

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(25-B-1)I-1	LIVINGSTON	16	1
FED. ROAD DIST. NO.	ILLINOIS	CONTRACT NO. 66809		

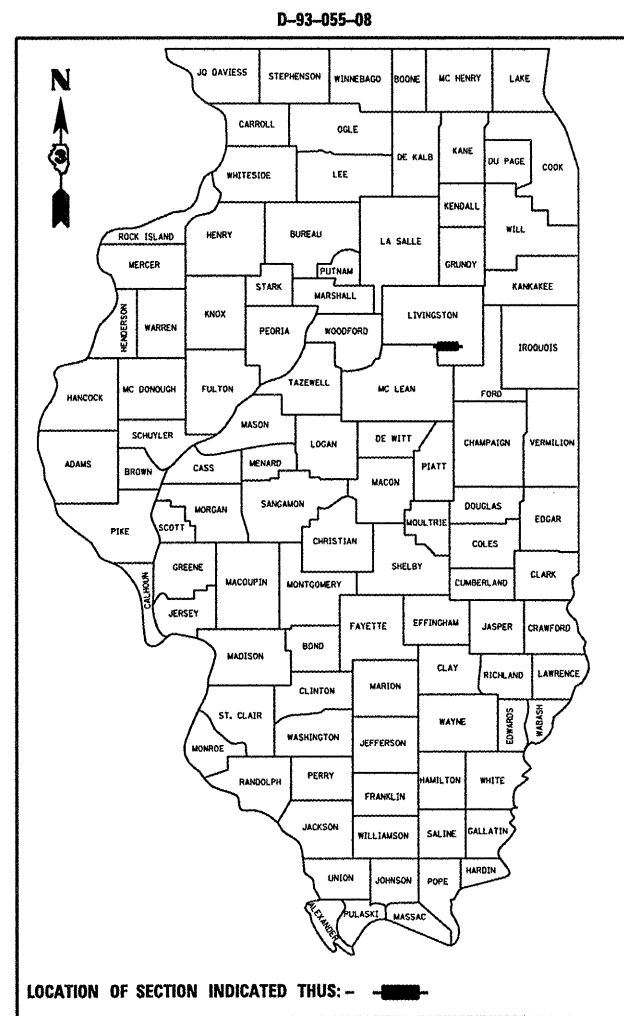
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

FAP ROUTE 317 (US 24)  
SECTION (25-B-1)I-1

LIVINGSTON COUNTY  
C-93-086-08  
**DECK BEAM REPLACEMENT**



FUNCTIONAL CLASSIFICATION  
URBAN - OTHER PRINCIPAL ARTERIAL  
F.A.P. ROUTE 317 (US 24)  
2005 ADT = 5100  
P.V = 79.9% M.U. = 11.8% S.U. = 8.3%

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED 3125 20 08

*George E. Ryan*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

*Eric E. Harn*  
INTERIM ENGINEER OF DESIGN AND ENVIRONMENT

*Christine M. Reed*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS**

INDEX OF SHEETS

1. COVER SHEET
2. GENERAL NOTES
- 3 - 4. SUMMARY OF QUANTITIES
5. TYPICAL SECTIONS
- 6 - 7. STAGING DETAILS
8. TEMPORARY CONCRETE BARRIER
9. WIDTH RESTRICTION SIGNING
10. TYPICAL PAVEMENT MARKING
11. PLAN AND ELEVATION
12. SPANS 1 & 3 REPAIR DETAILS
13. SPANS 2 REPAIR DETAILS
- 14 - 16. REPAIR DETAILS

STANDARDS

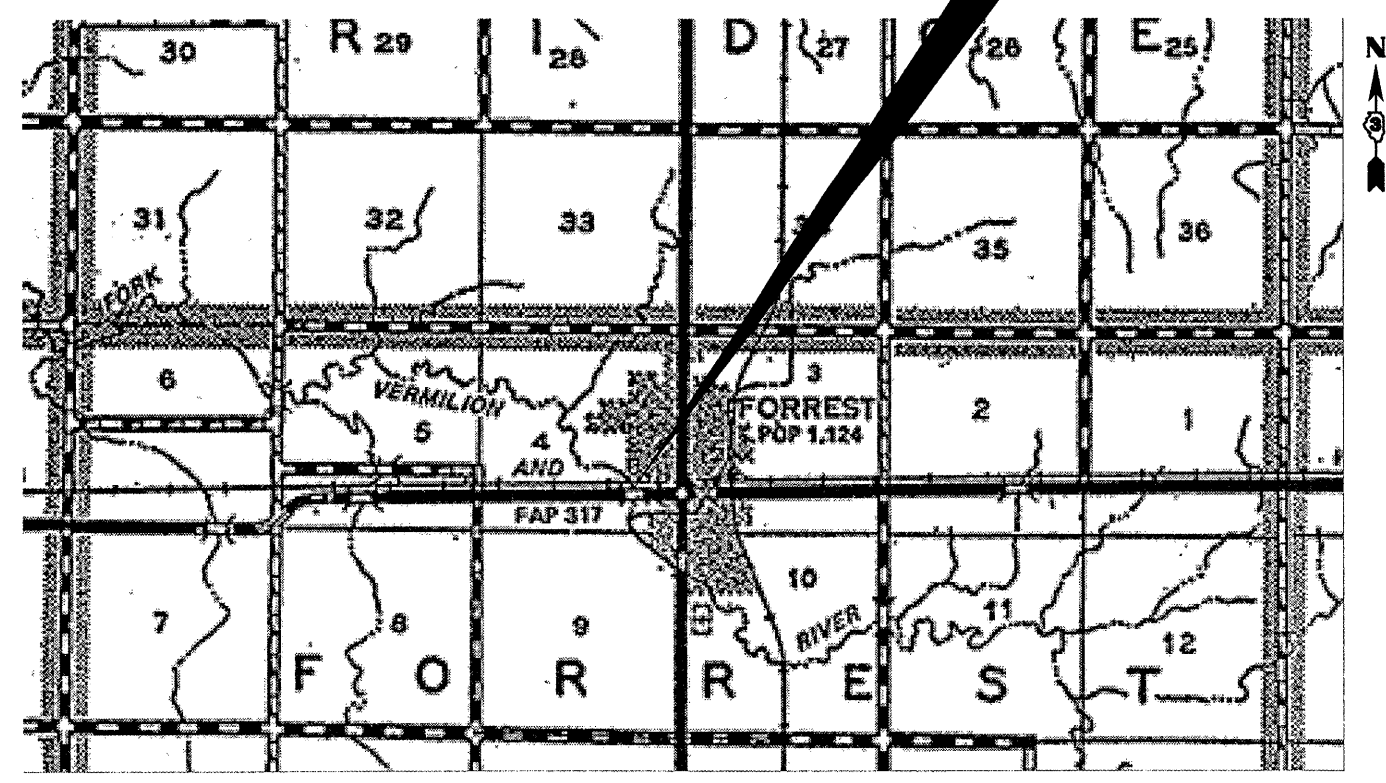
- 000001-05 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 001006 DECIMAL OF AN INCH AND OF A FOOT
- 482011-03 HMA SHOULDER STRIPS/SHOULDERS WITH RS OR WIDENING & RS PROJECTS
- 701001-01 OFF-ROAD OPERATIONS 2L, 2W, MORE THAN 4.5 m (15') AWAY
- 701006-02 OFF-ROAD OPERATIONS 2L, 2W, 4.5 m (15') TO 600 mm (24") FROM PAVEMENT EDGE
- 701011-01 OFF-ROAD MOVING OPERATIONS 2L, 2W, DAY ONLY
- 701201-02 LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS P 45 MPH
- 701206-01 LANE CLOSURE, 2L, 2W, NIGHT ONLY, FOR SPEEDS P 45 MPH
- 701301-02 LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS
- 701311-02 LANE CLOSURE, 2L, 2W, MOVING OPERATIONS - DAY ONLY
- 701321-09 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
- 701326-02 LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS P 45 MPH
- 701901 TRAFFIC CONTROL DEVICES
- 704001-04 TEMPORARY CONCRETE BARRIER

MICROFILMED \_\_\_\_\_  
REEL NUMBER \_\_\_\_\_  
AWARDED \_\_\_\_\_  
RESIDENT ENGINEER \_\_\_\_\_  
AS BUILT CHANGES WERE MADE  
ON THE FOLLOWING SHEETS \_\_\_\_\_

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

DISTRICT 3 NO. (815) 434-6131  
PROJECT ENGINEER: JOE KANNEL  
UNIT CHIEF: RON WOODSHANK

**CONTRACT NO. 66809**



LOCATION MAP  
NOT TO SCALE  
POINT LOCATION

**GENERAL NOTES**

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO ROUTINE VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY FURNISHED BASED UPON THE UNIT BID FOR THE WORK.

FOR STABILIZATION, ALL TYPE III BARRICADES SHALL REQUIRE A MINIMUM OF FOUR SAND BAGS PER BARRICADE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING UTILITY PROPERTY FROM CONSTRUCTION OPERATIONS AS OUTLINED IN ARTICLE 107.31 OF THE STANDARD SPECIFICATIONS. THE "JULIE" NUMBER IS 1-800-892-0123. A MINIMUM OF FORTY-EIGHT (48) HOURS ADVANCE NOTICE IS REQUIRED.

THE COST OF ANY SAW CUTS MADE TO COMPLETE THE WORK AS DESCRIBED IN PLAN DETAILS, UNLESS OTHERWISE NOTED SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED WITH THE VARIOUS PAY REMOVAL PAY ITEMS INVOLVED.

WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL MONUMENTS UNTIL AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING AN AUTHORIZED SURVEYOR REESTABLISH ANY SECTION OR SUBSECTION MONUMENTS DESTROYED BY HIS OPERATIONS.

ABANDONED UNDERGROUND UTILITIES THAT CONFLICT WITH CONSTRUCTION SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE RIGHT OF WAY ACCORDING TO ARTICLE 202.03 OF THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER. THIS WORK WILL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST OF EARTH EXCAVATION.

THE THICKNESS OF HMA SHOWN ON THE PLANS IS THE NOMINAL THICKNESS. DEVIATIONS FROM THE NOMINAL THICKNESS WILL BE PERMITTED WHEN SUCH DEVIATIONS OCCUR DUE TO IRREGULARITIES IN THE EXISTING SURFACE OR BASE ON WHICH THE HMA IS PLACED.

ANY REFERENCE TO A STANDARD IN THESE PLANS SHALL BE INTERPRETED TO MEAN THE EDITION AS INDICATED BY THE SUBNUMBER LISTED ON THE INDEX OF SHEETS OR THE COPY OF THE STANDARD INCLUDED IN THESE PLANS.

ON EXISTING PAVEMENT WHICH MAY BE SUPERELEVATED, THE NEW BITUMINOUS PAVEMENT SHALL BE BUILT WITH THE SAME SUPERELEVATION UNLESS NEW SUPERELEVATION RATES ARE GIVEN ON THE PLANS.

ALL ELEVATIONS REFERRING TO U.S.G.S. MEAN SEA LEVEL DATUM.

	HMA SURFACE
PG GRADE	PG64-22
MAX % RAP ALLOWABLE	15%**
DESIGN AIR VOIDS	4.0% e N70
MIXTURE COMPOSITION	IL 12.5 or IL 9.5
FRICTION	
AGGREGATE	MIXTURE C
DENSITY CONTROL METHOD	NUCLEAR

\*\*IF RAP OPTION IS SELECTED, THE ASPHALT CEMENT GRADE MAY NEED TO BE ADJUSTED. THIS WILL BE DETERMINED BY THE ENGINEER.

