

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	(123B)I-2	MERCER	15	1

DESIGNER: CLARK JONES  
PHONE: (309)671-3452

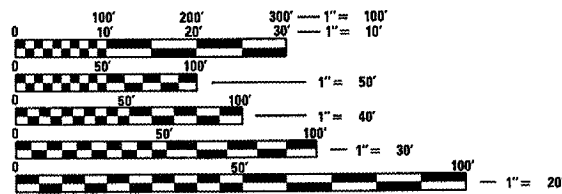
PROJECT ENGINEER: JIM MILLER  
PHONE: (309)671-3451

**INDEX OF SHEETS:**

- 1. COVER SHEET
- 2. GENERAL NOTES
- 3-4. SUMMARY OF QUANTITIES
- 5. TYPICAL SECTIONS
- 6. SCHEDULE OF QUANTITIES
- 7-8.. PLATS
- 9. GENERAL LAYOUT
- 10. SHOULDER REM/REPL.
- 11-12. TRAFFIC CONTROL
- 13-15. BEAM REPLACEMENT DETAILS

**STANDARDS:**

- 701001-01      701321-09      704001-04
- 701006-02      701326-02      780001-01
- 701201-02      701901

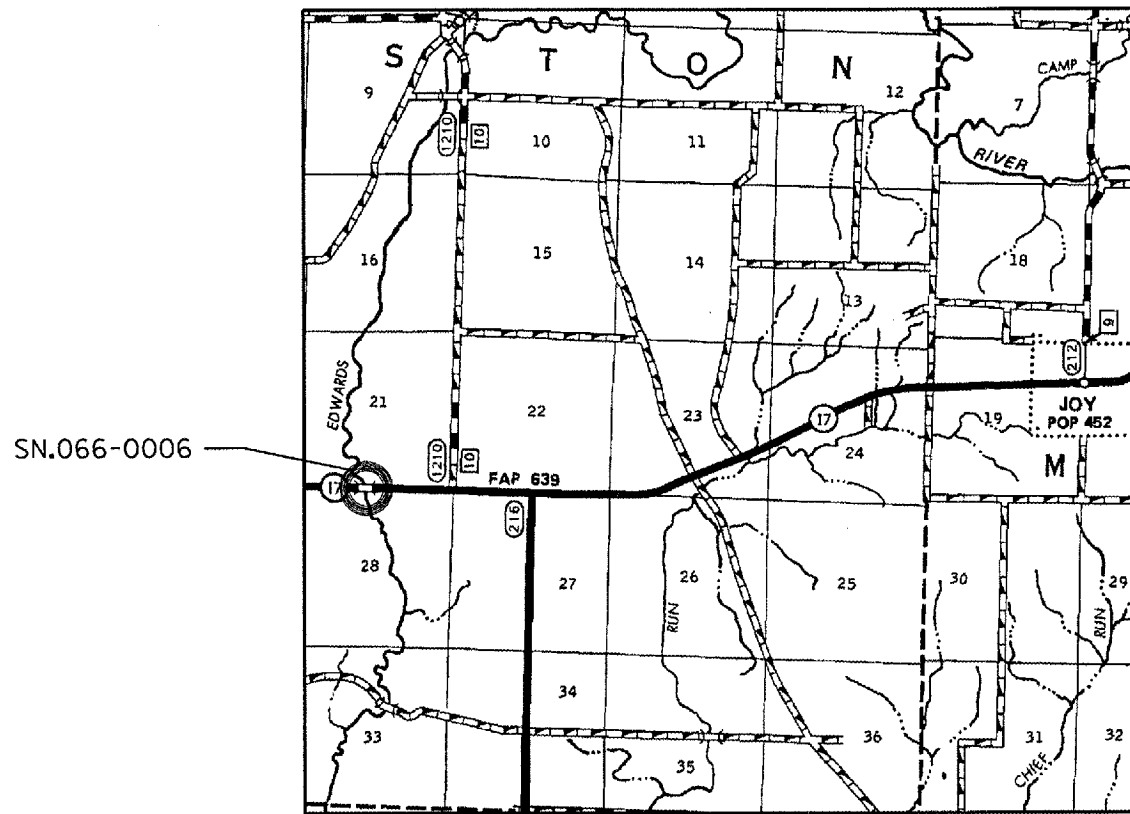


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

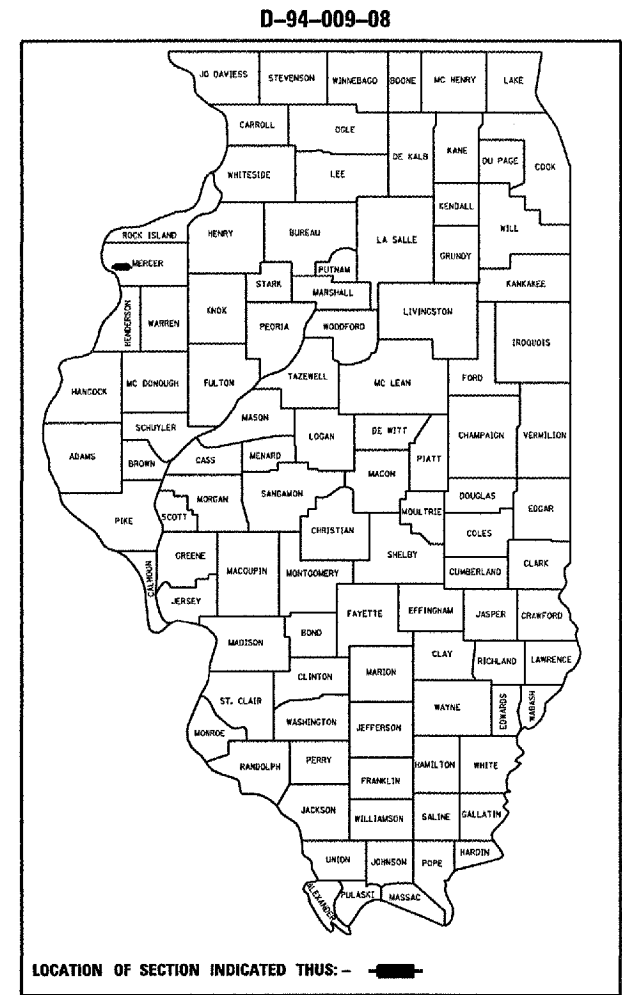
J.U.L.I.E.  
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION  
1-800-892-0123

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**  
**DIVISION OF HIGHWAYS**  
**PROPOSED**  
**HIGHWAY PLANS**

**FAP 639 (IL 17)**  
**SECTION (123B)I-2**  
**MERCER COUNTY**  
**C-94-009-08**



LOCATION MAP



LOCATION OF SECTION INDICATED THUS: —■—

PROJECT CONSISTS OF EMERGENCY BEAM REPLACEMENT OF (3) PPC DECK BEAMS ON STRUCTURE CARRYING IL. 17 OVER EDWARDS RIVER (SN.066-0006), 4.6 MILES WEST OF JOY.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED *FEB 1 20 08*

*[Signature]*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

*March 21, 20 08*  
*Eric E. Harn*  
ENGINEER OF DESIGN AND ENVIRONMENT

*March 21, 20 08*  
*Christine M. Reed*  
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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**OF THE STATE OF ILLINOIS**

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	(123B)-2	MERCER	15	2
STA. 151+26.40		TO STA. 157+20.66		
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		

**COMMITMENTS**

*The Contractor and Resident Engineer shall contact the D4 I.D.O.T. Materials Department for exact aggregate optimized class BD mix design. Overlay mix shall be conventional BD mix with additional 10% cement material.*

**GENERAL NOTES**

*Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field 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 actually furnished at the unit price bid for the work.*

*The proposed replacement Concrete Wearing Surface shall be hand-tined as per Article 420.09(e)(1) of the Standard Specifications. The cost of this work shall be incidental to "Concrete Wearing Surface".*

PLOT DATE : 08/16/2007  
 FILE NAME : #FILE#GENDRIFT\STAMP\MS\SOUND\BRIDGE Cont-act\A\Eng-genc\pcc\BarrRepair\A\68772 6866-8866\17over-EdwardsRvr.dgn  
 PLOT SCALE : 1"=40'  
 REFERENCE :

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**GENERAL NOTES**

SCALE: VERT.  
 HORIZ.  
 DATE 08-16-2007

DRAWN BY CEJ  
 CHECKED BY

F.A.P. R.T.E.	SECTION	COUNTY	TOTAL SHEET SHEETS NO.
639	(123B)1-2	MERCER	15 3
STA. 151+26.40 TO STA. 157+20.66			
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT			

# SUMMARY OF QUANTITIES

100% STATE SAFETY - 2A  
MERCER

CODE NO.	ITEM	UNIT	RURAL	TOTAL
35600712	HOT MIX ASPHALT BASE COURSE WIDENING, 9"	SQYD	58	58
44000920	BITUMINOUS CONCRETE SHOULDER REMOVAL	SQYD	58	58
50301200	CONCRETE WEARING SURFACE	SQYD	96.2	96.2
50400505	<i>PRECAST PRESTRESSED CONCRETE</i> DECK BEAMS (27" DEPTH)	SQFT	184	184
50400605	<i>PRECAST PRESTRESSED CONCRETE</i> DECK BEAMS (33" DEPTH)	SQFT	448	448
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1650	1650
67100100	MOBILIZATION	LSUM	1	1
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD 701321	EACH	1	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	LSUM	1	1
70100500	TRAFFIC CONTROL AND PROTECTION, STANDARD 701326	LSUM	1	1
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1	1

#DATE 08-17-07  
 #FILE #SALENOGRAFF\STDP\PLNS\SDAQ\4\BRIDGE\_Contract\Emergency\PCB\Bee\Repair\A8772\_SNB65-8686\17over\Edwin\dr\brv.dgn  
 #SCALE #REF#

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

## SUMMARY OF QUANTITIES

SCALE: VERT. \_\_\_\_\_  
 HORIZ. \_\_\_\_\_  
 DATE 08-17-2007

DRAWN BY CEJ  
 CHECKED BY \_\_\_\_\_

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	123B11-2	MERCER	15	4
STA. 151+26.40 TO STA. 157+20.66				
FED. ROAD DIST. NO. 4		ILLINOIS FED. AID PROJECT		

