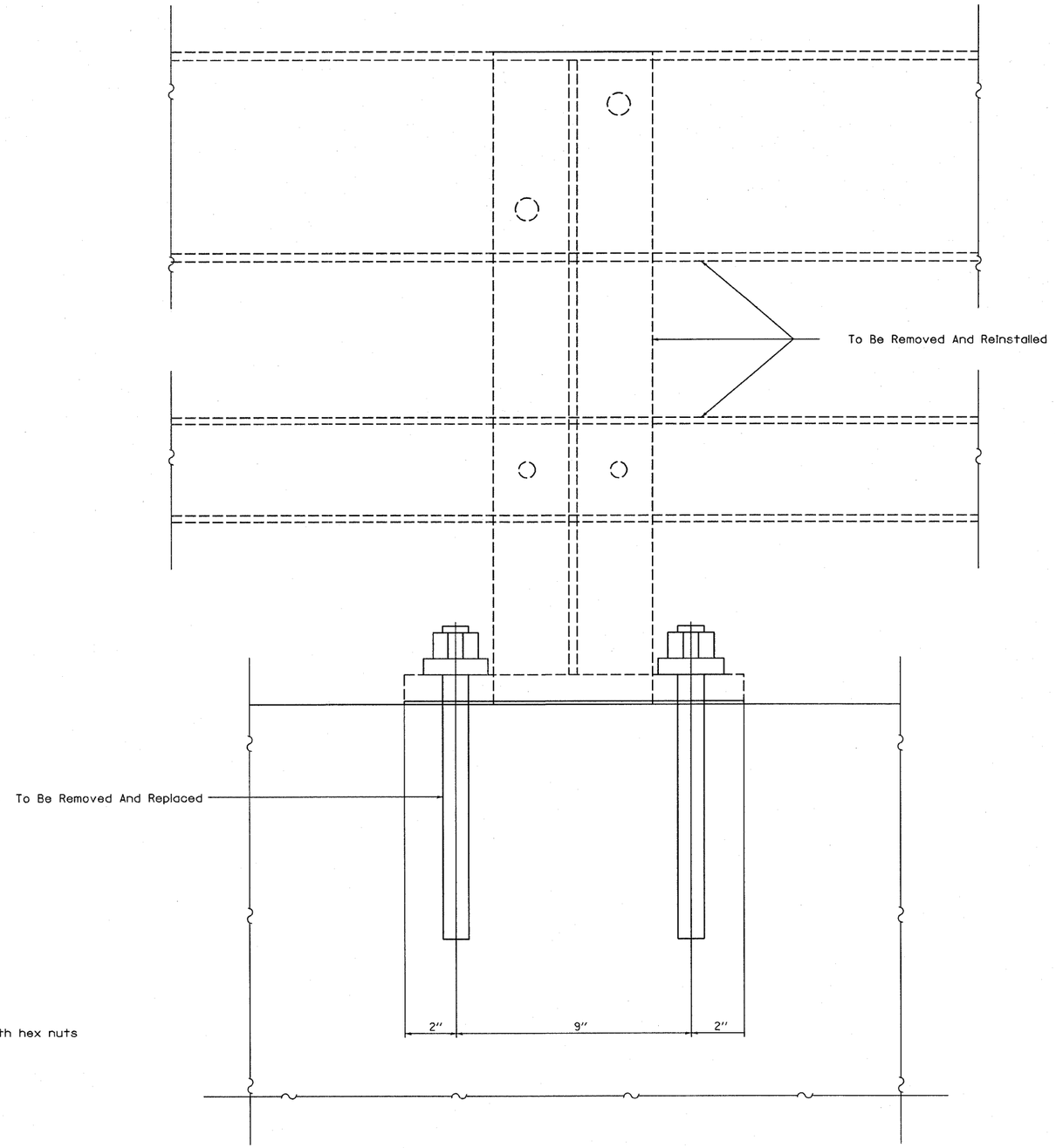
SCALE: NA | SHEET NO. 12 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	33
		CONTRACT NO. 74482		
	ILLINOIS FED. AID PROJECT			



4-1" Ø H.S. Threaded Anchor Rods with hex nuts and flat washers. Expoxy grouted.

Note: New epoxy grouted threaded anchor rods will be required at each location where posts are connected to new construction. Cost shall be included with Concrete Superstructure.



•(5-2VB-1,5-2HB,5-2VB-2)BR-2

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		DRAWN ESS	REVISED -					327	•	Richland	53	34
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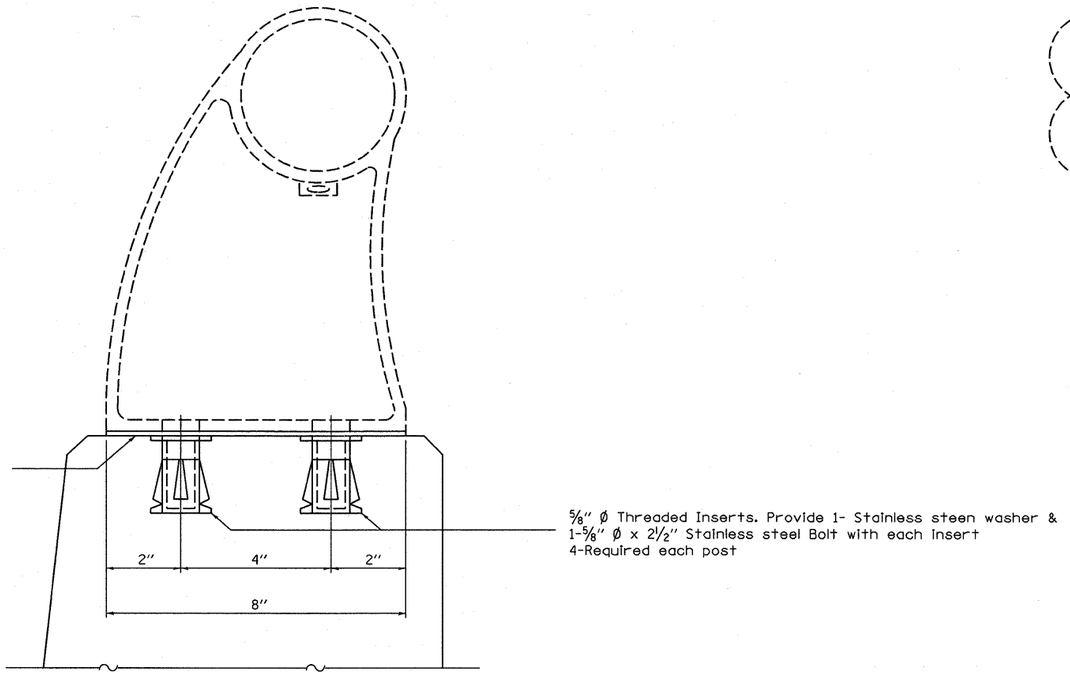

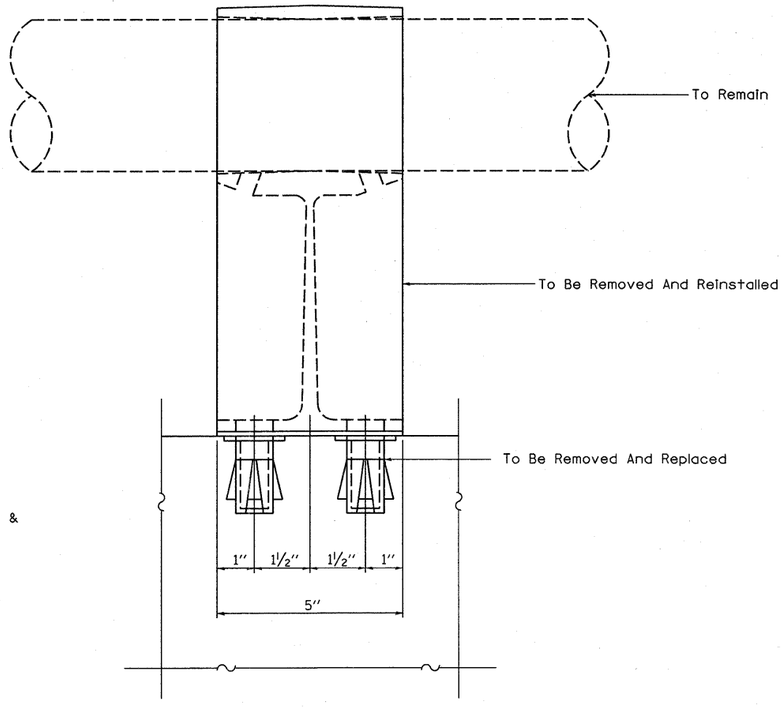

Note: New epoxy grouted threaded studs will be required at each location where posts are connected to new construction. Cost shall be included with Concrete Superstructure.

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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	PLOT DATE = 1/27/2011	DATE 12/27/2010	REVISED -

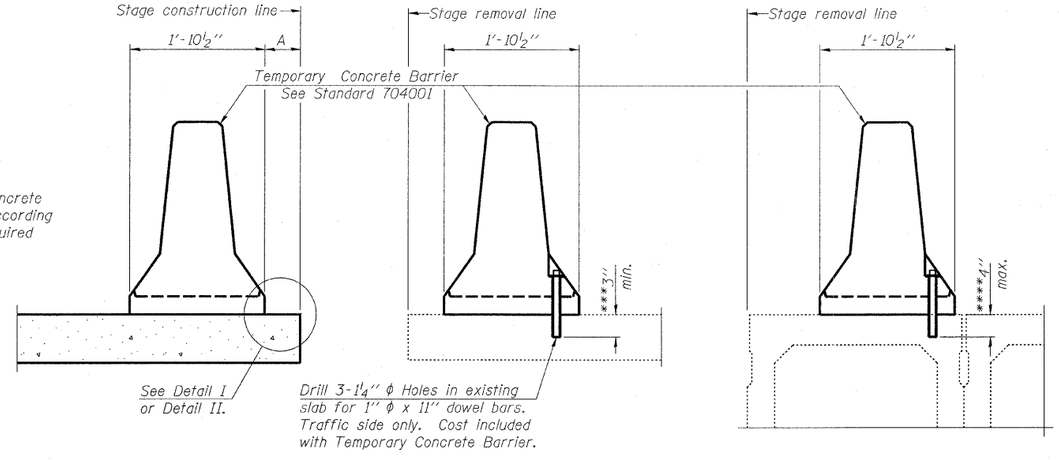
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

RAIL SUPPORT DETAILS
SN. 080-0004

SCALE: NA | SHEET NO. 14 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	35
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

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

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel ℙ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel ℙ to the concrete slab or concrete wearing surface with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

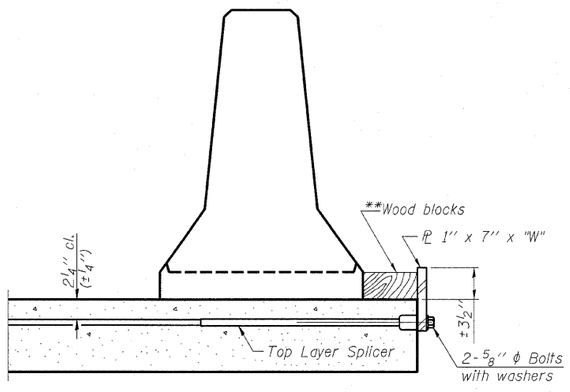
Cost of anchorage is included with Temporary Concrete Barrier.

The 1" x 7" x "W" 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.

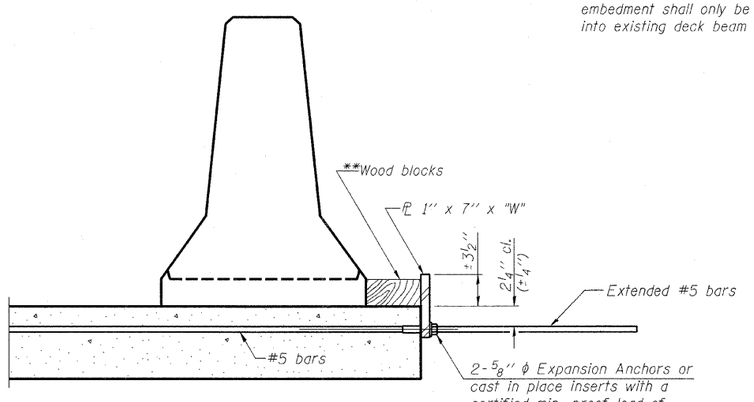
SECTIONS THRU SLAB OR DECK BEAM

*** 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.

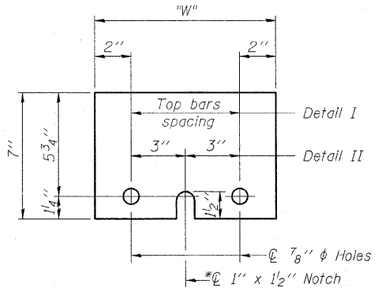
**** If existing deck beam is to remain in place after stage construction, embedment shall only be into wearing surface and not into existing deck beam concrete.



