

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PROPOSED HIGHWAY PLANS

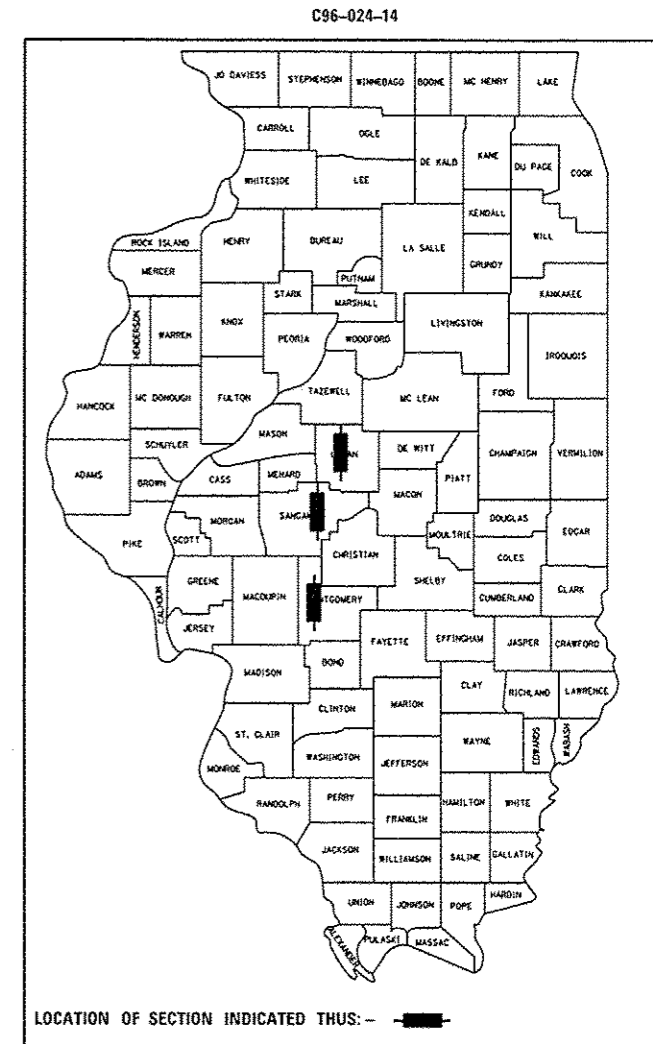
ROUTE FAI 55 (1-55)
SECTION D6 BRIDGE PAINTING 2014