# SUMMARY OF QUANTITIES

100% STATE SAFETY - 2A  
MERCER

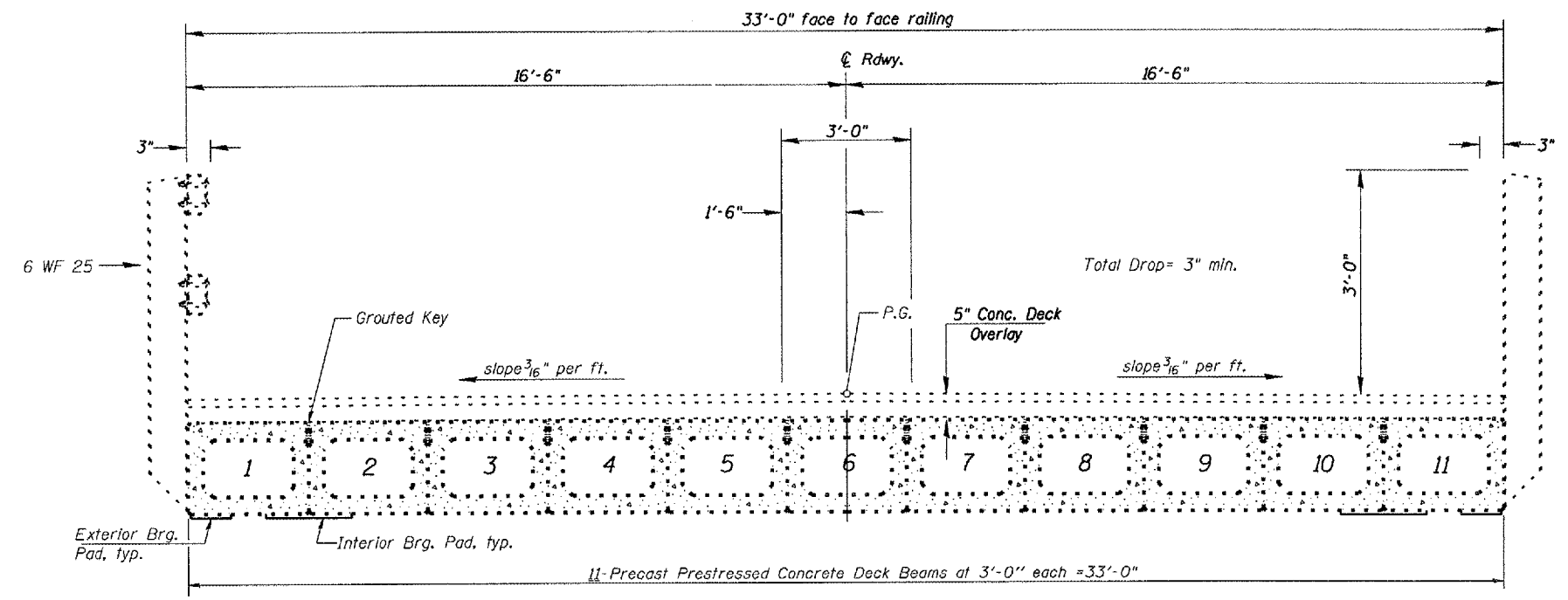
CODE NO.	ITEM	UNIT	RURAL	TOTAL
*70300520	PAVEMENT MARKING TAPE, TYPE III 4"	FOOT	1404	1404
70301000	WORKZONE PAVEMENT MARKING REMOVAL	SQ FT	1404	1404
70400100	TEMPORARY CONCRETE BARRIER	FOOT	588	588
*78005110	EPOXY PAVEMENT MARKING-LINE 4"	FOOT	1762	1762
78300100	PAVEMENT MARKING REMOVAL	SQFT	529	529
X0301424	SILICONE JOINT SEALER	FOOT	10	10
X0320047	REMOVAL OF EXISTING <i>PRECAST PRESTRESSED CONCRETE</i> DECK BEAMS	SQFT	650	650
X0320887	POLYMER CONCRETE	CUFT	4.2	4.2
X0321781	MECHANICAL SPLICE	EACH	440	440
X5030275	CONCRETE WEARING SURFACE REMOVAL	SQYD	24.1	24.1
Z0001900	ASBESTOS BEARING PAD REMOVAL	EACH	3	3
Z0030250	IMPACT ATTENUATORS, TEMPORARY(NON-REDIRECTIVE), TEST LEVEL 3	EACH	2	2

\* SPECIALTY ITEM

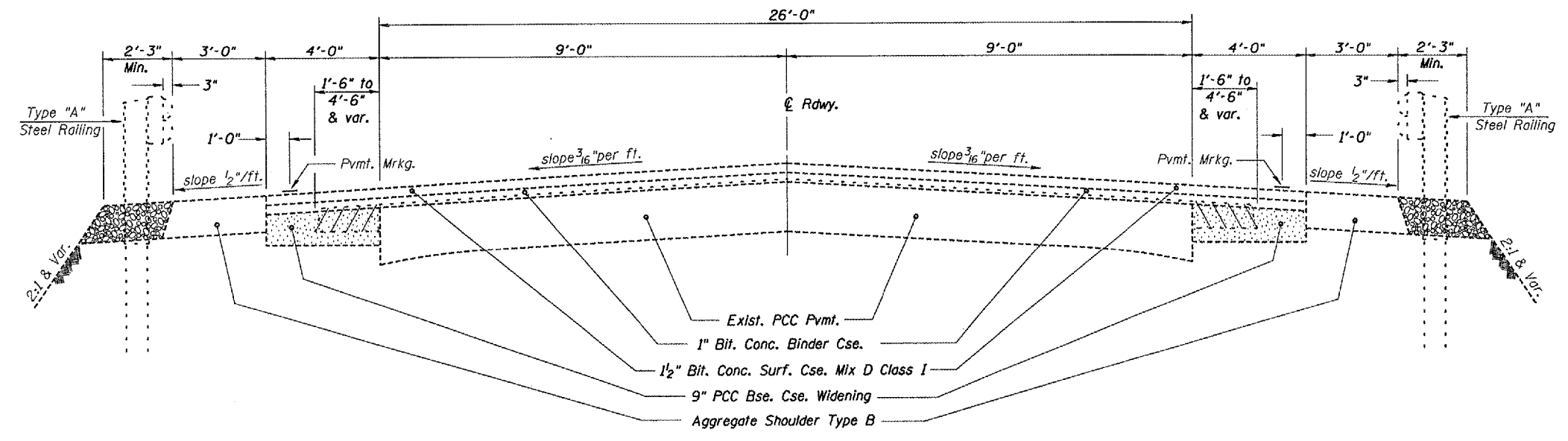
REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION  
**SUMMARY OF QUANTITIES**  
SCALE: VERT. \_\_\_\_\_ HORIZ. \_\_\_\_\_  
DATE: 08-18-2007  
DRAWN BY: CEJ  
CHECKED BY: \_\_\_\_\_

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	(123BI-2	MERCER	15	5
STA. 151+26.40		TO STA. 157+20.66		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



**DECK CROSS SECTION**  
Edwards River Bridge



**ROADWAY SECTION**  
Sta. 143+49.5 to Sta. 151+26.11  
Sta. 157+20.66 to Sta. 170+89.61  
Rt. Sta. 170+89 to Sta. 172+09

SN.066-0006 IL.17  
over Edwards River

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**TYPICAL SECTIONS**

SCALE: VERT. HORIZ.  
DATE 08-21-2007

DRAWN BY CEJ  
CHECKED BY

#DATE 886-21-97 #FILE: s:\GEN\DR\FT. ST\PLANS\SOUND\4\BRIDGE Construct\A\Emergency\PC\Beam\Bearing\158772 SN.066-0006 IL.17 over Edwards River.dgn  
 11/14/07  
 SRF: SRF:

F.A. P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	(1238)1-2	MERCER	15	6
STA. 151+26.40 TO STA. 157+20.66				
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				

# SCHEDULE OF QUANTITIES

## EPOXY PAVEMENT MARKING LINE, 4" & PAVEMENT MARKING REMOVAL

LOCATION STA. TO STA.	LENGTH (FOOT)	PVMT. MRKG. REM.	
		WHITE EDGELINE (SQ.FT.)	YELLOW SKIP DASH (SQ.FT.)
Sta. 148.47 to Sta. 157.21	874	262.2	
Sta. 148+37 to Sta. 157+81	315		94.5
Sta. 150+27 to Sta. 156+00	573	172	
<b>TOTAL</b>	<b>1762</b>	<b>529</b>	

## PAVEMENT MARKING TAPE & WORKZONE PAVEMENT MARKING REMOVAL

LOCATION STA. TO STA.	TEMP. PVMT. MRKG. LINE - 4" WHITE (FT.)	TEMP. PVMT. MRKG. LINE - 4" WHITE (FT.)	WORK ZONE PVMT. MRKG. REM. (FT.)
Sta. 148+47.11 to Sta. 150+51.11		240 (Taper)	240 (Taper)
Sta. 150+51.11 to Sta. 155+05.00		454 (C)	454 (C)
Sta. 155+05.00 to Sta. 157+21.00		216 (Taper)	216 (Taper)
Sta. 150+27.11 to Sta. 155+55.00	530.0 (N.Edge)		530.0 (N.Edge)
<b>SUB-TOTAL</b>	<b>530.0</b>	<b>874</b>	
<b>TOTAL</b>	<b>1404</b>	<b>1404</b>	

## TEMPORARY TRAFFIC SIGNALS

LOCATION	TRAFFIC SIGNALS (EA.)
Jobsite Traffic Control	1
<b>TOTAL</b>	<b>1</b>

## TRAFFIC CONTROL

LOCATION STA. TO STA.	TEMP. CONC. BARRIER (FT)	IMPACT ATTEN. TEMP. (EACH)	T,C,&P. STANDARD 701201 (EACH)	T,C,&P. STANDARD 701321 (EACH)	T,C,&P. STANDARD 701326 (EACH)
Sta. 149+89 to Sta. 155+80	588				
Jobsite		2	1	1	1
<b>TOTAL</b>	<b>588</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>

## BITUMINOUS WIDENING MIX SPECIFICATION

The following mixture requirements are applicable to this project:

MIXTURE USE(S):	SURFACE LIFT	LOWER LIFTS
AC/PG:	PG 64-22	PG 64-22
RAP% (MAX): **	30% Max	30% Max
Design Air Voids:	3.0% @ N=30	4.0% @ N=30
Mixture Composition: (Graduation Mixture)	IL. 9.5L	IL 19.0L
Friction Aggregate:	Mixture C	N/A

\*\* If RAP option is selected, the asphalt cement grade may need to be adjusted by the Materials Engineer.