DATE: 3/25/08

PREPARED BY: *R. Farrell*  
DISTRICT STUDIES & PLANS ENGINEER

EXAMINED BY: *Herbert K. Grogan*  
DISTRICT CONSTRUCTION ENGINEER

*J. [Signature]*  
DISTRICT MATERIALS ENGINEER

*Bruce Tucker*  
DISTRICT OPERATIONS ENGINEER

FILE NAME =	USER NAME = woodshankr1	DESIGNED - RLW	REVISED - ---
c:\projects\deck beam repl 08\an 053-012.dgn		DRAWN - RLW	REVISED - ---
PLOT SCALE = 103.4029' / IN.		CHECKED - ---	REVISED - ---
PLOT DATE = Mar 24, 2008 - 10:55:13 AM		DATE - -----	REVISED - ---

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL NOTES**

SCALE: \_\_\_\_\_ SHEET NO. 1 OF 1 SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(25-B-11)-1	GRUNDY	16	2
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT			CONTRACT NO. 66809	

# SUMMARY OF QUANTITIES

CONSTRUCTION CODE TYPE:

SFTY-2A

RURAL  
100% STATE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	37.8
44001005	HOT-MIX ASPHALT SURFACE REMOVAL	SQ YD	31.9
50300255	CONCRETE SUPERSTRUCTURE	CU YD	2.3
50300300	PROTECTIVE COAT	SQ YD	13
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	2,458
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	70
58100200	WATERPROOFING MEMBRANE SYSTEM	SQ YD	298.4
58300100	PORTLAND CEMENT MORTAR FAIRING COURSE	FOOT	1062
67100100	MOBILIZATION	L SUM	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1

FILE NAME =	USER NAME = woodshenkr1	DESIGNED - RLW	REVISED - ---
ca\projects\deck beam repl 08\an 053-01	2.dgn	DRAWN - RLW	REVISED - ---
	PLOT SCALE = 1/8" = 1' IN.	CHECKED - ---	REVISED - ---
	PLOT DATE = Mar 27, 2008 - 09:21:10 AM	DATE - ---	REVISED - ---

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

## SUMMARY OF QUANTITIES

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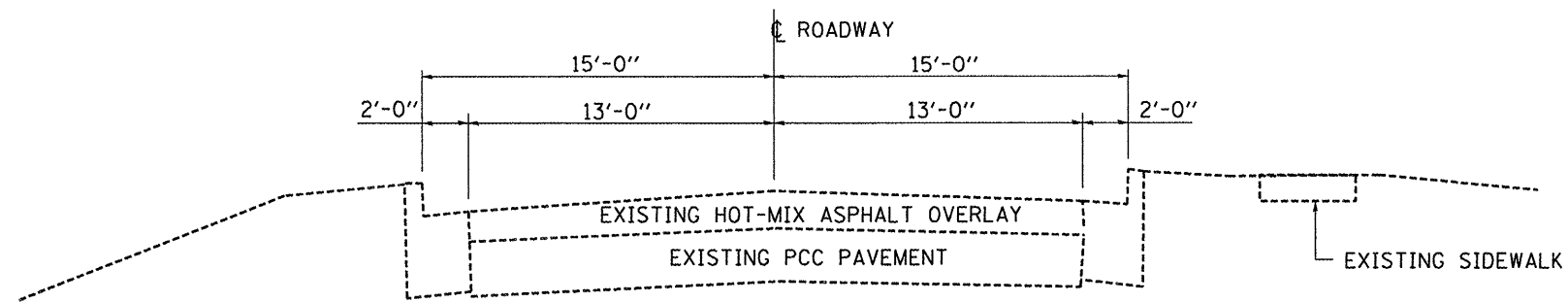
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(25-B-1)-1	GRUNDY	16	3
CONTRACT NO. 66809				
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				

# SUMMARY OF QUANTITIES

CONSTRUCTION CODE TYPE: SFTY-2A

CODE NO.	ITEM	UNIT	RURAL
			100% STATE TOTAL QUANTITY
70400100	TEMPORARY CONCRETE BARRIER	FOOT	326
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	326
* 78000400	THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	186
78300100	PAVEMENT MARKING REMOVAL	SQ FT	93
X0301424	SILICONE JOINT SEALER	FOOT	23
X0320047	REMOVAL OF EXISTING PRECAST PRESTRESSED CONCRETE DECK BEAMS	SQ FT	2483
X0320887	POLYMER CONCRETE	CU FT	1.8
50900905	REMOVING AND RE-ERECTING EXISTING RAILING	FOOT	68
* X7200201	WIDTH RESTRICTION SIGNING	L SUM	1
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	6
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2

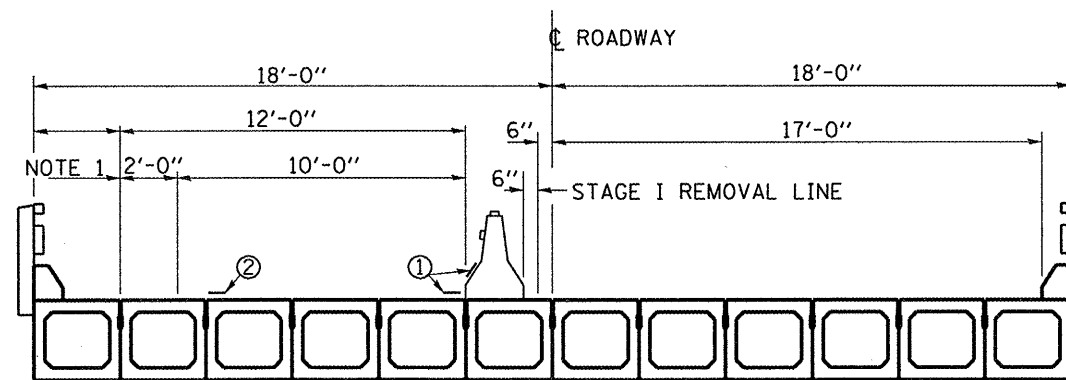
\* SPECIALTY ITEM



**CROSS SECTION**

SN 053-0152  
 STA. 470+00 TO STA. 478+00

NOTE 1: FACE OF ROADWAY CURB



**CROSS SECTION**

FILE NAME =	USER NAME = woodshenr1	DESIGNED - RLW	REVISED - ---
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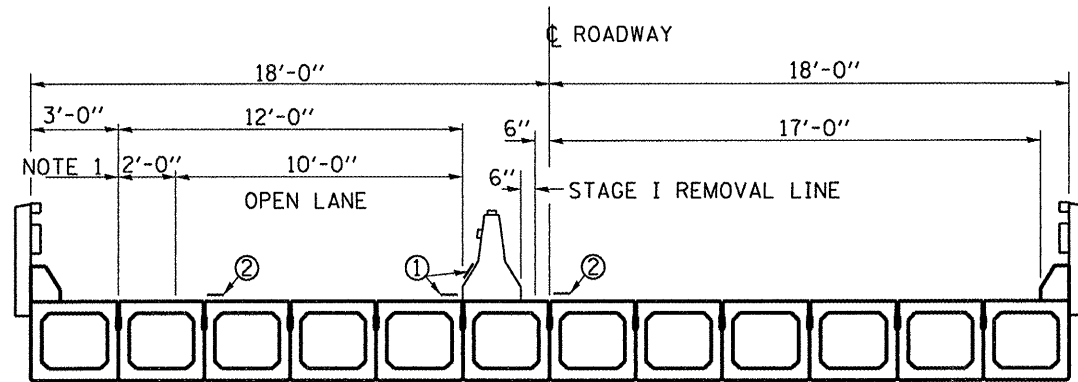
STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

**TYPICAL SECTIONS**

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

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(25-B-1)1-1	GRUNDY	16	5
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT			CONTRACT NO. 66809	

NOTE 1: FACE OF ROADWAY CURB

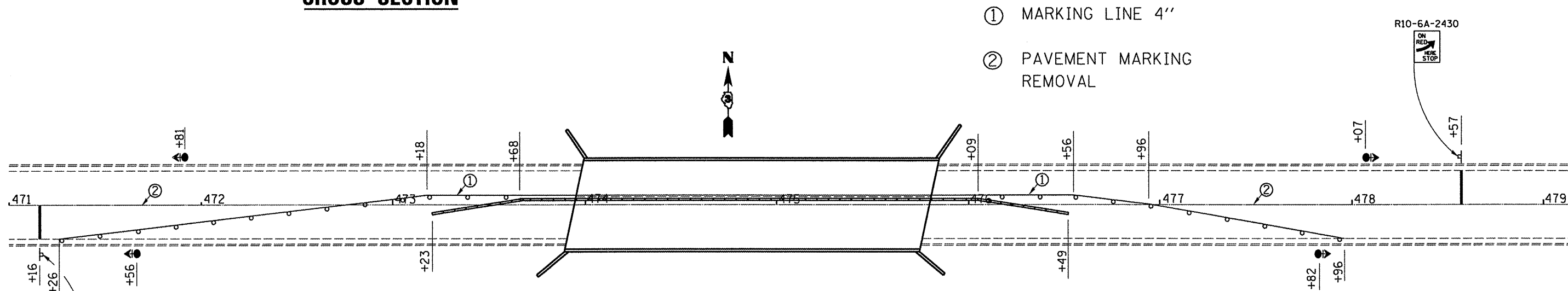


**CROSS SECTION**

NOTES:

1. THE CONTRACTOR HAS THE OPTION OF USING EITHER THE LINE ON THE TEMPORARY CONCRETE BARRIER OR ON THE PAVEMENT.
2. THE COST OF THE REFLECTORS AND THE BARRIER/PAVEMENT MARKING LINE IS INCLUDED IN THE COST OF THE TEMPORARY CONCRETE BARRIER.
3. THE COST OF THE TEMPORARY PAVEMENT MARKING IS INCLUDED IN THE COST OF STANDARD 701321

- ① MARKING LINE 4"
- ② PAVEMENT MARKING REMOVAL



**BILL OF MATERIAL**

PAVEMENT MARKING REMOVAL	SQ FT	93
TEMPORARY CONCRETE BARRIER	FOOT	326
IMPACT ATTENUATOR, TEMPORARY (NON-REDIRECTIVE, TEST LEVEL 3)	EACH	2
THERMOPLASTIC PAVEMENT MARKING - LINE 6"	FOOT	186

**TEMPORARY CONCRETE BARRIER**

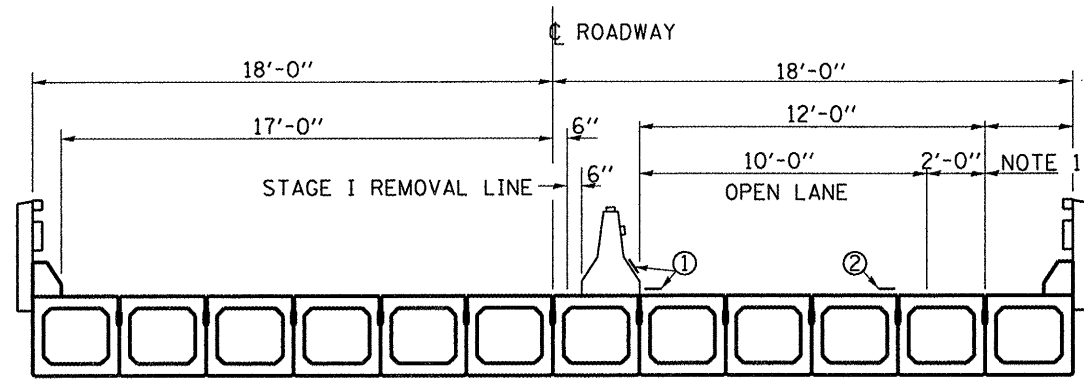
**SYMBOLS**

- Work area
- Sign
- Type III barricade
- Microwave detector
- Traffic signal with backplate
- Impact attenuator
- Drum with steady burning light at 25' cts.
- Temporary concrete barrier
- Double vertical panel at 25' cts.
- Crystal, bidirectional barrier wall/guardrail marker at 25' cts.

SEE STANDARD 701321 FOR DETAILS NOT SHOWN

FILE NAME =	USER NAME = woodshenkr1	DESIGNED - RLW	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>STAGE DETAILS - STAGE I</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
ct:\projects\deck beam repl 08\an 053-012.dgn	DRAWN - RLW	REVISED -	317			(25-B-111-1	GRUNDY	16	6	
PLOT SCALE = 1/8" = 1'-0"	CHECKED -	REVISED -	CONTRACT NO. 66809							
PLOT DATE = Mar 24, 2008 - 10:55:35 AM	DATE -	REVISED -	FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT							

NOTE 1: FACE OF ROADWAY CURB

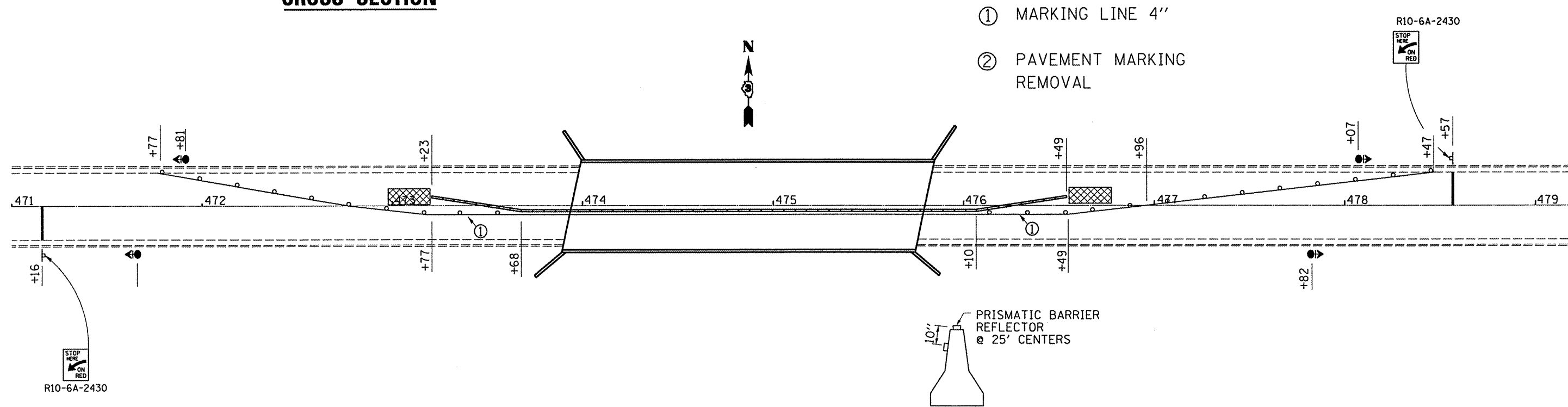


**CROSS SECTION**

NOTES:

1. THE CONTRACTOR HAS THE OPTION OF USING EITHER THE LINE ON THE TEMPORARY CONCRETE BARRIER OR ON THE PAVEMENT.
2. THE COST OF THE REFLECTORS AND THE BARRIER/PAVEMENT MARKING LINE IS INCLUDED IN THE COST OF THE TEMPORARY CONCRETE BARRIER.
3. THE COST OF THE TEMPORARY PAVEMENT MARKING IS INCLUDED IN THE COST OF STANDARD 701321

