

04-27-12 LETTING ITEM 084

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**PROPOSED  
HIGHWAY PLANS**

VARIOUS ROUTES  
SECTION D2 BRIDGE PAINTING 2012-1

MAINTENANCE BRIDGE PAINTING  
ROCK ISLAND & WHITESIDE COUNTIES

C-92-096-12

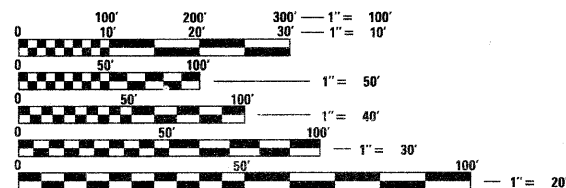
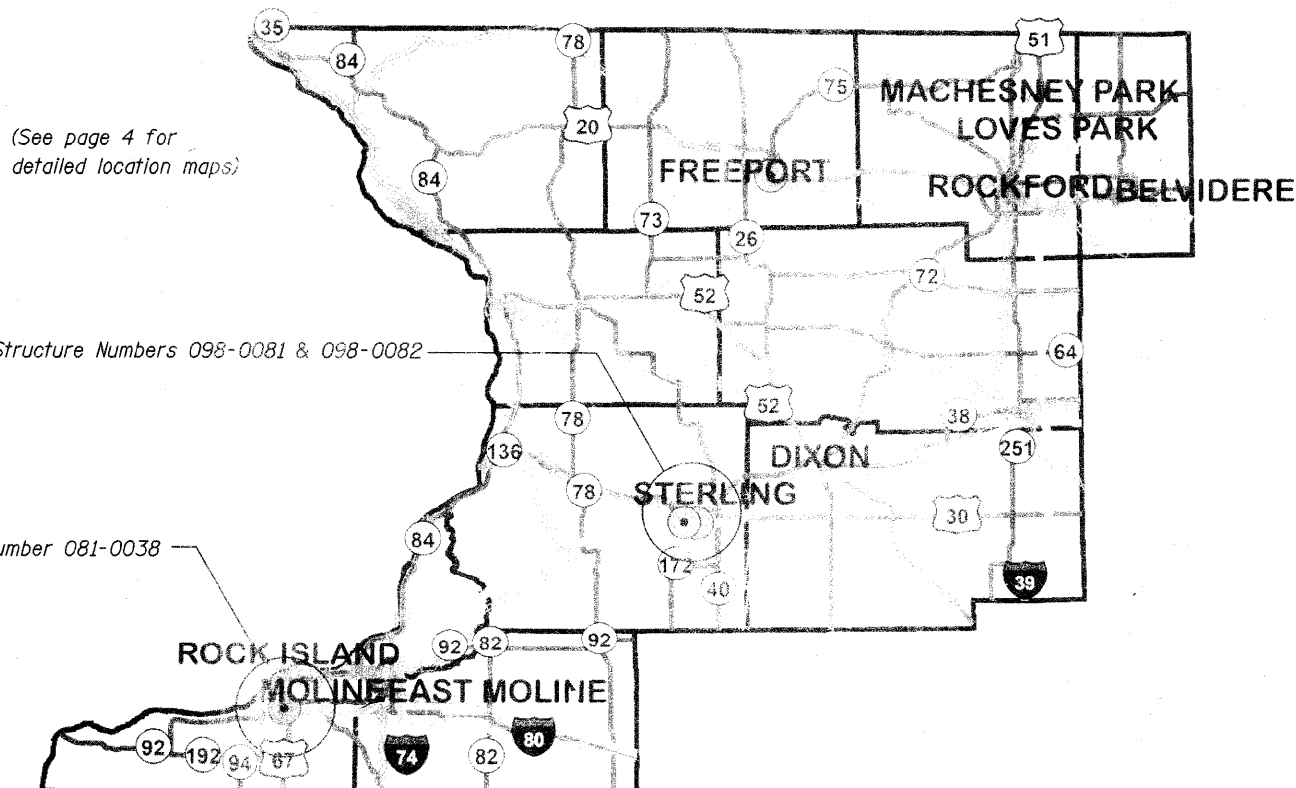
RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	*	Various	24	1
		ILLINOIS	CONTRACT NO. 64H86	

\* D2 Bridge Painting 2012-1

D-92-064-12



FOR INDEX OF SHEETS, SEE SHEET NO. 2



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

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

BRIDGE MAINTENANCE ENGINEER: Mahmoud Etemadi 815/284-5393  
BRIDGE PAINTING/PLAN TECHNICIAN: Dan Link 815/284-5416  
CONTRACT NO. 64H86

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

SUBMITTED January 25, 2012  
Eric S. Theilman  
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

March 23, 2012  
John D. Baramelli P.E.  
acting ENGINEER OF DESIGN AND ENVIRONMENT

March 23, 2012  
William R. Frey Jr.  
acting DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS**

# GENERAL NOTES

A minimum of 2 air monitors will be required to monitor abrasive blasting operations at each location, see special provision for "Containment and Disposal of Lead Paint Cleaning Residues".

The Contractor shall seed all disturbed areas within the project limits. Seeding Class 4 or 2A shall be used, except in front of properties where the grass will be mowed, then use Seeding, Class 1. Class 2A shall be used on front slopes and ditch bottoms. Class 4 shall be used behind Type A gutter, on all backslopes and areas behind the backslope, and beyond the toe of front slope on fill sections without ditches. This work will be included in the contract unit price per LUMP SUM for CLEANING AND PAINTING STEEL BRIDGE NO. 1.

Fertilizer shall be applied to all disturbed areas and incorporated into the seedbed prior to seeding or placement of sod at the rate specified in Sections 250 and 252 of the Standard Specifications. This work shall be included in the cost of CLEANING AND PAINTING STEEL BRIDGE NO. 1.

Mulch Method II shall be applied over all seeded areas. This shall be included in the cost of the CLEANING AND PAINTING STEEL BRIDGE NO. 1.

The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications. A minimum of 48 hours advance notice is required for non-emergency work. The JULIE number is 800-892-0123.

# INDEX OF SHEETS

1. Cover Sheet
2. General Notes, Index of Sheets, Standards
3. Summary of Quantities
5. -6. Traffic Control Plan
7. -17. Existing Plans Structure 081-0038
18. -20. Existing Plans 098-0081
21. -23. Existing Plans 098-0082

# STANDARDS

- 701006-03
- 701101-02
- 701400-05
- 701402-09
- 701406-06
- 701426-04
- 701606-08
- 701801-05
- 701901-02
- 704001-07
- 720011-01
- 728001-01
- 729001-01

FILE NAME =	USER NAME = lankdj	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
0:\BR\Bridge Painting\Contracts\PAINTING	2012-1\PLA\eng.dgn	DRAWN -	REVISED -		var	D2 Bridge Painting 2012-1	Various	24	2
	PLOT SCALE = 50.0038' / in.	CHECKED -	REVISED -		CONTRACT NO. 64HB6				
	PLOT DATE = Wed Jan 25 14:32:09 2012	DATE -	REVISED -		ILLINOIS FED. AID PROJECT				

# SUMMARY OF QUANTITIES

100% STATE  
URBAN

PAY ITEM #	DESCRIPTION	UNIT	TOTAL QUANTITY	ROCK ISLAND	WHITESIDE
			0014	QUANTITY	QUANTITY
50606701	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 1	L SUM	1	1	
50606702	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 2	L SUM	1		1
50606703	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 3	L SUM	1		1
67100100	MOBILIZATION	L SUM	1	0.3	0.7
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2		2
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L SUM	1	1	
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	1	
70300100	SHORT TERM PAVEMENT MARKING	FOOT	96		96
70300220	TEMPORARY PAVEMENT MARKING - LINE 4"	FOOT	16800		16800
70301000	WORK ZONE PAVEMENT MARKING REMOVAL	SQ FT	5600		5600
70400100	TEMPORARY CONCRETE BARRIER	FOOT	600		600
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1800		1800
78300100	PAVEMENT MARKING REMOVAL	SQ FT	800		800
X5067501	BRIDGE CLEANING AND PAINTING WARRANTY NUMBER 1	L SUM	1		1
X5067502	BRIDGE CLEANING AND PAINTING WARRANTY NUMBER 2	L SUM	1		1
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1	
Z0007102	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	L SUM	1		1
Z0007103	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 3	L SUM	1		1
Z0030250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	2		2
Z0030350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	6		6

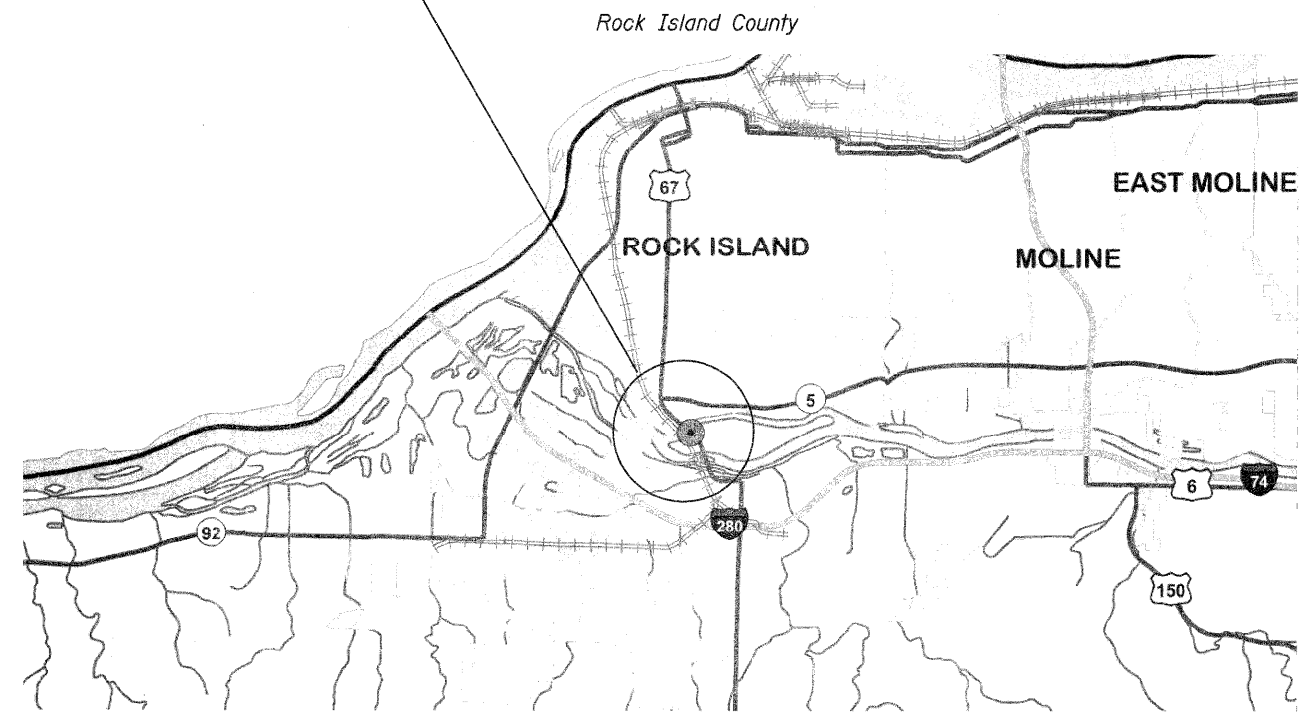
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PLOT SCALE = 50.0138' / 1"		CHECKED -	REVISED -
PLOT DATE = Wed Jan 25 14:31:40 2012		DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
var	D2 Bridge Painting 2012-1	var	24	3
			CONTRACT NO. 64M86	
ILLINOIS FED. AID PROJECT				

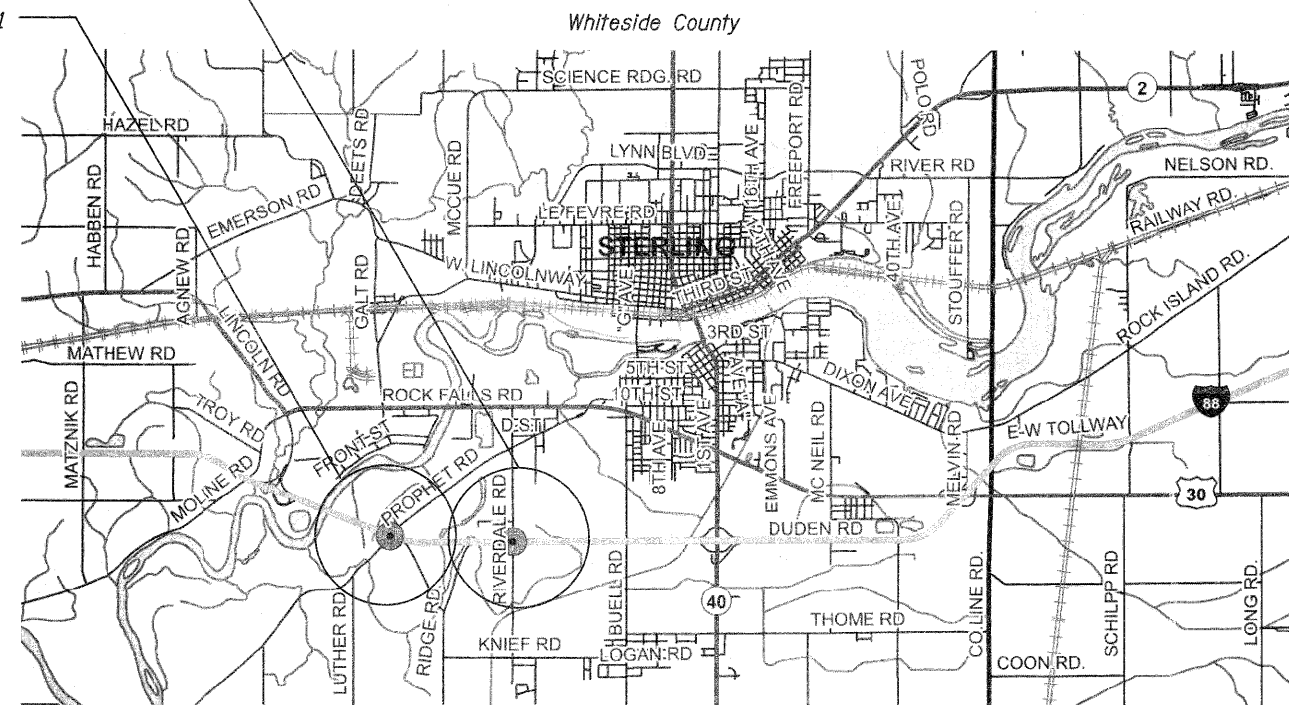
# LOCATION MAPS

Structure Number 081-0038



Structure Number 098-0082

Structure Number 098-0081

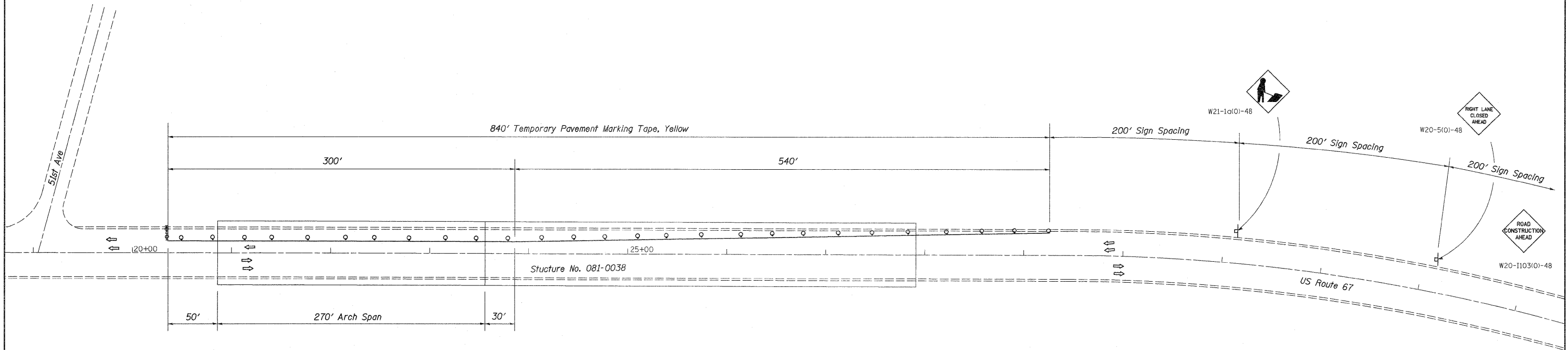
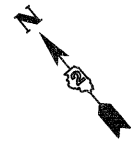


FILE NAME =	USER NAME = linkdj	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	SHEET NO. _____ OF _____ SHEETS	STA. _____ TO STA. _____	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D:\BR\Brdge Painting\Contracts\PAINTING\2012-1\PLANeng.dgn	2012-1\PLANeng.dgn	DRAWN -	REVISED -				var D2 Bridge Painting 2012-1	var	24	4
PLOT SCALE = 50.0138' / in.		CHECKED -	REVISED -				CONTRACT NO. 64H86			
PLOT DATE = Wed Jan 25 14:25:56 2012		DATE -	REVISED -				(ILLINOIS) FED. AID PROJECT			

# Traffic Control Plan

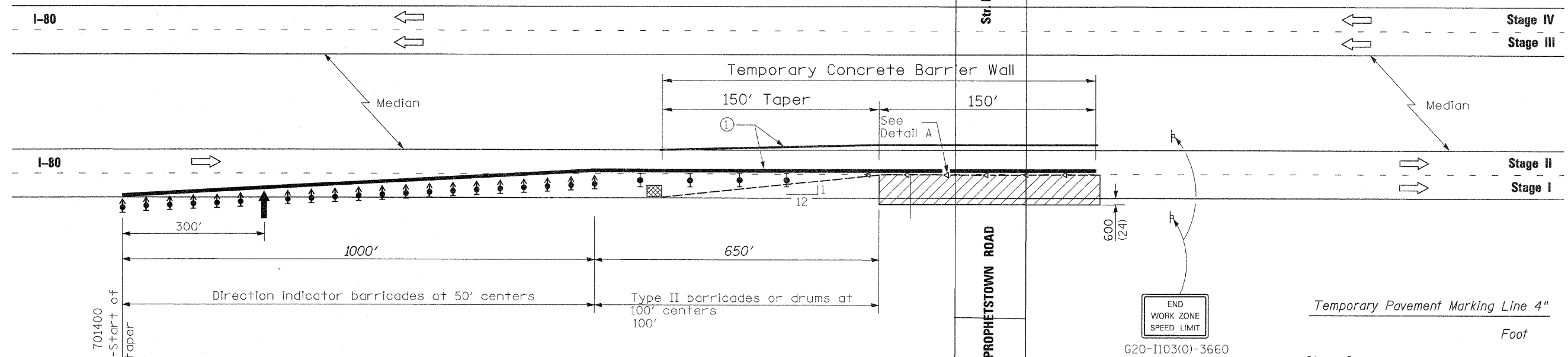
Structure No. 081-0038

Refer to Standard 701606-08 for additional details & requirements



FILE NAME = D:\BR\Bridg Painting\Contracts\PAINTING	USER NAME = linkdj 2012-1\PLAEng.dgn	DESIGNED - _____ DRAWN - _____	REVISED - _____ REVISED - _____	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	SECTION var 02 Bridge Painting 2012-1	COUNTY var	TOTAL SHEETS 24	SHEET NO. 5
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	PLOT DATE = Wed Jan 25 14:25:32 2012	DATE - _____	REVISED - _____					
					SCALE: _____	SHEET NO. _____ OF _____ SHEETS	STA. _____ TO STA. _____	

