

F.A.S. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
944	*	ALEXANDER	16	1

* (138D-BR)I-5
CONTRACT NO. 98640

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

FAS ROUTE 944 (US 60 & 62)
SECTION (138D-BR)I-5
ALEXANDER COUNTY, IL & MISSISSIPPI COUNTY, MO
C-99-023-05
BRIDGE REPAIRS ON US 60 & 62
OVER MISSISSIPPI RIVER

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 2

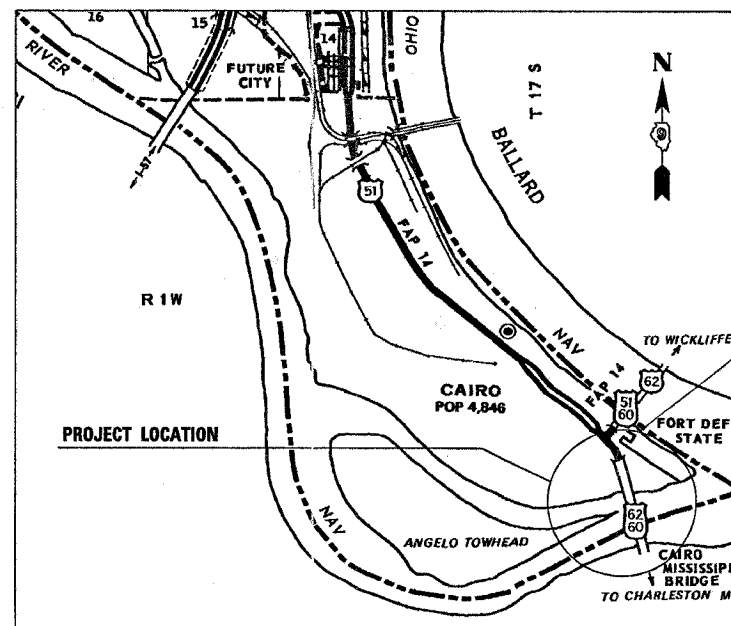
US 60 & 62 TRAFFIC DATA

2003 ADT = 4450
26% TRUCKS
POSTED SPEED = 55 MPH

D-99-012-04



LOCATION OF SECTION INDICATED THUS: - ■ -



PROPOSED JOINT RECONSTRUCTIONS AND
STRUCTURAL STEEL REPAIRS ON SN 002-0005
WHICH CARRIES US 60 & 62 OVER THE
MISSISSIPPI RIVER

NET LENGTH OF BRIDGE = 5181'-5"

TOWNSHIP: CAIRO
PLAN DRAWING ARE NOT TO SCALE

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

CONTRACT NO. 98640

SECTION: (138D-BR)I-5 COUNTY: ALEXANDER ROUTE: US 60 & 62

PROJECT ENGINEER: DAVID PICHE, PHONE NO. (618) 549-2171
DESIGNER: MIKE STEPHENSON, CENTEX NO. 782-4554

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED 2-10-05 20

May C. Rami
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 25, 20 05
Mike Hine
ENGINEER OF DESIGN AND ENVIRONMENT

March 25, 20 05
Victor Mader
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS**

GENERAL NOTES

CONSTRUCTION PLANS CAN BE MADE AVAILABLE FOR REVIEW AT THE DISTRICT 9 OFFICE.

COMMITMENTS: NONE AS OF FEBRUARY 11, 2005. REFER TO COMMITMENT FILE AFTER THIS DATE.

INDEX OF SHEETS

SHT NO	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES, INDEX OF SHEETS, STANDARDS, SUMMARY OF QUANTITIES
3	ROAD CLOSURE DETOUR PLAN
4	BRIDGE GENERAL ELEVATION & PLAN; GENERAL NOTES; TOTAL BILL OF MATERIAL
5-6	BRIDGE PARTIAL ELEVATION & PLAN WITH LOCATION OF REPAIRS
7-9	JOINT RECONSTRUCTION DETAILS
10	STRINGER/GIRDER WEB REPAIR DETAILS
11	STRINGER/GIRDER & FLOORBEAM WEB REPAIR DETAILS
12	FLOORBEAM WEB REPAIR & LOWER CHORD REPAIR DETAILS
13	BOTTOM FLANGE REPAIR & STRINGER CONNECTOR ANGLE REPLACEMENT DETAILS
14	RIVET/MISSING BOLT/SAFETY LOOP/HORIZONTAL STRUT REPLACEMENT DETAILS
15	WELD REPAIR/FILL PLATE REPAIR/GUSSET PLATE REPLACEMENT DETAILS
16	GRINDING & STRAIGHTENING MEMBER DETAILS

SUMMARY OF QUANTITIES

CODE NO	ITEM DESCRIPTION	UNIT	CONSTRUCTION TYPE CODE SFTY-2A		
			100% ILLINOIS	100% MISSOURI	TOTAL QUANTITIES
50102400	CONCRETE REMOVAL	CU YD	9.35	9.35	18.7
50300165	NEOPRENE EXPANSION JOINT 6 1/2 "	FOOT	85.5	85.5	171
50300255	CONCRETE SUPERSTRUCTURE	CU YD	7.8	7.8	15.6
50300260	BRIDGE DECK GROOVING	SA YD	14.5	14.5	29.0
50501130	STRUCTURAL STEEL REPAIR	POUND	3610	3610	7220
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	305	305	610
67000400	ENGINEERS FIELD OFFICE, TYPE A	CAL MO	1.5	1.5	3
67100100	MOBILIZATION	LUMP SUM	0.5	0.5	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	LUMP SUM	0.5	0.5	1
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	LUMP SUM	0.5	0.5	1
X0301424	SILICONE JOINT SEALER	FOOT	352	352	704
X0322390	STRAIGHTEN BENT MEMBERS	LUMP SUM	0.5	0.5	1
X7015000	CHANGEABLE MESSAGE SIGN	CAL MO	2.5	2.5	5
Z0073200	TEMPORARY SHORING AND CRIBBING	EACH	8	8	16

STANDARDS

000001-04	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
701006-01	OFF-ROAD OPERATIONS, 2L 2W, 15' TO 24" OFF ROAD, FOR SPEEDS > 45 MPH
701201-01	LANE CLOSURE, 2L 2W, DAY ONLY, ON ROAD TO 24" OFF ROAD, FOR SPEEDS > 45 MPH
701301-01	LANE CLOSURE, 2L 2W, SHORT TIME OPERATIONS
702001-04	TRAFFIC CONTROL DEVICES
BLR 21-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

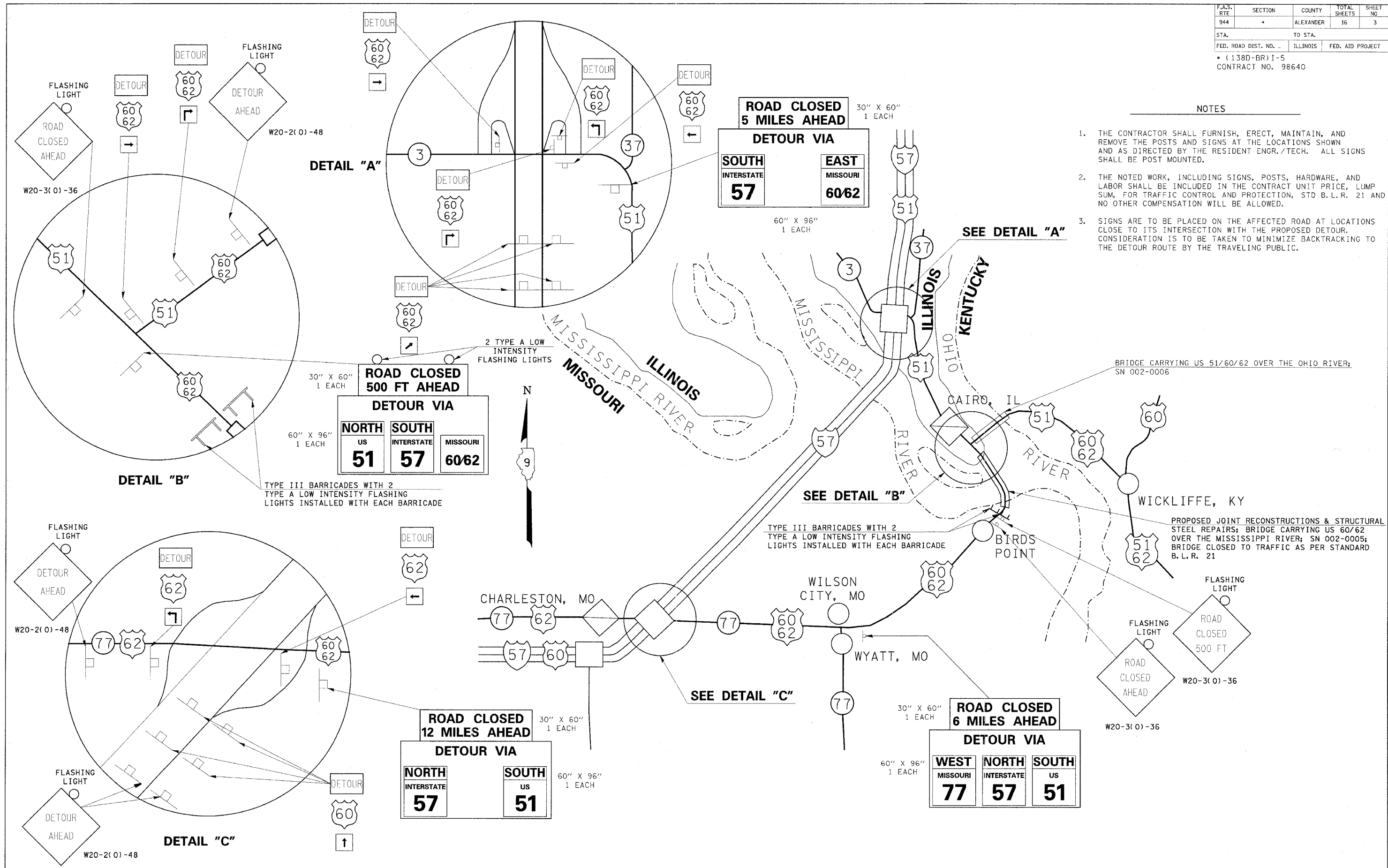
F.A.S. RITE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
944	*	ALEXANDER	16	2
STA.		TO STA.		
FED. ROAD DIST. NO. -		ILLINOIS	FED. AID PROJECT	
* (1380-BR)-5				
CONTRACT NO. 98640				

Prepared By:	<i>Joe Z. [Signature]</i> DISTRICT STUDIES & PLANS ENGINEER
Examined By:	<i>Thomas Lewis Emery</i> DISTRICT LAND ACQUISITION ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT PROGRAM DEVELOPMENT ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT OPERATIONS ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT CONSTRUCTION ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT MATERIALS ENGINEER
Examined By:	<i>[Signature]</i> DISTRICT PROJECT IMPLEMENTATION ENGINEER
Approved By:	<i>Mary C. [Signature]</i> DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

F.A.S. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
944	*	ALEXANDER	16	3
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT	
* (138D-BR) I-5				
CONTRACT NO. 98640				

NOTES

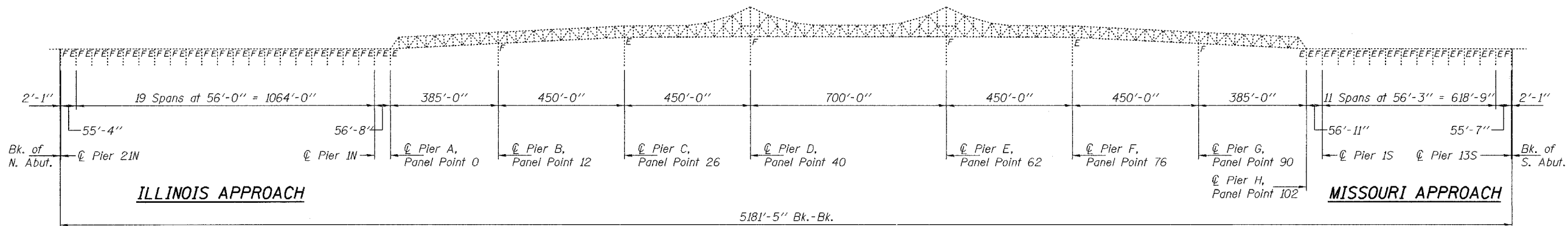
1. THE CONTRACTOR SHALL FURNISH, ERECT, MAINTAIN, AND REMOVE THE POSTS AND SIGNS AT THE LOCATIONS SHOWN AND AS DIRECTED BY THE RESIDENT ENGR./TECH. ALL SIGNS SHALL BE POST MOUNTED.
2. THE NOTED WORK, INCLUDING SIGNS, POSTS, HARDWARE, AND LABOR SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE, LUMP SUM, FOR TRAFFIC CONTROL AND PROTECTION, STD B.L.R. 21 AND NO OTHER COMPENSATION WILL BE ALLOWED.
3. SIGNS ARE TO BE PLACED ON THE AFFECTED ROAD AT LOCATIONS CLOSE TO ITS INTERSECTION WITH THE PROPOSED DETOUR. CONSIDERATION IS TO BE TAKEN TO MINIMIZE BACKTRACKING TO THE DETOUR ROUTE BY THE TRAVELING PUBLIC.



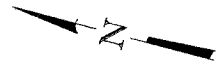
ROAD CLOSURE DETOUR PLAN

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
FAS 944	*	ALEXANDER		4	13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			
			* (138D-BR)1-5 Contract No. 98640		



GENERAL ELEVATION



GENERAL PLAN

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 35, unless otherwise noted.

Fasteners shall be high strength bolts. Bolts $7/8"$ ϕ , open holes $15/16"$ ϕ , unless otherwise noted.

The Contractor shall grind all cracked welds parallel to the direction of the existing weld and not perpendicular to the weld.

Reinforcement bars shall conform to the requirements of AASHTO M 31 or M 322 Grade 60.

Prior to pouring the new concrete deck, all loose rust, loose mill scale and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04 of the Standard Specifications.

Existing reinforcement 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 shall be included with Concrete Removal.

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.

Cost of removal and/or re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included in the cost of Furnishing and Erecting Structural Steel.

The inorganic zinc rich primer/acrylic/acrylic paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the acrylic finish coat shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provision "Cleaning and Painting New Metal Structures".

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.

Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures".