- ① MARKING LINE 4"
- ② PAVEMENT MARKING REMOVAL



**TEMPORARY CONCRETE BARRIER**

**SYMBOLS**

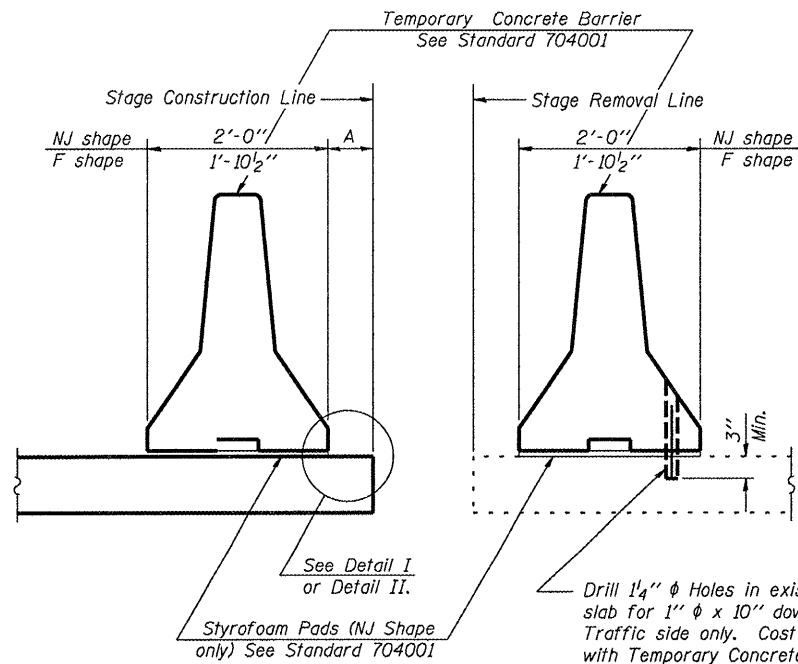
- Work area
- Sign
- Type III barricade
- Microwave detector
- Traffic signal with backplate
- Impact attenuator
- Drum with steady burning light at 25' cts.
- Temporary concrete barrier
- Double vertical panel at 25' cts.
- Crystal, bidirectional barrier wall/guardrail marker at 25' cts.

**BILL OF MATERIAL**

RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	326
IMPACT ATTENUATOR, RELOCATE (NON-REDIRECTIVE, TEST LEVEL 3)	EACH	2

SEE STANDARD 701321 FOR DETAILS NOT SHOWN

FILE NAME =	USER NAME = woodshankr1	DESIGNED - RLW	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>STAGE DETAILS - STAGE II</b>	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
a:\projects\deck beam repl 08\en 053-012.dgn	DRAWN - RLW	REVISED -	317			(25-B-1)-1	GRUNDY	16	7	
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PLOT DATE = Mar 24, 2008 - 10:55:40 AM	DATE -	REVISED -	FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT							



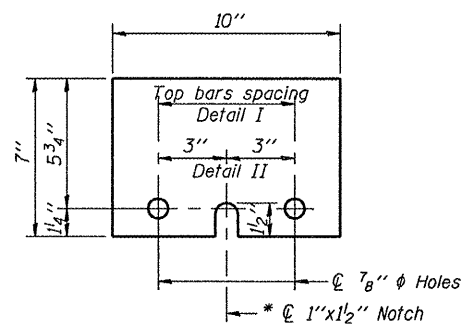
NEW SLAB

EXISTING SLAB

**SECTIONS THRU SLAB**

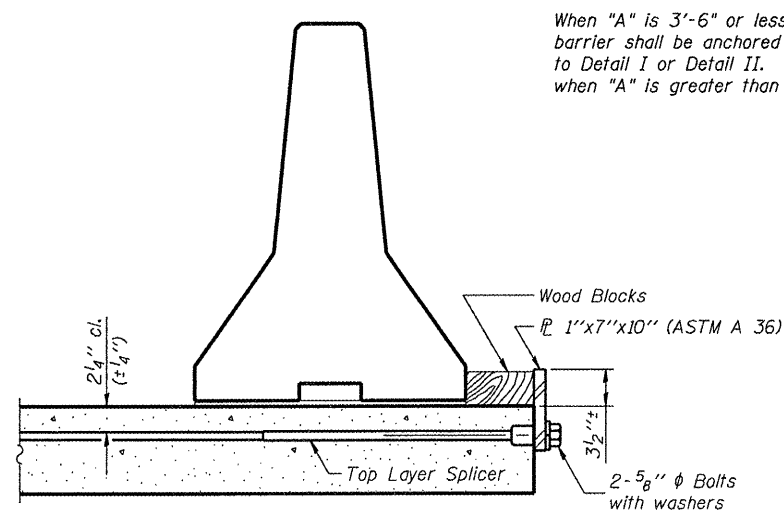
**NOTES**

- Detail I - With Bar Splicer or Couplers:  
Connect one (1) 1"x7"x10" steel plate to the top layer of couplers with 2-5/8" φ bolts screwed to coupler at approximate center of each barrier panel.
- Detail II - With Extended Reinforcement Bars:  
Connect one (1) 1"x7"x10" steel plate to the concrete slab with 2-5/8" φ Expansion Anchors or cast in place inserts spaced between the top layer of reinforcement at approximate center of each barrier panel.  
Cost of anchorage is included with Temporary Concrete Barrier.



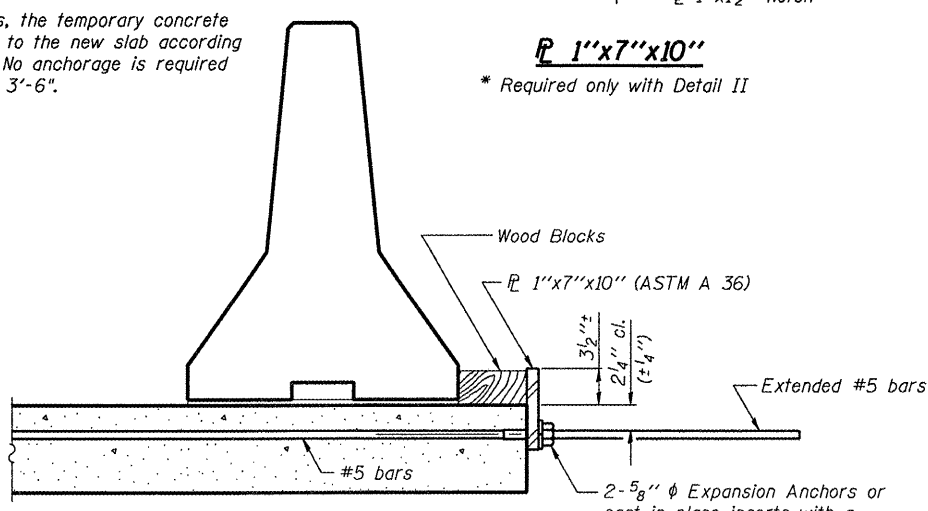
**1"x7"x10"**

\* Required only with Detail II



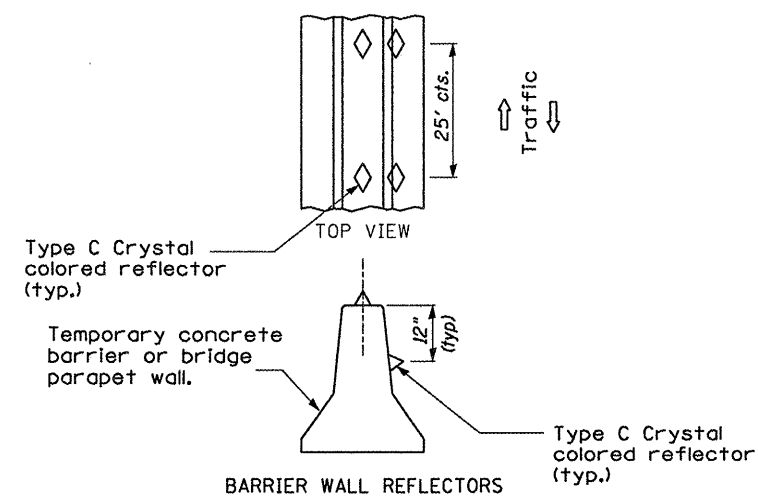
**DETAIL I**

The 1"x7"x10" Plate shall not be removed until Stage II Construction forms and reinforcement bars are in place.

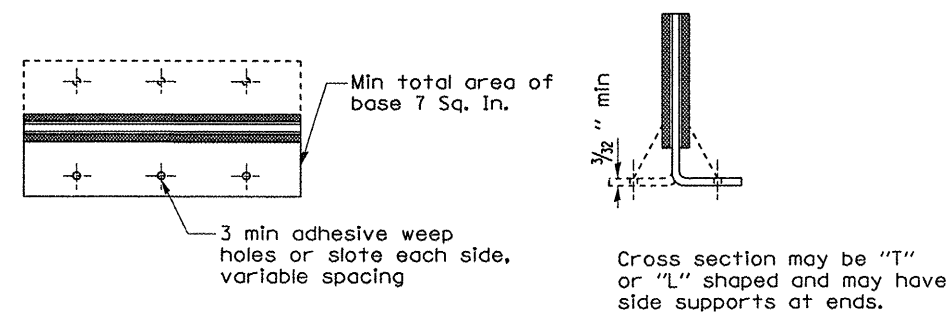
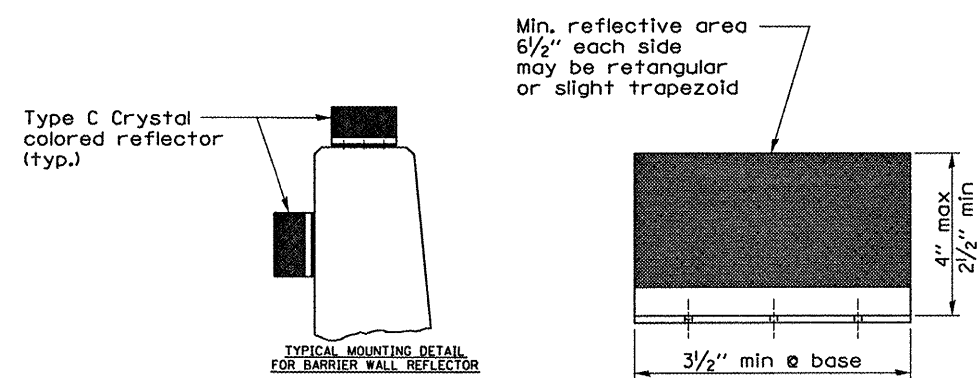


**DETAIL II**

The 1"x7"x10" 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.



**DETAIL A**



**TYPE C REFLECTOR**

FILE NAME = c:\projects\deck beam repl 08\asn 053-012.dgn	USER NAME = woodshankr1	DESIGNED - RLW	REVISED -
		DRAWN - RLW	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -

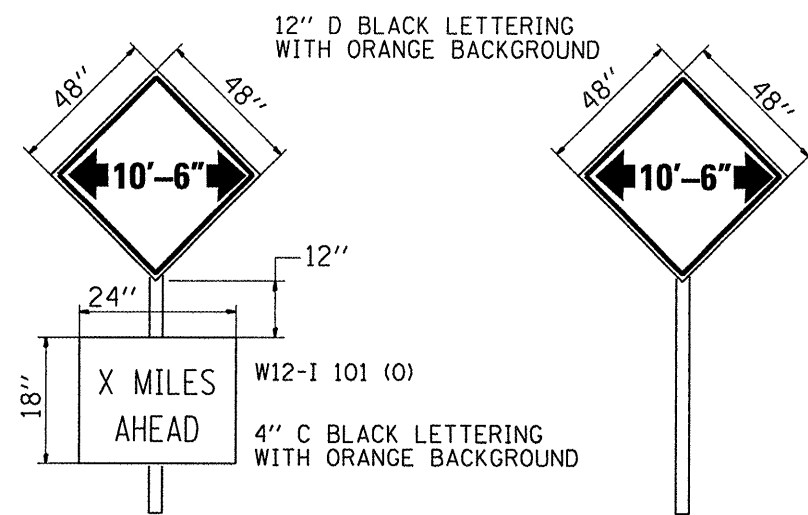
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**TEMPORARY CONCRETE BARRIER**

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

F.A.P. RTE. 317	SECTION (25-B-1)-1	COUNTY GRUNDY	TOTAL SHEETS 16	SHEET NO. 8
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			CONTRACT NO. 66809	





