

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
BRIDGE PAINTING**

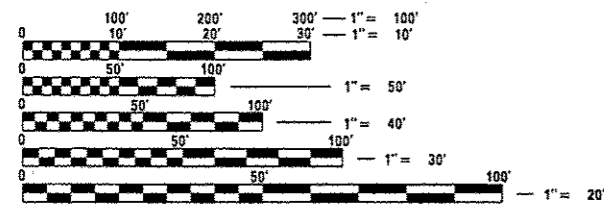
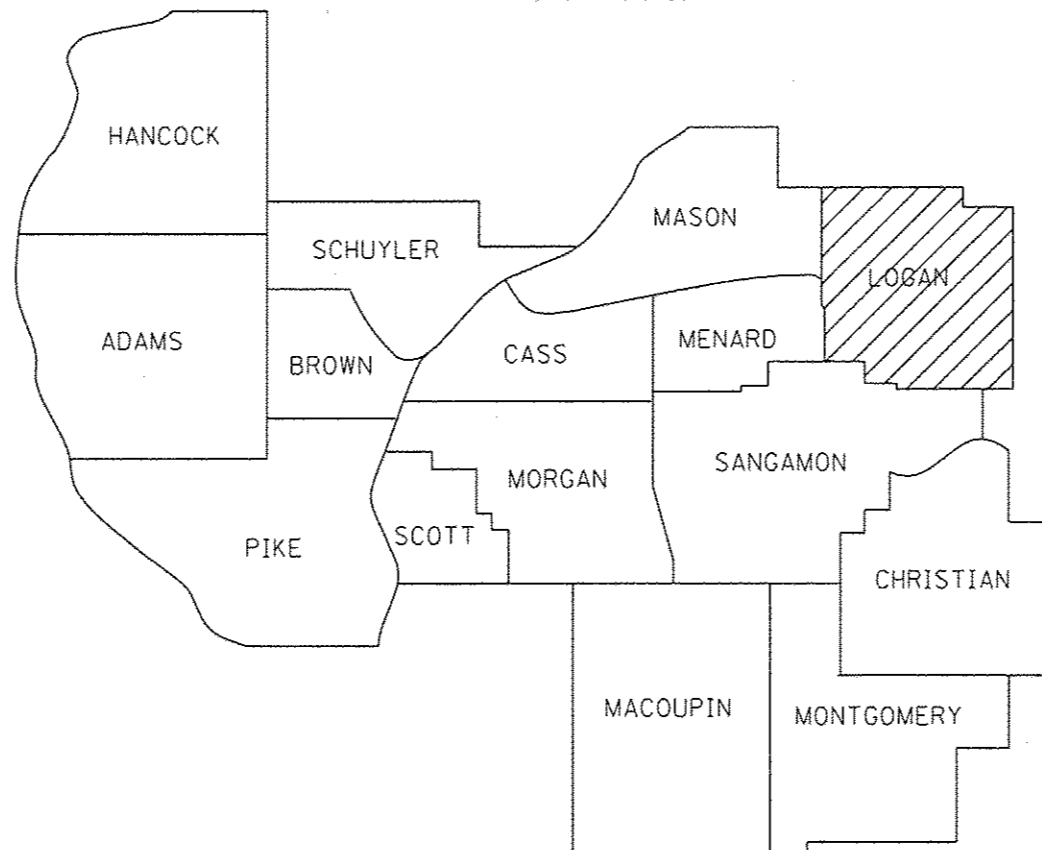
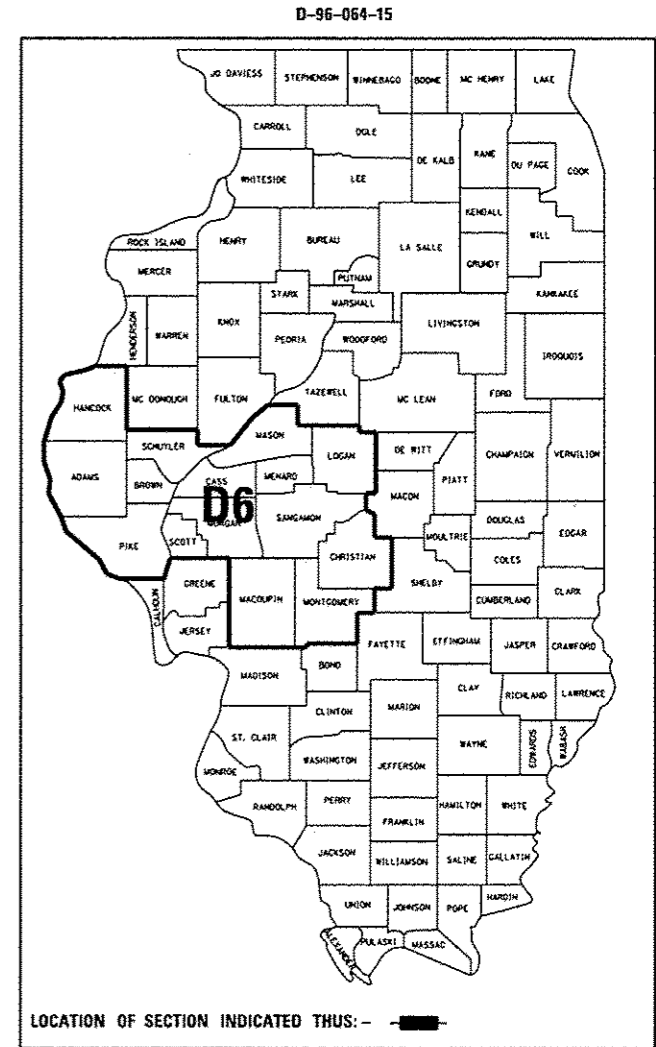
VARIOUS ROUTES
SECTION D6 BDGE PAINTING 2016

BRIDGE PAINTING
LOGAN COUNTY

C-96-064-15

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR. D6 BDGE PAINTING 2016		LOGAN	28	1
ILLINOIS		CONTRACT NO. 72H87		

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 – BRANDON DUDLEY (217) 785-9290
BRIDGE INSPECTION ENGINEER – DAVE COPENBARGER (217) 785-5306

GROSS LENGTH = NA
NET LENGTH = NA

CONTRACT NO. 72H87

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED July 8 2015
Raymond P. [Signature]
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Aug 14 2015
John D. Baranzelli, P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

Aug 14 2015
Omer Osman, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

INDEX OF SHEETS

- 1 COVER SHEET
- 2 INDEX, STANDARDS, GENERAL NOTES, SIGNATURES, & SUMMARY OF QUANTITIES
- 3 BRIDGE LOCATION MAP
- 4-5 TRAFFIC CONTROL DETAILS
- 6-28 EXISTING BRIDGE PLANS (FOR INFORMATION ONLY)

HIGHWAY STANDARDS

- 701001-02
- 701006-05
- 701101-04
- 701106-02
- 701201-04
- 701301-04
- 701400-08
- 701401-09
- 701423-08
- 701446-06
- 701901-04

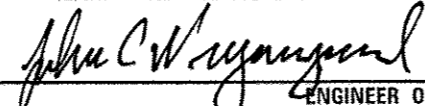
GENERAL NOTES:


1. STRUCTURES TO BE PAINTED SHALL BE AS SPECIFIED ON THE PLAN SHEETS. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". THE AREAS TO BE PAINTED ON EACH BRIDGE SHALL BE AS SPECIFIED ON THE PLAN SHEETS. ALL AREAS TO BE PAINTED SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING PER SSPC SP 10. ALL EXISTING STEEL CLEANED SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. THE COLOR OF THE FINAL FINISH COAT FOR EACH BRIDGE SHALL BE AS SPECIFIED ON THE PLAN SHEETS. THE COLORS SPECIFIED ON THE PLAN SHEETS SHALL CORRESPOND WITH THE COLOR SPECIFICATIONS SHOWN IN THE TABLE ON THIS PAGE.
2. THE USE OF AIR MONITORS WILL BE REQUIRED AT STRUCTURES SPECIFIED ON THE PLAN SHEETS. A MINIMUM OF 2 MONITORS WILL BE REQUIRED AT EACH SPECIFIED BRIDGE TO MONITOR ABRASIVE BLASTING OPERATIONS AT THOSE SITES. SEE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES".
3. THE "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES" PAY ITEMS SHALL BE APPLICABLE AS CALLED OUT IN THE PLAN NOTES FOR EACH INDIVIDUAL STRUCTURE.
4. THE SSPC-OP-1 AND SSPC-OP2 PAINTING CONTRACTOR CERTIFICATIONS WILL BE REQUIRED FOR THESE BRIDGES.
5. CARE SHALL BE TAKEN NOT TO DAMAGE RUBBER BEARING OR JOINT COMPONENTS DURING BLASTING AND CLEANING OPERATIONS. ANY DAMAGE TO THESE COMPONENTS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
6. UPON COMPLETION OF PAINTING OPERATIONS AT EACH LOCATION, THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM PIER OR ABUTMENT CAPS UPON WHICH PAINTING OPERATIONS TOOK PLACE. FINAL CLEANUP SHALL BE CONSIDERED INCIDENTAL TO THE PAINT PAY ITEM FOR THE RESPECTIVE LOCATION. THE ENGINEER SHALL HAVE THE RIGHT TO WITHOLD PAYMENT UNTIL SATISFACTORY CLEANUP IS ACHIEVED.


COLOR SPECIFICATION TABLE	
COLOR SPECIFIED	COLOR SPECIFICATION
GRAY	MUNSELL 5B 7/1
GREEN	MUNSELL 7.5G 4/8

WATER FILLED BARRIER SCHEDULE	
LOCATION	LENGTH
EB IL 10 @ SN 054-0046 & SN 054-0047	400'
WB IL 10 @ SN 054-0046 & SN 054-0047	400'
NB I-55 @ SN 054-0045	400'
SB I-55 @ SN 054-0045	400'

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
DISTRICT 6

EXAMINED JULY 6th 20 15

 ENGINEER OF OPERATIONS

EXAMINED June 29 20 15

 ENGINEER OF PROJECT IMPLEMENTATION

EXAMINED July 1 20 15

 ENGINEER OF PROGRAM DEVELOPMENT

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTR. CODE	
				100% STATE	
				BRIDGE 0014	VARIOUS
67100100	MOBILIZATION	L SUM	1	1	
70100325	TRAFFIC CONTROL AND PROTECTION, STANDARD 701423	EACH	2	2	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1	1	
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1	1	
70100815	TRAFFIC CONTROL AND PROTECTION, STANDARD 701446	L SUM	1	1	
70800105	TEMPORARY WATER FILLED BARRIER	FOOT	1200	1200	
X7010410	SPEED DISPLAY TRAILER	CAL MO	2	2	
X7200201	WIDTH RESTRICTION SIGNING	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	
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	
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1	
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1	1	
Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO. 3	L SUM	1	1	
Z0010504	CLEANING AND PAINTING STEEL BRIDGE NO. 4	L SUM	1	1	
Z0010505	CLEANING AND PAINTING STEEL BRIDGE NO. 5	L SUM	1	1	

CLEANING AND PAINTING STEEL BRIDGE NO. 1, SN 054-0009
 IL 10 OVER SUGAR CREEK, 3.4 MILES EAST OF NEW HOLLAND, 40.1763°N, 89.5195° W

WORK SHALL CONSIST OF BLASTING AND PAINTING ALL SURFACES OF ALL FASCIA BEAMS AND ALL BEAM ENDS, END DIAPHRAGMS OR CROSS FRAMES, AND STEEL COMPONENTS OF BEARINGS AT ALL SUBSTRUCTURE UNITS. BEAM END PAINTING (74 ENDS) SHALL EXTEND 5' FROM THE ENDS OF THE BEAMS LONGITUDINALLY. THE COLOR OF THE FINAL FINISH COAT FOR THE OUTSIDE AND BOTTOM OF THE FASCIA BEAMS SHALL BE GREEN. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR SURFACES SHALL BE GRAY.

CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES SHALL BE UTILIZED. AIR MONITORS WILL BE REQUIRED.

CLEANING AND PAINTING STEEL BRIDGE NO. 2, SN 054-0046
 I-55 SB OVER IL 10, I-55/IL 10 INT. WEST OF LINCOLN, 40.1599°N, 89.4176° W

WORK SHALL CONSIST OF BLASTING AND PAINTING THE OUTER HALF AND BOTTOM OF THE BOTTOM FLANGES ON BOTH FASCIA BEAMS. ALSO INCLUDED SHALL BE ALL BEAM ENDS, END DIAPHRAGMS OR CROSS FRAMES, AND STEEL COMPONENTS OF BEARINGS AT BOTH ABUTMENTS. BEAM END PAINTING (20 ENDS) SHALL EXTEND 10' FROM THE ENDS OF THE BEAMS LONGITUDINALLY. THE COLOR OF THE FINAL FINISH COAT FOR THE OUTSIDE AND BOTTOM OF THE FASCIA BEAMS SHALL BE GREEN. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR SURFACES SHALL BE GRAY.

CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES SHALL BE UTILIZED. AIR MONITORS WILL BE REQUIRED.

CLEANING AND PAINTING STEEL BRIDGE NO. 3, SN 054-0047
 I-55 NB OVER IL 10, I-55/IL 10 INT. WEST OF LINCOLN, 40.1599°N, 89.4176° W

WORK SHALL CONSIST OF BLASTING AND PAINTING THE OUTER HALF AND BOTTOM OF THE BOTTOM FLANGES ON BOTH FASCIA BEAMS. ALSO INCLUDED SHALL BE ALL BEAM ENDS, END DIAPHRAGMS OR CROSS FRAMES, AND STEEL COMPONENTS OF BEARINGS AT BOTH ABUTMENTS. BEAM END PAINTING (18 ENDS) SHALL EXTEND 10' FROM THE ENDS OF THE BEAMS LONGITUDINALLY. THE COLOR OF THE FINAL FINISH COAT FOR THE OUTSIDE AND BOTTOM OF THE FASCIA BEAMS SHALL BE GREEN. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR SURFACES SHALL BE GRAY.

CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES SHALL BE UTILIZED. AIR MONITORS WILL BE REQUIRED.

CLEANING AND PAINTING STEEL BRIDGE NO. 4, SN 054-0045
 CH E52 OVER I-55 NB, 0.8 MILES SOUTH OF I-55/IL 10 INT, 40.1470°N, 89.4178° W

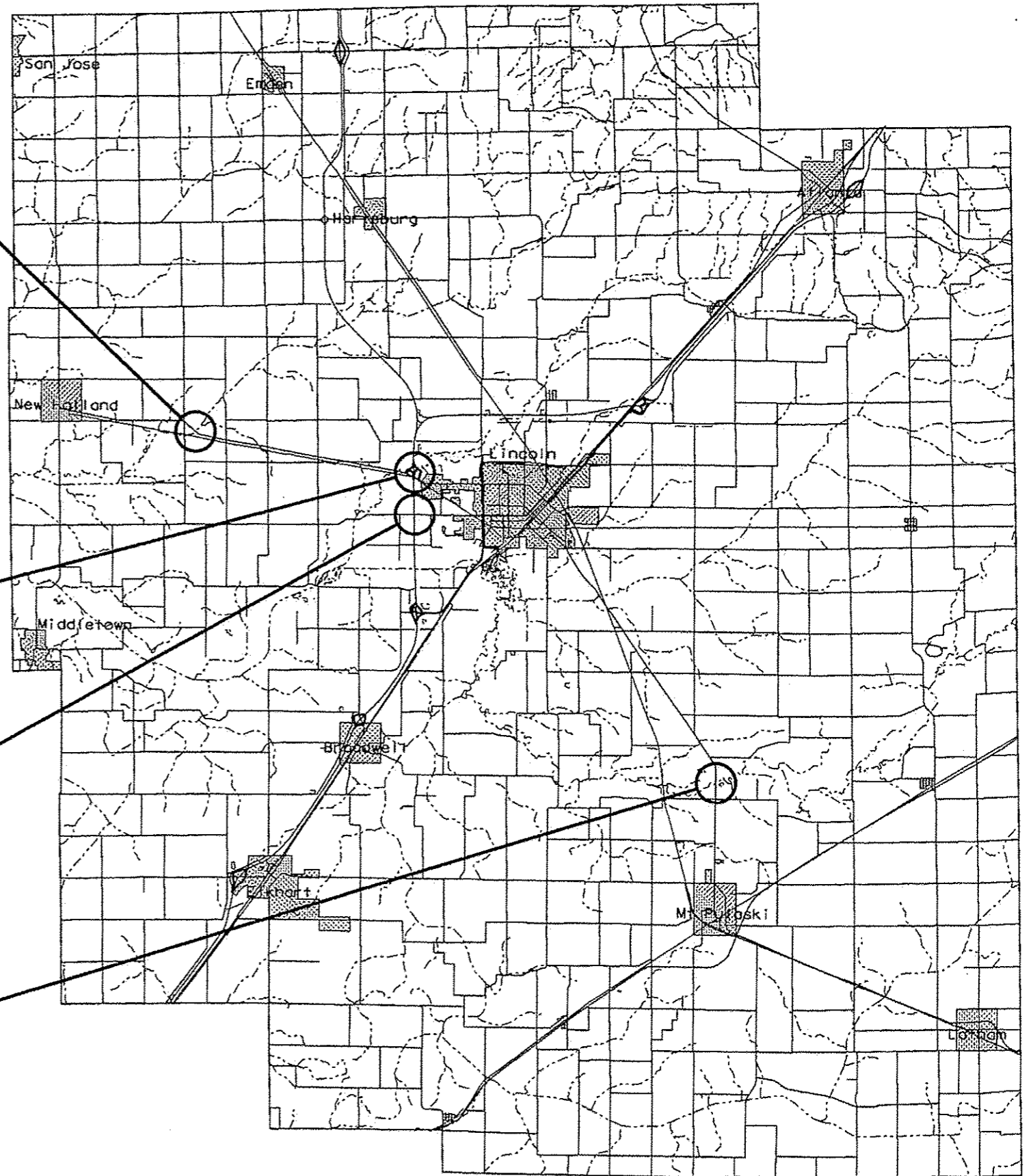
WORK SHALL CONSIST OF BLASTING AND PAINTING ALL STRUCTURAL STEEL. THE COLOR OF THE FINAL FINISH COAT FOR THE OUTSIDE AND BOTTOM OF THE FASCIA BEAMS SHALL BE GREEN. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR SURFACES SHALL BE GRAY.

CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES SHALL BE UTILIZED. AIR MONITORS WILL BE REQUIRED.

CLEANING AND PAINTING STEEL BRIDGE NO. 5, SN 054-0021
 IL 121 OVER SALT CREEK, 3.9 MILES NORTH OF IL 54, 40.0544°N, 89.2820° W

WORK SHALL CONSIST OF BLASTING AND PAINTING ALL BEAM ENDS, END DIAPHRAGMS OR CROSS FRAMES, AND STEEL COMPONENTS OF BEARINGS AT BOTH ABUTMENTS AND PIERS 2 AND 5. BEAM END PAINTING (36 ENDS) SHALL EXTEND 5' FROM THE ENDS OF THE BEAMS LONGITUDINALLY. THE COLOR OF THE FINAL FINISH COAT FOR THE OUTSIDE AND BOTTOM OF THE FASCIA BEAMS SHALL BE GREEN. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR SURFACES SHALL BE GRAY.

CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES SHALL BE UTILIZED. AIR MONITORS WILL BE REQUIRED.



LOGAN COUNTY

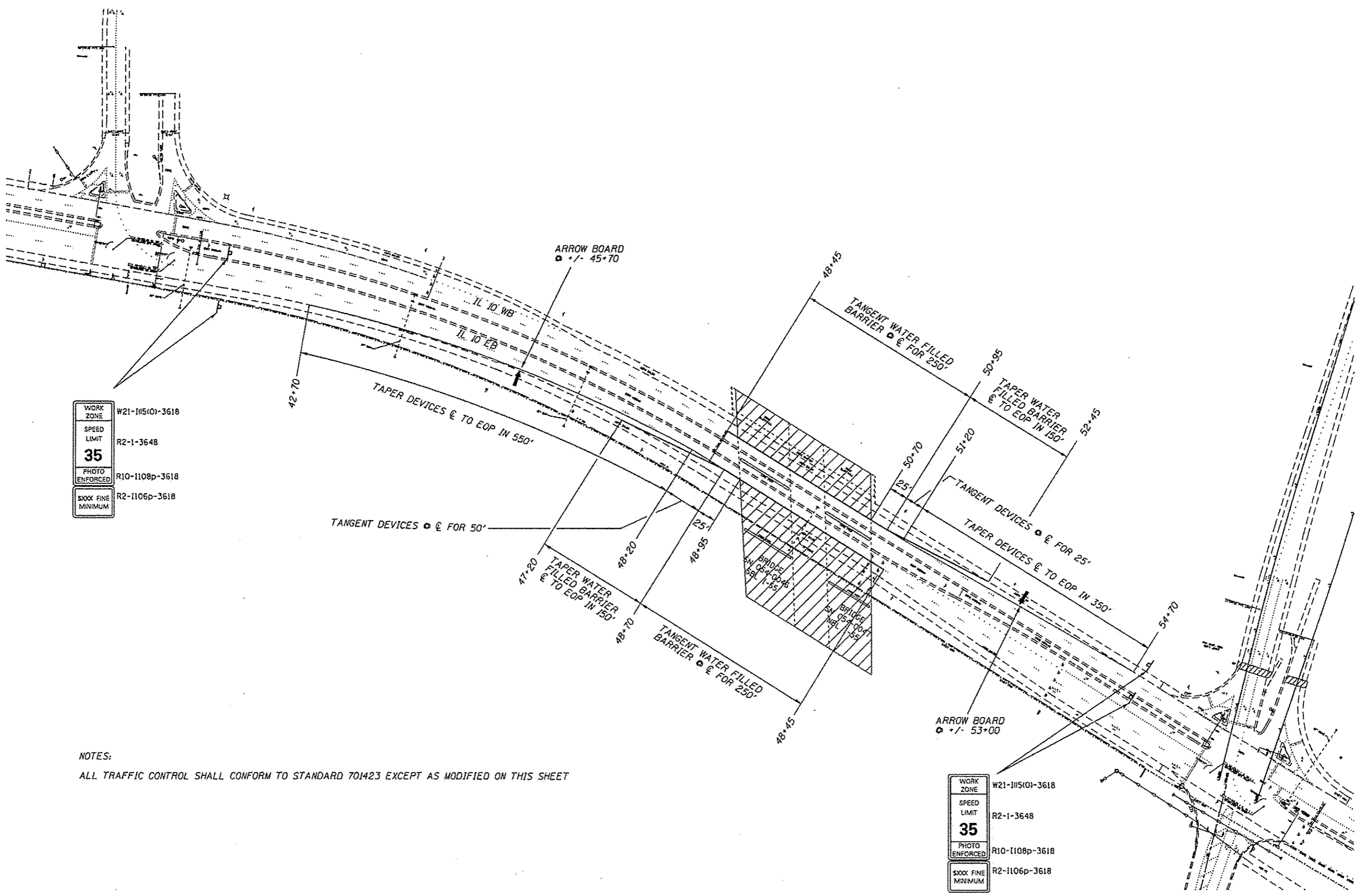
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

LOCATION MAP

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	06 BOGE PAINTING 2016	LOGAN	28	3
			CONTRACT NO. 72H87	
ILLINOIS FED. AID PROJECT				

FILE NAME *	USER NAME *	DESIGNED -	REVISED -
OPERATIONS\Bridges\BridgesPlans\CAD\72H87 - Logan County paint FY16\plan sheets.dgn	dudlmgjm	DRAWN -	REVISED -
Default		CHECKED -	REVISED -
		DATE -	REVISED -

SCALE: SHEET OF SHEETS STA. TO STA.