# Traffic Control Plan



See Standard 701400 for approach-start of lane closure taper

### Pavement Marking Removal

Stage I	100
Stage II	100
Stage III	100
Stage IV	100
<b>Total</b>	<b>400 Sq Ft</b>

### Temporary Concrete Barrier

Stage I	300 Feet
<b>Total</b>	<b>300 Feet</b>

### Relocate Temporary Concrete Barrier

Stage II	300
Stage III	300
Stage IV	300
<b>Total</b>	<b>900</b>

### Impact Attenuators, Temporary

Stage I	1 Each
<b>Total</b>	<b>1 Each</b>

### Impact Attenuators, Relocate

Stage II	1
Stage III	1
Stage IV	1
<b>Total</b>	<b>3 Each</b>

### Temporary Pavement Marking Line 4"

	Foot
Stage I	2100
Stage II	2100
Stage III	2100
Stage IV	2100
<b>Total</b>	<b>8400 Foot</b>

### Workzone Pavement Marking Removal

	Sq Ft
Stage I	700
Stage II	700
Stage III	700
Stage IV	700
<b>Total</b>	<b>2800 Sq Ft</b>

### Short-term pavement marking

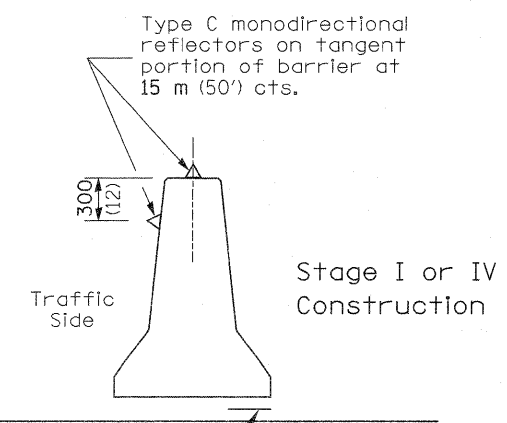
Project	48
<b>Total</b>	<b>48 Feet</b>

### SYMBOLS

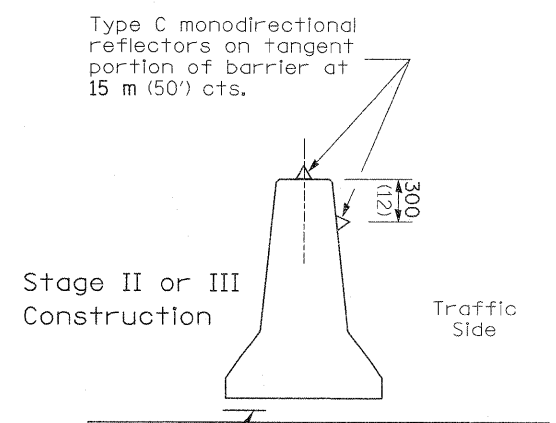
- Arrow board
- Work area
- Sign
- Direction indicator barricade with steady burn monodirectional light
- Type II barricade or drum with steady burn monodirectional light
- Temporary concrete barrier
- Type C Monodirectional reflector
- Impact attenuator

① Temporary pavement marking shall be placed throughout the taper and along-side the work area. The edge line shall be white for right lane closure and yellow for left lane closures.

All dimensions are in millimeters (inches) unless otherwise shown.

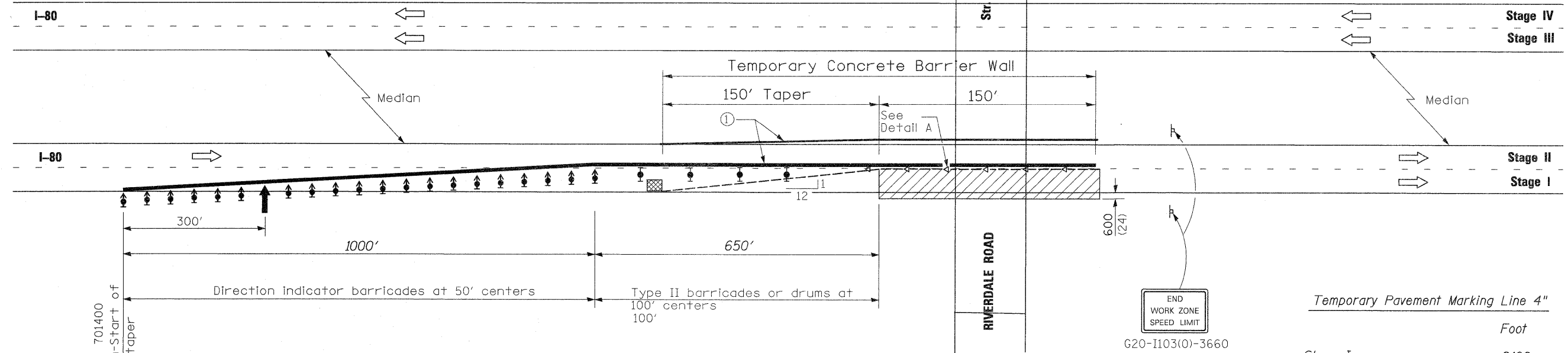


**DETAIL A**  
(BARRIER WALL REFLECTORS)



Traffic Control Plan  
TR 376 over I-80  
Various Routes Section D2 Bridge Painting 2011-2  
Various Counties  
Structure No. 037-0116

# Traffic Control Plan



See Standard 701400 for approach-start of lane closure taper

### Temporary Concrete Barrier

Stage I	300 Feet
<b>Total</b>	<b>300 Feet</b>

### Impact Attenuators, Temporary

Stage I	1 Each
<b>Total</b>	<b>1 Each</b>

### Temporary Pavement Marking Line 4"

	Foot
Stage I	2100
Stage II	2100
Stage III	2100
Stage IV	2100
<b>Total</b>	<b>8400 Foot</b>

### Pavement Marking Removal

Stage I	100
Stage II	100
Stage III	100
Stage IV	100
<b>Total</b>	<b>400 Sq Ft</b>

### Relocate Temporary Concrete Barrier

Stage II	300
Stage III	300
Stage IV	300
<b>Total</b>	<b>900</b>

### Impact Attenuators, Relocate

Stage II	1
Stage III	1
Stage IV	1
<b>Total</b>	<b>3 Each</b>

### Workzone Pavement Marking Removal

	Sq Ft
Stage I	700
Stage II	700
Stage III	700
Stage IV	700
<b>Total</b>	<b>2800 Sq Ft</b>

### Short-term pavement marking

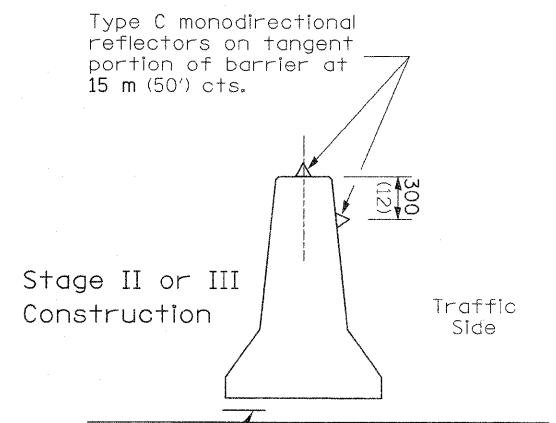
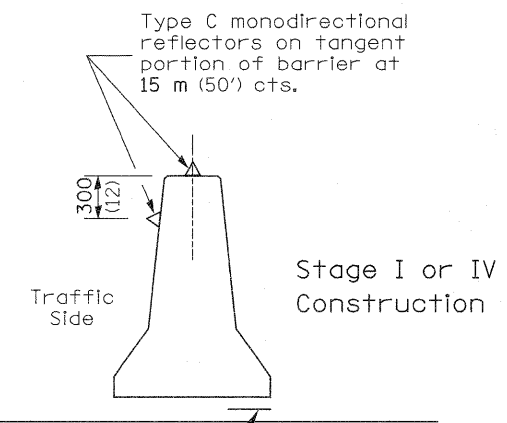
Project	48
<b>Total</b>	<b>48 Feet</b>

### SYMBOLS

- ↑ Arrow board
- ▨ Work area
- ⊥ Sign
- ⬆ Direction Indicator barricade with steady burn monodirectional light
- ⬇ Type II barricade or drum with steady burn monodirectional light
- Temporary concrete barrier
- ◁ Type C Monodirectional reflector
- ▣ Impact attenuator

① Temporary pavement marking shall be placed throughout the taper and along-side the work area. The edge line shall be white for right lane closure and yellow for left lane closures.

All dimensions are in millimeters (inches) unless otherwise shown.



Traffic Control Plan  
 TR 376 over I-80  
 Various Routes Section D2 Bridge Painting 2011-2  
 Various Counties  
 Structure No. 037-0116

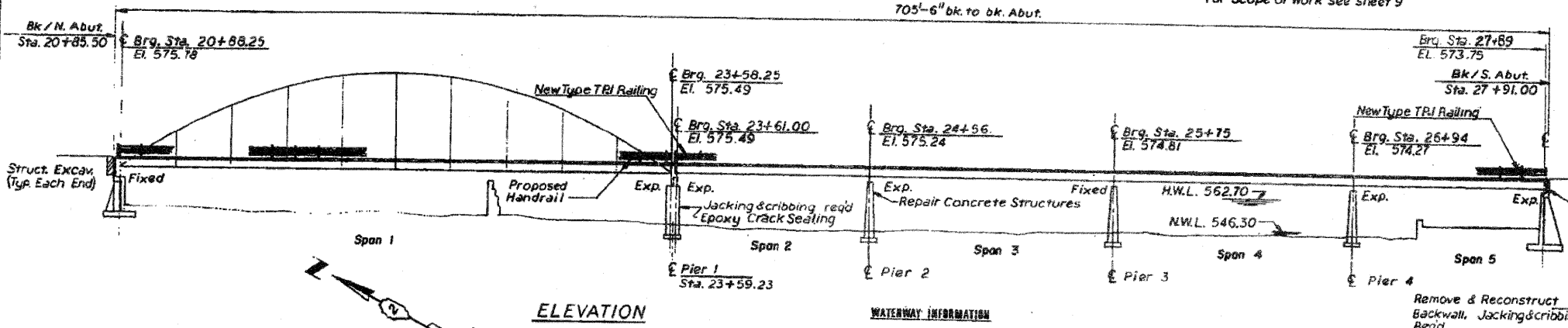
B.M. 1  
 D Cut in top of N.W. Wing Wall  
 Sta. 20+86, 32' Lt. of C, El. 576.10  
 B.M. 2  
 D Cut in top of S.E. Wing Wall  
 Sta. 54+95.2, 35' Lt. of C, El. 581.23

Existing Structure: #081-0038, 705'-6" Long by 67'-10"  
 Wide at Truss Span & 61'-7" Wide at Girder Spans,  
 Built as S.B.L. Rte. 3, Section 17-B-D-E-F-P at Sta. 24+38.25 in 1948  
 Note:  
 For Scope of Work see sheet 9

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	17(D) BR	ROCK ISLAND	80	15
FED. ROAD DIST. NO. 7 (L.I. NO. 1) PROJ. BR-F-599(3)				

GENERAL NOTES:

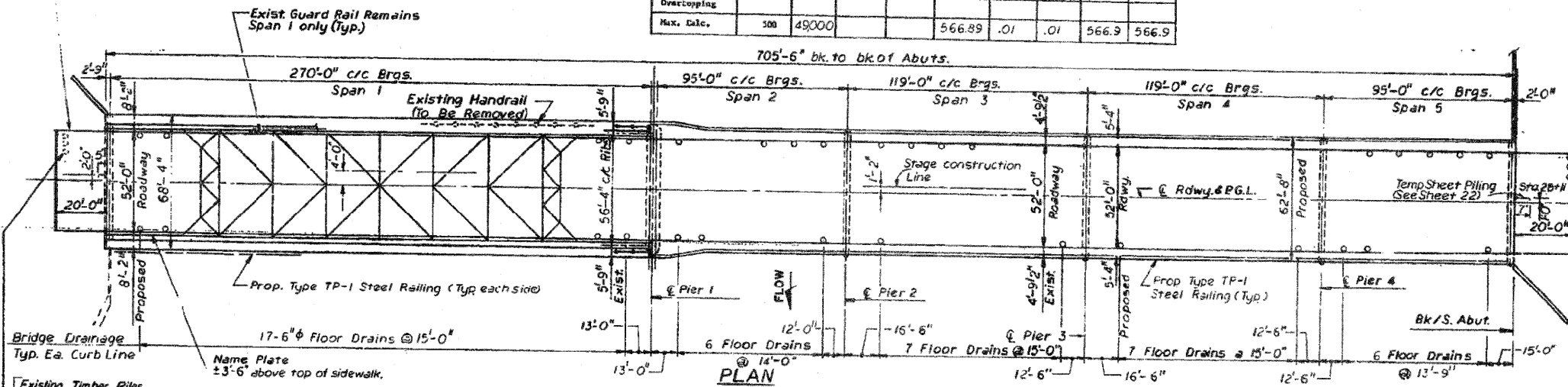
- Fasteners shall be 7/8" diameter high strength bolts. New holes shall be equal to bolt diameter plus 1/16" except as noted; field Ream existing holes for hole alignment.
- Remove & Reconstruct Backwall, Jacking & cribbing Req'd
- Clean all structural steel in accordance with applicable provision of the Standard Specifications. (See Scope of Work on sheet 9)
- All new bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8". Adjustment shall be made either by grinding the surface - if too high - or by shimming the bearing - if too low. Two 1/2" adjusting shims, of the dimensions of the elastomeric bearing bottom plate shall be provided for each new bearing. (Cost incidental)
- All new main load carrying member components subject to tensile stresses shall conform to the supplemental requirements for notch toughness zone 2. These components are all the new bottom cover plates for floor beams FB-2 & FB-3.
- Reinforcement bars shall conform to the requirements of AASHTO M 21 or M 53 Grade 60.
- All contact surfaces of joints for the new members of the cross frames shall be free of paint and lacquer.
- Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to marine 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 work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- The basic lead silico chromate paint system shall be used for shop painting of new structural steel.
- Existing steel shall be painted using the basic lead silico chromate paint system. Areas cleaned by Method 1 shall receive a full coat and areas cleaned by Method 2 shall receive a spot application of dull orange primer. All steel shall receive a full coat of maroon first coat and the interstate green for the final coat.



Drainage Area = 10,947 sq. miles low Grade Elev. = 8 Sta.

Flood	Peak Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head-Fc.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	50	24,700	8,325	8,325	560.87	.01	.01	560.86	560.85
Base	100	31,500	9,417	9,417	563.0	.01	.01	563.01	563.01
Overtopping									
Max. Dalc.	500	49,000			566.89	.01	.01	566.9	566.9

Exist. Approach Pav't.  
 Shall be removed. Typ. each end.  
 Proposed Approach Pavement  
 Std. 2382-1



Bridge Drainage  
 Typ. Ea. Curb Line

17'-6" Floor Drains @ 15'-0"

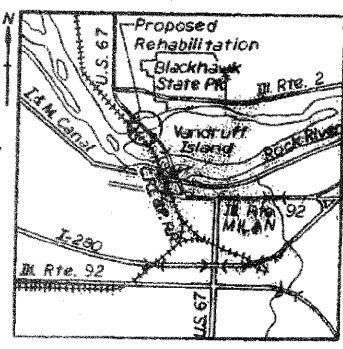
Name Plate  
 2'-3" above top of sidewalk.

Existing Timber Piles  
 Remove 2'-0" Feet Below Grade. Typ. each end.  
 Cost Incidental to Structure Removal.

STATION 24+38.25  
 RE-BUILT 198 BY  
 STATE OF ILLINOIS  
 F.A. RT. 599 SEC 17(D) BR  
 F.A. PROJ. ACBHF-599(5)  
 LOADING HS20  
 STR. NO. 081-0038  
 NAME PLATE  
 STANDARD 2113

**DESIGN STRESSES**  
 $f_c = 3,500$  p.s.i. - New Concrete Deck  
 $f_y = 60,000$  p.s.i. - New Reinf. Bars  
 $f_c = 1,200$  p.s.i. - Existing Concrete Substructure  
 $f_s = 18,000$  p.s.i. - A.S.T.M. A7 (Existing) Steel  
 $f_s = 20,000$  p.s.i. - A.S.T.M. A-108 (New Structural Steel)

**DESIGN SPECIFICATIONS:**  
 A.A.S.H.T.O. 1977 & 1978, 1979, 1980, 1981, 1982 Interims  
 A.A.S.H.T.O. 1991 (Existing)  
 Loading HS20-4 (Existing)  
 HS20-44 (New Construction)



**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUB STRUCT.	SUPER STRUCT.	TOTAL
RELOCATE TEMP CONC. BARRIER	LN.FT.	---	1014	1014
JACKING AND CRIBBING	L.S.	0.33	---	0.33
ELASTOMERIC BEARING ASSEMBLY, TYPE 1	EACH	---	20	20
TEMP CONC. BARRIER	LN.FT.	---	1060	1060
CLEAN & PAINT STEEL BR.	L.S.	---	0.33	0.33
TEMPORARY SHEET PILING	SQ.FT.	201	---	201
RIVET REM. & REPLACEMENT	EA.	---	17,300	17,300
FLOOR DRAINS	EA.	---	86	86
CLASS X CONCRETE	CUYDS.	20.5	1240	1260.5
STRUCTURE EXCAVATION	CUYDS.	156	---	156
REINFORCEMENT BARS	LBS.	4780	---	4780
REINFORCEMENT BARS (EPOXY-COATED)	LBS.	---	279680	279680
NEOPRENE EXP. JOINT (6'2")	LN.FT.	---	69	69
NEOPRENE EXP. JOINT (4')	LN.FT.	---	64	64
EPOXY CRACK SEALING	LN.FT.	50	---	50
CONCRETE REMOVAL	CUYDS.	29	---	29
PREFORMED JOINT SEAL (2'2")	LN.FT.	---	350	350
PROTECTIVE COAT	SQ.YDS.	---	5168	5168
STUD SHEAR CONNECTORS	EACH	---	6840	6840
NAME PLATES	EACH	---	1	1
REMOVAL OF EXIST. CONC. DECK	L.S.	---	0.33	0.33
ADJUST & REPOSITION BRGS.	EACH	---	10	10
STEEL RAILING, TYPE TP-1	LN.FT.	---	1420	1420
REPAIR OF CONC. STRUC.	SQ. FT.	75	---	75
STRUCTURAL STEEL	POUND	---	22020	22020

PROFILE U.S. RTE. 67

L.V.C. = 700'

Sta. 20+66 Match Exist. El.  
 P.V.C. Sta. 21+00 El. 575.78  
 Sta. 20+90 P.V.T. Sta. 20+90  
 Sta. 26+11 Match Exist. El.  
 P.V.T. Sta. 26+00 El. 573.68  
 Sta. 26+11 Match Exist. El.