DETAIL I



DETAIL II



STEEL RETAINER ℙ 1" x 7" x "W"

* 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"

R-27

7-1-10

•(5-2VB-1,5-2HB,5-2VB-2)BR-2

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	PLOT DATE = 1/27/2011	DATE 12/2/10	REVISED -

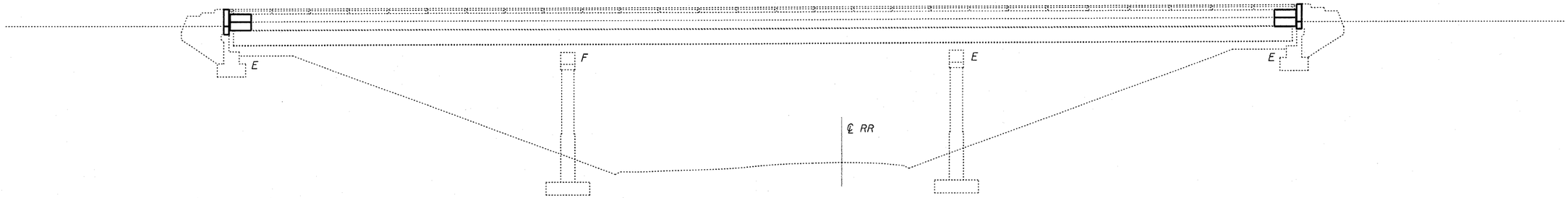
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION
STRUCTURE NO. 080-0004

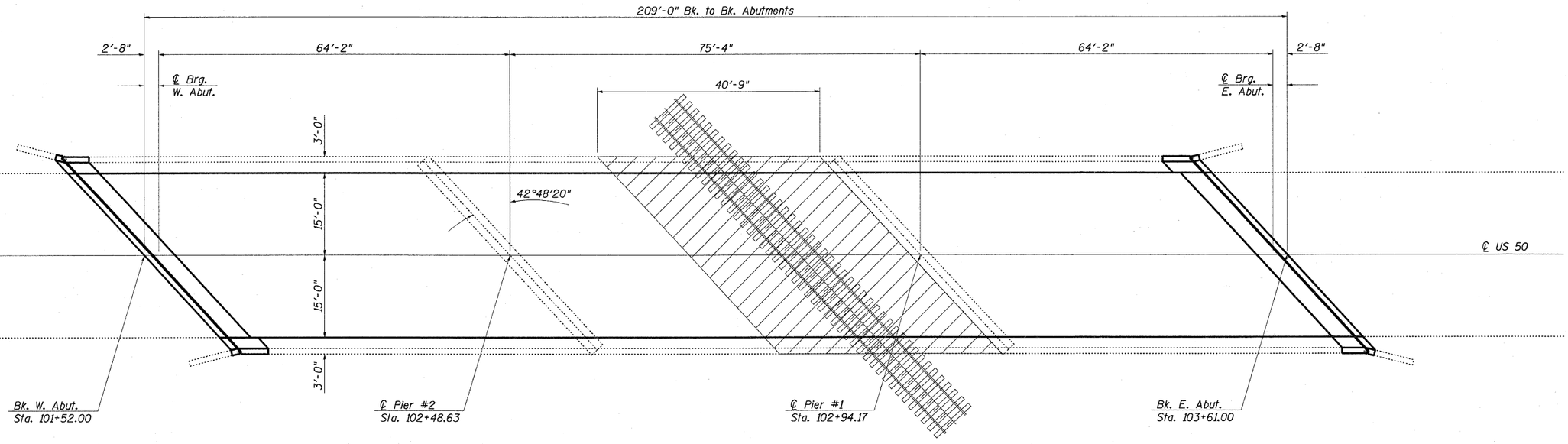
SCALE: NA | SHEET NO. 15 OF 15 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	36
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

The existing three span continuous steel multi-beam structure was constructed in 1963 as FAP 13 section 5-2VB-2 at Sta. 102+56.50. SN. 080-0005 carries FAP 327 (US 50) over the CSXT Rail Road. The proposed project consists of new expansion joints, full depth deck repair, new microsilica wearing surface, and new elastomeric bearings.



ELEVATION



LIMITS OF PROTECTIVE SHIELD

PLAN

LICENSED STRUCTURAL ENGINEER
DAVID CARL FUZEY
081-005470
SPRINGFIELD ILLINOIS
STATE OF ILLINOIS

Expires 11/30/2012

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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		DATE 12/3/2010	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	*	Richland	53	37
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

GENERAL NOTES

Plan dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the contractor's responsibility to verify dimensions and details in the field, and to make necessary approved adjustments prior to construction or material acquisition. Such variations shall not be cause for additional compensation or change in the scope of work. The contractor will be paid for the quantity actually furnished at the unit bid price for the work.

Reinforcement bars shall conform to the requirements of ASTM A 706 GRADE 60. See Special Provisions.

Reinforcement Bars designated (E) shall be epoxy coated.

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included in CONCRETE REMOVAL.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50°F.

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

The existing hot-mix asphalt wearing surface is not known to contain asbestos.

Removal and reinstallation of handrail sections and support posts at both abutment locations will be necessary for construction of the expansion joints. The existing handrail sections and support posts shall be reused and New bolts, shim plates, as detailed in the plans, are to be provided and installed for the reinstallation of the handrail and supports. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

Prior to pouring the new concrete deck, all heavy and loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain, unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel, and the cost will be included in the pay item covering removal of the existing concrete.

All structural steel shall conform to AASHTO Classification M-270 Gr. 36 unless otherwise noted.

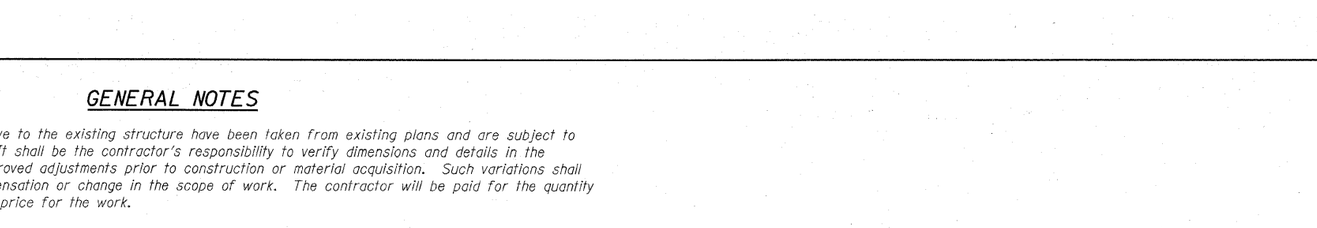
Removal and replacement of a portion of the safety walk and support posts at both abutments will be necessary for the construction of the expansion joints. This work and all materials shall be included in the contract unit price for CONCRETE SUPERSTRUCTURE.

Removal and re-installation of the curb mounted steel bridge rail at various locations will be necessary for construction of the deck repair. The existing steel bridge rail and support posts shall be reused. New anchor rods and fabric bearing pads, as details in the plans, are to provided and installed for the re-installation of the curb mounted steel bridge rail and supports. This work and all materials shall included in the contract unit price for DECK SLAB REPAIR (FULL DEPTH).

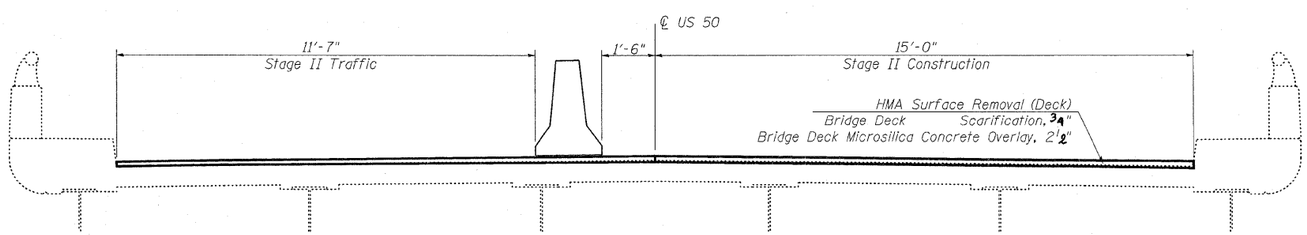
TOTAL BILL OF MATERIALS

	ITEM	UNIT	QUANTITY
	Concrete Removal	Cu. Yd.	19.6
	Concrete Superstructure	Cu. Yd.	19.6
	Reinforcement Bars, Epoxy Coated	Pound	2380
	Bar Splicers	Each	32
	Preformed Joint Strip Seal	Foot	98
	Bridge Deck Scarification, 3/4"	Sq Yd	659
	Bridge Deck Microsilica Concrete Overlay, 2 1/2"	Sq Yd	659
	Bridge Deck Grooving	Sq Yd	639
*	Protective Coat	Sq Yd	44
	Deck Slab Repair (Full Depth, Type II)	Sq Yd	30
	Structural Repair of Concrete (<5")	Sq Ft	27
	Protective Shield	Sq Yd	164
	Elastomeric Bearing Assembly, Type I	Each	6
	Elastomeric Bearing Assembly, Type II	Each	6
	Jack and Remove Existing Bearings	Each	12
	Furnishing and Erecting Structural Steel	Pound	1590
	Anchor Bolts 1"ϕ	Each	24
	HMA Surface Removal (Deck)	Sq Yd	673

* Protective coat is to be applied to the new concrete areas near the joints only.



STAGE I LOOKING EAST



STAGE II LOOKING EAST

•(5-2VB-1,5-2HB,5-2VB-2)BR-2

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	PLOT DATE = 1/27/2011	DATE 12/6/2010	REVISED -

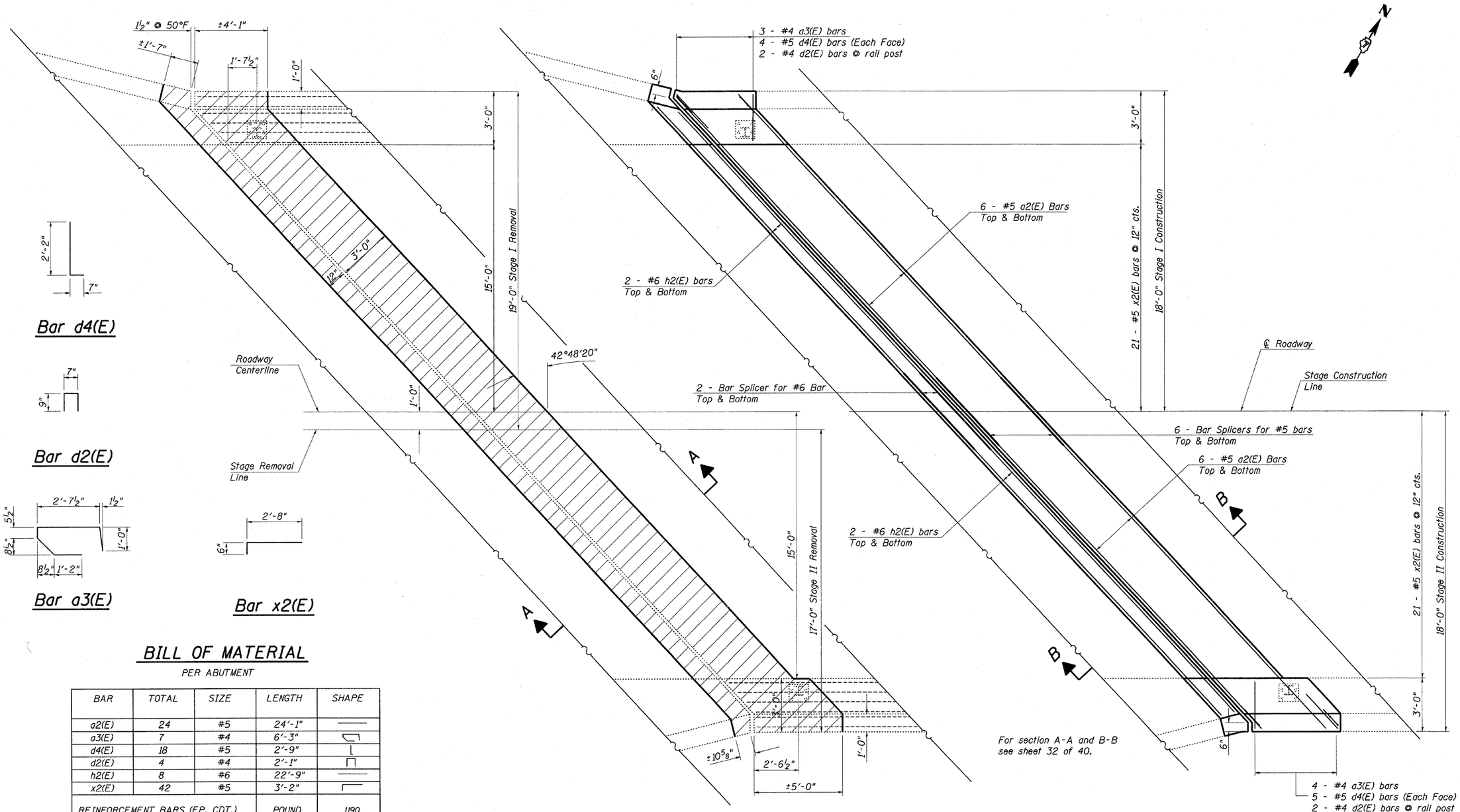
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES & BILL OF MATERIALS
SN. 080-0005

SCALE: NA | SHEET NO. 2 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	38
		CONTRACT NO. 74482		
	ILLINOIS	FED. AID PROJECT		

Hatched area indicates removal.