Joint plates and attached bars shall be shop painted with the inorganic zinc rich primer.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Neoprene Expansion Joint 6 1/2"	Foot	171
Structural Steel Repair	Pound	7220
Reinforcement Bars, Epoxy Coated	Pound	610
Bridge Deck Grooving	Sq. Yd.	29.0
Concrete Removal	Cu. Yd.	18.7
Concrete Superstructure	Cu. Yd.	15.6
Silicone Joint Sealer	Foot	704
Temporary Shoring and Cribbing	Each	16
Straighten Bent Members	LS	1

DESIGNED	<i>John A. Morris</i>
CHECKED	<i>John A. Morris</i>
DRAWN	<i>ballva</i>
CHECKED	<i>JAP</i> <i>JSB</i>

MARCH 14, 2005	EXAMINED	<i>John A. Morris</i>
	PASSED	<i>Ralph E. Adams</i>



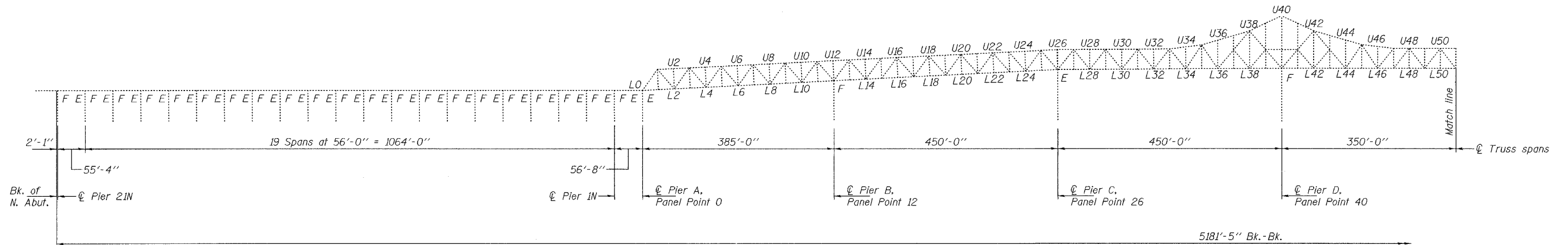
EXPIRES 11-30-2006

BRIDGE REPAIRS
OLD CAIRO BRIDGE OVER MISSISSIPPI RIVER
FAS RTE. 944 (US 60 & 62)
SEC. (138D-BR)1-5
ALEXANDER COUNTY
SN 002-0005

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

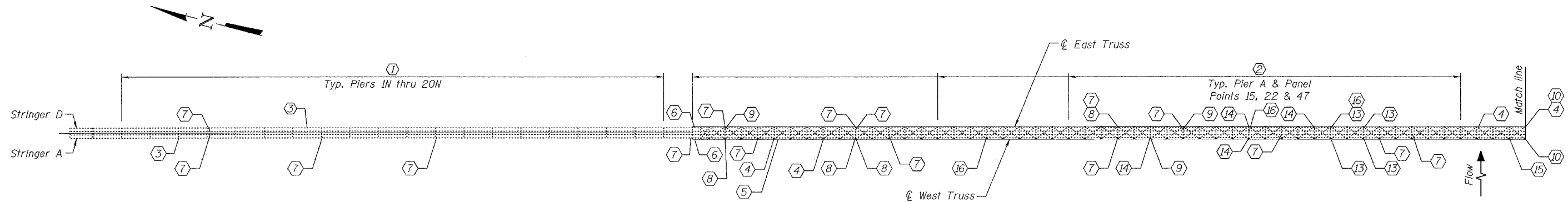
ROUTE NO. FAS 944	SECTION *	COUNTY ALEXANDER	TOTAL SHEETS 13	SHEET NO. 5	SHEET NO. 2 13 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT		

* (138D-BR)1-5 Contract No. 98640



ILLINOIS APPROACH

PARTIAL ELEVATION



PARTIAL PLAN

- ① - Replace existing 2 1/2" PJS with 1 3/4" Silicone Joint Sealer. See sheet 5 of 13.
- ② - Replace existing Silicone Joint Sealer with Neoprene Expansion Joints, 6 1/2". See sheets 4 thru 6 of 13.
- ③ - Bottom flange repair. See sheet 10 of 13.
- ④ - Remove broken rivets & replace with HS Bolts. See notes, sheet 11 of 13.
- ⑤ - Replace missing bolts with new HS Bolts. See notes, sheet 11 of 13.
- ⑥ - Lower chord repair. See sheet 9 of 13.
- ⑦ - Stringer/girder web repair. See sheets 7 & 8 of 13.
- ⑧ - Remove & replace stringer connector angle. See sheet 10 of 13.
- ⑨ - Floorbeam web repair. See sheets 8 & 9 of 13.
- ⑩ - Remove & replace safety loop. See sheet 11 of 13.
- ⑪ - Remove & replace horizontal strut. See sheet 11 of 13.
- ⑫ - Weld repair. See sheet 12 of 13.
- ⑬ - Fill plate repair. See sheet 12 of 13.
- ⑭ - Remove & replace gusset plate. See sheet 12 of 13.
- ⑮ - Grind. See sheet 13 of 13.
- ⑯ - Straighten member & grind. See sheet 13 of 13.

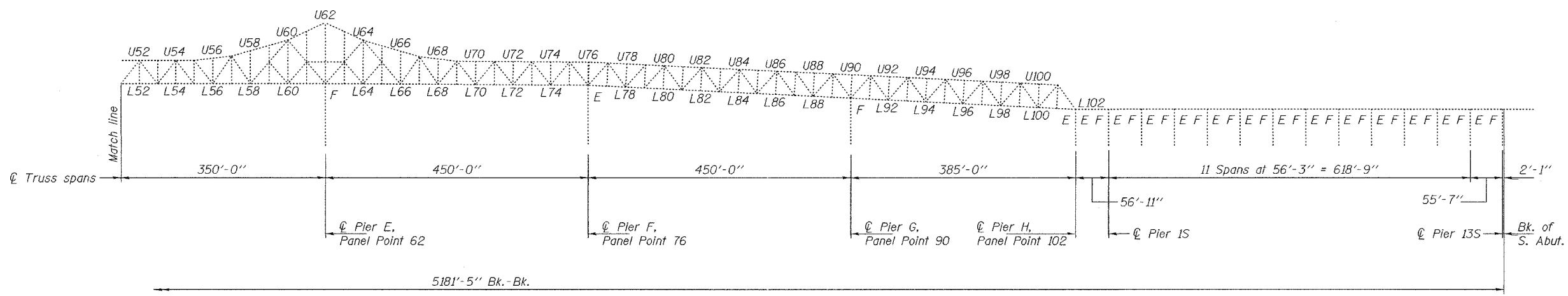
DESIGNED	DAB
CHECKED	JSB
DRAWN	ballva
CHECKED	DAB JSB

MARCH 14, 2005
 EXAMINED *John A. Morris*
 ENGINEER OF STRUCTURAL SERVICES
 PASSED *Ralph E. Anderson*
 ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE REPAIRS
OLD CAIRO BRIDGE OVER MISSISSIPPI RIVER
FAS RTE. 944 (US 60 & 62)
SEC. (138D-BR)1-5
ALEXANDER COUNTY
SN 002-0005

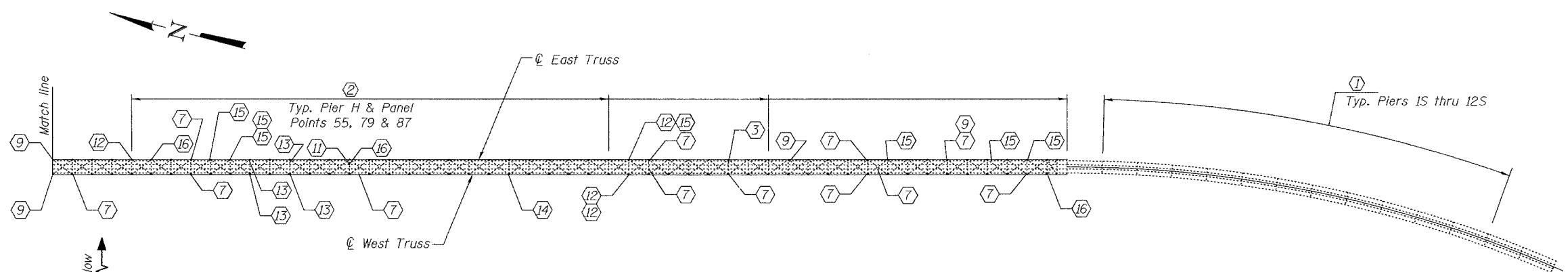
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAS 944	SECTION *	COUNTY ALEXANDER	STATE SHEETS 6	SHEET NO. 3
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	13 SHEETS	
* (138D-BR)1-5			Contract No. 98640	



MISSOURI APPROACH

PARTIAL ELEVATION



PARTIAL PLAN

- ① - Replace existing 2 1/2" PJS with 1 3/4" Silicone Joint Sealer. See sheet 5 of 13.
- ② - Replace existing Silicone Joint Sealer with Neoprene Expansion Joints, 6 1/2". See sheets 4 thru 6 of 13.
- ③ - Bottom flange repair. See sheet 10 of 13.
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- ⑫ - Weld repair. See sheet 12 of 13.
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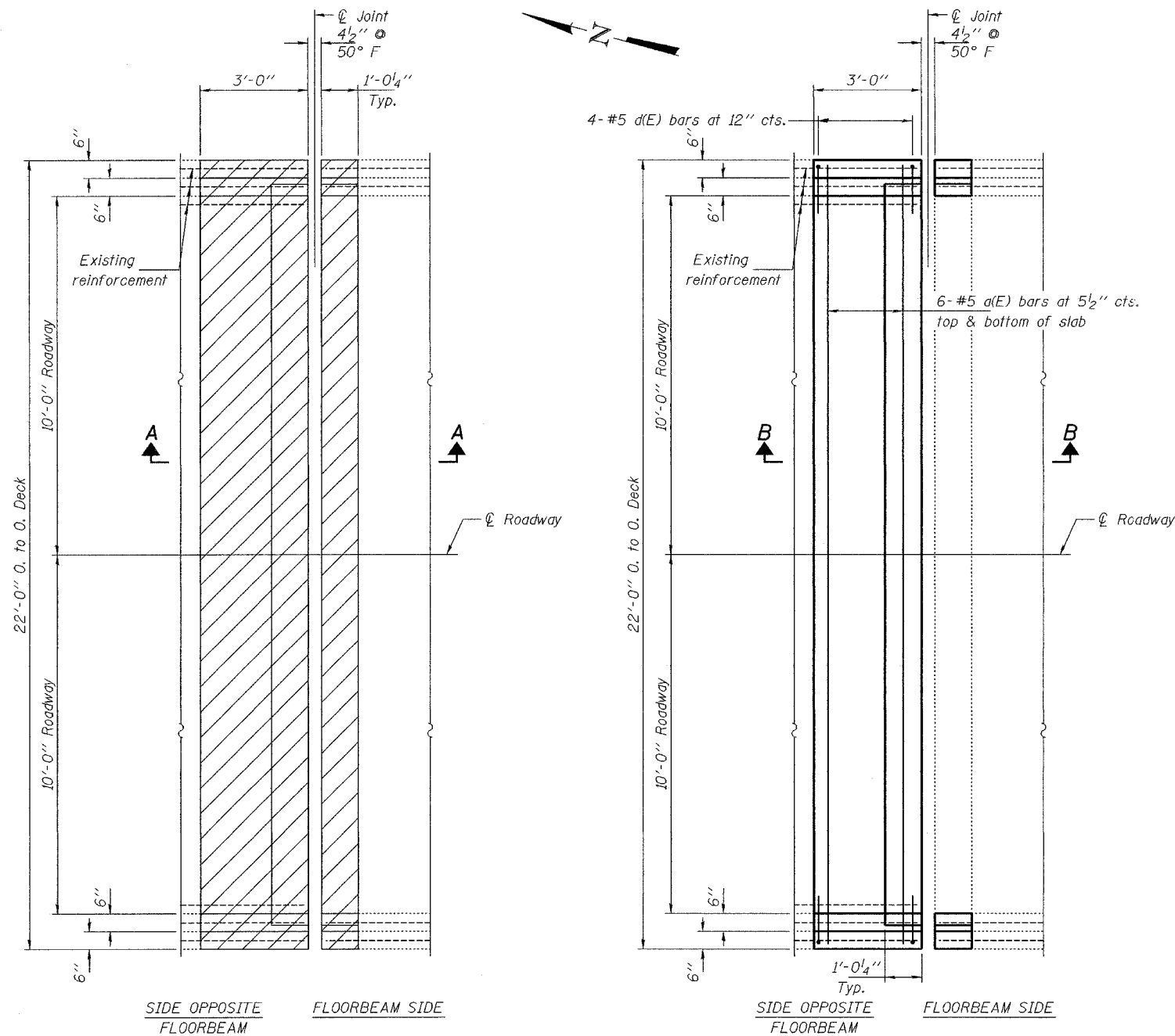
DESIGNED	DAB
CHECKED	JSB
DRAWN	baliva
CHECKED	DAB JSB

MARCH 11, 2005
 EXAMINED *John A. Morris*
 ENGINEER OF STRUCTURAL SERVICES
 PASSED *Ralph E. Anderson*
 ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE REPAIRS
 OLD CAIRO BRIDGE OVER MISSISSIPPI RIVER
 FAS RTE. 944 (US 60 & 62)
 SEC. (138D-BR)1-5
 ALEXANDER COUNTY
 SN 002-0005

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAS 944	SECTION *	COUNTY ALEXANDER	TOTAL SHEETS 7	SHEET NO. 7	SHEET NO. 4 13 SHEETS
FED. ROAD DIST. NO. 7		BILLINGS		FED. AID PROJECT-	
* (138D-BR)I-5			Contract No. 98640		

