

04-28-2017 LETTING ITEM 093

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72C1HB-2,3;3HB-3;6HB-1,2]BP		PEORIA	19	1
		ILLINOIS	CONTRACT NO. 68D20	

- FOR INDEX OF SHEETS, SEE SHEET NO. 1
- 2. SUMMARY OF QUANTITIES
- 3. COMMITMENTS AND GENERAL NOTES
- 4-19. PLAN SHEETS

HIGHWAY STANDARDS

- 701101-05
- 701106-02
- 701400-09
- 701402-12
- 701406-11

AADT

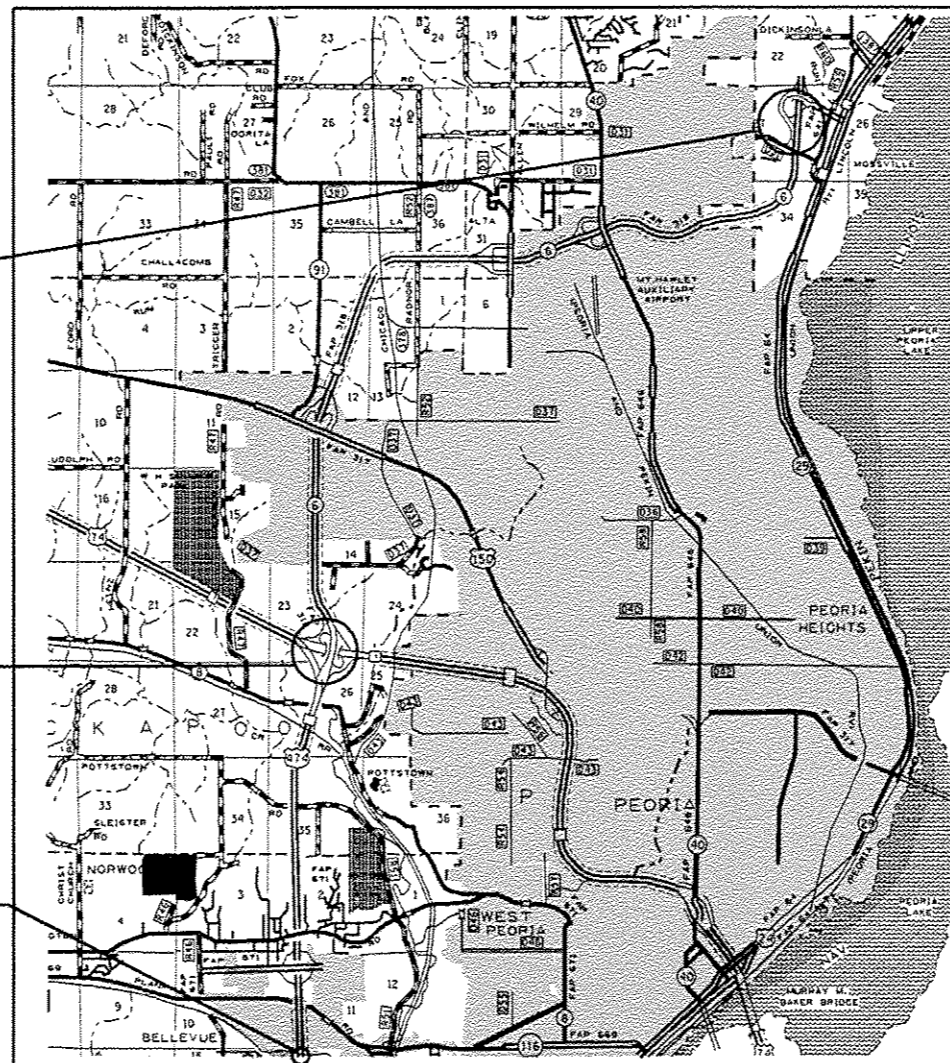
- S.N. 072-0123, 15,100 TRUCKS 1,650 location 4 S.N. 072-0149
- S.N. 072-0110, 3,050 TRUCKS 1,025 location 3 S.N. 072-0148
- S.N. 072-0111, 13,800 TRUCKS 4,100
- S.N. 072-0148, 7,000 TRUCKS 575
- S.N. 072-0149, NO TRAFFIC UNDER BRIDGE

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

PROJECT ENGINEER MIKE LEWIS (309) 671-3454  
PROJECT MANAGER TOM INGLIS (309) 671-3450  
CATALOG NO. 035404-00D  
CONTRACT NO. 68D20

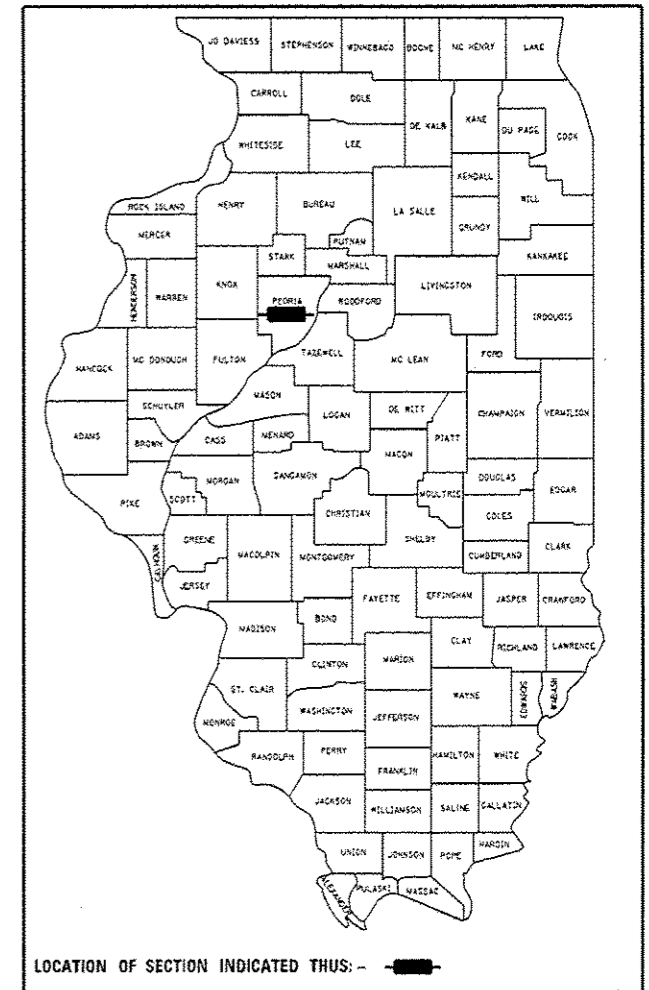
**PROPOSED  
HIGHWAY PLANS**  
VARIOUS ROUTES  
[I-474 (FAI474), I-74 (FAI 74), IL 6 (FAP64)]  
72[1HB-2,3;3HB-3;6HB-1,2]BP  
PEORIA COUNTY

C-94-063-16



Description of Project. Bridge Painting

D-94-031-16



LOCATION OF SECTION INDICATED THUS: - [black box]

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

SUBMITTED Feb. 1 20 17  
Kea. State  
REGION THREE ENGINEER

Mar 24 20 17  
Mausen M. Addis, PE  
ENGINEER OF DESIGN AND ENVIRONMENT

Mar 24 20 17  
Annele [Signature]  
DIRECTOR OF PROGRAM DEVELOPMENT

**PRINTED BY THE AUTHORITY  
OF THE STATE OF ILLINOIS**

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONST. CODE
				PEORIA 100%STATE 0014 URBAN
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
50606704	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 4	L SUM	1	1
50606705	CLEANING AND PAINTING STRUCTURAL STEEL, LOCATION 5	L SUM	1	1
67100100	MOBILIZATION	L SUM	1	1
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	4	4
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
Z0007104	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.4	L SUM	1	1
Z0007105	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO.5	L SUM	1	1
70400100	TEMPORARY CONCRETE BARRIER	FOOT	319	319
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE), TEST LEVEL 3	EACH	1	1
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	2435	2435
70600250	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE), TEST LEVEL 3	EACH	15	15

FILE NAME : 68020 Painting 2017.dgn

USER NAME : kwe102  
 PLOT SCALE : 100.0000 / in.  
 PLOT DATE : 2/10/2017

DESIGNED -	REVISED -
DRAWN -	REVISED -
CHECKED -	REVISED -
DATE -	REVISED -

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES**

* I 474 (FAI 474) I 74 (FAI 74) IL6 (FAP64)				
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
-	D4 BRIDGE	PEORIA	19	2
PAINTING 2017			CONTRACT NO. 68020	
ILLINOIS FED. AID PROJECT				

**COMMITMENTS**

No commitments have been made for this project.

**GENERAL NOTES**

All Painting shall be as specified in the Special Provisions for "Cleaning and Painting Existing Structural Steel". All areas indicated shall be Painted with Paint system 1 - OZ/E/U.

All Beams, Brackets and all other structural steel shall be cleaned per Near White Blast Cleaning SSPC-SP10, according to the following schedule:

Bridge Locations 1-4. Entire Structure shall be cleaned and painted except were previously Metalized or Painted.

Bridge location 5. End Spans of the outside fascia beams including the bottom of the bottom flange shall be cleaned and painted.

End Spans the entire span including the fascia beams shall be cleaned and painted except were previously painted.

Recycled steel abrasive and equipment shall be used for all of these structures and locations. Recycled equipment shall have a minimum of two recycled grit nozzle men operating simultanenously with the vacuum cleaning operations. The equipments's blast pot shall be capable of being filled without interruption of the blasting or vacuuming operations.

Bridge Locations 1 - 5 All Fascia Beams shall be painted Blue (Munsell No. 10B 3/6)

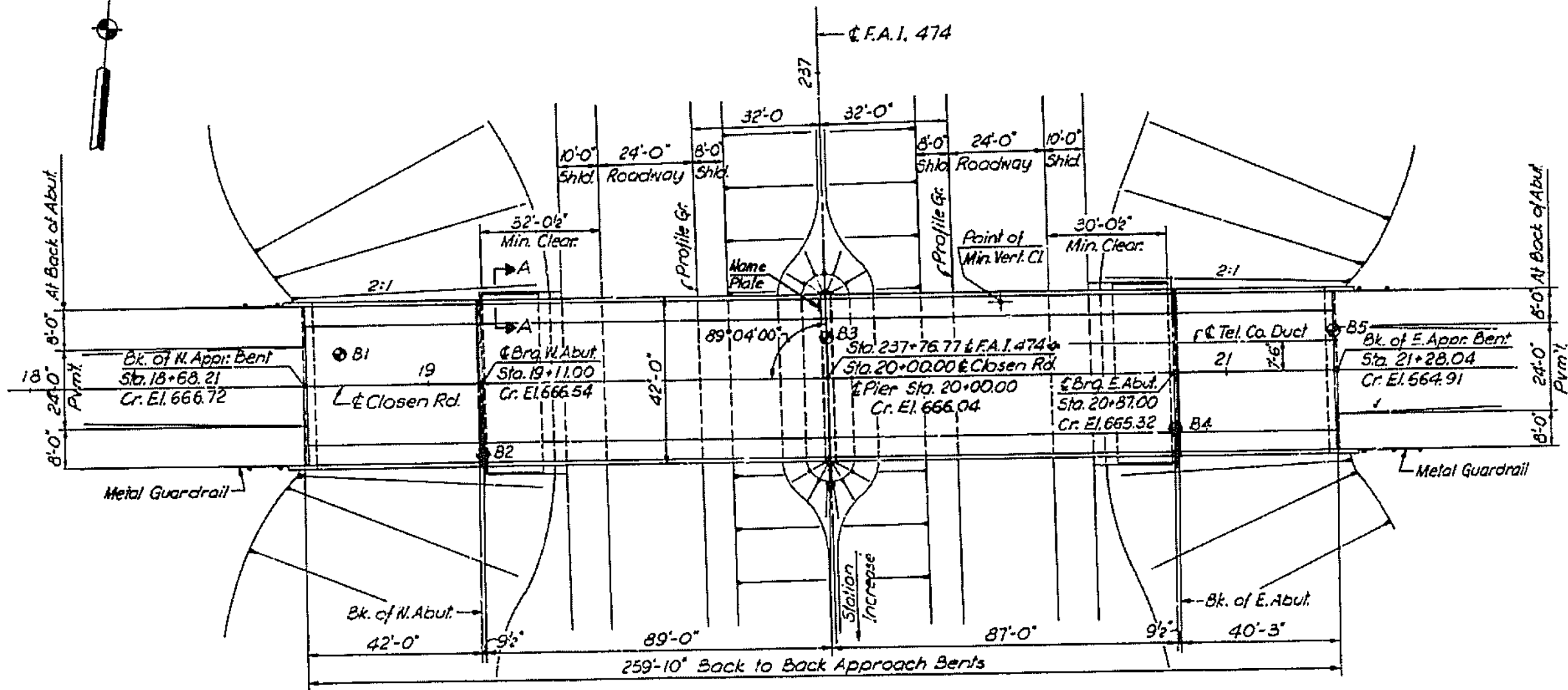
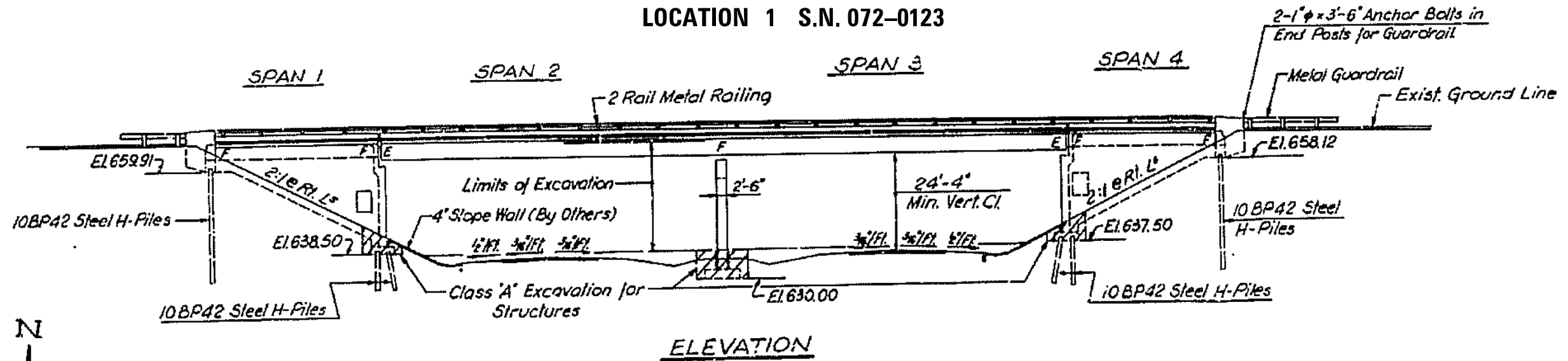
the underside shall be light grey (Munsell 5B 7/1).