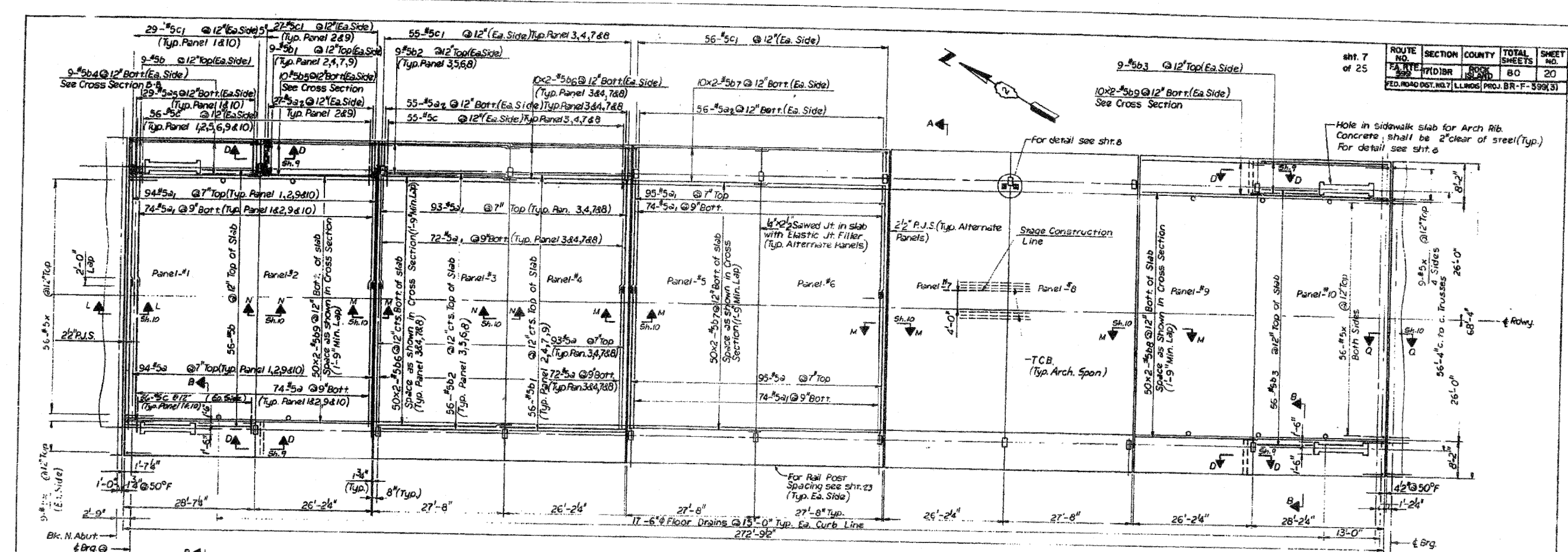
**TORNROSE, CAMPBELL & ASSOCIATES**

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

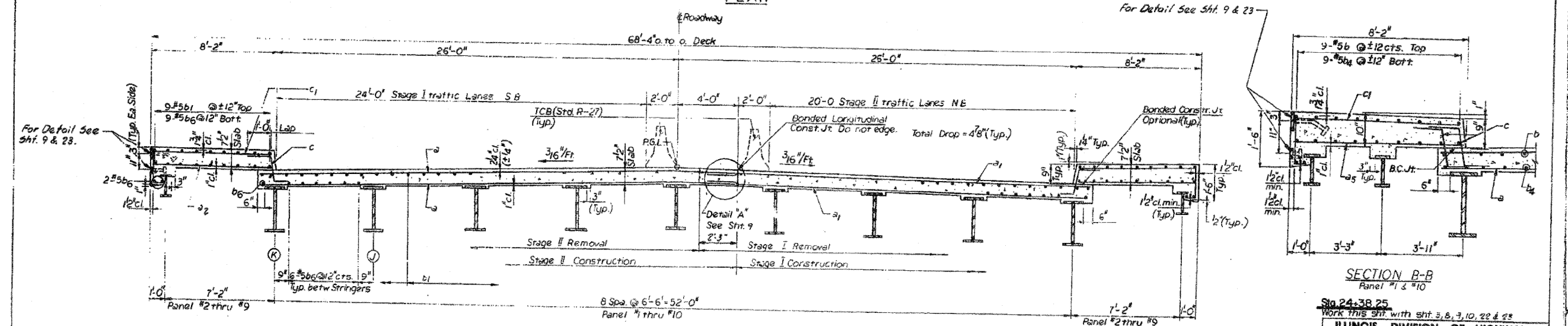
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	PLOT DATE = Wed Jan 25 14:23:31 2012	DATE =	REVISED =

SCALE =	SHEET NO. OF SHEETS	STA. TO STA.	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			var	D2 Bridge Painting 2012-1	var	24	8
							CONTRACT NO. 64H86
ILLINOIS FED. AID PROJECT							





PLAN



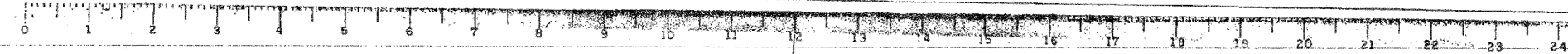
SECTION A-A  
(ARCH SPAN FROM N. ABUT. TO PIER #1)  
(LOOKING NORTH)

SECTION B-B  
Panel #1 & #10

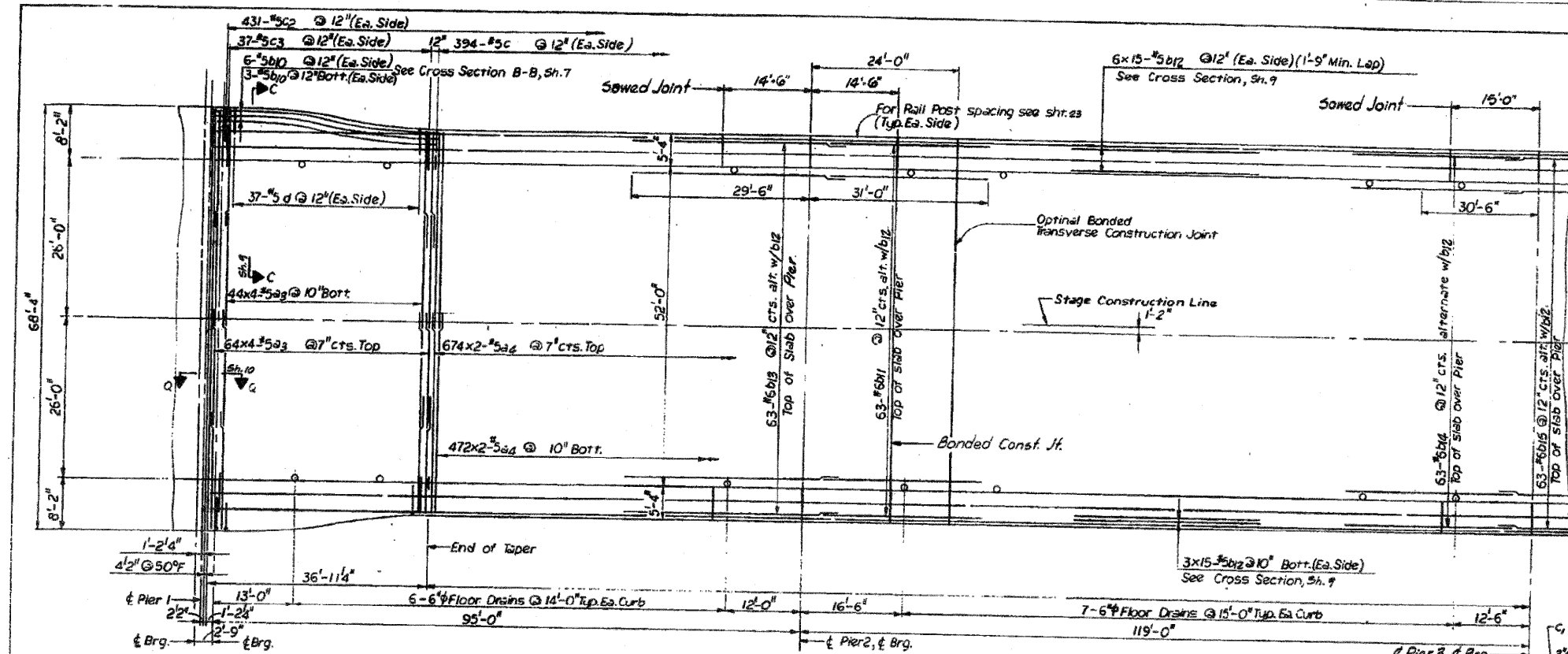
NOTES:  
All bridge deck reinforcement bars shall be epoxy coated. Bars indicated thus: 50x2-#5 etc. indicates 50 lines of bars with 2 lengths per line.

TORNROSE, CAMPBELL & ASSOCIATES

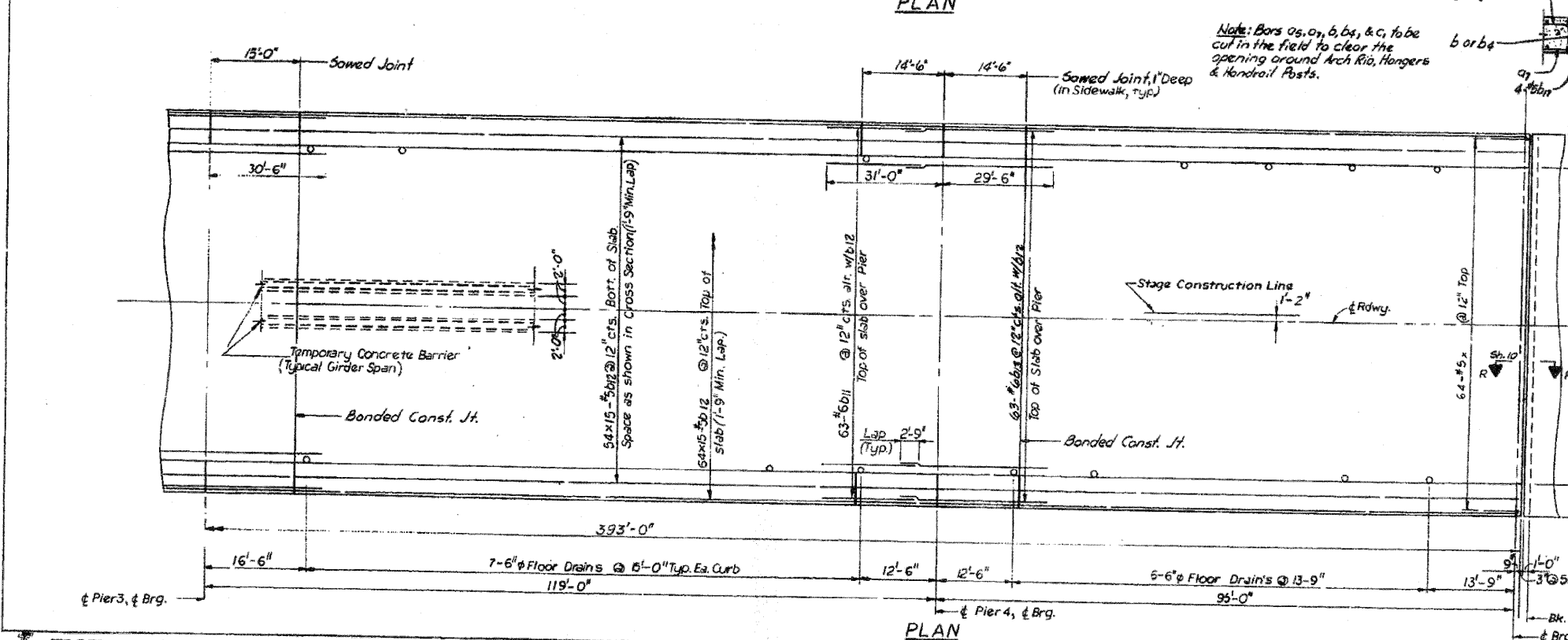
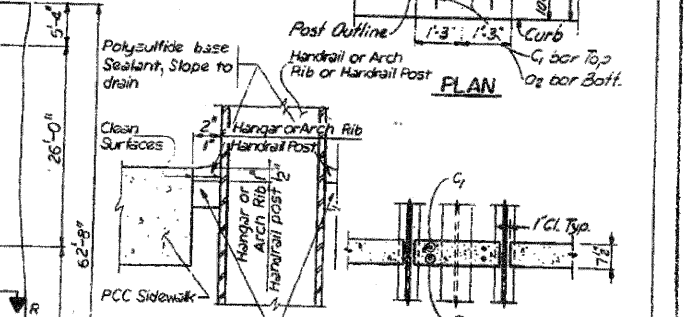
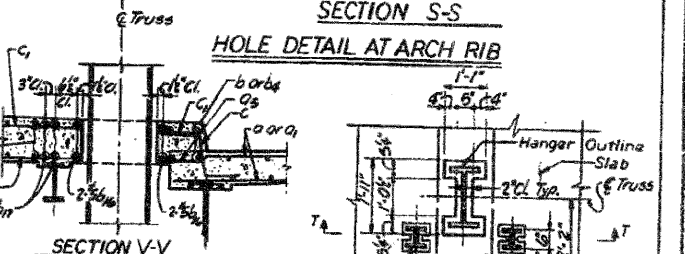
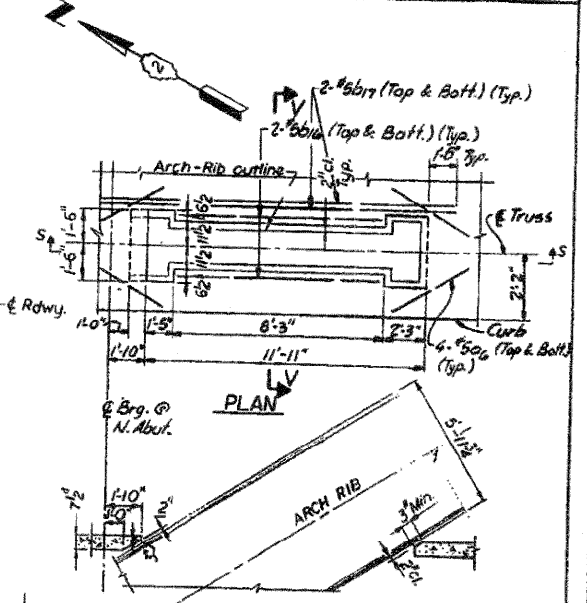
ILLINOIS DIVISION OF HIGHWAYS			
F.A. ROUTE 599			
PROJECT BR-F-599(3) SECTION IT(D)BR			
ROCK ISLAND COUNTY			
DECK DETAILS-NORTH CHANNEL			
Designed By: SK	Drawn By: LK	Quantity By: LK	
Checked By: KN	Checked By: KN	Checked By: KV	



FILE NAME =	USER NAME = linkj	DESIGNED -	REVISED -	STATE OF ILLINOIS	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D:\BR\Bridg Painting\Contracots\PAINTING	2012-1\PLANeng.dgn	DRAWN -	REVISED -	DEPARTMENT OF TRANSPORTATION	var D2 Bridge Painting 2012-1	CONTR	24	9
	PLOT SCALE = 50.1749' / in.	CHECKED -	REVISED -					
	PLOT DATE = Wed Jan 25 14:22:12 2012	DATE -	REVISED -					
					SCALE:	SHEET NO. OF SHEETS	STA. TO STA.	ILLINOIS FED. AID PROJECT



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
EA. ROUTE 599	17(D) BR	ROCK ISLAND	80	21
FED. ROAD DIST. NO. 7 LLN005 PROJ. BR-F-599(3)				

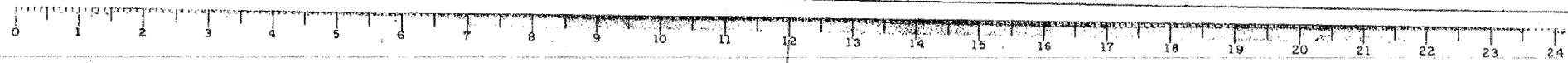


Note: Bars a1, a2, b1, b2, & c1 to be cut in the field to clear the opening around Arch Rib, Hangers & Handrail Posts.

Sta. 24+38.25  
Work this sh. with sh. 7, 9, 10, 22 & 23

ILLINOIS DIVISION OF HIGHWAYS				
EA. ROUTE 599				
PROJECT BR-F-599(3) SECTION 17(D) BR				
ROCK ISLAND COUNTY				
DECK DETAILS - NORTH CHANNEL				
Designed By: SK	Drawn By: LK	Quantities By: LK		
Checked By: KN	Checked By: KN	Checked By: KN		

**TORNROSE, CAMPBELL & ASSOCIATES**

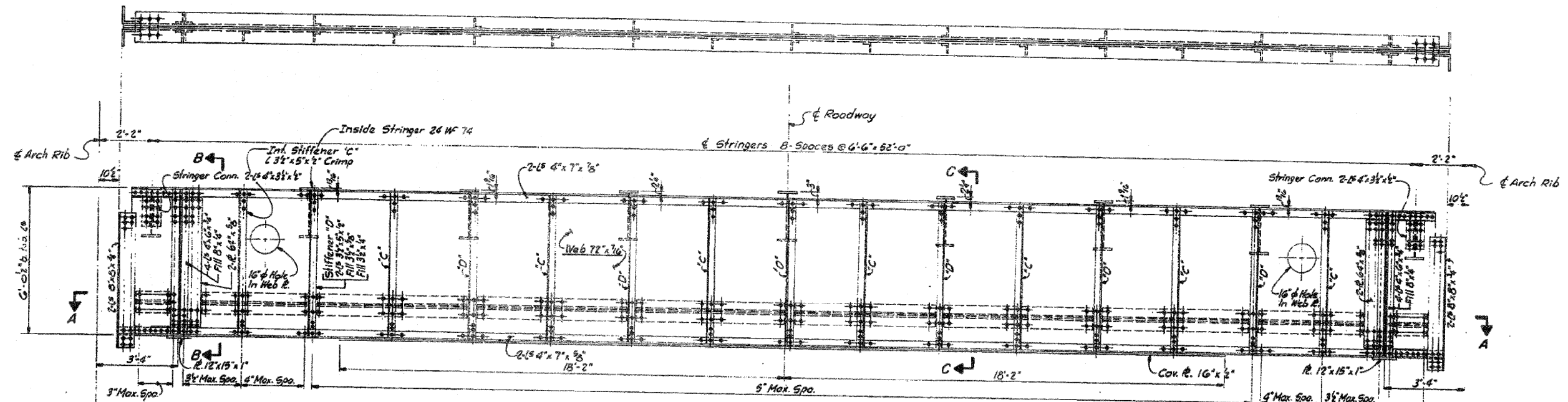


FILE NAME =	USER NAME = linkdj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCALE: _____ SHEET NO. _____ OF _____ SHEETS STA. _____ TO STA. _____	RTE. SECTION COUNTY TOTAL SHEETS SHEET NO. var P2 Bridge Painting 2012-1 var 24 10 CONTRACT NO. 64H86
0:\NBR\Brdge Painting\Contracts\PAINTING\2012-1\PLANeng.dgn	DRAWN -	REVISED -				
PLOT SCALE = 50.0138' / in.	CHECKED -	REVISED -				
PLOT DATE = Wed Jan 25 15:07:54 2012	DATE -	REVISED -				

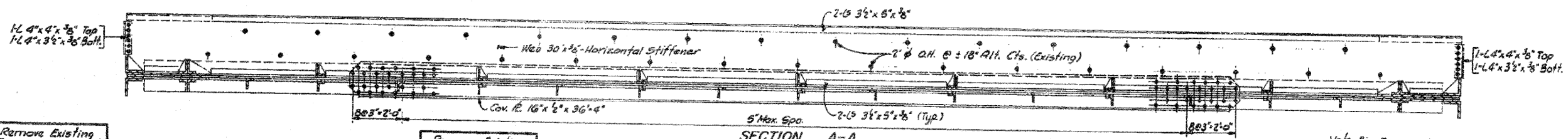


Sht. 13  
of 25

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	17(D)BR	ROCK ISLAND	26	26
FED. ROAD DIST. NO. 7   ILL. PROJ. BR. F-599(3)				

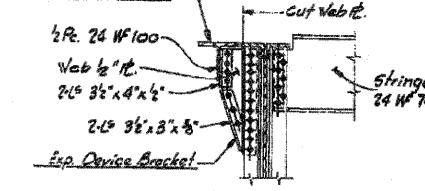


**FLOOR BEAMS FB-1 & FB-4**  
Note: FB-1 & FB-4 similar except for Exp. Device Brackets.



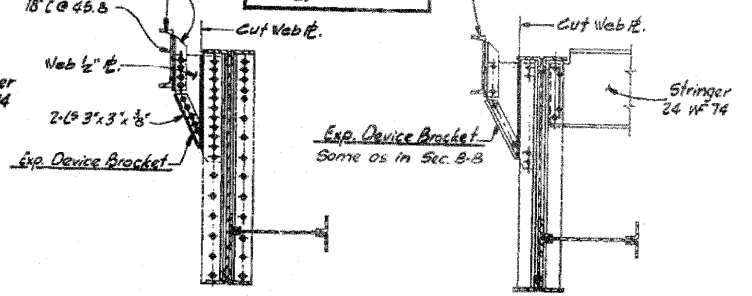
**SECTION A-A**

Remove Existing Exp. Device Bracket (24 WF & B). Cut off Web B, as shown.