## SHOULDER REMOVAL/REPLACEMENT

BITUMINOUS CONCRETE SHOULDER REMOVAL			
LEFT WEST APPROACH	SQ.YD.	LEFT EAST APPROACH	SQ.YD.
Sta. 151+01.11 to Sta. 151+26.11	58		N/A
RIGHT WEST APPROACH		RIGHT EAST APPROACH	
	N/A		N/A
<b>TOTAL</b>			<b>58</b>
HMA BASE COURSE WIDENING, 9"			
LEFT WEST APPROACH	SQ.YD.	LEFT EAST APPROACH	SQ.YD.
Sta. 151+01.11 to Sta. 151+26.11	58		N/A
RIGHT WEST APPROACH		RIGHT EAST APPROACH	
	N/A		N/A
<b>TOTAL</b>			<b>58</b>

SN.066-0006 IL.17  
over Edwards River

**NOTE**  
Additional pay items that may not be included in the SCHEDULE OF QUANTITIES pertain to the superstructure repair and are designated on the Bridge Office Repair Details, (pages 14-16). Signing on Sheet 13.

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

## SCHEDULE OF QUANTITIES

SCALE: VERT.  
HORIZ.  
DATE 01-14-2008

DRAWN BY CEJ  
CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	(123B)-2	MERCER	16	7
STA. 151+26.40		TO STA. 157+20.86		
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

417G023

EMERY V. AYERS &  
LULU L. AYERS

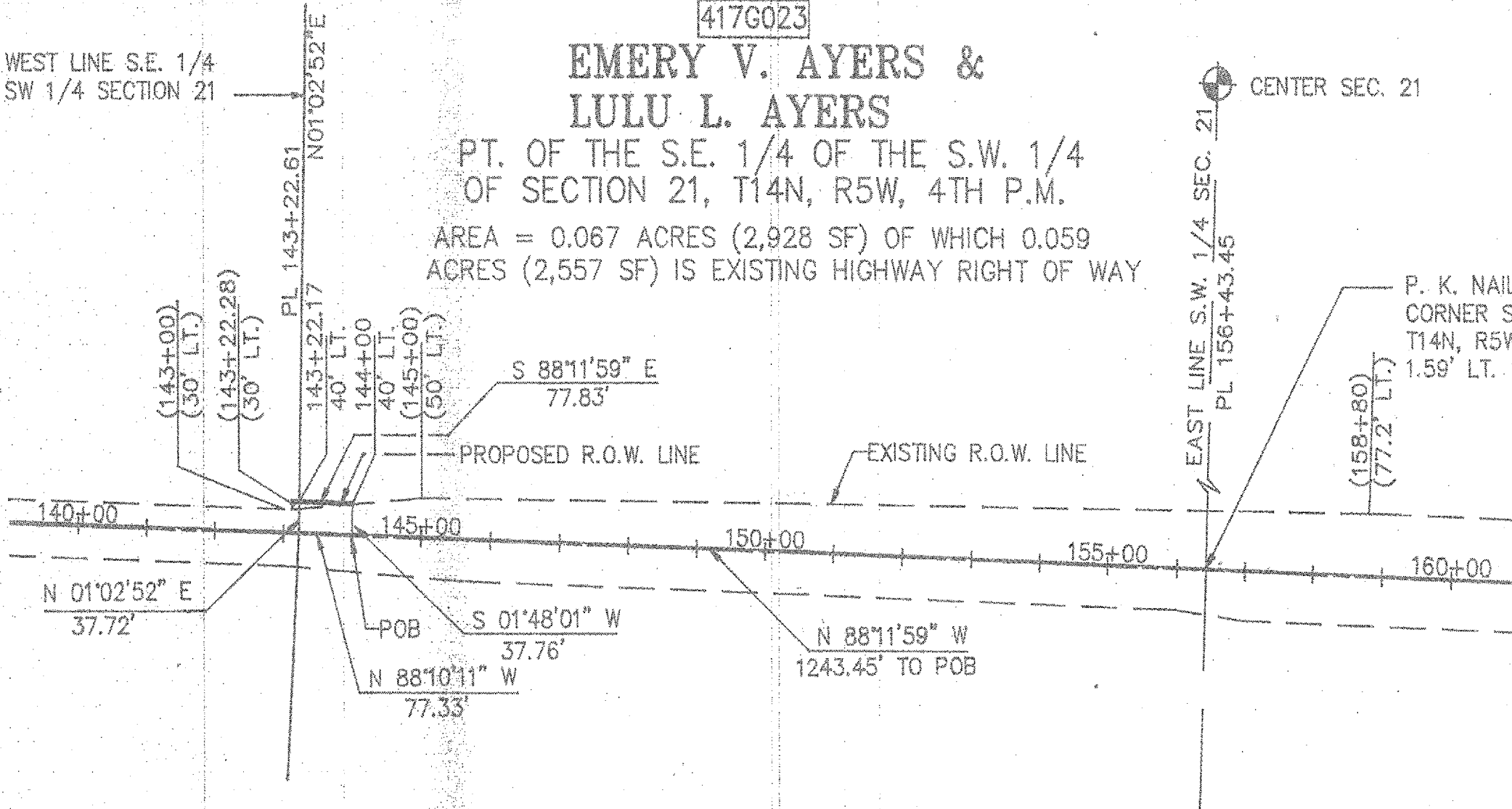
PT. OF THE S.E. 1/4 OF THE S.W. 1/4  
OF SECTION 21, T14N, R5W, 4TH P.M.

AREA = 0.067 ACRES (2,928 SF) OF WHICH 0.059  
ACRES (2,557 SF) IS EXISTING HIGHWAY RIGHT OF WAY

CENTER SEC. 21

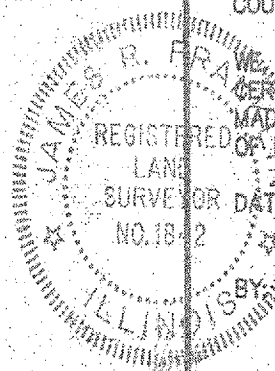
P. K. NAIL S. 1/4  
CORNER SECTION 21,  
T14N, R5W, 4TH PM  
1.59' LT. 156+43.45

WEST LINE S.E. 1/4  
SW 1/4 SECTION 21



BY	DATE	COMPUTED	CHECKED	INKED	INK CHECKED
JRF	1-93				
JJQ	1-93				
HJM	1-93				
JRF	1-93				

STATE OF ILLINOIS )  
COUNTY OF PEORIA ) SS



WE, THE AUSTIN ENGINEERING CO., INC. DO HEREBY  
CERTIFY THAT THIS IS A TRUE AND CORRECT SURVEY  
MADE FOR THE DIVISION OF HIGHWAYS OF THE STATE  
OF ILLINOIS.

SURVEYOR DATED AT PEORIA, IL. THIS 2nd DAY OF Jan, 1993.

JAMES R. FRANKLIN, FLS NO. 1842

SCALE: 1" = 200'

BEARINGS BASED ON AN  
ASSUMED DATUM

PL INDICATES PROPERTY  
LINE

120+00 INDICATES STATION AND OFFSET  
40' RT. TO PROPOSED R.O.W. LINE

(120+00) INDICATES STATION AND OFFSET  
(40' RT.) TO EXISTING R.O.W. LINE

PT. OF THE SW 1/4 OF  
SECTION 21, TOWNSHIP 14 NORTH, RANGE 5W, 4TH PRINCIPAL MERIDIAN  
MERCER COUNTY

RIGHT OF WAY PLAT

FAP ROUTE 639 CONSTRUCTION SECTION 122RS-1, 123RS-2

SCALE: 1" = 200' JANUARY 19 93 JOB NO. R-94-017-91

Signed 7-24-93

Recorded 3-03-94

BOOK

PAGE

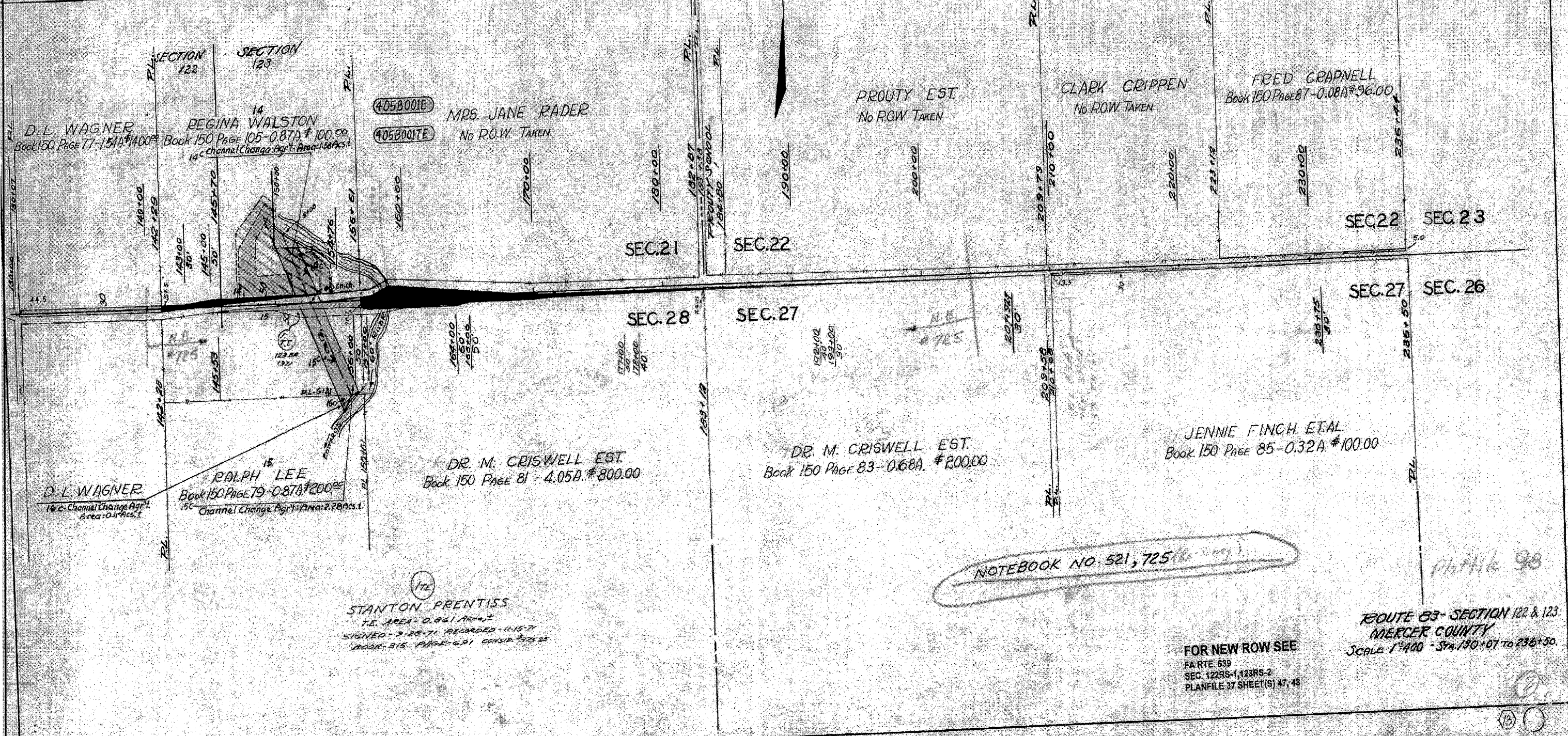
DOCUMENT NO. 292198

417G023

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEET NO.
639	123B1-2	MERCER	15
STA. 151+26.40	TO STA. 157+20.66		B
FED. ROAD DIST. NO. 4	ILLINOIS	FED. AID PROJECT	