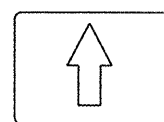
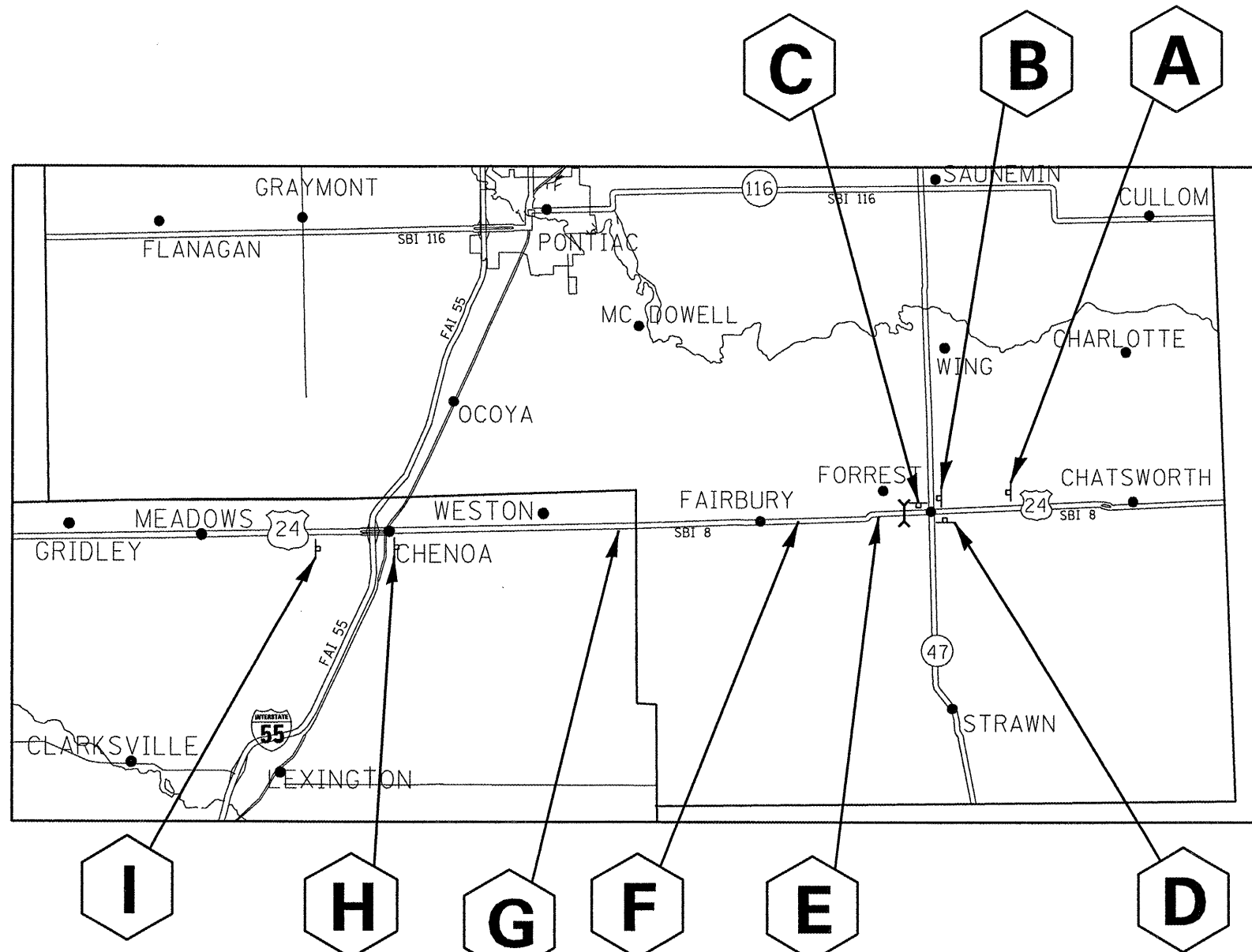
TO BE POST MOUNTED AS SHOWN ELSEWHERE IN THE PLANS.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER A MINIMUM OF 21 CALENDAR DAYS PRIOR TO INSTALLING ANY TRAFFIC CONTROL DEVICES THAT WILL RESTRICT THE PAVEMENT WIDTH.

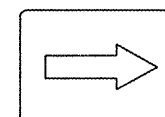
THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE ENGINEER TO MEET THIS REQUIREMENT.

### WIDTH RESTRICTION SIGNING DETAILS

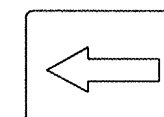
TABLE OF WIDTH RESTRICTION SIGNS				
NO. OF SIGNS	TYPE OF SIGN	SIGN	LOCATION	WIDTH RESTRICTION & MILES AHEAD
1	WIDTH RESTRICTION with W12-I101(O) & M6-3	A	WESTBOUND LANE 1.0 MILE EAST OF IL 47	10'-6" 1.26 MI AHEAD
1	WIDTH RESTRICTION with W12-I101(O) & M6-3	B	WESTBOUND LANE 1.0 MILE EAST OF IL 47	10'-6" 1500 FEET AHEAD
1	WIDTH RESTRICTION with W12-I101(O) & M6-1 (RT)	C	NW CORNER OF JUNCTION IL 47 AND US 24	10'-6" 1500 FEET AHEAD
1	WIDTH RESTRICTION with W12-I101(O) & M6-1 (LT)	D	SE CORNER OF JUNCTION IL 47 AND US 24	10'-6" 1500 FEET AHEAD
1	WIDTH RESTRICTION with W12-I101(O) & M6-3	E	WITHIN TRAFFIC CONTROL AND PROTECTION STANDARD 701321	10'-6" AHEAD
1	WIDTH RESTRICTION with W12-I101(O) & M6-3	F	EASTBOUND LANE 1.0 MILE WEST OF IL 47	10'-6" 1.0 MI AHEAD
1	WIDTH RESTRICTION with W12-I101(O) & M6-3	G	EASTBOUND LANE 9.0 MILE WEST OF IL 47	10'-6" 9.0 MI AHEAD
1	WIDTH RESTRICTION with W12-I101(O) & M6-3	H	SOUTHEAST CORNER OF JUNCTION OR 66 AND US 24	10'-6" 17 MI AHEAD
1	WIDTH RESTRICTION with W12-I101(O) & M6-3	I	EASTBOUND LANE 1.0 MI. WEST OF I-57	10'-6" 18 MI AHEAD



M6-3 21"X15"



M6-1 21"X15"  
(RT)



M6-1 21"X15"  
(LT)

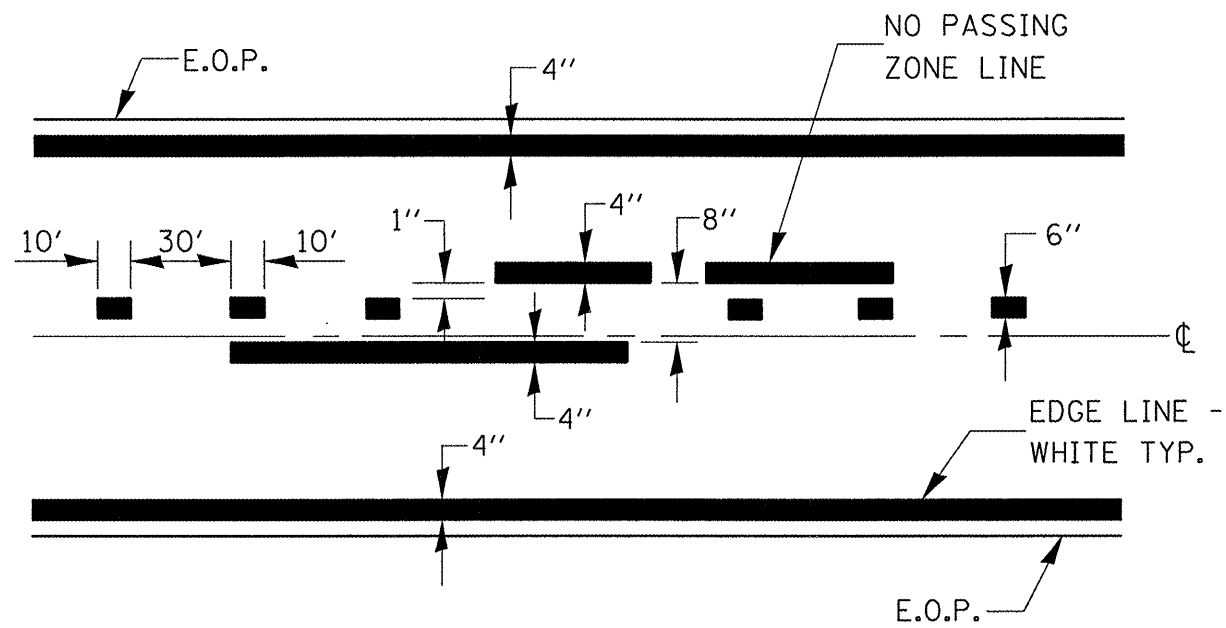
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c:\projects\deck beam repl 08\sn 053-012.dgn		DRAWN - RLW	REVISED - ----
		CHECKED - ----	REVISED - ----
		DATE - ----	REVISED - ----

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

### WIDTH RESTRICTION SIGNING

SCALE: \_\_\_\_\_ SHEET NO. 1 OF 1 SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

F.A.P. RTE. 317	SECTION (25-B-11)-1	COUNTY	TOTAL SHEETS 16	SHEET NO. 9
CONTRACT NO. 66809			FED. ROAD DIST. NO. - ILLINOIS STATE AID PROJECT	



CENTERLINE & NO PASSING  
ZONE LINES - YELLOW

(SEE TYPICAL SECTIONS)

## PAVEMENT MARKING

FILE NAME =	USER NAME = woodshenkr1	DESIGNED - RLW	REVISED - ---
c:\projects\deck beam repl 08\an 053-01	2.dgn	DRAWN - RLW	REVISED - ---
	PLOT SCALE = 103.4829' / IN.	CHECKED - ---	REVISED - ---
	PLOT DATE = Mar 24, 2008 - 10:55:57 AM	DATE - ---	REVISED - ---

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

## TYPICAL PAVEMENT MARKING

SCALE: \_\_\_\_\_ SHEET NO. 1 OF 1 SHEETS STA. \_\_\_\_\_ TO STA. \_\_\_\_\_

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
317	(25-B-1)1-1	GRUNDY	16	10
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT			CONTRACT NO. 66809	

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 317	*	LIVINGSTON	16	11
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1  
6 SHEETS

Contract Number: 66809  
\* (25-B-1)-1

**GENERAL NOTES**

The contractor is advised that the existing PPC deck beams are in a deteriorated condition with reduced load carrying capacity. It is the contractor's responsibility to account for the condition of the beams when developing construction procedures.

If the contractor's procedure for existing beam removal or placement of new beams involves placement of cranes or other heavy equipment on the bridge, a detailed procedure shall be submitted to the Engineer for approval. The procedure shall include calculations, prepared and sealed by an Illinois Licensed Structural Engineer, verifying that the equipment and procedure used will not overstress the new or existing beams. To distribute load to multiple beams and protect the existing surface, in all cases a double layer mat of heavy timbers shall be used at all times under crane tracks or wheels and any outriggers in the down position. If necessary, shims shall be used under the crane mat to ensure uniform contact with the underlying beams. If heavy equipment will be placed on new PPC deck beams, the following shall be done prior to placement of the timber mats: placement and tightening of transverse tie assemblies, grouting and curing the dowel rods 24 hours minimum and grouting and curing the shear keys.

The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

Plan dimensions and details relative to existing plans are subject to routine variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished based upon the unit price bid for the work.

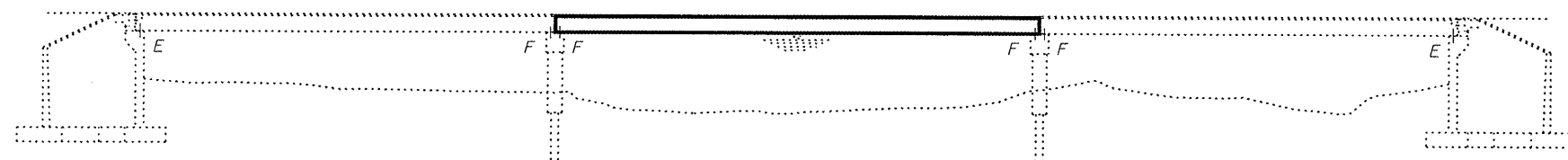
Temporary concrete barrier shall only be anchored into the overlay and not into the PPC deck beams.

Any damage done to the bridge during beam removal shall be repaired by the contractor. Cost to be included in the cost of Removal of Existing PPC Deck Beams.

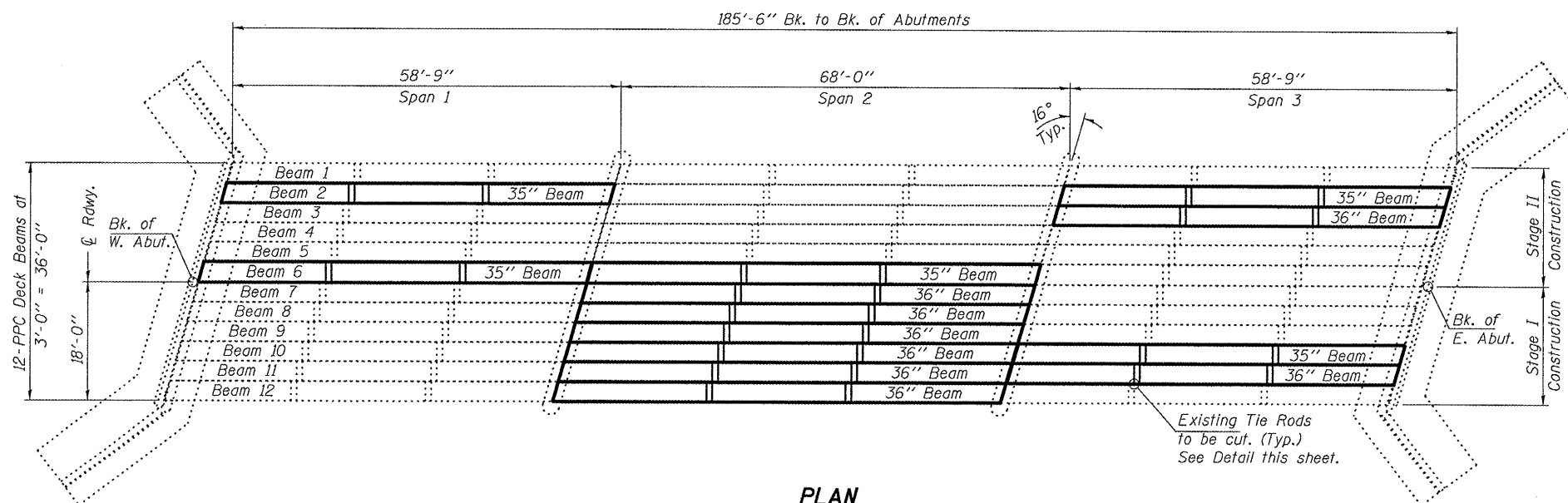
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.