Bar d4(E)

Bar d2(E)

Bar a3(E)

Bar x2(E)

BILL OF MATERIAL

PER ABUTMENT

BAR	TOTAL	SIZE	LENGTH	SHAPE
a2(E)	24	#5	24'-1"	
a3(E)	7	#4	6'-3"	
d4(E)	18	#5	2'-9"	
d2(E)	4	#4	2'-1"	
h2(E)	8	#6	22'-9"	
x2(E)	42	#5	3'-2"	
REINFORCEMENT BARS (EP. CDT.)			POUND	1190
CONCRETE REMOVAL			CU YD	9.8
CONCRETE SUPERSTRUCTURE			CU YD	9.8
BAR SPLICERS			EACH	16

EXISTING PARTIAL PLAN

(West Abutment shown; East Abutment similar by rotation)

PROPOSED PARTIAL PLAN

(West Abutment shown; East Abutment similar by rotation)

•(5-2VB-1,5-2HB,5-2VB-2)BR-2

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

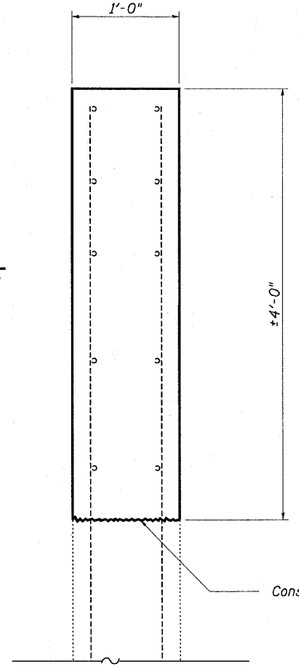
EXPANSION JOINT REPLACEMENT DETAILS
SN. 080-0005

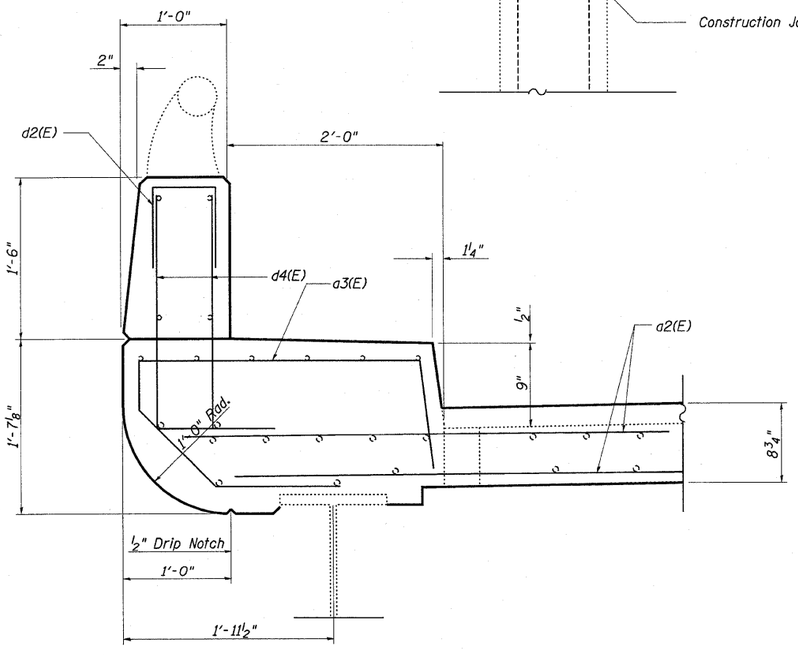
SCALE: NA | SHEET NO. 3 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	39
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

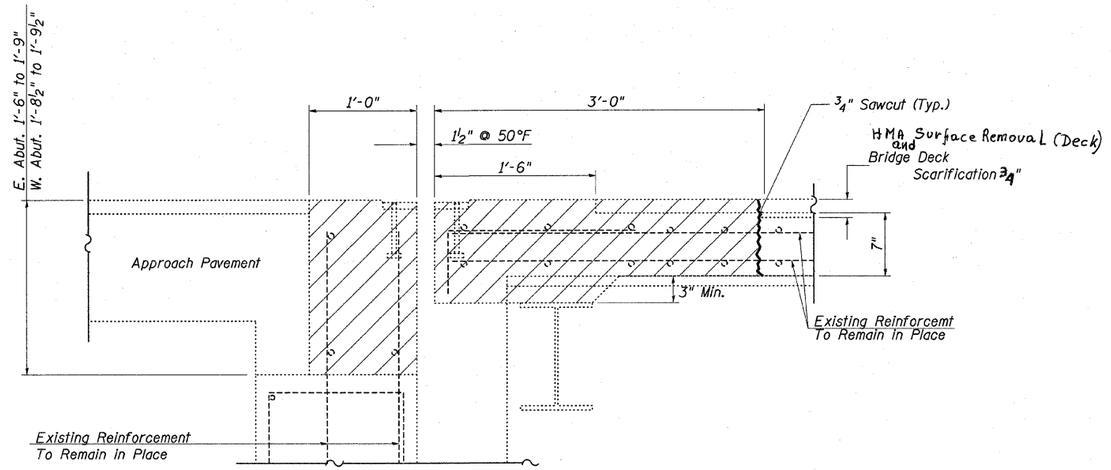
Hatching indicates removal.

TYPICAL WINGWALL REMOVAL AND REPLACEMENT





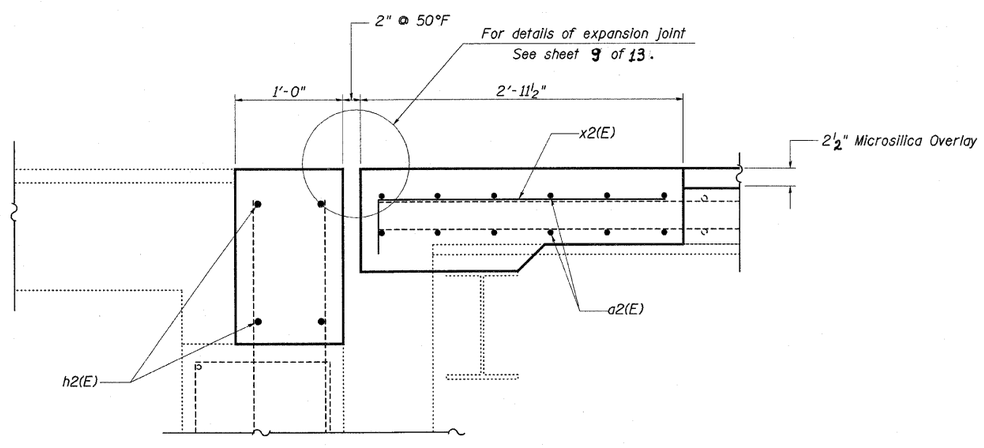
SECTION THRU PARAPET



SECTION A-A

(Dimensions at Rt. L's to end of deck)

○ Existing Reinforcement
● Proposed Reinforcement



SECTION B-B

(Dimensions at Rt. L's to end of deck)

*(5-2VB-1.5-2HB,5-2VB-2)BR-2

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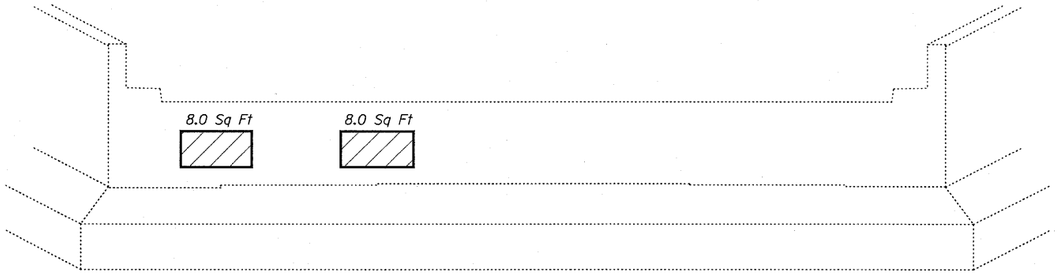
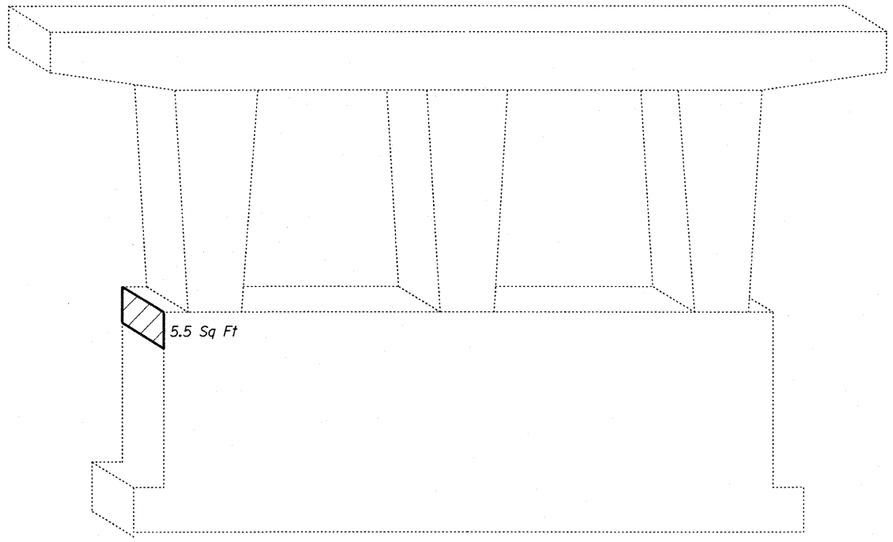
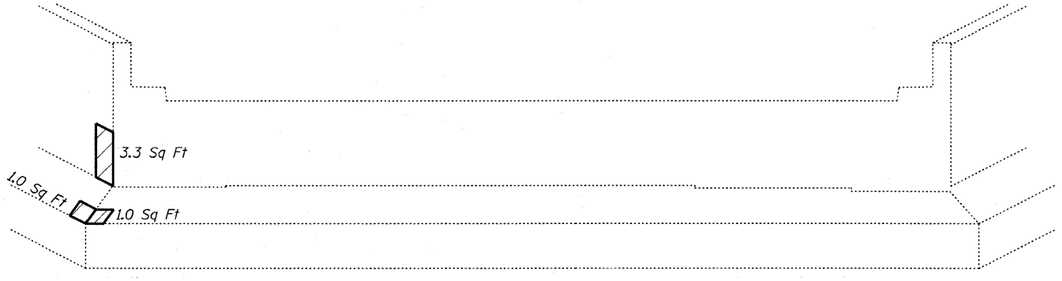
	PLOT DATE = 1/27/2011	CHECKED MEA	REVISED -					CONTRACT NO. 74482		
		DATE 12/6/2010	REVISED -		SCALE: NA / SHEET NO. 4 OF 13 SHEETS / STA. / TO STA.			ILLINOIS FED. AID PROJECT		



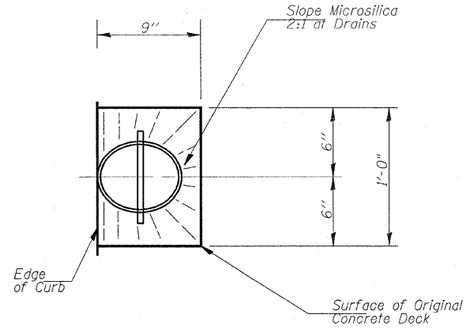
EAST ABUTMENT
(Looking East)



EAST PIER
(Looking West)



WEST ABUTMENT
(Looking West)



TOP PLAN OF MICROSILICA AT FLOOR DRAIN LOCATIONS

STRUCTURAL REPAIR OF CONCRETE (DEPTH < 5")

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

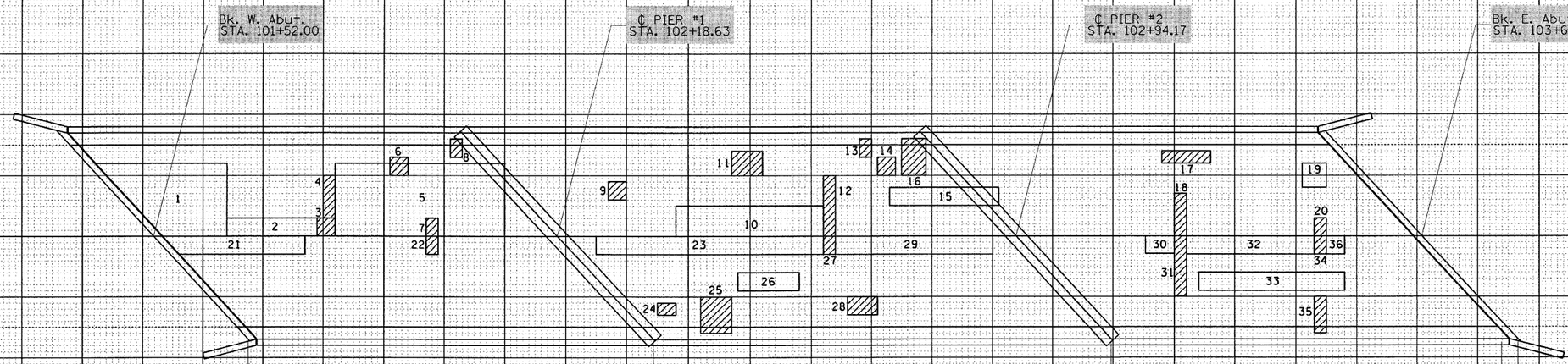
FILE NAME = c:\pw_work\pwidot\swartzrw\d0207669\D774482-sht-brdetails-0800005.dgn	USER NAME = swartzrw	DESIGNED KLB	REVISED -
		DRAWN KLB	REVISED -
	PLOT SCALE = 20.0000 ' / IN.	CHECKED MEA	REVISED -
	PLOT DATE = 1/27/2011	DATE 12/6/2010	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL REPAIR – SUBSTRUCTURE & MICROSILICA DETAIL
SN. 080-0005

SCALE: NA | SHEET NO. 5 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	41
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		



2'-8" | 64'-2" | 75'-4" | 64'-2" | 2'-8"

209'-0" BACK TO BACK OF ABUTMENT

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
1	16.5 x 12.0	198.0			
2	15.0 x 3.0	45.0			
3	3.0 x 3.0			9.0	
4	2.0 x 7.0			14.0	
5	28.0 x 12.0	336.0			
6	3.0 x 3.0			9.0	
7	2.0 x 3.0			6.0	
8	2.0 x 3.0			6.0	
9	3.0 x 3.0			9.0	
10	24.0 x 5.0	120.0			
11	5.0 x 4.0			20.0	
12	2.0 x 10.0			20.0	
13	2.0 x 3.0			6.0	
14	3.0 x 3.0			9.0	
15	18.0 x 3.0	54.0			
16	4.0 x 6.0			24.0	
17	8.0 x 2.0			16.0	

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
18	2.0 x 7.0			14.0	
19	4.0 x 4.0	16.0			
20	2.0 x 3.0			6.0	
21	22.5 x 3.0	67.5			
22	2.0 x 3.0			6.0	
23	37.0 x 3.0	111.0			
24	3.0 x 3.0			9.0	
25	5.0 x 6.0			30.0	
26	10.0 x 3.0	30.0			
27	2.0 x 3.0			6.0	
28	4.0 x 3.0			12.0	
29	26.0 x 3.0	78.0			
30	5.0 x 3.0	15.0			
31	2.0 x 10.0			20.0	
32	21.0 x 3.0	63.0			
33	24.0 x 3.0	72.0			
34	2.0 x 3.0			6.0	

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	
35	2.0 x 6.0			12.0	
36	3.0 x 3.0	9.0			
	TOTAL	1215	0	269	
	PARTIAL DEPTH				
	(FOR INFORMATION ONLY)				
	1215 / 9 =	134.9			
	USE	135	SQ YD		
	FULL DEPTH, TYPE 1				
	0 / 9 =	0.0			
	USE	0	SQ YD		
	FULL DEPTH, TYPE 2				
	269 / 9 =	29.9			
	USE	30	SQ YD		

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	

PATCH NO.	SIZE	DECK SLAB REPAIR (PART DEPTH) SQ YD	DECK SLAB REPAIR (FD TY 1) SQ YD	DECK SLAB REPAIR (FD TY 2) SQ YD	

THE LOCATIONS AND SIZES SHOWN GRAPHICALLY ABOVE ARE APPROXIMATE. SEE THIS TABLE FOR ACTUAL SIZES.