AIR MONITORS - Locations 1 and 3 (Closen and Mossville bridges) shall require air monitoring. Locations 2, 4 and 5 will not require air monitoring.

QP1 & QP 2 required for this Project.

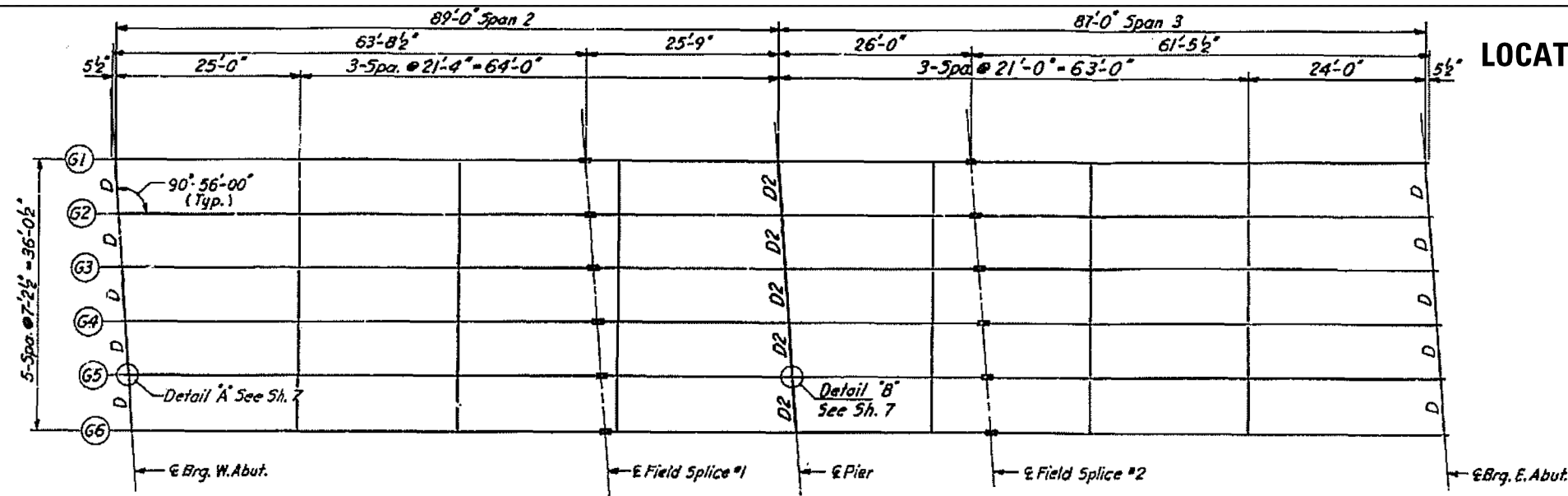
FILE NAME = 68D20 Painting 2017.dgn	USER NAME = keithbr	DESIGNED -	REVISED -	<b>STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION</b>	<b>COMMITMENTS AND GENERAL NOTES</b>	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -			I 474(FAI 474) I74(FAI 74) IL6(FAP64)	D4 BRIDGE PAINTING 2017	PEORIA	19	3	
	PLOT DATE = 2/6/2017	CHECKED -	REVISED -			SCALE:	SHEET 3 OF 19 SHEETS	STA.	TO STA.	<b>68D20</b>	
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

LOCATION 1 S.N. 072-0123

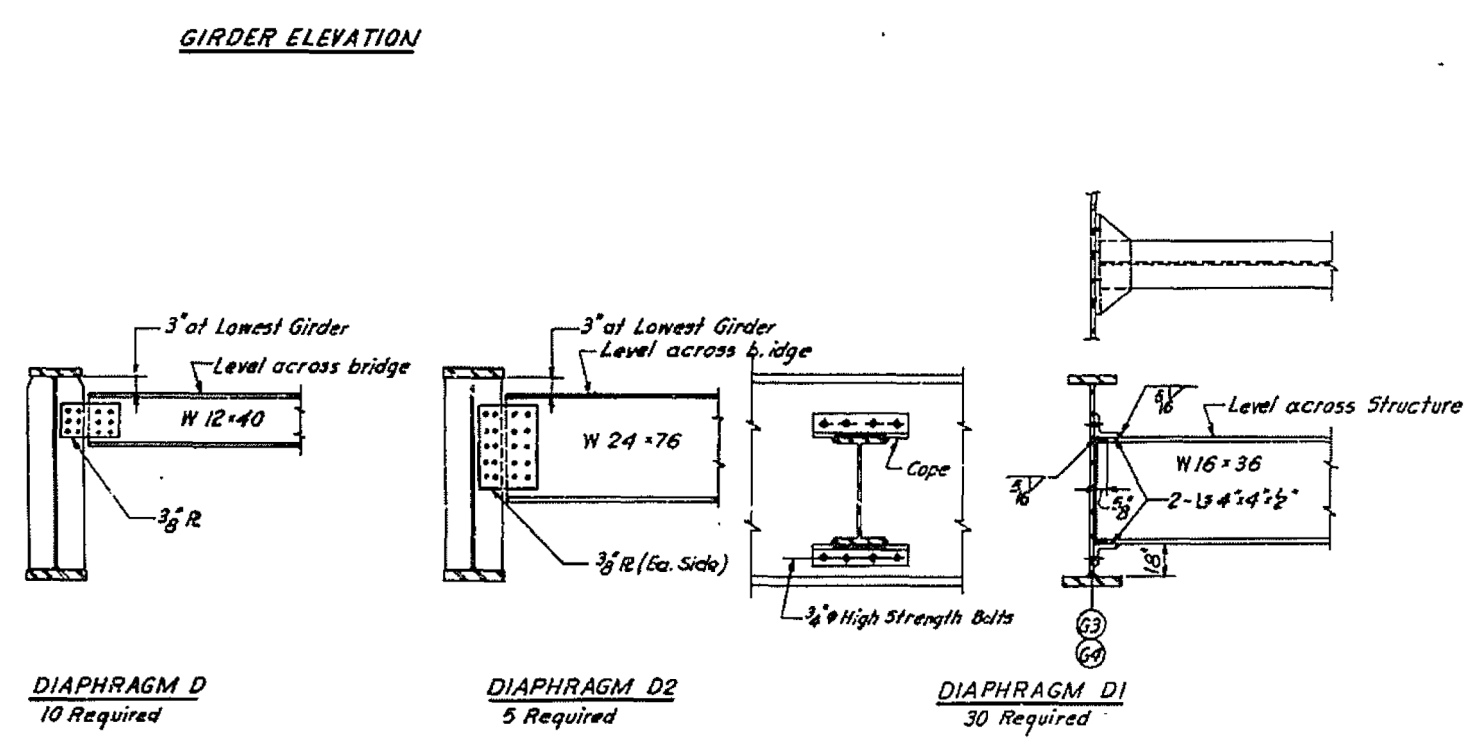
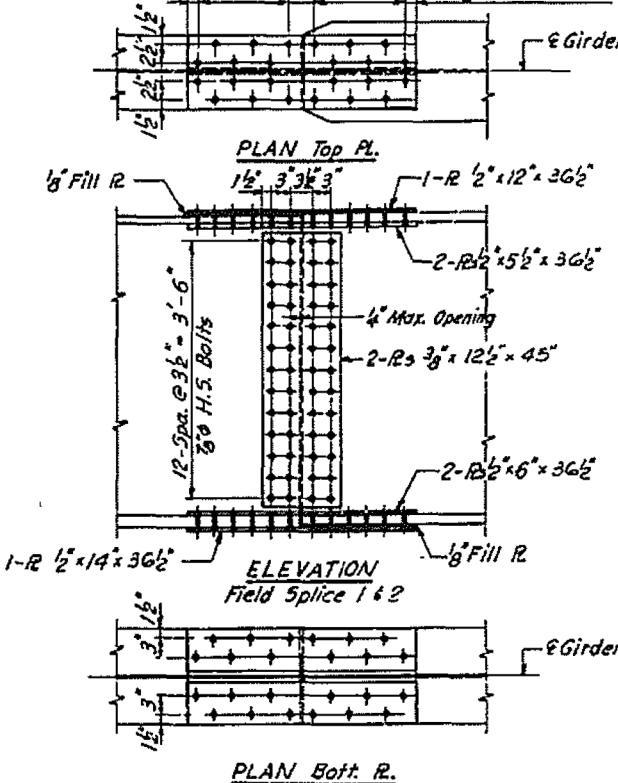
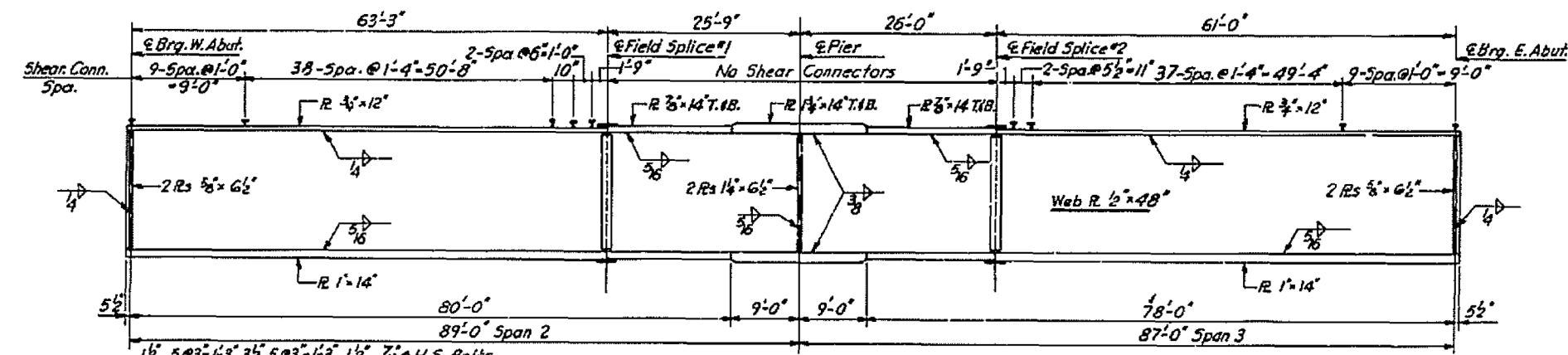


PLAN  
Scale: 1" = 20'

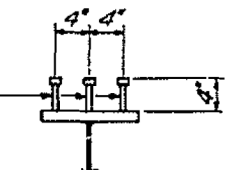
FILE NAME = 68D20 Painting 2017.dgn	USER NAME = keathbr	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LOCATION 1 PLAN VIEW	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
Default	PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -			D4 BRIDGE PAINTING 2017	PEORIA	19	4	
	PLOT DATE = 2/6/2017	CHECKED -	REVISED -			I 474(FAI 474) I74(FAI 74) IL6(FAP64)			68D20	
		DATE -	REVISED -			ILLINOIS FED. AID PROJECT				



Note: All Diaphragms D1 unless otherwise noted.



3/8" x 4" CR1020 STL Granular or solid Flux filled headed studs automatically end Welded to girder



FILE NAME = 68D20 Painting 2017.dgn

USER NAME = keathbr

PLOT SCALE = 100.0000' / in.

PLOT DATE = 2/6/2017

DESIGNED -

DRAWN -

CHECKED -

DATE -

REVISED -

REVISED -

REVISED -

REVISED -

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

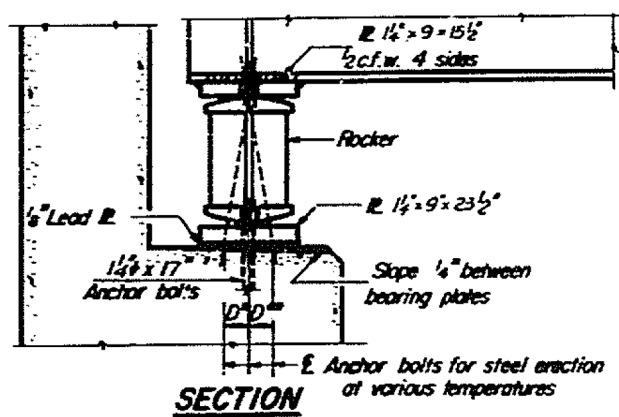
LOCATION 1

FRAMING DETAIL

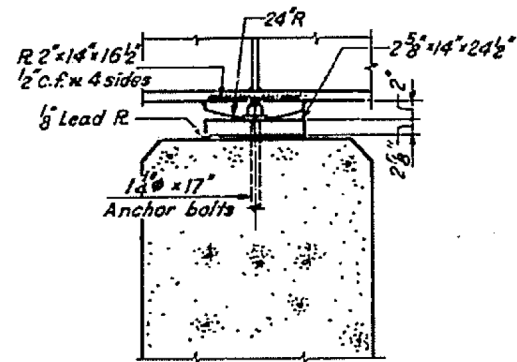
SCALE: SHEET 5 OF 19 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I 474(FAI 474) I 74(FAI 74) IL6(FAP64)	D4 BRIDGE PAINTING 2017	PEORIA	19	5
				68D20

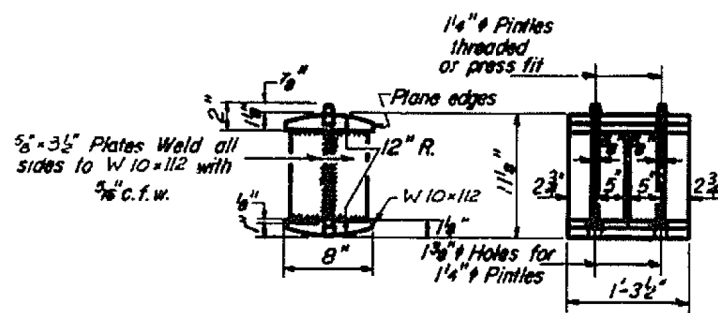
ILLINOIS FED. AID PROJECT



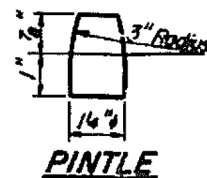
SECTION



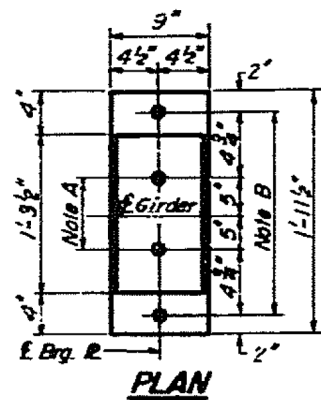
SECTION



ROCKER



PINTLE



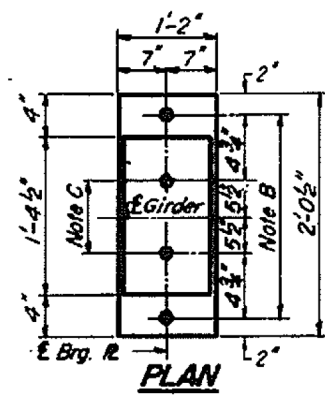
PLAN

AT ABUTMENTS

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

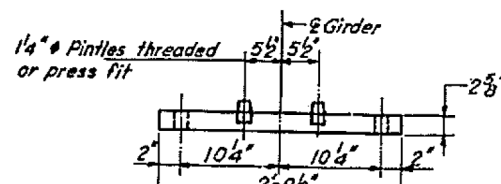
**NOTE B**  
1 3/8" Holes for 1/4" anchor bolts. 5/8" x 2 1/2" x 2 1/2" R. Washers under nut.