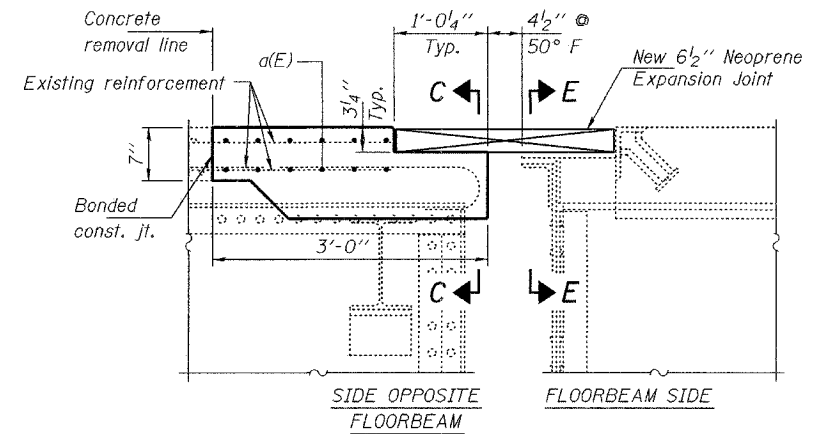


**PARTIAL PLAN
SHOWING CONCRETE REMOVAL**

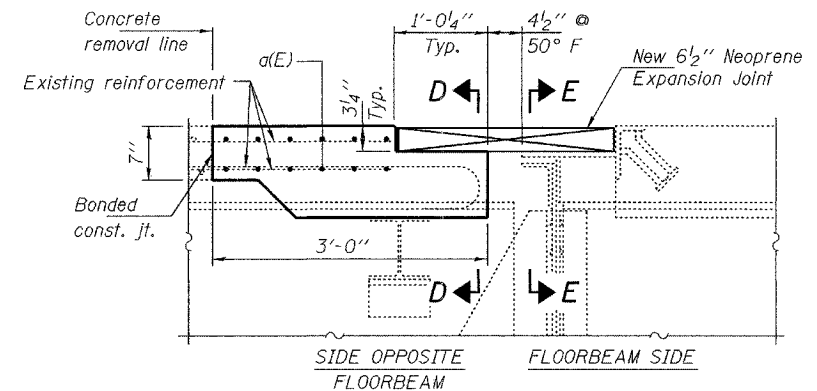
REPAIR 2

**PARTIAL PLAN
SHOWING CONCRETE REPLACEMENT**

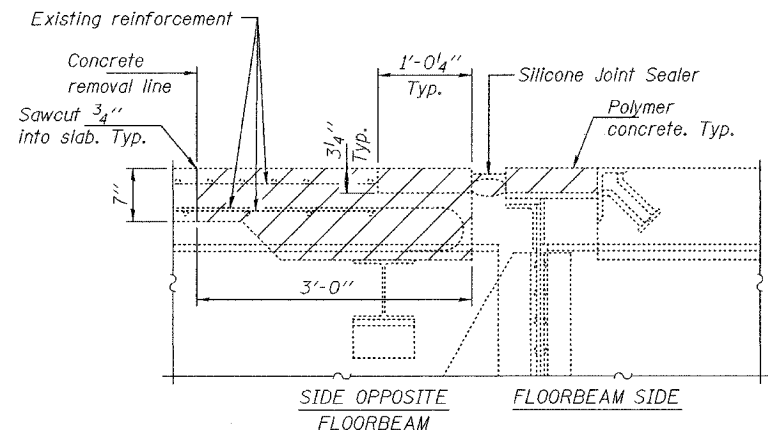
(Pier A & Panel Points 15, 47 & 79 shown.
Pier H & Panel Points 23, 55 & 87 similar by rotation)



**SECTION B-B
AT PIERS A & H**
(Pier A shown, Pier H similar by rotation)



**SECTION B-B
AT PANEL POINTS 15, 23, 47, 55, 79 & 87**
(Panel Points 15, 47 & 79 shown.
Panel Points 23, 55 & 87 similar by rotation)



**SECTION A-A
AT PIERS A & H, & PANEL POINTS 15, 23, 47, 55, 79 & 87**
(Pier A & Panel Points 15, 47 & 79 shown.
Pier H & Panel Points 23, 55 & 87 similar by rotation)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a(E)	24	#5	21'-8"	—	
d(E)	16	#5	3'-10"	⌒	
Reinforcement Bars, Epoxy Coated				Pound	610
Concrete Superstructure				Cu. Yd.	15.6
Concrete Removal				Cu. Yd.	18.7

Reinforcement bars designated (E) shall be epoxy coated.

**BRIDGE REPAIRS
OLD CAIRO BRIDGE OVER MISSISSIPPI RIVER
FAS RTE. 944 (US 60 & 62)
SEC. (138D-BR)I-5
ALEXANDER COUNTY
SN 002-0005**

DESIGNED	DAB
CHECKED	JSB
DRAWN	baliva
CHECKED	DAB JSB

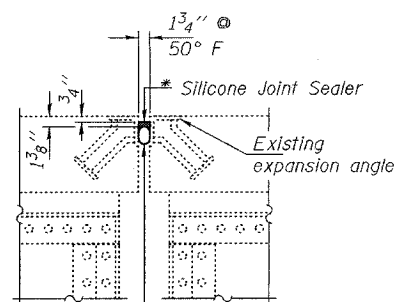
MARCH 14, 2005
EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

Notes:
For Sections C-C, D-D & E-E, see sheet 5 of 13.
Hatched areas indicate Concrete removal.

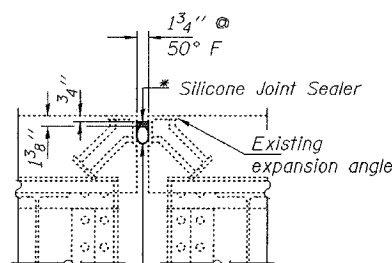
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 5 13 SHEETS
FAS 944	*	ALEXANDER		8	
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

* (138D-BR)1-5 Contract No. 98640



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



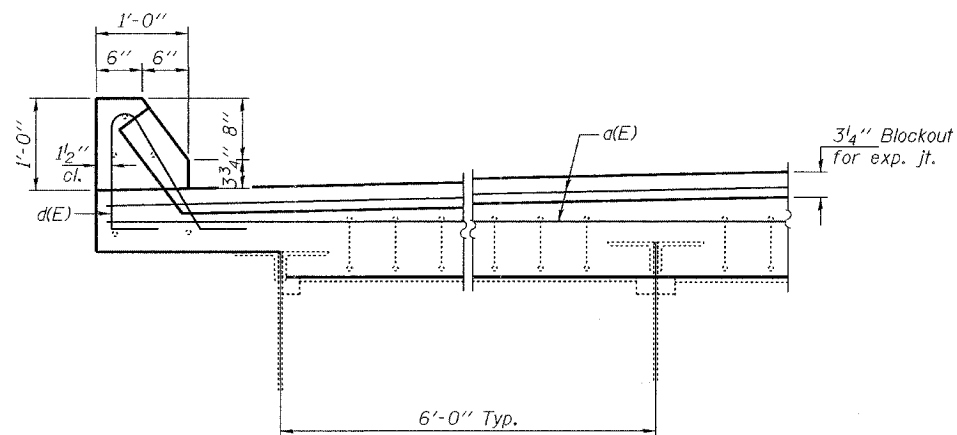
Backer Rod having a diameter 25% greater than the joint opening at the time of installation.

SECTION AT PIERS 19N & 20N
& PIERS 1S THRU 12S

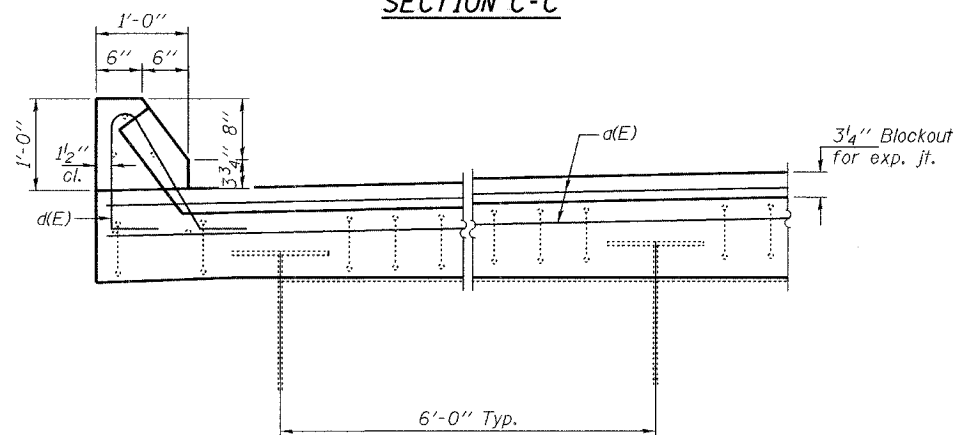
REPAIR 1

SECTION AT PIERS IN THRU 18N

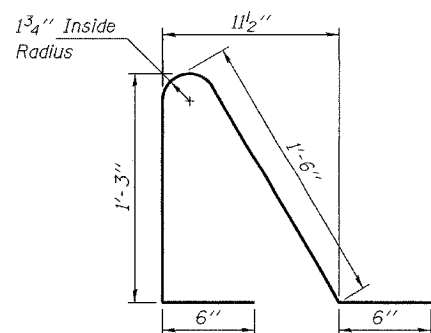
* Remove existing PJS, & replace with Silicone Joint Sealer as shown.



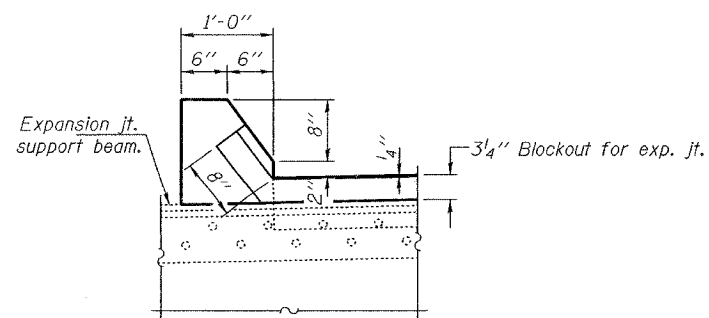
SECTION C-C



SECTION D-D



BAR d(E)



SECTION E-E

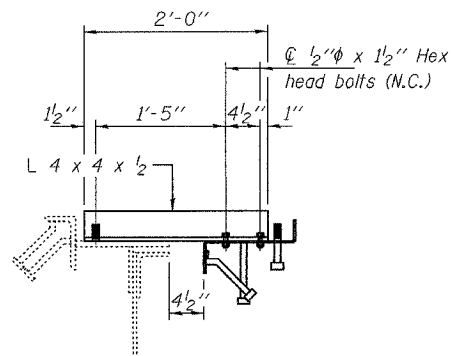
**BRIDGE REPAIRS
OLD CAIRO BRIDGE OVER MISSISSIPPI RIVER
FAS RTE. 944 (US 60 & 62)
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ALEXANDER COUNTY
SN 002-0005**

DESIGNED	DAB
CHECKED	JSB
DRAWN	baliva
CHECKED	DAB JSB

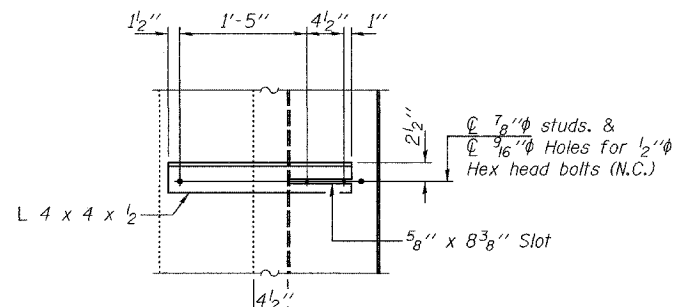
MARCH 14, 2005
EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAS 944	SECTION #	COUNTY ALEXANDER	TOTAL SHEETS 13	SHEET 9	SHEET NO. 6 13 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT # (138D-BR)1-5 Contract No. 98640		



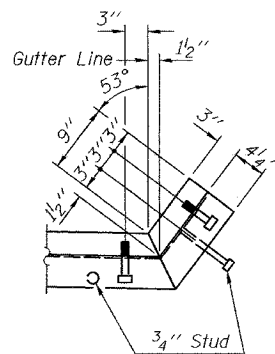
CROSS SECTION



PLAN

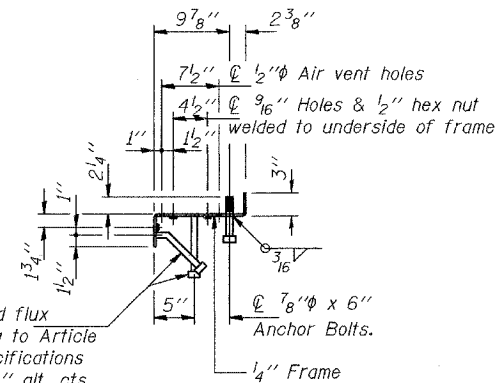
ALIGNMENT ANGLE DETAIL

Note: Alignment System shall be in place prior to the deck pour and remain until the concrete has cured.



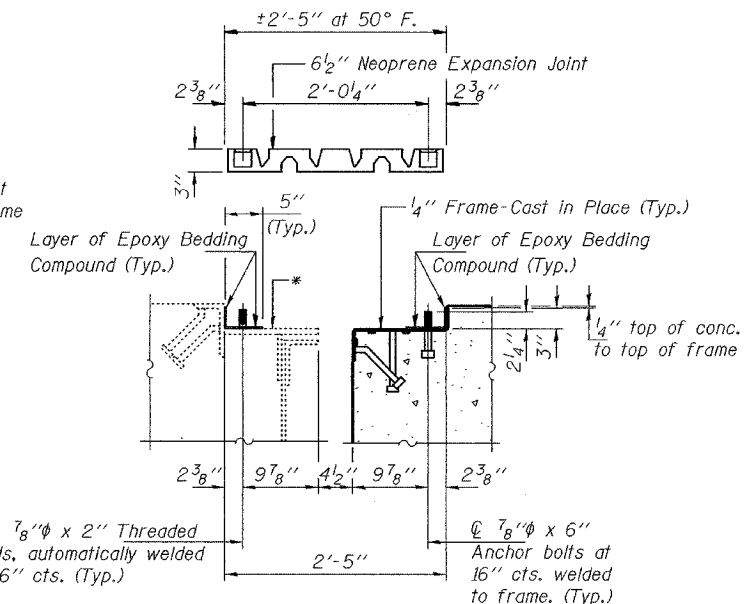
END FRAME TREATMENT

3/4" x 8" Granular or solid flux filled headed studs conforming to Article 1006.32 of the Standard Specifications automatically end welded at 12" alt. cts., spaced to miss flange of girders. (Typ.)