PATCHING LEGEND

PARTIAL DEPTH (FOR INFORMATION ONLY)

FULL DEPTH

DATE OF SURVEY: 09-15-10
SURVEY BY: MEA, ESS, KLB
METHOD OF SURVEY: VISUAL

BRIDGE DECK PATCHING
RICHLAND COUNTY
LOCATION

SN 080-0005

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

005

FILE NAME = c:\pw_work\pwidot\swartzrw\d0207669\D774482-sht-brpatch-0000025.dgn	USER NAME = swartzrw	DESIGNED KLB	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	DRAWN KLB	REVISED -
	PLOT DATE = 1/27/2011	CHECKED MEA	REVISED -
		DATE 12/6/2010	REVISED -

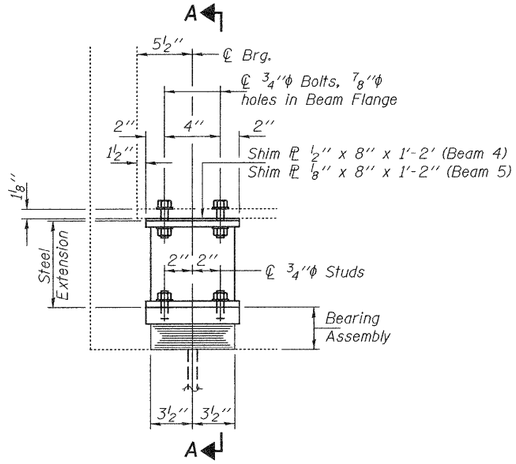
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING
SN. 080-0005

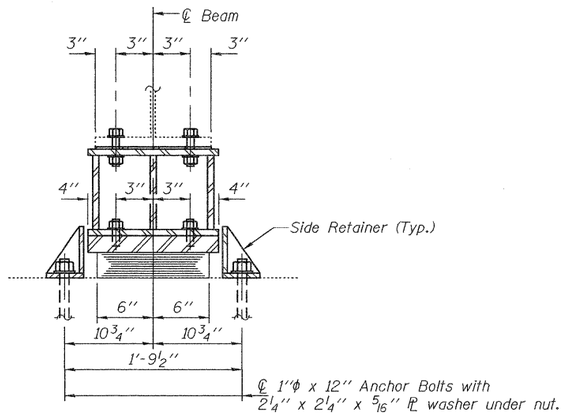
SCALE: NA | SHEET NO. 6 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	*	Richland	53	42
		CONTRACT NO. 74482		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

BRIDGE DECK PATCHING



ELEVATION AT ABUTMENT



SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

BEAM REACTIONS

RP	(K)	28.3
RA	(K)	34.5
Imp.	(K)	9.1
R (Total)	(K)	71.9

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

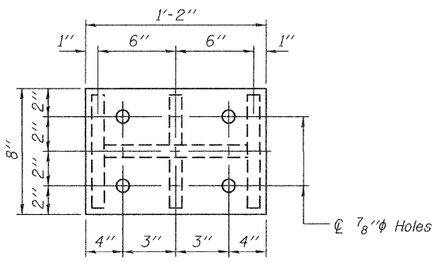
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Min. jack capacity = 40 Tons.

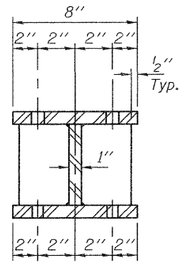
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

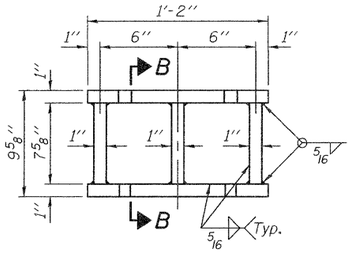
Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type I.



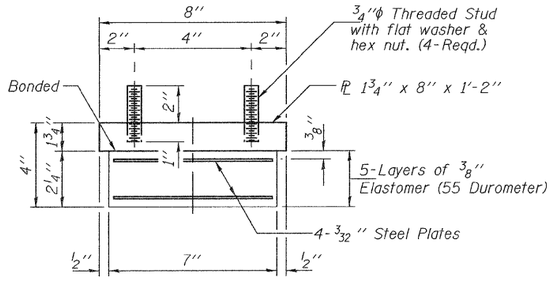
PLAN TOP AND BOTTOM PLATE



SECTION B-B



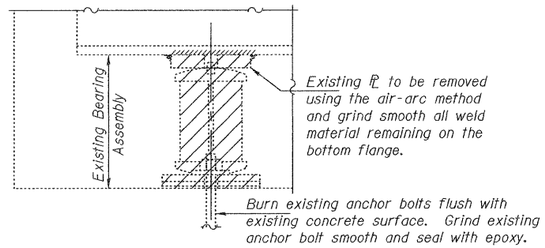
STEEL EXTENSION DETAIL



BEARING ASSEMBLY

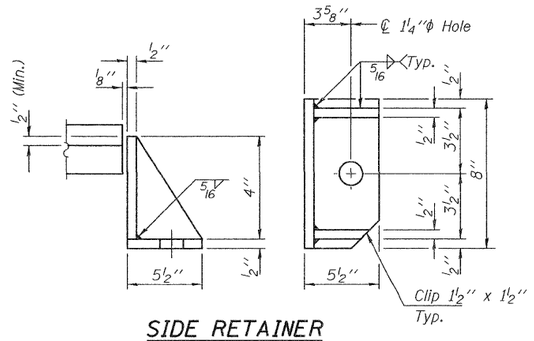
Note:

Shim plates shall not be placed under Bearing Assembly.



EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.



SIDE RETAINER

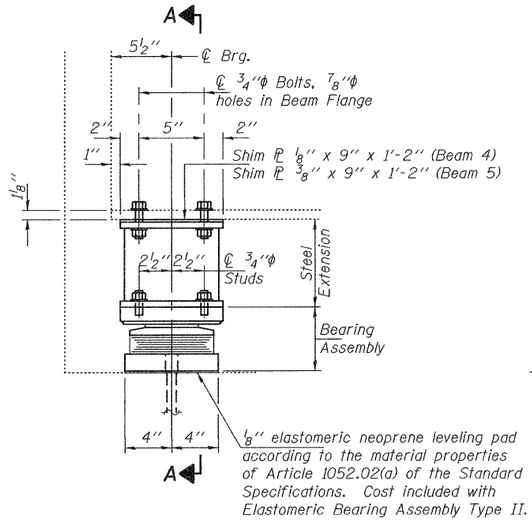
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

BILL OF MATERIAL

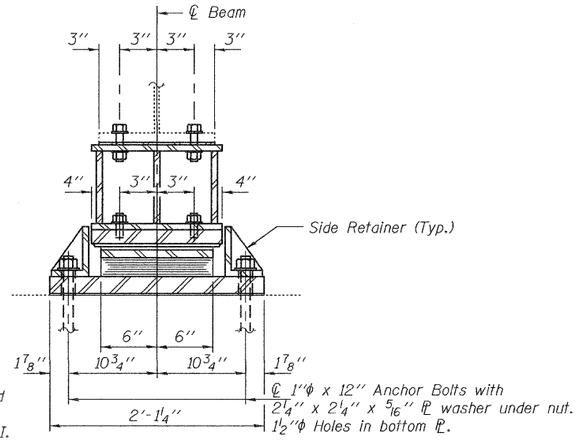
Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	6
Jack and Remove Existing Bearings	Each	6
Furnishing and Erecting Structural Steel	Pound	820
Anchor Bolts 1"ϕ	Each	12

TYI/REPS

DESIGNED - ADY	EXAMINED	ACTING ENGINEER OF STRUCTURAL SERVICES	DATE - MARCH 14, 2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARING REPLACEMENT DETAILS AT WEST ABUTMENT SN 080-0005	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - DAB	PASSED	ACTING ENGINEER OF BRIDGES AND STRUCTURES			SHEET NO. 1 OF 2 SHEETS	99	(5-2VB-1; 5-2HB, 5-2VB-2)BR-2	RICHLAND	53	43
DRAWN - Kyle M. Steffen								CONTRACT NO. 74482		
CHECKED - ADY DAB								ILLINOIS FED. AID PROJECT		



ELEVATION AT ABUTMENT



SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG.

BEAM REACTIONS

RL	(K)	28.3
Rt	(K)	34.5
Imp.	(K)	9.1
R (Total)	(K)	71.9

Notes:

Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.

New steel extensions, shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.

Min. jack capacity = 40 Tons.

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

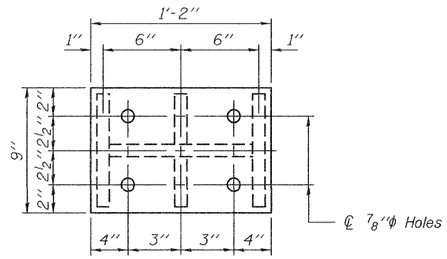
Anchor bolts for Type II bearings shall be placed in holes drilled through the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

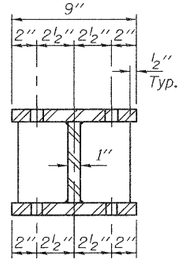
Side retainers shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The ⅛" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

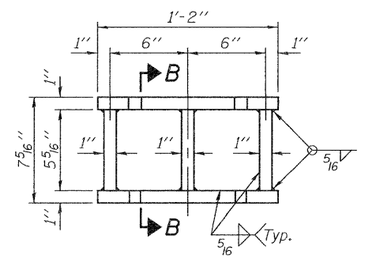
Bonding of ⅛" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



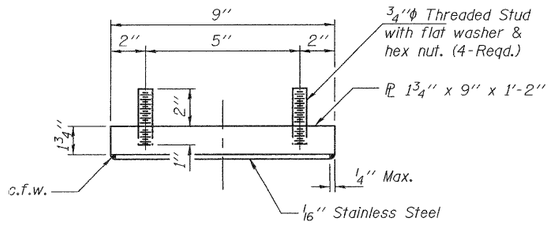
PLAN TOP AND BOTTOM PLATE



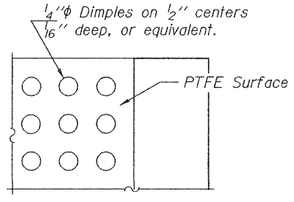
SECTION B-B



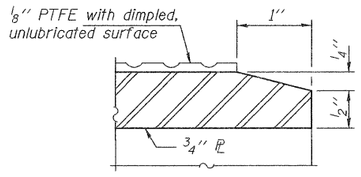
STEEL EXTENSION DETAIL



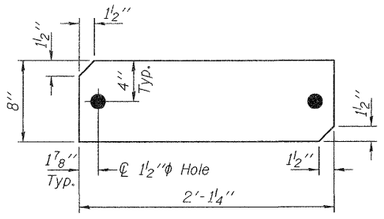
TOP BEARING ASSEMBLY



PLAN-PTFE SURFACE

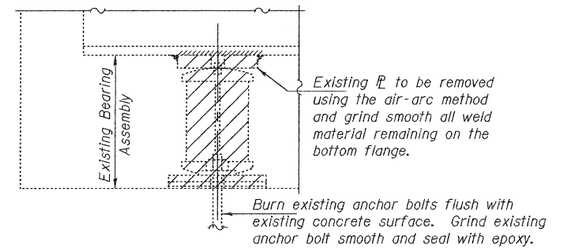


SECTION THRU PTFE



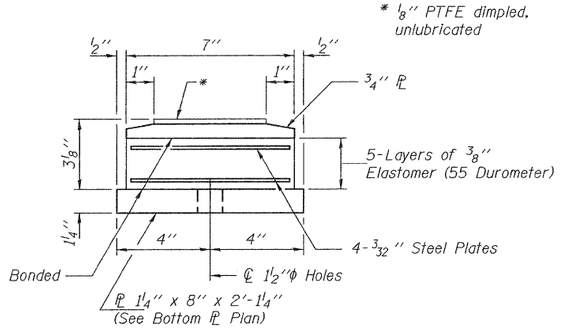
BOTTOM PL PLAN

PL 1¼" x 8" x 2'-1¼" (6 Required)

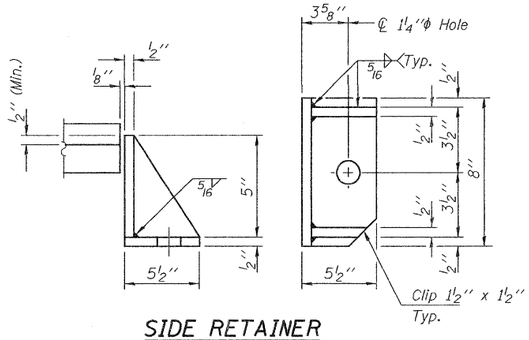


EXISTING BEARING REMOVAL DETAIL

Cost included with Jack and Remove Existing Bearings.

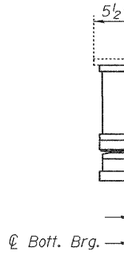


BOTTOM BEARING ASSEMBLY



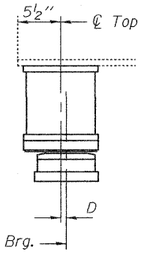
SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BELOW 50° F.