**SECTION B-B**  
Sec. C-C Similar  
**DETAIL AT NORTH ABUT.**  
**FB-1**

Remove Existing Exp. Device Bracket (15 C & B). Cut off Web B, as shown.



**SECTION B-B**  
**DETAILS AT PIER #1**  
**FB-4**

**SECTION C-C**

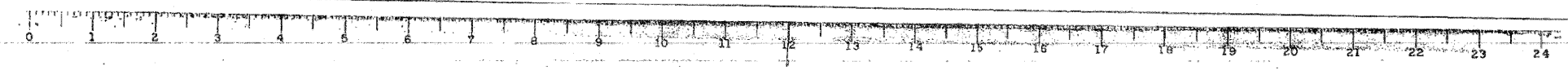
All structural steel shown on this sheet is existing, unless otherwise noted.

Note B: Remove all unsound, loose, and deteriorated rivets one (1) at a time as identified by the Engineer and replace with 3/8" H.S. Bolts, A-325 F Billet as "Rivet Removal and Replacement" (Typ., See Special Provision).  
Est. Wt. = 1720 Lbs. (for two FB)

Work this sheet with sheet 12  
Sta. 24+38.25

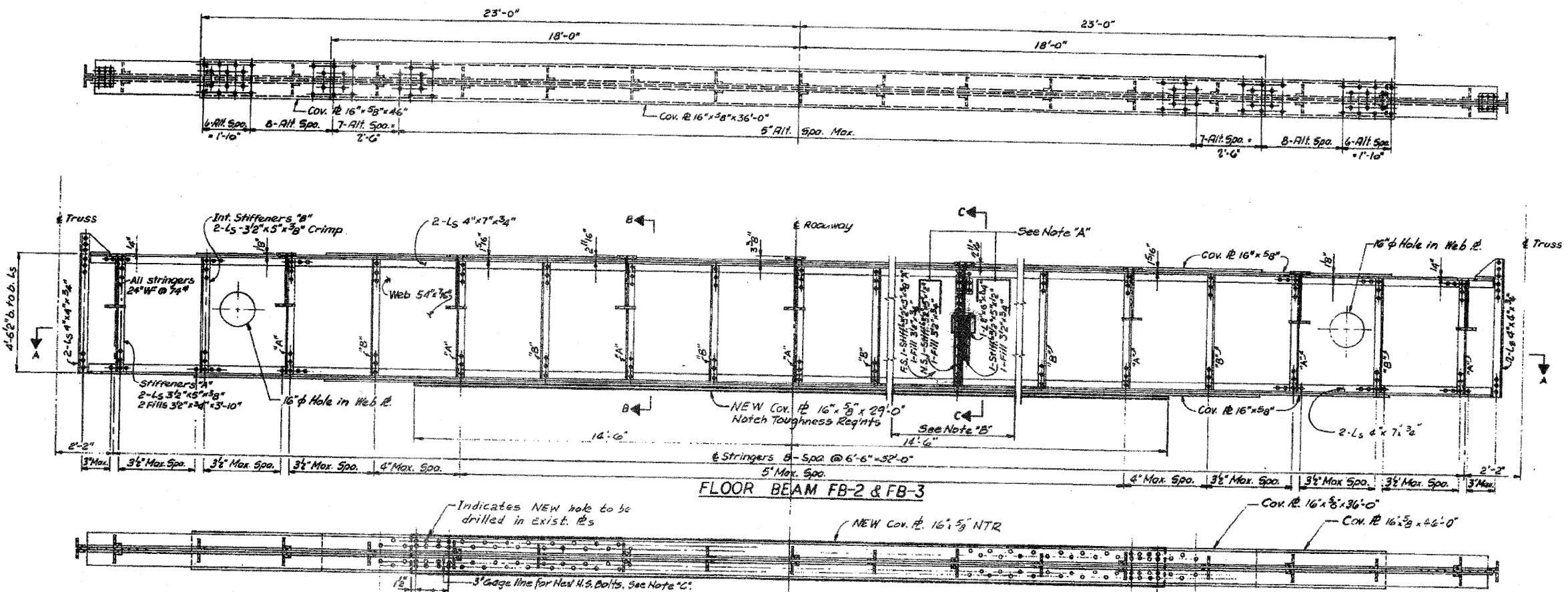
<b>ILLINOIS DIVISION OF HIGHWAYS</b>			
F.A. ROUTE 599			
PROJECT BR-F-599(3)		SECTION 17(D)BR	
ROCK ISLAND COUNTY			
<b>END FLOOR BEAMS-NORTH CHANNEL</b>			
Designed By: SK	Drawn By: JC	Quantity By: RB	
Checked By: DK	Checked By: SA	Checked By: SK	
Revised:			

**TORNROSE, CAMPBELL & ASSOCIATES**



FILE NAME =	USER NAME = linkdj	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	SCALE: _____ SHEET NO. ____ OF ____ SHEETS STA. _____ TO STA. _____	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
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	PLOT SCALE = 50.0138' / in.	CHECKED -	REVISED -			CONTRACT NO. 64H86				
	PLOT DATE = Wed Jan 25 14:16:29 2012	DATE -	REVISED -			ILLINOIS FED. AID PROJECT				

Sta. 14 of 25	ROUTE NO. 599	SECTION 17(D)BR	COUNTY ROCK ISLAND	TOTAL SHEETS 80	SHEET NO. 27
FED. ROAD DIST. NO. 7 ILLINOIS PROJ. BR-F-599(13)					

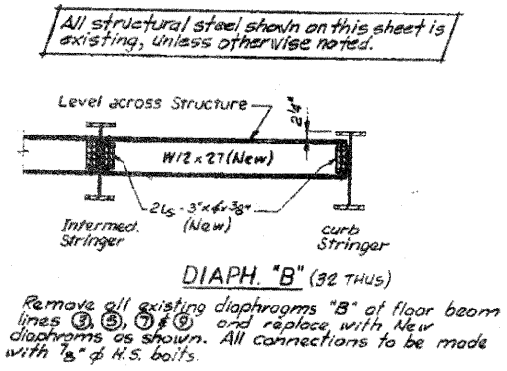
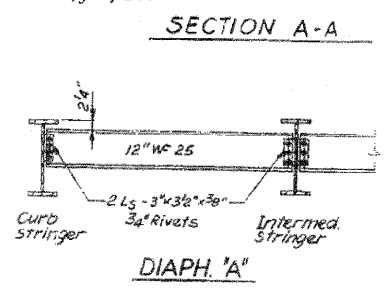
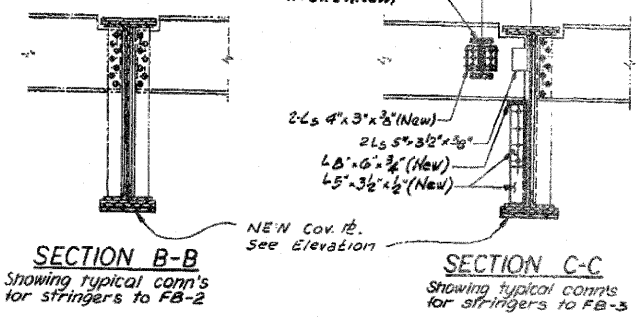


**FLOOR BEAM FB-2 & FB-3**

**Note "A"**  
Remove all existing Stringer Support Brackets on all Floor Beams FB-3 and replace with New Stringer Support Brackets, as shown. All connections to be made with 3/8" H.S. Bolts.

**Note "B"**  
Stringer Support Brackets are located at all Stringers (N.S.) of Floor Beam FB-3, only. (36 thus req'd)

**Note "C"**  
Existing Gage lines may not be 3" - Verify in field.



**DETAIL OF DIAPHRAGMS**

- Step by step procedure for the installation of New Plate on the bottom flange of the existing interior floor beam.
1. Clamp flange material at ± 8 inch intervals.
  2. Remove existing rivet heads from the underside of the flange cover plates. Only mechanical means of removal will be allowed. Do not remove top heads and rivet shank at this time.
  3. Clean the existing bottom flange plates that are to be in contact with new cover plates by Method 1 in accordance with the Std. Specs.
  4. Loosen clamps, insert new plate, and tighten clamps. Note: Do not prime faces of new plates in contact with existing. Clean per Art. 506.03.
  5. Drill through existing rivets and new plates after removal of top rivet heads. Replace drilled out rivets with High Strength Bolts. No more than 4 (Four) rivets will be drilled out prior to being replaced with 3/8" diameter High Strength Bolts. During Stage I, rivet removal shall begin at the East end of cover plate and progress to the center of the floor beam. During Stage II, rivet removal shall begin at the center of the floor beam and progress to the west end. (See Note "D" on sheet 13.)
  6. Remove clamps.
- Estimated fasteners for 5-FB2 @ 4-FB3 = 5000-9" H.S. Bolts, including fasteners for new plate installation.

Sta. 24+38.25

ILLINOIS DIVISION OF HIGHWAYS			
E A ROUTE 599			
PROJECT BR-F-599(3) SECTION 17(D)BR			
ROCK ISLAND COUNTY			
INTERIOR FLOOR BEAMS & DETAILS - NORTH CHANNEL			
Designed By: SK	Drawn By: JC	Quantity By: RB	
Checked By: DK	Checked By: SK	Checked By: SK	

Revised July 19, 1984 RVS

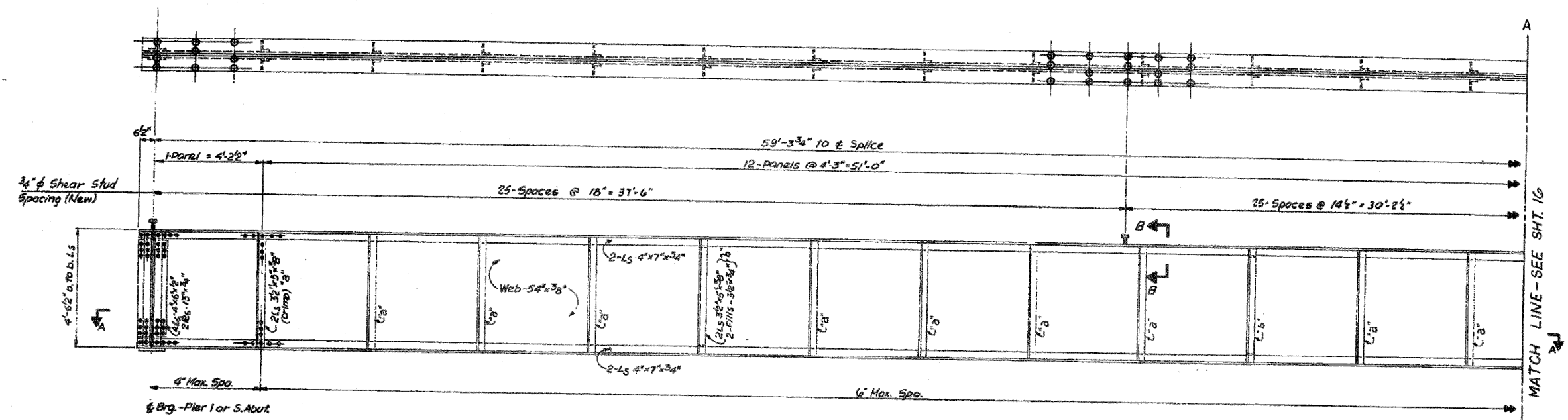
**TORNROSE, CAMPBELL & ASSOCIATES**



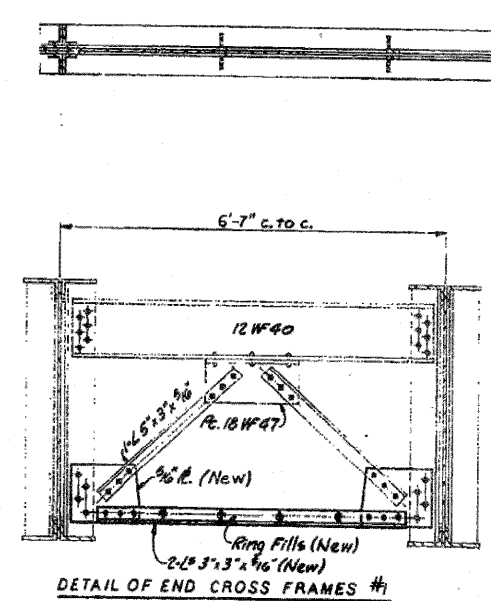
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PLOT DATE = Wed Jan 25 14:17:16 2012		DATE -	REVISED -					ILLINOIS FED. AID PROJECT

Sht. 15  
of 25

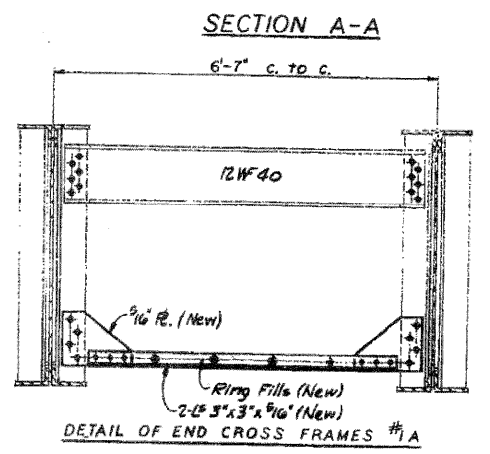
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
71(D) BR	BRIDGE	ROCK ISLAND	80	29
ILL. ROAD DIST. NO. 7 (ILLINOIS PROJ. BR-F-599(3))				



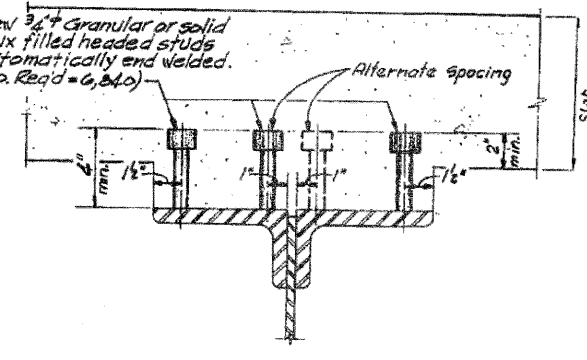
ELEVATION



Remove bottom chord and connection L's of all existing end crossframes #1 and replace with new angles and L's, as shown. All connections to be made with 7/8" φ H.S. Bolts. Also remove existing rivets which connect existing L's 5x3x3/16 to existing PC 18 WF 47 and replace with 7/8" φ H.S. Bolts.



Remove bottom chord and connection L's of all existing end crossframes #1A and replace with new angles and L's, as shown. All connections to be made with 7/8" φ H.S. Bolts.



SECTION B-B  
(Shear Connector Detail)

All structural steel shown on this sheet is existing, unless otherwise noted.