SIDE OPPOSITE
FLOORBEAM
FRAME DETAIL

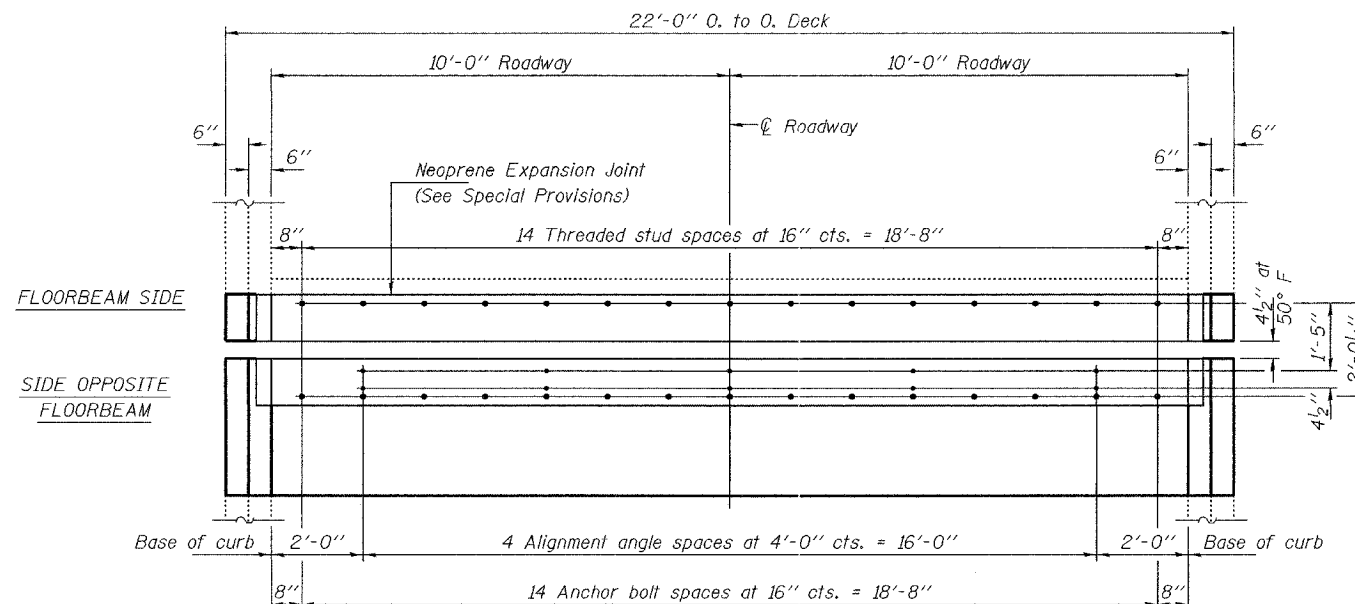
Cost of Frame is included with Neoprene Expansion Joint (6 1/2')



FLOORBEAM SIDE SIDE OPPOSITE
FLOORBEAM

SECTION THRU NEOPRENE
EXPANSION JOINT (6 1/2')
(TRANSFLEX MODEL 650)

* After removal of the existing polymer concrete, all existing threaded studs welded to the top flange shall be removed, and the remaining weld shall be ground smooth. The steel surface shall be blast cleaned according to SSPC-SP10 and primed with organic zinc rich paint. Cost included with Neoprene Expansion Joint, 6 1/2'.



PLAN NEOPRENE EXPANSION JOINT

(Looking south at Pier A & Panel Points 15, 47 & 79.
Pier H & Panel Points 23, 55 & 87 similar by rotation)

DESIGNED	DAB
CHECKED	JSB
DRAWN	baliva
CHECKED	DAB JSB

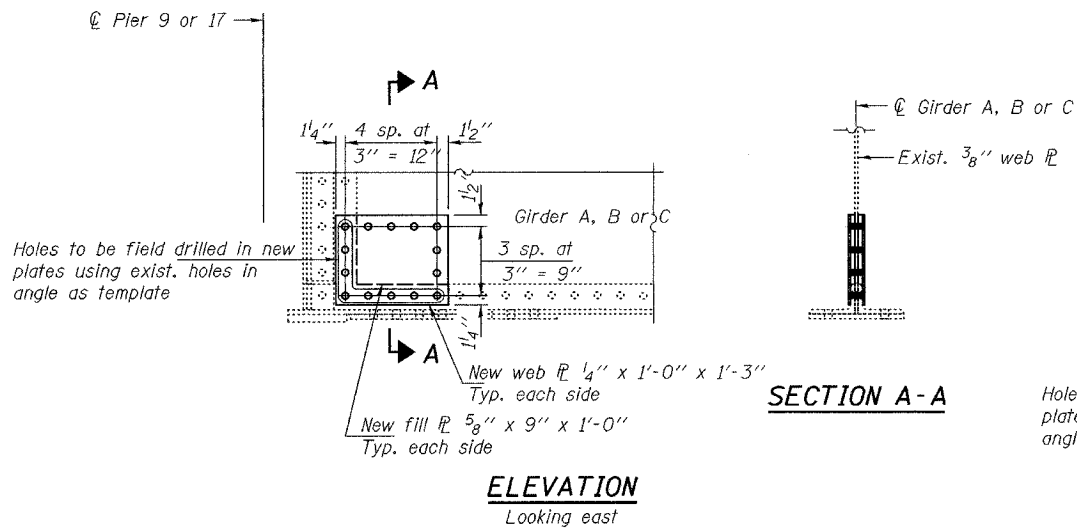
MARCH 14, 2005
EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE REPAIRS
OLD CAIRO BRIDGE OVER MISSISSIPPI RIVER
FAS RTE. 944 (US 60 & 62)
SEC. (138D-BR)1-5
ALEXANDER COUNTY
SN 002-0005

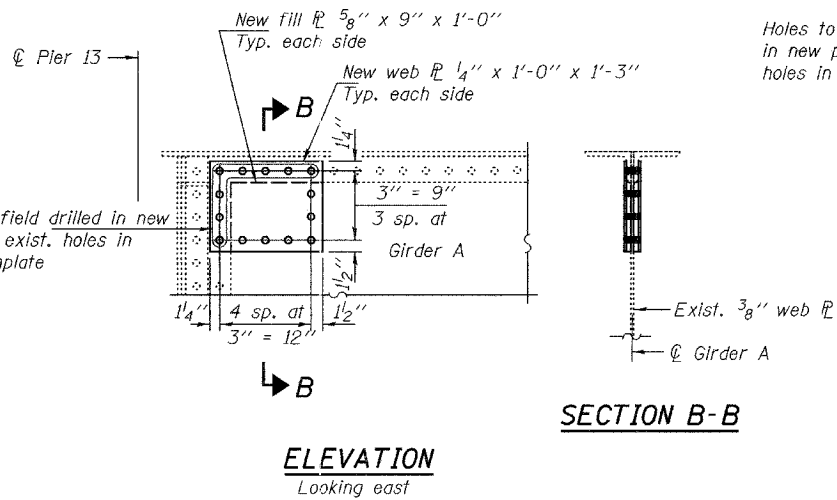
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO. FAS 944	SECTION *	COUNTY ALEXANDER	TOTAL SHEETS 10	SHEET NO. 13
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
		* (138D-BR)1-5		

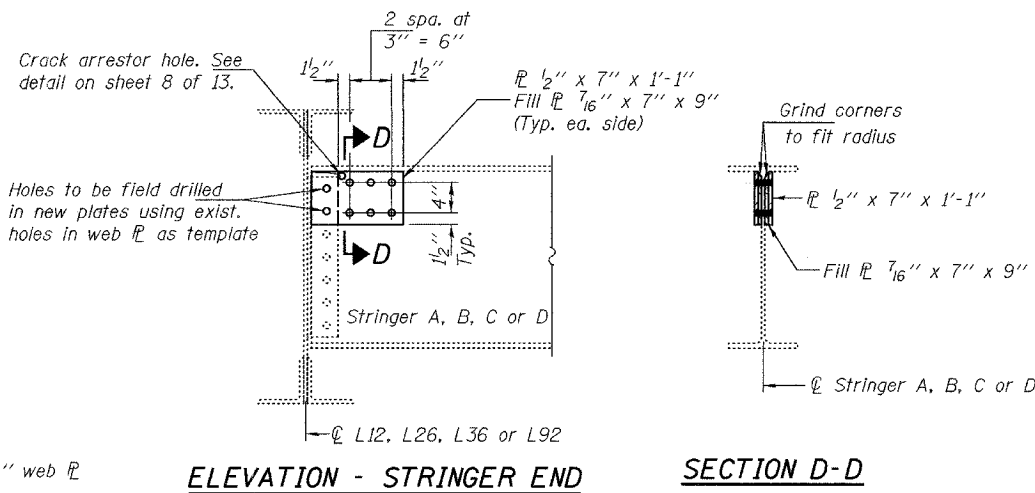
Contract No. 98640



REPAIR 7
Pier 9, Girder B
Pier 17, Girders B & C

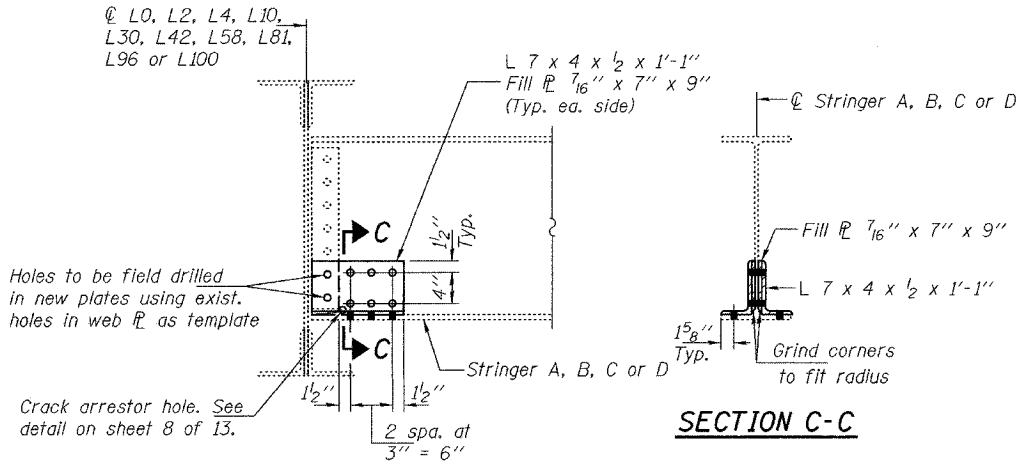


REPAIR 7



REPAIR 7

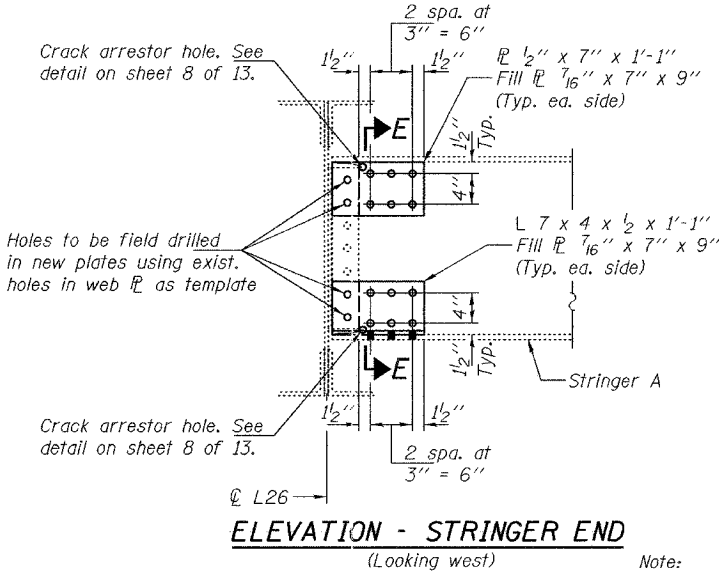
- L12, looking west
L26, Stringer A, looking west
L26, Stringer D, looking east
L36, looking east
L92, looking west
- L12, Stringer B
L26, Stringers A & D
L36, Stringer A
L92 Stringers C & D



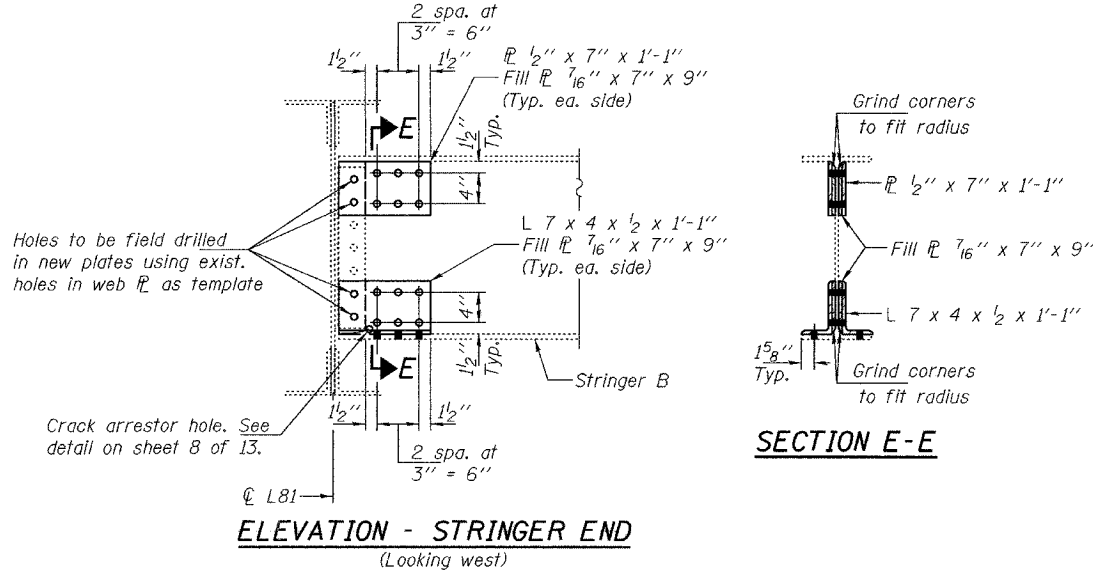
REPAIR 7

- Looking east except as noted:
L4, looking west
L10, Stringer A, looking west
L10, Stringer D, looking east

- L0, Girder A
L2, Stringer D
L4, Stringer A
L10 Stringers A & D
L30, Stringer C
L42, Stringer A
L58, Stringers B & D
L81, Stringer B
L96, Stringer D
L100, Stringer A



REPAIR 7



REPAIR 7

Note:
Temporary shoring & cribbing will not be required provided that upper & lower repairs are not done simultaneously.