NO.	GRANTORS	AREA	AREA IN EXIST. ROW	NET AREA	REMAINING AREA	SIGNED	RECORDED	BOOK	PG.	CONSID.
4058001E	EMERY V. AYERS	18.92+05M <sup>2</sup>		20.41 - 2.555A <sup>2</sup>		12-24-85	1-30-86	410	429	\$600.00
4058001E	EMERY V. AYERS	6.824A <sup>2</sup>		6.824A <sup>2</sup>		12-24-85				\$250.00

T. 14N. R. 5W. 4P.M.



PLOT DATE: 04/28/88-21-87  
 FILE NO.: 68772  
 REFERENCE: 117



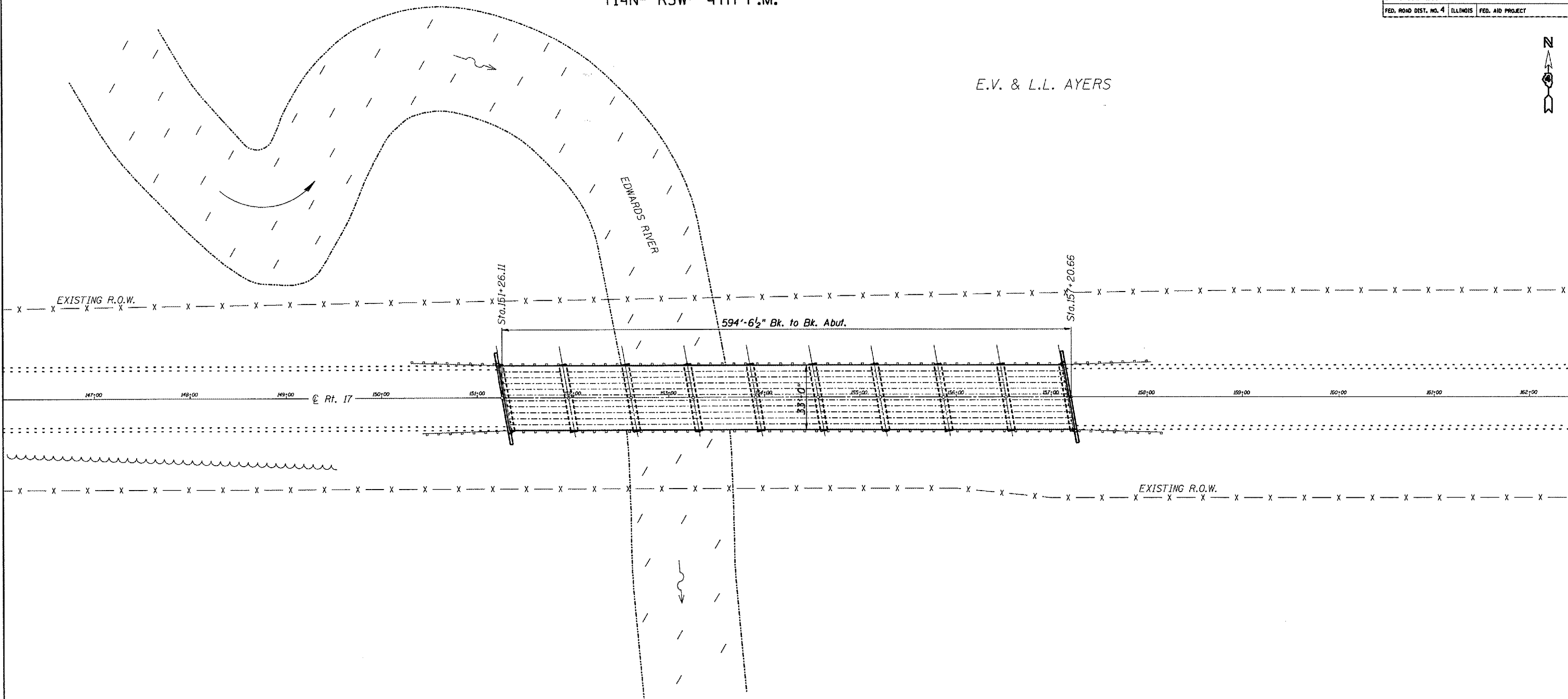
B.M.-(#23): CHISELED "□" IN CONCRETE BRIDGE ABUTMENT STA. 157+13(LT. 18.0') ELEV. 559.545

T14N- R5W- 4th P.M.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	(123B)I-2	MERCER	15	9
STA. 151+26.40 TO STA. 157+20.66				
FED. ROAD DIST. NO. 4   ILLINOIS   FED. AID PROJECT				



E.V. & L.L. AYERS



DATE: 08-24-07  
PROJECT: ILLINOIS DEPARTMENT OF TRANSPORTATION  
DRAWN BY: CEJ  
CHECKED BY: [blank]  
SCALE: [blank]  
SHEET: 9 OF 15

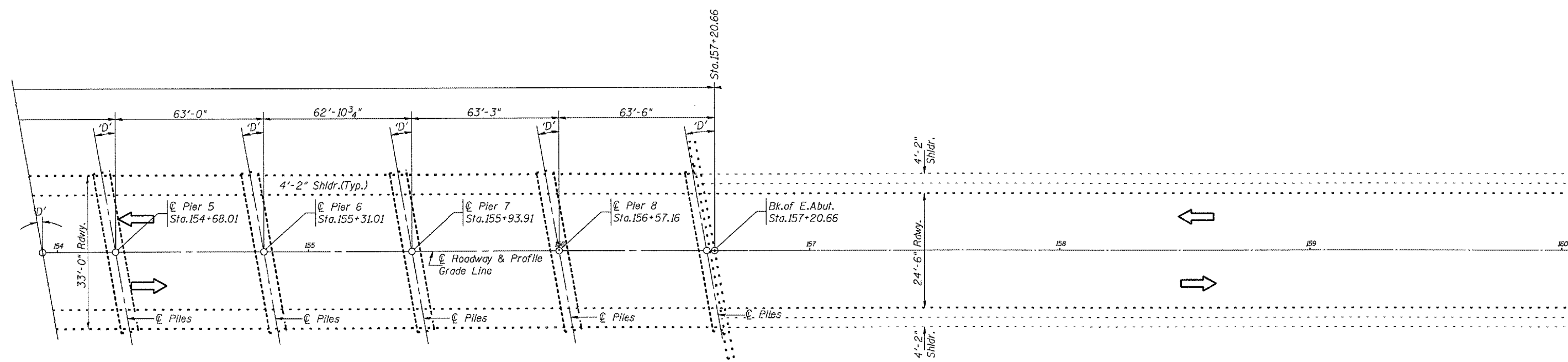
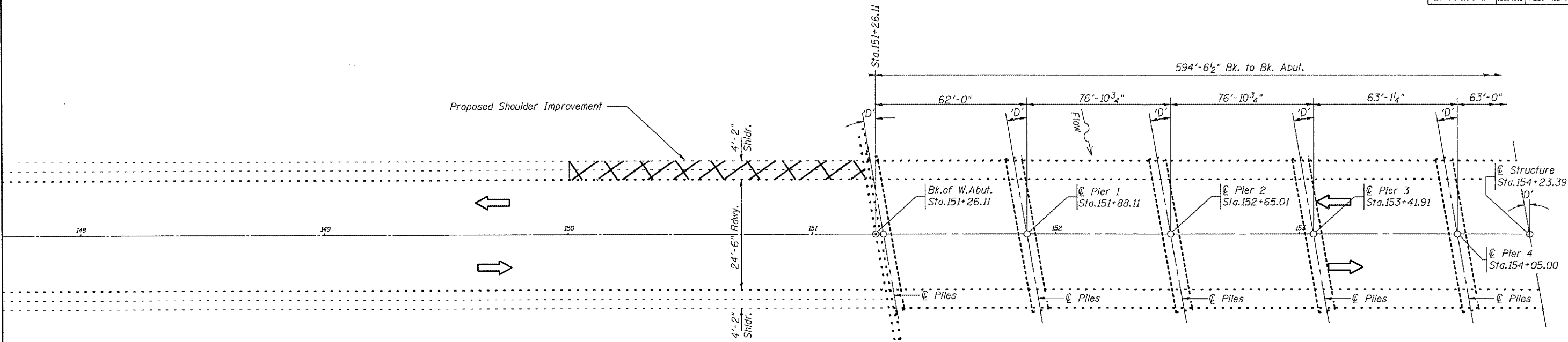
SN.066-0006 IL.17  
over Edwards River

REVISIONS		ILLINOIS DEPARTMENT OF TRANSPORTATION
NAME	DATE	
		GENERAL LAYOUT

SCALE: VERT. [blank]  
HORIZ. [blank]  
DATE 08-24-2007

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CHECKED BY [blank]

F.A.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	(123B)I-2	MERCER	15	10
STA. 151+26.40 TO STA. 157+20.66				
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				



Proposed Shoulder Removal/Replacement

SN.066-0006 IL.17  
over Edwards River

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**SHOULDER  
REM. /REPL.**

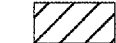




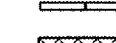

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HORIZ. \_\_\_\_\_  
DATE 01-14-2008