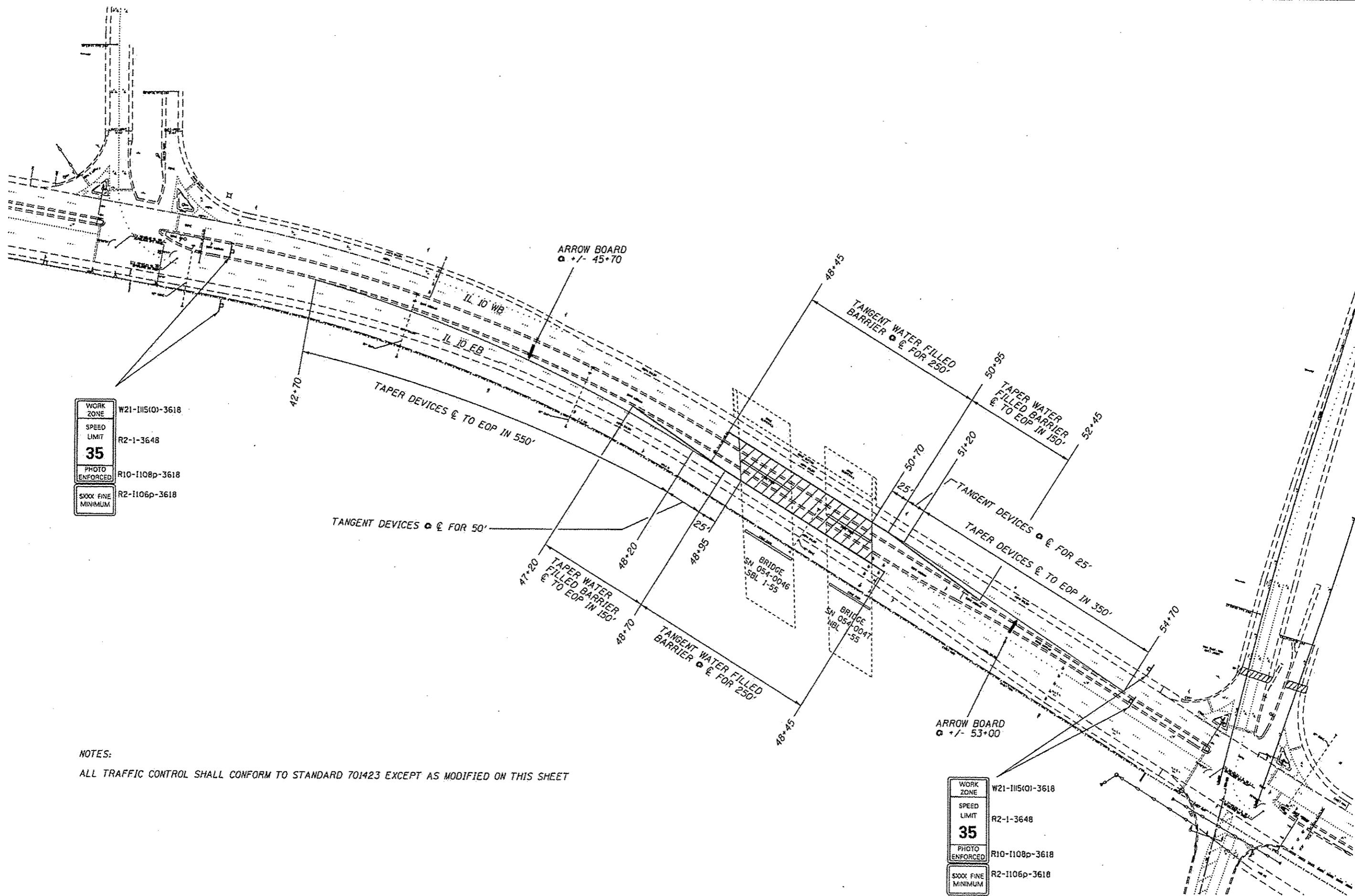


WORK ZONE W21-115(O)-3618
 SPEED LIMIT R2-1-3648
35
 PHOTO ENFORCED R10-1108p-3618
 \$XXX FINE MINIMUM R2-1106p-3618

NOTES:
 ALL TRAFFIC CONTROL SHALL CONFORM TO STANDARD 701423 EXCEPT AS MODIFIED ON THIS SHEET

WORK ZONE W21-115(O)-3618
 SPEED LIMIT R2-1-3648
35
 PHOTO ENFORCED R10-1108p-3618
 \$XXX FINE MINIMUM R2-1106p-3618

FILE NAME *	USER NAME * dudleybm	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE 1 TRAFFIC CONTROL DETAIL SN 054-0046 & 0047		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
D:\OPERATIONS\Bridges\BridgesPlans\CAD\72	H07 - Logan County point FY16\plansheet.dgn	DRAWN -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	VAR.	D6 BOGE PAINTING 2016	LOGAN	28	4
Default	PLOT SCALE * 1/8"=1'-0"	CHECKED -	REVISED -												
	PLOT DATE * 7/7/2015	DATE -	REVISED -												



WORK ZONE W21-1115(0)-3618
 SPEED LIMIT R2-1-3648
35
 PHOTO ENFORCED R10-1108p-3618
 SIXX FINE MINIMUM R2-1106p-3618

NOTES:
 ALL TRAFFIC CONTROL SHALL CONFORM TO STANDARD 701423 EXCEPT AS MODIFIED ON THIS SHEET

WORK ZONE W21-1115(0)-3618
 SPEED LIMIT R2-1-3648
35
 PHOTO ENFORCED R10-1108p-3618
 SIXX FINE MINIMUM R2-1106p-3618

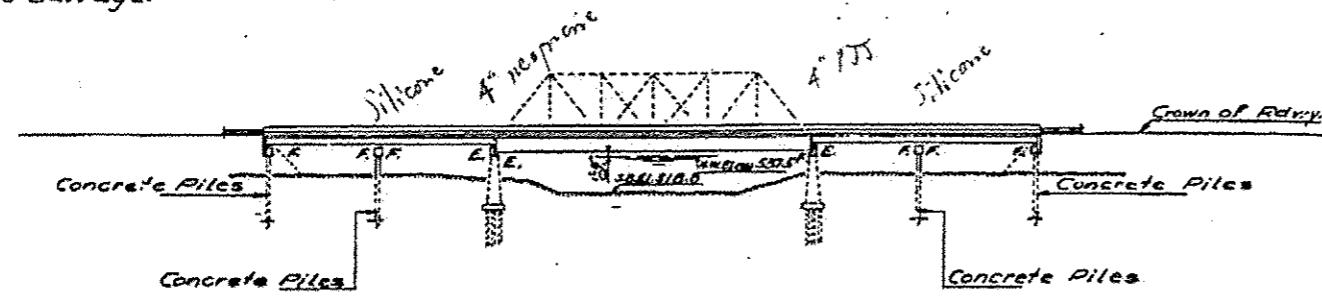
FILE NAME *	USER NAME * dudley/m	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE 2 TRAFFIC CONTROL DETAIL SN 054-0046 & 0047		F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.				
OPERATIONS\Bridges\BridgesPlans_CAD\7	H07 - Logan County paint FY16\plansheet.dgn	DRAWN -	REVISED -		SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	VAR.	06 BDGE PAINTING 2016	LOGAN	28	5
Default	PLOT SCALE * 100.0000 1 / in.	CHECKED -	REVISED -												
	PLOT DATE * 7/7/2015	DATE -	REVISED -												
											CONTRACT NO. 72H87		ILLINOIS FED. AID PROJECT		

054-0009

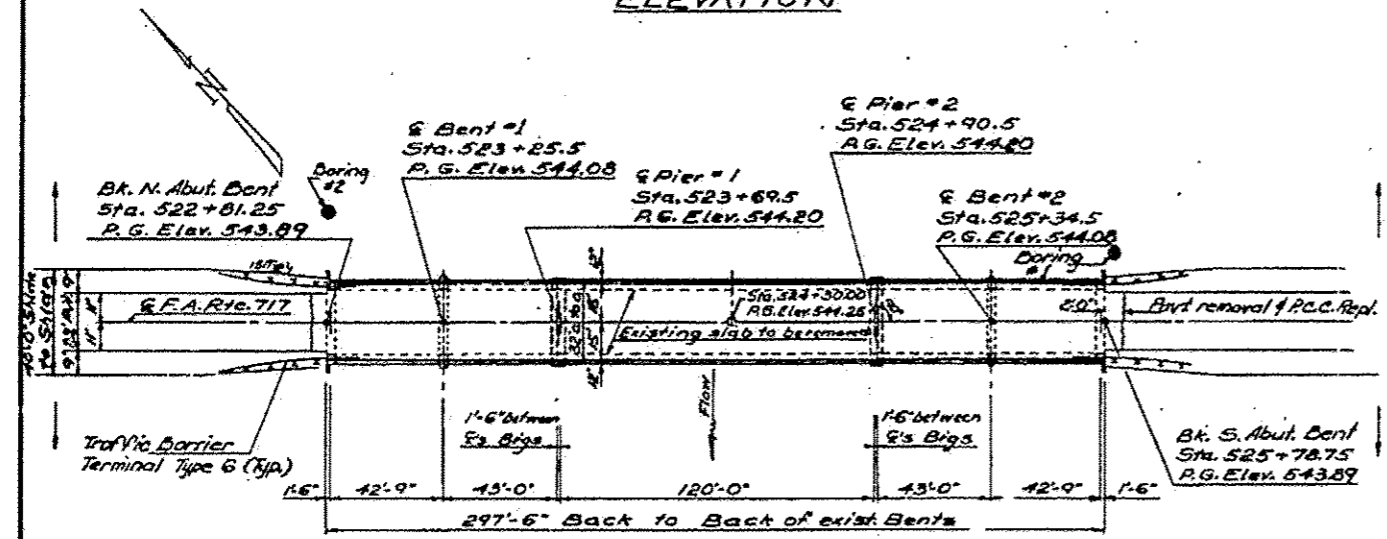
Work on N.W. Wingwall of existing bridge Rt. Sta. 522+81 - Elev. 543.49. Existing structure No. 054-0009 built as S.B.I. No. 10, Sec. 102B (C) in 1931 @ Sta. 524+30. Existing truss span to be replaced with Plate Girder. Concrete deck on the 4 spans to be removed and replaced. Existing abutments, Wings & Piers to be rebuilt to accommodate the new portion of the superstructure. No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

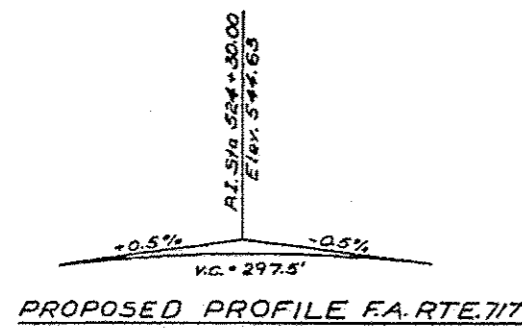
Project No.	054-0009	Sheet No.	7
Contract No.	102BR	Logan	23



ELEVATION



PLAN



PROPOSED PROFILE F.A. RTE. 717

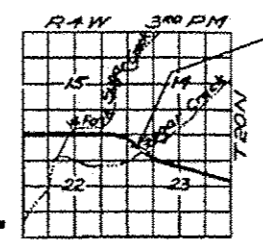
DESIGNED	DATE	APPROVED
Checked	5/1/77	Checked
Checked		Checked

WATERWAY INFORMATION
 Drainage Area: 364 Sq. miles
 Character: Timber near Channel, Rest cultivated & Flat.
 Existing Opening: 1300 Sq. Ft.
 Required Opening: 3500 Sq. Ft.
 Proposed Opening: 3500 Sq. Ft.
 H.W.E. (100) = 537.6
 Q(50) = 16,300 cfs
 Created Head = 0.93'
 H.W.E. (100) = 538.0
 Q(100) = 18,600 cfs
 Created Head = 1.0'
 All Time repeated H.W.E. = 540.6
 Area Divided Main structure = 2237 sq ft
 Over flow = 1270 sq ft
 Total required = 3507 sq ft

STATION 524+30.00
 REBUILT BY
 STATE OF ILLINOIS
 F.A. RTE. 717 SEC. 102 BR
 F.H. PROJ.
 LOADING HS 20
 STR. No. 054-0009

NAME PLATE
 See Std. 2113

FIELD UNITS
 PC = 3500 psi
 FT = 60,000 psi (Reinf.)
 FS = 27,000 psi (AASHTO Gr. 50) New Struct.
 20,000 psi (AASHTO) Steel
 Loading HS 20-44
 ** Epoxy coated reinf. Bars shall be used in top of the slab.
 Design Specifications: 1973 AASHTO, 1974, 1975 and 1976 Interim Specifications (as applicable)



LOCATION SKETCH

GENERAL NOTES
 See Proposal for Boring Data.
 All existing structural steel to remain in place shall be cleaned by Method 1 & painted with basic lead silico chromate paint system.
 It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.
 Fasteners shall be high strength bolts. Bolts 3/4" open holes 1 1/2", unless otherwise noted.
 Calculated weight of Structural Steel = 17,600# (A133)
 14,600# (A133) Grade 50.
 Field welding of construction accessories will not be permitted to the bottom flange of beams or girders, nor to the top flange for a distance equal to one-fourth the span length each way from the plate supports. Field welding in other areas will be permitted only when approved by the Engineer.
 Anchor bolts shall be set before bolting diaphragms or cross frames over supports.
 Expansion bolts shall consist of self drilling expansion anchors and 3/4" x 12" hooked bolts.
 All new structural steel shall be painted with Basic lead silico chromate paint system both in shop & field.
 All structural steel shall be AASHTO A133 except as noted.
 Protective Coat shall be applied in accordance with Art. 503.12 of the Std. Specifications.
 The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These Components are the tension flanges, webs and all splice plate material of the steel girders or wide flange beams.
 All reinforcement bars shall be AASHTO M31 Grade 60.
 The Contractor shall drive one (1) Concrete Test pile in a permanent location at So. Abut. as directed by the Engineer before ordering the remainder of piles.

TOTAL BILL OF MATERIAL

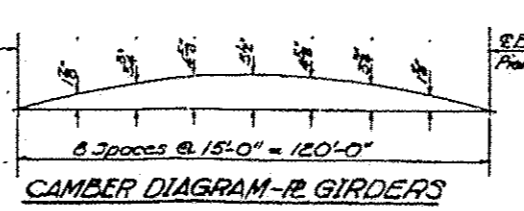
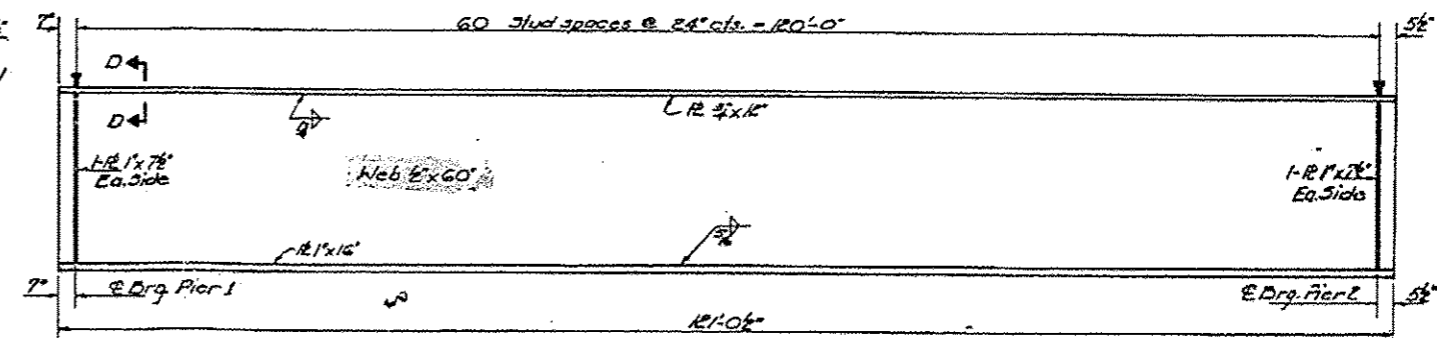
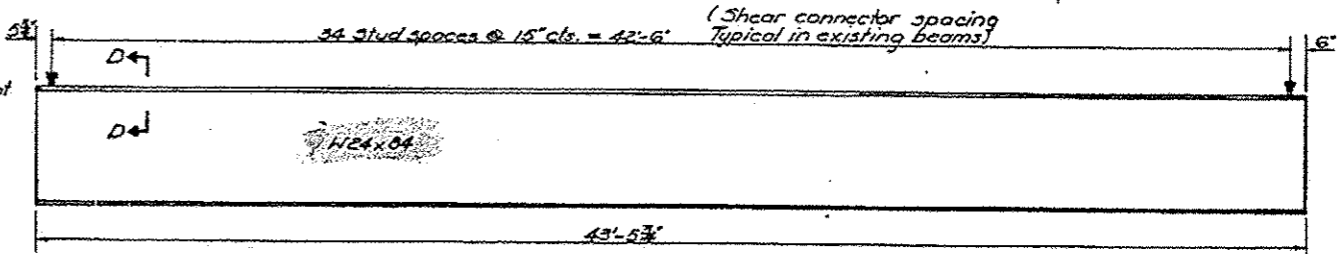
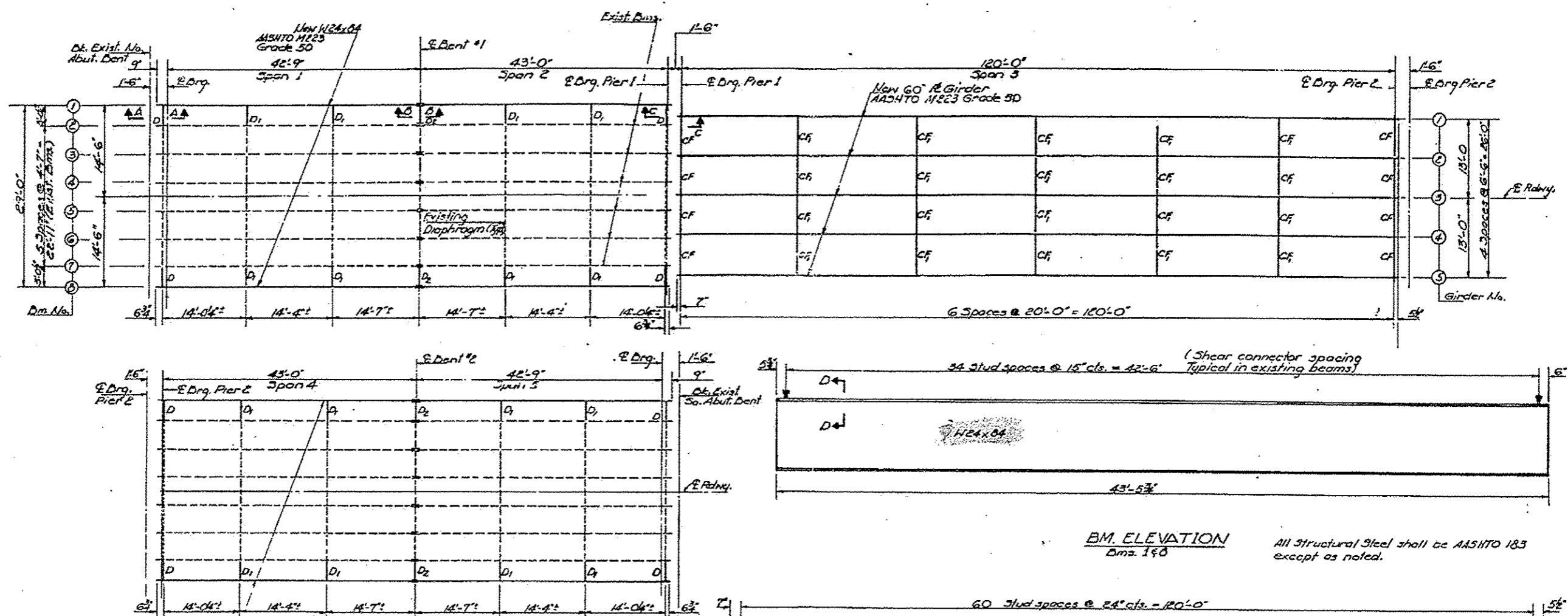
Item	Super	Sub	Total
Structural Steel	Lump Sum		
Reinforcement Bars	Lbs.	29920	4670
Reinforcement Bars (Epoxy coated)	Lbs.	32710	
Protective Coat	Sq. Yds.	1200	
Class X Concrete	Cu. Yds.	2263	319
Preformed Jt. Sealer 2 1/2"	Lin. Ft.	32	
Neoprene Expansion Jt. 2"	Lin. Ft.	31	
Stud Shear Connectors	Cu.	4275	
Removal of Existing Superstr.	Lump Sum		1
Concrete Removal	Cu. Yds.		37
Expansion Bolts 3/4"	Cu.		120
Name Plates	Cu.		1
Pavement Removal & PCC Replacement			
Type II (10")	Sq. Yds.	10	
Concrete Piles	Lin. Ft.		171
Test Pile Concrete	Cu.		1
Cleaning & Painting Steel Bridge	Lump Sum		1
Preformed Jt. Sealer 1 1/2"	Lin. Ft.	64	

GENERAL PLAN & ELEVATION
 F.A. RTE. 717 OVER SUGAR CREEK
 F.A. RTE. 717 SEC. 102 BR

LOGAN COUNTY
 STA. 524+3000

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1025R	Logan	23	15	14



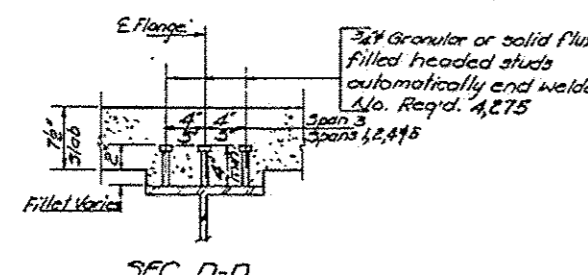
Moment Table
Int. Girder Span 3 Ext. Dim. Span 1, 2, 4, 5

Sp. 1 (ft)	2405	31349
Sp. 2 (ft)	6158	74052
Sp. 3 (ft)	200	1156
Sp. 4 (ft)	294	1570
Sp. 5 (ft)	546	402
M.D. (ft)	125	1534
P. 1 (ft)	75	159
S. 1 (ft)	118	387
M.S. (ft)	50	589
P. 2 (ft)	20	45
M.L.	208	1111
M. Imp.	53	227
Total	271	1938
P. 1	111	102
P. 2	364	487
V. 1	304	412

** β Total = 1.5 [(15 @ 15 30L) + 1.67 (5 @ 15)]

Reaction Table

R.D.L. (k)	32.7	70.7
R.L. (k)	234	392
Imp. (k)	70	80
R. Total (k)	631	1177



DESIGNED: R. J. Matlock
CHECKED: R. J. Matlock
DRAWN: A. Carrizo
CHECKED: PAB

EXAMINED: [Signature]
APPROVED: [Signature]

DATE: 7/7/2015

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 β_s .
 V_R is the maximum impact shear range in span used to determine shear connector spacing.