See note 'B' on sheet 13.  
Work this sheet with sheets 12 & 13.  
Estimated fasteners for all girder (10) & Cross bracing = 11720 - 7/8" φ H.S. Bolts

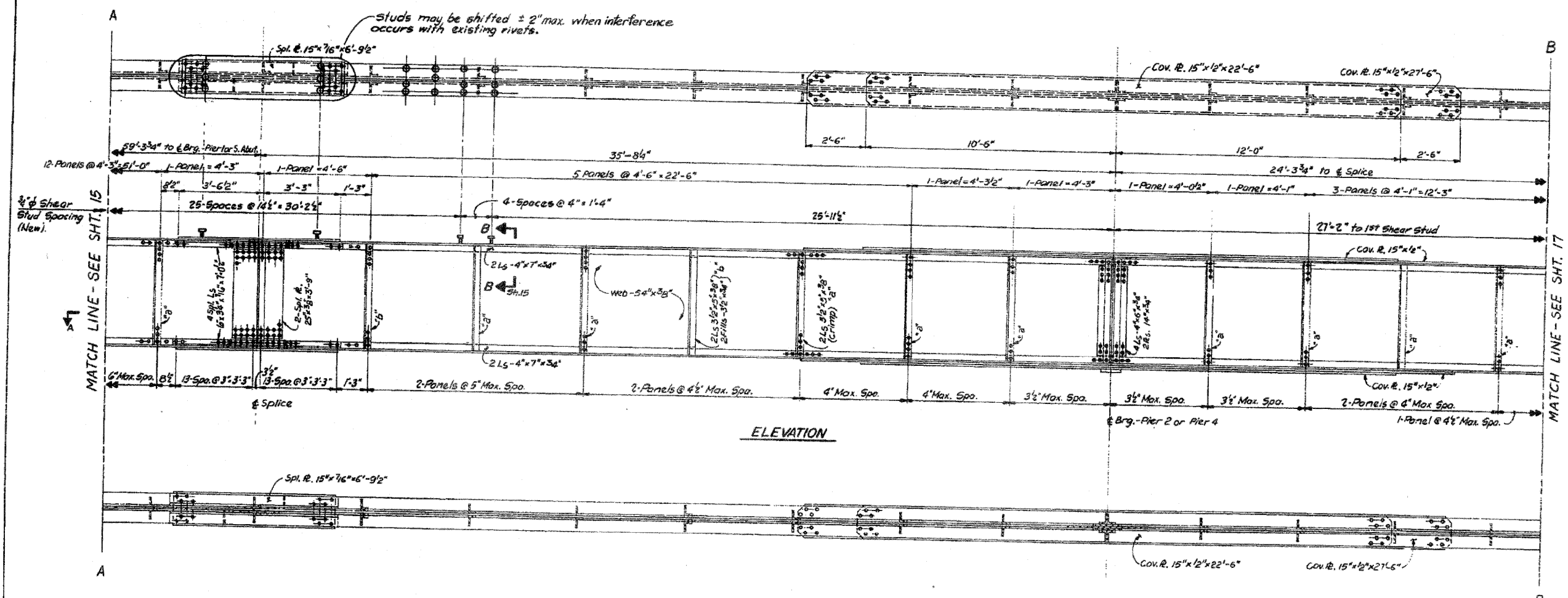
Sta. 24+38.25

ILLINOIS DIVISION OF HIGHWAYS			
F.A. ROUTE 599			
PROJECT BR-F-599(3)		SECTION 17 (D) BR	
ROCK ISLAND COUNTY			
TYPICAL GIRDER & DETAILS-NORTH CHANNEL			
Designed By: SK	Drawn By: JG	Quantities By: RB	
Checked By: DK	Checked By: SK	Checked By: SK	
Revised July 19, 1984 PWS			

TORNROSE, CAMPBELL & ASSOCIATES

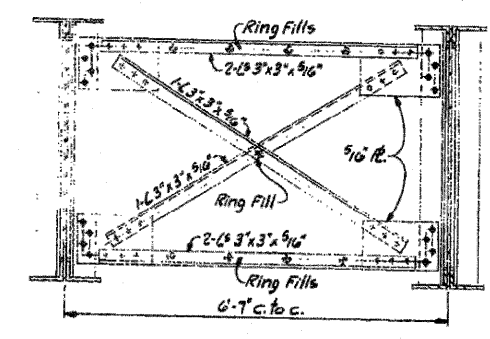


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	PLOT DATE = Wed Jan 25 14:15:59 2012	CHECKED -	REVISED -		CONTRACT NO. 64H86									
		DATE -	REVISED -		ILLINOIS FED. AID PROJECT									

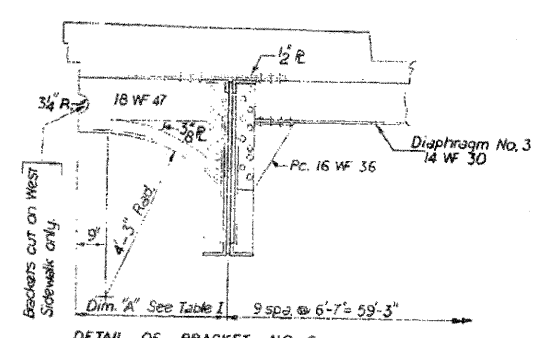


ELEVATION

SECTION A-A



DETAIL OF INTERMEDIATE CROSS FRAMES #2



DETAIL OF BRACKET NO. 2  
 Other Brackets Similar Refer to SH. 12

All structural steel shown on this sheet is existing, unless otherwise noted.

See note B on sheet 13. Work this sheet with sheets 12, 15 & 17.

TABLE I

Brkt. No.	Dim. X'
1	5'-9 1/4"
2	5'-8 3/4"
3	5'-6 1/4"
4	3'-2 1/2"
5	2'-8 1/2"
6	2'-0 6"

Sta. 24+38.25

ILLINOIS DIVISION OF HIGHWAYS

F.A. ROUTE 599

PROJECT BR-F-599(3) SECTION 17(D)BR

ROCK ISLAND COUNTY

TYPICAL GIRDER & DETAILS-NORTH CHANNEL

Designed By: SK Drawn By: JC Quantities By: RB  
 Checked By: DK Checked By: SK Checked By: SK

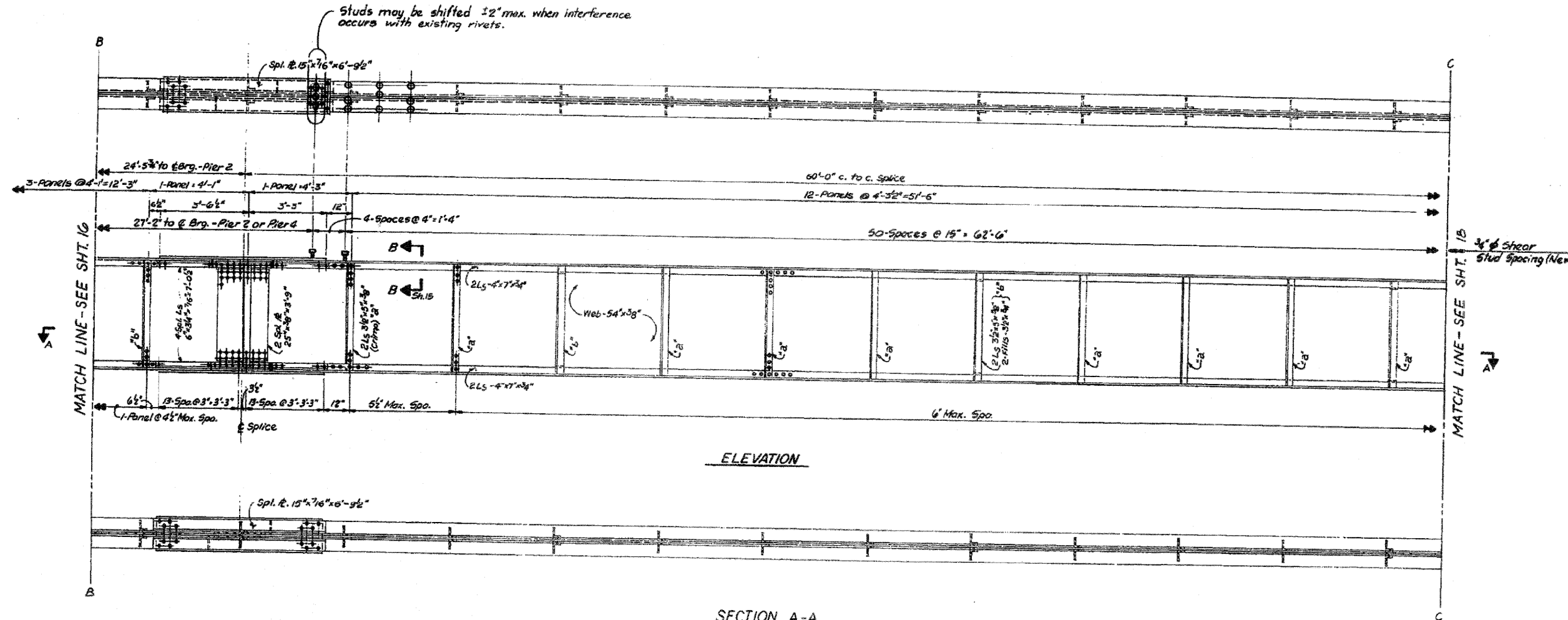
Revised July 19, 1984 MWS

TORNROSE, CAMPBELL & ASSOCIATES



SM. 17  
of 25

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	(7)(D) BR	ROCK ISLAND	80	30
ILLINOIS PROJ. BR-F-599(3)				



ELEVATION

SECTION A-A

All structural steel shown on this sheet is existing, unless otherwise noted.

See note 'B' on sheet 15.  
Work this sheet with sheets 12, 15, 16 & 18.

Sta. 24+38.25

ILLINOIS DIVISION OF HIGHWAYS			
FA. ROUTE 599			
PROJECT BR-F-599(3)		SECTION (7)(D) BR	
ROCK ISLAND COUNTY			
TYPICAL GIRDER - NORTH CHANNEL			
Designed By: S.R.	Drawn By: J.C.	Quantities By: RB	
Checked By: E.D.	Checked By: S.R.	Checked By: SK	
Revised July 19, 1984 RWS			

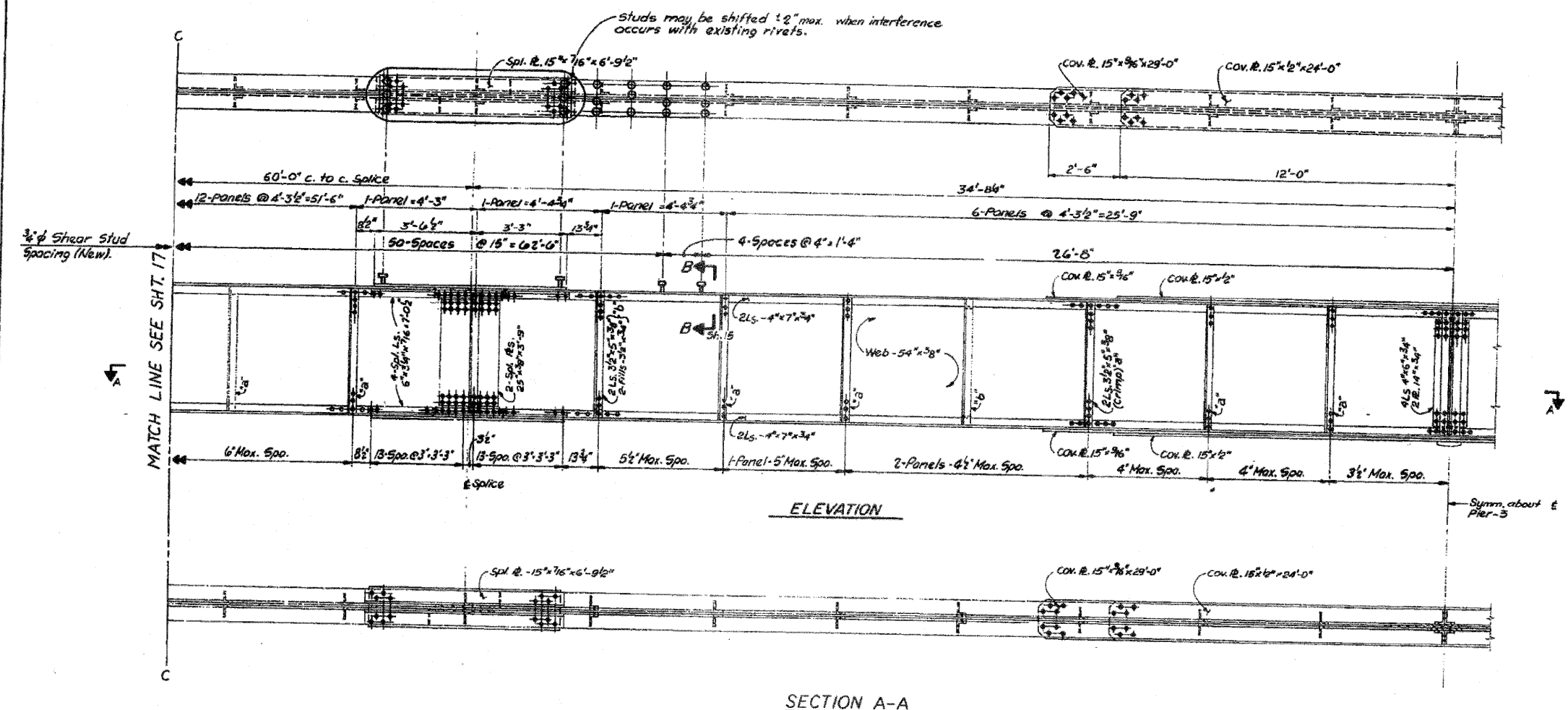
TORNROSE, CAMPBELL & ASSOCIATES



FILE NAME =	USER NAME = lunkdj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SCALE =	SHEET NO. OF SHEETS	STA. TO STA.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
C:\BR\Bridg Painting\Contracts\PAINTING	2012-1\PL\Aneng.dgn	DRAWN -	REVISED -		var	D2 Bridge Painting 2012-1	var		var		24	16
	PLOT SCALE = 50.0138' / in.	CHECKED -	REVISED -		CONTRACT NO. 64H86							
	PLOT DATE = Wed Jan 25 14:32:25 2012	DATE -	REVISED -		ILLINOIS FED. AID PROJECT							



ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
599	17(D)BR	ROCK ISLAND	60	31
FED. ROAD DIST. NO. 7 (ILLINOIS) PROJ. BR - F - 599(3)				



All structural steel shown on this sheet is existing, unless otherwise noted.

See note 'B' on sheet 15.  
Work this sheet with sheets 12, 15 & 17.

Sta. 24+38.25

ILLINOIS DIVISION OF HIGHWAYS			
F.A. ROUTE 599			
PROJECT BR-F-599(3)		SECTION 17(D)BR	
ROCK ISLAND COUNTY			
TYPICAL GIRDER - NORTH CHANNEL			
Designed By: SK	Drawn By: JC	Quantities By: RB	
Checked By: DK	Checked By: SK	Checked By: SK	

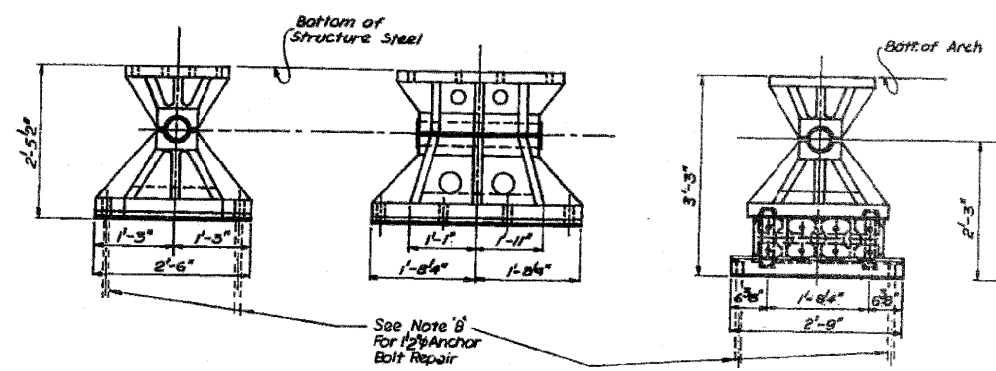
Revised July 19, 1984 RVS

**TORNROSE, CAMPBELL & ASSOCIATES**

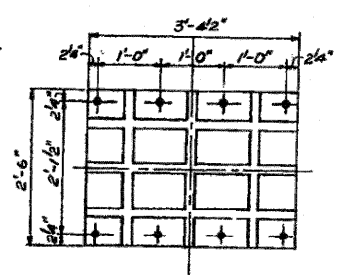


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	PLOT DATE = Wed Jan 25 14:12:09 2012	DATE -	REVISED -										

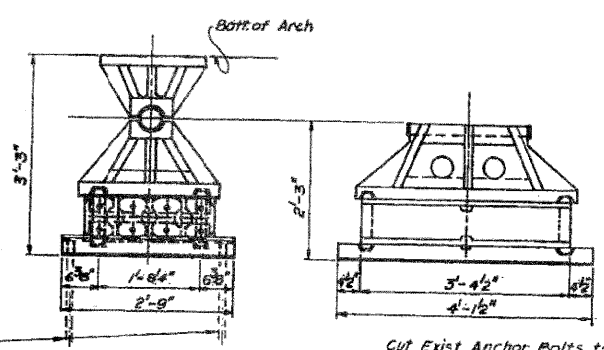
sh. 19	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
of 25	599	17(D)BR	ROCK ISLAND	80	32
FED. ROAD DIST. NO. 7 ILLINOIS PROJ. BR-F-599(3)					



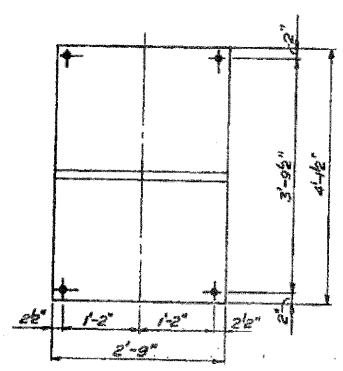
**NOTE**  
Drill and Replace 1/2 of Total Number of Anchor Bolts at one time, Alternate Bolt Replacement.



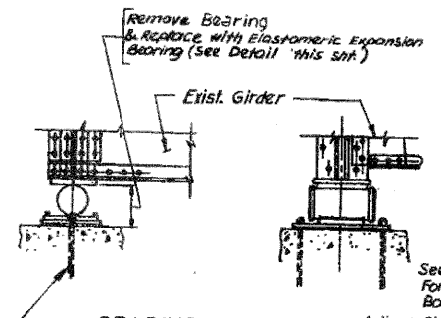
**FIXED BEARING**  
N. Abut.