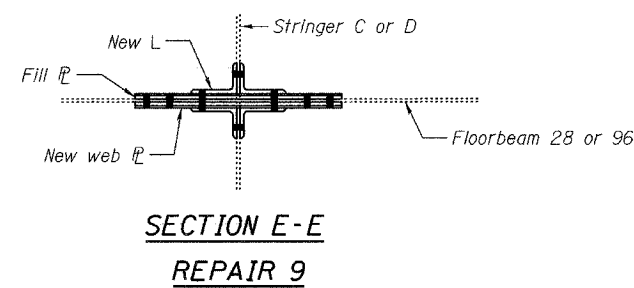
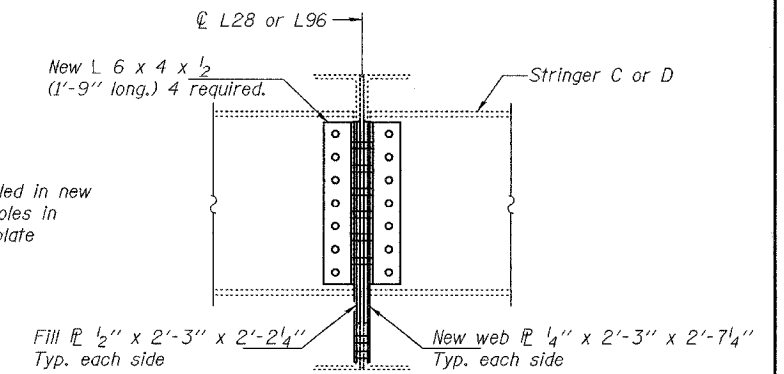
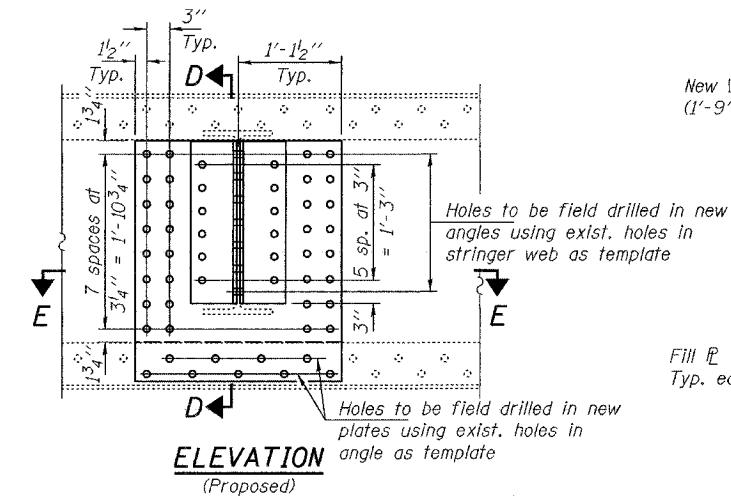
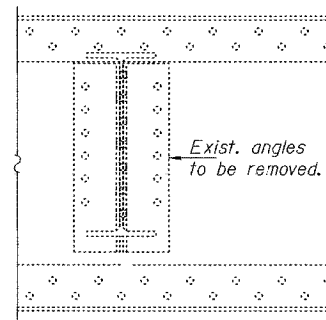
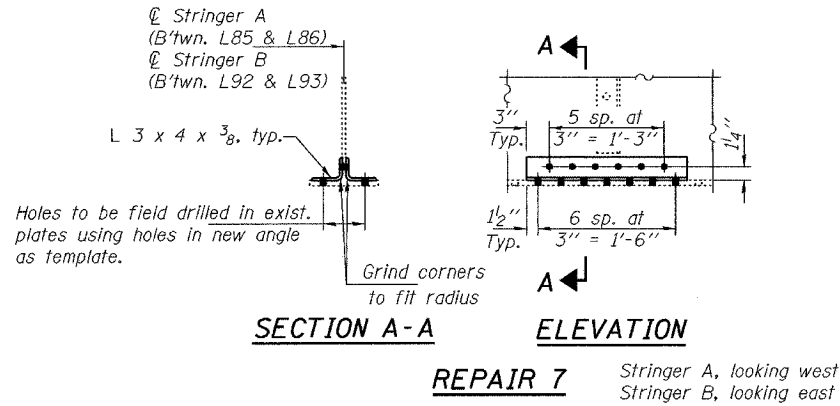
DESIGNED	DAB
CHECKED	JSB
DRAWN	balva
CHECKED	DAB JSB

MARCH 14, 2005
EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

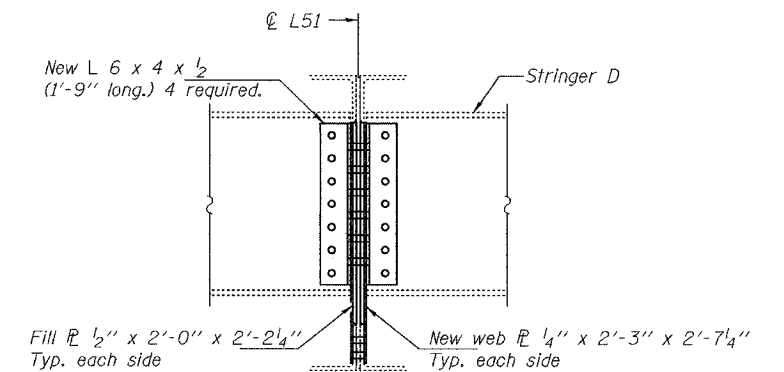
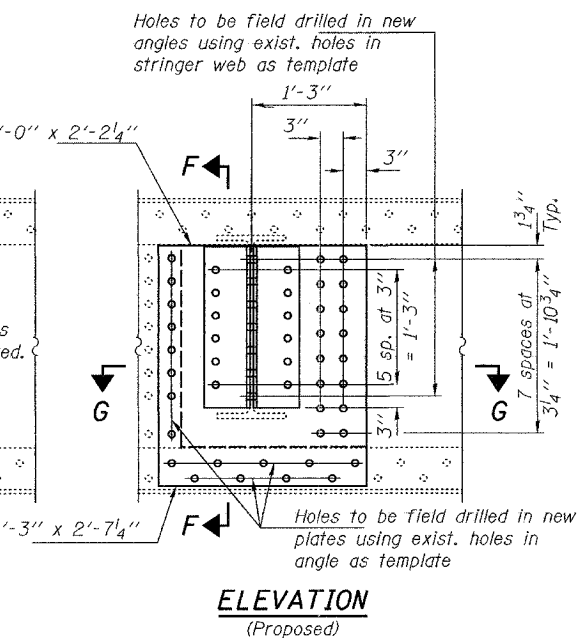
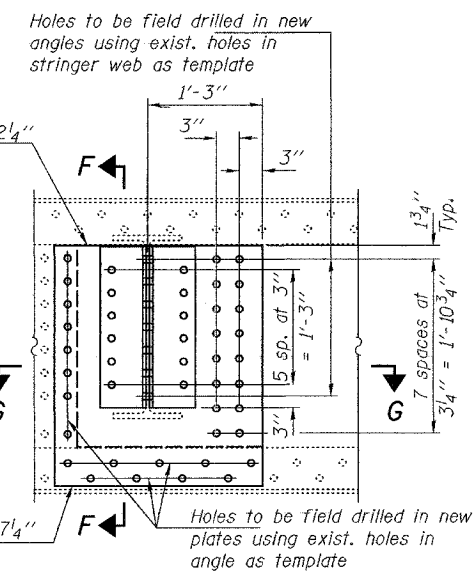
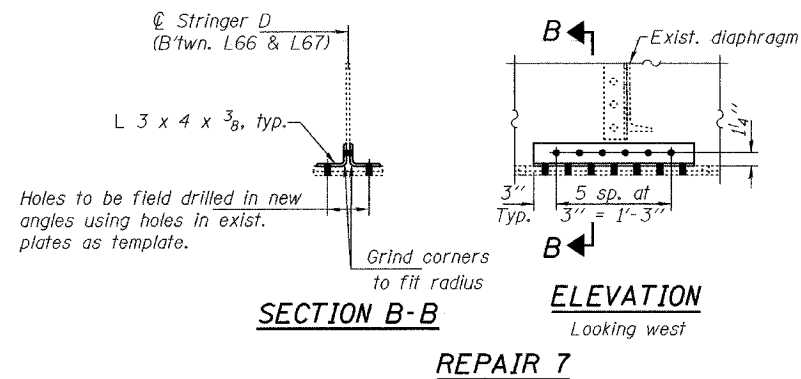
BRIDGE REPAIRS
OLD CAIRO BRIDGE OVER MISSISSIPPI RIVER
FAS RTE. 944 (US 60 & 62)
SEC. (138D-BR)1-5
ALEXANDER COUNTY
SN 002-0005

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

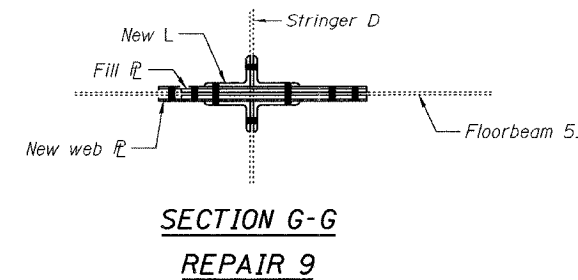
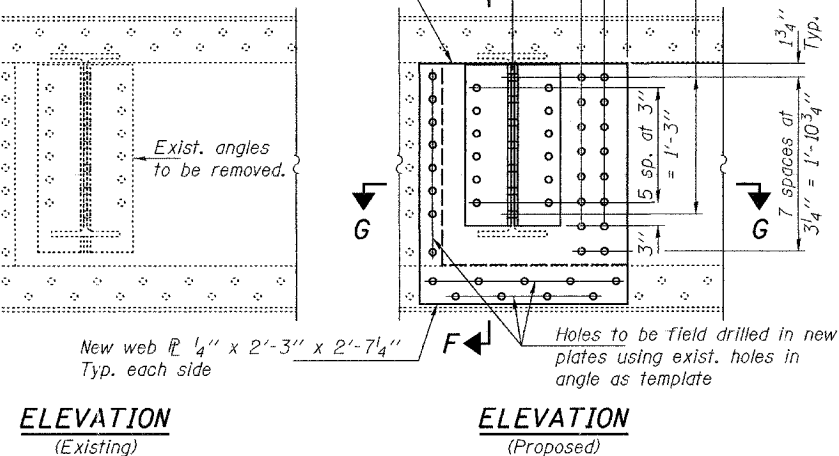
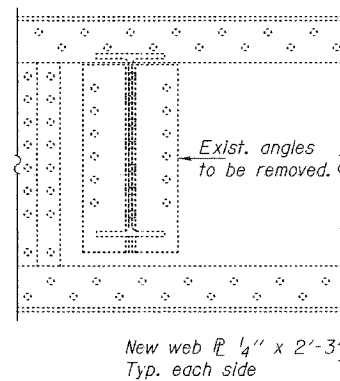
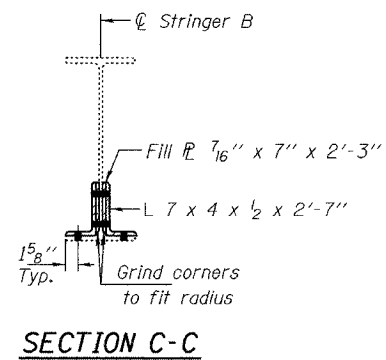
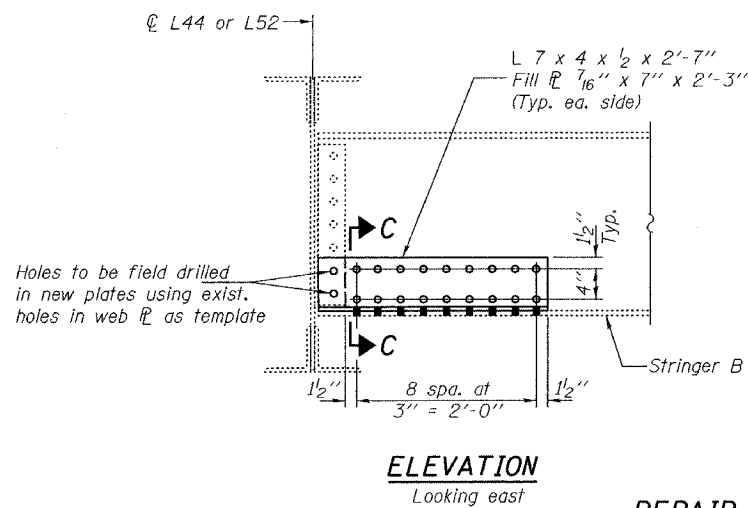
ROUTE NO. FAS 944	SECTION *	COUNTY ALEXANDER	TOTAL SHEETS 11	SHEET NO. 11	SHEET NO. 8 13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-	* (138D-BR)1-5 Contract No. 98640		



Note:
Temporary shoring & cribbing
of stringer end is required.



Note:
Temporary shoring & cribbing
of stringer end is required.



BRIDGE REPAIRS
OLD CAIRO BRIDGE OVER MISSISSIPPI RIVER
FAS RTE. 944 (US 60 & 62)
SEC. (138D-BR)1-5
ALEXANDER COUNTY
SN 002-0005

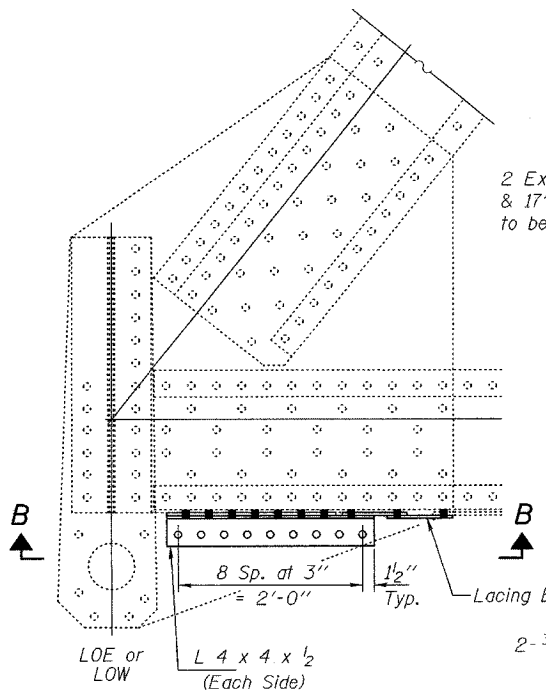
DESIGNED	DAB
CHECKED	JSB
DRAWN	ballva
CHECKED	DAB JSB

MARCH 14, 2005
EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

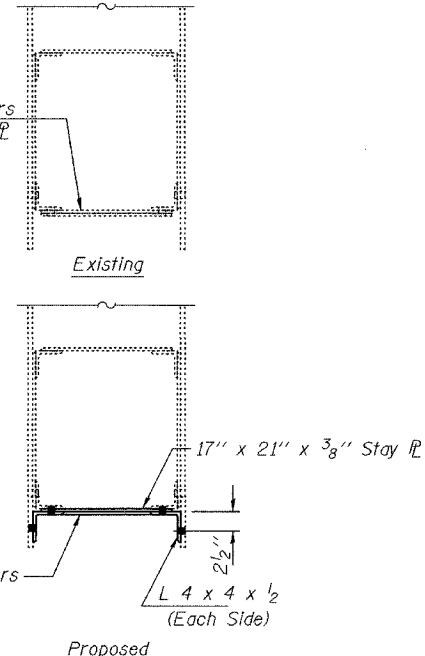
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FAS 944	*	ALEXANDER		12	13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