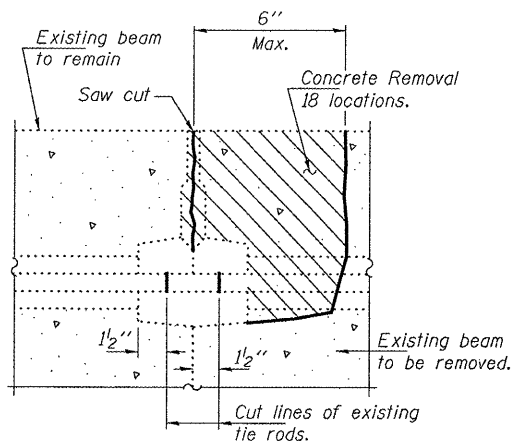
Reinforcement bars designated (E) shall be epoxy coated.



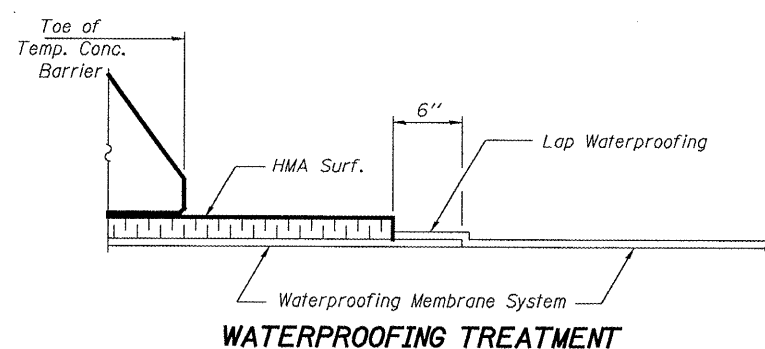
**ELEVATION**



**PLAN**



**BEAM REMOVAL DETAIL AT TRANSVERSE TIES**



**WATERPROOFING TREATMENT**

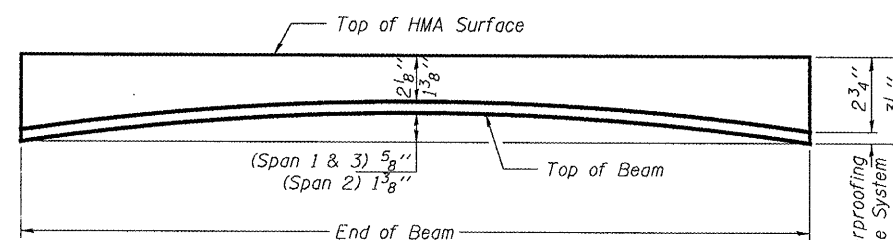
**DESIGN STRESSES**

**FIELD UNITS**  
f'c = 3,500 psi  
fy = 60,000 psi (Reinforcement)

**PRECAST PRESTRESSED UNITS**  
f'c = 6,000 psi  
f'ci = 5,000 psi  
f's = 270,000 psi (1/2" φ low lax strands)  
f'si = 201,960 psi (1/2" φ low lax strands)

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Removal of Existing PPC Deck Beams	Sq. Ft.	2483
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	2458
Hot-Mix Asphalt Surface Removal	Sq. Yd.	31.9
HMA Surface Course Mix "C" N70	Tons	38.0
PC Mortar Fairing Course	Foot	1062
Asbestos Bearing Pad Removal	Each	6
Removing & Re-erecting Existing Railing	Foot	68
Waterproofing Membrane System	Sq. Yd.	298.4
Concrete Superstructure	Cu. Yd.	2.3
Reinforcement Bars, Epoxy Coated	Pound	70
Polymer Concrete	Cu. Ft.	1.8
Silicone Joint Sealer	Foot	2.3
Protective Coat	Sq. Yd.	13



**ANTICIPATED INITIAL CAMBER DIAGRAM**



DESIGNED: Adrian T. Holloway  
CHECKED: [Signature]  
DRAWN: Steffen  
CHECKED: ATH ASB

EXAMINED: [Signature] MAY 12, 2008  
PASSED: [Signature]  
ENGINEER OF STRUCTURAL SERVICES  
ENGINEER OF BRIDGES AND STRUCTURES

Expires: November 30, 2008

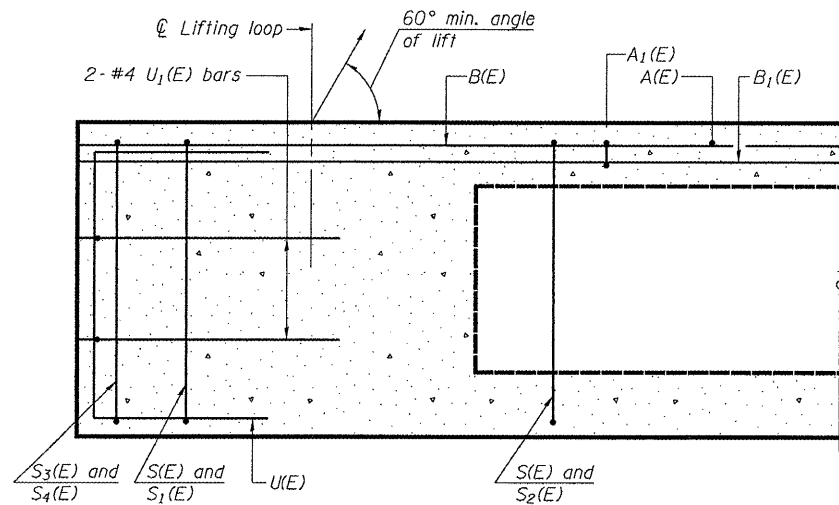
**PLAN AND ELEVATION  
FAP 317 OVER SOUTH FORK  
VERMILION RIVER  
LIVINGSTON COUNTY  
SN 053-0152**

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	SHEETS	SHEET NO.
FAP 317	*	LIVINGSTON	16	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 2  
6 SHEETS

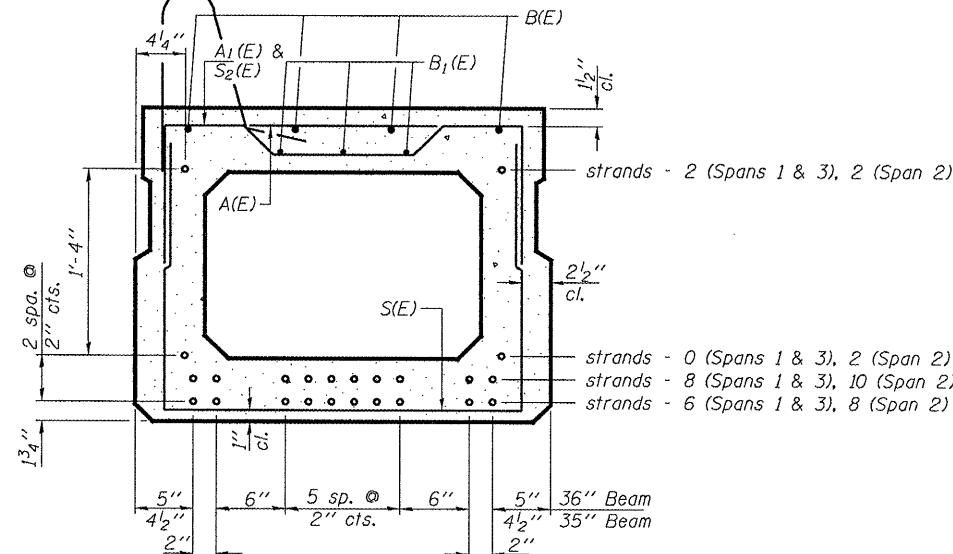
Contract Number: 66809  
\* (25-B-1)1-1



SECTION C-C

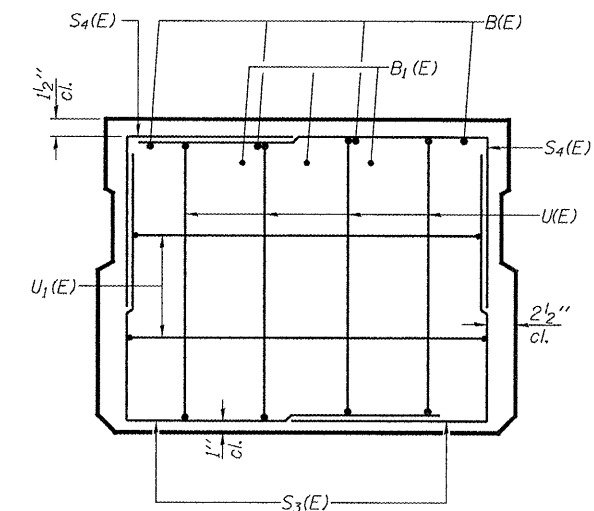
- \* 34 (Spans 1 & 3)  
41 (Span 2)
- \*\* 17 (Spans 1 & 3)  
20 (Span 2)
- \*\*\* 9 (Spans 1 & 3)  
10 (Span 2)

#5 D(E) bars at 12" cts.  
(Exterior face of outside beam only)



SECTION A-A

(Showing reinforcement and permissible strand locations)  
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.



VIEW B-B

SPANS 1 & 3 BAR LIST  
ONE 35" BEAM ONLY

(For information only)

Bar	No.	Size	Length	Shape
A(E)	18	#4	2'-6"	—
A1(E)	34	#4	2'-9"	—
B(E)	12	#5	21'-0"	—
B1(E)	9	#4	20'-6"	—
S(E)	76	#4	6'-4"	┌
S1(E)	8	#4	5'-10"	┌
S2(E)	68	#4	6'-1"	┌
S3(E)	8	#4	4'-7"	┌
S4(E)	8	#4	4'-6"	┌
U(E)	8	#5	4'-6"	┌
U1(E)	4	#4	5'-9"	┌

SPANS 1 & 3 BAR LIST  
ONE 36" BEAM ONLY

(For information only)

Bar	No.	Size	Length	Shape
A(E)	18	#4	2'-7"	—
A1(E)	34	#4	2'-10"	—
B(E)	12	#5	21'-0"	—
B1(E)	9	#4	20'-6"	—
S(E)	76	#4	6'-5"	┌
S1(E)	8	#4	5'-11"	┌
S2(E)	68	#4	6'-2"	┌
S3(E)	8	#4	4'-7"	┌
S4(E)	8	#4	4'-6"	┌
U(E)	8	#5	4'-6"	┌
U1(E)	4	#4	5'-10"	┌

SPAN 2 BAR LIST  
ONE 35" BEAM ONLY

(For information only)

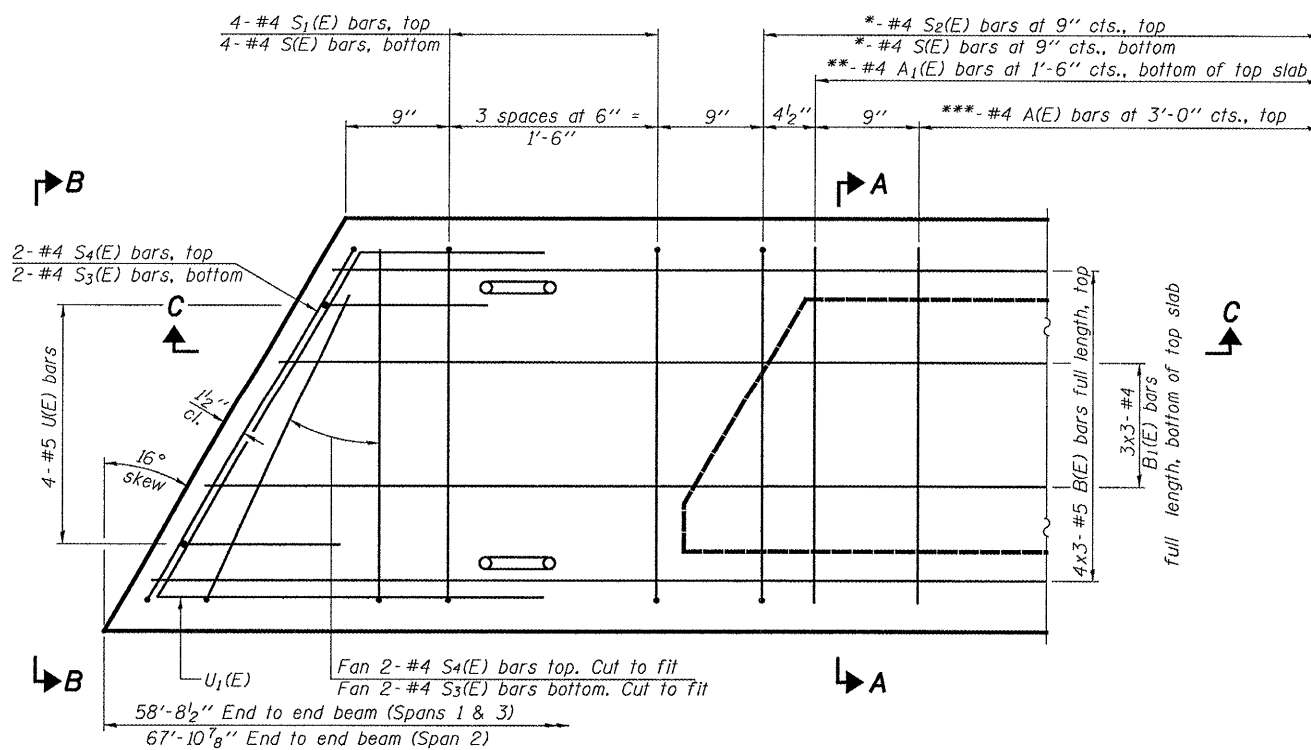
Bar	No.	Size	Length	Shape
A(E)	20	#4	2'-6"	—
A1(E)	40	#4	2'-9"	—
B(E)	12	#5	24'-0"	—
B1(E)	9	#4	23'-8"	—
S(E)	90	#4	6'-4"	┌
S1(E)	8	#4	5'-10"	┌
S2(E)	82	#4	6'-1"	┌
S3(E)	8	#4	4'-7"	┌
S4(E)	8	#4	4'-6"	┌
U(E)	8	#5	4'-6"	┌
U1(E)	4	#4	5'-9"	┌