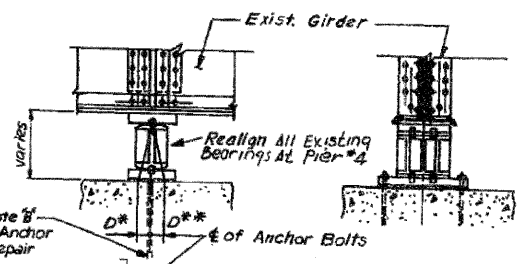
Cut Exist. Anchor Bolts to Top of Exist. Conc. and Drill New Anchor Bolt Hole as per Anchor Bolt Detail Sheet 24



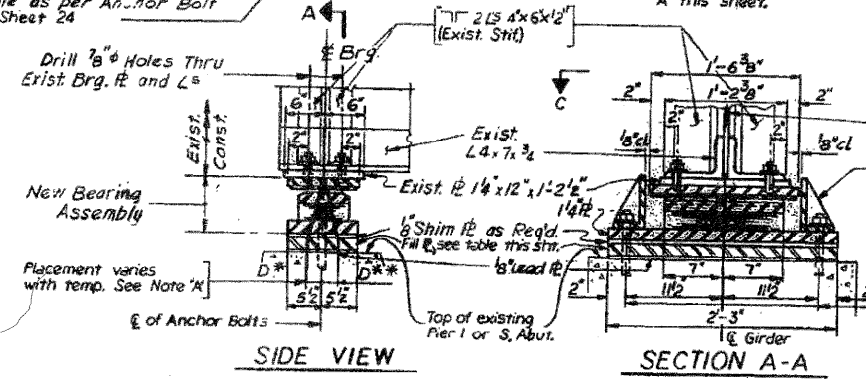
**EXPANSION BEARING**  
Pier 1, Span 1



**BEARING DETAILS**  
pier 1 of S. Abut.



**BEARING DETAILS**  
piers 2 & 4



**SIDE VIEW**

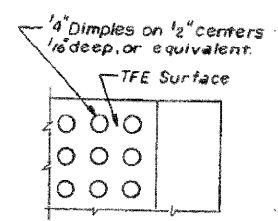
**SECTION A-A**

**NEW ELASTOMERIC EXPANSION BEARING**  
Pier #1 Span #2 of S. Abut.

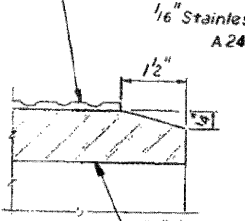
**FILL PLATE DIMENSIONS**  
Pier 1 & So. Abutment

BMS	M	N	P	R	S	T	U	V	W	X
Fill R Thick.	2 3/8	3 5/16	2 5/8	3 5/16	2 5/8	2 5/8	3 5/16	2 5/8	3 5/16	2 5/8
Fill R W x L	All R5 11" x 2'-3"									

**Note:** All work shown on this sheet is Existing unless otherwise indicated.  
1/8" TFE with dimpled surface.

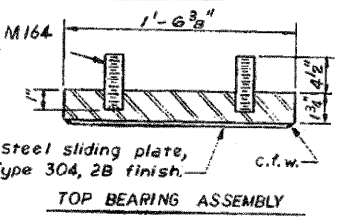


**PLAN TFE SURFACE**

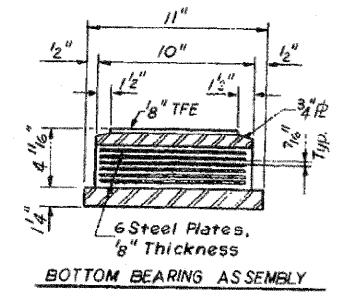


**SECTION THRU TFE**

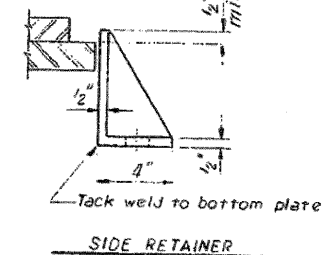
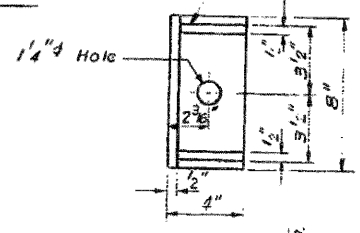
**NOTE:** The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component medium viscosity epoxy resin conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces. Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



**TOP BEARING ASSEMBLY**



**BOTTOM BEARING ASSEMBLY**



**SIDE RETAINER**

**NOTE "A"** For Setting of Anchor Bolts at Exp. Brg.  
D\* = (Side of Brg. Away From Fixed Bearing)  
D\* = 1/8" Per 100 Ft. of Exp. for every 15° Below the Normal Temp. of 50°  
D\*\* = (Side of Brg. Toward Fixed Bearing)  
D\*\* = 1/8" Per 100 Ft. of Exp. for every 15° Above the Normal Temp. of 50°

**NOTE "B"** All loose bolts shall be pulled out and replaced with new 1/2" x 1/8" anchor bolts and epoxy grout as per detail shown on Sht. 24 - Cost incidental to Structural Steel.  
Total No. required:  
NO. Abut & Pier 1, Span 1 = 10  
Piers 2, 3, & 4 = 20  
All anchor bolts with corroded heads shall be welded to new washer and bearing assy. - Cost incidental to Struct. Steel.  
Total No. required:  
NO. Abut & Pier 1, Span 1 = 5  
Piers 2, 3, & 4 = 10

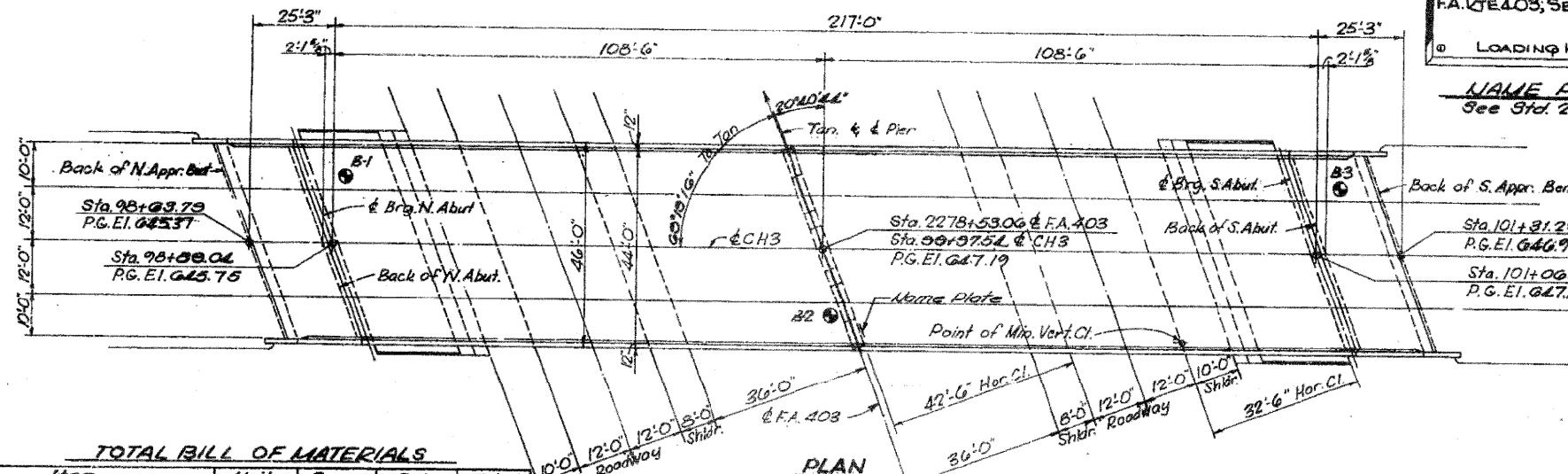
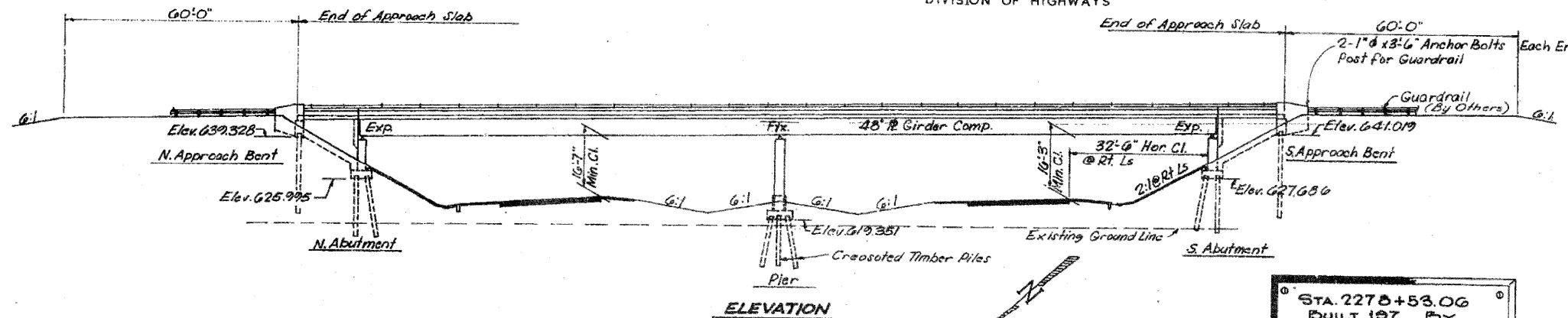
**TORNROSE, CAMPBELL & ASSOCIATES**

Sta 24+38.25

<b>ILLINOIS DIVISION OF HIGHWAYS</b>	
F. A. ROUTE 599	
PROJECT BR-F-599(3) SECTION 17(D)BR	
ROCK ISLAND COUNTY	
<b>BEARING DETAILS-NORTH CHANNEL</b>	
Designed By: SK	Drawn By: LK
Checked By: ED	Quantity By: LK
	Checked By: ED

STATE OF ILLINOIS  
DIVISION OF HIGHWAYS

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. /
F.A. 403	195-345	WHITESIDE	42	14	12 SHEETS



**TOTAL BILL OF MATERIALS**

Item	Unit	Super	Sub	Total
Driving Concrete Piles	Lin. Ft.		3202	3202
Driving Timber Piles	Lin. Ft.		1890	1890
Class X Concrete	Cu. Yds.	419.2	315.7	734.9
Structural Steel	Lump Sum	1		1
Reinforcement Bars	Lbs.	101,249	32,274	133,523
Concrete Piles	Lin. Ft.		3202	3202
Top Concrete	Sq. Yds.	2	2	4
Struct. Steel	Tons	106	292	398
Coal Tar Interlayer Protective Coat.	Sq. Yds.	1266		1266
Alignment	Lin. Ft.	524		524
Preformed Joint Sealer	Lin. Ft.	98		98
Steel Joist Connectors, etc.	Ea.	2232		2232
Name Plate			1	1
Drainage Coping	Sq. Yds.	163	48	211
Concrete	Cu. Yds.		310	310
Reinforcement	Lin. Ft.		1890	1890

DESIGNED H. Walker	EXAMINED	19
CHECKED C. Clary	PASSED	
DRAWN C. Clary	APPROVED	
CHECKED S. McKnight		

STA. 2278+53.06  
BUILT 197 BY  
STATE OF ILLINOIS  
F.A. RTE. 403, SEC. 195-345-1  
LOADING HS20

NAME PLATE  
See Std. 2113

**GENERAL NOTES**

All reinforcement bars shall be lapped 2d diameters unless otherwise shown.

Fasteners shall be high strength bolts. Bolts 7/8"; open holes 1 1/2", unless otherwise noted.

Calculated weight of Structural Steel = 337,134 lbs.

The basic lead silica chromate paint system shall be used for shop and field painting of Structural Steel.

Field welding of construction accessories will not be permitted to the bottom flange of girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Anchor bolts shall be set before bolting diaphragms over supports. Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58 lbs per 100 sq. ft.

The contractor shall drive one concrete test pile at each abutment in place and one timber test pile in vicinity of pier as directed by the Engineer before ordering the remainder of piles.

Concrete piles at abutments shall be driven in holes precored through the embankment in accordance with Article 513.09 (c) of the Standard Specifications.

The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.

Protective Coat shall not be applied to the surfaces to which Coal Tar Interlayer Protective Coat is applied.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

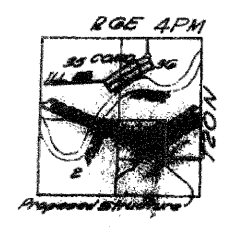
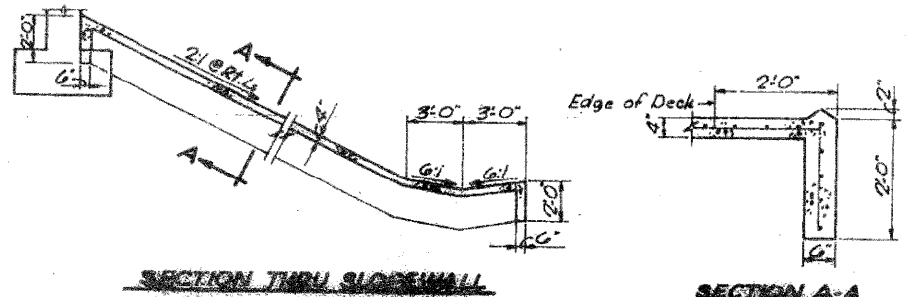
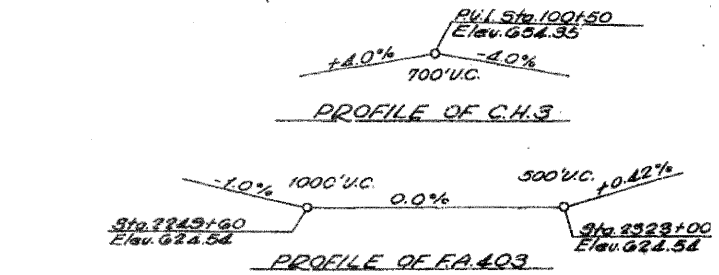
**DESIGN STRESSES**

f<sub>c</sub> = 1200 psi Deck Slab  
f<sub>c</sub> = 1400 psi Curb, Parapet, & Substructure  
V<sub>c</sub> = 75 psi Ftgs.  
n = 10  
f<sub>s</sub> = 20,000 psi Reinf.  
f<sub>s</sub> = 20,000 psi Struct.  
Allowable Deflection = L/1200  
Design Specifications 1969 AASHTO (or applicable)

LOADING - HS 20-44

**CURVE DATA - FA. 403**

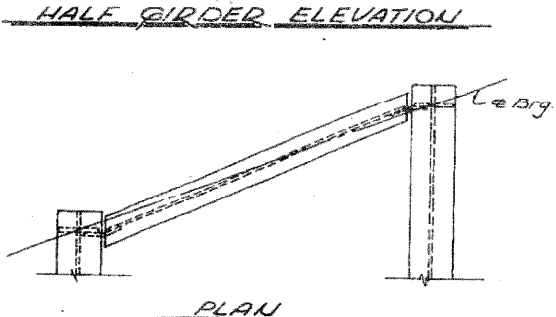
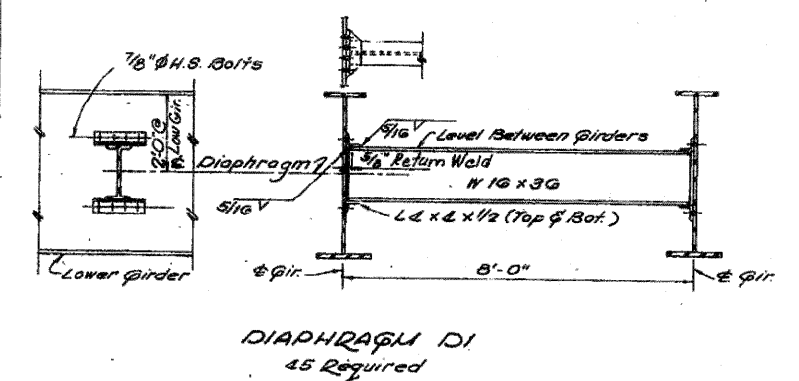
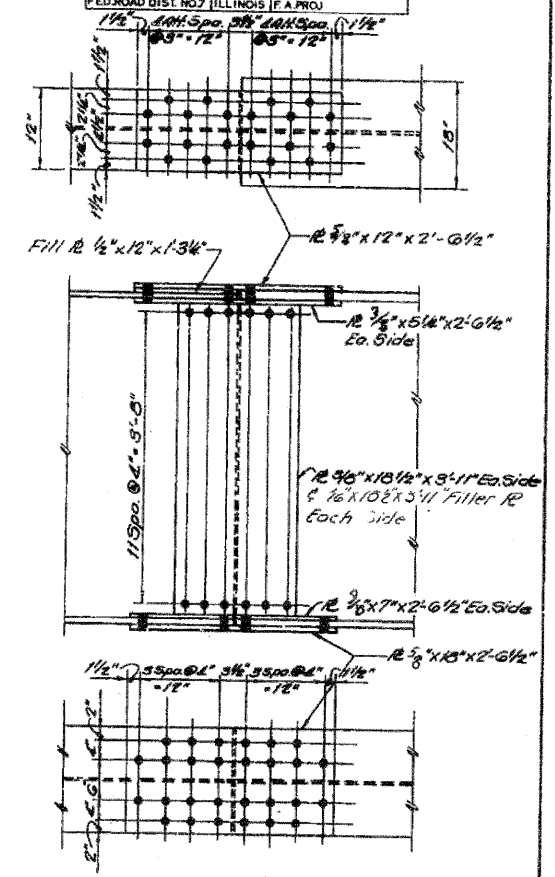
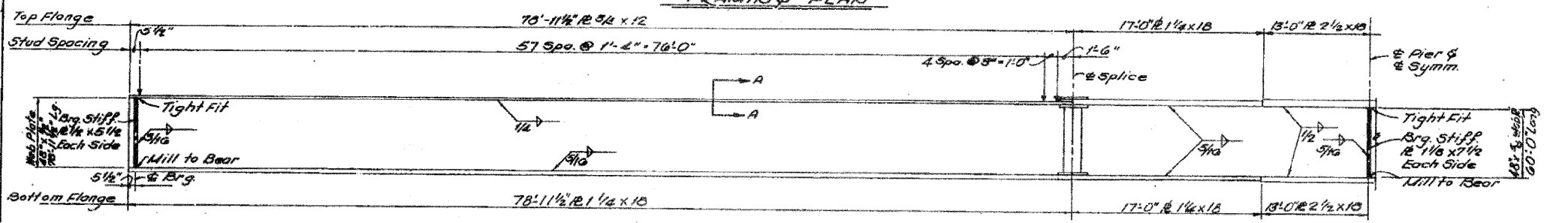
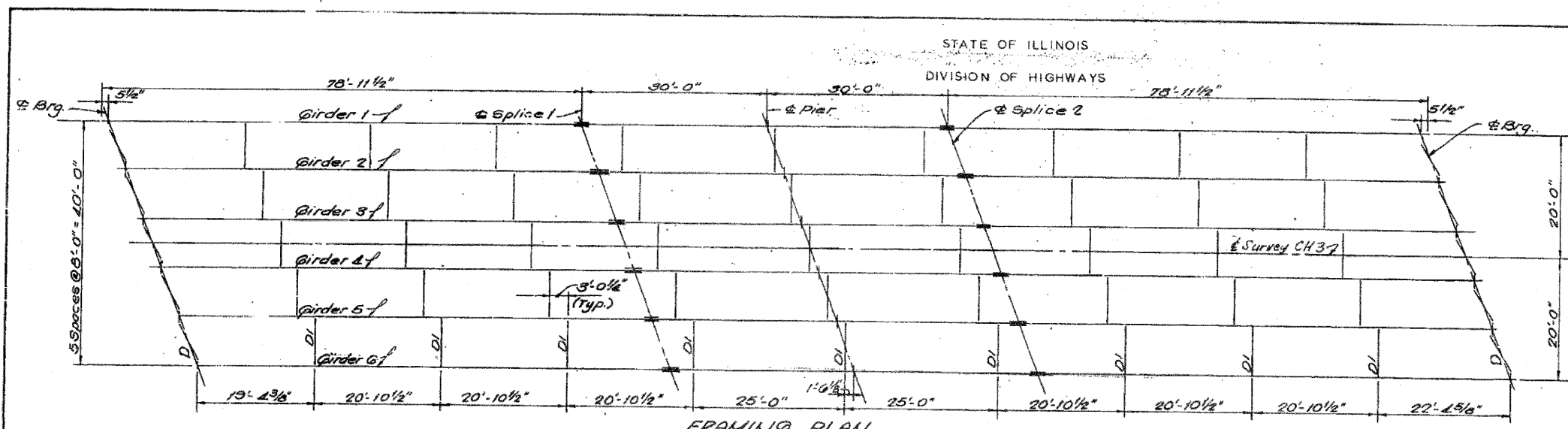
P.I. Sta. 2287+52.53  
Elev. 654.35  
Δ = 21°53'06" Lt.  
D = 1°00'00"  
T = 1107.75'  
L = 2100.50'  
R = 5729.55'  
SE = 0.0411'



GENERAL PLAN & ELEVATION  
PROJECT F.A. 403  
CH 3 OVER F.A. 403  
F.A. RTE. 403-SEC. 195-345-1  
WHITESIDE COUNTY  
STATION 2278+53.06

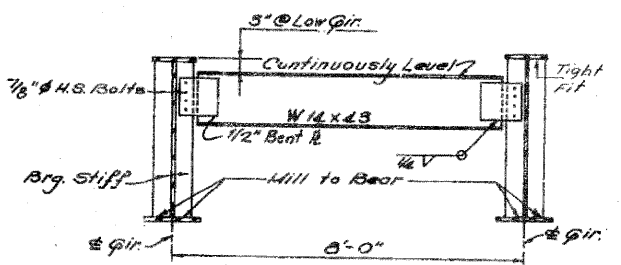
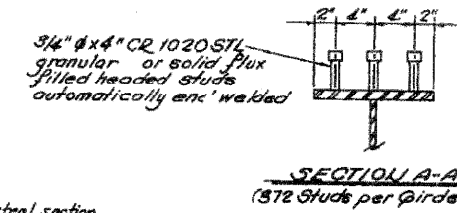
PLANS PREPARED BY MACKIE ENGINEERING CO. 3/5/71  
Rev. 1-19-72 (Deleted Structure Etc.)