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



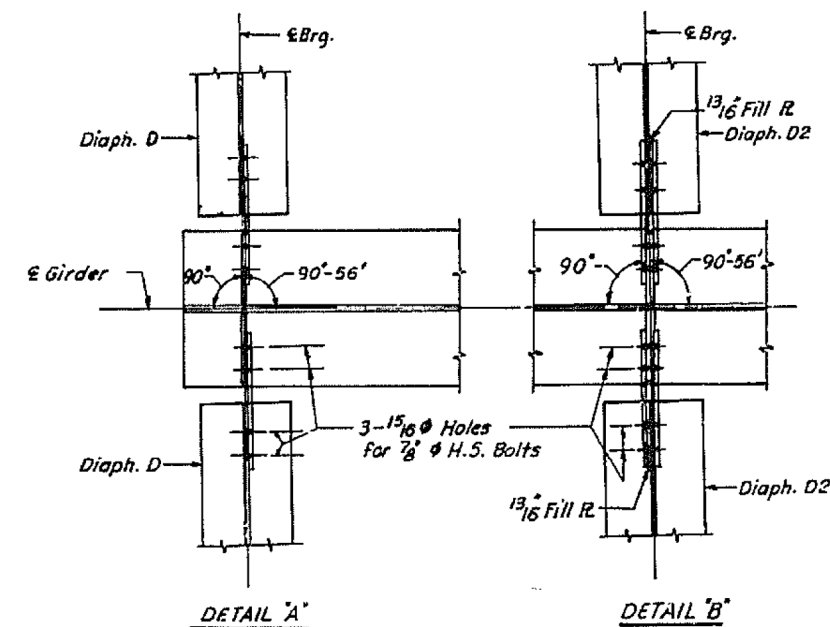
PLAN

AT PIER



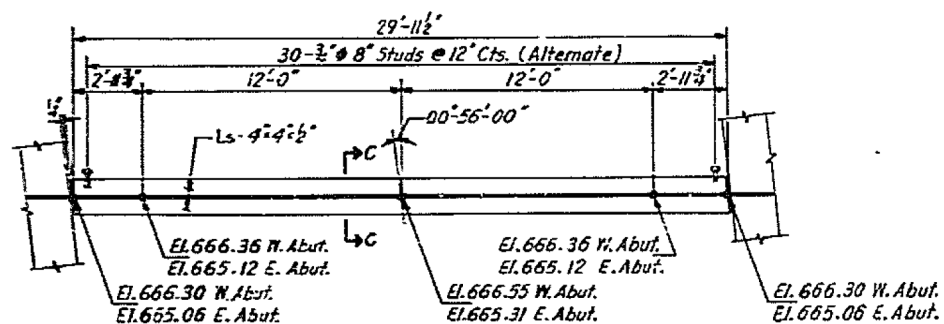
BOTTOM R. AT PIER

**BEARING ASSEMBLY DETAILS**

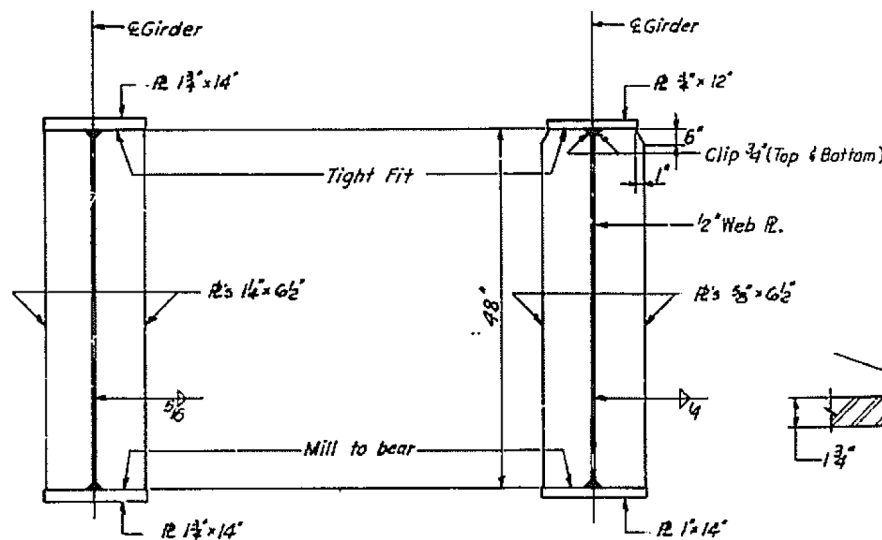


DETAIL A

DETAIL B



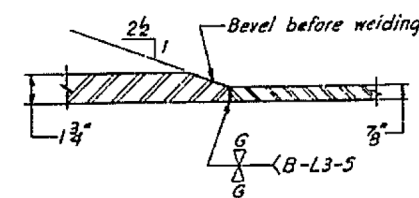
**W. & E. ABUTMENT**  
for Section C-C See Sheet No 3  
**EXPANSION GUARD**



BEARING STIFFENER @ PIER

BEARING STIFFENER @ ABUTMENTS

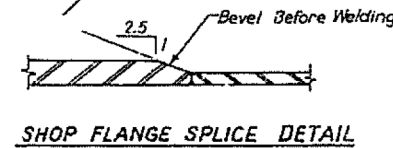
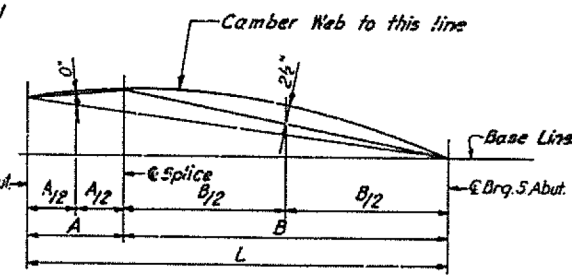
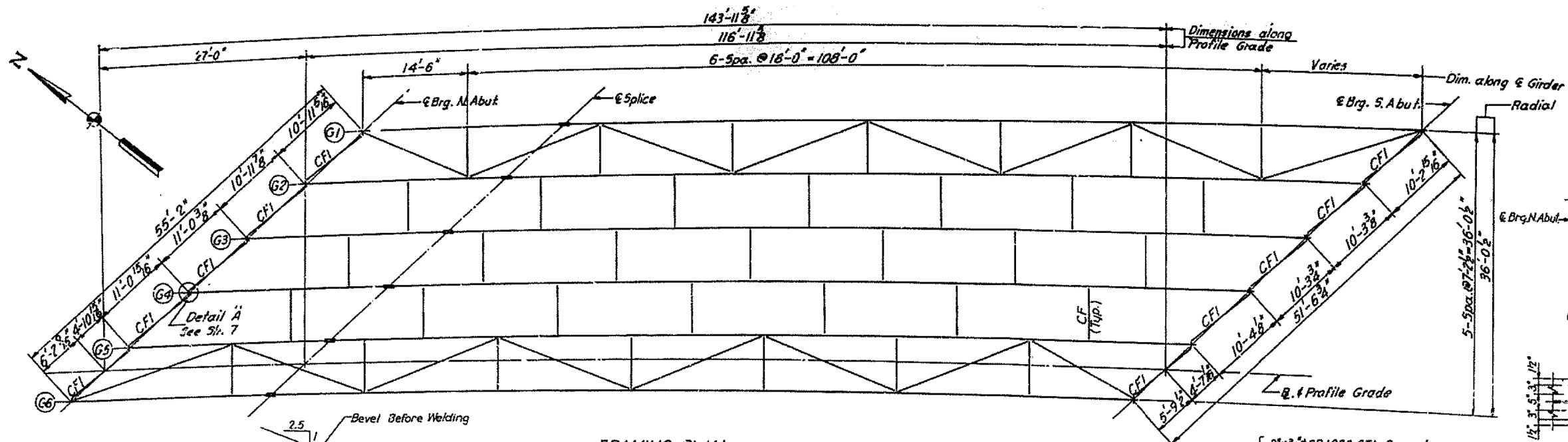
Note - All bearing stiffeners to be vertical



SHOP FLANGE SPLICE

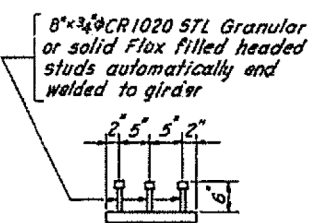


LOCATION 2 S.N. 072-0110

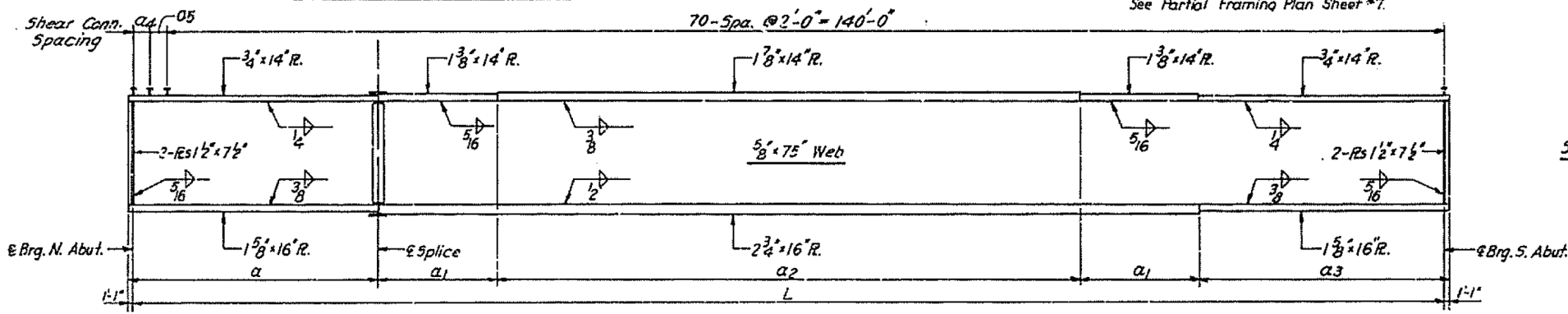


FRAMING PLAN

Note: All Cross Frames CF unless otherwise noted For Bottom Lateral Bracing See Partial Framing Plan Sheet #7.



SHEAR CONNECTOR DETAIL  
No Req. = 1311



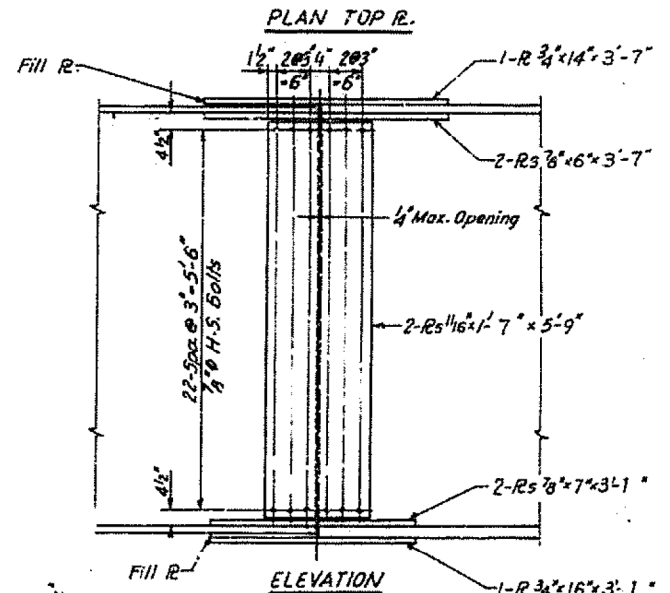
GIRDER ELEVATION

GIRDER SCHEDULE

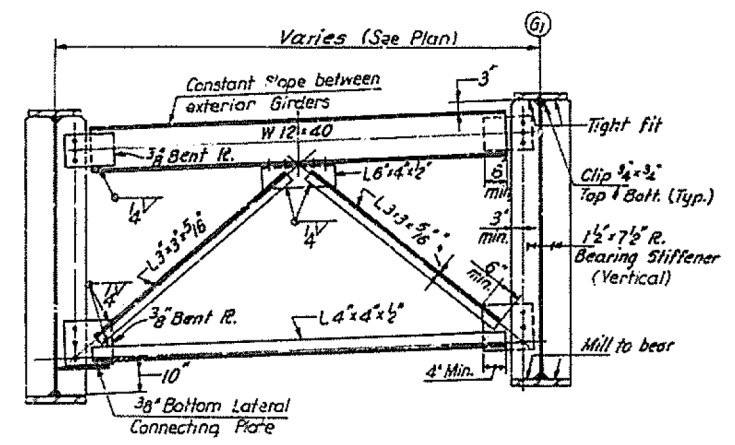
Girder	L	a	a <sub>1</sub>	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>	a <sub>5</sub>
1	141'-7 1/2"	27'-7 3/16"	14'-0"	61'-0"	27'-2 5/16"	1'-7 1/2"	-
2	142'-1 3/8"	27'-8 1/16"	-	-	27'-7 3/16"	1'-0"	1'-1 1/2"
3	142'-7 7/8"	27'-9 3/8"	-	-	28'-0 1/8"	1'-3"	1'-4 1/2"
4	143'-2 1/2"	27'-11 1/16"	-	-	28'-5 3/16"	1'-7"	1'-7 1/2"
5	143'-8 3/4"	28'-0 3/8"	-	-	28'-10 3/8"	1'-10"	1'-10 3/4"
6	144'-3 3/8"	28'-1 3/4"	14'-0"	61'-0"	29'-3 5/8"	2'-1 1/2"	2'-2"