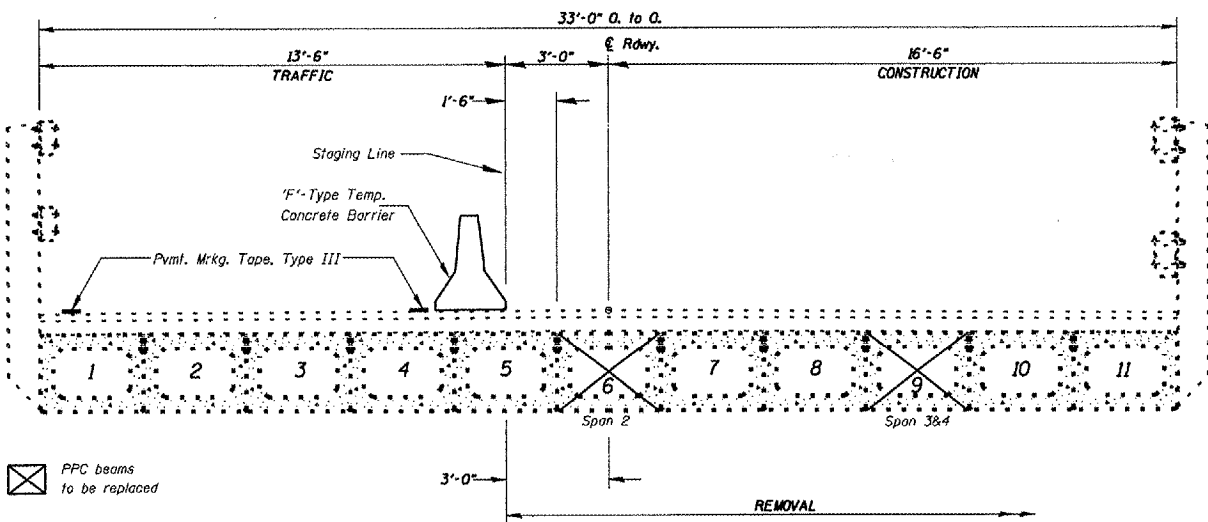
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CHECKED BY \_\_\_\_\_

S:\01585-24-07  
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 \$SCALE\$  
 \$REF\$

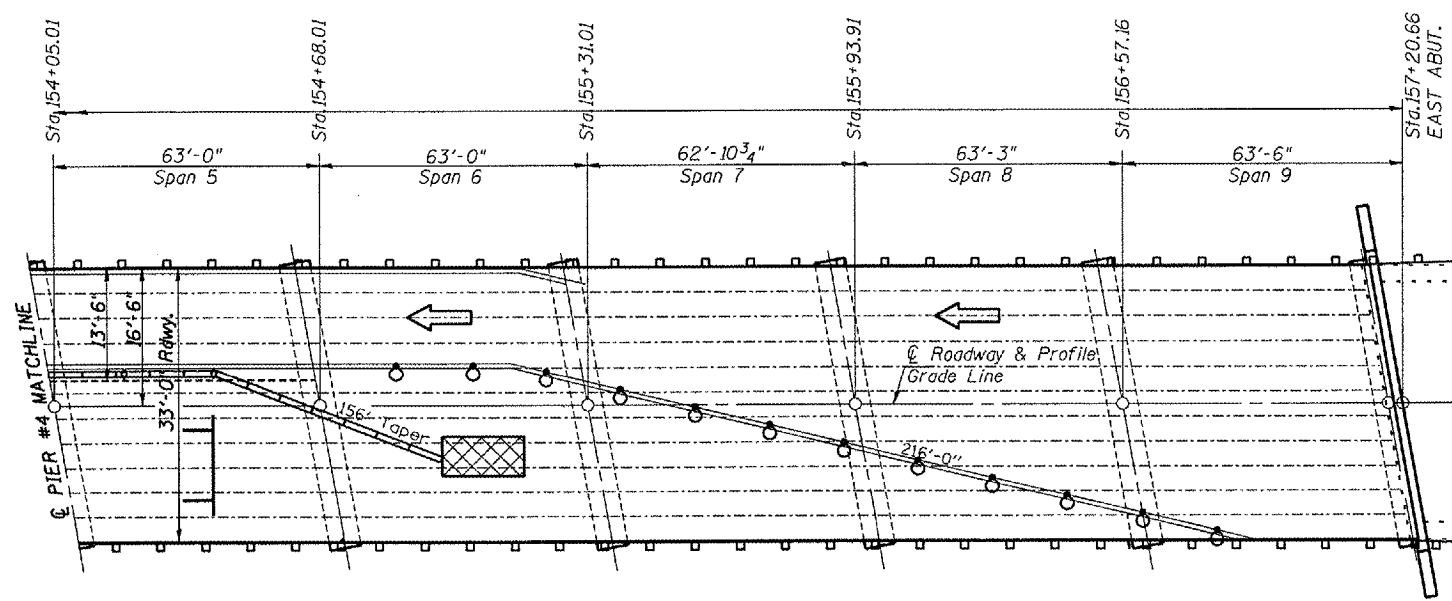
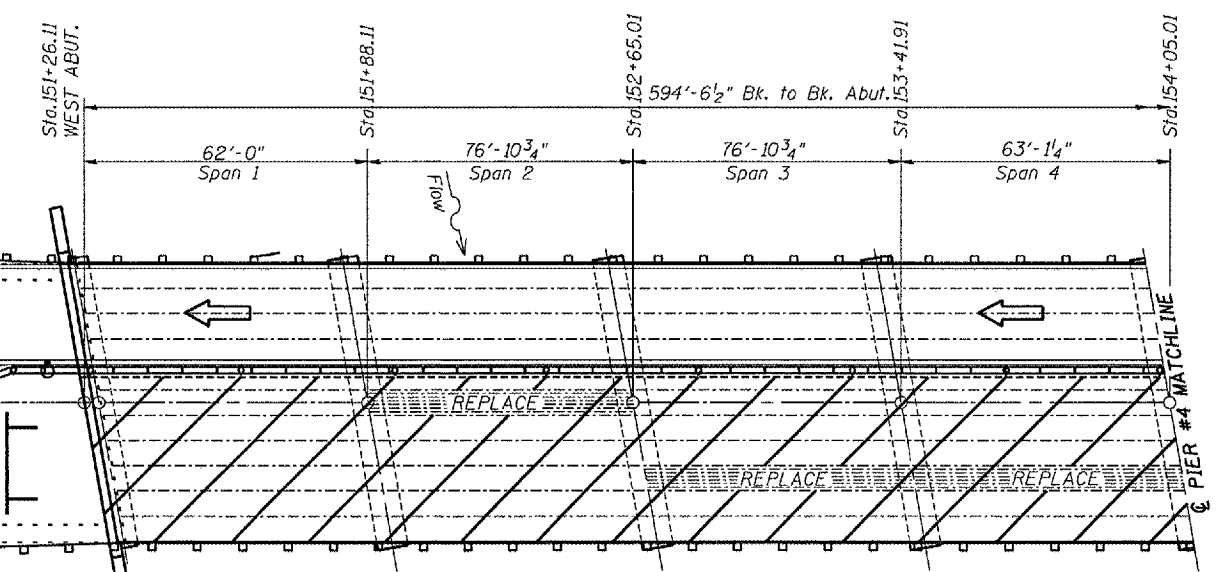
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEET SHEETS NO.
639	I123BII-2	MERCER	15 11
STA. 151+26.40 TO STA. 157+20.66			
FED. ROAD DIST. NO. 4 ILLINOIS		FED. AID PROJECT	

**SYMBOLS**

-  Work Area
-  Type II Barricade
-  Drum w/ steady burning light
-  Double Vertical Panels w/ steady-burning lights
-  Type C bidirectional reflector
-  Temporary Concrete Barrier
-  Impact Attenuator NRD TL3



**ELEVATION**  
(Looking East)



**PLAN**

**NOTES**  
Refer to Highway Standard 701321 in conjunction with this sheet for exact placement of traffic management devices and other clarifications as construction staging symbols and dimensioning were duplicated off of this standard.  
Barricades or Drums with bi-directional steady burn lights delineating the closed lane shall be placed in the work access opening during nonworking hours.

REVISIONS	
NAME	DATE

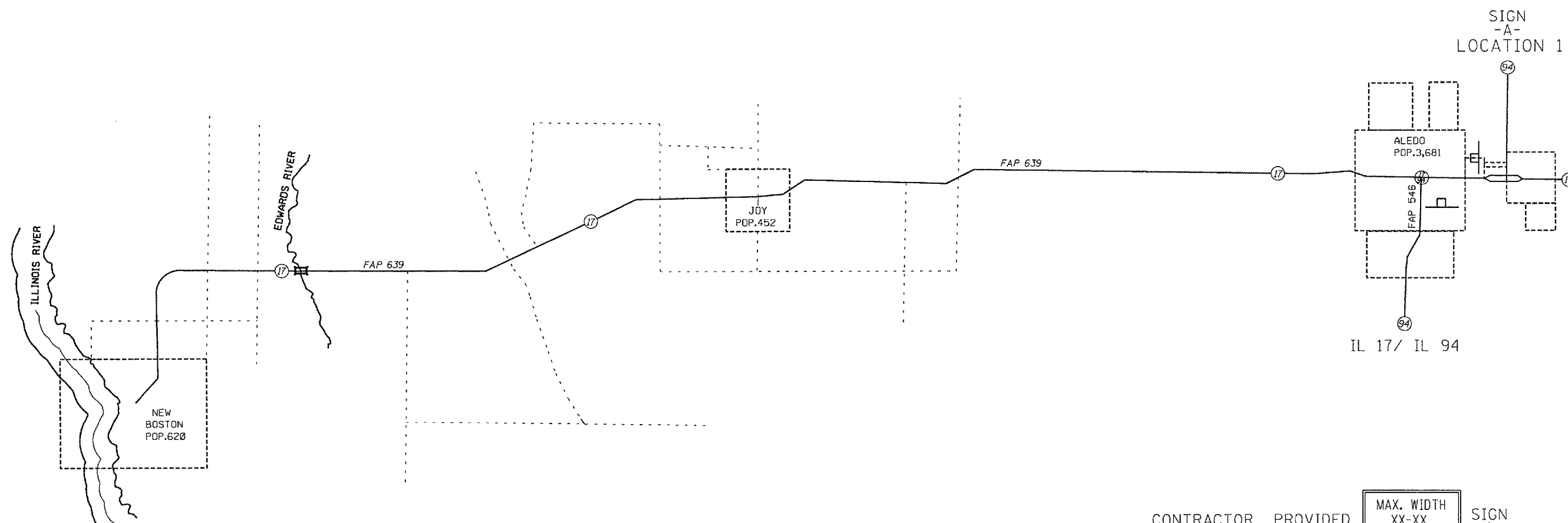
ILLINOIS DEPARTMENT OF TRANSPORTATION  
**TRAFFIC CONTROL**  
SCALE: VERT. HORIZ.  
DATE: 08-27-2007  
DRAWN BY CEJ  
CHECKED BY

DATE: 08-24-07  
SCALE: VERT. HORIZ.  
DATE: 08-27-2007  
DRAWN BY CEJ  
CHECKED BY

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
639	(123B)-2	MERCER	15	12
STA. 151+26.40 TO STA. 157+20.66				
FED. ROAD DIST. NO. 4 ILLINOIS FED. AID PROJECT				

**NOTES**

Notification signs shall be posted where necessary indicating maximum width ahead of 9'-6" and Changeable Message Boards for traffic from both directions placed one week prior to work start date for public safety and awareness.