(Move bott. brg. away from fixed brg.)



ABOVE 50° F.

(Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = ⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type II	Each	6
Jack and Remove Existing Bearings	Each	6
Furnishing and Erecting Structural Steel	Pound	770
Anchor Bolts 1"ϕ	Each	12

TYII/REPS

DESIGNED	-	ADY	
CHECKED	-	DAB	
DRAWN	-	Kyle M. Steffen	
CHECKED	-	ADY	DAB

EXAMINED — Joyce F. Schiltz, ACTING ENGINEER OF STRUCTURAL SERVICES

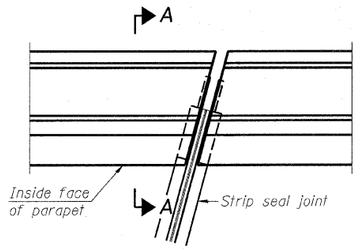
PASSED — A. Carl Langer, ACTING ENGINEER OF BRIDGES AND STRUCTURES

DATE - MARCH 14, 2011

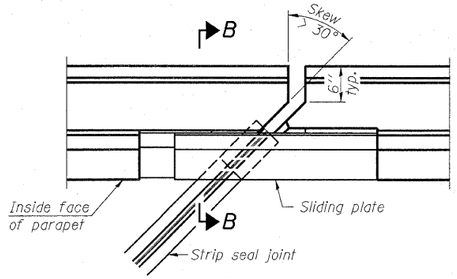
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING REPLACEMENT DETAILS AT EAST ABUTMENT
SN 080-0005
SHEET NO. 2 OF 2 SHEETS

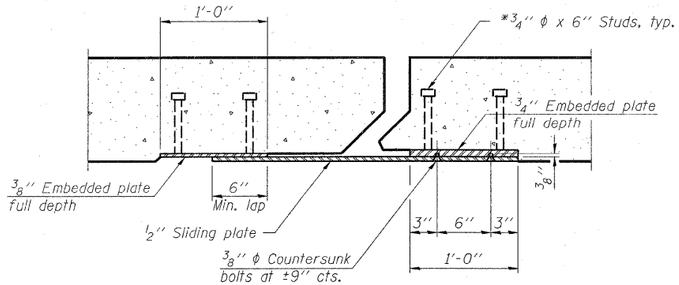
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
99	(5-2VB-1; 5-2HB, 5-2VB-2)BR-2	RICHLAND	53	44
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		



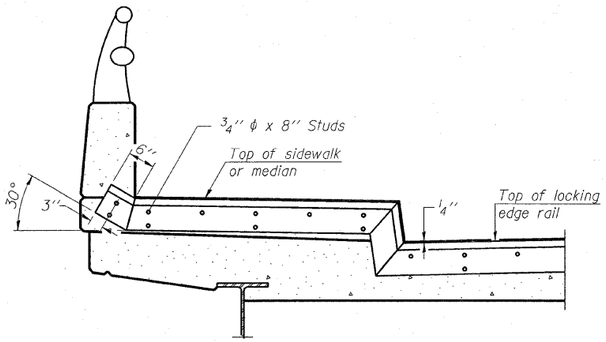
PLAN
(For skews ≤ 30°)



PLAN
(For skews > 30°)
Showing point block

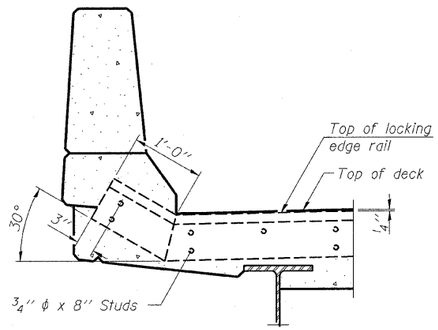


SECTION C-C

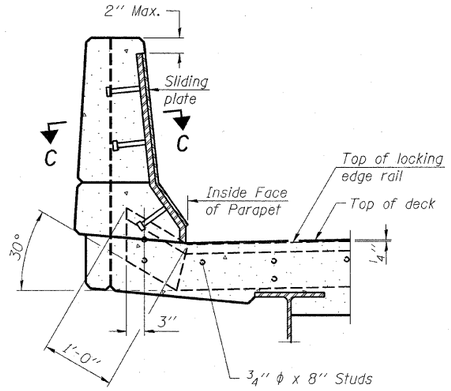


TYPICAL END TREATMENT AT SIDEWALK OR MEDIAN

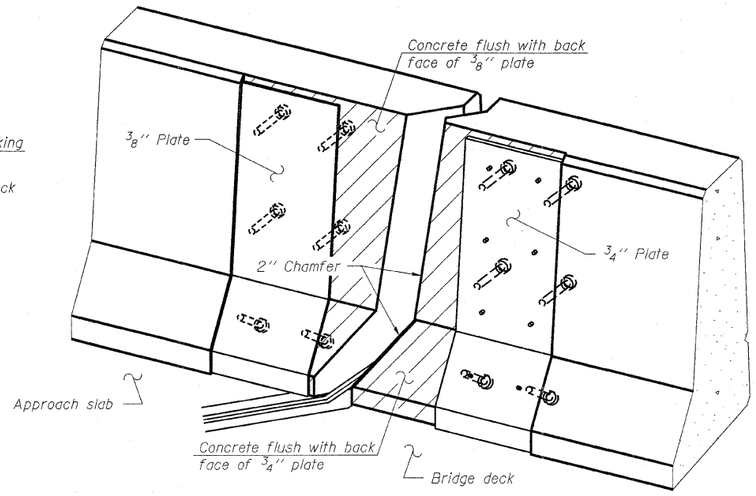
Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



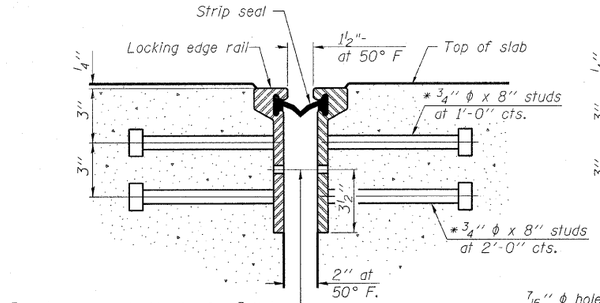
SECTION A-A



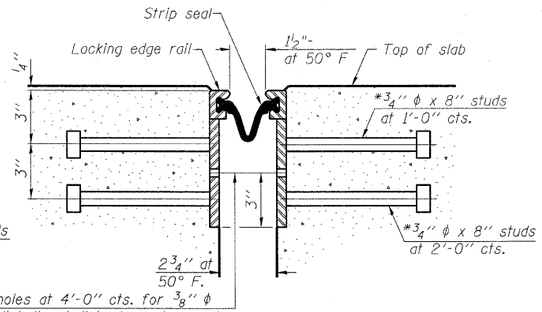
SECTION B-B



TRIMETRIC VIEW
(Showing back plates only)

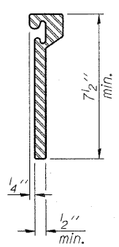


SECTION THRU ROLLED RAIL JOINT

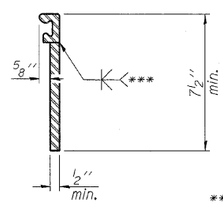


SECTION THRU WELDED RAIL JOINT

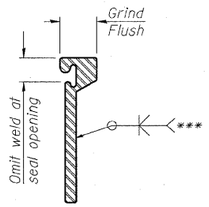
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



ROLLED EXTRUDED RAIL



WELDED RAIL



*** Back gouge not required if complete joint penetration is verified by mock-up.

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

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.

Parapet plates and anchorage studs for skews > 30° included in the cost of Preformed Joint Strip Seal.

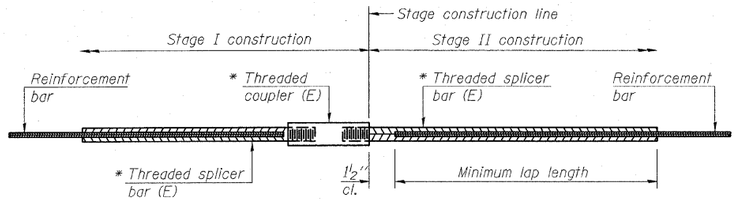
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	98.0

EJ-SSJ 7-1-10

•(5-2VB-1,5-2HB,5-2VB-2)BR-2

FILE NAME = c:\pw_work\pwidot\swartzrw\d0207669\D774482-sht-brdetails-0800005.dgn	USER NAME = swartzrw	DESIGNED KLB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PREFORMED JOINT STRIP SEAL STRUCTURE NO. 080-0005			F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = 20.0000 ' / IN.	DRAWN KLB	REVISED -					327	•	Richland	53	45
	PLOT DATE = 1/27/2011	CHECKED MEA	REVISED -							CONTRACT NO. 74482		
		DATE 12/6/2010	REVISED -		SCALE: NA	SHEET NO. 9 OF 13 SHEETS	STA. TO STA.			ILLINOIS FED. AID PROJECT		



STANDARD BAR SPLICER ASSEMBLY

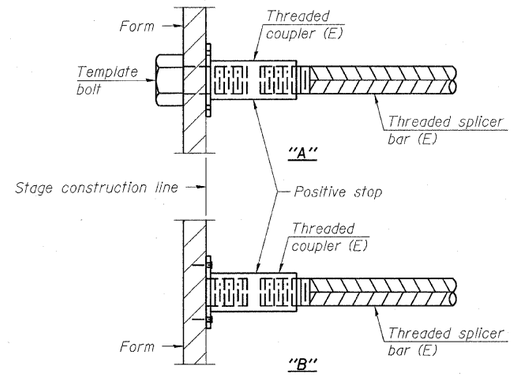
Minimum Lap Lengths					
Bar size to be spliced	Table 1	Table 2	Table 3	Table 4	Table 5
3, 4	1'-5"	1'-11"	2'-1"	2'-4"	2'-3"
5	1'-9"	2'-5"	2'-7"	2'-11"	2'-10"
6	2'-1"	2'-11"	3'-1"	3'-6"	3'-4"
7	2'-9"	3'-10"	4'-2"	4'-8"	4'-6"
8	3'-8"	5'-1"	5'-5"	6'-2"	5'-10"
9	4'-7"	6'-5"	6'-10"	7'-9"	7'-5"

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
Table 5: Epoxy bar, Top bar lap, Class B

Threaded splicer bar length = min. lap length + 1½" + thread length

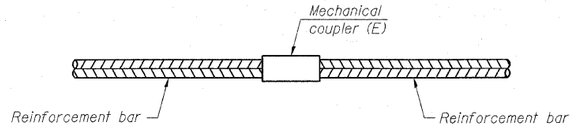
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Table for minimum lap length
Deck	#5	24	Table 3
Hatchblock	#6	8	Table 3



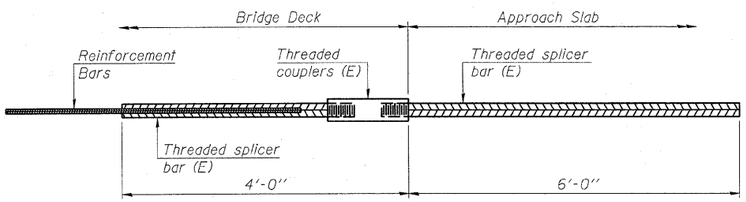
INSTALLATION AND SETTING METHODS

"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.



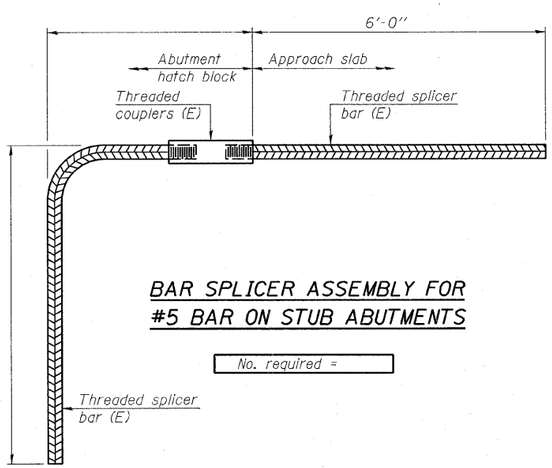
STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



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

No. 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.