INTERIOR GIRDER MOMENT TABLE

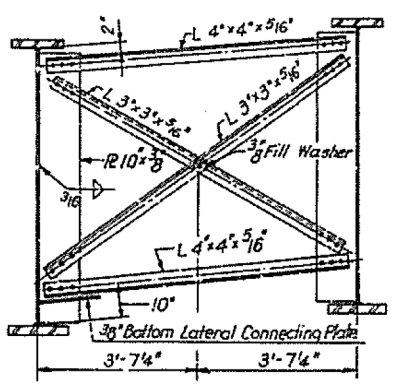
	5 Span
I <sub>s</sub> (in <sup>4</sup> )	123,084
I <sub>c</sub> (in <sup>4</sup> )	219,609
S <sub>a</sub> (in <sup>3</sup> )	3,600
S <sub>c</sub> (in <sup>3</sup> )	4,260
Q (K/ft)	1.136
M <sub>o</sub> (K)	2,944.4
F <sub>s</sub> (K/ft)	9.9
S <sub>o</sub> (K)	419
M <sub>s</sub> (K)	1,086.0
M <sub>o</sub> (K)	1,515
M <sub>imp</sub> (K)	280.8
Total (K)	2,881.8
F <sub>s</sub> (K)	8.1
F <sub>s</sub> (K/ft)	18.0
VR (K)	55.9
M <sub>o</sub> (K)	6.9
M <sub>s</sub> (K)	2.5
M <sub>o</sub> (K)	3.6
M <sub>imp</sub> (K)	0.6
T <sub>s</sub> Total (K)	2.00



ELEVATION



CROSS FRAME CFI  
No. Required 10



CROSS FRAME CF  
No. Required 35

Girder Radii

G1	2323.85
G2	2316.64
G3	2309.44
G4	2302.23
G5	2295.02
G6	2287.81

TOP OF WEB ELEVATIONS FOR FABRICATION

Girder	@ Brg. N. Abut.	@ Splice	@ Brg. S. Abut.
1	594.50	594.41	593.24
2	594.13	594.04	592.86
3	593.76	593.67	592.48
4	593.38	593.29	592.10
5	593.01	592.91	591.72
6	592.63	592.53	591.34

GIRDER SCHEDULE FOR CAMBER DIAGRAM

Girder	L	A	B	A/2	B/2
1	141'-7 1/2"	26'-6 3/16"	115'-15 1/8"	13'-3 3/8"	57'-6 1/16"
2	142'-1 3/8"	26'-7 7/8"	115'-6 3/8"	13'-3 3/8"	57'-9 3/8"
3	142'-7 7/8"	26'-8 3/4"	115'-11 1/8"	13'-4 3/8"	57'-11 1/8"
4	143'-2 1/2"	26'-10 1/8"	116'-4 3/8"	13'-5 1/8"	58'-2 1/8"
5	143'-8 3/4"	26'-11 3/8"	116'-9 3/8"	13'-5 1/8"	58'-4 1/8"
6	144'-3 3/8"	27'-0 3/4"	117'-2 3/8"	13'-6 3/8"	58'-7 1/8"

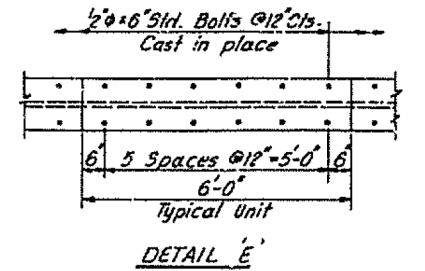
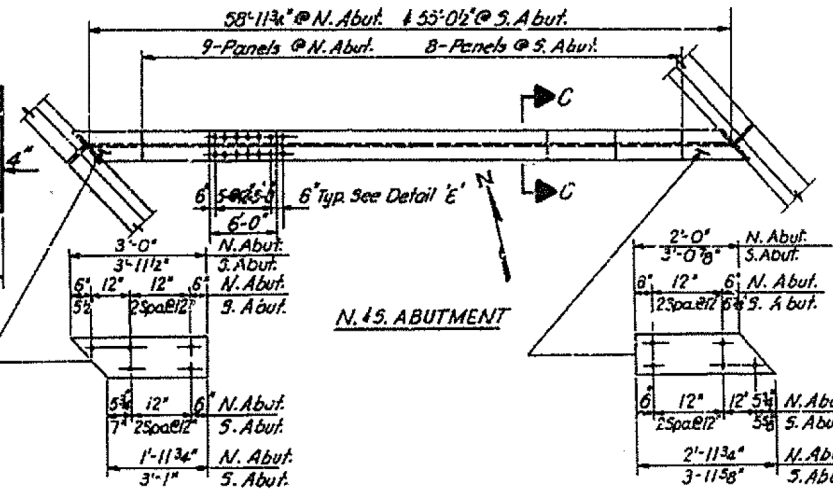
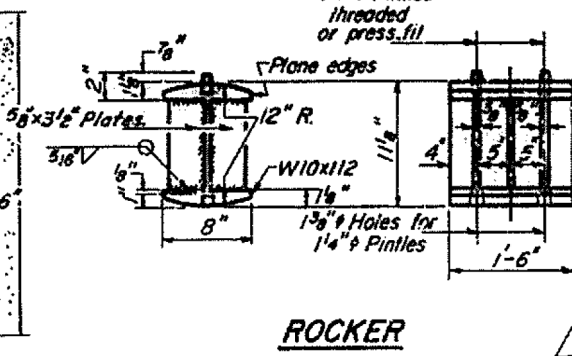
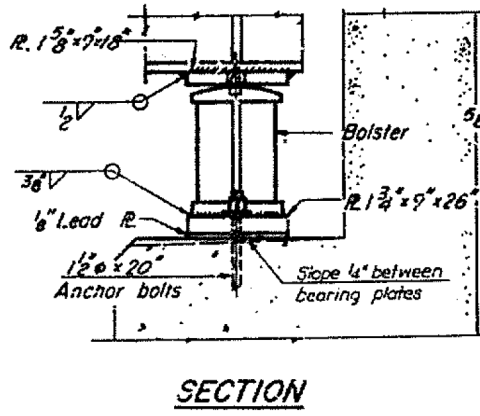
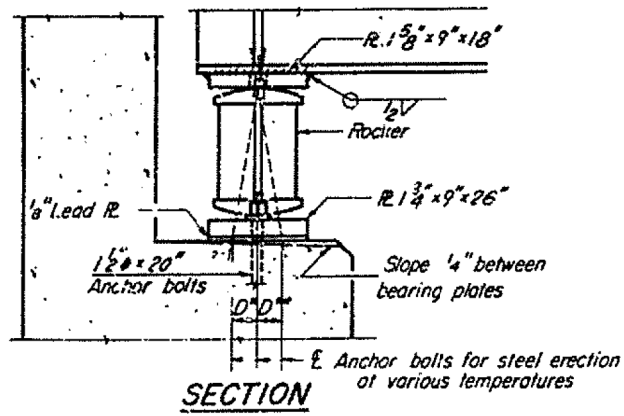
INTERIOR GIRDER REACTION TABLE

	N.A. Abut.
R <sub>o</sub> (K)	111.8
R <sub>s</sub> (K)	47.0
Imp (K)	8.9
R total	167.7

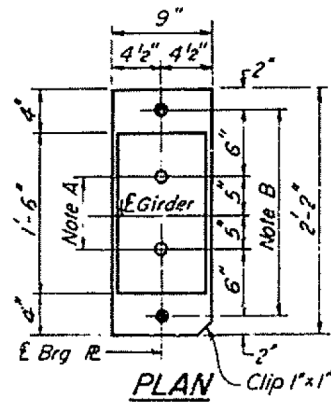
TORQUE LOADING



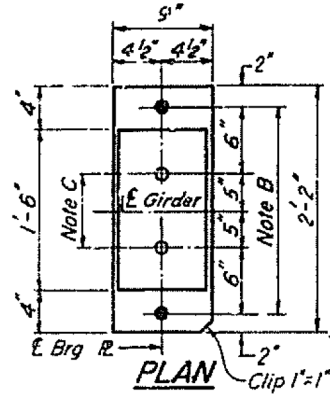
LOCATION 2 S.N. 072-0110



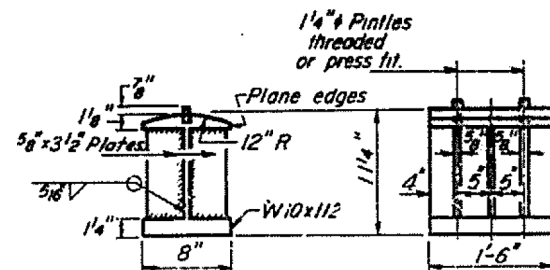
Note: Anchor bolts require a clipped washer, lockwasher and hex. nut.



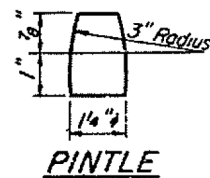
AT N. ABUTMENT



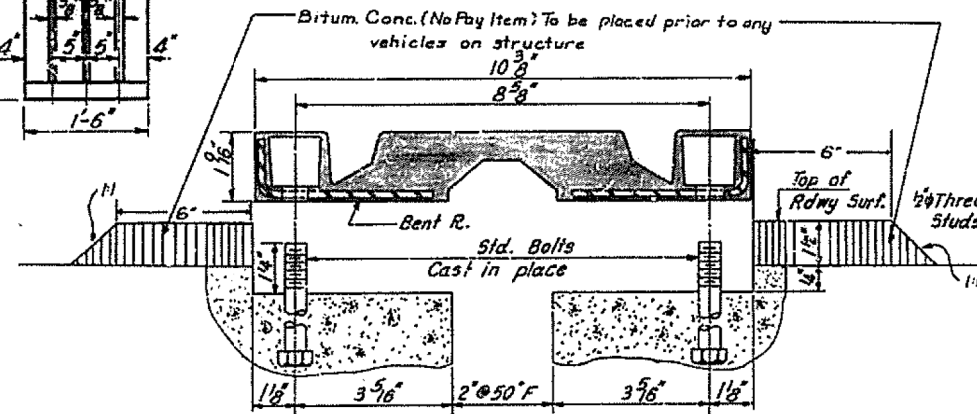
AT S. ABUTMENT



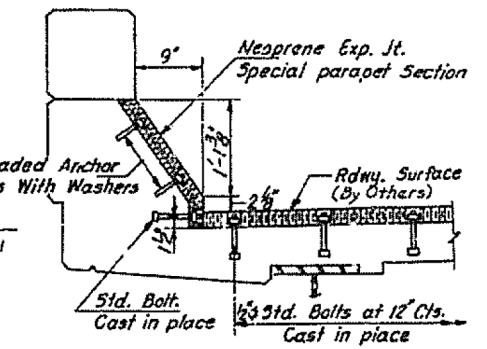
BOLSTER



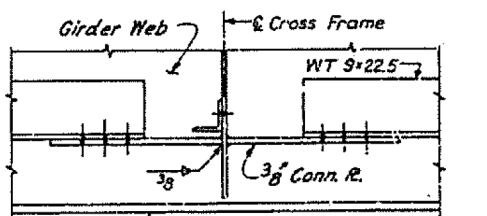
PINTLE



SECTION C-C



CURE INSTALLATION



SECTION A-A

NOTE A

1 3/8 inch Holes - 1 inch deep in top R. for pintles Thread or press fit pintles into bottom R.

NOTE B

2 inch Holes for 1 1/2 inch anchor bolts 3/16 x 2 1/2 x 2 1/2 inch Washers under nut

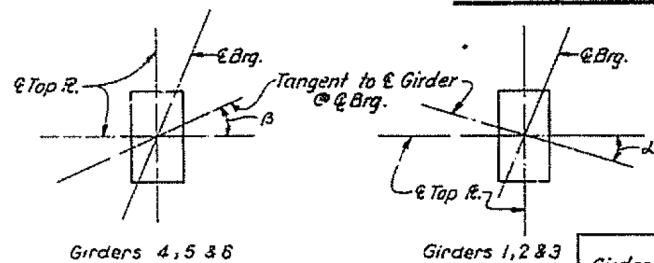
NOTE C

1 3/8 inch Holes 1 inch deep in top R. only for 1 1/4 inch pintles

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

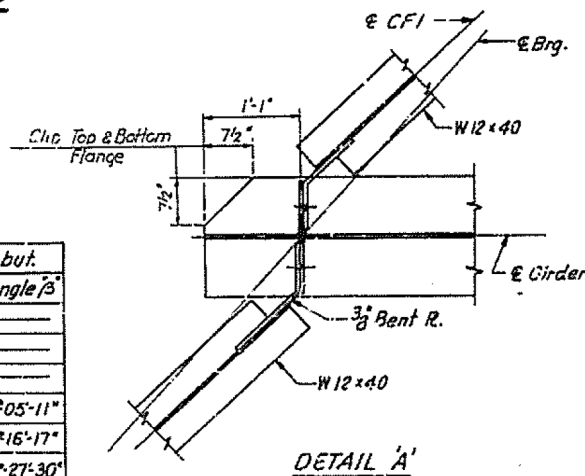
- a) D\* (Side of brg away from fixed brg.) D\* = 1/8 inch per each 100' of expansion for every 15 degree fall below the normal temp of 50 degrees F
- D\*\* (Side of brg toward fixed brg.) D\*\* = 1/8 inch per each 100' of expansion for every 15 degree rise above the normal temp of 50 degrees F
- b) After Girders 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

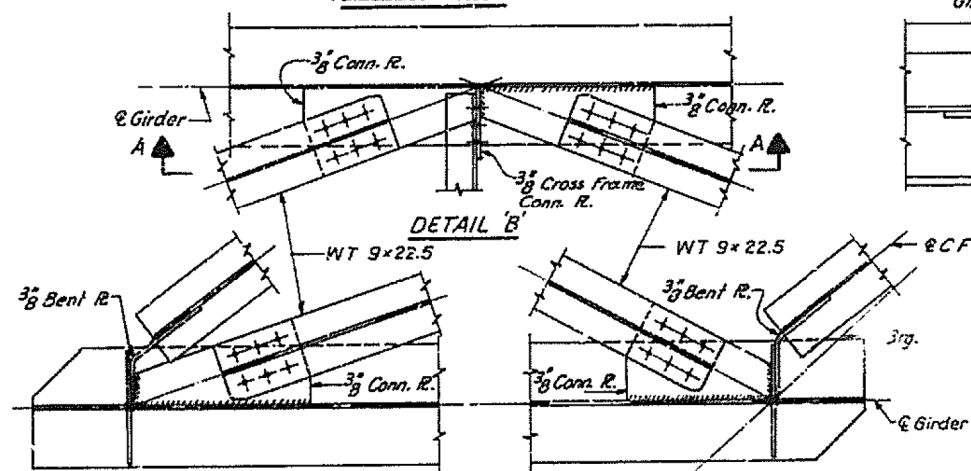


DETAIL OF TOP BEARING PLATE TO GIRDER CONNECTION See table for angles

Girder	@ Brg. N. Abut.		@ Brg. S. Abut.	
	Angle alpha	Angle beta	Angle alpha	Angle beta
1	0 degrees 31' 08"	—	0 degrees 27' 29"	—
2	0 degrees 18' 56"	—	0 degrees 16' 42"	—
3	0 degrees 06' 37"	—	0 degrees 05' 48"	—
4	—	0 degrees 06' 50"	—	0 degrees 05' 11"
5	—	0 degrees 18' 25"	—	0 degrees 16' 17"
6	—	0 degrees 31' 08"	—	0 degrees 27' 30"