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 403	195-318	WHITESIDE	42	20
SHEET NO. 7 12 SHEETS				



	0.4 Span 1	Pier
$I_x$ (in <sup>4</sup> )	21531	62612
$S_x$ (in <sup>3</sup> )	1123	2303
DL (k/ft)	1.077	1.077
MDL (k/ft)	6.96	1.880
$f_c$ (ksi)	7.44	9.55
$I_c$ (in <sup>4</sup> )	25739	
$S_c$ (in <sup>3</sup> )	1480	
SDL (k/ft)	0.491	0.491
MSDL (k/ft)	4.01	7.31
$f_c$ (ksi)	9.25	3.71
$I_c$ (in <sup>4</sup> )	66168	
$S_c$ (in <sup>3</sup> )	1625	
$M_{max}$ (k)	217	873
$M_{min}$ (k)	1232	1060
$f_c$ (ksi)	9.08	5.38
$f_c$ (ksi)	19.71	18.62
VR	71.2	

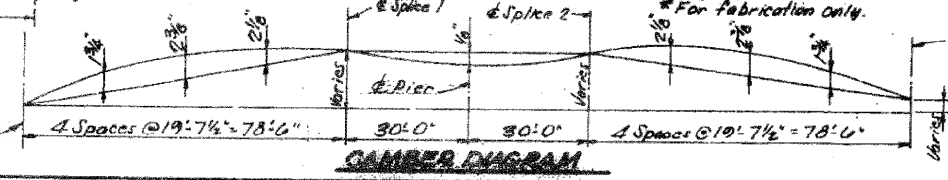
$I_x$  and  $S_x$  are the moment of inertia and section modulus of the steel section.  
 $I_c$  and  $S_c$  are the moment of inertia and section modulus of the composite section used in computing  $f_c$ .  
VR is the maximum  $R_c$  + Impact shear range in span.



	Abut.	Pier
E (k)	58.8	21776
R <sub>1</sub> (k)	51.7	85.26
R <sub>2</sub> (k)	11.1	78.25
R <sub>3</sub> (k)	12.6	321.27

	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6
@ Brg. N. Abut.	644.390	644.555	644.737	644.792	644.722	644.608
@ Splice 1	645.551	645.748	645.902	645.931	645.834	645.692
@ Pier	645.747	645.934	646.079	646.097	645.989	645.838
@ Splice 2	645.923	646.139	646.273	646.231	646.163	646.002
@ Brg. S. Abut.	645.819	645.908	646.075	646.050	645.910	645.722

\* For fabrication only.

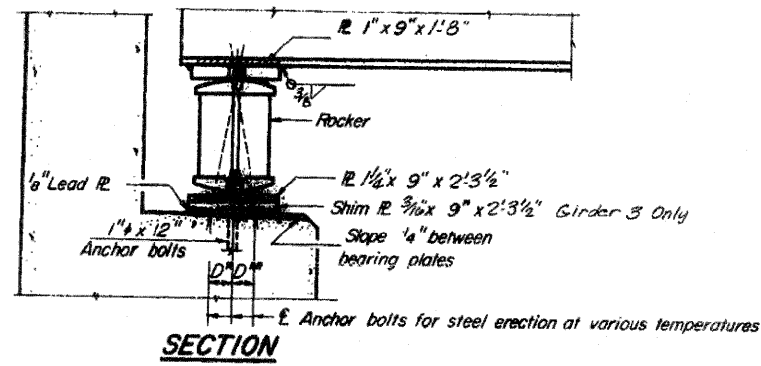


DESIGNED S. McKnight	EXAMINED
CHECKED A. Chugh	PASSED
DRAWN C. Clark	APPROVED
CHECKED S. McKnight	

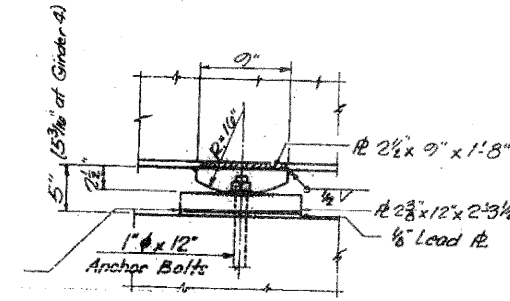
**STRUCTURAL STEEL**  
F.A. 276-403 SEC. 195-318-1  
WHITESIDE COUNTY  
STATION 2276+53.06

STATE OF ILLINOIS  
DIVISION OF HIGHWAYS

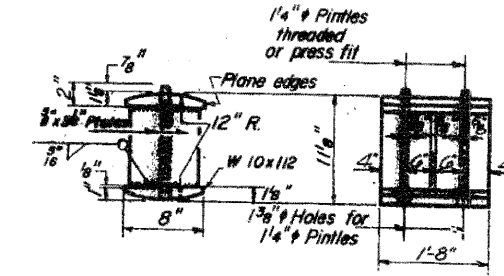
ROUTE NO.	SECTION	LENGTH	DATE	NO.	SHEET NO.
F.A. 403	195-348-1	WHITESIDE	42	21	12 SHEETS
FOR ROAD DIST. NO. 1					



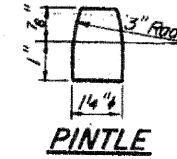
**SECTION**



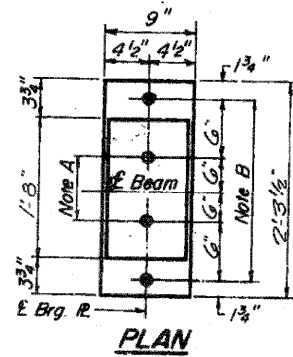
**ELEVATION**



**ROCKER**

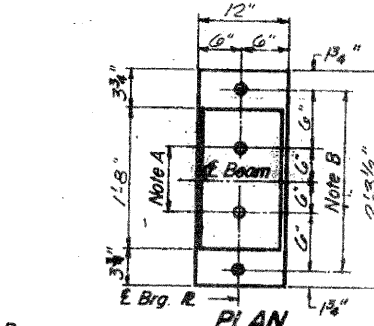


**PINTLE**



**PLAN  
AT ABUTMENT**

**NOTE A**  
1 3/8" Holes - 1" deep in top R.  
for pintles Thread or press fit  
pintles into bottom R.



**PLAN  
AT PIER**

**NOTE B**  
1 1/2" Holes for 1" anchor bolts.  
3/8" x 2 1/2" x 2 1/2" R. Washers  
under nut.

**NOTE C**  
1 3/8" Holes 1" deep in top R.  
only for 1 1/4" pintles.

**NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.**

- D\* (Side of brg. away from fixed brg.)  
D\* = 1/8" per each 100' of expansion for  
every 15° fall below the normal temp.  
of 50°F

D\*\* (Side of brg. toward fixed brg.)  
D\*\* = 1/8" per each 100' of expansion for  
every 15° rise above the normal temp.  
of 50°F
- After beams have been erected and dimensions D\* or D\*\*  
determined, holes shall be drilled and anchor bolts shall  
be grouted in place. All fixed anchor bolts may be built  
into the masonry.

**BEARING ASSEMBLY DETAILS**

DESIGNED <u>S.M.K.</u>	EXAMINED _____
CHECKED <u>A.K.C.</u>	PASSED _____
DRAWN <u>P.G. Barnett &amp; C.D.C.</u>	APPROVED _____
CHECKED <u>S.M.K.</u>	_____

I-2-B 9-1-65, 8-1-70

**SHOES**  
F.A. RTE. 403 - SEC. 195-348-1  
WHITESIDE COUNTY  
STATION 2278+53.06

FILE NAME =	USER NAME = linkdj	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D:\NBR\Bridg Painting\Contracts\PAINTING\2012-1\PLANeng.dgn		DRAWN -	REVISED -			var	D2 Bridge Painting 2012-1	var	24	21
PLOT SCALE = 50.0138 1 / in.		CHECKED -	REVISED -							CONTRACT NO. 64H86
PLOT DATE = Wed Jan 25 14:06:12 2012		DATE -	REVISED -							ILLINOIS FED. AID PROJECT

B.M. RR. Spike in Power Pole  
22' Lt. Sta. 102+20 Elev. 637.98

STATE OF ILLINOIS  
DIVISION OF HIGHWAYS

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
F.A. 403	195-34	WHITESIDE	42	10	11 SHEETS
FED. ROAD DIST. NO. 7 ILLINOIS (F.A.P.C.)					

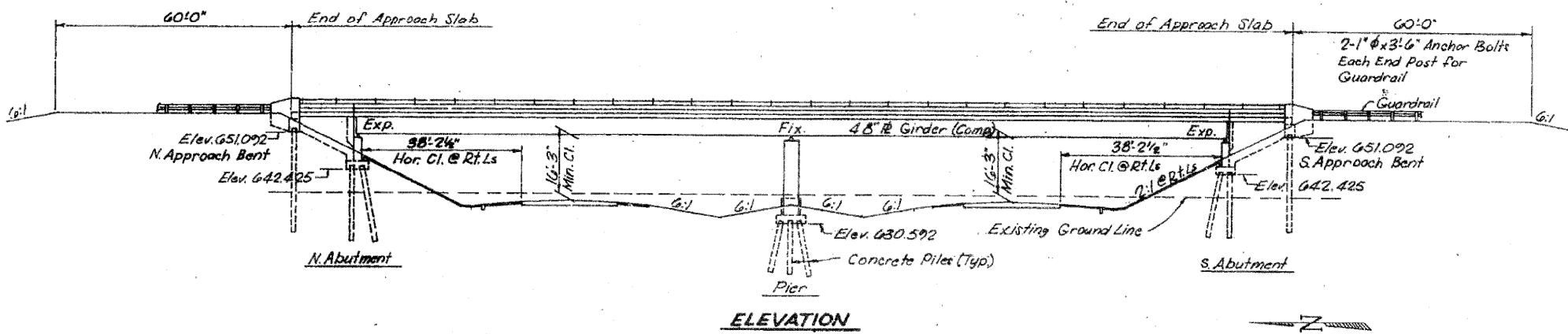
**GENERAL NOTES**

All reinforcement bars shall be lapped 24 diameters unless otherwise noted.  
Fasteners shall be high strength bolts. Bolts  $\frac{3}{8}$ "  $\phi$ , open holes  $\frac{3}{16}$ "  $\phi$ , unless otherwise noted.  
Calculated weight of Structural Steel = 213,777 lbs.  
The basic lead silico chromate paint system shall be used for shop and field painting of Structural Steel.  
Field welding of construction accessories will not be permitted to the bottom flange of girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.  
Anchor bolts shall be set before bolting diaphragms or supports.  
Slope wall shall be reinforced with welded wire fabric 6" x 6" mesh, weighing 58# per 100 sq. ft.  
The contractor shall drive one concrete test pile in a permanent location of pier and each abutment as directed by the Engineer before ordering the remainder of piles.  
Concrete piles at abutments shall be driven in holes prepared through the embankment in accordance with Article 513.09(c) of the Standard Specifications.  
The concrete rail section above the mandatory construction joint at top of the slab shall be constructed of class X concrete, except the aggregates shall conform to the requirements of Handrail Concrete.  
Protective Coat shall not be applied to the surfaces to which Coal Tar Interlayer Protective Coat is applied.  
The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

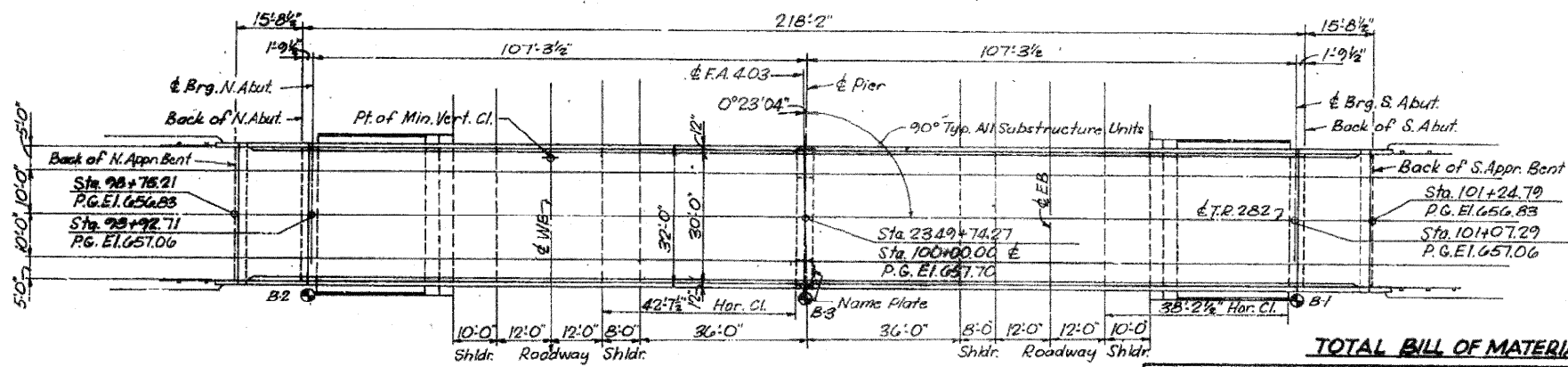
**DESIGN STRESSES**

$f_c = 1200$  psi Deck Slab  
 $f_c = 1400$  psi Curb, Parapet, & Substructure  
 $f_c = 75$  psi Footings  
 $n = 10$   
 $f_s = 20,000$  psi Reinf.  
 $f_s = 20,000$  psi Struct.  
Allowable  $\Delta$  Deflection =  $L/1200$   
Design Specifications: 1969 AASHTO (as applicable)  
Allow 25# per square ft. for future wearing surface.

**LOADING - HS15-44**



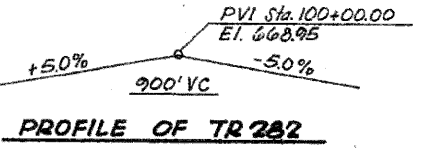
**ELEVATION**



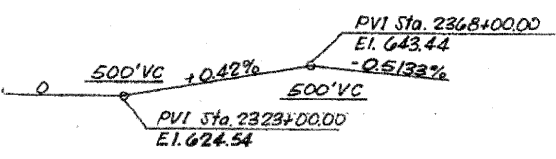
**PLAN**

**TOTAL BILL OF MATERIAL**

Item	Unit	Super	Sub	Total
Structure Excavation	Cu. Yds.		95	95
Class X Concrete	Cu. Yds.	241.3	163.0	424.3
Structural Steel	Lump Sum			
Reinforcement Bars	Lbs.	58,800	15,600	74,400
Concrete Piles	Lin. Ft.		1965	1965
Test Piles, Concrete	Ea.		3	3
Slope Wall	Sq. Yds.		245	245
Bit Surf. Class I	Tons	67		67
Coal Tar Int. Prot. Coat	Sq. Yds.	794		794
Aluminum Railing	Lin. Ft.	489		489
Preformed Joint Sealer	Lin. Ft.	64		64
Steel Shear Connectors $\frac{3}{4}$ " $\phi$	Ea.	1572		1572
Name Plate	Ea.		1	1
Protective Coat	Sq. Yds.	160	36	196
Sand	Cu. Yds.		126	126
Driving Concrete Piles	Lin. Ft.		1965	1965

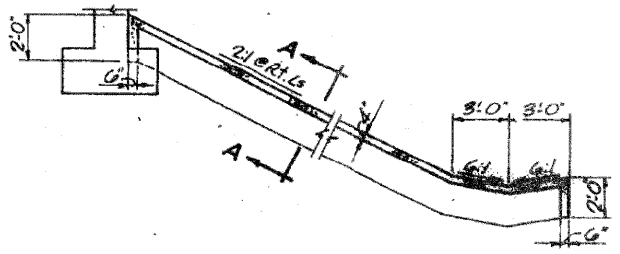


**PROFILE OF TR 282**

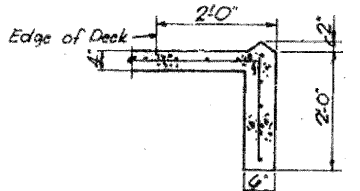


**PROFILE OF F.A. 403**

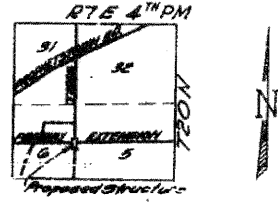
STATION 2349+74.27  
BUILT 197 BY  
STATE OF ILLINOIS  
F.A. RTE. 403 SEC. 195-34B-2  
LOADING HS 15  
**NAME PLATE**  
Sec. Std. 2113-7



**SECTION THRU SLOPE WALL**



**SECTION A-A**



**LOCATION SKETCH**



**GENERAL PLAN & ELEVATION**  
**PROJECT F.A. 403**  
**TR 282 OVER F.A. 403**  
**F.A. RTE. 403 - SEC. 195-34B-2**  
**WHITESIDE COUNTY**  
**STATION 2349+74.27**