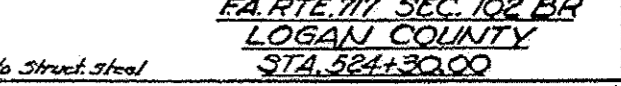
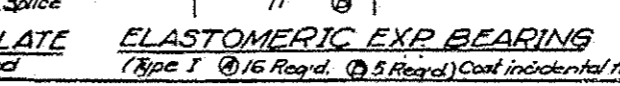
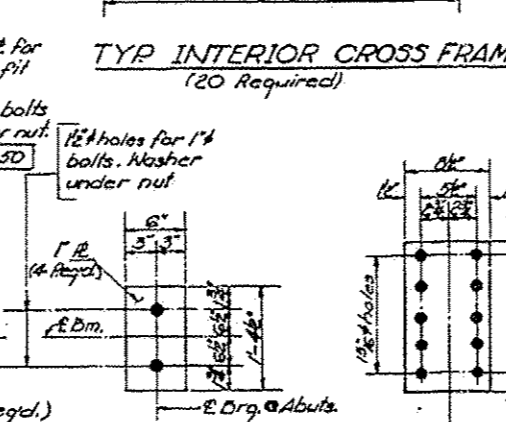
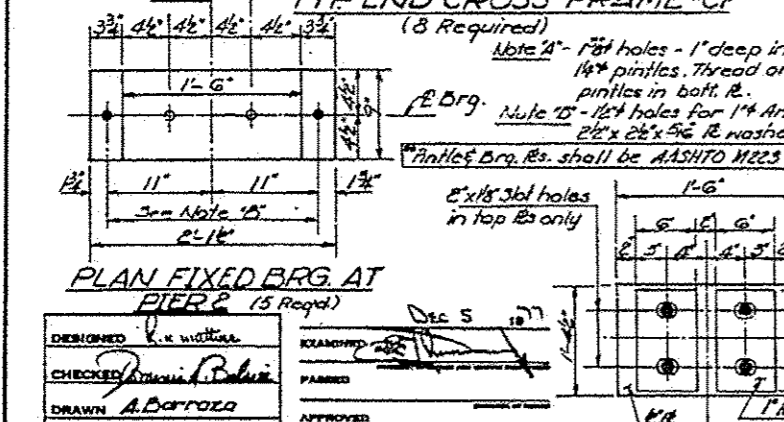
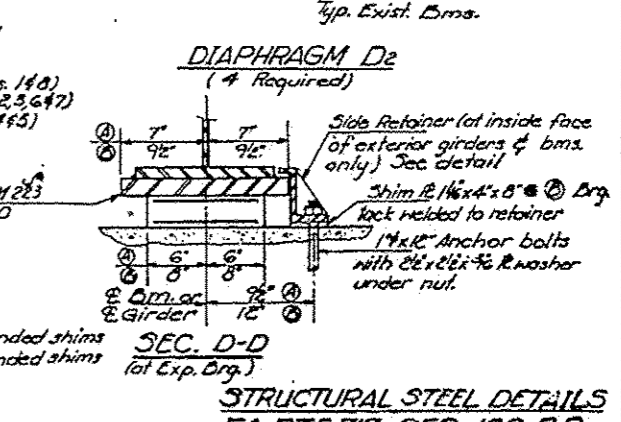
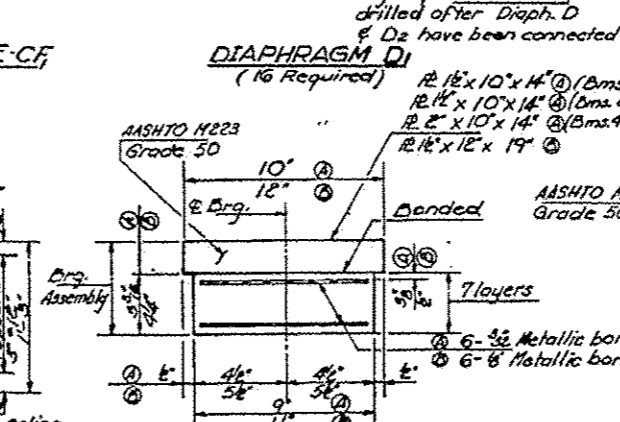
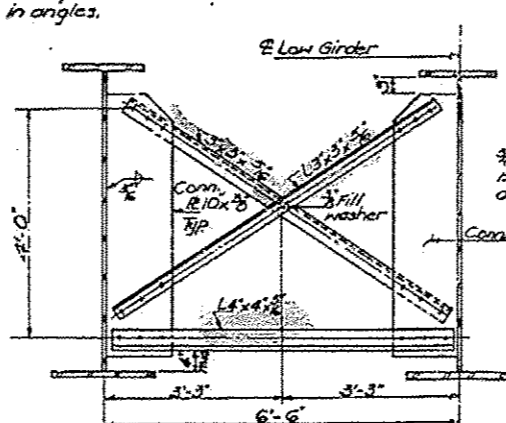
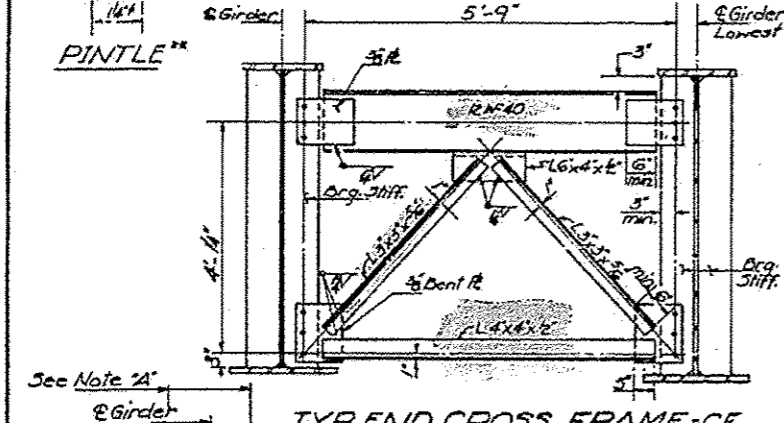
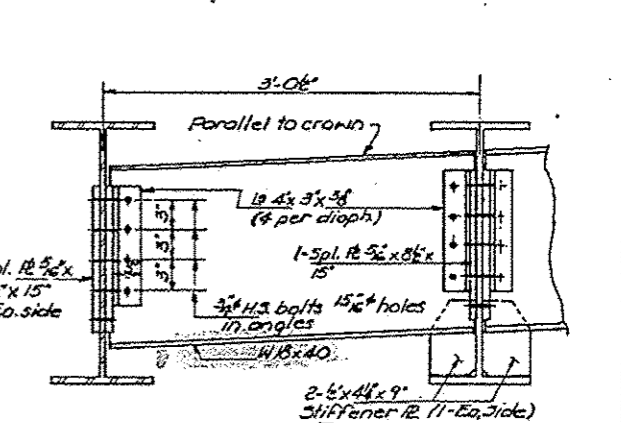
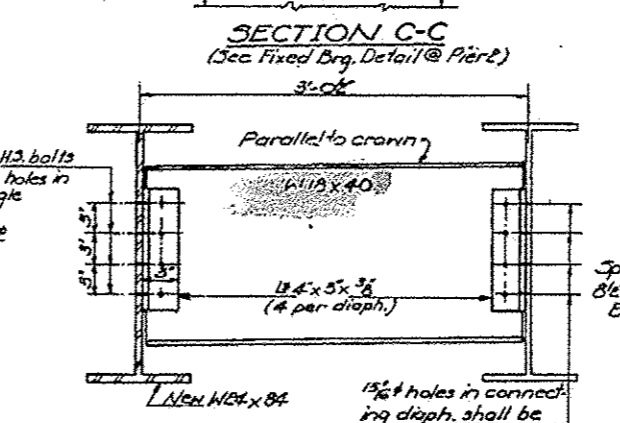
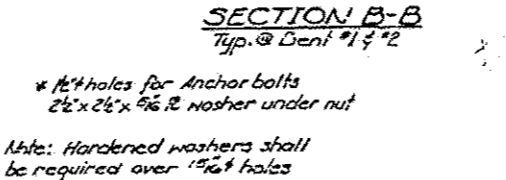
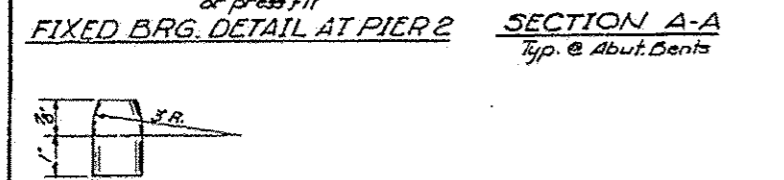
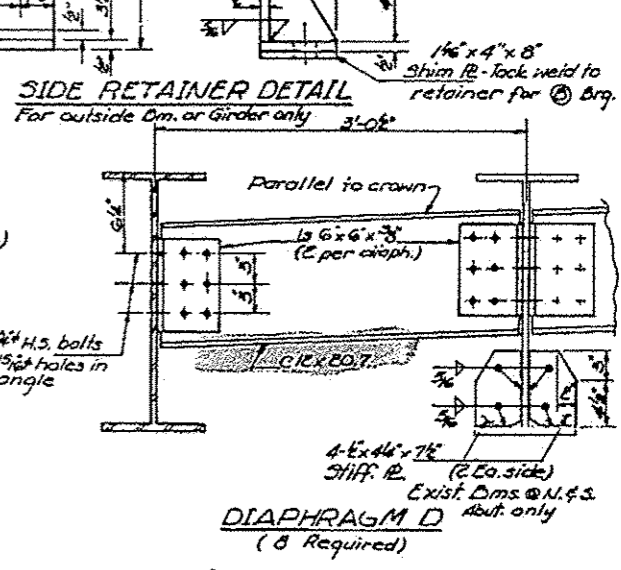
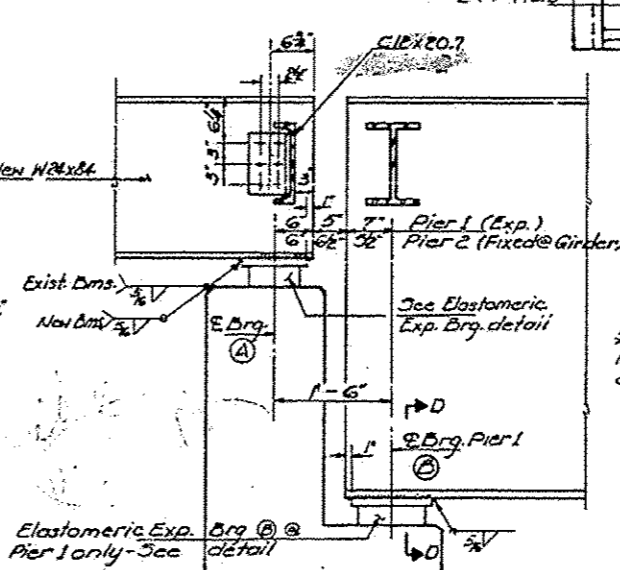
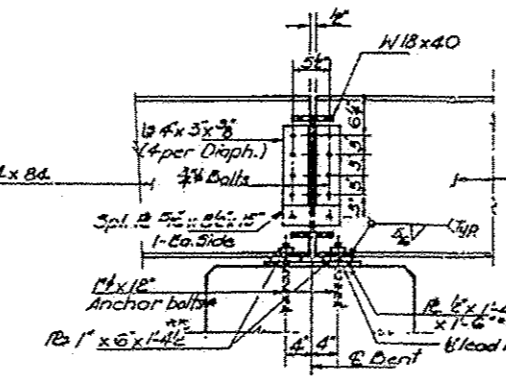
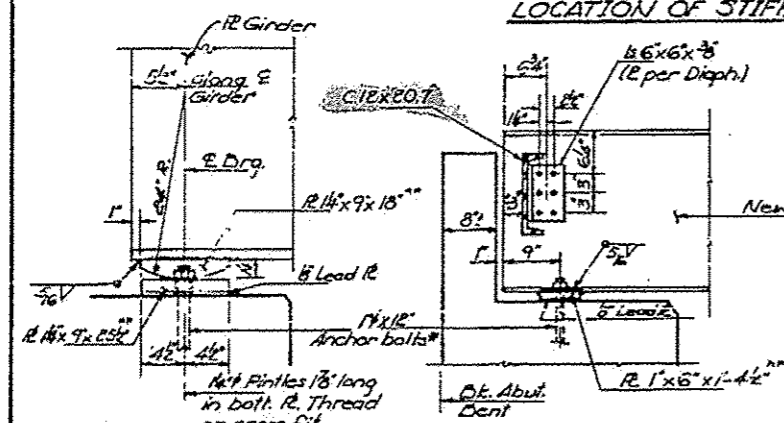
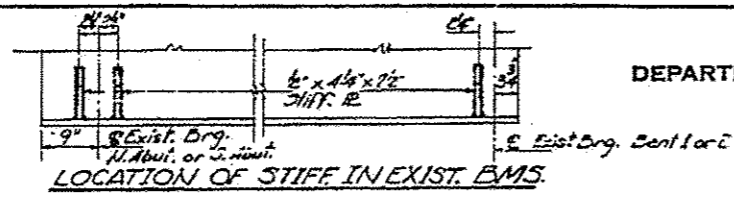
See Sht. #8 for Sec. A-A, B-B & C-C and detail of Diaph. D, D₁ & D₂ & Cross Frames CF & CF₁.

FRAMING PLAN
EA. RIE, 7/11/15 SEC. 102 & BR
LOGAN COUNTY
STA. 524+00.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Note: Existing rivets connecting angles to existing web shall be removed & replaced with 3/4" H.S. bolts when connecting new Diaphragms.
Notes in new bms. for connecting Diaphragms shall be field drilled.

SHEET NO. 8			
717	102BR	Logan	23 12
14 SHEETS			



DESIGNED	Checked
CHECKED	Checked
DRAWN	Checked
CHECKED	Checked

DATE	10/27
APPROVED	Checked

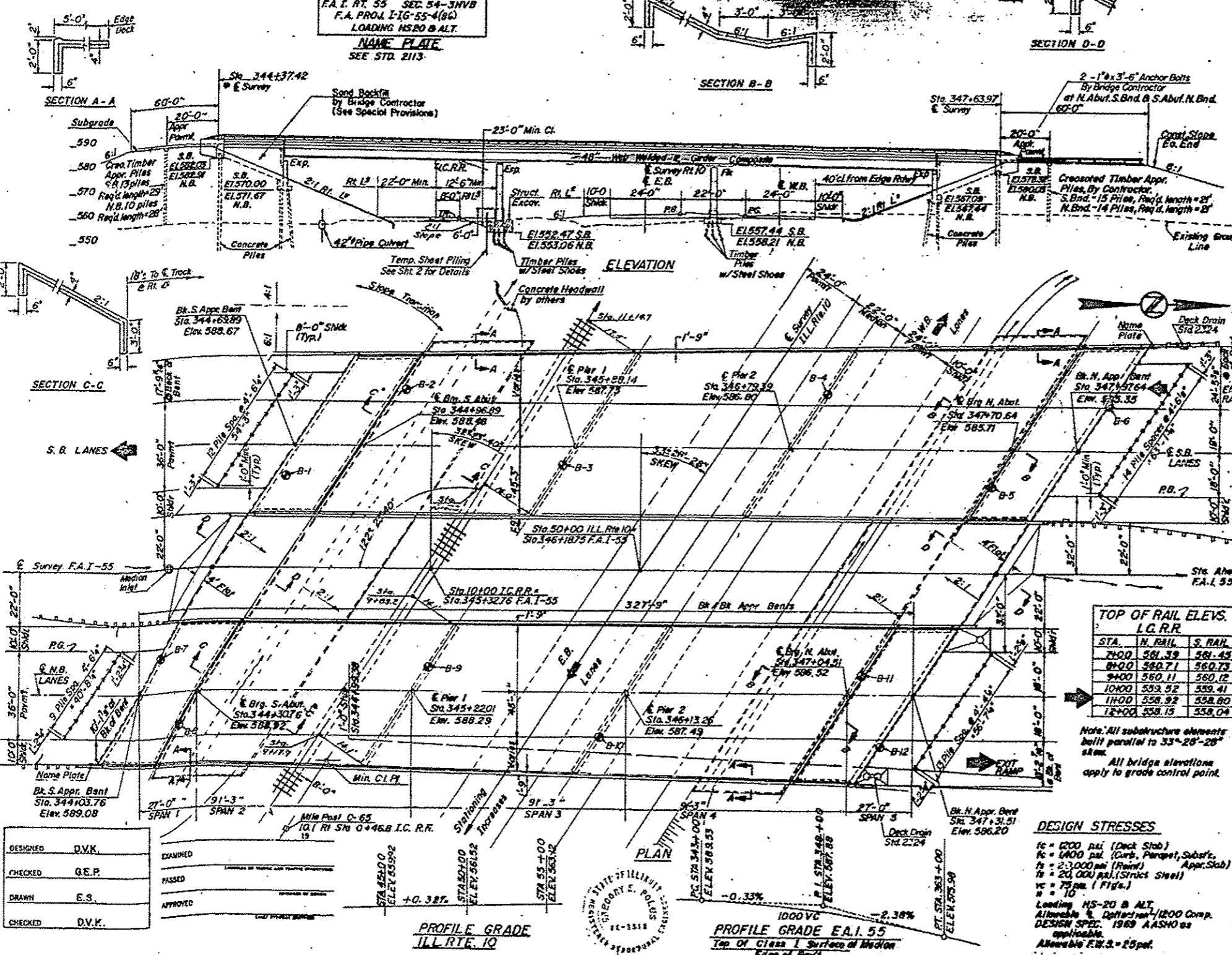
054-0046 38

054-0046

ROUTE NO.	SECTION	REMARKS	TOTAL SHEETS	SHEET NO.
U.S. 35	04-34V	LOGAN	442	121
SHEET NO. 1 OF 38 SHEETS				

B.M. #22, 6" Boat spike in telegraph pole
235' RI. Sta. 346+65, Elev. 561.34

STATION 346+12.75
BUILT 1977 BY
STATE OF ILLINOIS
F.A.I. RT. 55 SEC. 54-3NWB
F.A. PROJ. I-16-55-4(BG)
LOADING HS20 & ALT.
NAME PLATE
SEE STD. 2113



GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise shown. 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 beams or 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# per 100 sq. ft.

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

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

Protective coat shall not be applied to surfaces to which Cool Tex Interlayer Protective Coat is applied.

Calculated weight of Structural Steel = 1,110,300 lbs.
Fasteners shall be high strength bolts. Bolts 3/4" ø, open holes 1 1/8" ø, unless otherwise noted. Bolts 1/2" ø, open holes 5/8" ø, unless otherwise noted.

The Contractor shall drive one test pile each in the following permanent locations as directed by the Engineer before ordering the remainder of piles.

Concrete - N. Abut., S.B. Lane, S. Abut., N.B. Lane,
Timber - Pier #1, S.B. Lane, Pier #2, N.B. Lane.

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

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8" in. Adjustment shall be made either by grading the surface or by shimming the bearing. Two 1/2" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims.

TOTAL BILL OF MATERIALS

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu Yds.		320	31.0
Class X Concrete	Cu Yds.	1376.8	1310.2	2687.0
Structural Steel	Lump Sum			Lump Sum
Reinforcement Bars	Lbs.	306,600	144,920	531,520
Aluminum Rolling	Lin. Ft.	1355		135.5
Concrete Piles	Lin. Ft.		8443	844.3
Pile Piles (Concrete)	Each		2	2
Slope Wall (4')	Sq. Yds.		248	24.1
Steel Shear Connectors	Each	10,140		10,140
Name Plate	Each		2	2
Protective Coat	Sq. Yds.		512	51.2
Crossed Piles (20' to 30')	Lin. Ft.		8360	836.0
Sand Backfill	Cu Yds.		1360	136.0
Coal Tar Interlayer Protective Coat	Sq. Yds.		4904	490.4
Aluminum Conc. See Class X	Tons		367	36.7
Test Pile (Timber)	Each		2	2
Temporary Sheet Piling	Lump Sum			Lump Sum
Metal Shoes	Each		235	23.5
Preformed Joint Sealer	Lin. Ft.		165	16.5
Neoprene Expansion Jt. 2 1/2"	Lin. Ft.		149	14.9

TOP OF RAIL ELEVS. I.C.R.R.