SPAN 2 BAR LIST  
ONE 36" BEAM ONLY

(For information only)

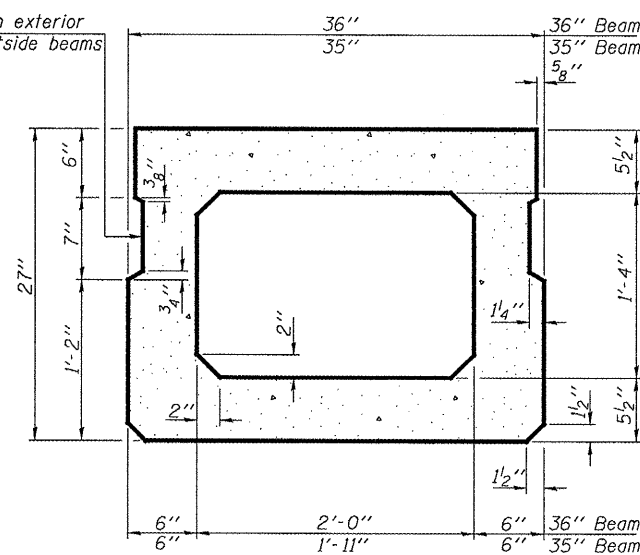
Bar	No.	Size	Length	Shape
A(E)	20	#4	2'-7"	—
A1(E)	40	#4	2'-10"	—
B(E)	12	#5	24'-0"	—
B1(E)	9	#4	23'-8"	—
Δ D(E)	68	#5	3'-9"	┌
S(E)	90	#4	6'-5"	┌
S1(E)	8	#4	5'-11"	┌
S2(E)	82	#4	6'-2"	┌
S3(E)	8	#4	4'-7"	┌
S4(E)	8	#4	4'-6"	┌
U(E)	8	#5	4'-6"	┌
U1(E)	4	#4	5'-10"	┌

Δ Fascia Beam Only



PLAN VIEW

Omit key on exterior face of outside beams



SECTION A-A  
(Showing dimensions)

Notes:  
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.  
Bars indicated thus 4 x 3-#5 etc. indicates 4 lines of bars with 3 lengths per line.  
See sheet 3 of 6 for additional details and Bill of Material.

DESIGNED	ATH
CHECKED	AJB
DRAWN	Steffen
CHECKED	ATH AJB

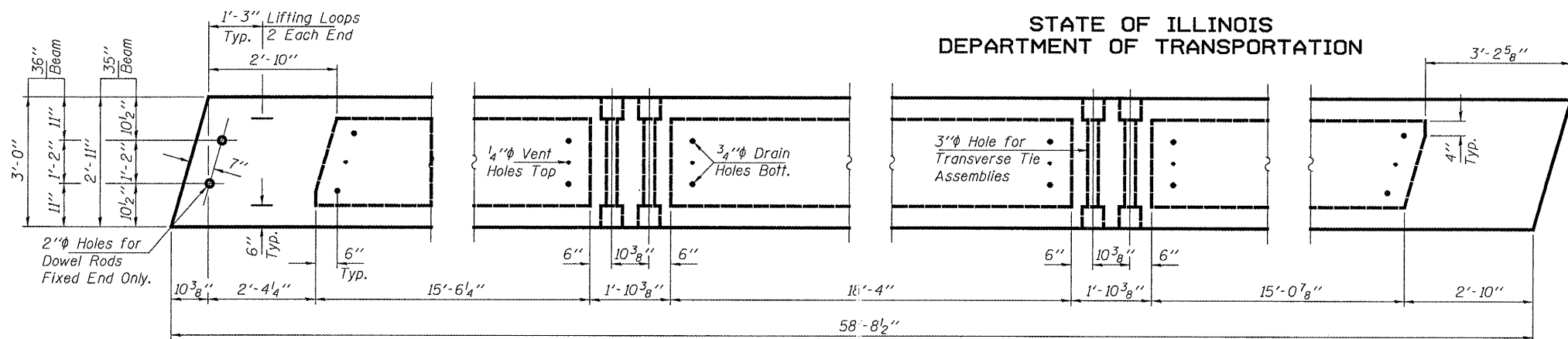
MAY 12, 2008  
EXAMINED *Carl H. Hines*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

BEAM DETAILS  
FAP 317 OVER SOUTH FORK  
VERMILION RIVER  
LIVINGSTON COUNTY  
SN 053-0152

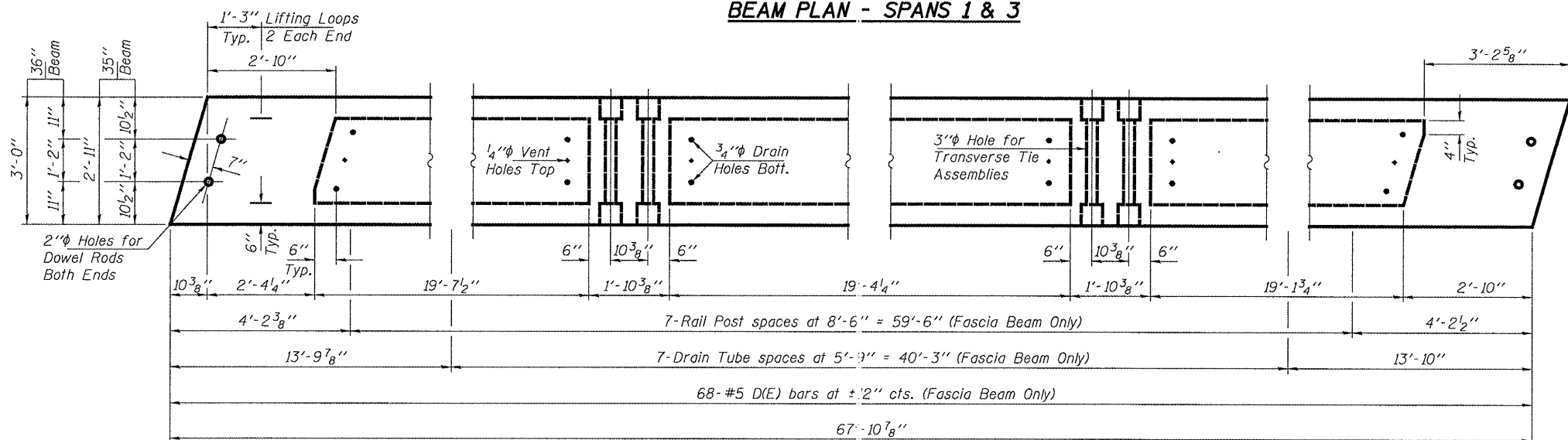
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 3 6 SHEETS
FAP 317	*	LIVINGSTON	16	13	
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

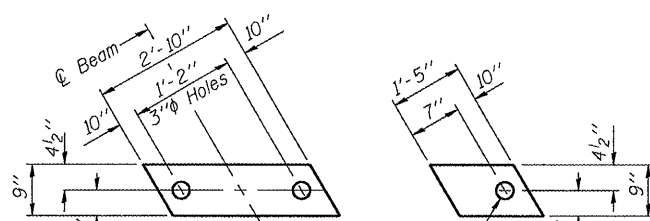
Contract Number: 66809  
\* (25-B-1)I-1



BEAM PLAN - SPANS 1 & 3



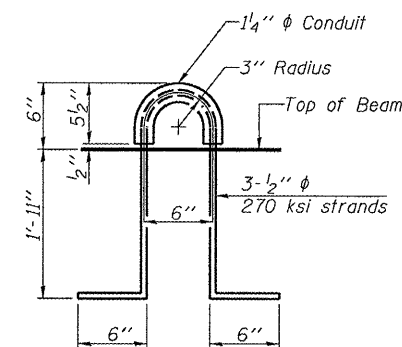
BEAM PLAN - SPAN 2



FIXED FABRIC  
BEARING PAD

(Omit holes for Expansion Bearings)

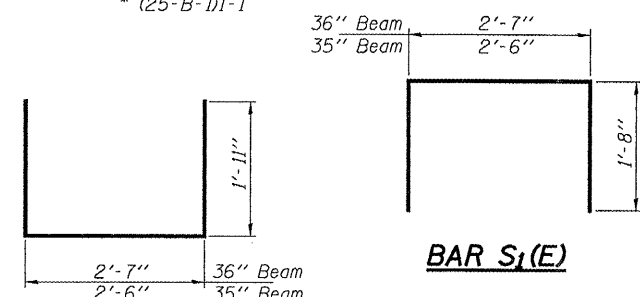
FIXED FABRIC  
ADJUSTING SHIM



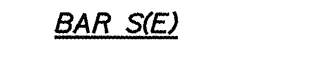
LIFTING LOOP DETAIL

NOTES

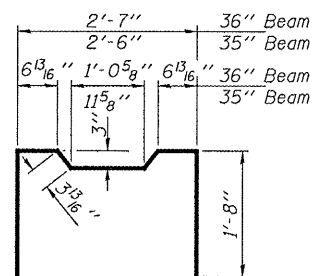
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Fockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.  
Reinforcement bars shall conform to ASTM A 706 (IL MOD), Grade 60. (See Special Provisions)  
Two 5/8" fabric adjusting shims of the dimensions shown shall be provided for each bearing pad location.  
A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.  
Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.  
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.  
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.



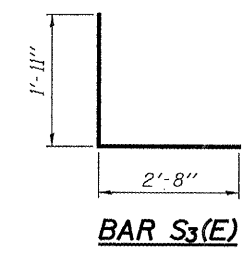
BAR S1(E)



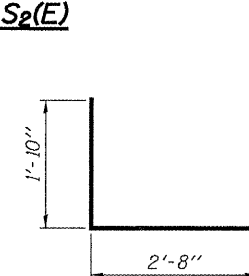
BAR S(E)



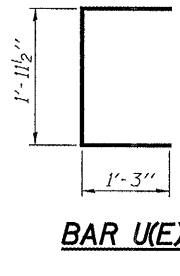
BAR S2(E)



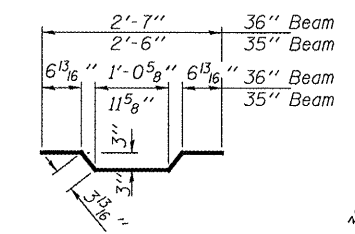
BAR S3(E)



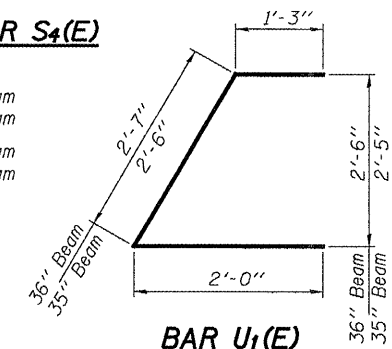
BAR S4(E)



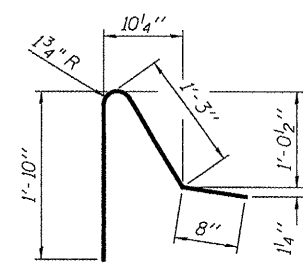
BAR U(E)



BAR A1(E)



BAR U1(E)



BAR D(E)

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	2458
---	---------	------

BEAM DETAILS  
FAP 317 OVER SOUTH FORK  
VERMILION RIVER  
LIVINGSTON COUNTY  
SN 053-0152

DESIGNED	ATH
CHECKED	AJB
DRAWN	Steffen
CHECKED	ATH AJB

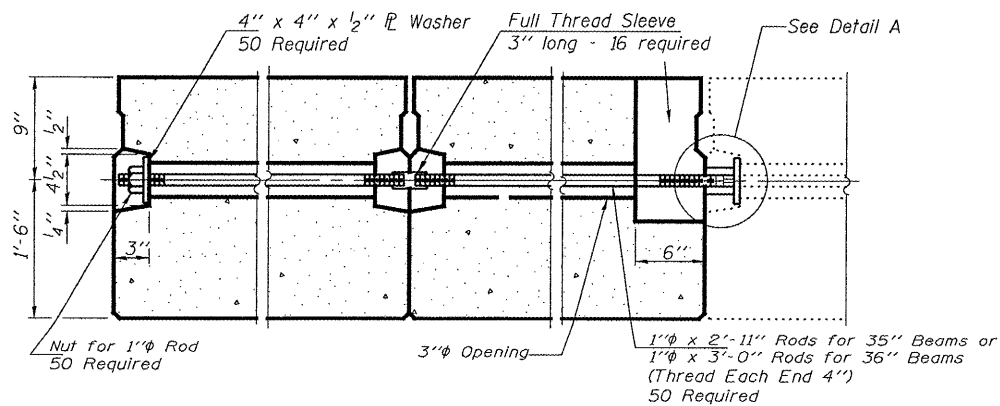
MAY 12, 2008  
EXAMINED *Carl Hovoy*  
ENGINEER OF STRUCTURAL SERVICES  
PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

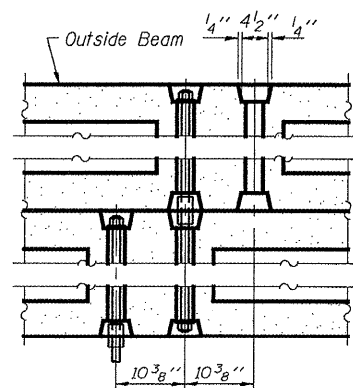
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 4 6 SHEETS
FAP 317	*	LIVINGSTON	16	14	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

Contract Number: 66809  
\* (25-B-1)-1

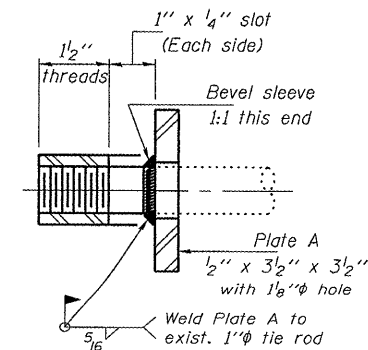
6" x 6" x 11 1/2" Blockout to be filled with Class BS Concrete after Beams have been installed. Cost shall be included in the cost of "Concrete Superstructure".