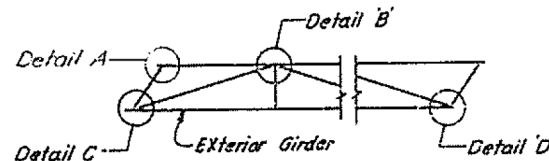


DETAIL A'



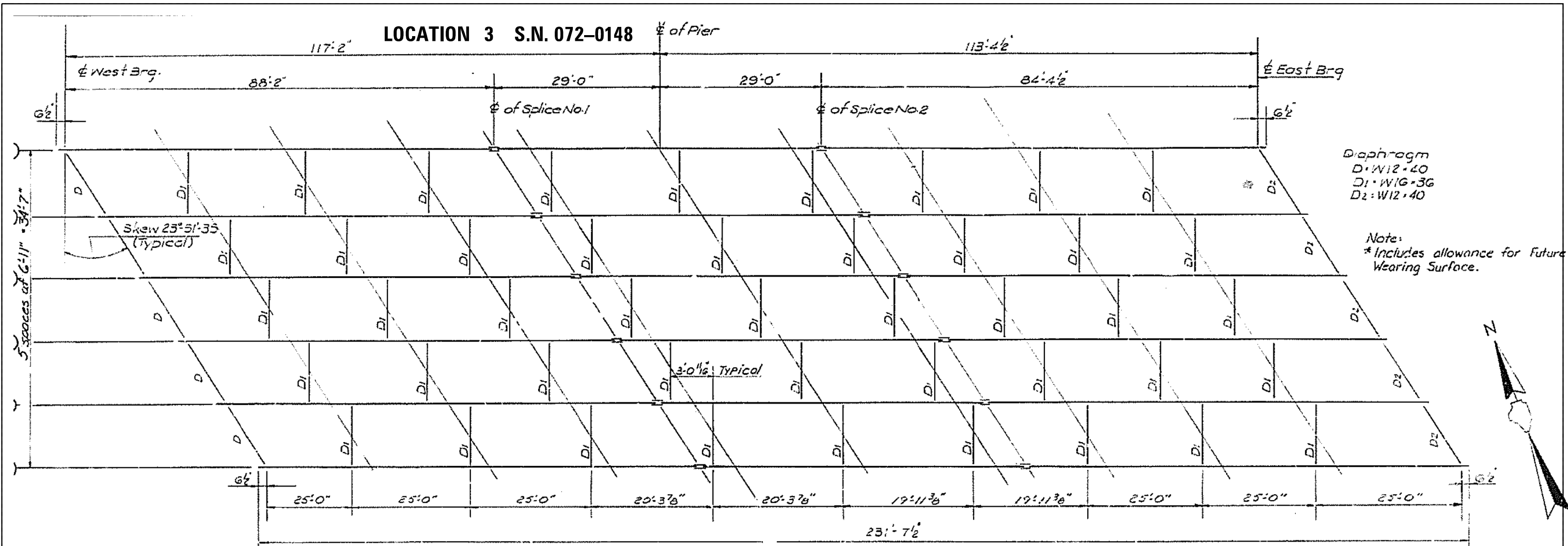
DETAIL C'

DETAIL D'

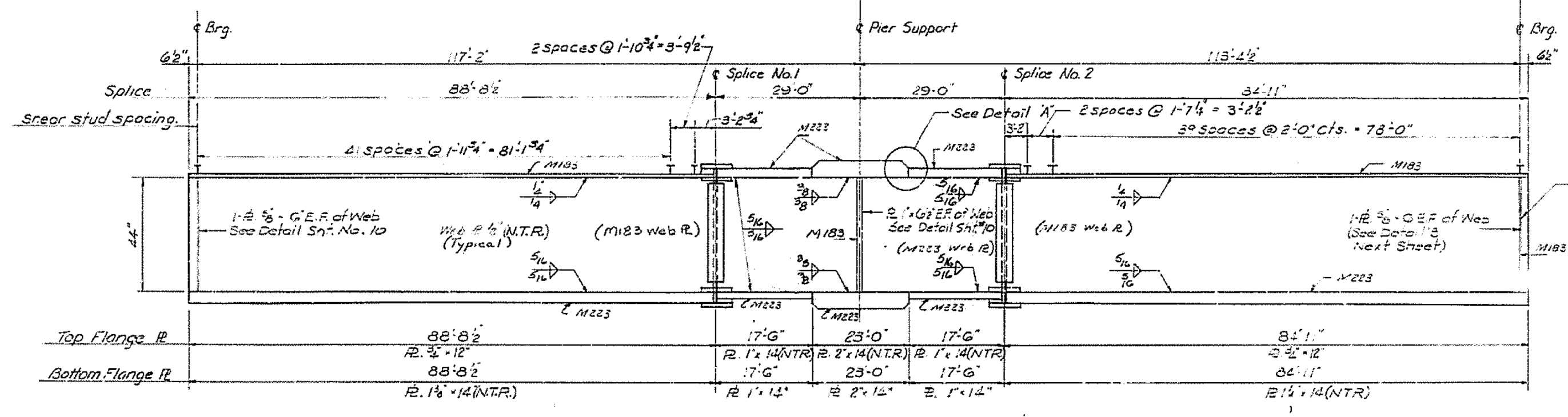


PARTIAL FRAMING PLAN BOTTOM LATERAL BRACING





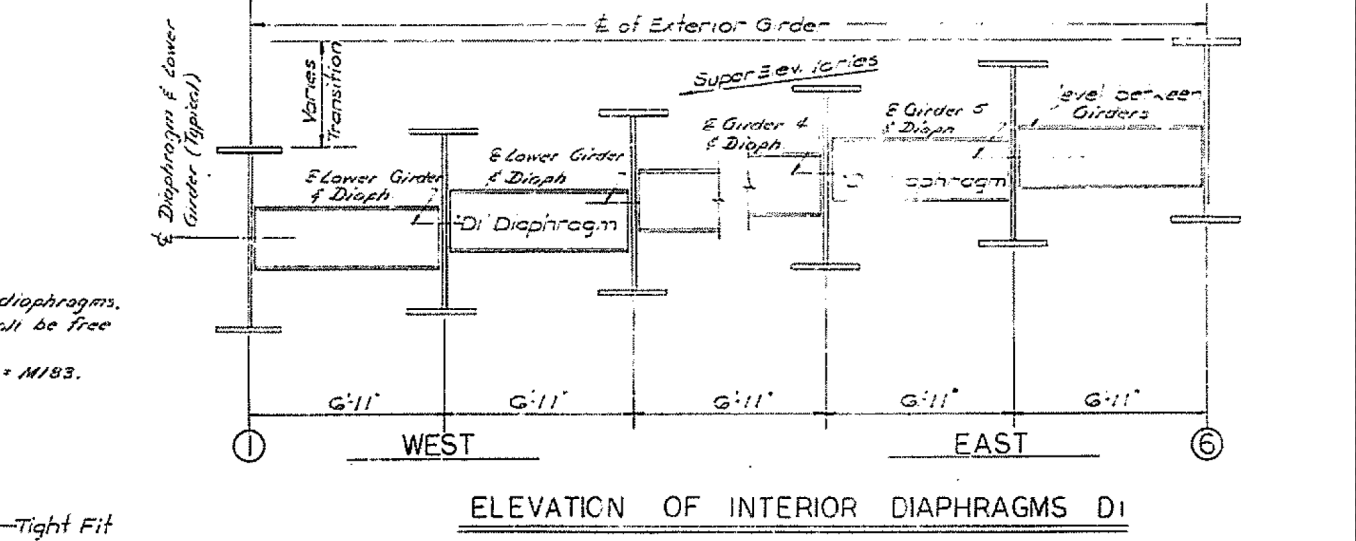
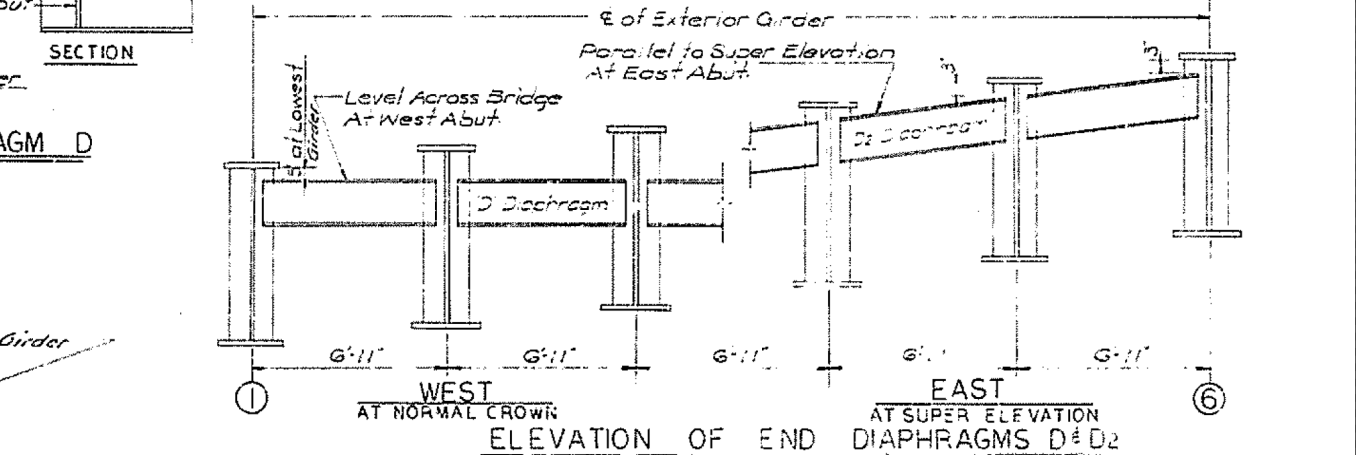
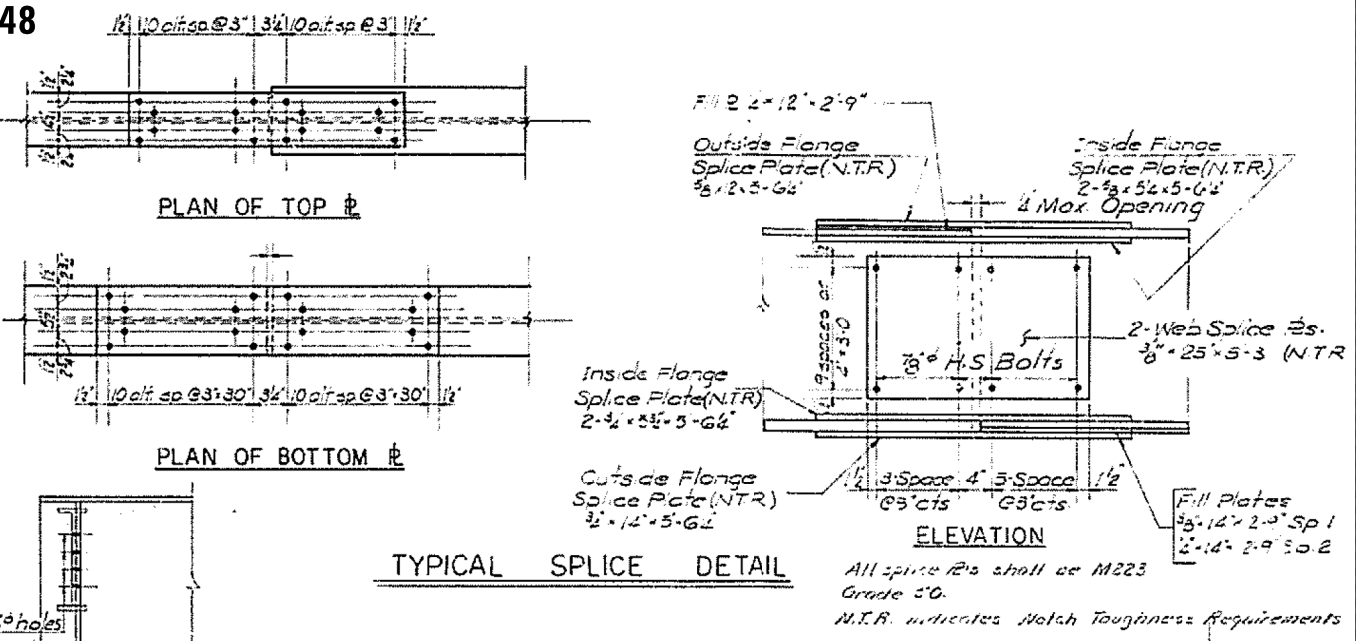
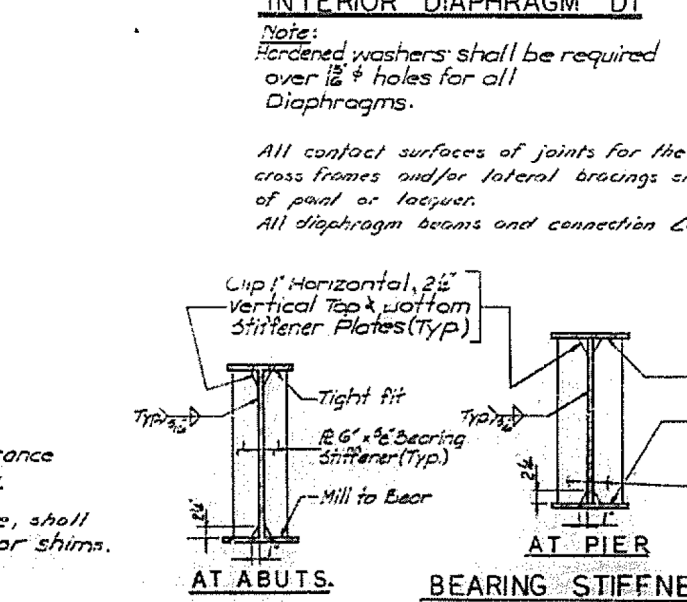
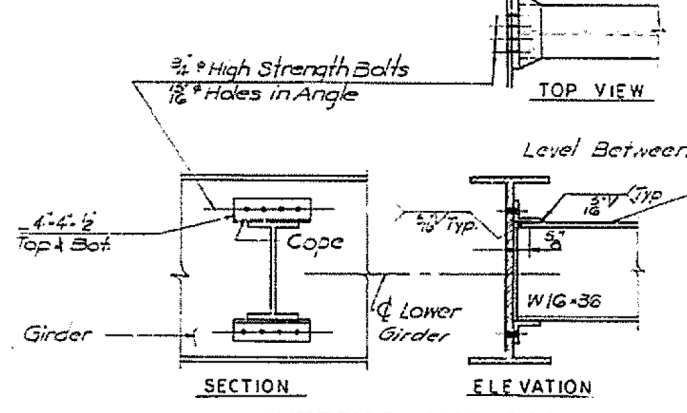
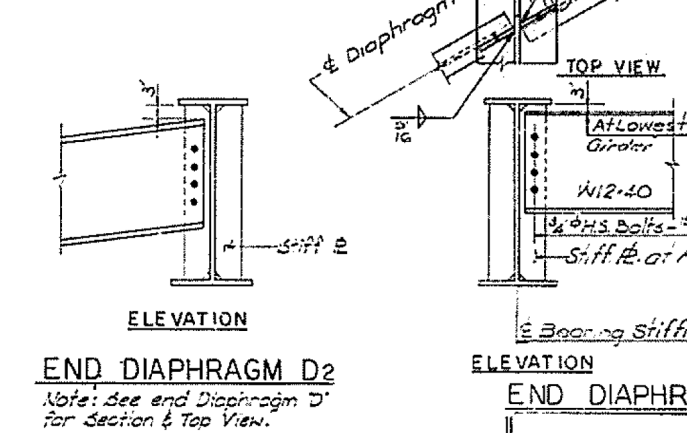
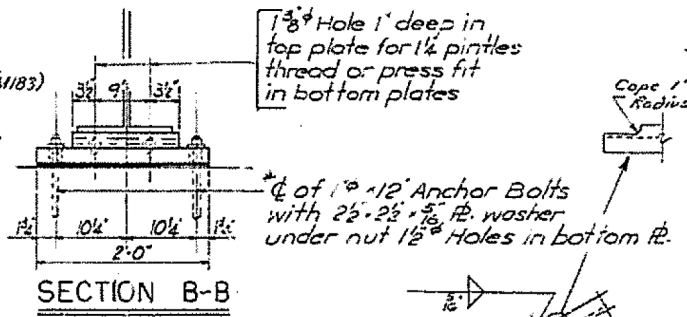
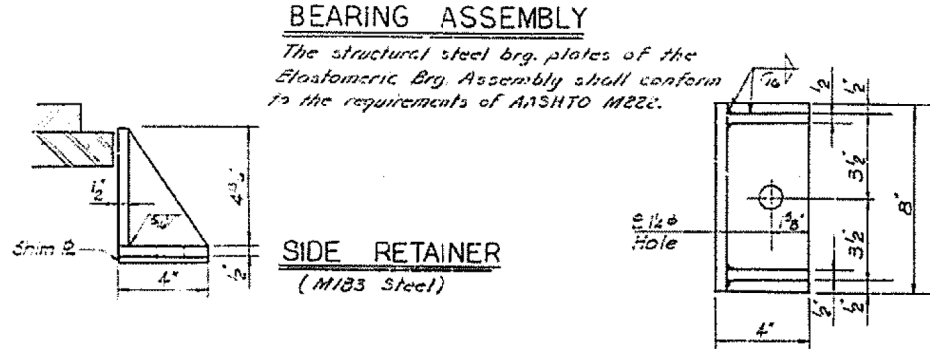
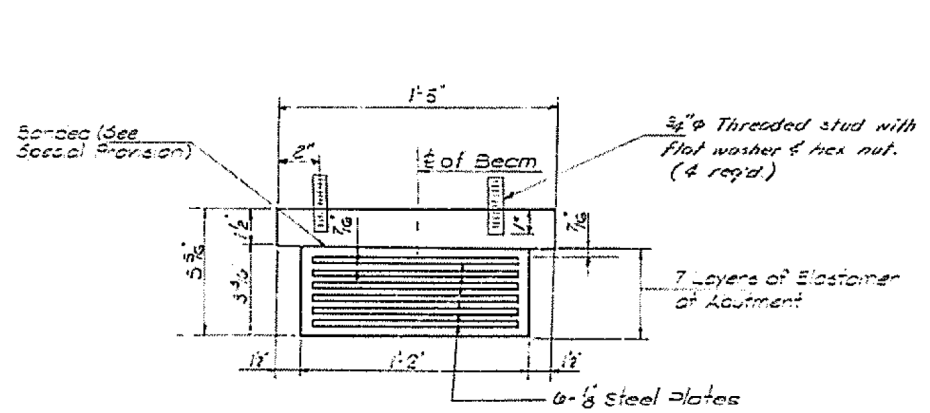
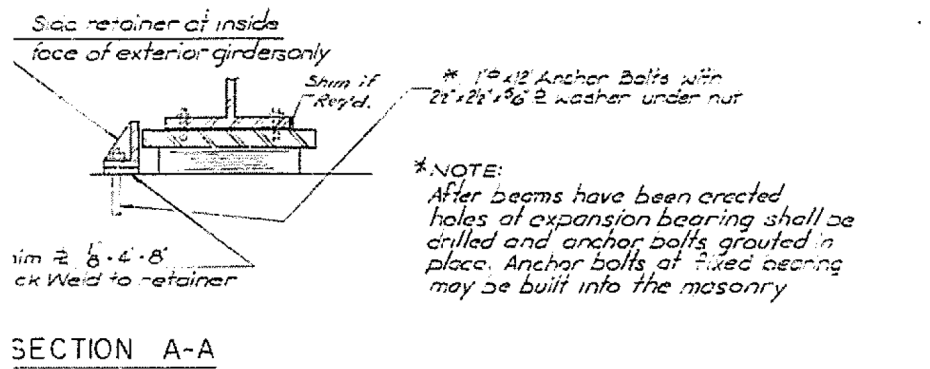
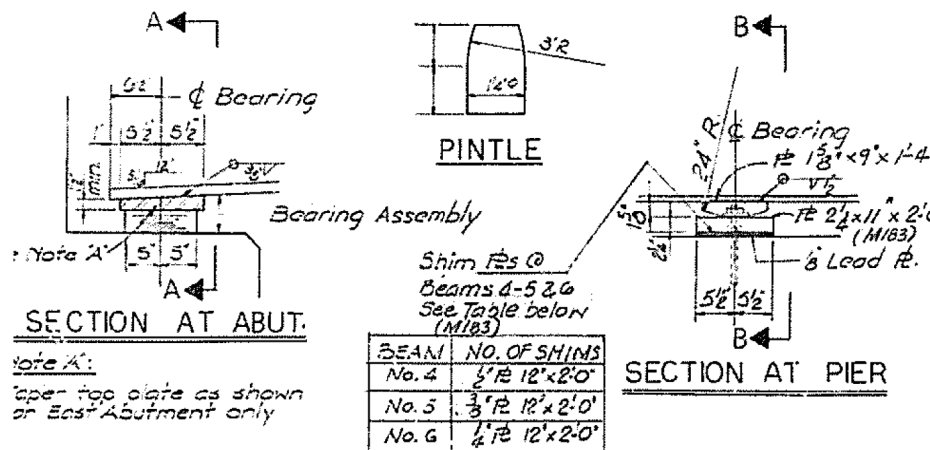
FRAMING PLAN