BSD-1 7-1-10

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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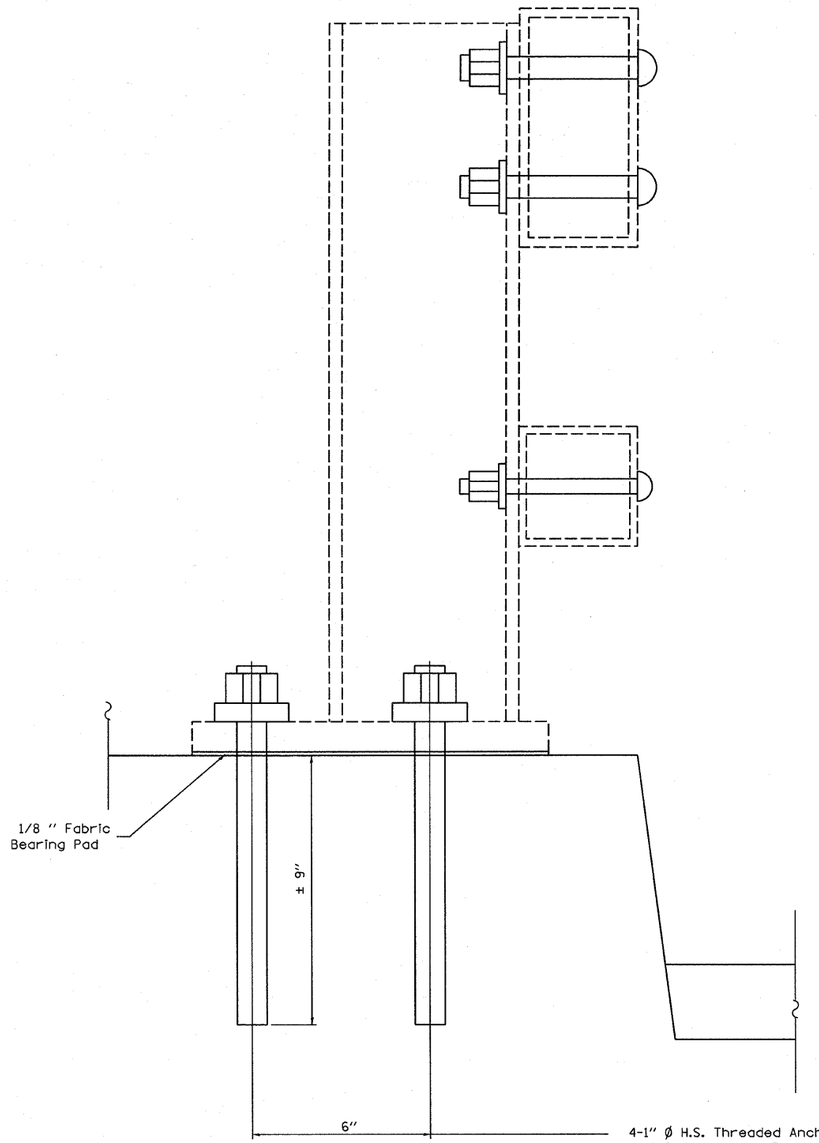
		DRAWN KLB	REVISED -
	PLOT SCALE = 20.0000 ' / IN.	CHECKED MEA	REVISED -
	PLOT DATE = 1/27/2011	DATE 12/6/2010	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 080-0005

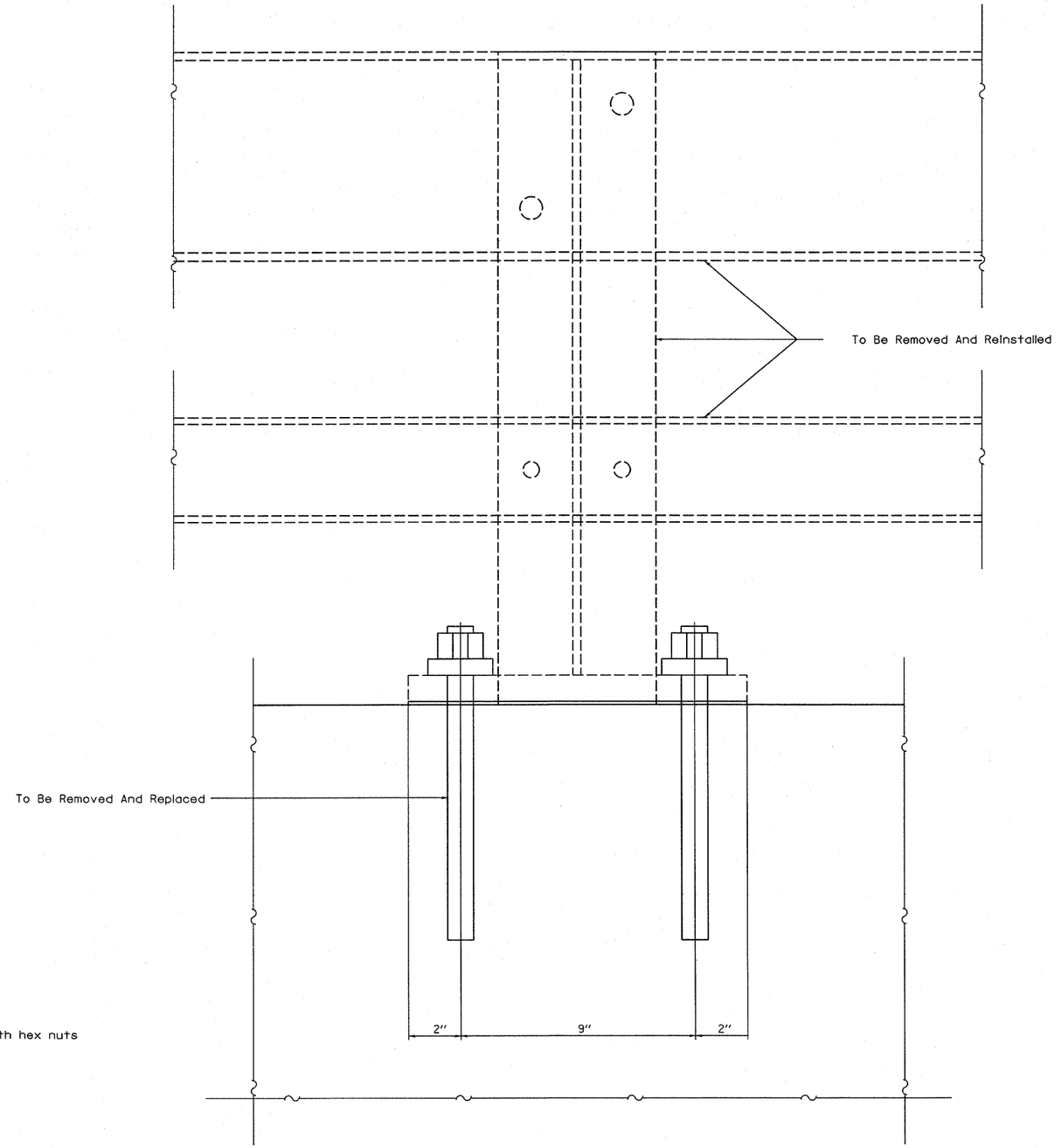
SCALE: NA | SHEET NO. 10 OF 13 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	Richland	53	46
		CONTRACT NO. 74482		
	ILLINOIS FED. AID PROJECT			



4-1" Ø H.S. Threaded Anchor Rods with hex nuts and flat washers. Expoxy grouted.

Note: New epoxy grouted threaded anchor rods will be required at each location where posts are connected to new construction. Cost shall be included with Concrete Superstructure.



*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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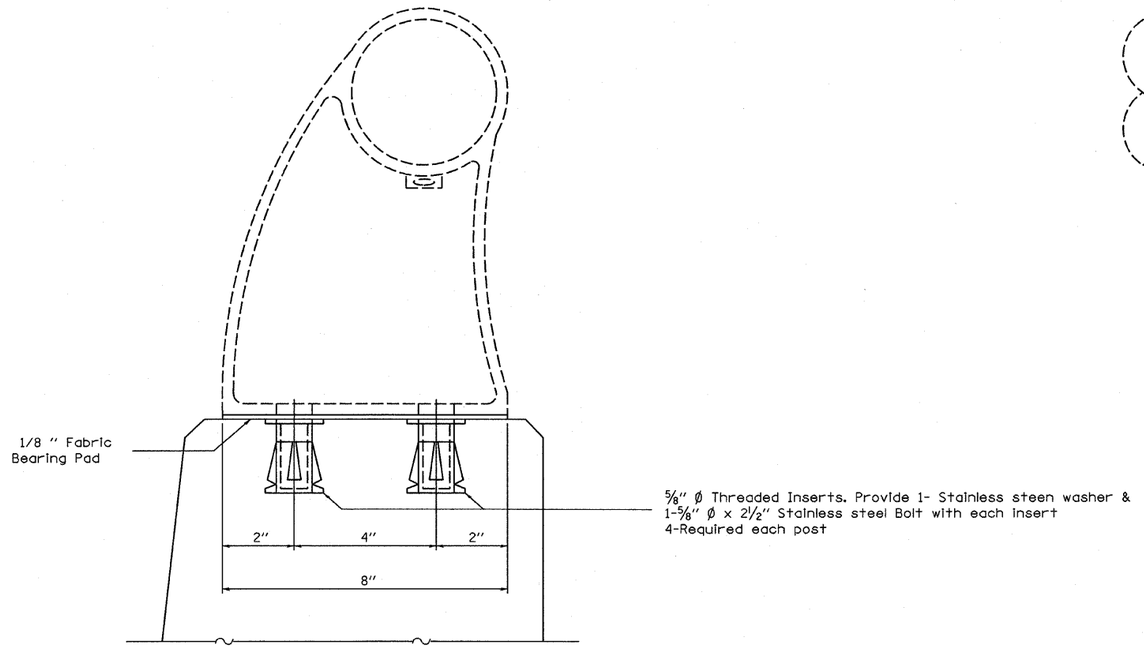

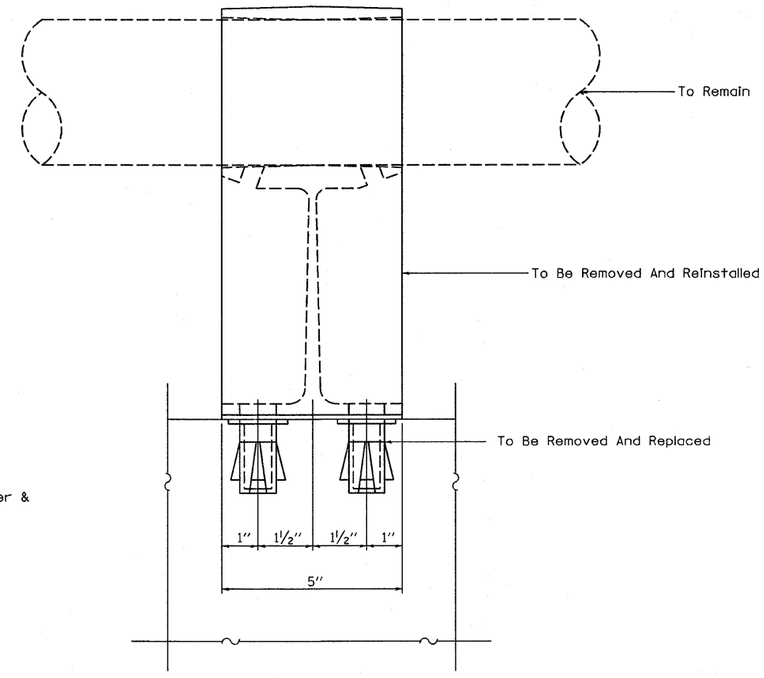

Note: New epoxy grouted threaded studs will be required at each location where posts are connected to new construction. Cost shall be included with Concrete Superstructure.

*(5-2VB-1,5-2HB,5-2VB-2)BR-2

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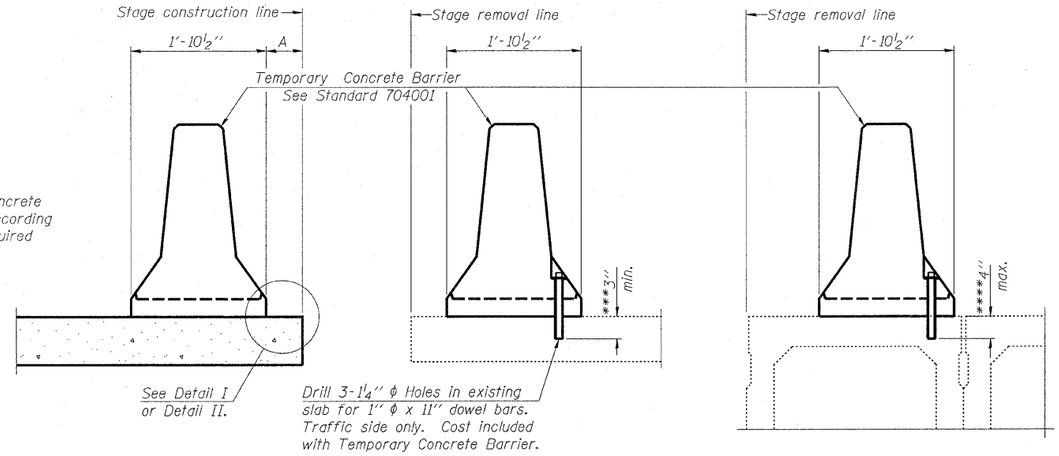
		DATE 12/27/2010	REVISED -		SCALE: NA	SHEET NO. 12 OF 13 SHEETS	STA. TO STA.			ILLINOIS FED. AID PROJECT		

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

NOTES

Detail I - With Bar Splicer or Couplers:
Connect one (1) 1" x 7" x "W" steel ℙ to the top layer of couplers with 2-⅝" ϕ bolts screwed to coupler at approximate ℄ of each barrier panel.

Detail II - With Extended Reinforcement Bars:
Connect one (1) 1" x 7" x "W" steel ℙ to the concrete slab or concrete wearing surface with 2-⅝" ϕ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate ℄ of each barrier panel.

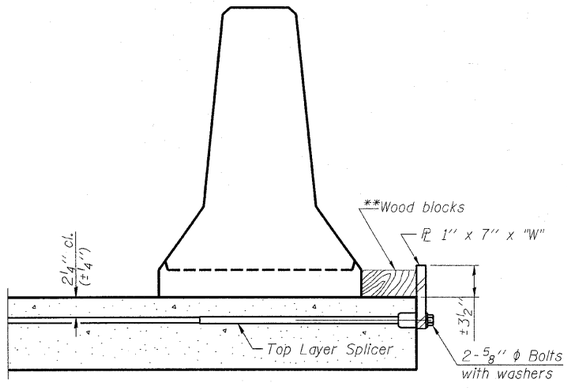
Cost of anchorage is included with Temporary Concrete Barrier.

The 1" x 7" x "W" 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.