* (138D-BR)1-5 Contract No. 98640

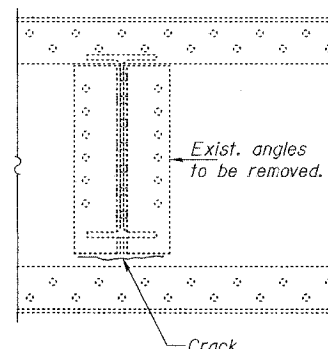


ELEVATION LOWER CHORD REPAIR

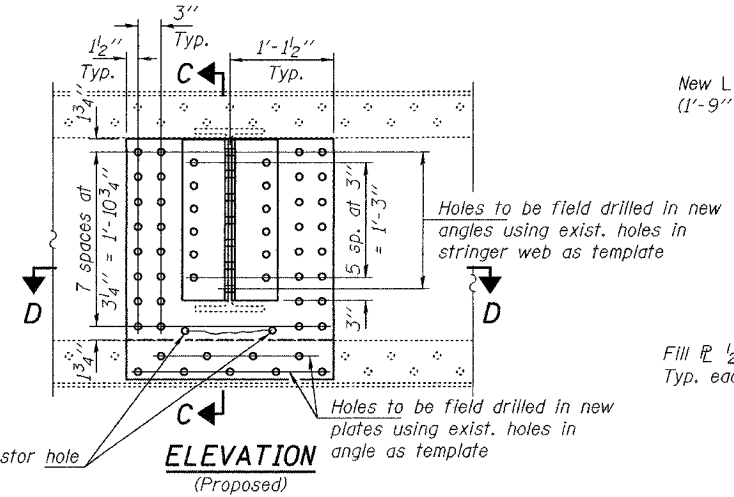
REPAIR 6



SECTION A-A

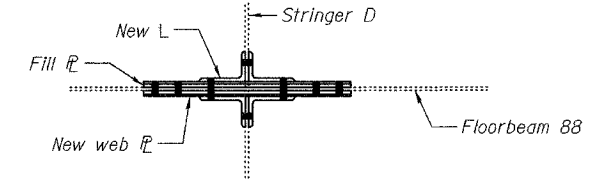


ELEVATION (Existing)

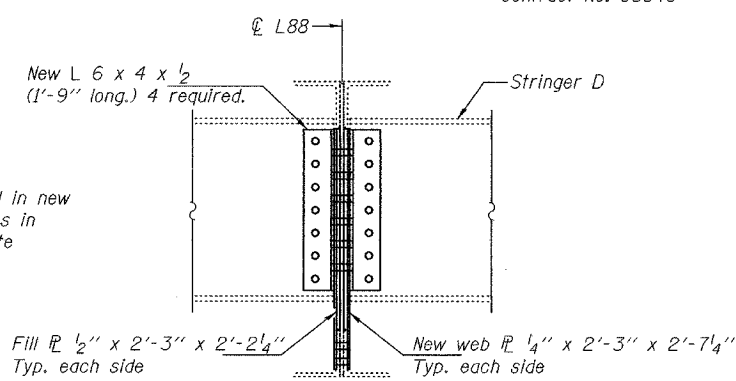


ELEVATION (Proposed)

REPAIR 9

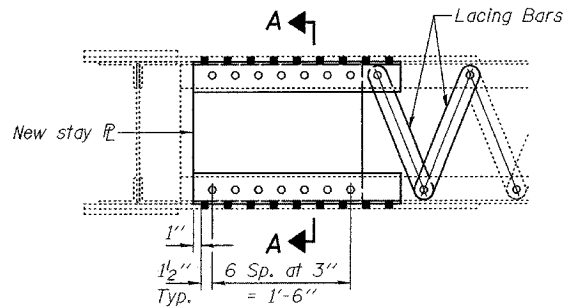


SECTION D-D

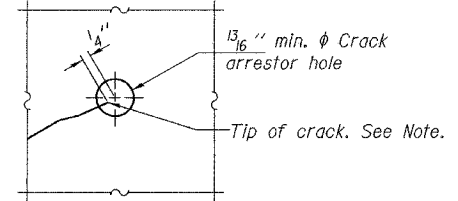


SECTION C-C

Note: Temporary shoring & cribbing of stringer end is required.

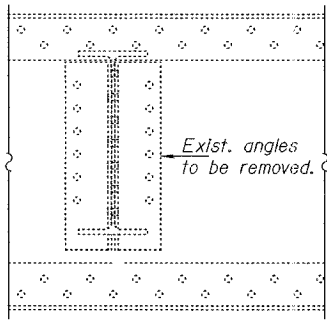


VIEW B-B

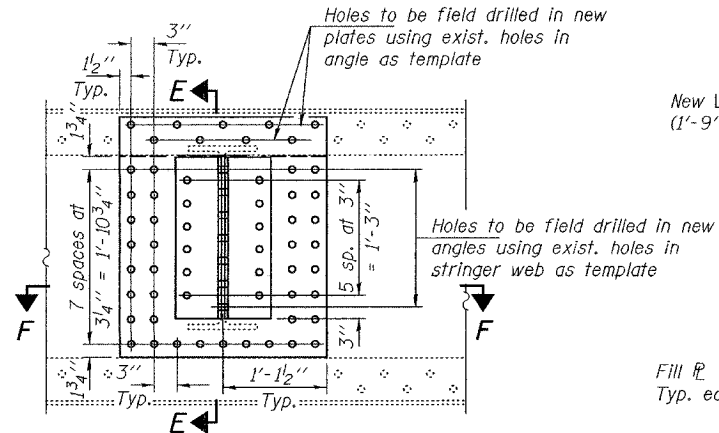


CRACK ARRESTOR HOLE DETAIL

Notes:
Locate crack tip using liquid dye penetrant or magnetic particle testing. Drill $\frac{13}{16}$ " min. ϕ crack arrestor hole at the crack tip. After crack arrestor hole has been drilled, dye penetrant or magnetic particle testing shall be used to verify that the drilled hole has captured the crack tip. Cost shall be included with Structural Steel Repair.

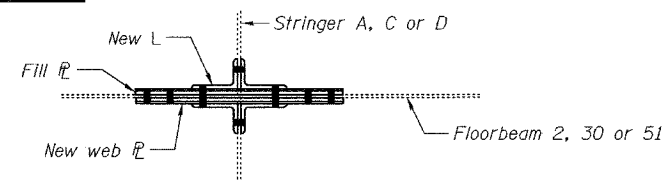


ELEVATION (Existing)



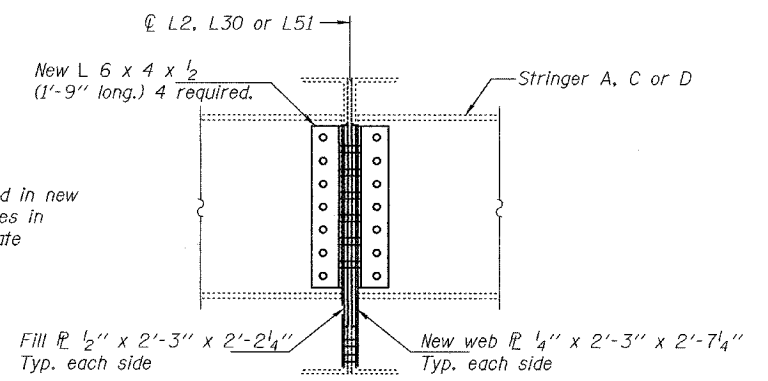
ELEVATION (Proposed)

REPAIR 9



SECTION F-F

Floorbeam 2, Stringer D
Floorbeam 30, Stringer C
Floorbeam 51, Stringer A



SECTION E-E

Note: Temporary shoring & cribbing of stringer end is required.

DESIGNED	DAB
CHECKED	JSB
DRAWN	ballva
CHECKED	DAB JSB

MARCH 14, 2005

EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES

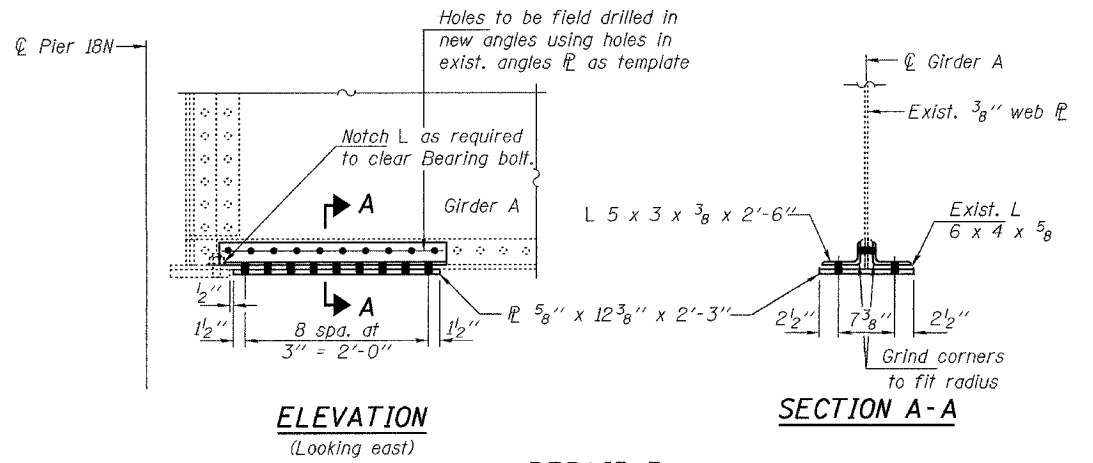
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE REPAIRS
OLD CAIRO BRIDGE OVER MISSISSIPPI RIVER
FAS RTE. 944 (US 60 & 62)
SEC. (138D-BR)1-5
ALEXANDER COUNTY
SN 002-0005

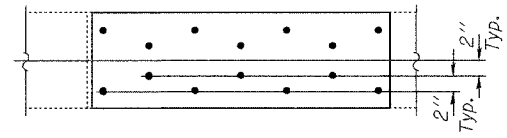
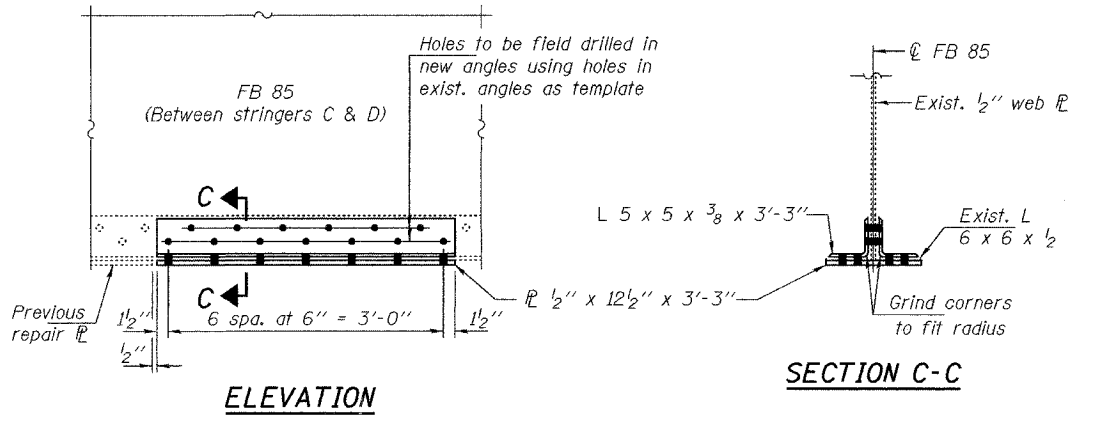
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 10
FAS 944	*	ALEXANDER		13	13 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

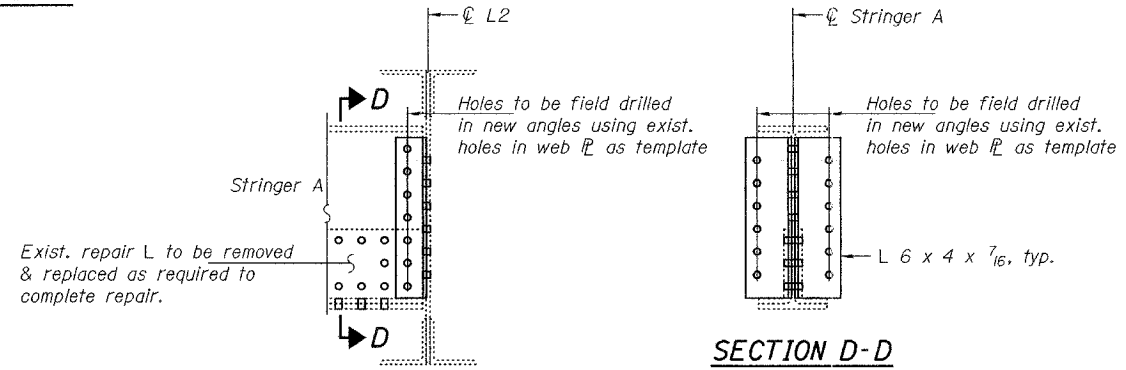
* (138D-BR)1-5 Contract No. 98640



REPAIR 3



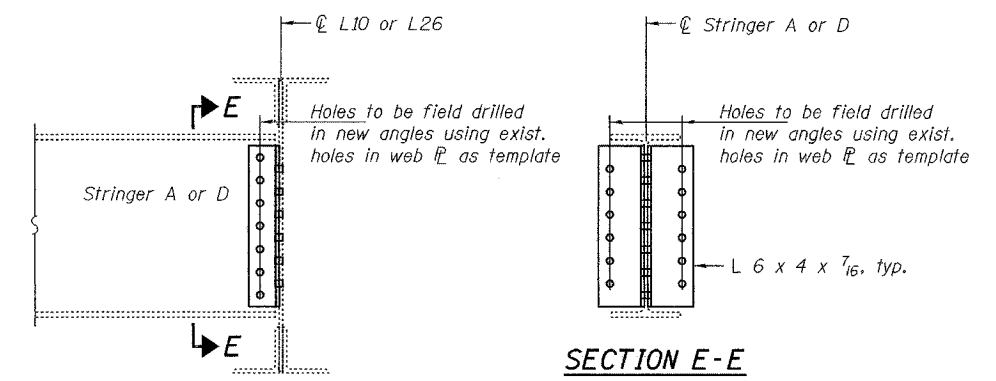
**FLOOR BEAM REPAIR
(BOTTOM FLANGE REPAIRS)
REPAIR 3**



**ELEVATION - STRINGER END
(Looking east)**

REPAIR 8

Note:
Temporary shoring & cribbing
of stringer end is required.