CONTRACTOR PROVIDED

MAX. WIDTH  
XX-XX  
12 MILES

SIGN  
-A-

IDOT PROVIDED

IL. 17

**SN.036-0003 SIGNING DISTANCES**

	SIGN -A-	SIGN -B-
LOCATION 1	2 EA.	NA
LOCATION 2		
LOCATION 3		
LOCATION 4		

SN.066-0006 IL.17  
over Edwards River

REVISIONS	
NAME	DATE

ILLINOIS DEPARTMENT OF TRANSPORTATION

**WIDTH RESTRICTION  
SIGNING**

SCALE: VERT.  
HORIZ.  
DATE 01-10-2008

DRAWN BY CEJ  
CHECKED BY

SEE SPECIAL PROVISIONS FOR SIGNING DETAILS.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	QUANTITY	SHEETS	SHEET NO.
639		Mercer	15	13
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		3 SHEETS

Contract Number: 68772

**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.

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.

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.

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with PPC Deck Beams.

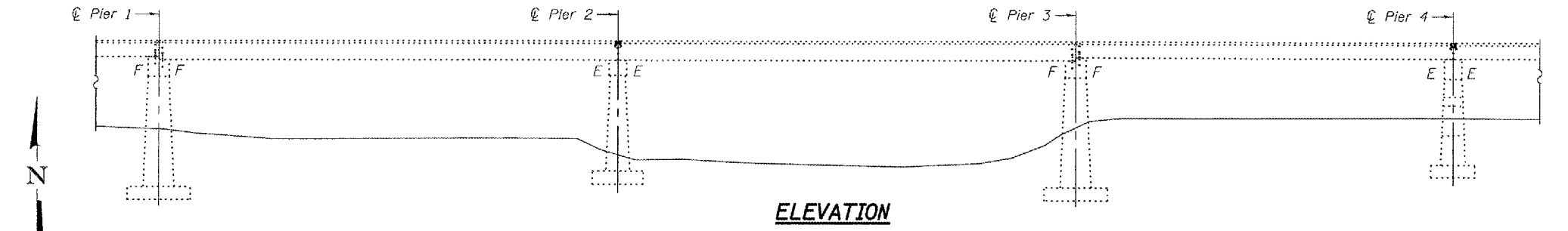
Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Wearing Surface Removal.

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.

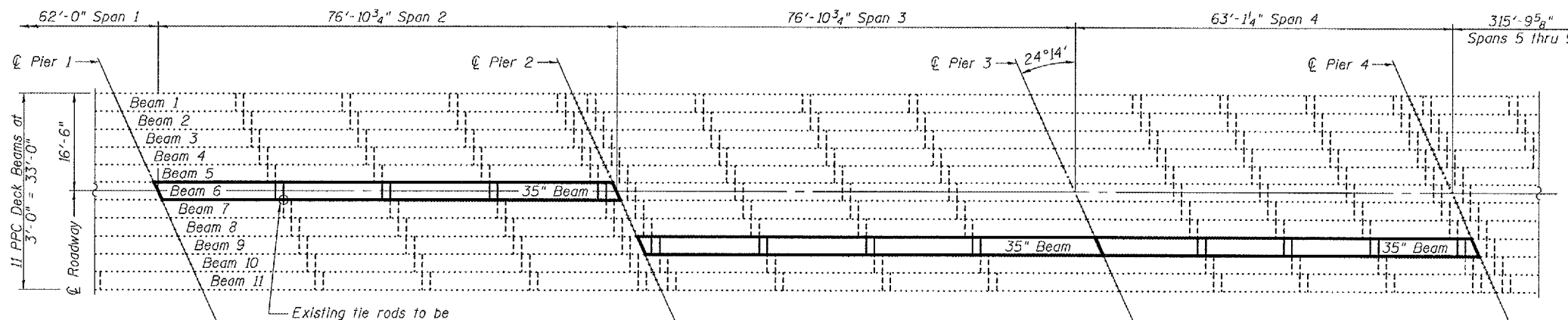
Temporary concrete barrier shall only be anchored into the overlay and not into the PPC Deck Beams.

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

Reinforcement bars designated (E) shall be epoxy coated.



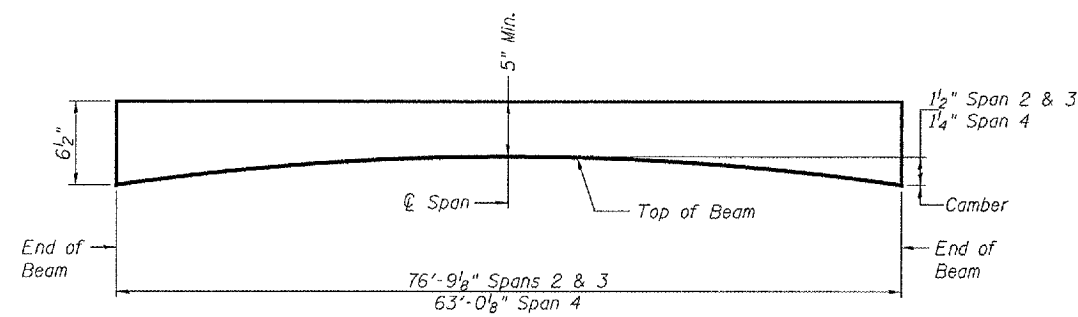
**ELEVATION**



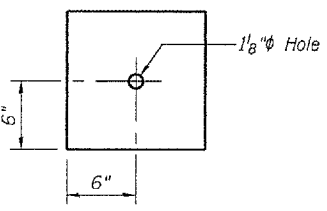
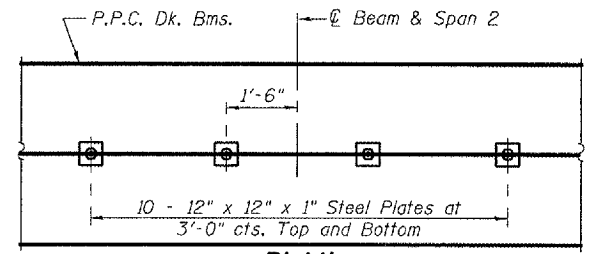
**PLAN**

Existing tie rods to be cut Typ. See detail this sheet.

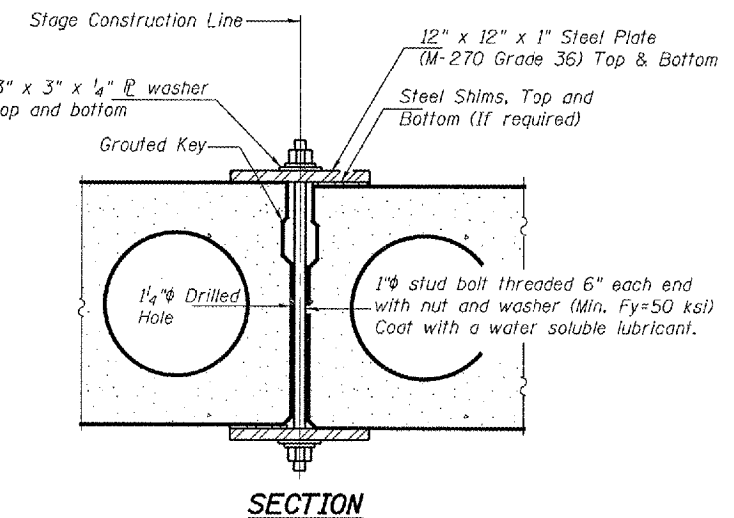
Notes:  
See Special Provisions for Stage Construction Precast Prestressed Concrete Deck Beams.  
See Stage Construction Detail for traffic lane.  
Cost is included with Precast Prestressed Concrete Deck Beams.



**CONCRETE WEARING SURFACE PROFILE**



**CLAMPING PLATE**

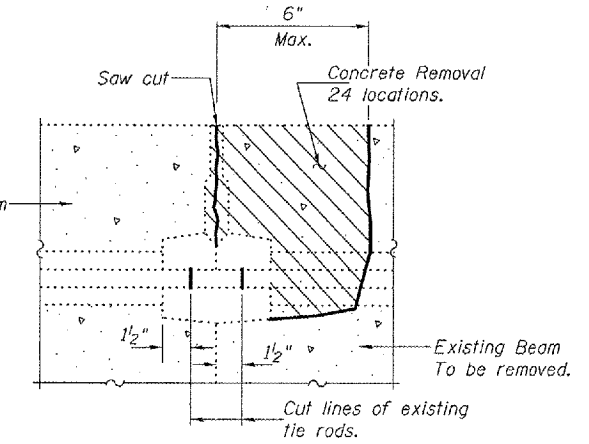


**SECTION**

**DESIGN STRESSES**

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

**PRECAST PRESTRESSED UNITS**  
f'c = 5,000 psi  
f'ci = 4,000 psi  
f's = 270,000 psi (1/2" low lax strands)  
f'si = 201,960 psi (1/2" low lax strands)



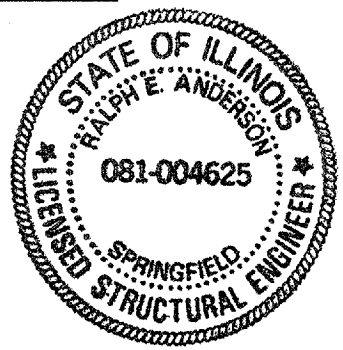
**BEAM REMOVAL DETAIL AT TRANSVERSE TIES**

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Concrete Wearing Surface Removal	Sq. Yd.	24.1
Concrete Wearing Surface	Sq. Yd.	96.2
Removal of Existing PPC Deck Beams	Sq. Ft.	650
PPC Deck Beams (33" Depth)	Sq. Ft.	448
PPC Deck Beams (27" Depth)	Sq. Ft.	184
Polymer Concrete	Sq. Ft.	4.2
Reinforcement Bars Epoxy Coated	Pound	1,650
Silicone Joint Sealer	Foot	10
Mechanical Splice	Each	440
Asbestos Bearing Pad Removal	Each	3