TYPICAL TRANSVERSE TIE ASSEMBLY



DETAIL A



SECTION A-A  
(18 Required)

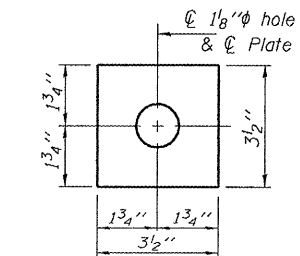
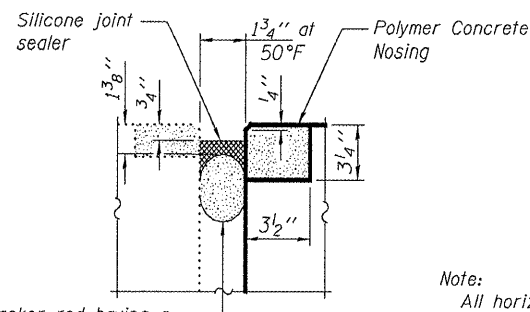


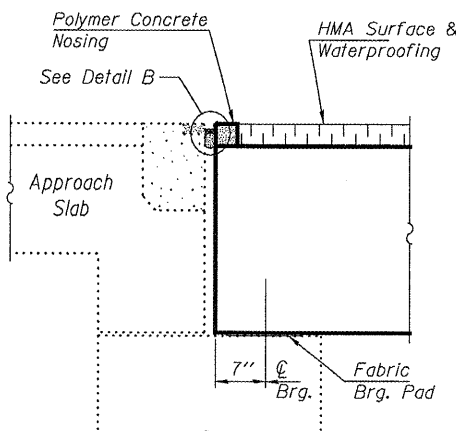
PLATE A  
(18 Required)



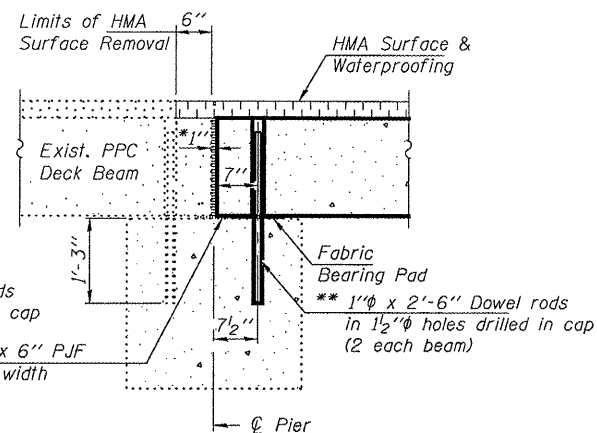
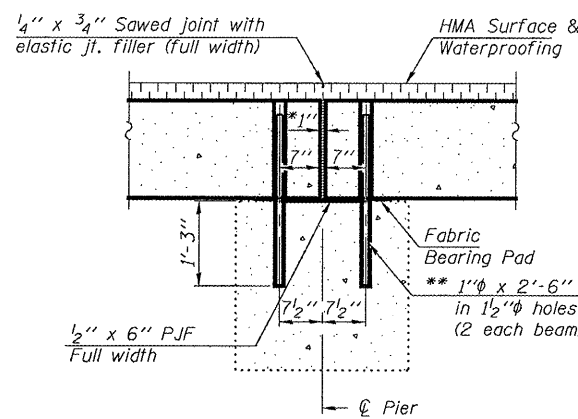
Backer rod having a diameter 25% greater than joint opening at the time of installation

DETAIL B

Note: All horizontal dimensions are at right angles to beam ends.



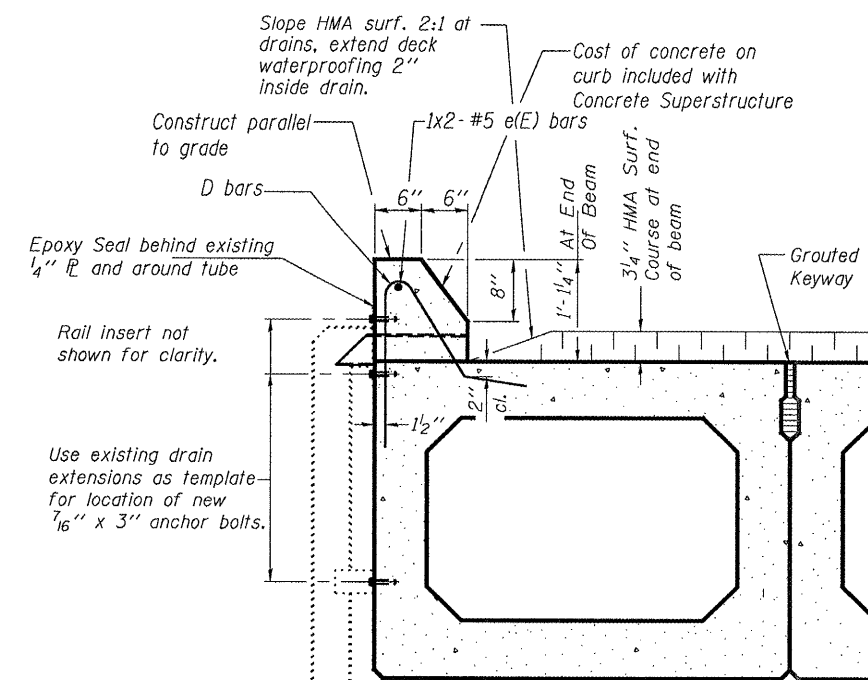
SECTION THRU ABUTMENT



SECTIONS THRU FIXED PIERS

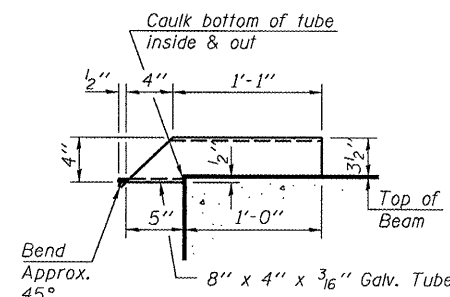
\* 1" Jt. shall be filled with non-shrink grout. 1" dimension may vary to accommodate tolerance in beam lengths.

\*\* Existing dowel rods are to be burned off, ground flush, and sealed with epoxy prior to placement of new beams. Cost included in Removal of Existing PPC Deck Beams. After beams have been erected holes shall be drilled in cap and dowel rods placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure a minimum of 24 hours prior to grouting the shear keys.



TYPICAL SECTION THRU CURB

Existing aluminum drain extensions to be removed and reinstalled. Cost included with Concrete Superstructure



DRAIN DETAIL

Cost included with Concrete Superstructure

Mn. Bar Lap  
#5 = 2'-2"

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
e(E)	2	#5	35'-0"	
Reinforcement Bars, Epoxy Coated			Pounds	70

Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

REPAIR DETAILS  
FAP 317 OVER SOUTH FORK  
VERMILION RIVER  
LIVINGSTON COUNTY  
SN 053-0152

DESIGNED	ATH
CHECKED	AJB
DRAWN	Steffen
CHECKED	ATH AJB

MAY 12, 2008  
EXAMINED  
PASSED  
ENGINEER OF STRUCTURAL SERVICES  
ENGINEER OF BRIDGES AND STRUCTURES

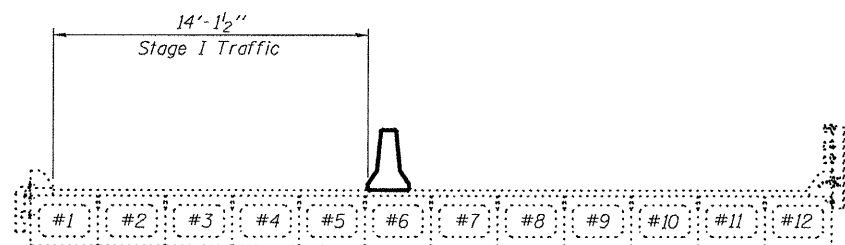
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	POST MILE	SHEET NO.
FAP 317	*	LIVINGSTON	16	15
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT

SHEET NO. 5

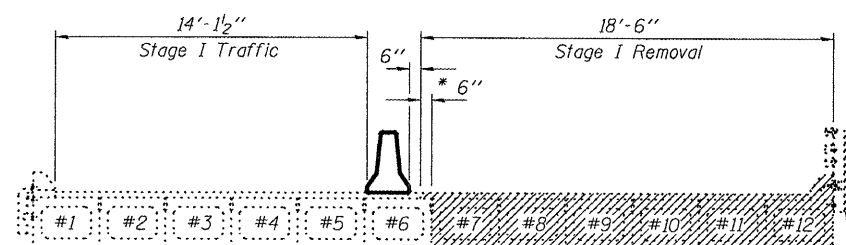
6 SHEETS

Contract Number: 66809  
\* (25-B-111-1)



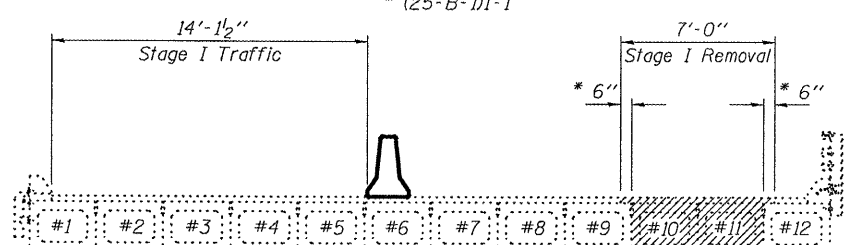
**SPAN 1 CROSS SECTION**

(Showing Stage I Removal)



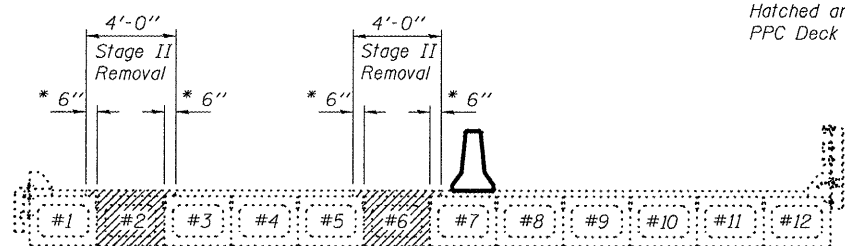
**SPAN 2 CROSS SECTION**

(Showing Stage I Removal)



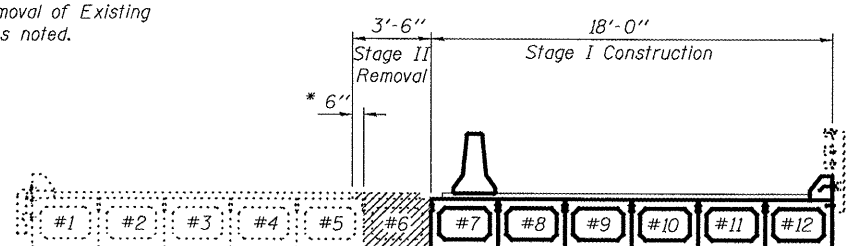
**SPAN 3 CROSS SECTION**

(Showing Stage I Removal)



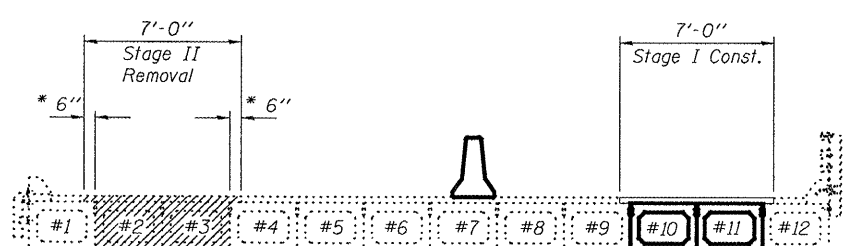
**SPAN 1 CROSS SECTION**

(Showing Stage I Construction & Stage II Removal)