STA.	N. RAIL	S. RAIL
7+00	561.39	561.45
8+00	560.71	560.73
9+00	560.11	560.12
10+00	559.52	559.41
11+00	558.92	558.80
12+00	558.15	558.04

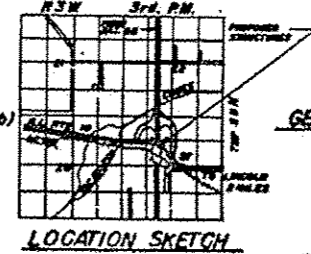
Note: All substructure elements built parallel to 33°-28'-28" skew.

All bridge elevations apply to grade control point.

DESIGN STRESSES

f_c = 1200 psi (Deck Slab)
f_c = 1400 psi (Curb, Parapet, Substr.)
f_s = 23,000 psi (Reinf.)
f_s = 24,000 psi (Struct. Steel)
n = 10

Loading: HS-20 & ALT.
Allowable & Deflection: 1/200 Comp.
DESIGN SPEC. 1989 AASHTO as applicable.
Allowable F.B.S. = 25 psi.

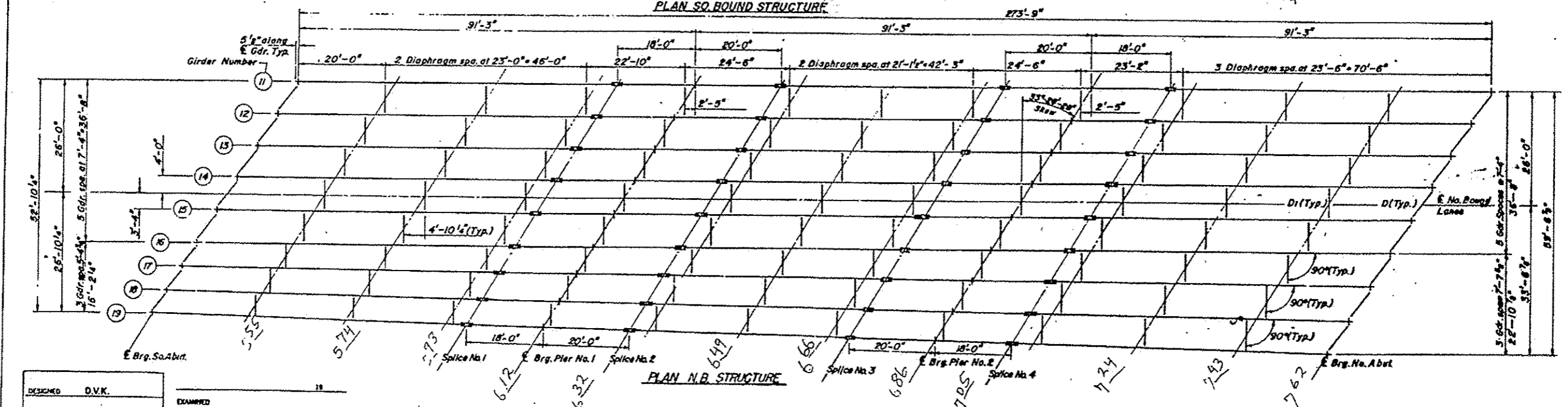
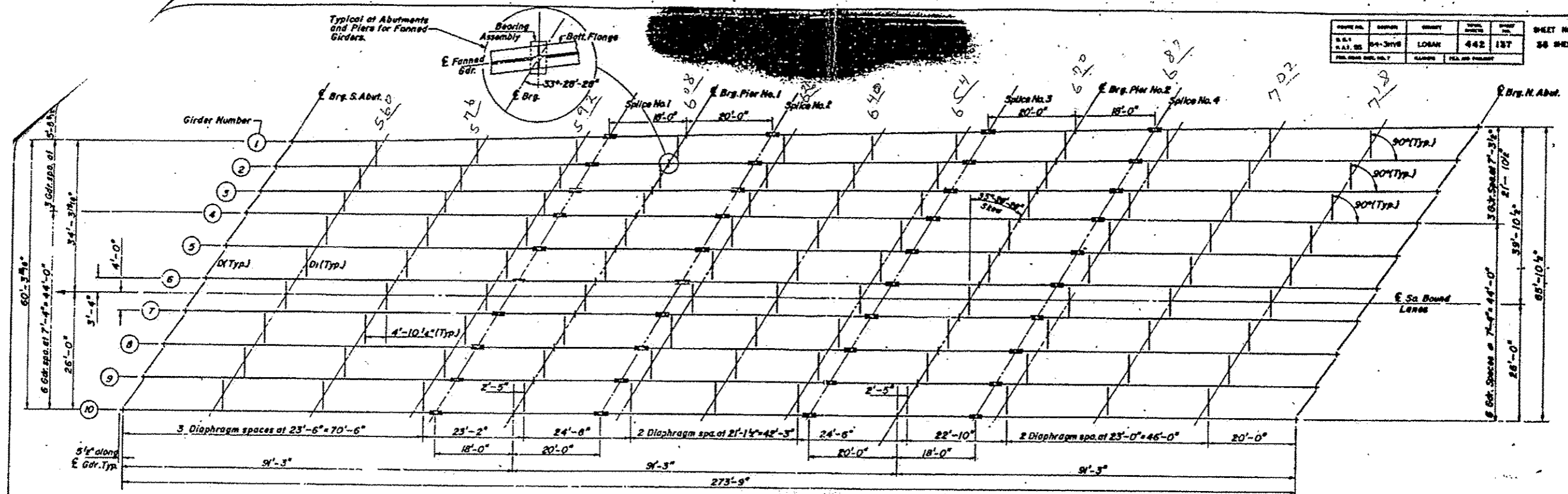


APPROVED
FOR STRUCTURAL ACQUISITION ONLY

GENERAL PLAN AND ELEVATION
F.A.I. ROUTE 55 OVER
I.C.R.R. CENTRAL R.R. &
ILL. ROUTE 10,
LOGAN COUNTY,
SECTION 24-34V
STA. 346+12.75

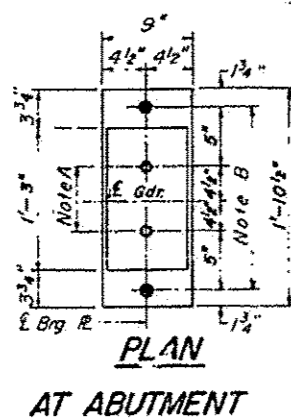
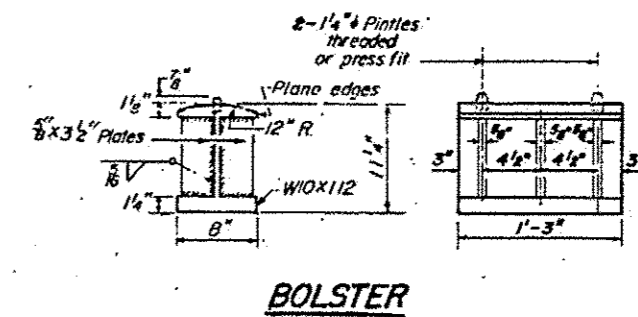
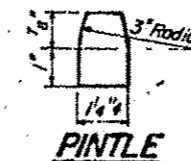
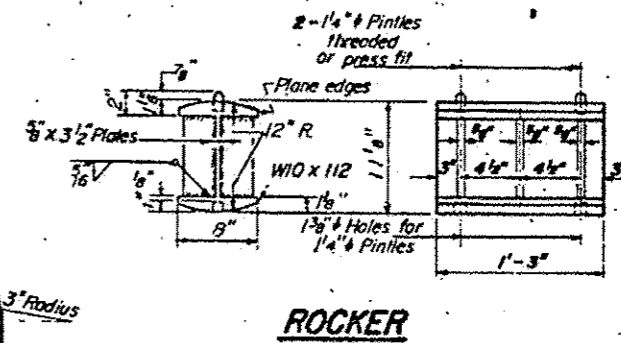
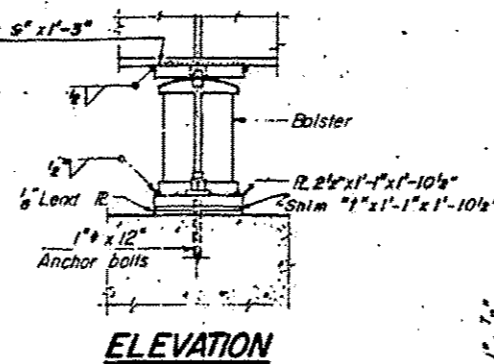
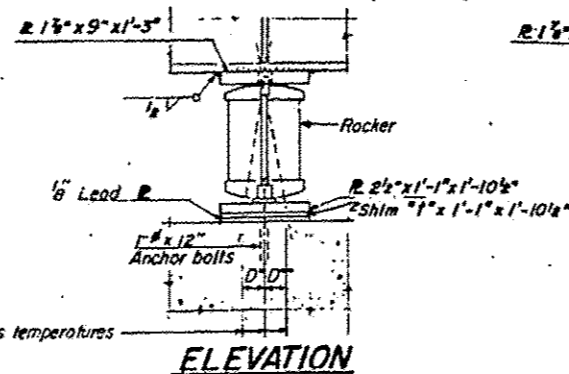
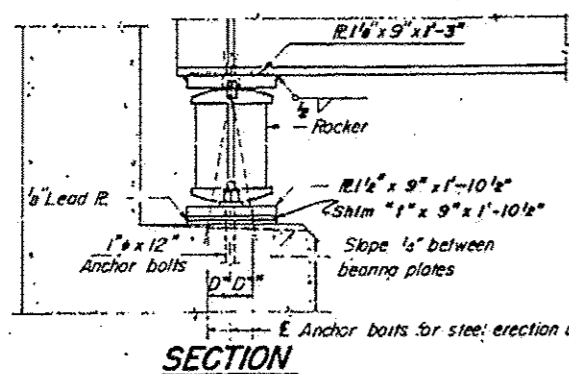
054-0046 38

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
054-0046 & 0047	LOGAN	442	137	28
DATE	SCALE	DESIGNED BY	CHECKED BY	DRAWN BY
		D.V.K.	A.Z.	E.S.-R.H.H.



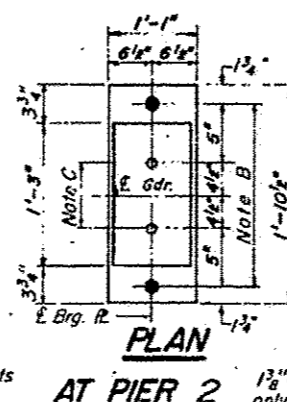
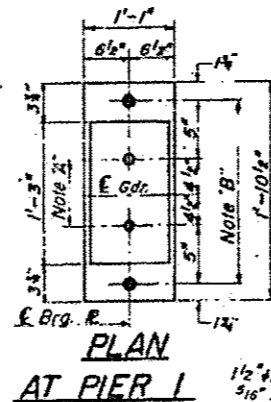
DESIGNED	D.V.K.	EXAMINED	
CHECKED	A.Z.	PASSED	
DRAWN	E.S.-R.H.H.	APPROVED	
CHECKED	D.V.K.		

FRAMING PLAN
STRUCTURAL STEEL DETAILS
EAL RTE 55 OVER ILL CENT RR
& ILL RTE 10, SEC. 54-3HVB
LOGAN COUNTY
STA. 346+18.75



1" Dimensions

Location	7	8	11
S. Abut.	1/4"	-	-
Pier 1	1/4"	-	3/4"
Pier 2	-	-	3/4"
N. Abut.	1/4"	3/4"	-



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

NOTE B
1 1/2" Holes for 1" anchor bolts 3/16" 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" pintoles.

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

a) 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.

b) 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.

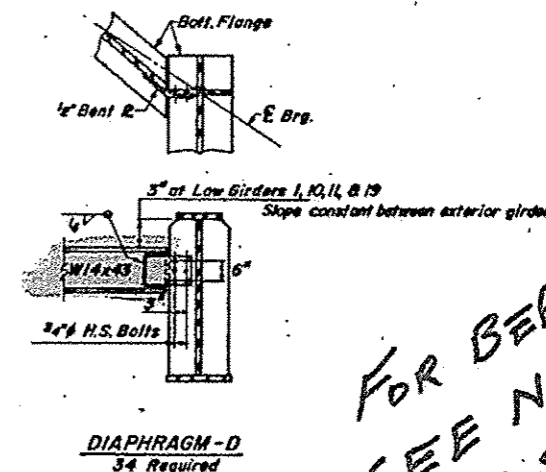
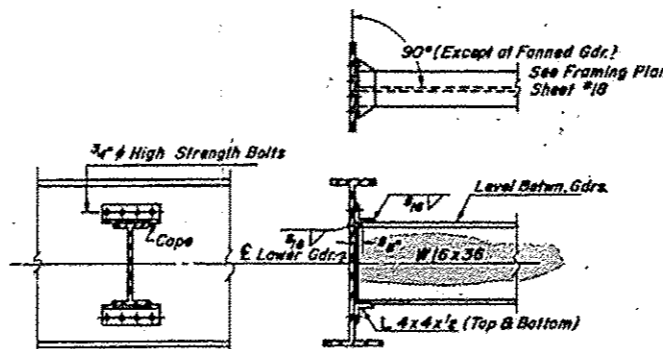
INTERIOR GIRDER MOMENT TABLE

	0.4 Sp. 1	Pier	0.5 Sp. 2
I _x (in ⁴)	19,683.5	28,078.3	16,163.9
I _y (in ⁴)	51,964.6	-	40,081.3
S _x (in ³)	934.6	1106.6	676.1
S _y (in ³)	1291.3	-	949.8
e (ft.)	0.938	1.417	0.912
M _{max} (k)	626.0	1173.8	106.2
I _s (ksi)	8.0	12.7	1.9
S _{sc} (in ³)	0.433	-	0.433
M _{sc} (k)	318.5	-	135.0
M _{ic} (k)	788.6	524.4	613.5
M _{imp} (k)	182.3	121.3	141.8
Total (k)	1289.4	645.7	890.3
I _s (ksi)	12.0	7.0	11.3
I _s (ksi)	20.0	19.7	13.2
VR (K)	57.0	-	48.0

INTERIOR GDR REACTION TABLE

	Abut.	PIER
R ₁ (K)	50.9	139.9
R ₂ (K)	42.4	62.8
Imp. (K)	9.8	14.6
R _{total} (K)	103.1	217.3

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 I_s. VR is the maximum + impact shear range in span, used to determine Shear Connector spacing.



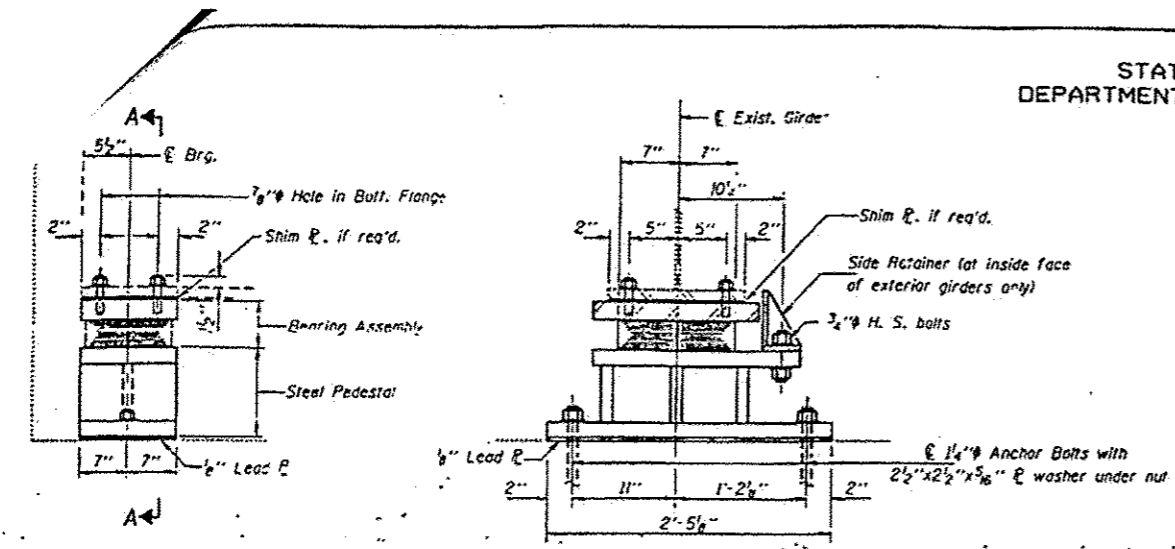
FOR BEARINGS
SEE NEXT
TWO SHEET

BEARING DETAIL
FAL RT 55 SEG. 54-3HVB
LOGAN COUNTY
STA. 3+96+1875

DESIGNED	D.V.K.	EXAMINED	
CHECKED	A.Z.	PASSED	
DRAWN	R.H.H.	APPROVED	
CHECKED	D.V.K.		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DATE	BY	CHKD	NO.	SHEET NO.
08-24-83	LOGAN	52	48	

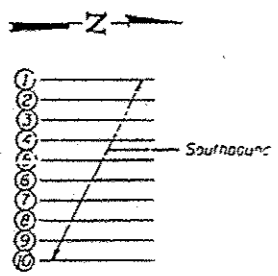


ELEVATION AT ABUT.

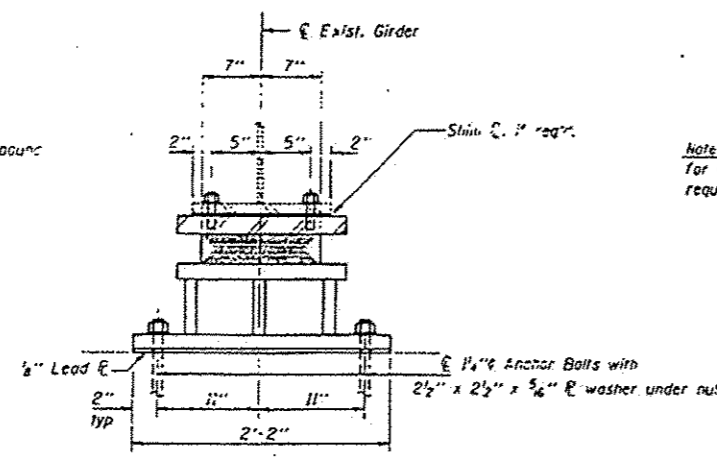
SECTION A-A
(Showing Exterior Girder)

TYPE I ELASTOMERIC EXP. BRG.

Notes: Burn off existing anchor bolts flush with existing concrete surface. Grind smooth and seal with epoxy. See sheet # for new anchor bolt details.

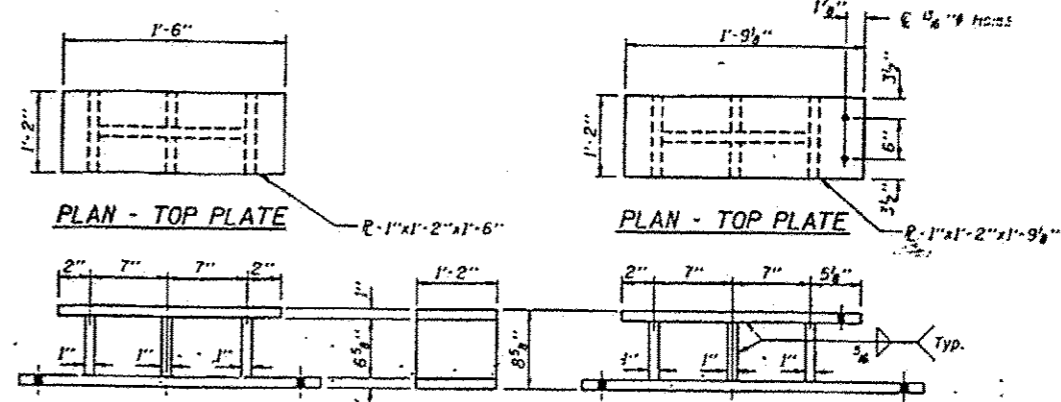


BEAM LAYOUT



SECTION A-A
(Showing Interior Girder)

Notes: 1/2" x 11" x 1'-2" shim plate required for Girder 7 & 5/8" x 11" x 1'-2" shim plate required for Girder 8.



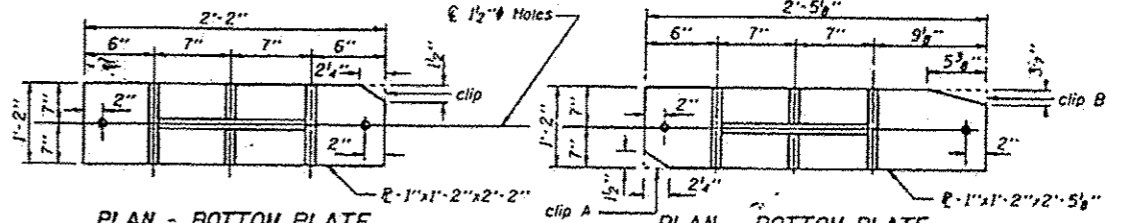
PLAN - TOP PLATE

PLAN - TOP PLATE

ELEVATION
(Showing Interior Pedestal)
No. Req'd: 15

END VIEW (TYP.)

ELEVATION
(Showing Exterior Pedestal)
No. Req'd: 4



PLAN - BOTTOM PLATE

PLAN - BOTTOM PLATE

Note: Fabricate all interior pedestals with clip as shown.