ELEVATION

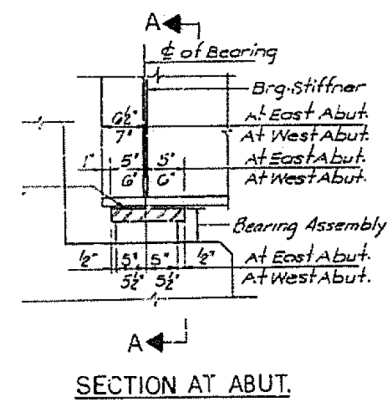
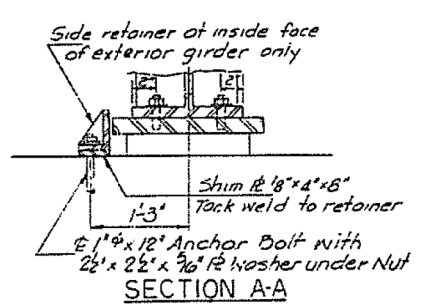
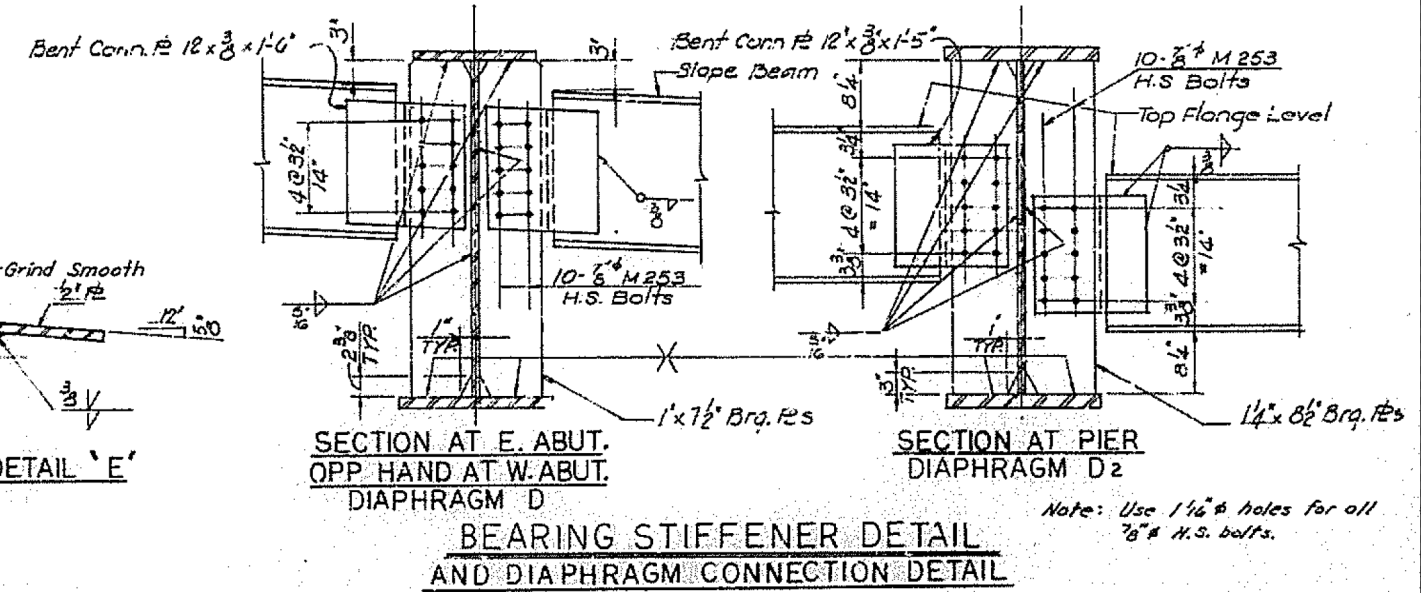
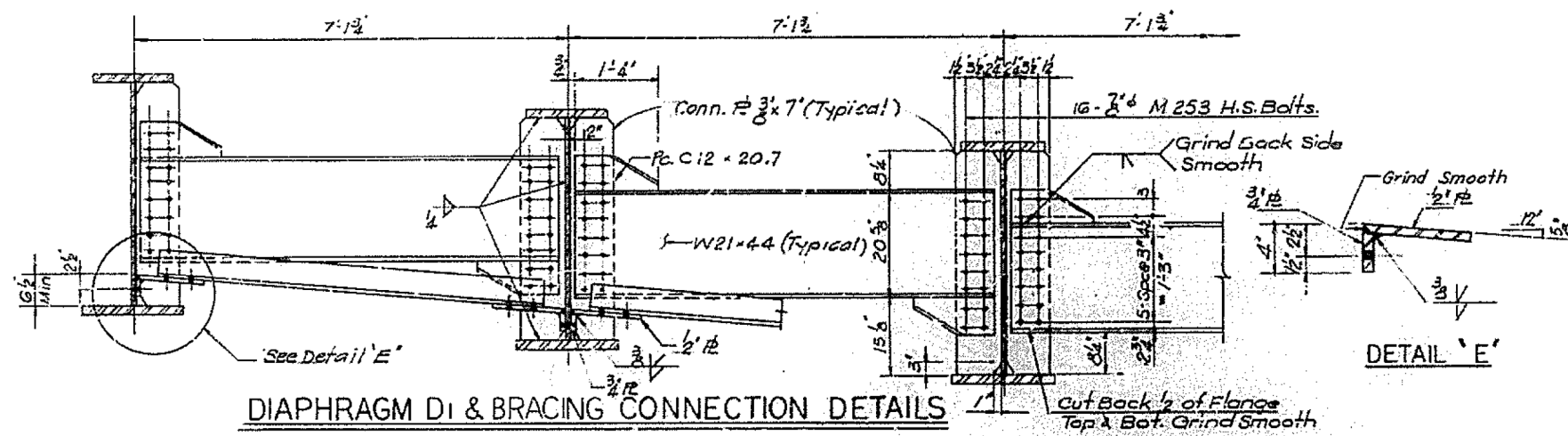
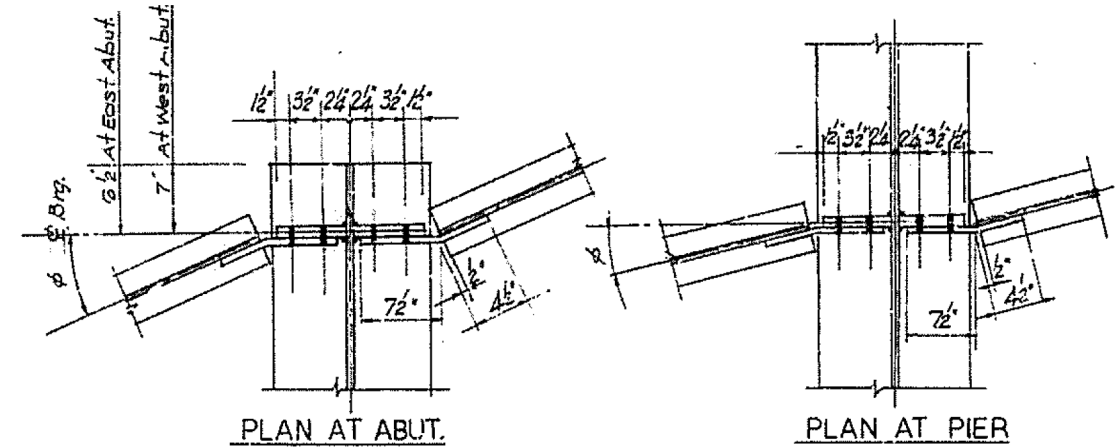
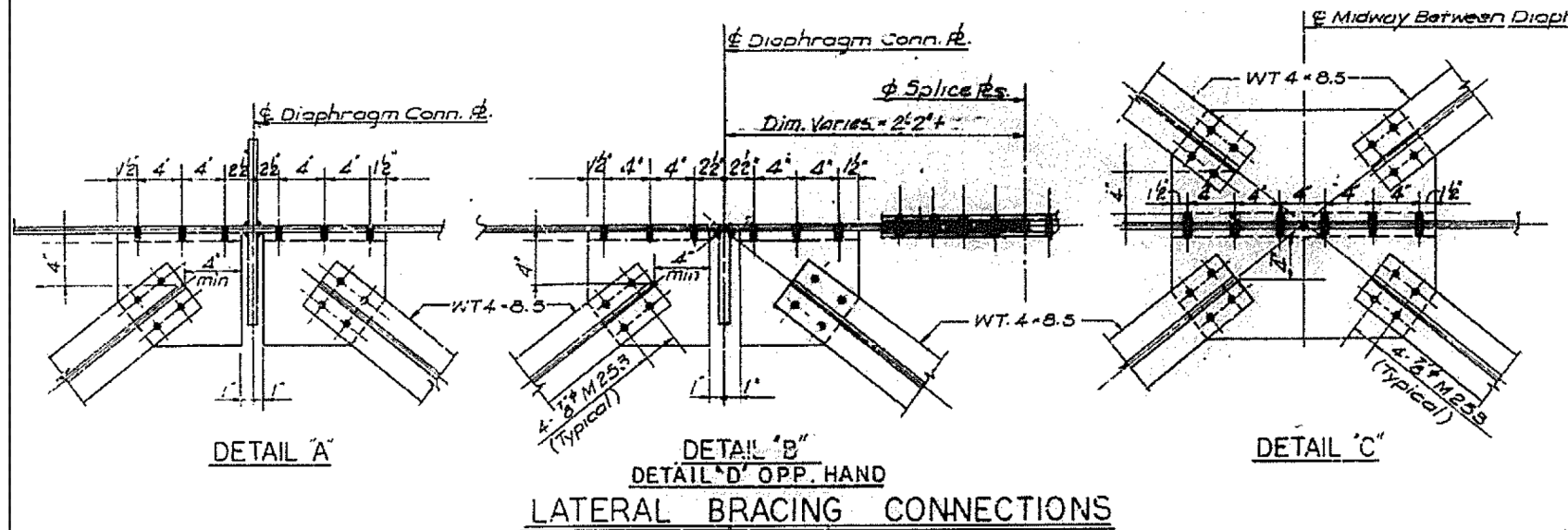
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Default	PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -			1 474(FAI 474) 174(FAI 74) IL6(FAP64)	D4 BRIDGE PAINTING 2017	PEORIA	19	11	
	PLOT DATE = 2/6/2017	CHECKED -	REVISED -			SCALE:	SHEET 11	OF 19 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT
		DATE -	REVISED -								68D20