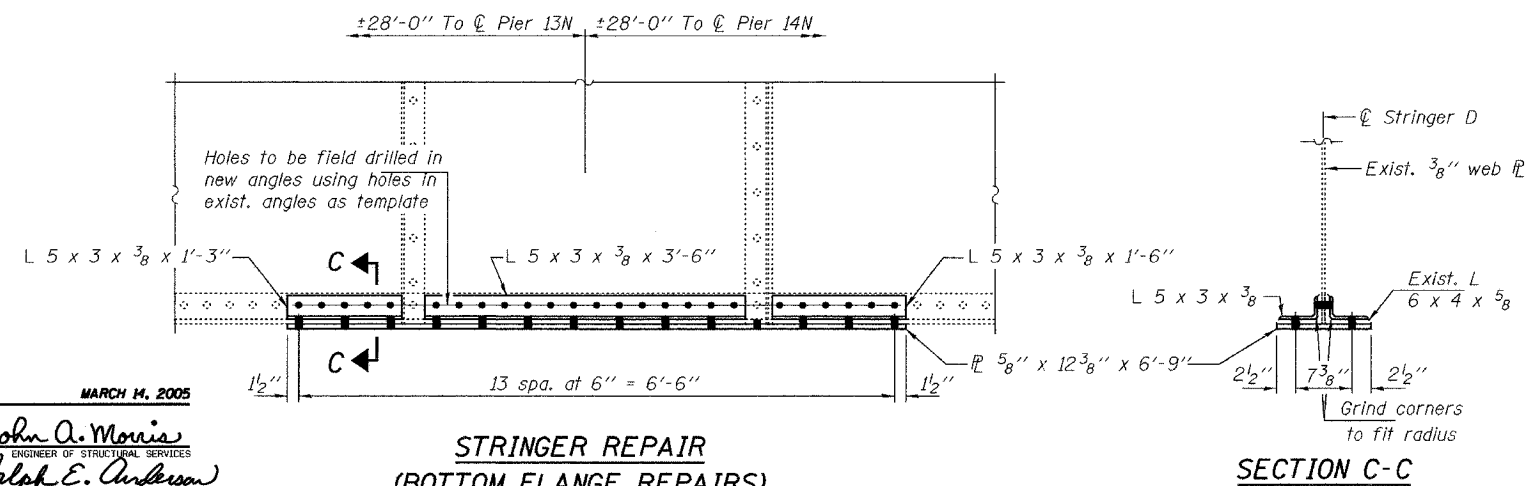


**ELEVATION - STRINGER END
(Looking east)**

REPAIR 8

L10, Stringers A & D
L26, Stringer D

Note:
Temporary shoring & cribbing
of stringer end is required.



**STRINGER REPAIR
(BOTTOM FLANGE REPAIRS)
REPAIR 3**

REPAIR 3

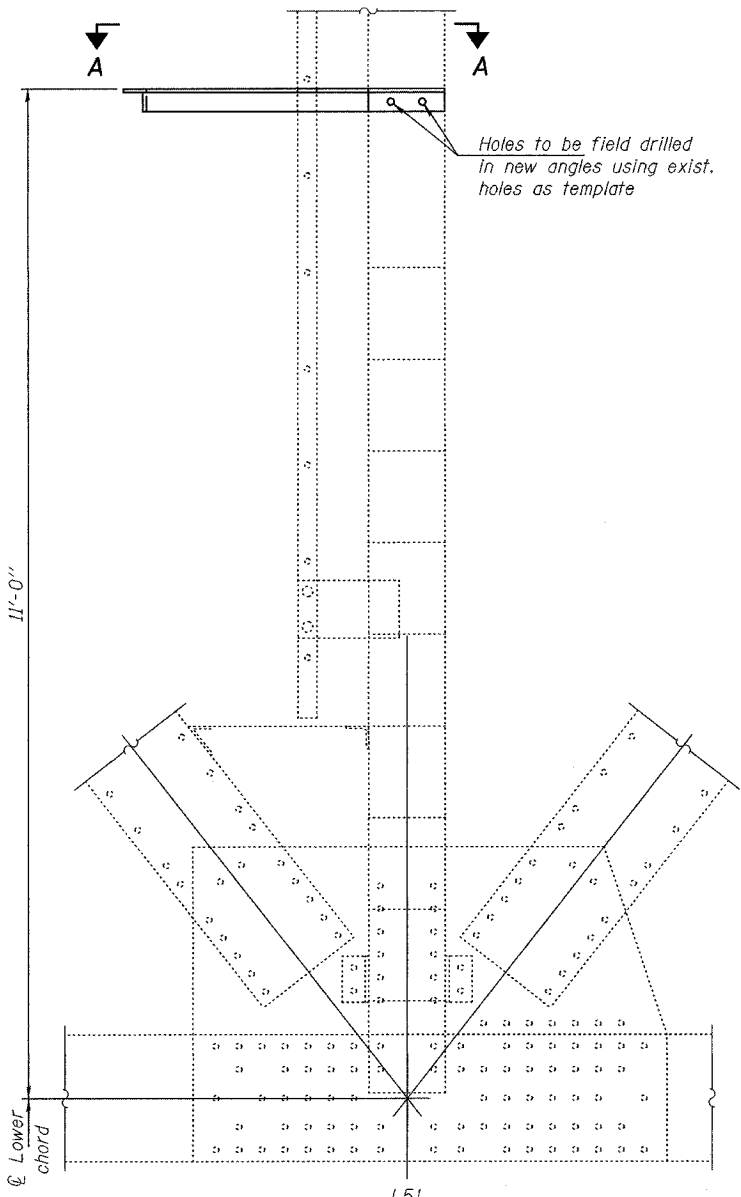
DESIGNED	DAB
CHECKED	JSB
DRAWN	baliva
CHECKED	DAB JSB

MARCH 14, 2005
EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

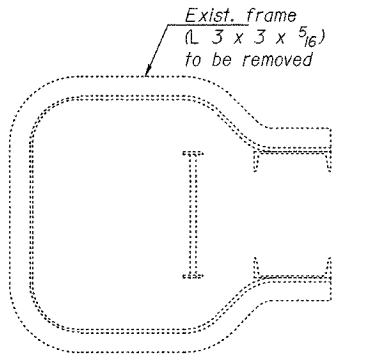
**BRIDGE REPAIRS
OLD CAIRO BRIDGE OVER MISSISSIPPI RIVER
FAS RTE. 944 (US 60 & 62)
SEC. (138D-BR)1-5
ALEXANDER COUNTY
SN 002-0005**

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

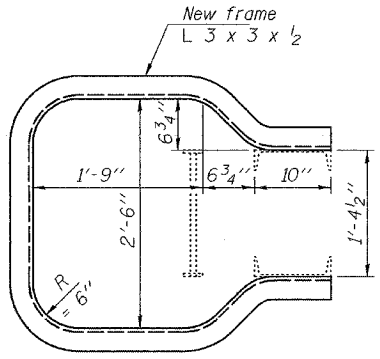
ROUTE NO. 944	SECTION *	COUNTY ALEXANDER	SHEET 14	SHEET NO. 11 13 SHEETS
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT * (138D-BR)I-5 Contract No. 98640	



REPAIR 10
SAFETY LOOP ANGLE REPAIR
Typ. each truss

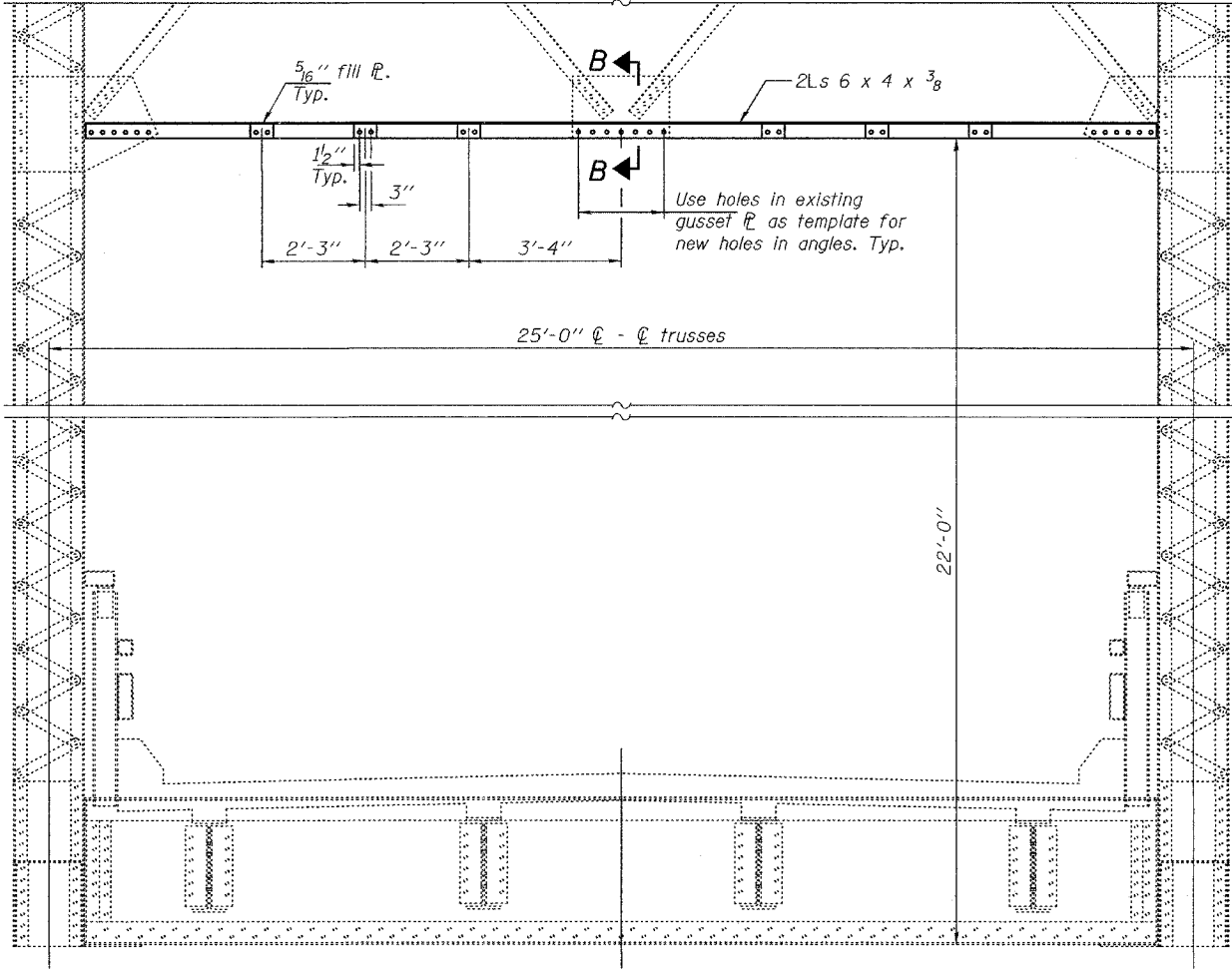


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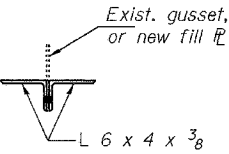


Proposed

SECTION A-A



REPAIR 11
CROSS SECTION
STRUT REPAIR AT PANEL POINT 66



SECTION B-B

REPAIR 4
Broken/Missing rivets at the following locations shall be replaced with 3/4"φ HS bolts.
Location/No. required:
Stringer A-FB 5 connection angle/2
West truss, floorbeam 8 conn. PL/14
Stringer D-FB 48 connection angle/1
East truss, floorbeam 51 conn. PL/8
Cost included with Structural Steel Repair.

REPAIR 5
The 2 missing bolts at the rail post connection, on the West truss, between panel points 5 & 6 shall be replaced with 1/2"φ x 6" round head bolts with locknuts and flat washers.
Cost included with Structural Steel Repair.

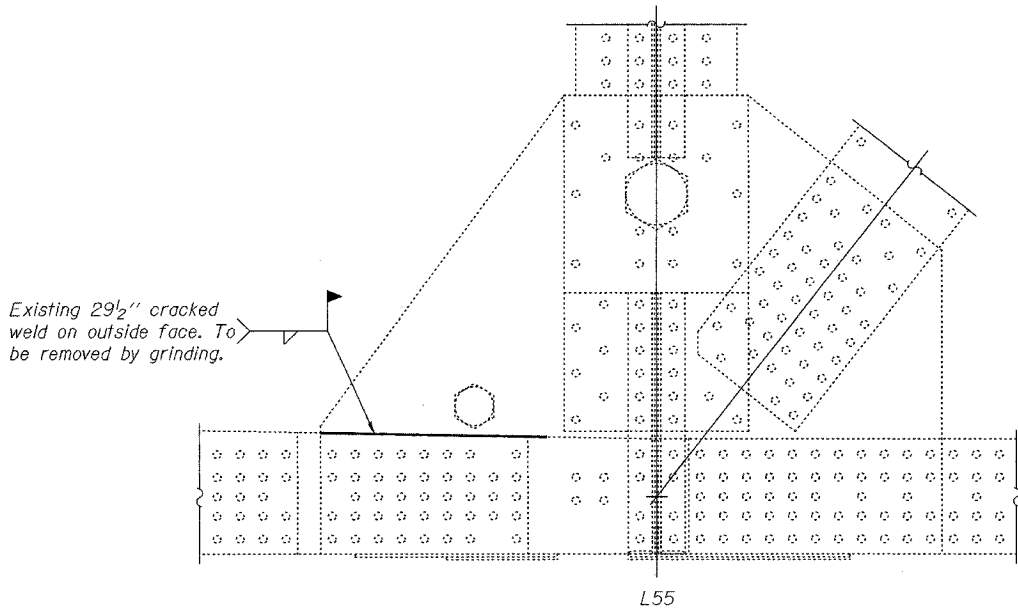
BRIDGE REPAIRS
OLD CAIRO BRIDGE OVER MISSISSIPPI RIVER
FAS RTE. 944 (US 60 & 62)
SEC. (138D-BR)I-5
ALEXANDER COUNTY
SN 002-0005

DESIGNED	DAB
CHECKED	JSB
DRAWN	ballva
CHECKED	DAB JSB

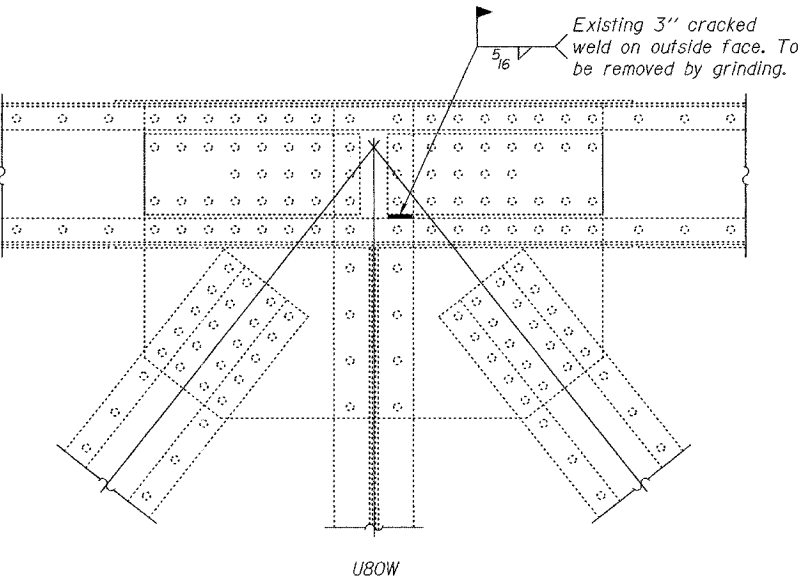
MARCH 14, 2005
EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