Note: Fabricate 2 pedestals with Clip A and 2 with Clip B. (exterior only)

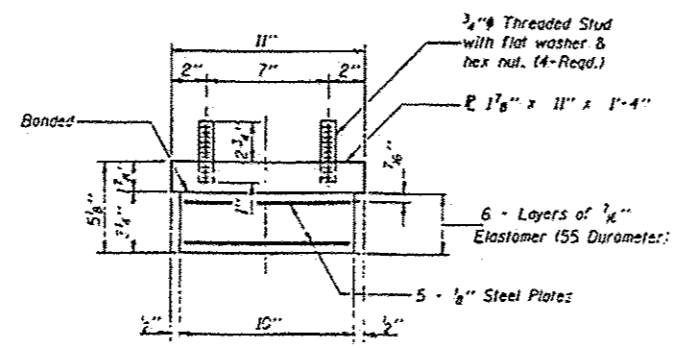
BEAM REACTIONS

Live Load	42.4 k
Dead Load	50.9 k
Impact	9.8 k

Note: New steel pedestals, side retainers and anchor bolts are included in 'Furn. and Erect. Structural Steel'.

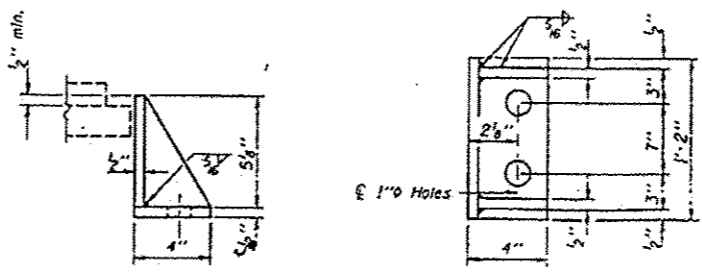
BILL OF MATERIAL

Item	Unit	Qty
Elastomeric Bearing Assembly Type I	Each	15
Furnishing and Erecting Structural Steel	Lbs.	6230



BEARING ASSEMBLY

Note: Shim plates shall not be placed under Bearing Assembly.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

ELASTOMERIC BEARINGS - N. ABUT.
FAI ROUTE 55
SECTION 54 - 3RS
LOGAN COUNTY

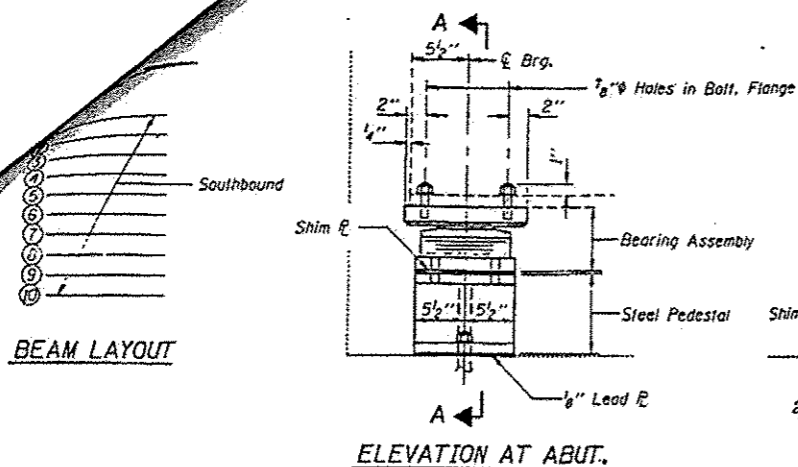
ISH 054 - C245, 47)

DESIGNED	R. Brunette	EXAMINED	
CHECKED	Kenneth P. H. [Signature]	PASSED	
DRAWN	T. D. Carbons	APPROVED	
CHECKED	RAB		

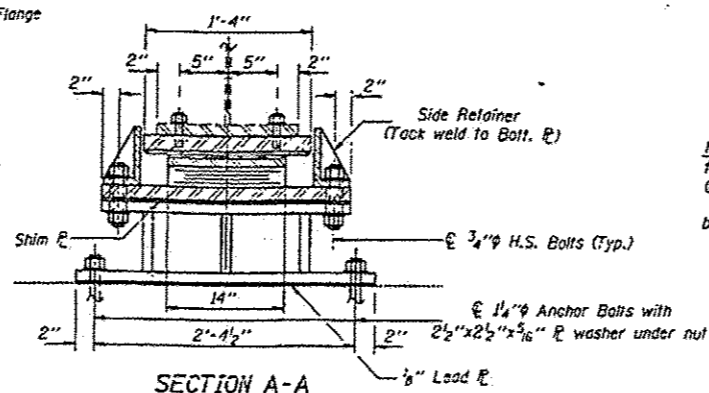
I-2-E1 12-1-83

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS
05 44-3RS	LOGAN	52	49



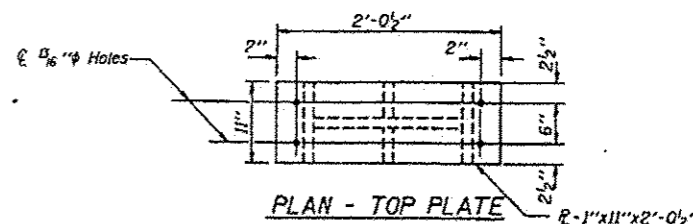
ELEVATION AT ABUT.



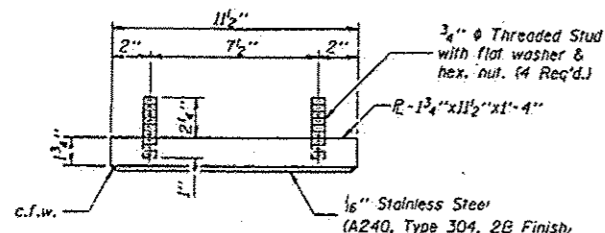
SECTION A-A

Notes: Burn off existing anchor bolts flush with existing concrete surface. Grind smooth and seal with epoxy. See sheet # for new anchor bolt details.

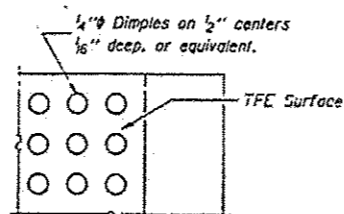
TYPE II TFE ELASTOMERIC EXP. BRG.



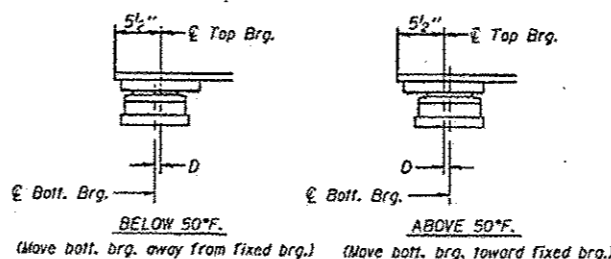
PLAN - TOP PLATE



TOP BEARING ASSEMBLY

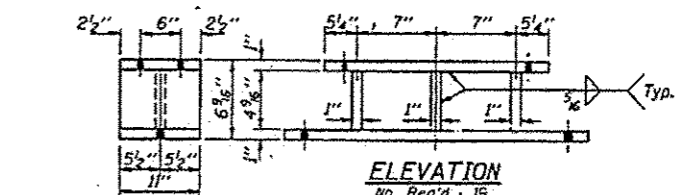


PLAN-TFE SURFACE

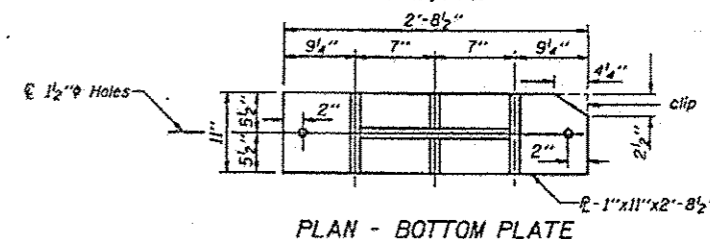


SETTING ANCHOR BOLTS AT EXP. BRG.

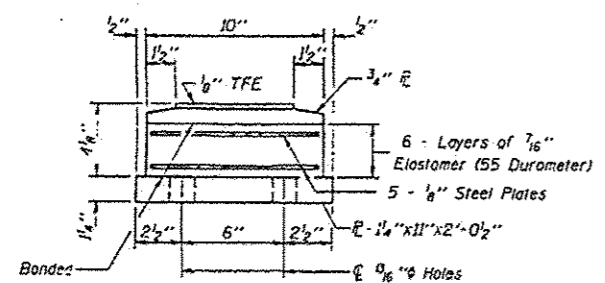
D = 1/4" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



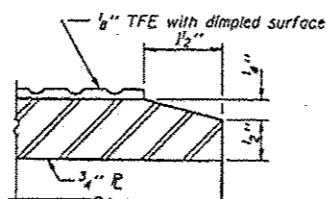
ELEVATION



PLAN - BOTTOM PLATE



BOTTOM BEARING ASSEMBLY

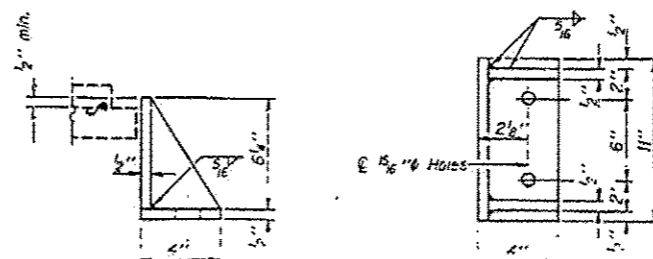


SECTION THRU TFE

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 MIL-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.

Note: 1/4" x 11" x 2'-2 1/2" shim plate required for Girder 7.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

Note: New steel pedestals, side retainers and anchor bolts are included in "Furn. and Erect. Structural Steel".

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	19
Furnishing and Erecting Structural Steel	Lbs.	6300

BEAM REACTIONS

Live Load	42.4 k
Dead Load	50.9 r
Impac'	9.8 t

DESIGNED	R. Brunette	EXAMINED	
CHECKED	M. H. P. J. M. J.	PASSED	ENGINEER OF STRUCTURAL SERVICE
DRAWN	C. D. CARDONE	APPROVED	ENGINEER OF SPECIAL AND STRUCTURAL
CHECKED	RAB		SECTION OF INSPECTOR

I-2-E2 12-1-83

ELASTOMERIC BEARINGS - S. ABUT.
FAI ROUTE 55
SECTION 54 - 3RS
LOGAN COUNTY

(SN 054 - 0045, 47)

054-0045

On #19-4' Bolt spike in power pole
410' Rt. Sta. 299+20 Elev. G.I.G. 54

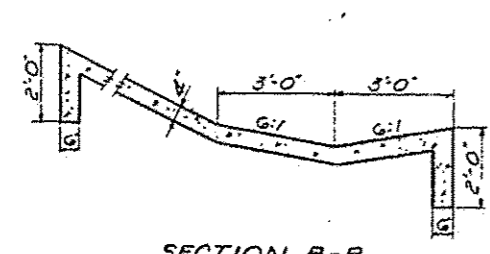
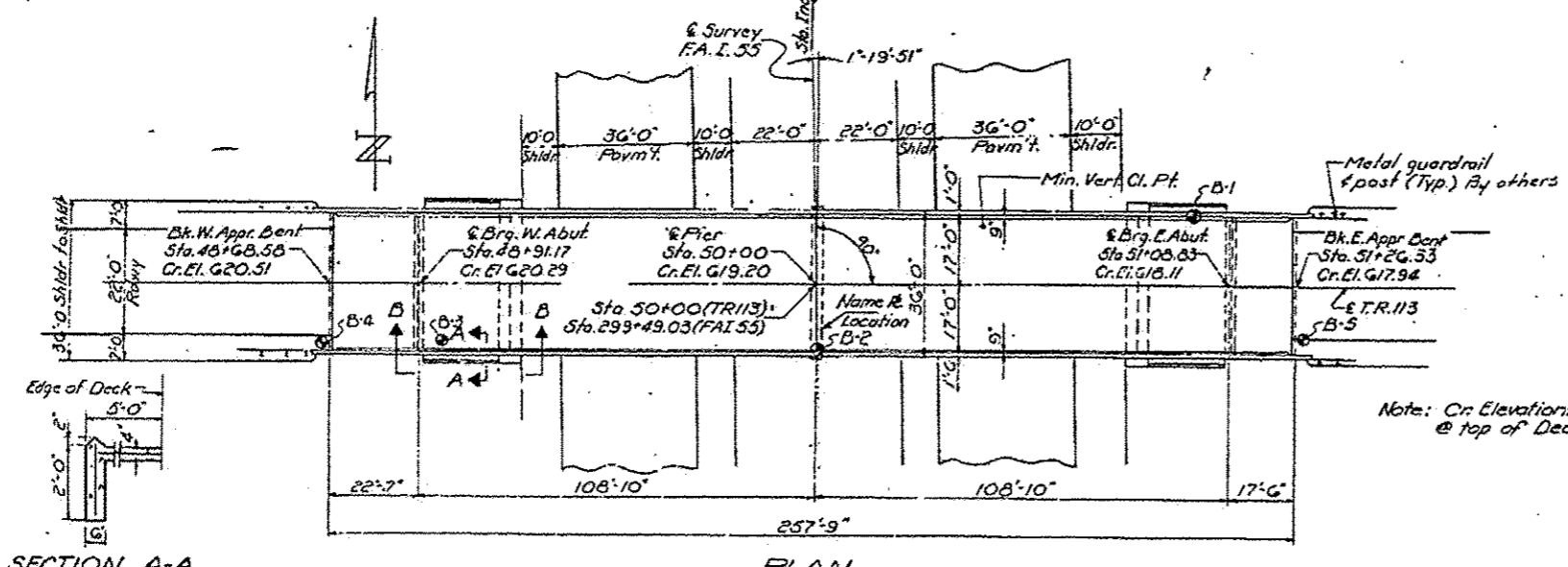
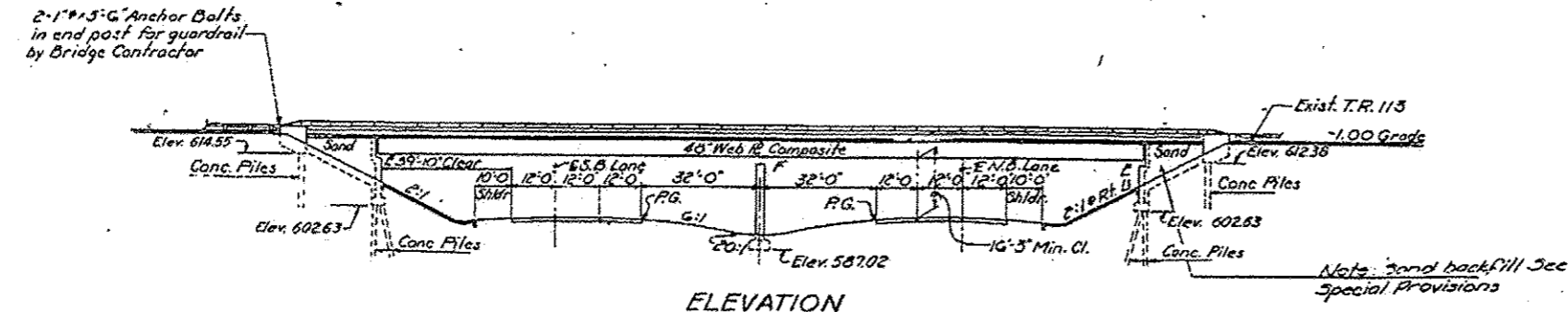
054-0045

STATE OF ILLINOIS

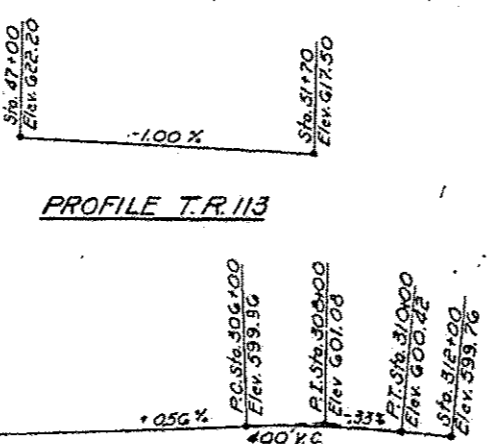
PROJECT NO.	LOGAN	113	58	SHEET NO. 1
				15 SHEETS
§ 64-3A, 64-3B, 54-3B-2, 54-3B-1				

GENERAL NOTES

All reinforcement bars shall be lapped 2d diameters unless otherwise shown.
Fasteners shall be high strength bolts. Bolts $\frac{3}{4}$ " open holes $\frac{1}{8}$ " unless otherwise noted.
Calculated Weight of Structural Steel = 270,250 Pounds.
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 beams or 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# per 100 sq.ft.
The Contractor shall drive one Concrete test pile in a permanent location at the West Abutment as directed by the Engineer before ordering the remainder of piles.
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 Conc. Protective Coat shall not be applied to surfaces to which Cool Tar Interlayer Protective Coat is applied.



SECTION B-B



PROFILE F.A.I. RTE. 55 (AT MEDIAN EDGE)

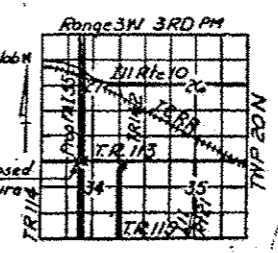
STATION 299+49.03
BUILT 197 BY
STATE OF ILLINOIS
F.A.I. RT. 55 300.54-310-1
F.A. PROJ. I-55-4(88)
LOADING HS-20

NAME PLATE
See Std. 2113

DESIGN STRESSES

$F_c = 1200$ psi Deck Slab
 $F_c = 1400$ psi Curb, parapet, Sub. Struct. slab
 $F_s = 20000$ psi Reinf.
 $F_s = 20000$ psi Struct.
 $V_c = 75$ psi Figs.
 $n = 10$

LOADING HS-20-44
Allow 25#/' for future wearing surface
Design Specifications AASHTO 1993, as applicable.



LOCATION SKETCH

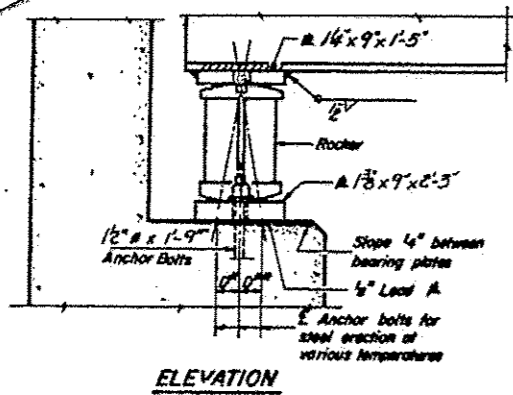
TOTAL BILL OF MATERIAL

Item	Super	Sub	Total
Structure Excavation	Cu. Yds.	1170	1170
Sand Backfill	Cu. Yds.	200	200
Bituminous Concrete Surface Course Class 1 Top	Sq. Yd.	79	79
Protective Coat	Sq. Yd.	204	204
Class X Concrete	Cu. Yd.	309.5	201.8
Structural Steel	Lump Sum	L.S.	L.S.
Stud Shear Connectors	Ea.	1980	1980
Aluminum Rolling	Lin. Ft.	530	530
Reinforcement Bars	Pounds	75520	24290
Concrete Piles	Lin. Ft.	1452	1452
Test Piles (Concrete)	Each	1	1
Name Plates	Each	1	1
Slope Nail (67)	Sq. Yd.	405	405
Cool Tar Interlayer Protective Coat	Sq. Yd.	931	931
Preformed Joint Sealer	Lin. Ft.	72	72

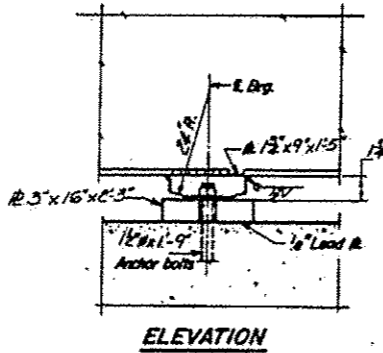
054-0045
GENERAL PLAN & ELEVATION
PROJECT I-55-4(88)123
T.R. 113 OVER F.A.I. RT. 55
SECTION 54-310-1
LOGAN COUNTY
STA. 299+49.03

DESIGNED	Chi-Ten Chen
CHECKED	Daniel Chutkan
DRAWN	A. D'Orfalo
CHECKED	9/26

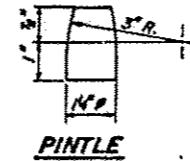
EXAMINED	January 24 1972
APPROVED	[Signature]
DATE	1/24/72



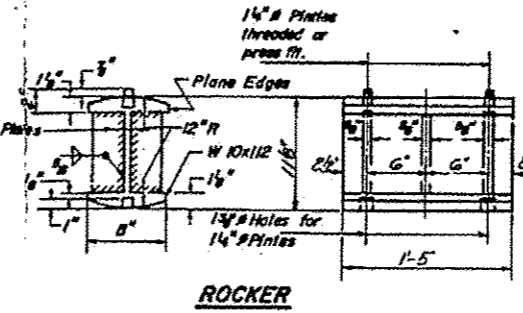
ELEVATION



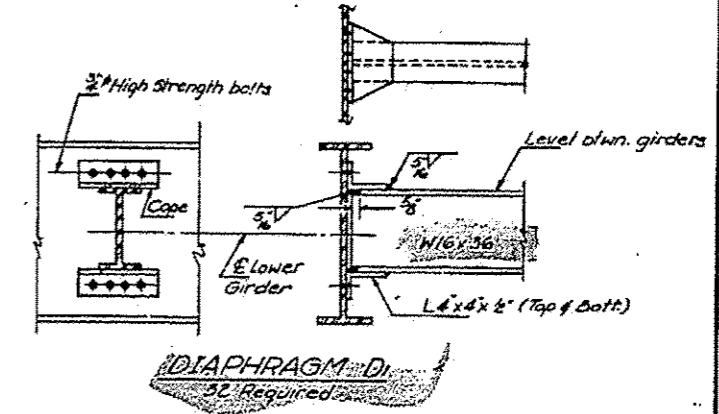
ELEVATION



PINTE

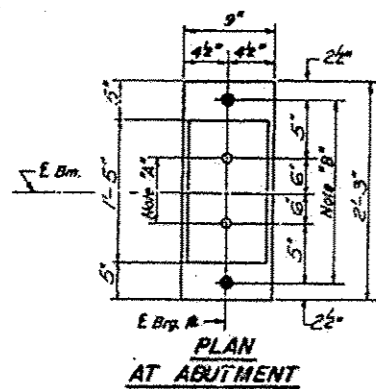


ROCKER

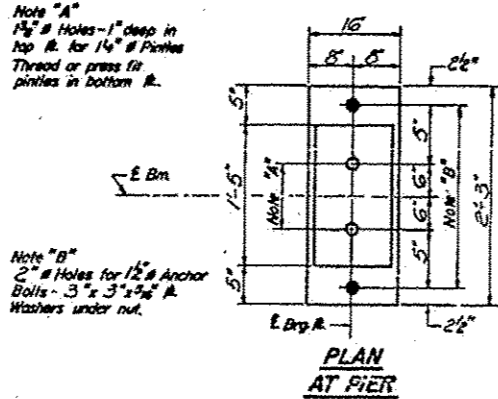


DIAPHRAGM D
52 Required

DIAPHRAGM Dp
4 Required



PLAN AT ABUTMENT



PLAN AT PIER

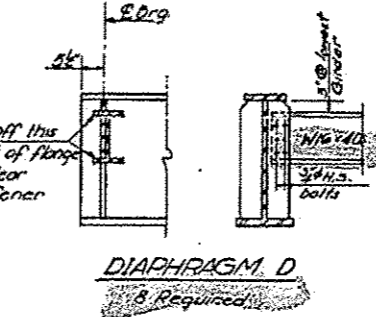
Note "A"
1/2" Holes - 1" deep in top R. for 1/4" # Pintles Thread or press fit pintles in bottom R.