LOCATION 3 S.N. 072-0148









After beams have been erected, holes at expansion bearing shall be drilled & anchor bolts grouted in place. Anchor bolts at fixed bearing may be built into the masonry.

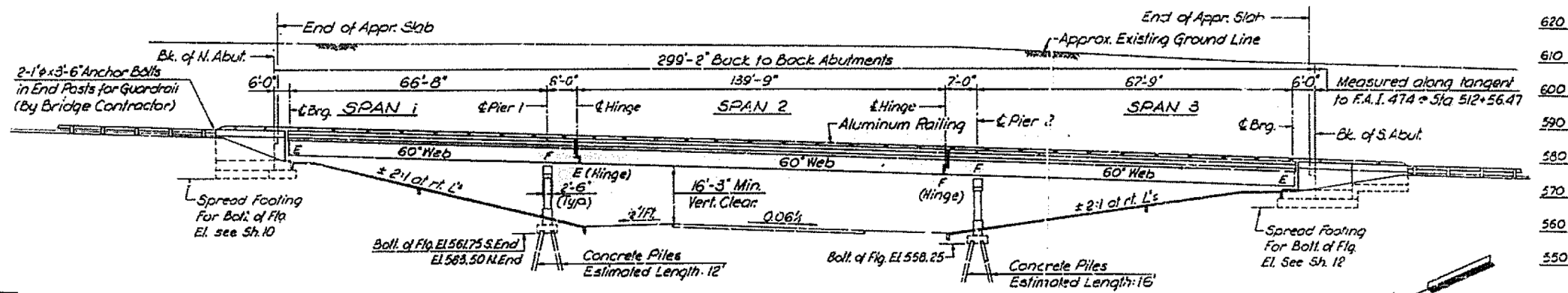
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		DATE -	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

LOCATION 4 STRUCTURAL DETAIL		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		I 474(FAI 474) I 74(FAI 74) IL6(FAP64)	D4 BRIDGE PAINTING 2017	PEORIA	19	15
SCALE:	SHEET 15 OF 19 SHEETS	STA.	TO STA.		68020	

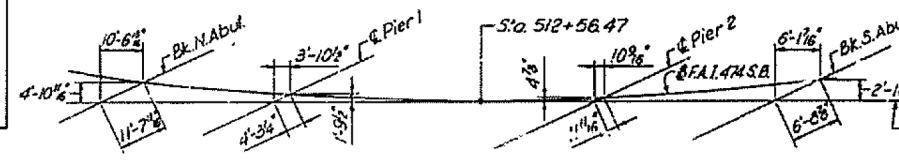
LOCATION 4 STRUCTURAL DETAIL		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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# LOCATION 5 S.N. 072-011



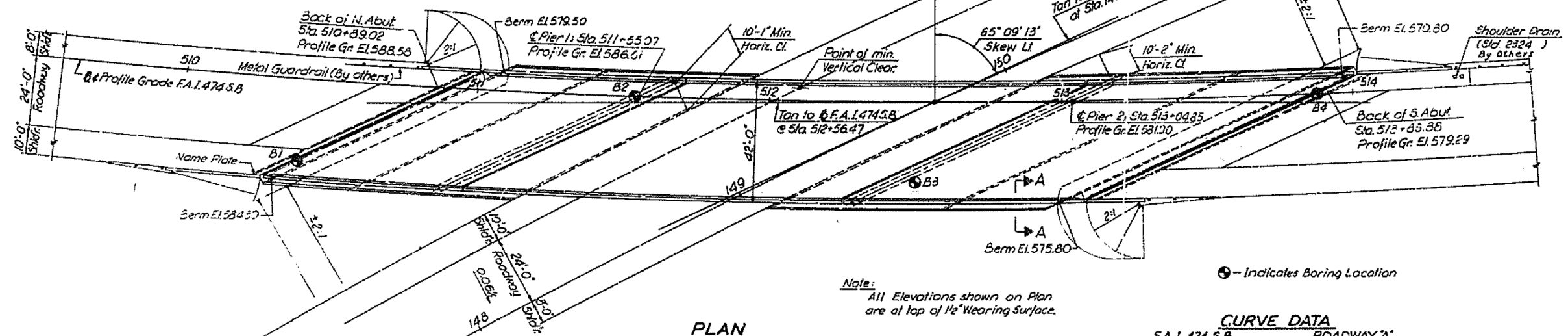
**STATION 512+56.47**  
 BUILT 197 BY  
 STATE OF ILLINOIS  
 F.A.I. RT. 474 SEC. 72-1HB-3  
 F.A. PROJ. I-474-7(42)  
 LOADING HS20 B ALT.

**NAME PLATE**  
 See Standard 2113  
 For Location see Sh. 11



**OFFSET DIAGRAM**

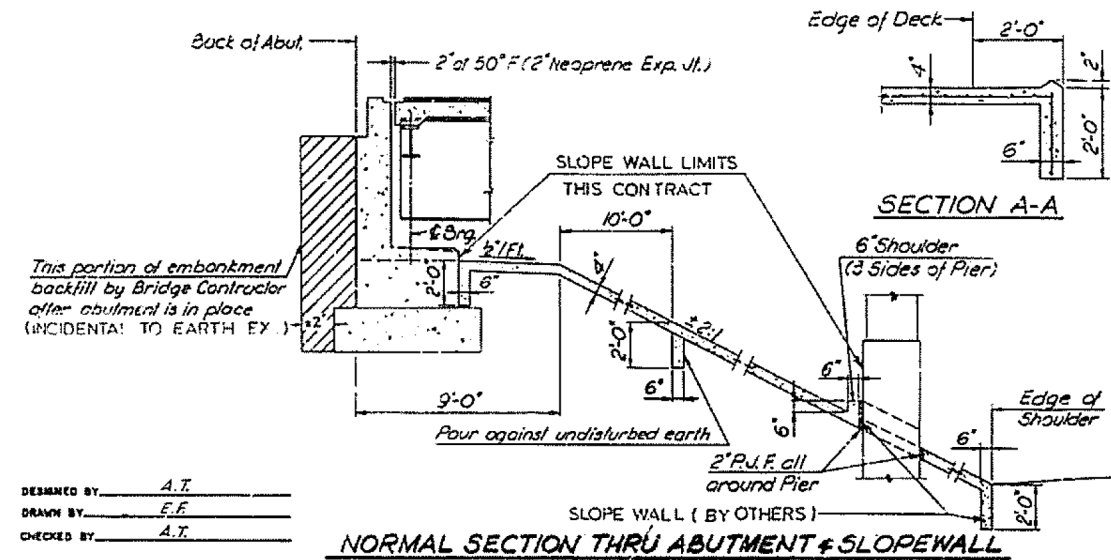
**ELEVATION**



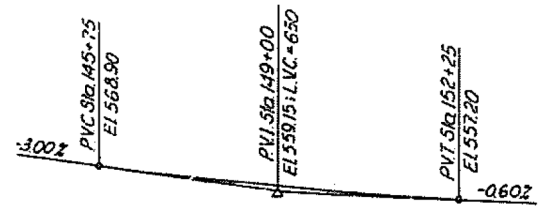
**PLAN**  
 Scale: 1"=20'

Note:  
 All Elevations shown on Plan  
 are at top of 1 1/2" Wearing Surface.

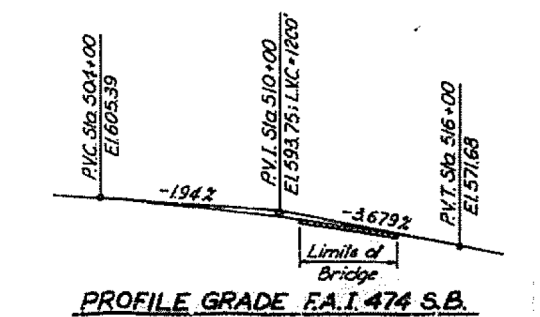
⊙ - Indicates Boring Location



**NORMAL SECTION THRU ABUTMENT & SLOPEWALL**



**PROFILE GRADE ROADWAY 'A'**



**PROFILE GRADE F.A.I. 474 S.B.**

**CURVE DATA**

F.A.I. 474 S.B.	ROADWAY 'A'
$\Delta = 20^\circ 02' 58.9"$	$\Delta = 45^\circ 00' 00"$
$Dc = 2^\circ 00' 00"$	$Dc = 2^\circ 00' 00"$
$R = 2864.789'$	$R = 2864.789'$
$T = 506.421'$	$T = 1186.6345'$
$L = 1002.4853'$	$L = 2250.0001'$
$E = 44.42'$	$E = 236.04'$
$PC Sta. 508+96.7469$	$PC Sta. 137+74.6452$
$PT Sta. 514+03.17$	$PT Sta. 149+61.28$
$PI Sta. 518+49.2322$	$PI Sta. 160+24.6453$
$S.E. = 0.06\%$	$S.E. = 0.06\%$

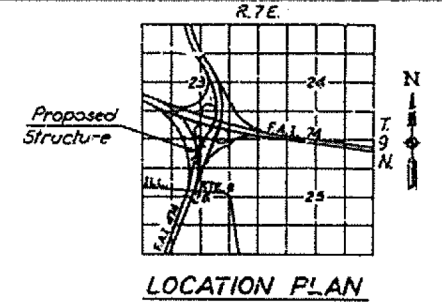
**DESIGN SPECIFICATIONS**  
 1969 A.A.S.H.O. as applicable

**DESIGN STRESSES**

$f_c = 1,200 \text{ psi}$	Deck Slab
$f_c = 1,400 \text{ psi}$	Substructure, Curb & Parapet
$n = 10$	
$f_s = 20,000 \text{ psi}$	Structural Steel
$f_s = 20,000 \text{ psi}$	Reinforcement
$v = 75 \text{ psi}$	Footings