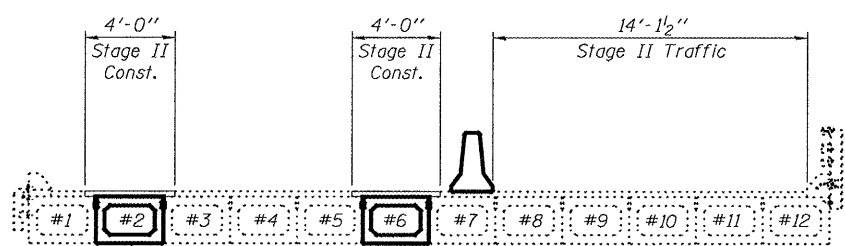
**SPAN 2 CROSS SECTION**

(Showing Stage I Construction & Stage II Removal)



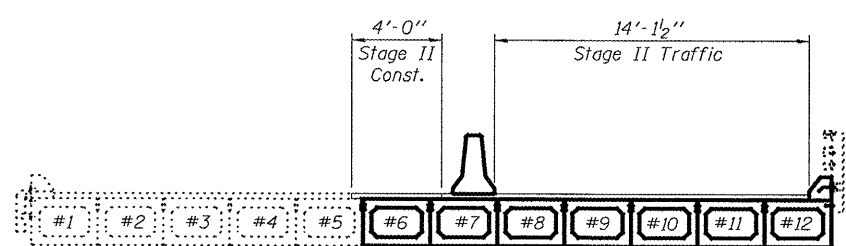
**SPAN 3 CROSS SECTION**

(Showing Stage I Construction & Stage II Removal)



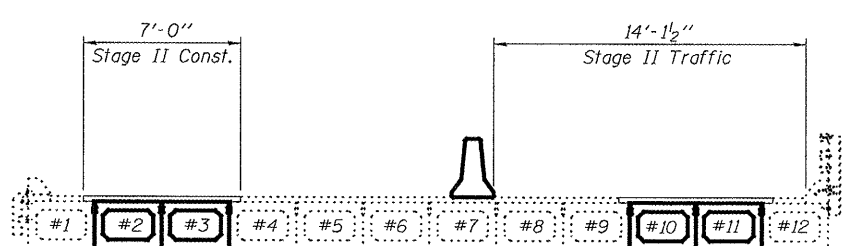
**SPAN 1 CROSS SECTION**

(Showing Stage II Construction)



**SPAN 2 CROSS SECTION**

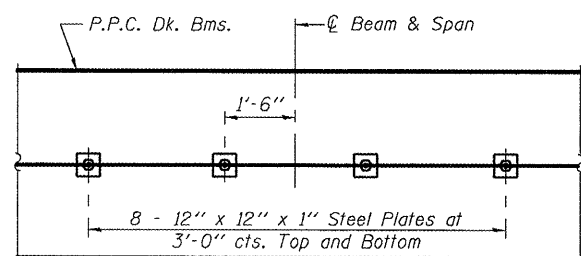
(Showing Stage II Construction)



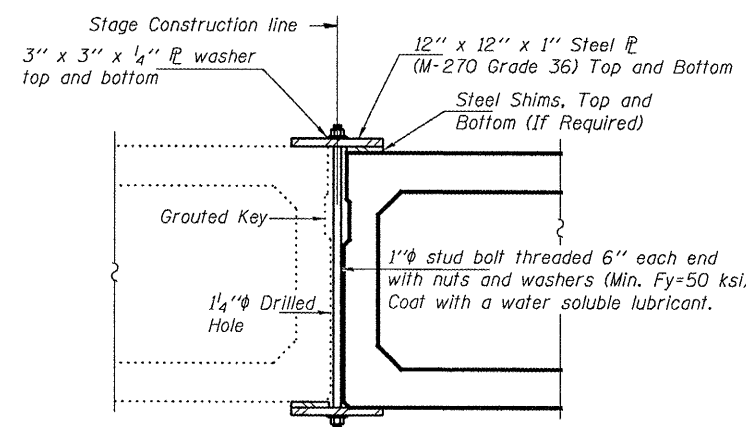
**SPAN 3 CROSS SECTION**

(Showing Stage II Construction)

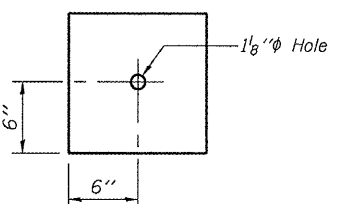
Note:  
Remove existing Silicone Joint Sealer within the Stage Removal limits shown for Spans 1 & 3. Cost included with Removal of Existing PPC Deck Beams.



**PLAN**



**SHEAR KEY CLAMPING DEVICE**



**CLAMPING PLATE**

**STAGING DETAILS**  
FAP 317 OVER SOUTH FORK  
VERMILION RIVER  
LIVINGSTON COUNTY  
SN 053-0152

Notes:  
See Special Provisions for Stage Construction Precast Prestressed Concrete Deck Beams.  
See Stage Construction Detail for traffic lane.  
Cost is included with Precast Prestressed Concrete Deck Beams.

DESIGNED	ATH	EXAMINED	MAY 12, 2008
CHECKED	AJB	PASSED	<i>Ralph E. Anderson</i> ENGINEER OF BRIDGES AND STRUCTURES
DRAWN	Steffen		
CHECKED	ATH AJB		

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 317	*	LIVINGSTON	16	16
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 6  
6 SHEETS

Contract Number: 66809  
\* (25-B-1)1-1

**NOTES**

Hollow structural sections shall conform to the requirements of ASTM designation A 500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft-lbs at 0° F.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

Bolts, cap screws, and nuts shall conform to the requirements of ASTM designation A 307 except for high strength bolts nuts and washers noted which shall conform to AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.

Anchor devices shall be galvanized after shop fabrication according to AASHTO M 111 and ASTM A 385. Cost of anchorage devices is included with the cost of Precast Prestressed Concrete Deck Beams of the depth specified in these contract plans.

For multi-span bridges, sufficient 1/4" galvanized steel shims of the dimensions shown shall be provided to align rail between adjacent spans.

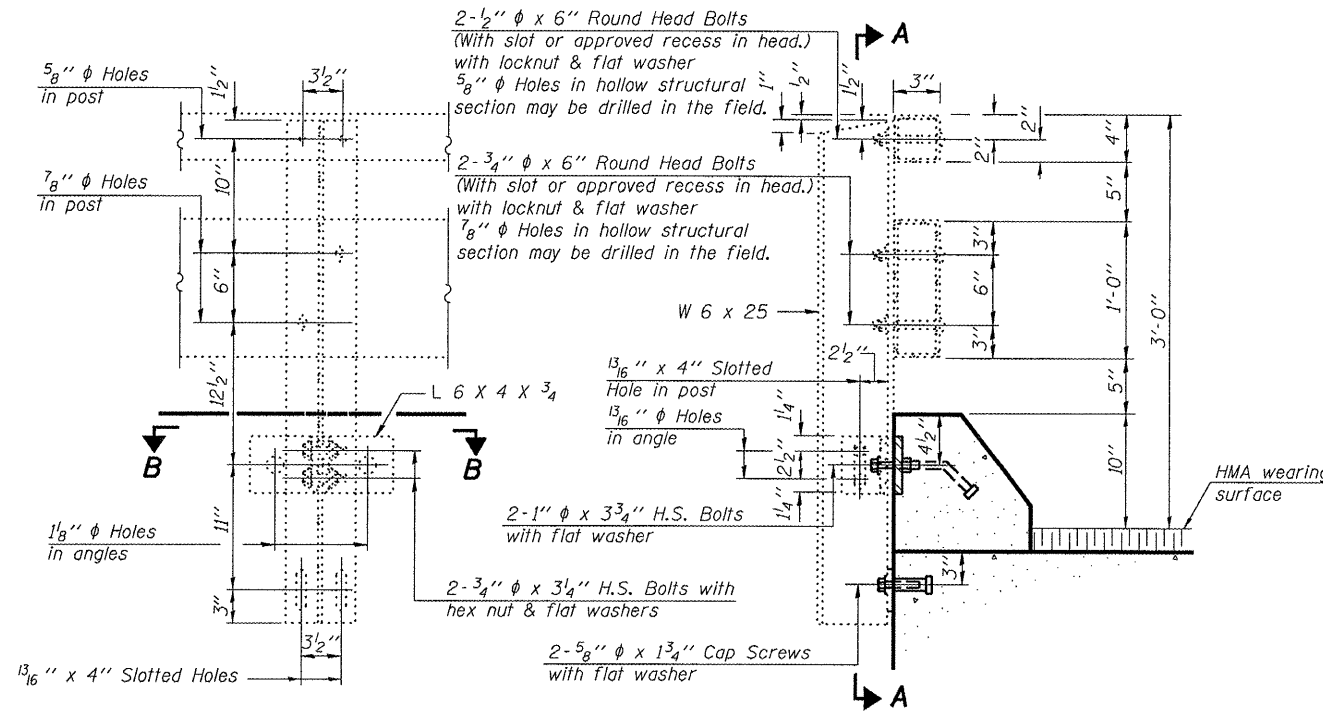
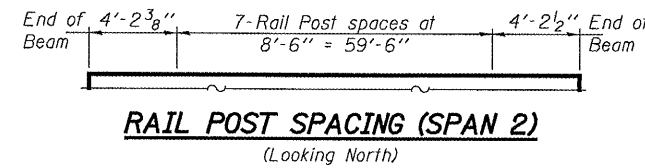
The lower portion of the post flange in contact with concrete shall receive two coats of asphalt paint conforming to Section 1060.07 Type II or place new 1/2" fabric bearing pad between the post and concrete. Fabric bearing pads shall meet the requirements of Article 1082.01 of the Standard Specifications.

The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/2 turn. The 5/8" cap screws in bottom of posts shall be tightened to snug fit only.

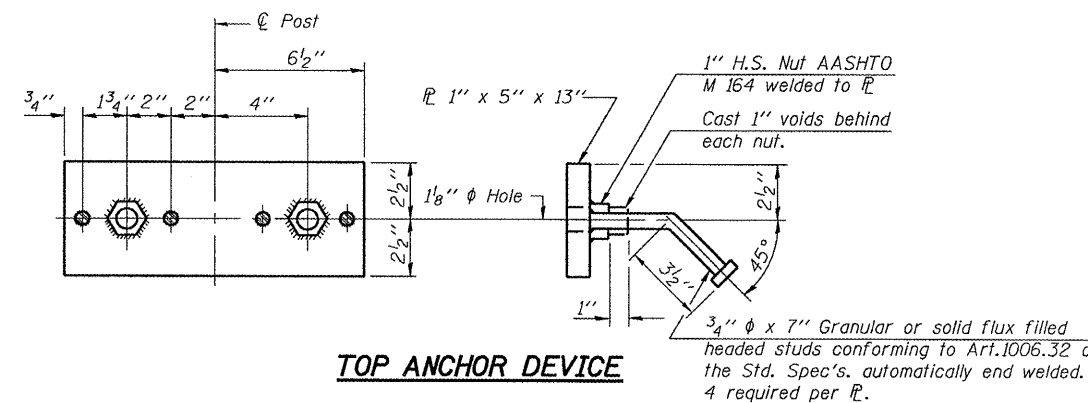
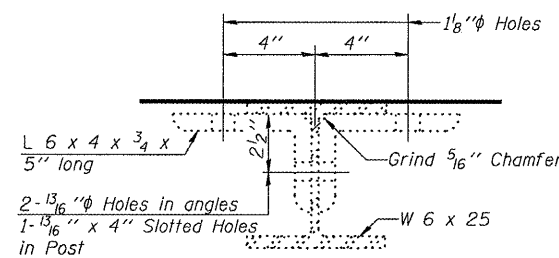
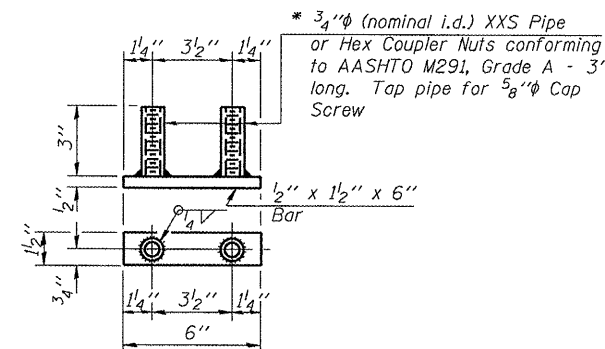
Removal and re-erection of the existing railing shall be accomplished in a manner that will avoid scratching, denting or other damage that may affect the durability or appearance of the railing.

The length paid for will be overall length along the rail from end to end, in place, at the location of re-erection.

This work will be paid for at the contract unit price per foot for Removing and Re-erection Existing Railing, which price shall include removal, temporary storage, re-erection, asphalt paint or new bearing pads, shims and all new hardware required to satisfactorily complete the work.



\* Threaded areas shall be plugged or blocked off during casting of beam.



DESIGNED	ATH
CHECKED	AJB
DRAWN	Steffen
CHECKED	ATH AJB

MAY 12, 2008

EXAMINED *Carl Hansen*  
ENGINEER OF STRUCTURAL SERVICES

PASSED *Ralph E. Anderson*  
ENGINEER OF BRIDGES AND STRUCTURES

**RAILING DETAILS**  
**FAP 317 OVER SOUTH FORK**  
**VERMILION RIVER**  
**LIVINGSTON COUNTY**  
**SN 053-0152**