Note "B"
2" Holes for 1/2" Anchor Bolts - 3" x 3" x 3/4" A Washers under nut.

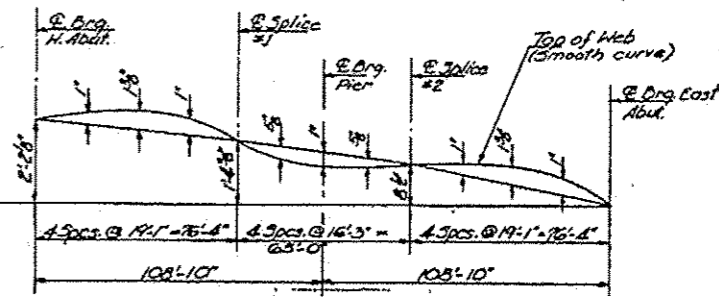
INTERIOR GIRDER MOMENT TABLE		
	04 Sp1	Pier
Is (in ⁴)	22200	55654
Ic (in ⁴)	63488	
Sx (in ³)	1173	2100
Sy (in ³)	1629	
Q (K/ft)	1022	1022
M _R (K)	707.8	1865.4
M _S (K)	724	10.65
S _R (K/ft)	0.505	0.505
M _R (K)	4416	690.4
M _S (K)	954	836.1
M _{imp} (K)	200.3	175.6
Total (K)	1595.9	1702.1
fsk + As ₂ (K)	1176	9.73
fs Total (K)	19.0	20.38
VR (K)	38.7	

INTERIOR GIRDER REACTION TABLE		
	Abut.	Pier
RE ₁ (K)	59.6	213.2
R ₂ (K)	44.0	76.2
Imp ₂ (K)	9.2	16.0
R Total (K)	112.8	305.4

Is and Sx are the moment of inertia and section modulus of the steel section.
Ic and Sy are the moment of inertia and section modulus of the composite section used in computing fs.
VR is the maximum fs + Impact shear range in span.



DIAPHRAGM D
8 Required



CAMBER DIAGRAM
(Typ. for all girders)

NOTES FOR SETTING OF ANCHOR BOLTS AT EXPANSION BEARINGS
a.) D¹ (Side of brg. away from fixed brg.)
D² = 1/4" per each 100' of expansion for every 15° fall below the normal temp. of 50° F.
D³ (Side of brg. toward fixed brg.)
D⁴ = 1/4" per each 100' of expansion for every 15° rise above the normal temp. of 50° F.
b.) After beams have been erected and dimensions D¹ & D² determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

DESIGNED: *Chi Tsen Chu*
CHECKED: *Dan Adella*
DRAWN: *A. Borraza*
CHECKED: *P.L.C.*

EXAMINED: *John J. ...*
PASSED: *W.C. ...*
DATE: *Jan 24 1972*

I-2-6 3-29-71

TOP OF WEB ELEVATION *

Loc.	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5
E. Brg. N. Abut.	679.11	679.25	679.57	679.25	679.11
E. Splice 1	678.29	678.43	678.55	678.43	678.29
E. Brg. Pier	677.88	678.02	678.14	678.02	677.88
E. Splice 2	677.64	677.78	677.90	677.78	677.64
E. Brg. E. Abut.	676.93	677.07	677.19	677.07	676.93

* For Fabrication only (Included allowance for Dead Load Deflection)

BEARING DETAILS
F.A.I. RT. 55 SEC. 54-3HB-1
LOGAN COUNTY
STA. 299+49.03

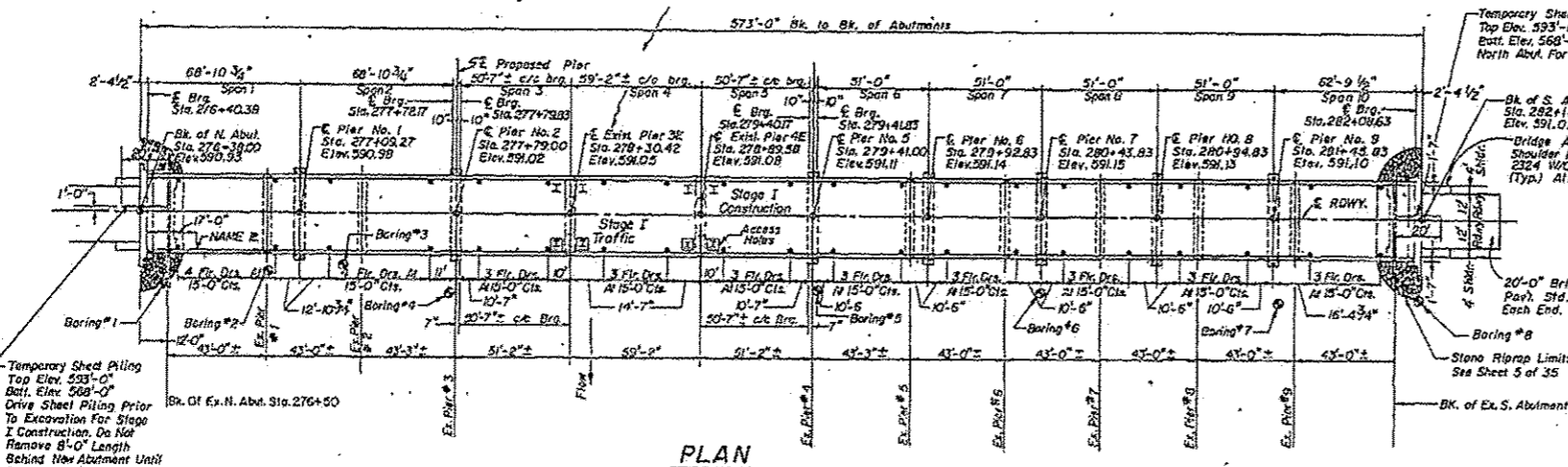
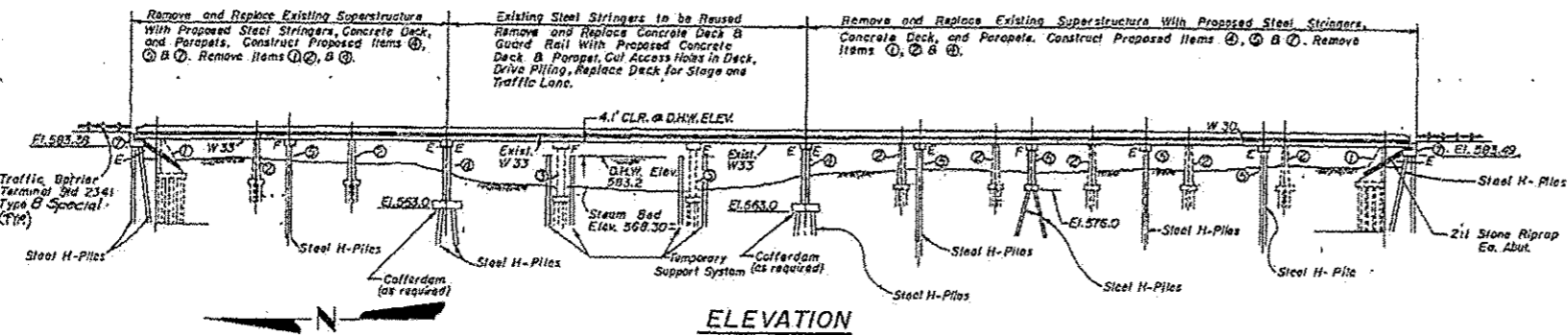
BENCH MARK: BM #100 - WATERWAY DISK SET IN WINGWALL AT STA. 281+98, 18' RT OF C IN SOUTHWEST WINGWALL OF SALT CREEK BRIDGE. ELEVATION = 590.92 ±.

EXISTING STRUCTURE: 054-0021 THE EXISTING THREE SPAN CONTINUOUS STEEL STRINGER AND NINE SIMPLE SPAN REINFORCED CONCRETE "T" BEAM BRIDGE MEASURES 549'-0" BK TO BK OF ABUTMENTS AND HAS A 35'-0" WATER TABLE. THIS STRUCTURE WAS BUILT AS S.B.I. RTE. 121, SEC. A-117B IN 1931. THIS STRUCTURE WAS WIDENED IN 1958 AND THE ORIGINAL THRU TRUSS WAS REPLACED BY THE THREE SPAN STEEL STRINGERS. THE EXISTING BRIDGE SHALL BE REMOVED AND REPLACED WITH A TWO SPAN AND FIVE SPAN CONTINUOUS APPROACH STRUCTURES. THE EXISTING THREE SPAN STEEL STRINGERS AND TWO HAMMERHEAD PIERS SHALL REMAIN. THE PROPOSED BRIDGE MEASURES 573'-0" BK TO BK OF ABUTMENTS. THERE WILL BE NO SHIFT IN ROADWAY ALIGNMENT. THE EXISTING SOUTH BOUND LANE SHALL MAINTAIN STAGE I TRAFFIC. STAGE II TRAFFIC SHALL BE MAINTAINED BY EAST HALF OF THE PROPOSED BRIDGE. NO SALVAGE.

- ① EXISTING ABUTMENTS - REMOVE UPPER PORTION DURING STAGE CONSTRUCTION AS REQUIRED FOR INSTALLATION OF PROPOSED STEEL STRINGERS AND PROPOSED ABUTMENTS - LOWER PORTION OF EXISTING ABUTMENT TO REMAIN IN PLACE.
- ② EXISTING PIERS - REMOVE UPPER PORTION DURING STAGE CONSTRUCTION AS REQUIRED TO MINIMUM OF 1'-0" BELOW EXISTING GROUND LINE.
- ③ EXISTING HAMMERHEAD PIERS - TO REMAIN. REPLACE ROCKER BEARINGS WITH TYPE I, ELASTOMERIC. PRIOR TO EXISTING DECK REMOVAL, DRIVE TEMPORARY H PILING AND INSTALL TEMPORARY SUPPORT SYSTEM.

- ④ EXISTING PIERS - REMOVE DOWN TO BOT. OF PILE CAP DURING STAGE CONSTRUCTION. DRIVE PROPOSED STEEL PILING THROUGH/ AROUND THE EXISTING TIEBACK PILE GROUP. CONSTRUCT PROPOSED PIER. TEMPORARILY SUPPORT EXISTING W33 STRINGERS DURING PIER REMOVAL AND CONSTRUCTION.
- ⑤ PROPOSED PILE BENTS TO BE INSTALLED DURING STAGE CONSTRUCTION.
- ⑥ PIER NO. 5: PROPOSED SOLID R.C. PIER.
- ⑦ PROPOSED ABUTMENT - PLACED BEHIND EXISTING TO AVOID DEEP EXCAVATION AND COMPLETE REMOVAL OF EXISTING ABUTMENT - ①.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DESIGN SPECIFICATIONS
AASHTO (1983 & 1984 Thru 1988 Interim), New Construction

LOADING HS 20-44
25 lbs./sq.ft. Allowance for Future Wearing Surface.

DESIGN STRESSES
f'c = 3,500 p.s.i.
fy = 60,000 p.s.i. (Reinf.)
fy = 50,000 p.s.i. (Structural S.I.I.) (M 223, Gc 50)
fy = 36,000 p.s.i. (Structural S.I.I.) (M 183)

STATION 279+24.5
BUILT BY
STATE OF ILLINOIS
F.A. RTE. 706 SEC. 117 BR
F.A. PROJ. ACBHF-T01(18)
LOADING HS 20
STR. NO. 054-0021

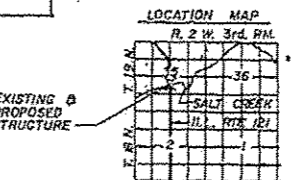
NAME PLATE
(See Standard 2115)

WATERWAY INFORMATION

Drainage Area = 435 Sq. Mi. Low Grade Elev. 587.72' at Sta. 267+95

Flood	Freq. Yr.	Opening		Net. H.W.E.	Headwater Elev.	
		Exist.	Prop.		Exist.	Prop.
Main Channel	0	12,280	4086	4086		
	50	2,300	360	360	583.2	0.38 583.58
	Total	14,580	4446	4446		
Base	0	14,032	4216	4216		
	100	2,500	375	375	583.5	0.45 583.95
	Total	16,532	4591	4591		
Maximum Or Overflow	0	17,945	4806	4806		
	500	3,000	400	400	584.0	0.65 584.65
	Total	20,945	5206	5206		

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
John W. Coakley
Registered Structural Engineer



F.A.R. ROUTE 706
SECTION 117BR
LOGAN COUNTY
STATION 279+24.5
ILLINOIS ROUTE 121 over
SALT CREEK
GENERAL PLAN & ELEVATION
STRUCTURE NO. - 054-0021

PER NO. 2 G 5 (ITEM ③) CONSTRUCTION SEQUENCE
1) CONSTRUCT TEMPORARY SHORING FOR THE EXISTING W33 BEAMS DURING STAGE CONSTRUCTION.
2) REMOVE EXISTING PIERS (ITEM ③) USING STAGE REMOVAL.
3) REBUILD PIERS NO. 2 & 5 (ITEM ③) DURING STAGE CONSTRUCTION.

GENERAL NOTES
See Proposal for Boring Data.
Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to normal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
The Contractor shall drive (1) HP10x42 test pile in a permanent location at the S. Abutment, (1) HP12x63 test pile in a permanent location at Pier 16 and (1) HP14x73 test pile in a permanent location at Pier 11.

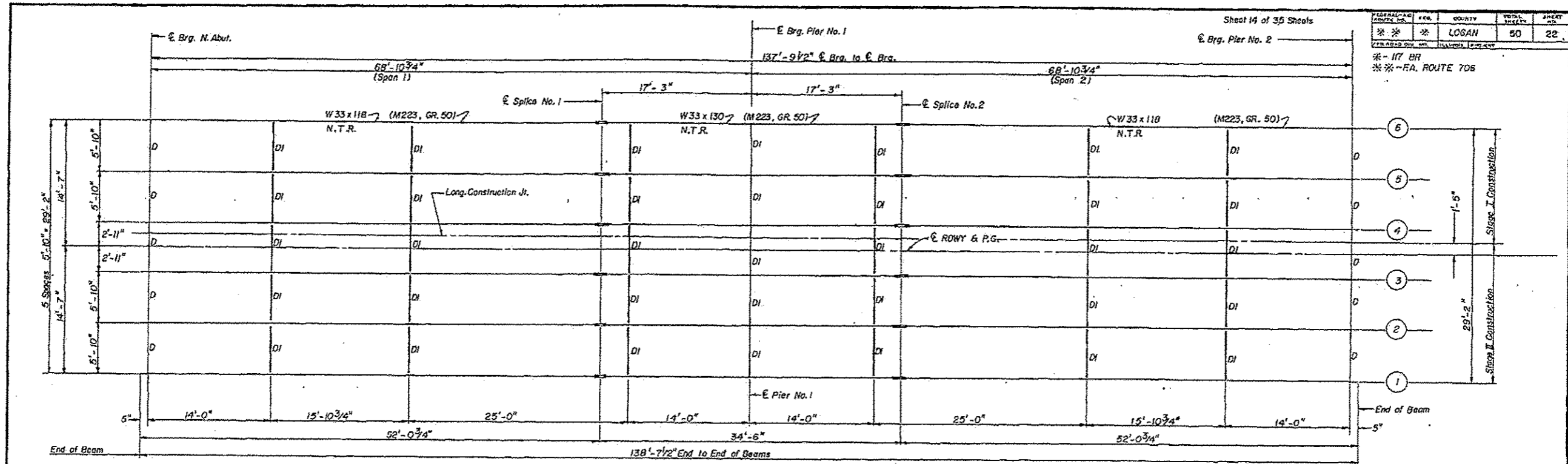
TOTAL BILL OF MATERIALS

ITEM	UNIT	SUB-STRUCTURE	SUPER-STRUCTURE	TOTAL
Bridge Seal Sealer	L. Sun			1
Removal of Existing Concrete Deck	L. Sun		1	1
Structure Excavation	Cu. Yd.	1,122		1,122
Floor Drains	Each		64	64
Protective Coat	Sq. Yd.		2,515	2,515
Class X Concrete	Cu. Yd.		274.4	274.4
Class X Concrete Super-Structure	Cu. Yd.		632.0	632.0
Furn. and Erect. Structural Steel	L. Sun		1	1
Reinforcement Bars	Pound	16,210		16,210
Reinforcement Bars (Epoxy Coated)	Pound	8,850	151,450	160,300
Preformed Joint Seal, 2-1/2"	Lin. Ft.		35	35
Preformed Joint Seal, 4"	Lin. Ft.		35	35
Neoprene Expansion Joint, 2"	Lin. Ft.		34	34
Neoprene Expansion Joint, 4"	Lin. Ft.		34	34
Elastomeric Bearing Assembly, Type I	Each		48	48
Elastomeric Bearing Assembly, Type II	Each		12	12
Temporary Bridge Rail	Lin. Ft.		573	573
Removal of Existing Sub-Structure	L. Sun	1		1
Removal of Existing Super-Structure	L. Sun		1	1
Furnish Steel Piles (HP 10x42)	Lin. Ft.	2,076		2,076
Furnish Steel Piles (HP 12x63)	Lin. Ft.	853		853
Furnish Steel Piles (HP 14x73)	Lin. Ft.	240		240
Driving Steel Piles	Lin. Ft.	3,169		3,169
Test Pile Steel (HP 10x42)	Each	1		1
Test Pile Steel (HP 12x63)	Each	1		1
Test Pile Steel (HP 14x73)	Each	1		1
Stud Bolt Connectors	Each		6,456	6,456
Hexaplaton	Each		1	1
Stone Riprap CL A-4	Sq. Yd.		150	150
Class X Concrete Encasement	Cu. Yd.		29.6	29.6
Filter Fabric For Use With Riprap	Sq. Yd.		150	150
Temporary Sheet Piling	Sq. Ft.	1,000		1,000
Cleaning and Painting Steel Bridge	L. Sun		1	1
Temporary Support System	L. Sun		1	1
Temporary Shoring	Each		4	4
Jacking Existing Super-Structure	L. Sun		1	1
Cofferdams	Each	2		2

DESIGNED L.L. VIELEY
CHECKED S.H. GRUBER
DRAWN S.H. GRUBER
CHECKED S.H. GRUBER

R.A.N. CONSULTANTS INC.

F.A. ROUTE 706 (ILL. 121)/SALT CREEK



STRUCTURAL STEEL LAYOUT
N.T.R. Indicates Notch Toughness Requirement

INTERIOR GIRDER MOMENT TABLE

	0.4 Span 1cr2	Pier No. 1
I_x (in ⁴)	5900	6710
I_c (in ⁴)	16424	—
S_x (in ³)	359	406
S_c (in ³)	546	—
Dead Load (k/ft)	0.705	0.988
M Dead Load (ft-k)	228.1	572.3
S Dead Load (k/ft)	0.220	—
M _s Dead Load (ft-k)	110.6	—
M Live Load (ft-k)	437.9	241.3
M Impact (ft-k)	113.0	62.3
$\frac{5}{8}$ (M.L.L + I) (ft-k)	918.2	506
* M _a (ft-k)	1634	1402
* M _u (ft-k)	2275	1502
f _s D.L. Non-Comp. (ft-k)	7.6	16.9
f _s D.L. Comp. (ksi)	2.7	—
f _s 5/3 (LL + I) (ksi)	20.2	15.0
f _s Overload (ksi)	30.5	31.9
f _s Total (ksi)	39.7	41.5
V _r (k)	43.2	—

ELEVATION OF TOP OF BEAM
(TO BE USED FOR FABRICATION ONLY)

Beam Location	€ Brg. N. Abut.	€ Splice No. 1	€ Brg. Pier No. 1	€ Splice No. 2	€ Brg. Pier No. 2
Beam ①	589.970	589.897	589.907	589.917	590.053
Beam ②	590.078	590.005	590.015	590.025	590.161
Beam ③	590.169	590.096	590.106	590.116	590.252
Beam ④	590.169	590.096	590.106	590.116	590.252
Beam ⑤	590.078	590.005	590.015	590.025	590.161
Beam ⑥	589.970	589.897	589.907	589.917	590.053

See Sheet 17 for Splice Plate Connections and Diaphragm Details.

INTERIOR REACTION TABLE

	North Abut. Pier No. 2	Pier No. 1
R. Dead Load (kips)	25.8	84.4
R. Live Load (kips)	36.3	44.8
Impact (kips)	9.3	11.6
R. Total (kips)	71.4	140.8

DESIGNED L.L.VIELEY
CHECKED L.L.V./L.W.
DRAWN S.H.GRUBER
CHECKED L.L.V.

NOTES

I_c AND S_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING F_s (TOTAL AND OVERLOAD).
 I_c AND S_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING F_s (TOTAL AND OVERLOAD).
VR IS THE MAXIMUM L_c + IMPACT SHEAR RANGE IN SPAN.