L.L. Deflection:  $\frac{L}{200}$

**LOADING**  
 HS 20-44 and Alternate  
 25% Future Wearing Surface



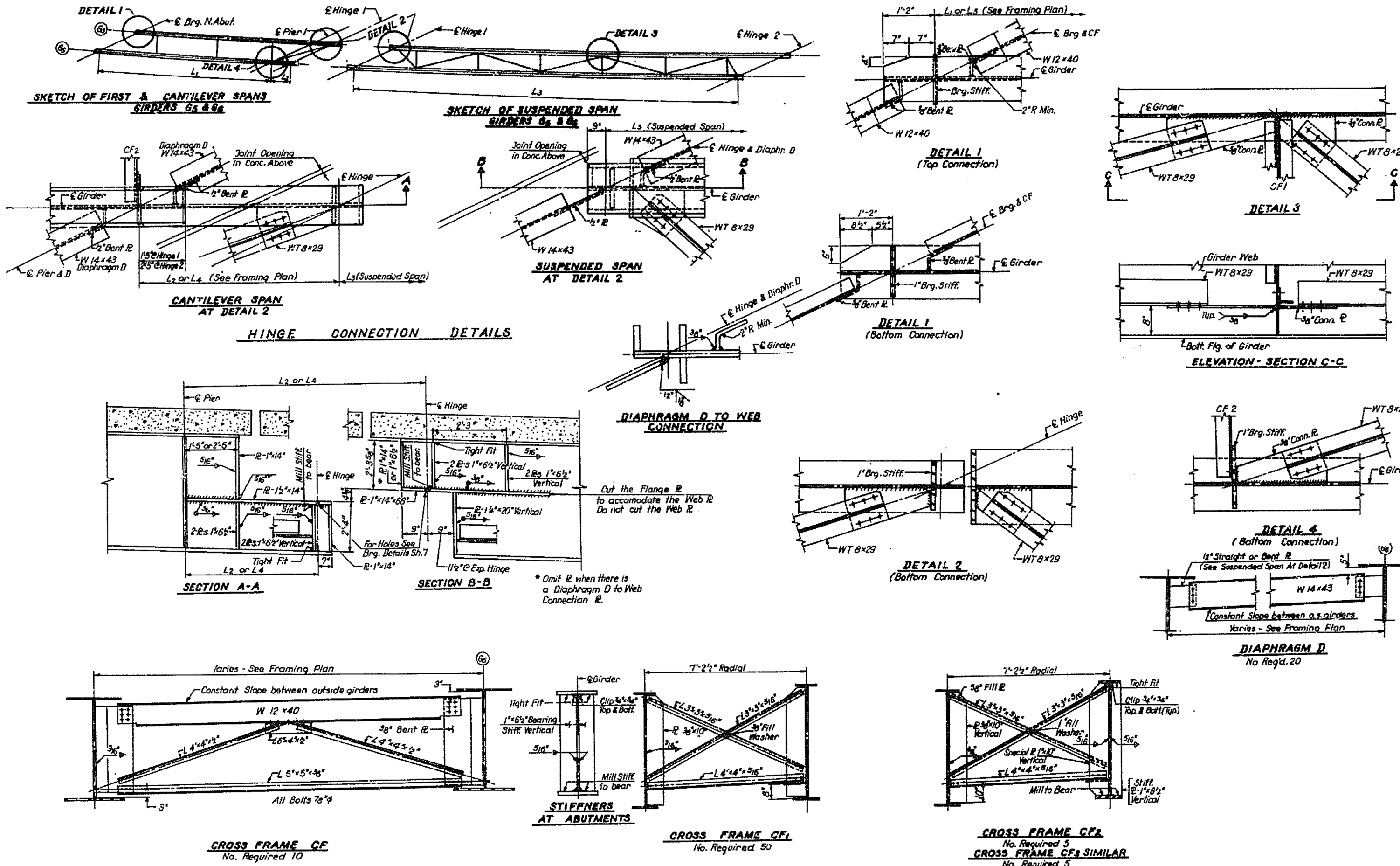
**LOCATION PLAN**

**GENERAL NOTES**

- ALL REINFORCEMENT BARS SHALL BE LAPPED 24 DIAMETERS UNLESS OTHERWISE SHOWN.
- FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4" Ø; OPEN HOLES 13/16" Ø, UNLESS OTHERWISE NOTED.
- CALCULATED WEIGHT OF STRUCTURAL STEEL = 572,250 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 CROSS FRAMES OVER SUPPORTS.
- SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" X 6" MESH, WEIGHTING 58# PER 100 SQ. FT.
- THE CONTRACTOR SHALL DRIVE ONE (1) CONCRETE TEST PILE IN A PERMANENT LOCATION AT PIER 2 AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF PILES.
- 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 SURFACES TO WHICH 6" L TAR INTERLAYER PROTECTIVE COAT IS TO BE APPLIED.
- SLOPE WALL EXCAVATION SHALL BE INCIDENTAL TO STRUCTURE EXCAVATION.





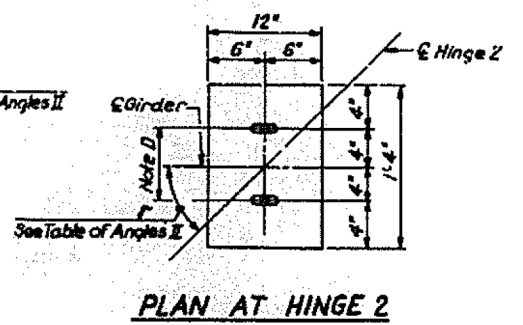
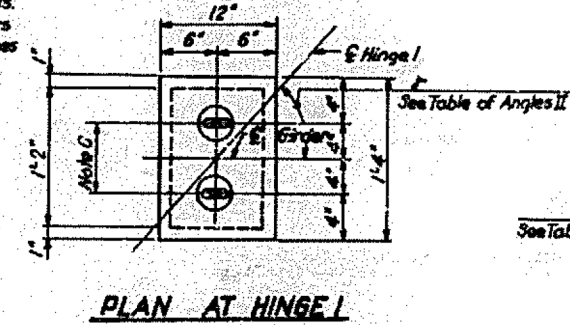
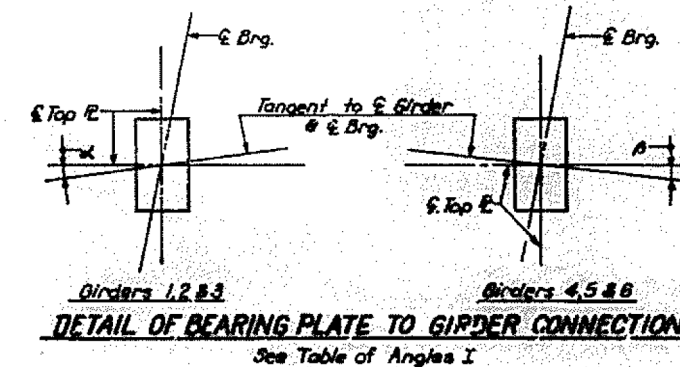
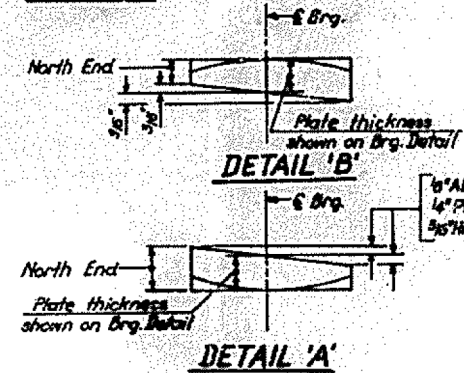
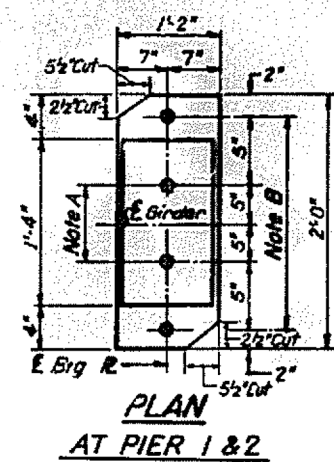
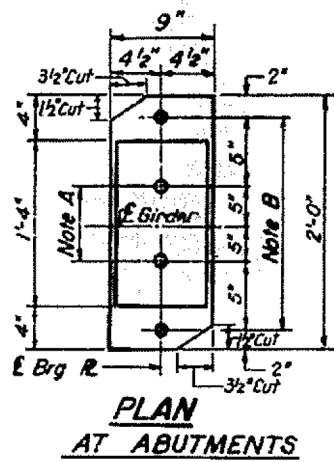
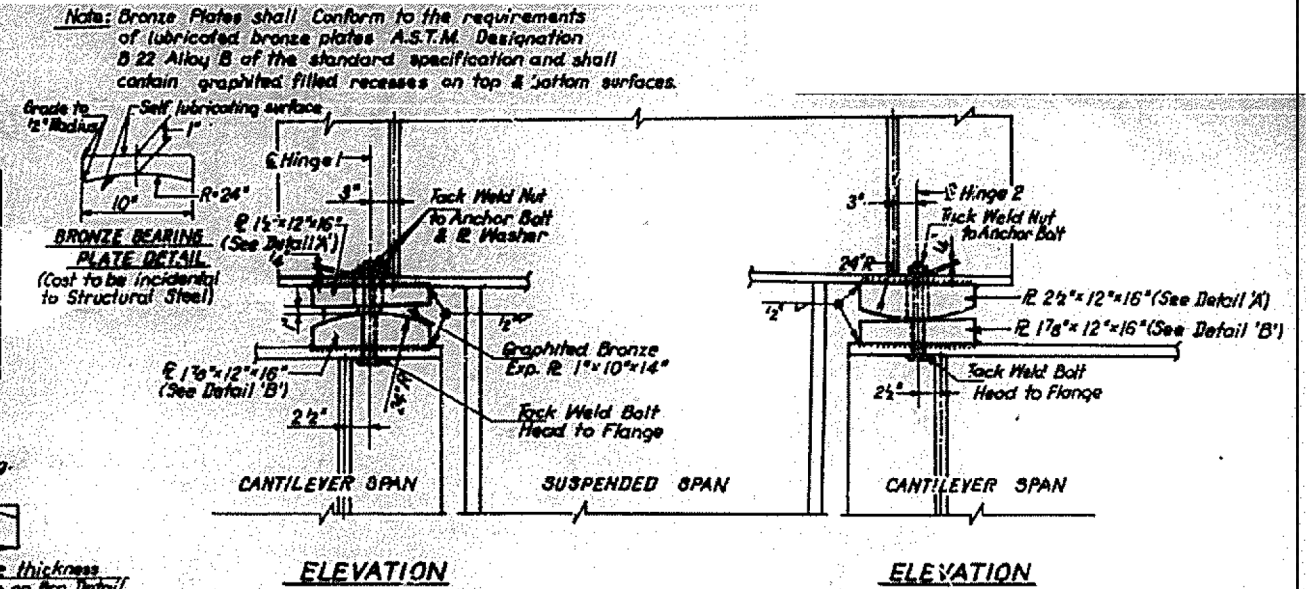
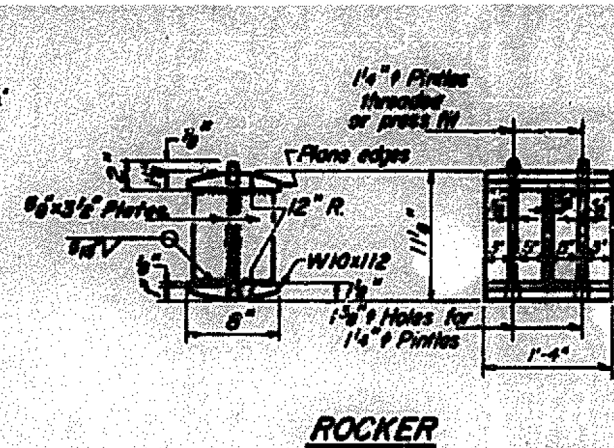
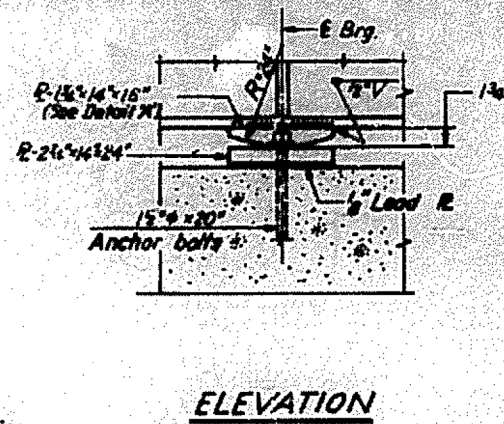
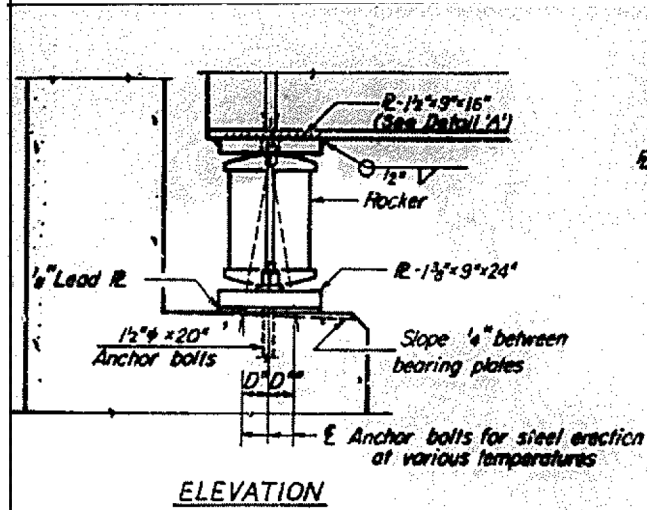


Cut the Flange R to accommodate the Web R. Do not cut the Web R.

\* Omit R when there is a Diaphragm D to Web Connection R.

FILE NAME = 68D20 Painting 2017.dgn	USER NAME = keathbr	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	LOCATION 5 CROSS FRAME DETAIL	F.A. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
Default	PLOT SCALE = 100.0000' / in.	DRAWN -	REVISED -			SCALE:	SHEET 18 OF 19 SHEETS	STA.	TO STA.	19	18	
	PLOT DATE = 2/6/2017	CHECKED -	REVISED -									
		DATE -	REVISED -									

• I 474(FAI 474) (74(FAI 74) IL6(FAP64)	ILLINOIS FED. AID PROJECT
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**NOTE C**  
2 3/4 inch Holes in Top R & Girder Flange;  
1 1/2 inch x 2 inch Slotted Holes in Bronze R &  
1 3/8 inch Holes in Bottom R & Girder Flange  
For 3/4 inch x 9 inch Anchor Bolts with 1/2 inch x 2 inch x 6 inch  
Washer & Hex Nut.

**NOTE D**  
1 1/2 inch x 2 inch Slotted Holes in Top R & Girder Flange,  
1 3/8 inch Holes in Bottom R & Girder Flange for 3/4 inch x 9 inch  
Anchor Bolts & Hex Nuts.

**TABLE OF ANGLES II**

Girder	Hinge 1 Angle $\phi$	Hinge 2 Angle $\phi$
1	26° 36' 05"	23° 50' 33"
2	26° 53' 19"	24° 05' 58"
3	27° 10' 14"	24° 20' 04"
4	27° 28' 55"	24° 47' 50"
5	27° 43' 20"	25° 06' 17"
6	27° 59' 33"	25° 24' 26"

**BEARING ASSEMBLY DETAILS AT HINGES**