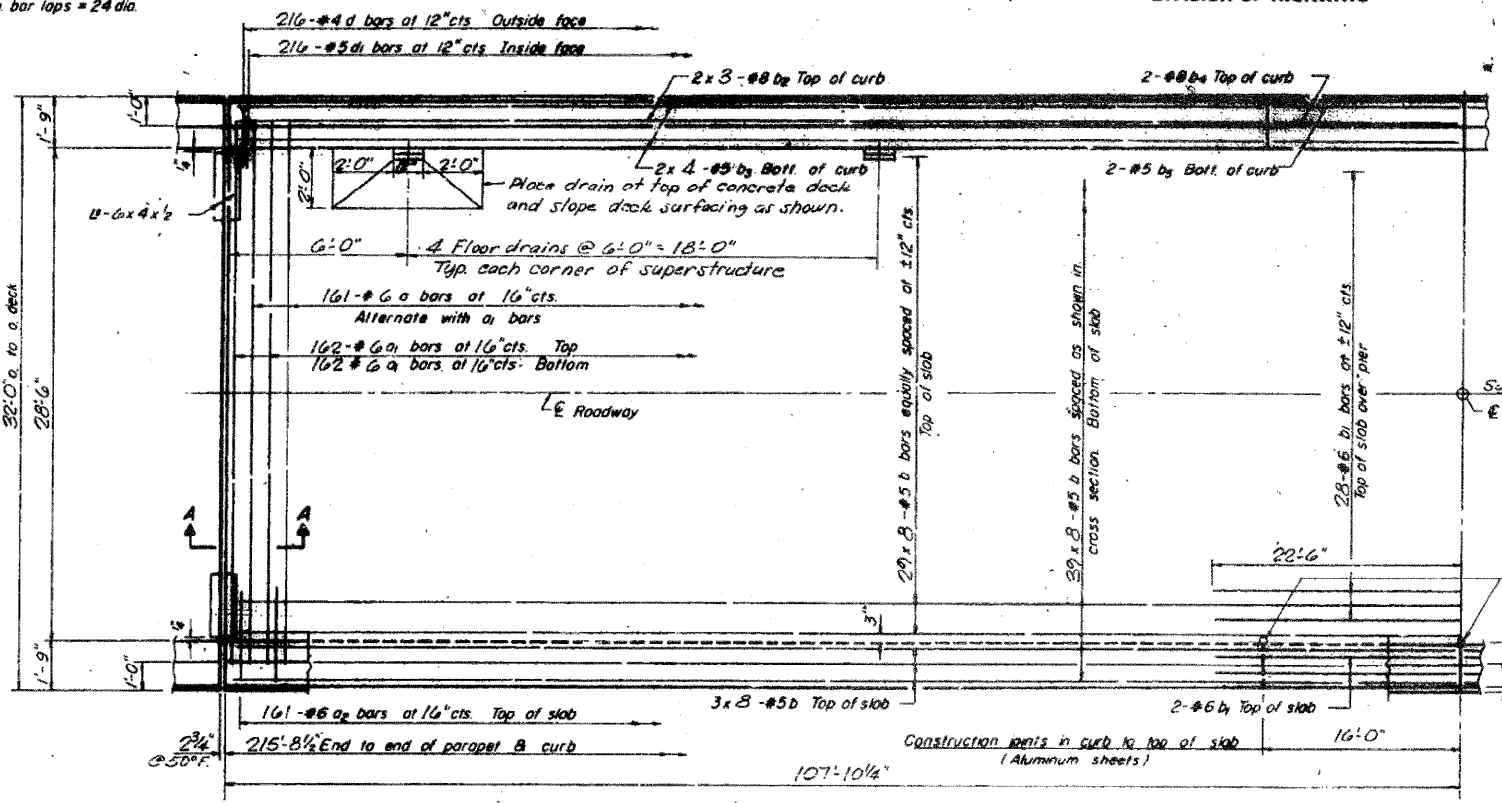
PLANS PREPARED BY MACKIE ENGINEERING CO.  
Rev. Structure Engr. 1-13-72

DESIGNED <b>H. Walker</b>	EXAMINED _____
CHECKED <b>C. Clary</b>	PASSED _____
DRAWN <b>C. Clary</b>	APPROVED _____
CHECKED <b>S. M. Knight</b>	

**NOTE:**  
 Bars indicated thus 20 x 3-#5 etc.  
 indicates 20 lines of bars with 3  
 lengths per line.  
 Min. bar laps = 24 dia.

STATE OF ILLINOIS  
 DIVISION OF HIGHWAYS

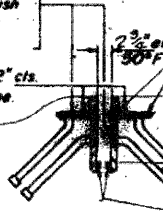
PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS
F.A. 403	WHITESIDE	42	12
DATE			11/20/2012



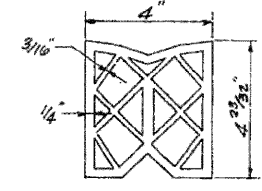
HALF PLAN

7/8" holes at 12" cts. for 3/4" bolts set on 24" gage line. All bolts shall be turned, seated or clipped off flush with back of angles after forms are removed.

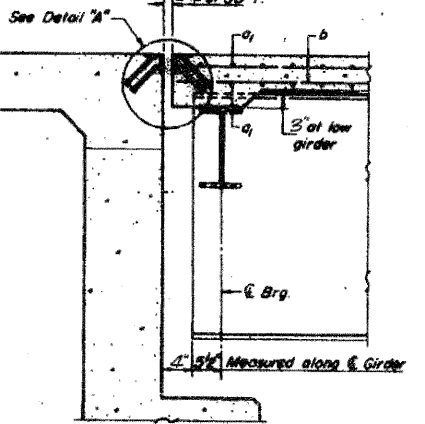
7/8" vent holes at 12" cts. set on 1 1/2" gage line.  
 12-1" x 1 1/2" x 28'-5 1/2" (29'-1 1/2" @ Appr. Bent)



DETAIL A

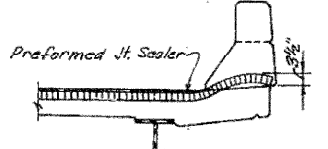


PREFORMED JOINT SEALER, 4"



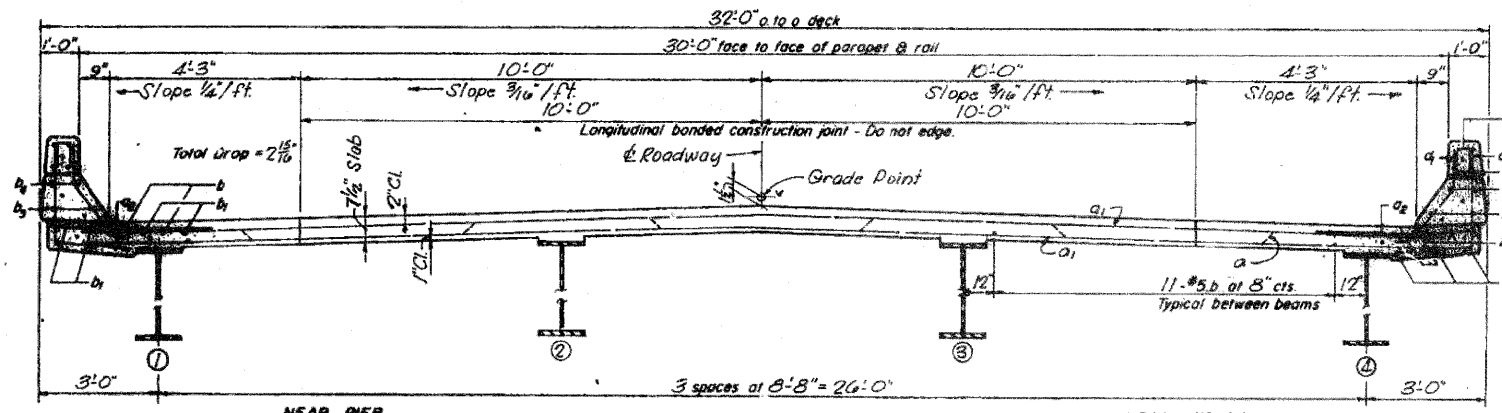
SECTION A-A

1/2" Drain holes under Interlayer Protective Coating at each joint. (Typ. each side)

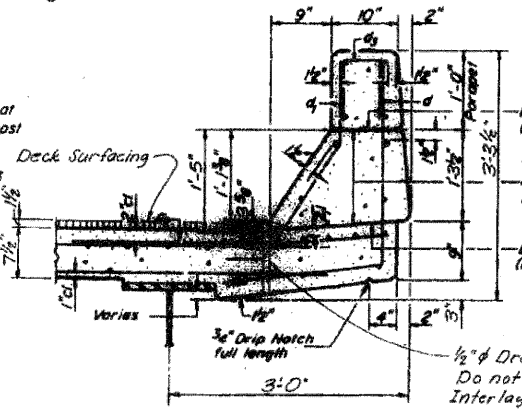


END OF SEALER TREATMENT

NOTE: For placement of bars d<sub>1</sub> and e<sub>1</sub> thru e<sub>3</sub> see sheet # 5.



CROSS SECTION



CURB SECTION

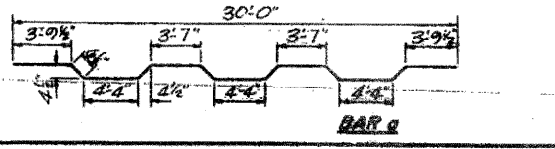
**BILL OF MATERIAL**

Bar	Qty	Size	Notes
a	107	#6	2130
a <sub>1</sub>	322	#6	30'-0"
a <sub>2</sub>	322	#6	4'-0"
b	592	#5	28'-0"
b <sub>1</sub>	32	#5	43'-0"
b <sub>2</sub>	24	#5	15'-0"
b <sub>3</sub>	32	#5	8'-0"
b <sub>4</sub>	2	#5	10'-0"
b <sub>5</sub>	5	#5	15'-0"
d	432	#4	4'-7"
e	432	#4	3'-5"
Reinforcement Bars		lbs	49,650
Class X Concrete		Cu. Yds	763.9

Parapet Reinforcement and Class X Concrete are billed on sheet # 5

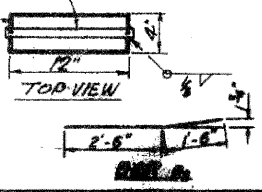
DESIGNED	C. Clary
CHECKED	S. McKnight
DRAWN	C. Clary
CHECKED	S. McKnight

EXAMINED	DATE
PASSED	DATE
APPROVED	DATE

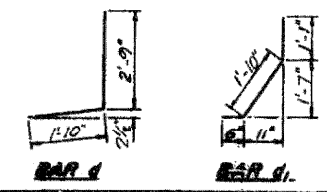


DRAIN DETAILS

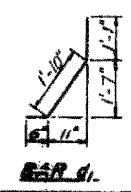
1/2" x 1" Aluminum Bar A.S.T.M. B211 alloy 6061-T6  
 3/8" Aluminum Sheets Welded A.S.T.M. B209 alloy 6061-T6 or Aluminum Extrusions A.S.T.M. B221 alloy 6061-T6



TOP VIEW



BAR d

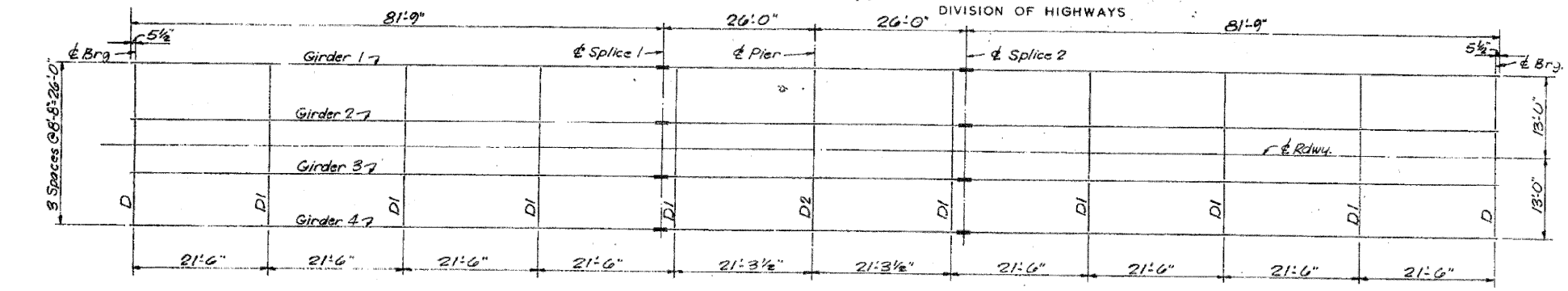


BAR e

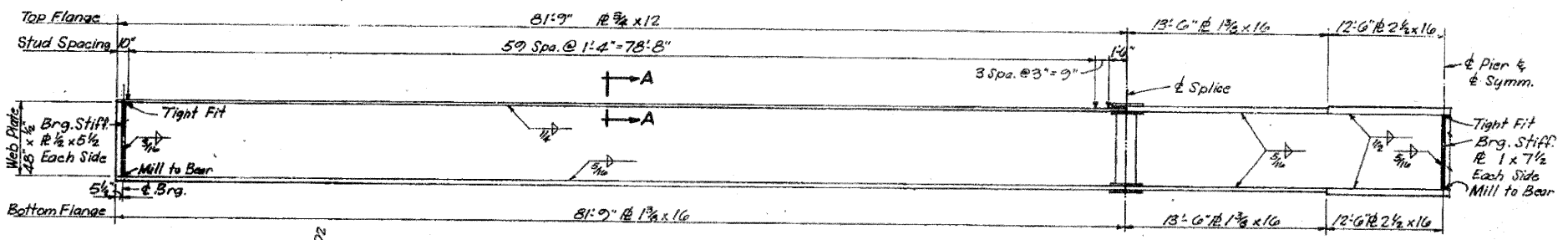
**SUPERSTRUCTURE MAIN SPANS**

F.A. RTE. 403-SEC. 195-3HB-2  
 WHITESIDE COUNTY  
 STATION 2949+74.27

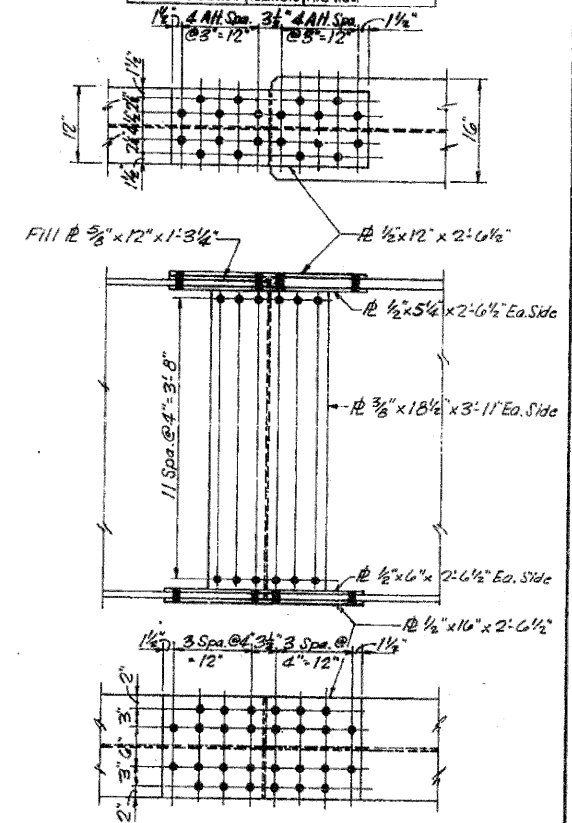
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 6
FA. 403	100-000	WHITESIDE	42	15	11 SHEETS
FED. ROAD DIST. NO. 7 ILLINOIS PA PROJ.					



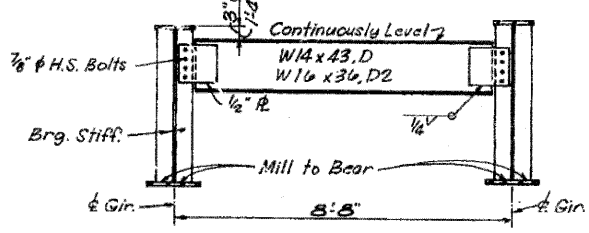
**FRAMING PLAN**



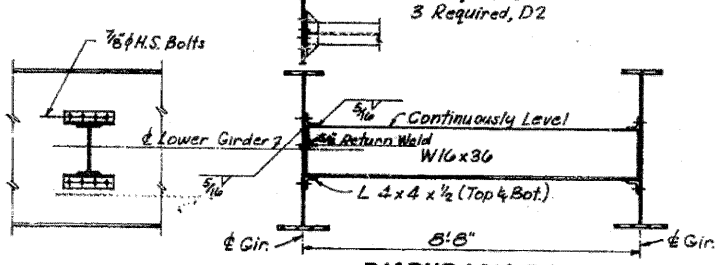
**HALF GIRDER ELEVATION**



**SPlice DETAILS**  
(All Bolts 1/2" H.S.)



**DIAPHRAGM D & D2**  
6 Required, D  
3 Required, D2



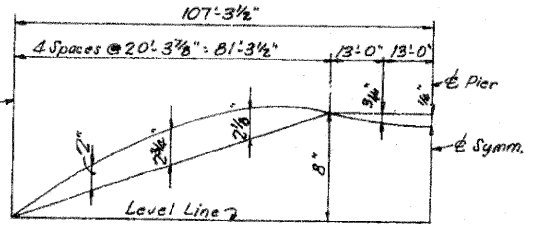
**DIAPHRAGM D1**  
24 Required

MOMENT & SHEAR TABLE		
	0.4 Sp. 1	Pier
$I_x$ (in <sup>4</sup> )	21462	55655
$S_x$ (in <sup>3</sup> )	1101	2099
DL (k/ft)	10.43	10.43
Max (k/ft)	6.93	18.19
$V_{max}$ (k)	7.61	10.39
$V_{min}$ (k)	28.47	28.47
$S_e$ (in <sup>3</sup> )	144	144
Spa (k/ft)	0.561	0.561
Max (k)	355	823
$V_{max}$ (k)	3.37	4.70
$V_{min}$ (k)	21.53	21.53
$S_y$ (in <sup>3</sup> )	144	144
Max (k)	2.92	2.92
Min (k)	0.82	0.82
$V_{max}$ (k)	2.07	2.82
$V_{min}$ (k)	1.75	1.75
$V_{max}$ (k)	30.2	30.2

$I_x$  and  $S_x$  are the moment of inertia & Brg. A but. and section modulus of the steel section.  
 $I_e$  and  $S_e$  are the moment of inertia and section modulus of the composite section used in computing  $f_v$ .  
 $V_R$  is the maximum  $V$  in impact shear range in span.

TOP OF WEB ELEVATIONS*				
	Girder 1	Girder 2	Girder 3	Girder 4
Brg. N. Abut.	655.027	135.016	255.911	655.027
Splice 1	655.027	135.016	255.911	655.027
Pier	655.027	135.016	255.911	655.027
Splice 2	655.027	135.016	255.911	655.027
Brg. S. Abut.	655.027	135.016	255.911	655.027

\* For Fabrication Only



**HALF CAMBER DIAGRAM**  
(Includes Allowance for Vertical Curve)

DESIGNED: S. McKnight  
CHECKED: A. Chugh  
DRAWN: C. Clary  
CHECKED: J. McKnight

EXAMINED \_\_\_\_\_  
PASSED \_\_\_\_\_  
APPROVED \_\_\_\_\_

REACTION TABLE	
DL	10.43
Max	6.93
$V_{max}$	7.61
$V_{min}$	28.47
Spa	0.561
Max	355
$V_{max}$	3.37
$V_{min}$	21.53
$V_{max}$	30.2

3/4" x 4" CR 1020 STL granular or solid flux filled headed studs automatically end welded

**SECTION A-A**  
(378 Studs per Girder)

EXISTING BEARINGS ARE ROCKER BEARINGS  
ROCKERS ARE W10x112, 18" IN LENGTH  
BOTTOM PLATES ARE 1.25" x 9" x 25.5"  
TOP PLATES ARE 1" x 9" x 18"