DESIGNED: Victor H. Vela  
CHECKED: Adrian T. Holloway  
DRAWN: [Signature]  
CHECKED: VHV ATIT

February 26, 2008  
EXAMINED: [Signature]  
PASSED: Ralph E. Anderson  
ENGINEER OF BRIDGES AND STRUCTURES



Expires: November 30, 2008

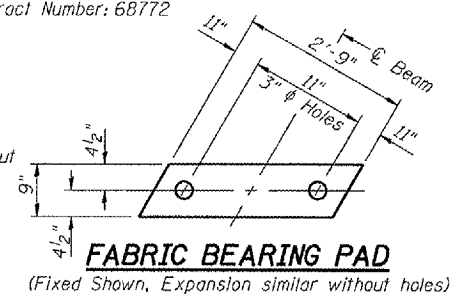
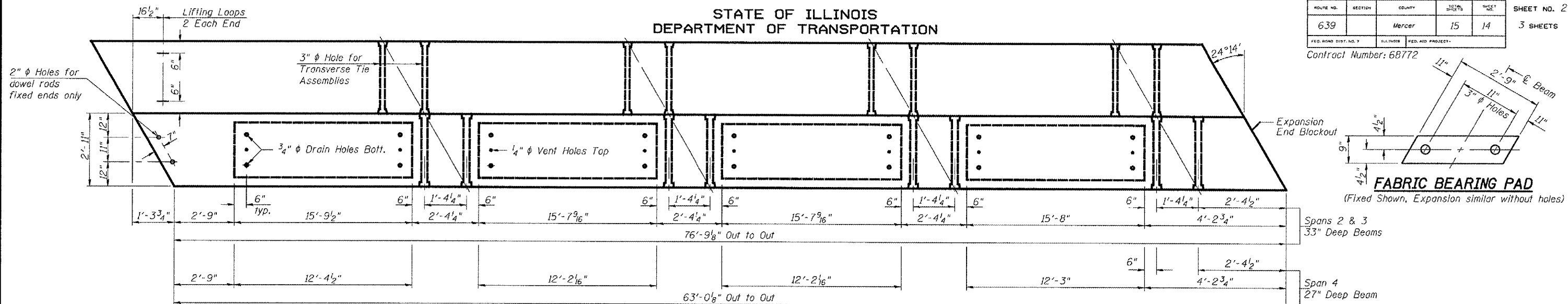
**PLAN AND ELEVATION**  
F.A.P. RT. 639  
MERCER COUNTY  
SN 066-0006

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

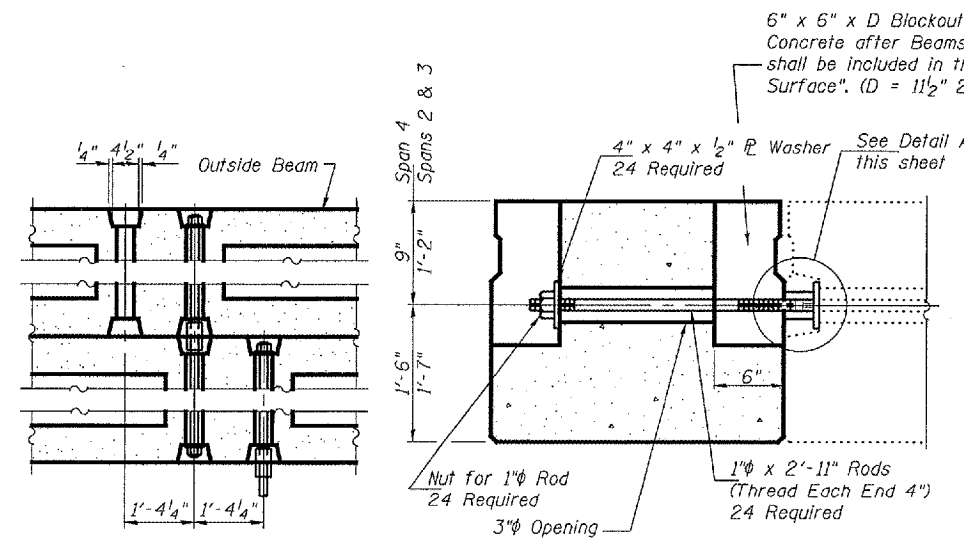
ROUTE NO.	SECTION	COUNTY	SHEET	SHEET NO.
639		Mercer	15	14
FED. ROAD DIST. NO. 7				FED. AID PROJECT

SHEET NO. 2  
3 SHEETS

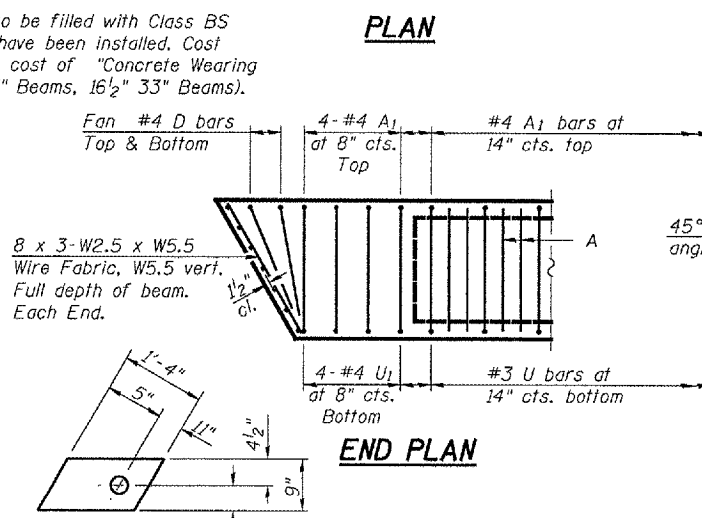
Contract Number: 68772



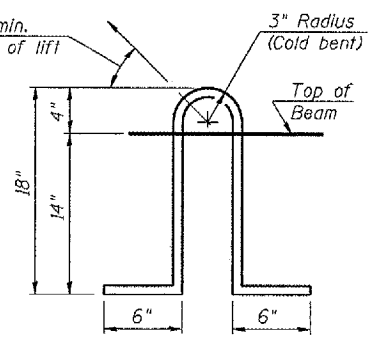
**FABRIC BEARING PAD**  
(Fixed Shown, Expansion similar without holes)



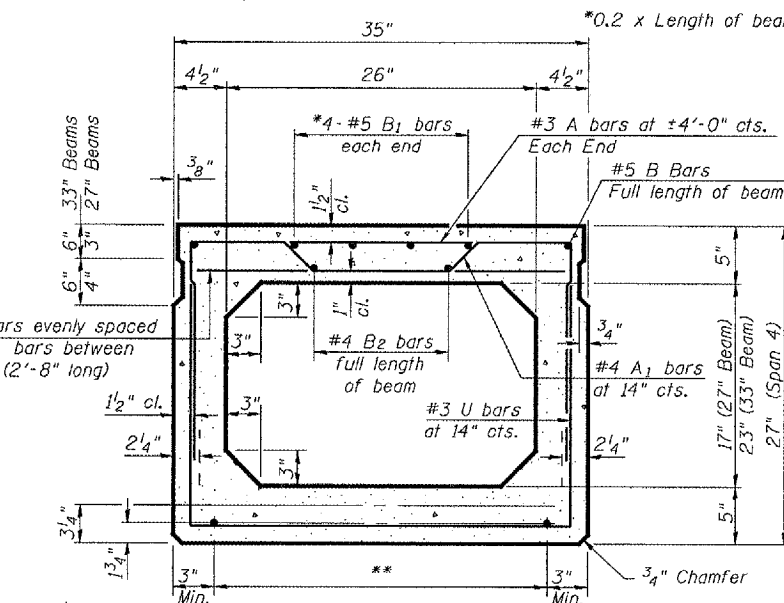
**TYPICAL TRANSVERSE TIE ASSEMBLY**



**END PLAN**

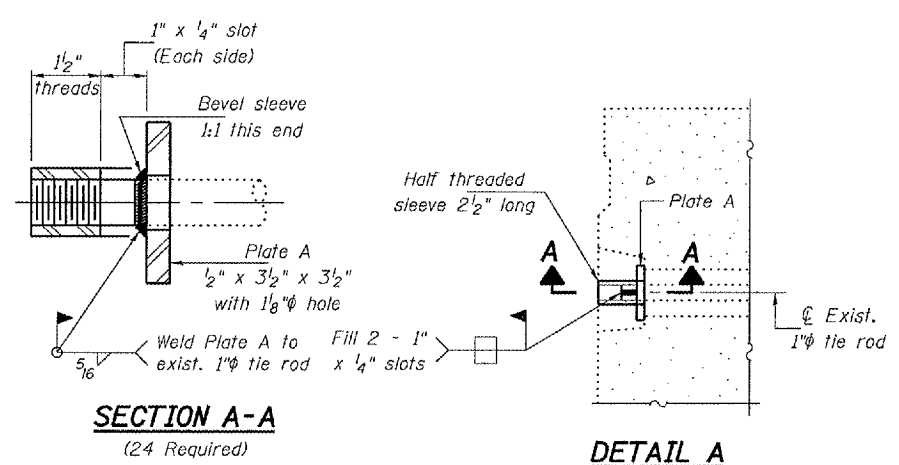


**LIFTING LOOP DETAIL**



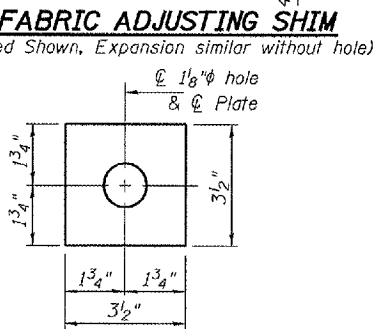
**TYPICAL SECTION**

1/2"  $\phi$  Strands, Each Strand Stressed to 30,900 Lbs.  
Spans 2 & 3 - 8-Strands 1 3/4" up, 5-Strands 3/4" up,  
2-Strands 6" up, 2-Strands 9" up  
Span 4 - 6-Strands 1 3/4" up, 6-Strands 3/4" up,  
2-Strands 4 1/2" up



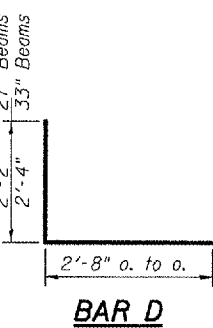
**SECTION A-A**  
(24 Required)

**DETAIL A**

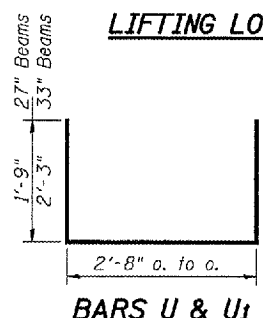


**FABRIC ADJUSTING SHIM**  
(Fixed Shown, Expansion similar without hole)

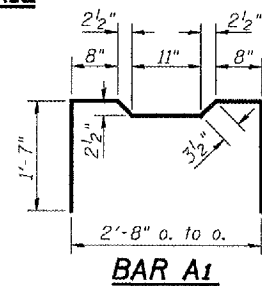
**PLATE A**  
(24 Required)



**BAR D**



**BARS U & U1**



**BAR A1**

**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. Lifting loops shall be 3 - 1/2"  $\phi$  270 ksi strands, as shown.  
The 1"  $\phi$  rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.  
Non prestressing steel shall conform to ASTM A 706 (IL MOD), Grade 60.  
The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" fabric adjusting shims of the dimensions shown shall be provided for each bearing.  
Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.  
Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.  
Required Release Strength, f'ci, shall be 4,000 p.s.i.