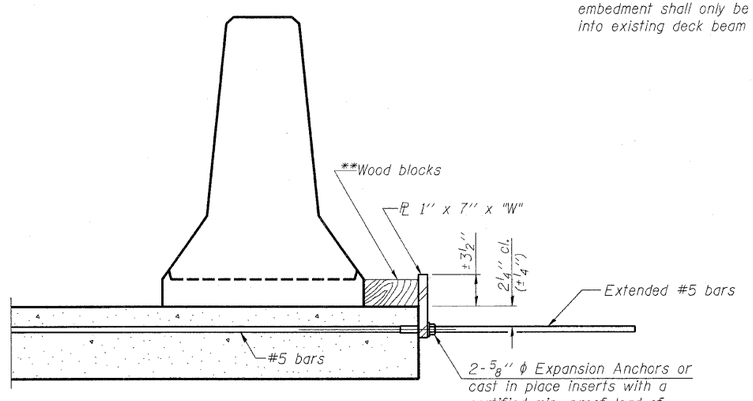
SECTIONS THRU SLAB OR DECK BEAM

*** 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.



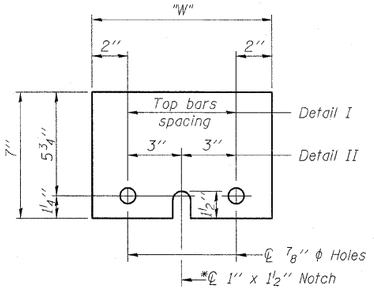
DETAIL I



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 ℙ 1" x 7" x "W"

* Required only with Detail II

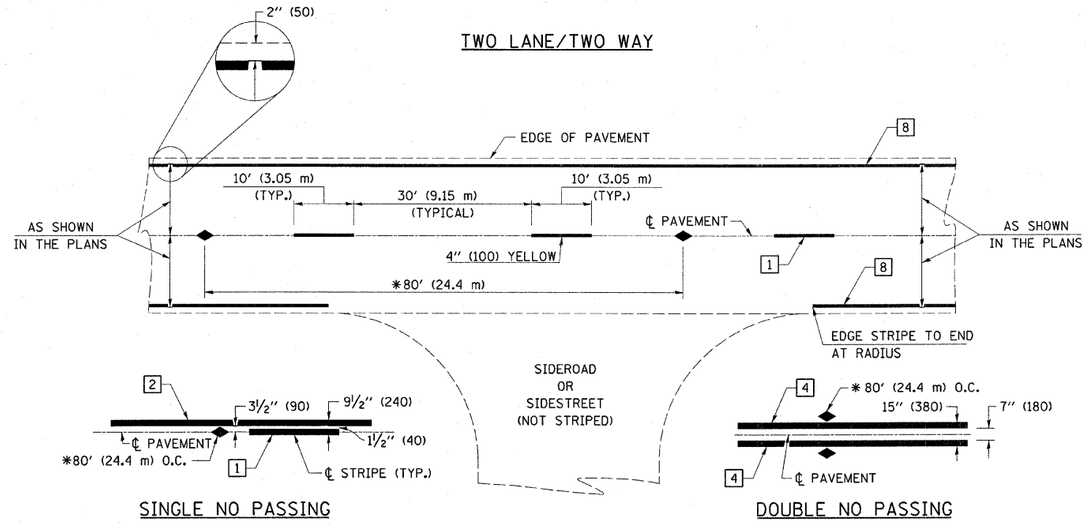
R-27

7-1-10

*(5-2VB-1.5-2HB.5-2VB-2)BR-2

FILE NAME = c:\pw_work\pwidot\swartzrw\d0207669\D774482-sht-brdetails-0800005.dgn	USER NAME = swartzrw	DESIGNED KLB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY CONCRETE BARRIER FOR STAGE CONSTRUCTION STRUCTURE NO. 080-0005	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS / SHEET NO.
	PLOT SCALE = 20.0000 ' / IN.	DRAWN KLB	REVISED -			327	•	Richland	53 / 49
	PLOT DATE = 1/27/2011	CHECKED MEA	REVISED -					CONTRACT NO. 74482	
		DATE 12/6/2010	REVISED -		SCALE: NA / SHEET NO. 13 OF 13 SHEETS / STA. / TO STA.			ILLINOIS FED. AID PROJECT	

TWO LANE/TWO WAY



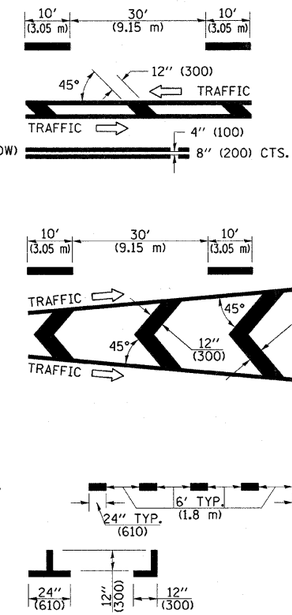
SINGLE NO PASSING

DOUBLE NO PASSING

* REDUCE TO 40' (12.2 m) O.C. ON CURVES WITH POSTED OR ADVISORY SPEEDS OF 45 mph (70 km/h) OR LESS.

PAVEMENT MARKING LEGEND

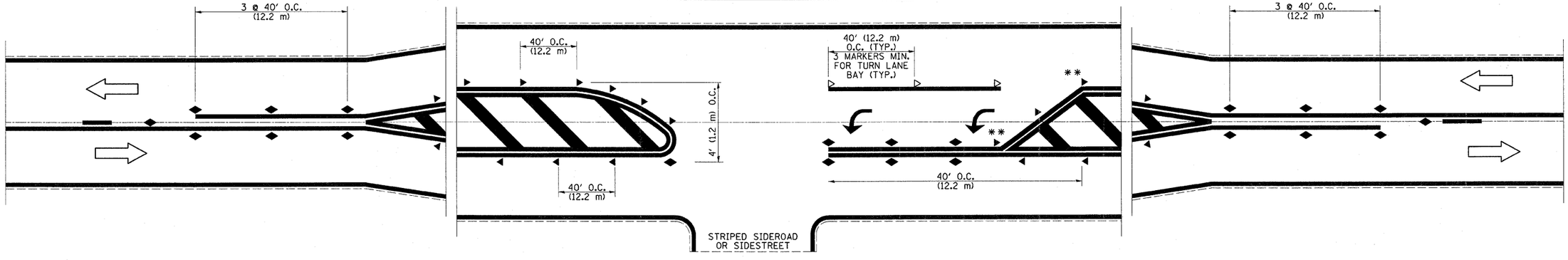
1. 4" (100) SKIP-DASH (YELLOW)
2. 4" (100) SOLID (YELLOW)
3. 12" (300) DIAGONAL (YELLOW)
4. 4" (100) DOUBLE YELLOW (NARROW)
5. RESERVED
6. RESERVED
7. 6" (150) SKIP-DASH (WHITE)
8. 4" (100) SOLID (WHITE)
9. 12" (300) DIAGONAL (WHITE)
10. 6" (150) SOLID (WHITE)
11. 24" (600) STOP BAR (WHITE)
12. 8" (200) SOLID (WHITE)
13. 6" (100) LANE LINE EXTENSIONS
14. 4" (100) PARKING WHITE



TYPICAL PAVEMENT MARKERS LEGEND

- ◆ TWO-WAY AMBER MARKER
- ▶ ONE-WAY AMBER MARKER
- ▷ ONE-WAY CRYSTAL MARKER

RAISED REFLECTIVE PAVEMENT MARKERS



** REDUCE SPACING IF NECESSARY TO ASSURE MARKERS AT CORNER POINTS.

NOT TO SCALE

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

• (5-2VB-1,5-2HB,5-2VB-2)BR-2

DISTRICT 7 DETAIL NO. 78000001

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		DRAWN -	REVISED -
	PLOT SCALE = 50.0000 ' / IN.	CHECKED -	REVISED -
	PLOT DATE = 1/27/2011	DATE -	REVISED -

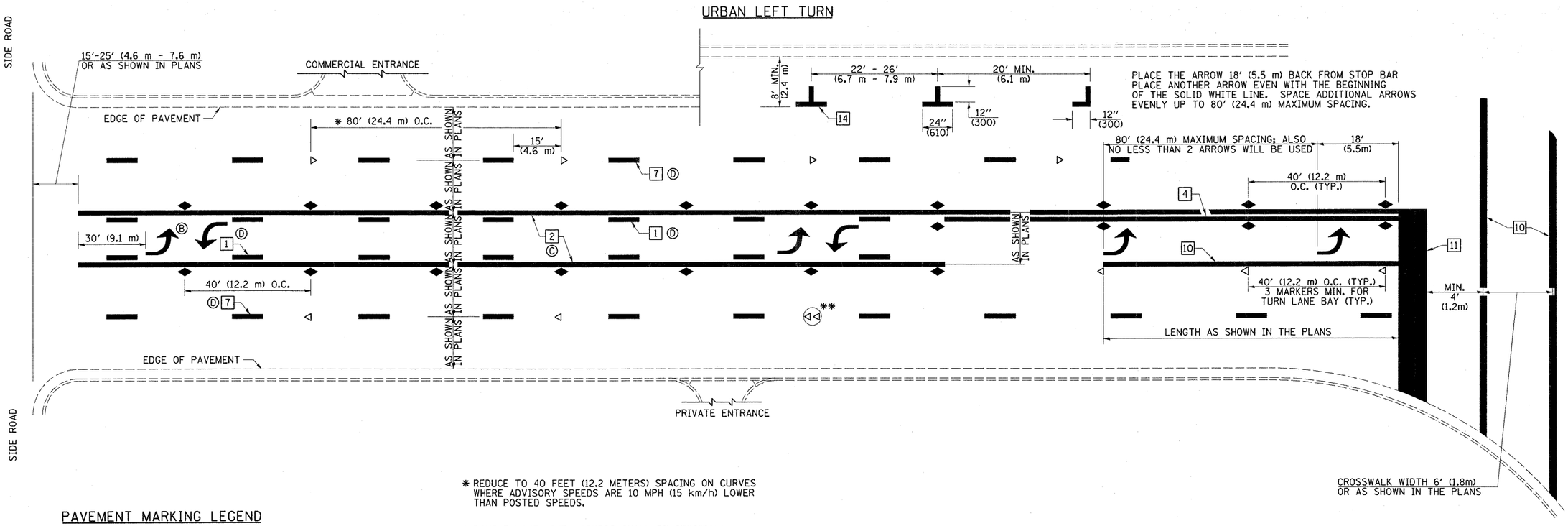
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS (RURAL & URBAN APPLICATIONS)

SCALE: | SHEET NO. 1 OF 4 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	RICHLAND	53	50
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

URBAN LEFT TURN

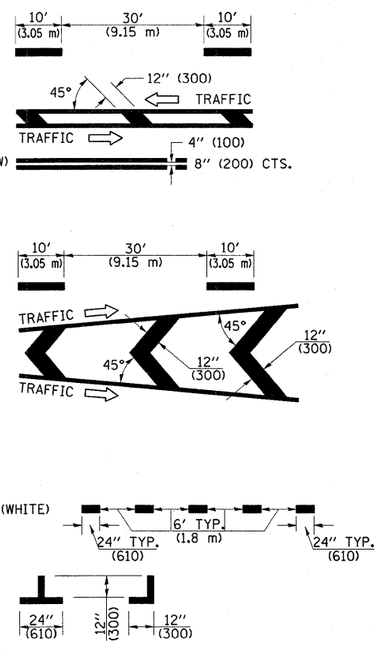


* REDUCE TO 40 FEET (12.2 METERS) SPACING ON CURVES WHERE ADVISORY SPEEDS ARE 10 MPH (15 km/h) LOWER THAN POSTED SPEEDS.

** DOUBLE LANE LINE MARKERS SHALL BE SPECIFIED AND SPACED AS SHOWN IN HIGHWAY STANDARD 781001 FOR MULTI-LANE DIVIDED AND UNDIVIDED HIGHWAYS.

PAVEMENT MARKING LEGEND

1. 4" (100) SKIP-DASH (YELLOW)
2. 4" (100) SOLID (YELLOW)
3. 12" (300) DIAGONAL (YELLOW)
4. 4" (100) DOUBLE YELLOW (NARROW)
5. RESERVED
6. RESERVED
7. 6" (150) SKIP-DASH (WHITE)
8. 4" (100) SOLID (WHITE)
9. 12" (300) DIAGONAL (WHITE)
10. 6" (150) SOLID (WHITE)
11. 24" (600) STOP BAR (WHITE)
12. 8" (200) SOLID (WHITE)
13. 6" (100) LANE LINE EXTENSIONS (WHITE)
14. 4" (100) PARKING WHITE



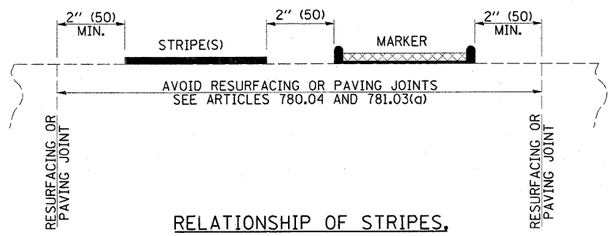
GENERAL NOTES

Ⓑ TURN ARROW PAIRS SHALL BE PLACED AT 250' (75 m) INTERVALS AND SHALL BE EVENLY SPACED BETWEEN BOTH ENDS OF THE BIDIRECTIONAL LEFT TURN LANE. USE A MINIMUM OF TWO PAIRS PER BLOCK.

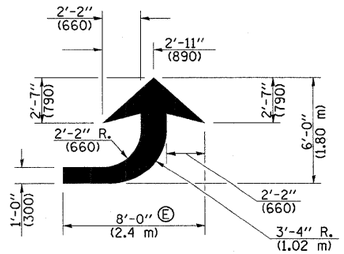
Ⓒ THE SOLID YELLOW PAVEMENT MARKINGS [2] SHOULD GENERALLY START OR END NEAR THE RADIUS POINT OF EACH STREET RETURN EXCEPT WHERE ONE OR BOTH ENDS WOULD INCLUDE STOP BARS.

Ⓓ THE SKIP-DASH PAVEMENT MARKINGS [1] OR [7] SHOULD BE CENTERED BETWEEN BOTH ENDS OF EACH CITY BLOCK AND SHALL BE PLACED SO THEY LINE UP ACROSS FROM EACH OTHER.