THE FULLY PLASTIC MOMENT CAPACITY (M_u) IS COMPUTED ACCORDING TO AASHTO 10.48.I & 10.50.1.1.
 F_s (TOTAL) IS THE SUM OF THE STRESSES DUE TO $1.3 (M_L + \frac{5}{8} (M_D + I))$.
 F_s (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO $M_L + \frac{5}{8} (M_D + I)$.
* M_a (APPLIED MOMENT) = $1.3 (M_L + M_D) + \frac{5}{8} (M_L + I)$.
 M_D - MOMENT DUE TO DEAD LOAD ON NON-COMPOSITE SECTION.
 M_D - MOMENT DUE TO DEAD LOAD ON COMPOSITE SECTION.
 M_L - MOMENT DUE TO LIVE LOAD ON COMPOSITE SECTION.
I - LIVE LOAD IMPACT.
** M_u - ULTIMATE MOMENT CAPACITY OF SECTION.

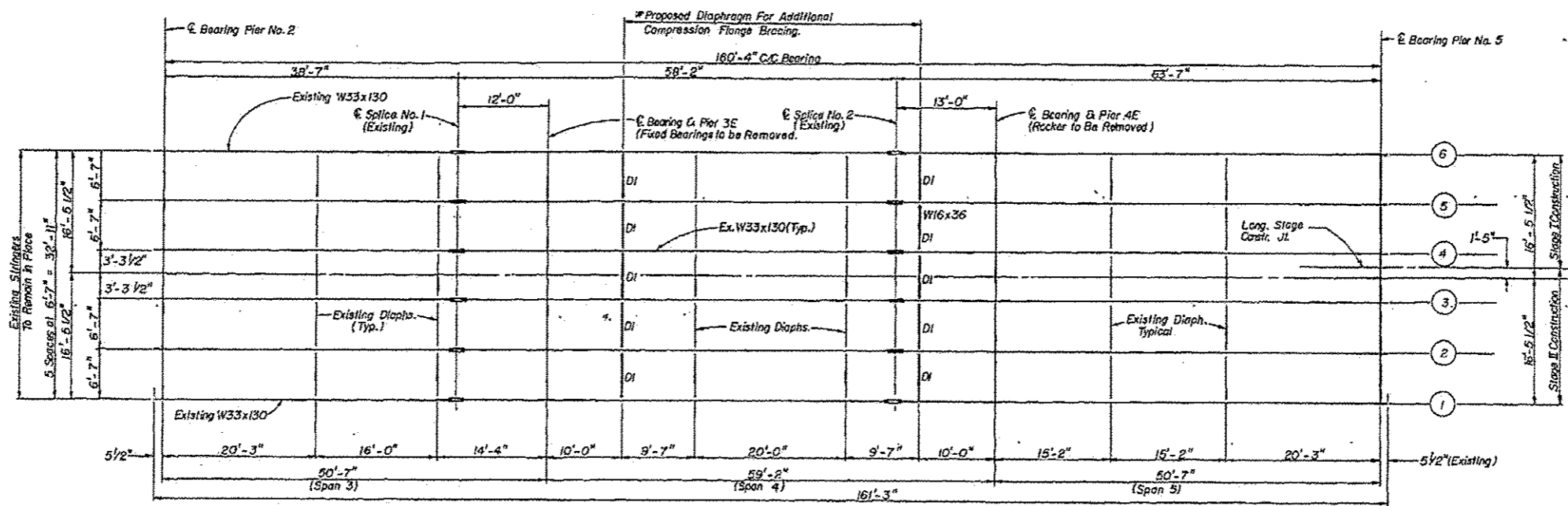
F.A. ROUTE 706
SECTION 117 BR
LOGAN, COUNTY
STATION 279+24.5

STRUCTURAL STEEL LAYOUT 2-SPAN STRUCTURE

R.A.N. CONSULTANTS, INC.

F.A. ROUTE 706 (ILL. 121)/SALT CREEK

DESIGNED	LOGAN	TOTAL SHEETS	50	SHEET NO.	23
CHECKED					



EXISTING STRUCTURAL STEEL LAYOUT

- Construction Notes:
1. Remove Existing Bridge Rail, Concrete Curb, Concrete Slab Down to Top of Steel Stringers, Per Stage Construction Sequence.
 2. Existing Stringers 1 Thru 6 to Remain as Located.
 3. Temporarily Shore Stringers Near Pier's No. 2 & No. 5 For Pier Construction. See Special Provisions.
 4. Shore and Place Proposed Elastomeric Brgs. @ Existing Pier 4E.
 5. Areas Noted by (*) indicate Proposed Diaphragm to be Shop Fabricated and Field Installed.
 6. See Sheet 17 for Diaphragm Detail.

NOTES

I_x AND S_x ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING F_s (TOTAL AND OVERLOAD).

INTERIOR GIRDER MOMENT TABLE

	0.4 Span 3 or 5	Pier 3E or 4E	0.5 Span 4
I_x (in ⁴)	6710	6710	6710
S_x (in ³)	405.4	405.4	405.4
Z (in ³)	467		467
Dead Load (ft-k)	0.836	0.836	0.836
M Dead Load (ft-k)	155.9	251.7	114.0
S-Dead Load (ft-k)	0.28	0.28	0.28
M _s Dead Load (ft-k)	52.2	84.3	38.2
M Live Load (ft-k)	306.1	239.4	290.1
M Impact (ft-k)	85.7	64.7	81.2
M LL+I (ft-k)	391.8	304.1	371.3
M _a (ft-k)	1119.4	1095.6	1002.4
M _u (ft-k)	1401.0	1101.3	1401.0
f _s D.L. (ksi)	6.2	9.9	4.5
f _s 5/3 (LL+I) (ksi)	19.3	15.0	18.3
f _s Overload (ksi)	25.5	24.9	22.8
f _s Total (ksi)	33.2	32.4	29.6
V _r (k)	48.2		48.7

ELEVATION OF TOP OF BEAM:

Beam Location	€ Brg. Pier No. 2	€ Splice No. 1	€ Brg. Pier 3E	€ Splice No. 2	€ Brg. Pier 4E	€ Brg. Pier No. 5
Beam ①	589.803	589.826	589.833	589.850	589.866	589.896
Beam ②	589.903	589.926	589.933	589.960	589.966	589.996
Beam ③	589.973	589.996	590.003	590.030	590.036	590.066
Beam ④	589.973	589.996	590.003	590.030	590.036	590.066
Beam ⑤	589.903	589.926	589.933	589.960	589.966	589.996
Beam ⑥	589.803	589.826	589.833	589.860	589.866	589.896

INTERIOR REACTION TABLE

	Piers 2 & 5	Piers 3E & 4E
R. Dead Load (kips)	21.6	67.9
R. Live Load (kips)	38.1	45.4
Impact (kips)	10.7	12.3
R. Total (kips)	70.4	125.6

DESIGNED L.L.VIELEY
 CHECKED [Signature]
 DRAWN S.H.GRUBER
 CHECKED [Signature]

VR IS THE MAXIMUM $L +$ IMPACT SHEAR RANGE IN SPAN.
 Z IS THE PLASTIC SECTION MODULUS USED TO DETERMINE THE FULLY PLASTIC MOMENTS IN THE NON-COMPOSITE AREAS.
 THE FULLY PLASTIC MOMENT CAPACITY (M_u) IS COMPUTED ACCORDING TO AASHTO 10, 48.1 & 10.50.1.1.
 F_s (TOTAL) IS THE SUM OF THE STRESSES DUE TO $1.3 (M_D + \frac{5}{8} (M_L + I))$.
 F_s (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO $M_D + \frac{5}{8} (M_L + I)$.
 M_a (APPLIED MOMENT) = $1.3 (M_D + M_L + \frac{5}{8} (M_L + I))$.
 M_D - MOMENT DUE TO DEAD LOAD ON SECTION.
 M_L - MOMENT DUE TO SUPERIMPOSED DEAD LOAD ON SECTION.
 M_L - MOMENT DUE TO LIVE LOAD ON SECTION.
 I - LIVE LOAD IMPACT.
 *** M_u - ULTIMATE MOMENT CAPACITY OF SECTION.

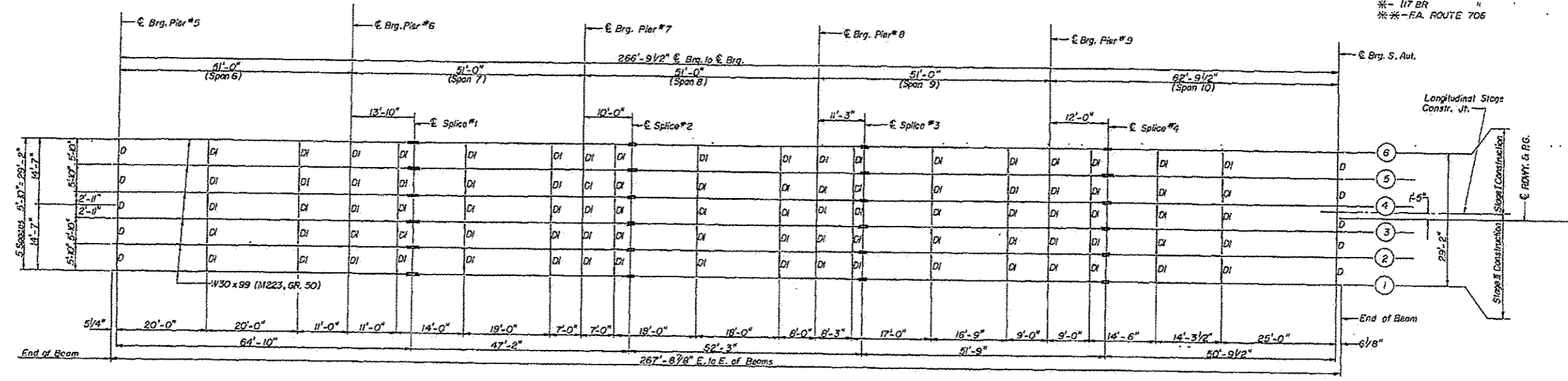
F.A. ROUTE 706
 SECTION 117 BR
 LOGAN COUNTY
 STATION 279+24.5

STRUCTURAL STEEL LAYOUT EXISTING 3-SPAN STRUCTURE

R.A.N. CONSULTANTS, INC.

F.A. ROUTE 706 (ILL. 121)/SALT CREEK

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
* 117 BR	06 EDGE PAINTING 2016	LOGAN	50	24
** - F.A. ROUTE 706				



STRUCTURAL STEEL LAYOUT

ELEVATION OF TOP OF BEAM (TO BE USED FOR FABRICATION ONLY)

Beam Location	E. Brg. Pier No. 5	E. Brg. Pier No. 6	E. Splice No. 1	E. Brg. Pier No. 7	E. Splice No. 2	E. Brg. Pier No. 8	E. Splice No. 3	E. Brg. Pier No. 9	E. Splice No. 4	E. Brg. S. Abut.
Beam ①	590.146	590.106	590.095	590.090	590.089	590.075	590.071	590.045	590.037	590.064
Beam ②	590.254	590.215	590.203	590.198	590.197	590.183	590.179	590.153	590.146	590.172
Beam ③	590.345	590.305	590.294	590.289	590.288	590.274	590.270	590.244	590.236	590.263
Beam ④	590.345	590.305	590.294	590.289	590.288	590.274	590.270	590.244	590.236	590.263
Beam ⑤	590.254	590.215	590.203	590.198	590.197	590.183	590.179	590.153	590.146	590.172
Beam ⑥	590.146	590.106	590.095	590.090	590.089	590.075	590.071	590.045	590.037	590.064

INTERIOR GIRDER MOMENT TABLE

	0.4 Span 6	Pier No. 6	0.5 Span 7	Pier No. 7	0.5 Span 8	Pier No. 8	0.5 Span 9	Pier No. 9	0.6 Span 10
I_x (in ⁴)	3990	3990	3990	3990	3990	3990	3990	3990	3990
I_c (in ⁴)	12097	—	12097	—	12097	—	12097	—	12097
S_x (in ³)	269.1	269.1	269.1	269.1	269.1	269.1	269.1	269.1	269.1
S_c (in ³)	428.0	—	428.0	—	428.0	—	428.0	—	428.0
Dead Load (ft-k)	0.674	0.954	0.674	0.954	0.674	0.954	0.674	0.954	0.674
M Dead Load (ft-k)	137.2	243.9	56.2	193.3	88.0	164.5	37.1	336.1	217.5
S-Dead Load (x/r)	0.28	—	0.28	—	0.28	—	0.28	—	0.28
M S-Dead Load (ft-k)	64.8	—	39.4	—	45.9	—	32.8	—	103.3
M Live Load (ft-k)	294.4	139.3	240.5	130.3	251.9	132.3	234.3	170.5	392.3
M Impact (ft-k)	83.6	39.3	68.3	37.0	71.5	37.6	66.6	45.9	104.4
M_3 (M.L.L.+I) (ft-k)	629.9	295.9	547	278.9	539.0	283.2	501.5	362.3	827.8
M _o (ft-k)	1081.5	701.8	793.2	613.9	874.7	582.0	742.8	907.9	1493.0
M _u (ft-k)	2569	1028	2569	1083	2569	1068	2569	1060	2569
f_s D.L. Non-Comp. (ft-k)	6.1	10.9	2.5	8.6	3.9	7.3	1.7	15.0	9.7
f_s D.L. Comp. (ksi)	2.0	—	1.2	—	1.4	—	1.0	—	3.2
f_s 5/3 (L+I) (ksi)	17.7	13.2	14.4	12.4	15.1	12.6	14.1	16.2	23.2
f_s Overload (ksi)	25.8	24.1	19.1	21.0	20.4	19.9	16.8	31.2	36.1
f_s Total (ksi)	33.6	31.3	23.6	27.3	26.5	25.9	21.8	40.6	46.9
V _r (k)	41.9	—	42.1	—	42.0	—	42.7	—	42.8

See Sheet 18 for Beam Details

INTERIOR REACTION TABLE

	Pier #5	Pier #6	Pier #7	Pier #8	Pier #9	S. Abut.
R. Dead Load (kips)	19.6	54.4	48.3	44.9	53.0	24.7
R. Live Load (kips)	34.4	39.2	38.6	38.6	40.1	35.9
Impact (kips)	9.7	11.1	10.9	11.0	11.0	9.5
R. Total (kips)	63.7	104.7	97.8	94.5	114.1	70.1

DESIGNED L.L. VIELEY
CHECKED [Signature]
DRAWN SH. GRUBER
CHECKED [Signature]

NOTES

I_x AND S_x ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING F_s (TOTAL AND OVERLOAD).

I_c AND S_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING F_s (TOTAL AND OVERLOAD).

V_r IS THE MAXIMUM t + IMPACT SHEAR RANGE IN SPAN.

Z IS THE PLASTIC SECTION MODULUS USED TO DETERMINE THE FULLY PLASTIC MOMENTS IN THE NON-COMPOSITE AREAS.

THE FULLY PLASTIC MOMENT CAPACITY (M_u) IS COMPUTED ACCORDING TO AASHTO 10.48.2 & 10.50.1.1.

F_s (TOTAL) IS THE SUM OF THE STRESSES DUE TO $1.3 (M_D + \frac{1}{2} (M_L + I))$.

F_s (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO $M_D + \frac{1}{2} (M_L + I)$.

M_A (APPLIED MOMENT) = $1.3 (M_D + M_D L + \frac{1}{2} (M_L + I))$.

$M_D L$ - MOMENT DUE TO DEAD LOAD ON NON-COMPOSITE SECTION.

$M_D C$ - MOMENT DUE TO DEAD LOAD ON COMPOSITE SECTION.

M_L - MOMENT DUE TO LIVE LOAD ON COMPOSITE SECTION.

I - LIVE LOAD IMPACT.

** M_u - ULTIMATE MOMENT CAPACITY OF SECTION

F.A. ROUTE 706
SECTION 117 BR
LOGAN COUNTY
STATION 279+24.5

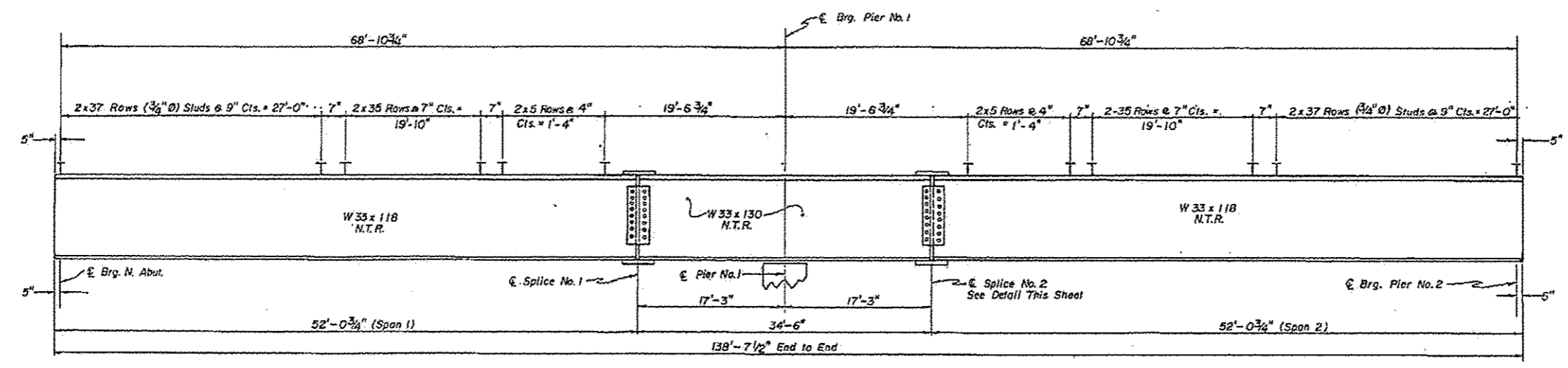
STRUCTURAL STEEL LAYOUT 5-SPAN STRUCTURE

R.A.N. CONSULTANTS, INC.

F.A. ROUTE 706 (ILL. 121)/SALT CREEK

PROJECT/NO.	S.E.C.	QUANTITY	TOTAL SHEETS	SHEET NO.
**	**	LOGAN	50	25

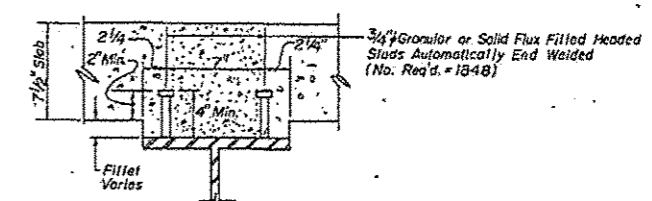
* - I17 BR
** - F.A. ROUTE 706



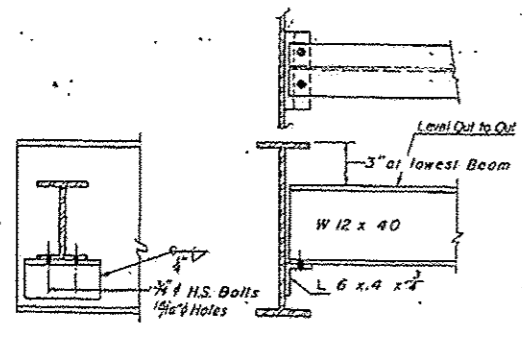
SHEAR CONNECTORS

All Structural Steel Fabricators Performing Work On The Main Load Carrying Components Of Steel Structures Shall Be Certified Under Category I (AISC) Of The Quality Certification Program.

See Sheet 14 for Structural Steel Layout & Elevations.
N.T.R. - Notch Toughness Requirements, Zone 2.
All W33 Beams and Splice Plate Materials Shall Be AASHTO, M-223, Grade 50 Steel.



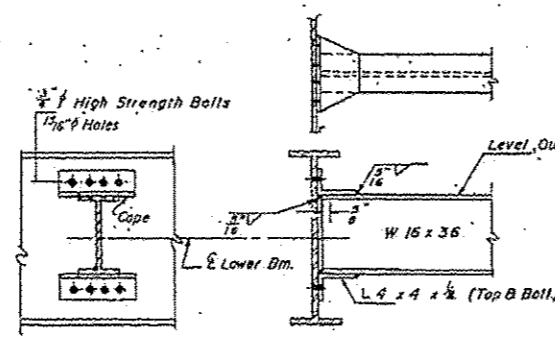
SHEAR STUDS



DIAPHRAGM D

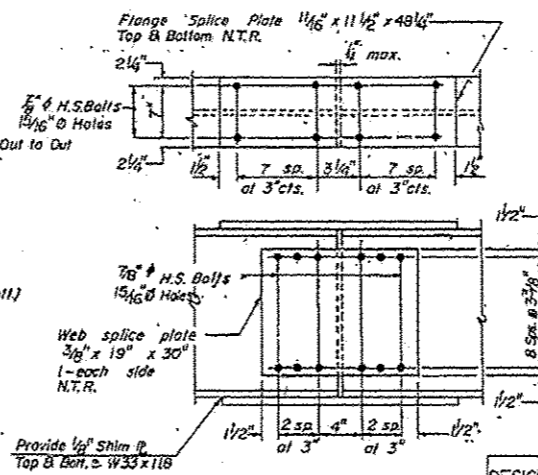
(10 Required @ 2 Span)
(10 Required @ 5 Span)

Note: Two hardened washers shall be required over all holes in diaphragm connections.