**BILL OF MATERIAL**

PPC Deck Beams (27" Depth)	Sq. Ft.	184
PPC Deck Beams (33" Depth)	Sq. Ft.	448

**BEAM DETAILS**  
**F.A.P. RT. 639**  
**MERCER COUNTY**  
**SN 066-0006**

DESIGNED V.H.V.  
CHECKED A.T.H.  
DRAWN Drew Christopher  
CHECKED V.H.V. A.T.H.  
**PD-5-R**

February 26, 2008  
EXAMINED *Carl Purvis*  
PASSED *Ralph E. Anderson*

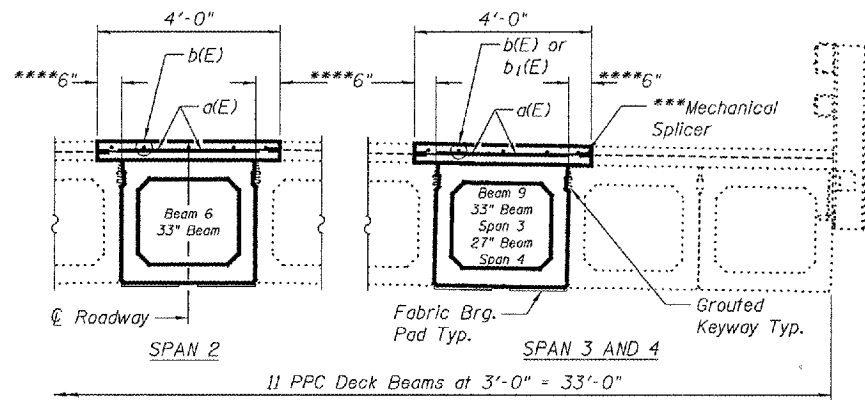
**\*\* TRANSVERSE PLACEMENT GUIDELINES**

1. Place strands symmetrically about centerline of beam.
  2. The minimum distance from center to center of strands in all directions shall be 2".
  3. The minimum clearance from strand to dowel hole shall be 1/2".
  4. The minimum clearance from strand to void shall be 1/2".
- Vertical placement of strands shall not be adjusted to satisfy the above guidelines.

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET	SHEET NO. 3
639		Mercer	15	15	3 SHEETS
FED. ROAD DIST. NO. 7	PLAN NO.	FED. AID PROJECT			

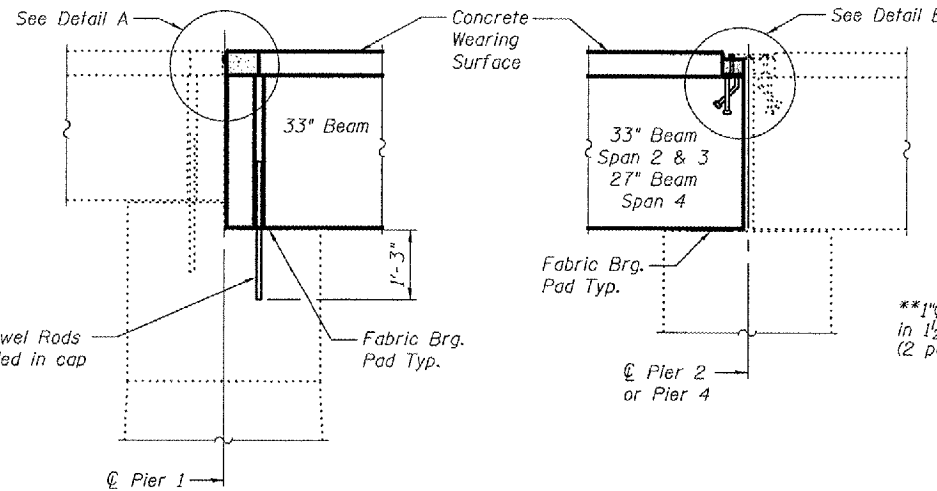
Contract Number: 68772



**PARTIAL DECK CROSS SECTION**

\*\*\*Attach existing reinforcement with mechanical splicers. Existing reinforcement to extend 6" min into removal area to allow attachment of splicers.  
\*\*\*Limits of Concrete Wearing Surface Removal.

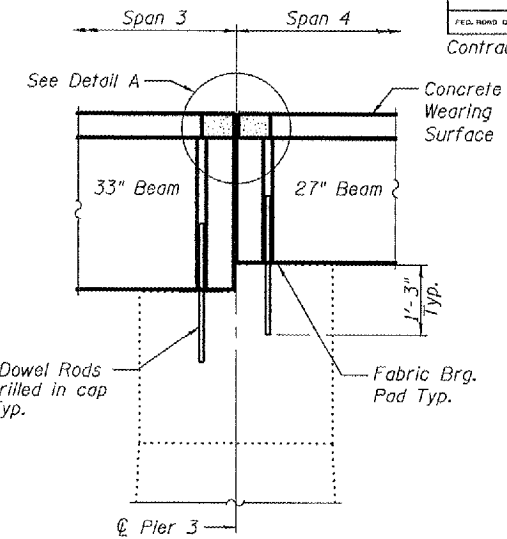
\*\*1"φ x 2'-6" Dowel Rods in 1 1/2"φ holes drilled in cap (2 per beam)



**PIER 1 SECTION**

**PIER 2 & 4 SECTION**

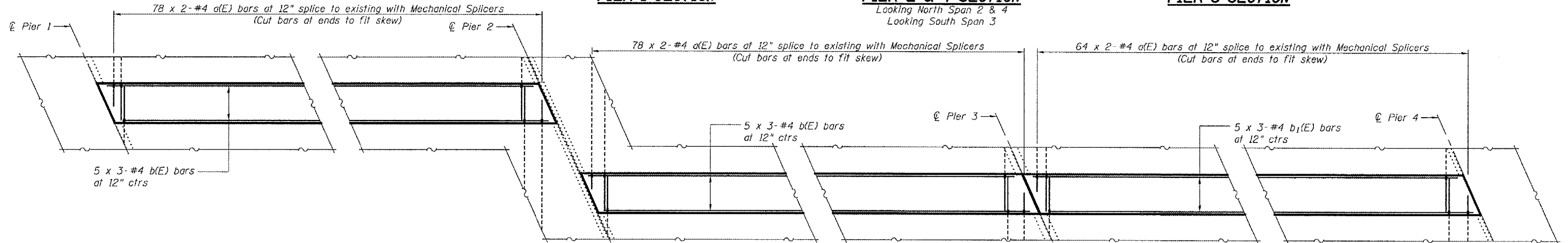
Looking North Span 2 & 4  
Looking South Span 3



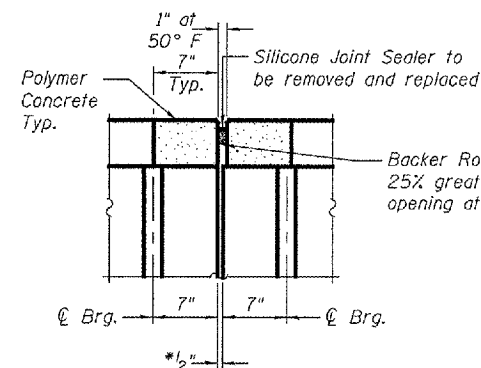
**PIER 3 SECTION**

\*1/2" Joint shall be filled with non-shrink grout. 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 into 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.

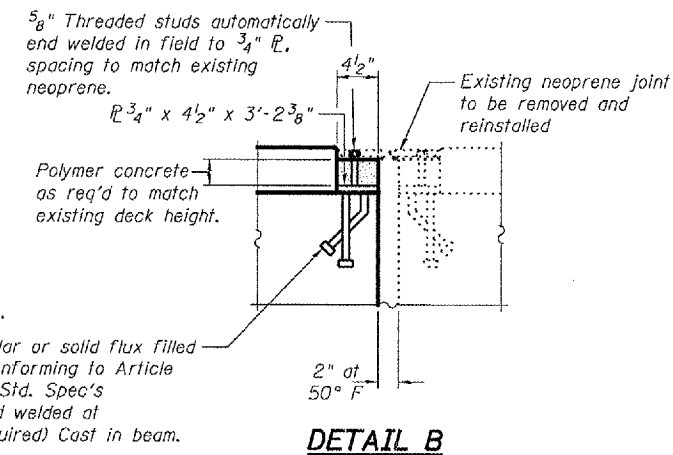
**Min. Bar Lap**  
#4 = 1'-4"



**PARTIAL WEARING SURFACE PLAN**



**DETAIL A**



**DETAIL B**

**BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	440	#4	3'-0"	—
b(E)	30	#4	27'-2"	—
b <sub>1</sub> (E)	15	#4	22'-6"	—
Concrete Wearing Surface Removal				Sq. Yd. 24.1
Concrete Wearing Surface				Sq. Yd. 96.2
Reinforcement Bars, Epoxy Coated				Pound 1,650

Bars indicated thus 5 x 3-#5 etc. indicates 5 lines of bars with 3 lengths per line.

DESIGNED	V.H.V.
CHECKED	A.T.H.
DRAWN	Drew Christopher
CHECKED	V.H.V. A.T.H.

February 26, 2008	
EXAMINED	<i>[Signature]</i>
PASSED	<i>[Signature]</i>

**BEAM DETAILS**  
**F.A.P. RT. 639**  
**MERCER COUNTY**  
**SN 066-0006**