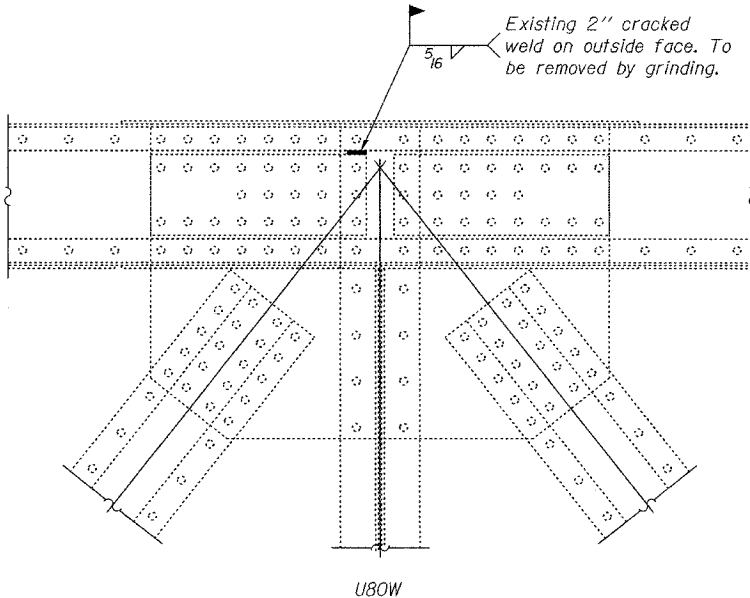
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FAS 944	*	ALEXANDER	15	12
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	
		* (138D-BR)I-5		Contract No. 98640



L55
REPAIR 12



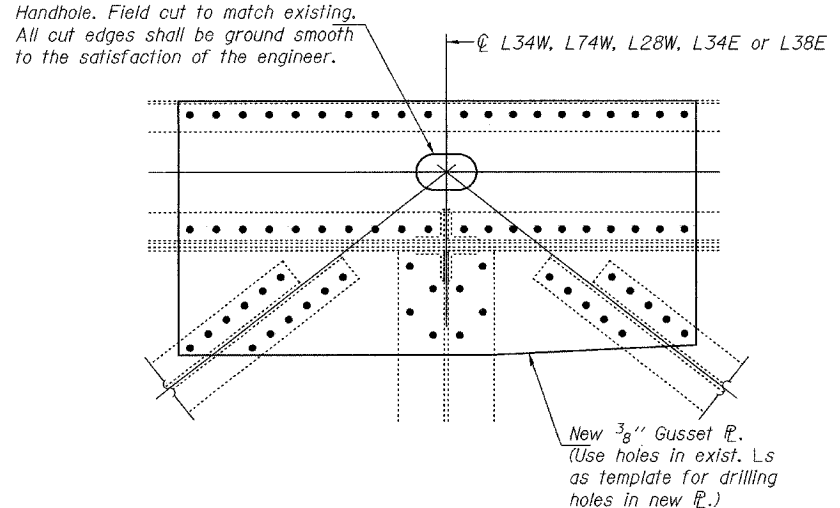
U80W
INSIDE FACE



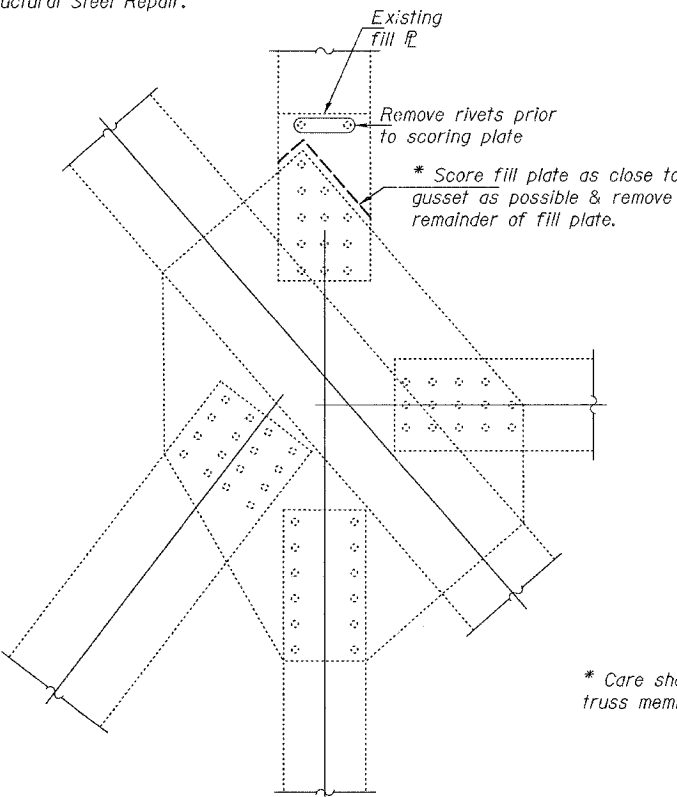
U80W
OUTSIDE FACE

REPAIR 12

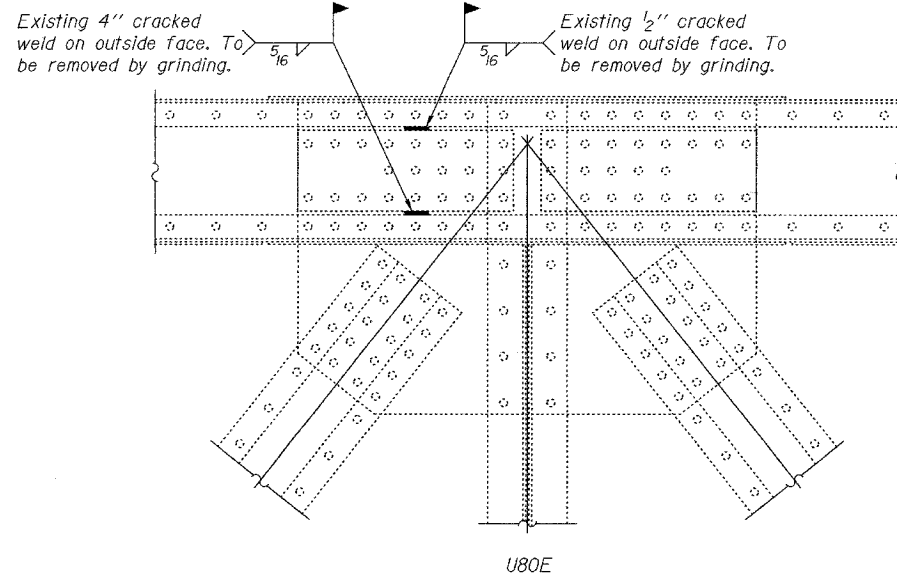
Note:
The cost of weld removal & field welding is included with Structural Steel Repair.



GUSSET PLATE REPAIR
REPAIR 14



REPAIR 13



U80E
INSIDE FACE

REPAIR 12

* Care shall be taken not to damage any truss members during the removal process.

@ U39E-L39E, U39W-L39W,
U41E-L41E, U41W-L41W,
U61E-L61E, U61W-L61W,
U63W-L63W or U63E-L63E

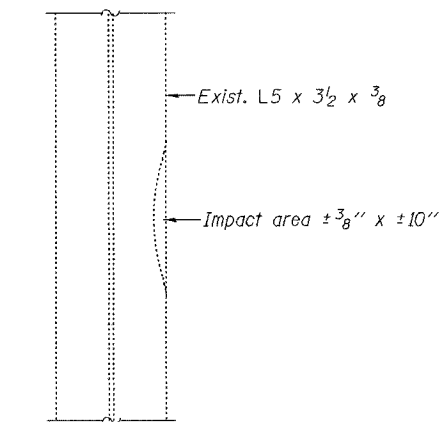
DESIGNED	DAB
CHECKED	JSB
DRAWN	balliva
CHECKED	DAB JSB

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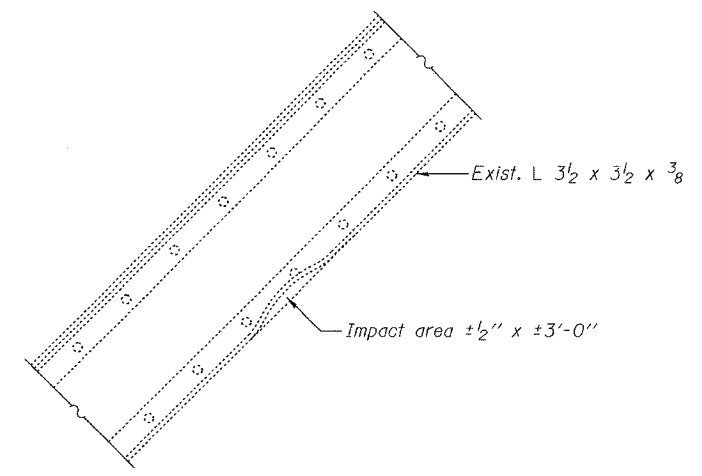
BRIDGE REPAIRS
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

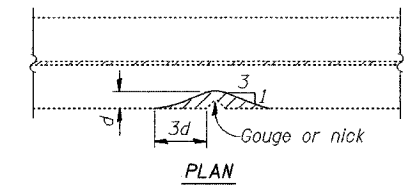
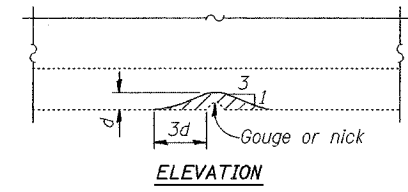
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FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT	* (138D-BR)1-5 Contract No. 98640	



REPAIR 16
L18W-U18W, looking west

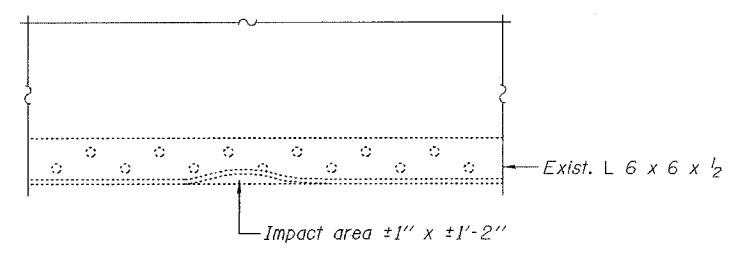


REPAIR 16
L101W-U102W, looking west

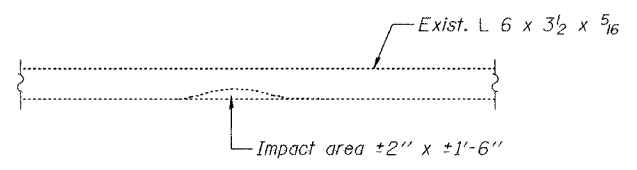


GRINDING DETAIL
REPAIR 15 & 16

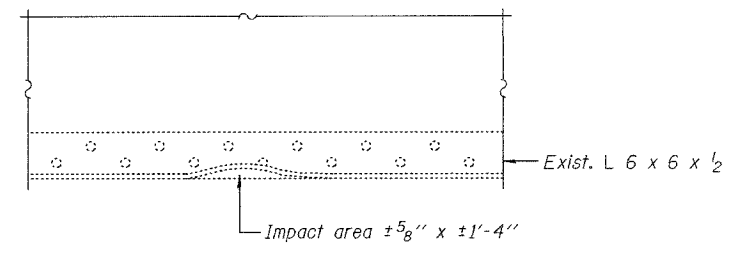
Grind existing nicks, gouges and shallow cracks in the damaged areas as detailed. Ground surfaces shall be inspected for cracks using magnetic particle testing prior to initiating any straightening operations. Cost included with Structural Steel Repair. Any cracks that cannot be removed by grinding approximately 1/4" deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition.



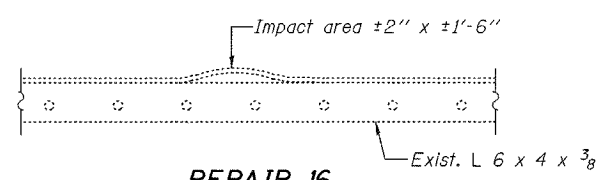
REPAIR 16
FB34, looking north



REPAIR 16
Horiz. sway brace @ PP 39, looking north



REPAIR 16
FB56, looking north



REPAIR 16
Horiz. sway brace between PP 66 & PP 67, looking south

Impacted areas shall be straightened.
See special provision Straighten Bent Members.
Cost included with Straighten Bent Members.
Typical for repair 16.

STRUCTURAL STEEL REPAIR				
Repair #	Member	Location	Description	Action
15	L50W-U50W	8' above deck	Nicks	Grind
15	L59E-U59E	7' above deck	Minor impact damage	Grind
15	L60E-U60E	8' above deck	Gouge	Grind
15	L60E-U61E	10' above deck	Gouge	Grind
15	L80E-U80E	6' above deck	Minor Impact damage	Grind
15	L92E-U93E	6' above deck	Gouge	Grind
15	L98E-U99E	10' above deck	Gouge	Grind
15	L100E-U101E	10' above deck	Gouge	Grind
16	FB 34	B'twn. Str. B & C	Bent bottom flange	Straighten & grind
16	L18W-U18W	8' above deck	Damaged angle	Straighten & grind
16	Horiz. sway brace	PP 39	Damaged angle	Straighten & grind
16	FB 56	12' from E. truss	Damaged angle	Straighten & grind
16	Horiz. sway brace	B'twn. PP 66 & 67	Damaged angle	Straighten & grind
16	L102W-U101W	6' above deck	Damaged angle	Straighten & grind

Notes:
Repair 15 paid for as Structural Steel Repair.
Repair 16 paid for as Straighten Bent Members.

DESIGNED	DAB
CHECKED	JSB
DRAWN	baliva
CHECKED	DAB JSB

MARCH 14, 2005
EXAMINED *John A. Morris*
ENGINEER OF STRUCTURAL SERVICES
PASSED *Ralph E. Anderson*
ENGINEER OF BRIDGES AND STRUCTURES

BRIDGE REPAIRS
OLD CAIRO BRIDGE OVER MISSISSIPPI RIVER
FAS RTE. 944 (US 60 & 62)
SEC. (138D-BR)1-5
ALEXANDER COUNTY
SN 002-0005