Ⓔ USE LARGE ARROW SIZE FOR BOTH RURAL AND URBAN LOCATIONS. (SEE LAST PAGE OF SECTION 780x FOR SYMBOLS TABLE)



RELATIONSHIP OF STRIPES, MARKERS AND JOINTS

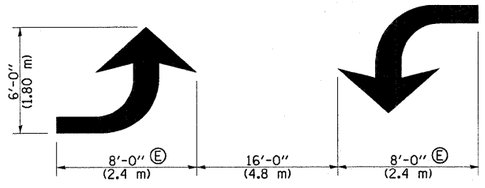


LEFT ARROW

REVERSE FOR RIGHT ARROW

AREA = 15.6 SQ. FT. (1.47 m^2)

(WHITE)



TYPICAL DOUBLE TURN ARROWS (WHITE)

NOT TO SCALE

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

• (5-2VB-1,5-2HB,5-2VB-2)BR-2

DISTRICT 7 DETAIL NO. 78000001

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	PLOT DATE = 1/27/2011	DATE -	REVISED -

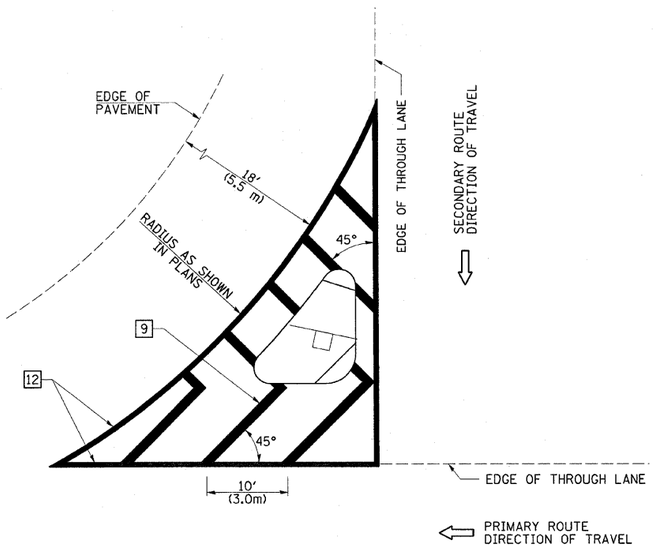
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS (RURAL & URBAN APPLICATIONS)

SCALE: | SHEET NO. 2 OF 4 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	RICHLAND	53	51
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

ISLAND



GENERAL NOTES

1. RAISED AND CORRUGATED MEDIANS SHALL BE OUTLINED WITH [2] IF PRESENT.
2. SOME OF THE INFORMATION INCLUDED WITH THIS DETAIL MAY NOT BE APPLICABLE TO THIS IMPROVEMENT.
3. PAVEMENT MARKINGS ARE TO BE EXTENDED THROUGH OMISSIONS WHEN APPLICABLE.
4. FINAL PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO PLACING ANY RAISED REFLECTIVE PAVEMENT MARKERS.
5. THE FOLLOWING CRITERIA SHALL BE USED FOR SELECTING THE DIAGONAL PAVEMENT MARKING SPACING:

<30 MPH	(<50 km/h)	15′ (4.5 m)
30-45 MPH	(50-75 km/h	20′ (6.0 m)
>45 MPH	(>75 km/h	30′ (9.0 m)

PAVEMENT MARKING LEGEND

[1] 4″ (100) SKIP-DASH (YELLOW)

[2] 4″ (100) SOLID (YELLOW)

[3] 12″ (300) DIAGONAL (YELLOW)

[4] 4″ (100) DOUBLE YELLOW (NARROW)

[5] RESERVED

[6] RESERVED

[7] 6″ (150) SKIP-DASH (WHITE)

[8] 4″ (100) SOLID (WHITE)

[9] 12″ (300) DIAGONAL (WHITE)

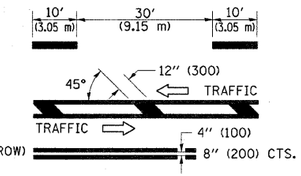
[10] 6″ (150) SOLID (WHITE)

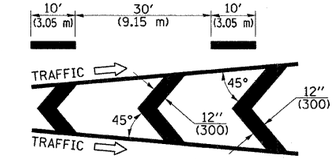
[11] 24″ (600) STOP BAR (WHITE)

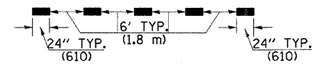
[12] 8″ (200) SOLID (WHITE)

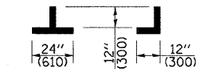
[13] 6″ (100) LANE LINE EXTENSIONS

[14] 4″ (100) PARKING WHITE

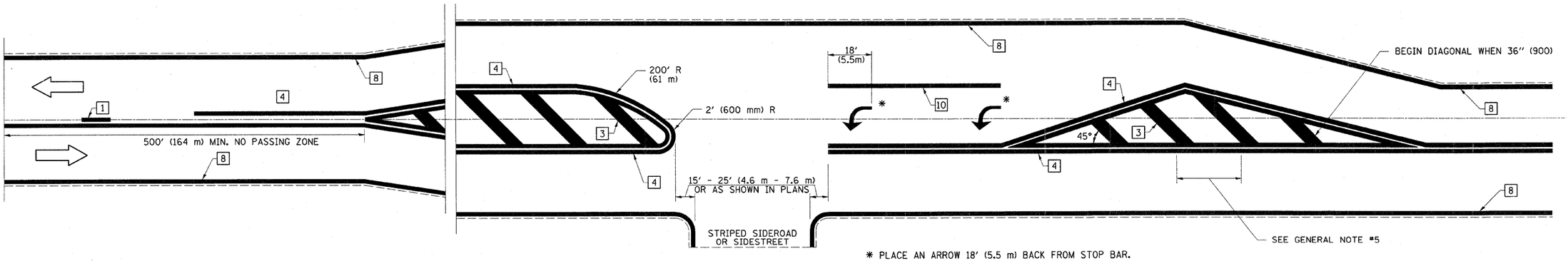








RURAL LEFT TURN STRIPING



* PLACE AN ARROW 18′ (5.5 m) BACK FROM STOP BAR. PLACE ANOTHER ARROW EVEN WITH THE BEGINNING OF THE SOLID WHITE LINE. SPACE ADDITIONAL ARROWS EVENLY UP TO 80′ (24.4 m) MAXIMUM SPACING. USE MINIMUM OF 2 ARROWS.

NOT TO SCALE

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

• (5-2VB-1,5-2HB,5-2VB-2)BR-2

DISTRICT 7 DETAIL NO. 78000001

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	PLOT DATE = 1/27/2011	DATE -	REVISED -

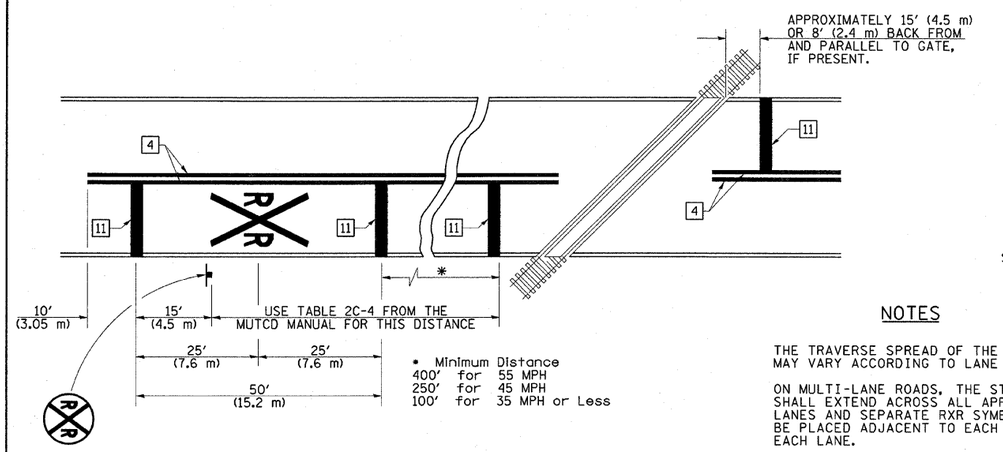
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

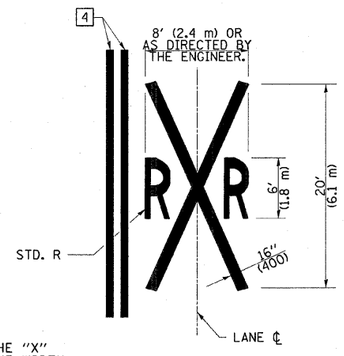
PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS (RURAL & URBAN APPLICATIONS)

SCALE: | SHEET NO. 3 OF 4 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	RICHLAND	53	52
		CONTRACT NO. 74482		
		ILLINOIS FED. AID PROJECT		

PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING





NOTES

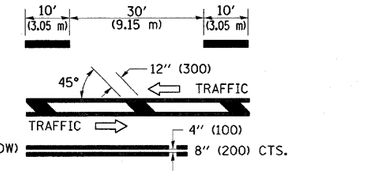
THE TRAVERSE SPREAD OF THE "X" MAY VARY ACCORDING TO LANE WIDTH.

ON MULTI-LANE ROADS, THE STOP LINES SHALL EXTEND ACROSS ALL APPROACH LANES AND SEPARATE RXR SYMBOLS SHALL BE PLACED ADJACENT TO EACH OTHER IN EACH LANE.

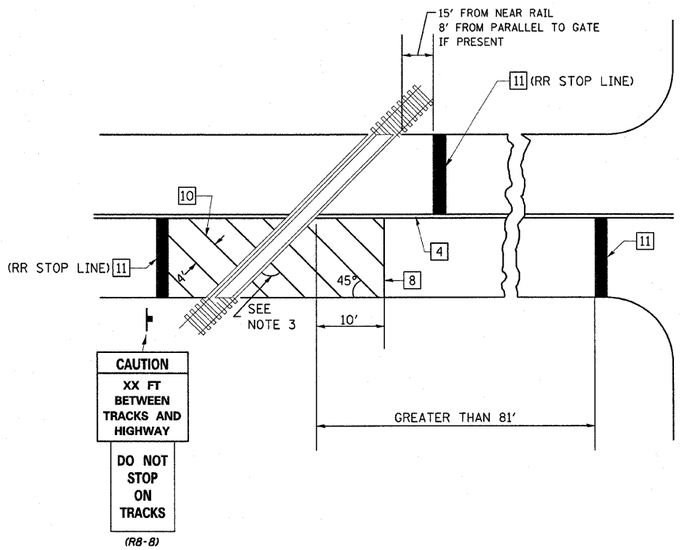
WHEN THE PAVEMENT MARKING SYMBOL IS USED, A PORTION OF THE SYMBOL SHOULD BE LOCATED DIRECTLY ADJACENT TO THE ADVANCE WARNING SIGN (W10-1) AS PLACED BY TABLE II-1, CONDITION B OF THE MUTCD.

PAVEMENT MARKING LEGEND

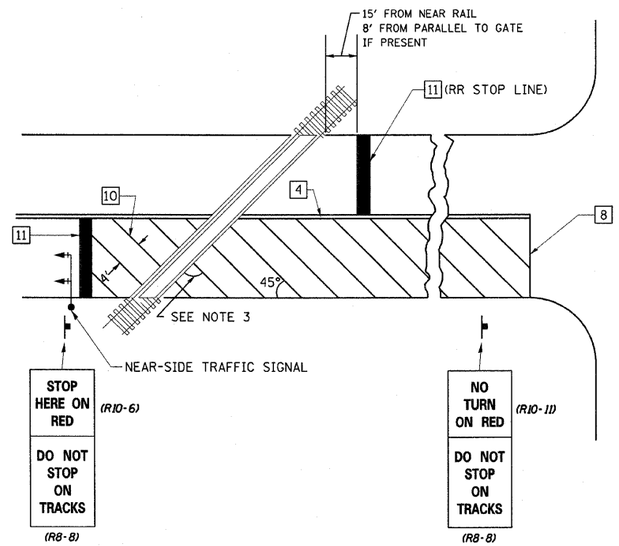
1. 4" (100) SKIP-DASH (YELLOW)
2. 4" (100) SOLID (YELLOW)
3. 12" (300) DIAGONAL (YELLOW)
4. 4" (100) DOUBLE YELLOW (NARROW)
5. RESERVED
6. RESERVED
7. 6" (150) SKIP-DASH (WHITE)
8. 4" (100) SOLID (WHITE)
9. 12" (300) DIAGONAL (WHITE)
10. 6" (150) SOLID (WHITE)
11. 24" (600) STOP BAR (WHITE)
12. 8" (200) SOLID (WHITE)
13. 6" (100) LANE LINE EXTENSIONS
14. 4" (100) PARKING WHITE



RAILROAD CROSSING WITH INTERCONNECT ONLY



RAILROAD CROSSING WITH INTERCONNECT AND PRE-SIGNALS



GENERAL NOTES

1. SUPPLEMENTAL PAVEMENT MARKINGS TO BE INSTALLED ONLY ON APPROACHES TO INTERSECTIONS CONTROLLED BY TRAFFIC SIGNALS WHICH ARE INTERCONNECTED WITH THE RAILROAD WARNING SIGNALS.
2. EXTEND PAVEMENT MARKINGS TO THE INTERSECTION ONLY WHERE NEAR-SIDE TRAFFIC SIGNALS ARE USED.
3. WHERE THE ANGLE BETWEEN THE DIAGONAL PAVEMENT MARKINGS AND THE TRACK WOULD BE LESS THAN 20°, THE PAVEMENT MARKINGS SHOULD BE PLACED IN THE OPPOSITE DIRECTION FROM THAT SHOWN.

NOT TO SCALE

Note: All dimensions are in INCHES (millimeters) unless otherwise shown.

SUPPLEMENTAL PAVEMENT MARKING TREATMENT FOR RAILROAD-HIGHWAY GRADE CROSSING

• (5-2VB-1,5-2HB,5-2VB-2)BR-2

DISTRICT 7 DETAIL NO. 78000001

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PAVEMENT MARKING AND RAISED REFLECTIVE PAVEMENT MARKERS (RURAL & URBAN APPLICATIONS)

SCALE: | SHEET NO. 4 OF 4 SHEETS | STA. | TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
327	•	RICHLAND	53	53

CONTRACT NO. 74482

ILLINOIS FED. AID PROJECT