DIAPHRAGM D1

(35 Required @ 2 Span)
(90 Required @ 5 Span)
(10 Required @ 3 Span)



SPLICE
No. 1 & No. 2

DESIGNED	L.L. VIELEY
CHECKED	[Signature]
DRAWN	S.H. GRUBER
CHECKED	[Signature]

STUD SHEAR CONNECTORS

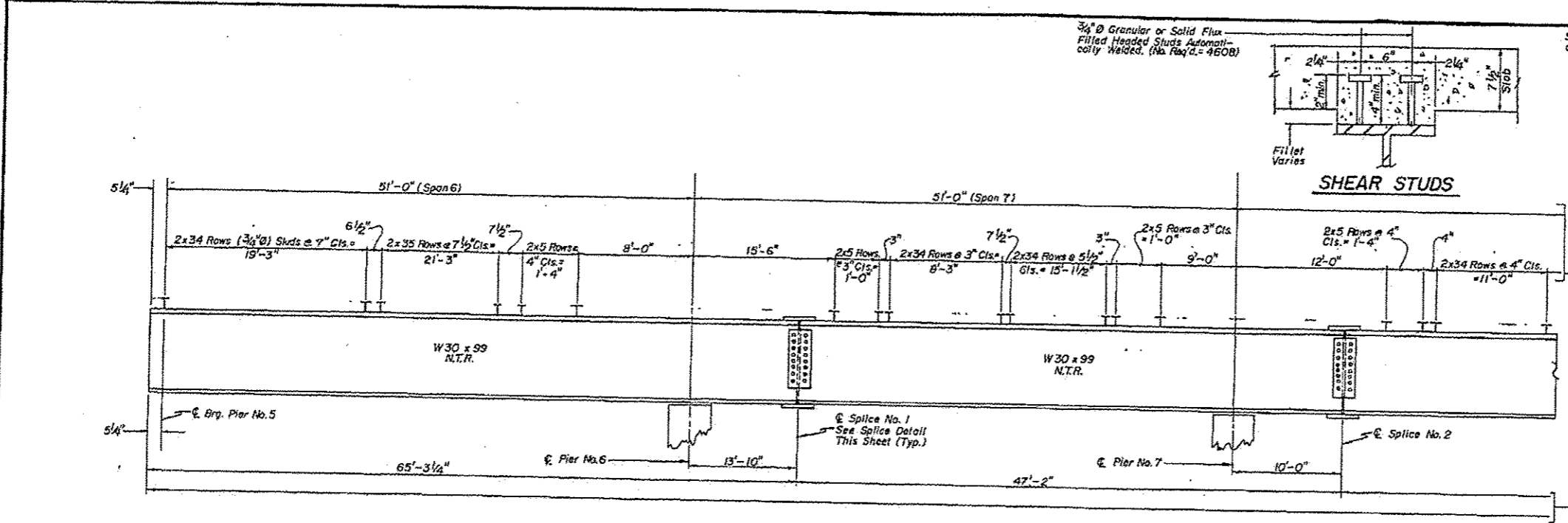
Span No.	No. of Rows	No. of Studs
1	77	154
2	77	154
Total Each Beam		308
Total No. Req'd.		1848

F.A. ROUTE 706
SECTION I17 BR
LOGAN COUNTY
STATION 279+24.5

**SPLICE & DIAPHRAGM DETAILS
SHEAR CONNECTORS**

R.A.N. CONSULTANTS, INC.

F.A. ROUTE 706 (ILL. 121)/SALT CREEK

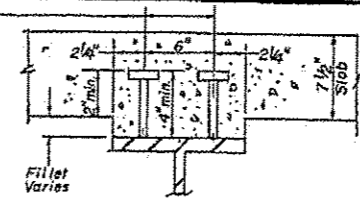


3/4" Ø Granular or Solid Flux Filled Headed Studs Automatically Welded. (No. Req'd. = 4608)

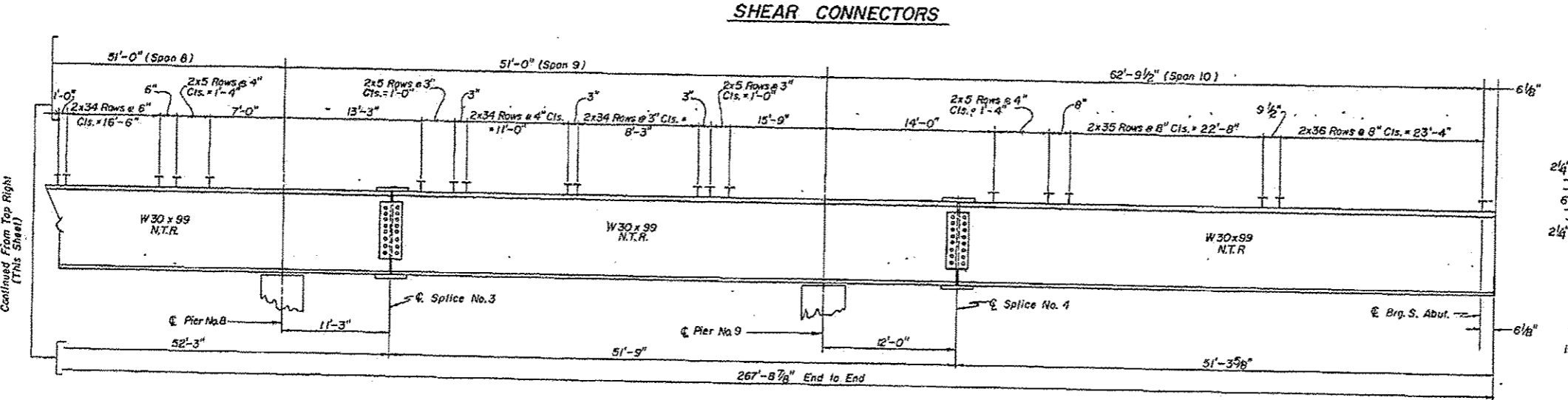
Sheet 18 of 35 Sheets

REV.	DATE	BY	CHKD.	TOTAL SHEETS	SHEET NO.
1				50	26

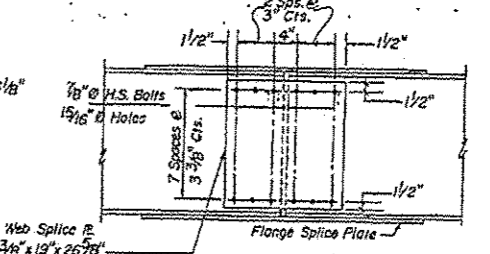
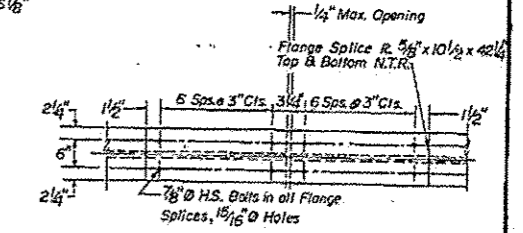
* - I17 BR
** - EA. ROUTE 706



SHEAR STUDS



SHEAR CONNECTORS



SPLICE NO. 1 THRU NO. 4

All Structural Steel Fabricators Performing Work On The Main Load Carrying Components Of Steel Structures Shall Be Certified Under Category I (AISC) Of The Quality Certification Program.

Notes:
See Sheet 18 For Structural Steel Layout & Elevations.
See Sheet 17 For Typical Diaphragm Details.
N.T.R. - Notch Toughness Requirements - Zone 2.
All W30 x 99 Beams And Splice Plate Materials Shall Be AASHTO M-223, Grade 50 Steel.

DESIGNED	L.L. VIELEY
CHECKED	L.V.
DRAWN	S.H. GRUBER
CHECKED	L.V.

E.A.R. ROUTE 706
SECTION I17 BR
LOGAN COUNTY
STATION 279+24.5

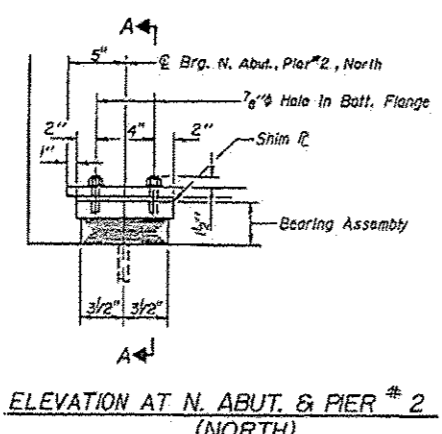
SPLICE DETAILS & SHEAR CONNECTORS

R.A.N. CONSULTANTS INC.

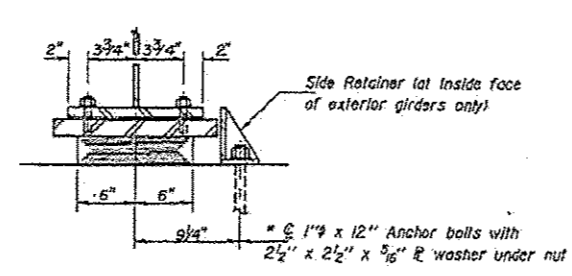
F.A. ROUTE 706 (ILL. 121) / SALT CREEK

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

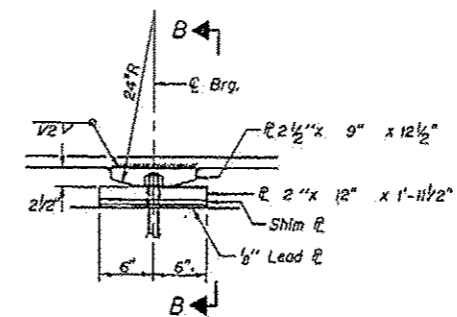
PROJECT NO.	SECTION	SHEET	TOTAL SHEETS
706 117 BR	LOGAN	50	27
SHEET NO. 19 SHEETS 35			



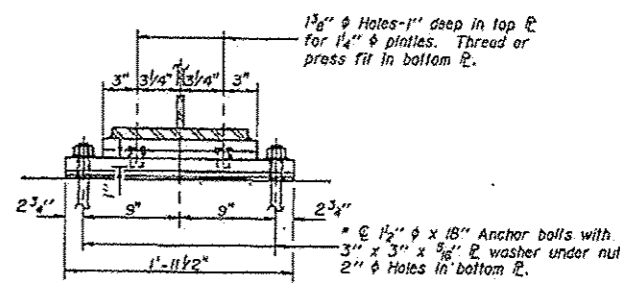
ELEVATION AT N. ABUT. & PIER # 2
(NORTH)



SECTION A-A



ELEVATION AT PIER # 1

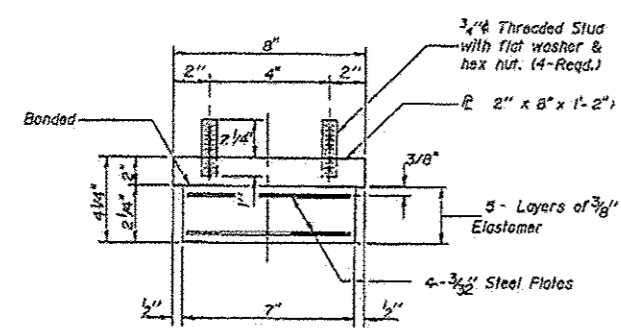


SECTION B-B
at Pier No. 1

TYPE I ELASTOMERIC EXP. BRG.

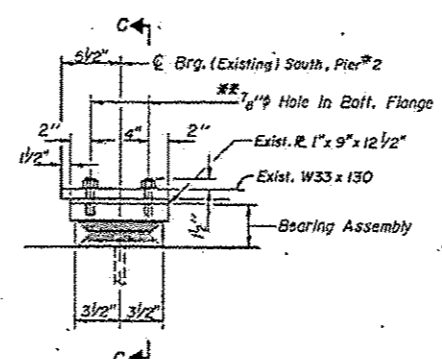
FIXED BEARING

* Notes: Anchor bolts at fixed bearings may be built into the masonry.
See sheet # 24 for Anchor Bolt Installation.



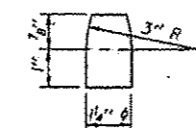
BEARING ASSEMBLY
at N. Abut. & Pier # 2

Note: Shim plates shall not be placed under Bearing Assembly.

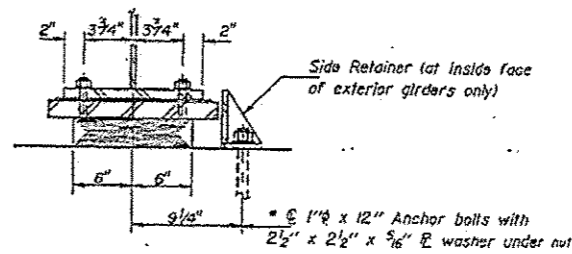


ELEVATION AT PIER # 2
(SOUTH)

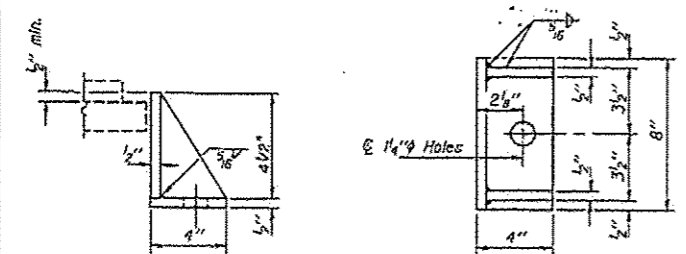
TYPE I ELASTOMERIC EXP. BRG.



PINTLE

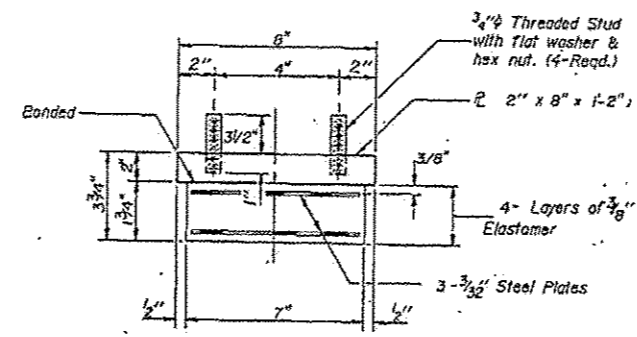


SECTION C-C
at Pier No. 2



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BEARING ASSEMBLY
at Pier No. 2

Note: Shim plates shall not be placed under Bearing Assembly.

** Cost of Field Drilling Existing Flanges For New Bearings Incidental to Cost of Elastomeric Bearings.
Cost of Existing Bearing Removal of Existing Piers 3 & 4 Incidental to Temporary Shoring.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	18

F.A. ROUTE 706
SECTION 117 BR
LOGAN COUNTY,
STATION 279+24.5

BEARING DETAILS

DESIGNED	L.I. VIELEY
CHECKED	[Signature]
DRAWN	S.H. GRUBER
CHECKED	[Signature]

I-2-E1 12-1-83

R.A.N. CONSULTANTS, INC.

F.A. ROUTE 706 (ILL. 121)/SALT CREEK

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING PLANS SN 054-0021
(FOR INFORMATION ONLY)

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	06 EDGE PAINTING 2016	LOGAN	28	25
CONTRACT NO. 72H87				

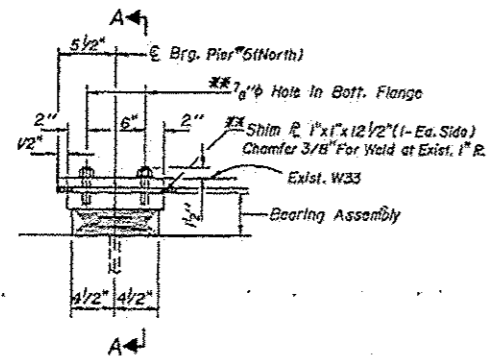
FILE NAME	USER NAME	DESIGNED	REVISED
D:\OPERATIONS\Bridges\Bridges\plans\CAD72H87 - Logan County paint FY16\plansheet.dgn	duoljgdm	-	-
PLOT SCALE	PLOT DATE	CHECKED	REVISED
1/8" = 1'-0"	7/7/2015	-	-

SCALE: SHEET OF SHEETS STA. TO STA.

ILLINOIS FED. AID PROJECT

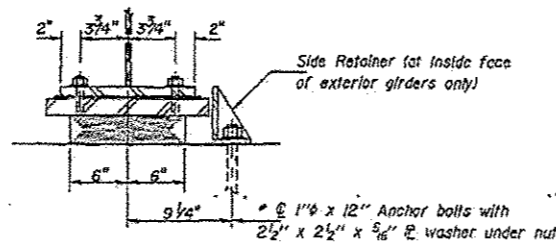
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	SHEET	TOTAL
706	17 BR	LOGAN	50	28
SHEET NO. 20 SHEETS 35				



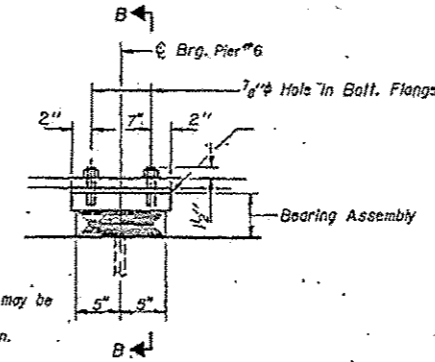
ELEVATION AT PIER NO. 5 - NORTH

TYPE I ELASTOMERIC EXP. BRG.



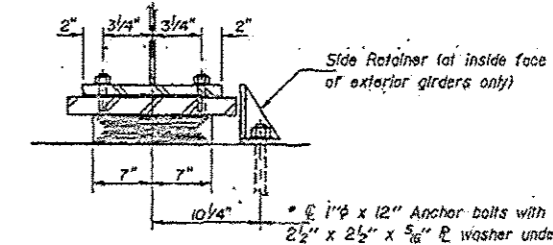
SECTION A-A
@ Pier No. 5

* Notes: Anchor bolts of fixed bearings may be built into the masonry.
See sheet #24 for Anchor Bolt Installation.



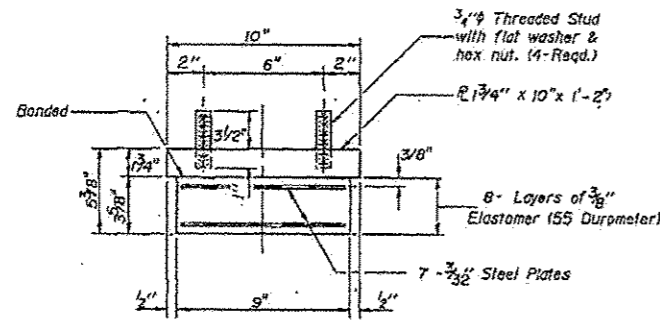
ELEVATION AT PIER NO. 6

TYPE I ELASTOMERIC EXP. BRG.



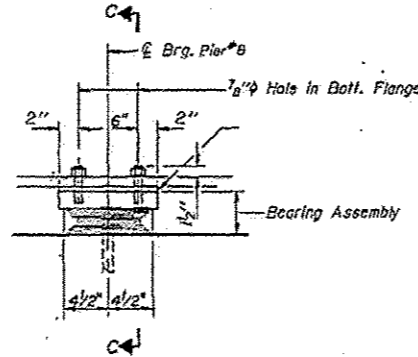
SECTION B-B
@ Pier No. 6

* Notes: Anchor bolts of fixed bearings may be built into the masonry.
See sheet #24 for Anchor Bolt Installation.



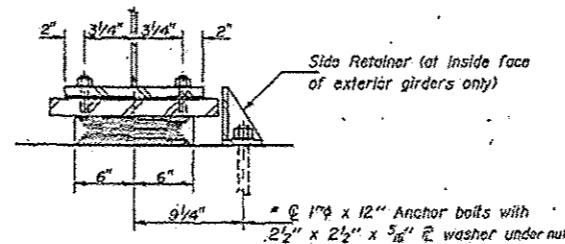
BEARING ASSEMBLY
@ Pier No. 5

Note: Shim plates shall not be placed under Bearing Assembly.



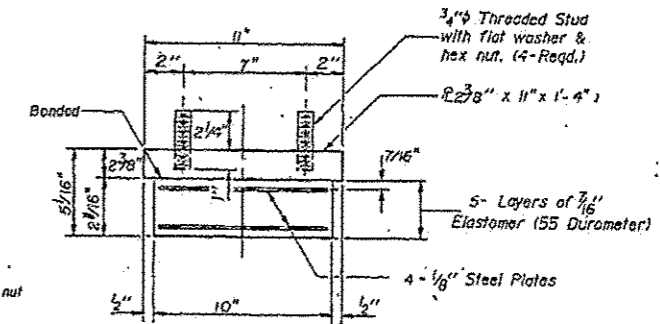
ELEVATION AT PIER NO. 8

TYPE I ELASTOMERIC EXP. BRG.

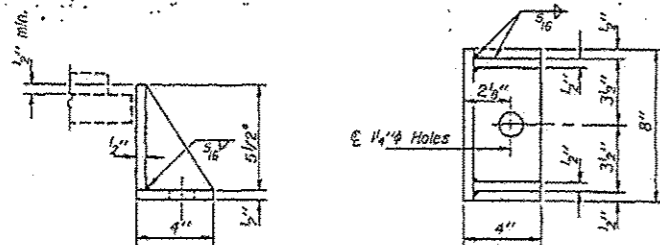


SECTION C-C
@ Pier No. 8

** Cost of Field Drilling Existing Flanges For New Bearings, Including Shim Plates and Welding Incidental to Cost of Elastomeric Bearings.
Cost of Existing Bearing Removal at Existing Pier 3 & 4 Incidental to Temporary Shoring.



BEARING ASSEMBLY
@ Pier No. 6

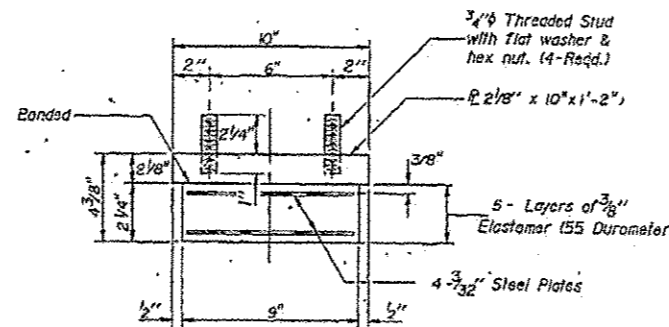


SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

DESIGNED	L.L.VIELEY
CHECKED	L.A.J./w
DRAWN	S.H.GRUBER
CHECKED	L.A.J.
I-2-EI 12-1-83	

R.A.N. CONSULTANTS, INC.



BEARING ASSEMBLY
@ Pier No. 8

F.A. ROUTE 706 (ILL. 121)/SALT CREEK

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	18

R.A.R. ROUTE 706
SECTION 117 BR
LOGAN COUNTY
STATION 279+24.5

BEARING DETAILS

FILE NAME	USER NAME	DESIGNED	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING PLANS SN 054-0021 (FOR INFORMATION ONLY)	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D:\OPERATIONS\Bridges\Bridgplans\CAD\7	ld7 - Logan County plans FY16\plans\shadgn	DRAWN	REVISED			VAR.	DG BOGE PAINTING 2016	LOGAN	28	26
	PLOT SCALE = 1/8" = 1' - 0"	CHECKED	REVISED			SCALE:				
	PLOT DATE = 7/7/2015	DATE	REVISED			SHEET	OF	SHEETS	STA.	TO STA.
										CONTRACT NO. 72H87
										(ILLINOIS) FED. AID PROJECT