MOTGOMERY, SANGAMON, AND LOGAN COUNTY

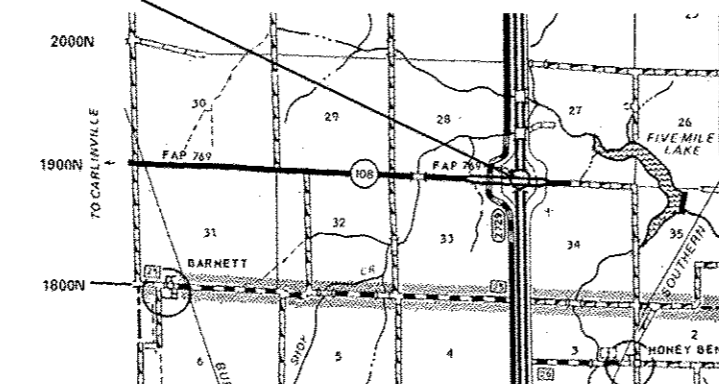
C-96-024-14

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR.	D6 PAINTING 2014-1	VARIOUS	15	1
ILLINOIS			CONTRACT NO. 72G55	

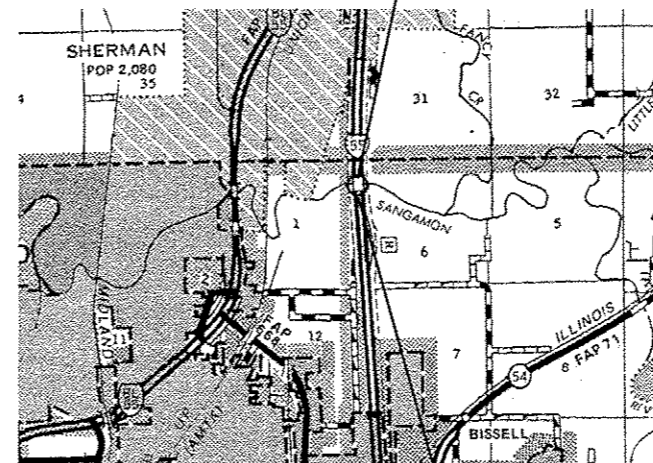
FOR INDEX OF SHEETS, SEE SHEET NO. 2



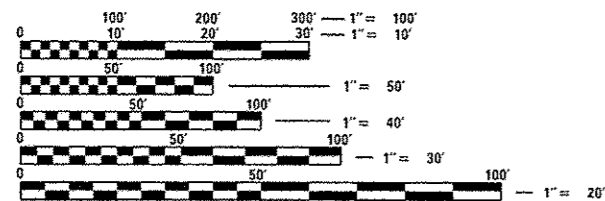
SN 0680043



SN 0840018



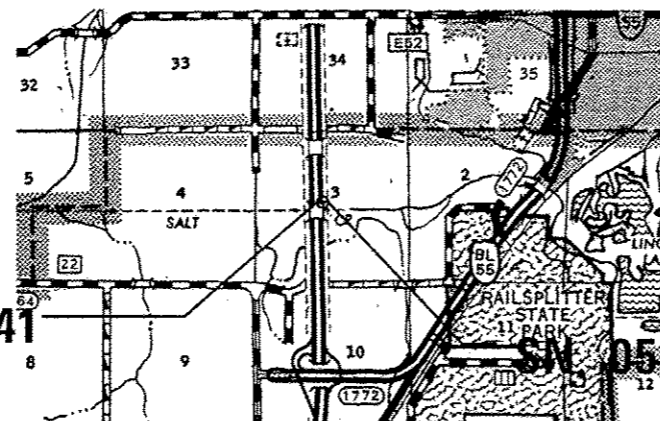
SN 0840019



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

SN 0540041



SN 0540042

GROSS LENGTH = x.xx FT. = x.xxx MILE
NET LENGTH = x.xx FT. = x.xxx MILE

PROJECT ENGINEER BRANDON DUDLEY (217) 785-9290
PROJECT MANAGER DAVE COPENBARGER (217) 785-5306

CONTRACT NO. 72G55

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED October 30 20 13

Ronald Driskell
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Dec 6 20 13
John D. Baranzelli, P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

Dec 6 20 13
Omer Osman, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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OF THE STATE OF ILLINOIS

INDEX OF SHEETS:

- 1 COVER SHEET
- 2 INDEX, HIGHWAY STANDARDS, & GENERAL NOTES
- 3-4 SUMMARY OF QUANTITIES
- 5-8 EXISTING PLANS, SN 084-0018, 084-0019
- 9-12 EXISTING PLANS, SN 054-0041, 054-0042
- 13-15 EXISTING PLANS, SN 068-0043

STANDARDS

- 701001-02
- 701006-05
- 701101-04
- 701106-02
- 701400-07
- 701401-08
- 701411-08
- 701901-03

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS DISTRICT 6	
EXAMINED <u>10 / 10</u> 20 <u>13</u>	
<i>Bell</i>	ENGINEER OF OPERATIONS
EXAMINED <u>Oct 16</u> 20 <u>13</u>	
<i>Jimmy</i>	ENGINEER OF PROJECT IMPLEMENTATION
EXAMINED <u>Oct. 18</u> 20 <u>13</u>	
<i>Laura R. Macnisk</i>	ENGINEER OF PROGRAM DEVELOPMENT

GENERAL NOTES:

STRUCTURE NO 1 - SN 084-0018, I-55 NB OVER SANGAMON RIVER 2.8M NORTH OF IL 54 EXIT IN SANGAMON CO. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL EXISTING STEEL LOCATED 10' FROM ALL EXPANSION JOINTS AND ALL EXTERIOR SURFACES OF BOTH FASCIA BEAMS INCLUDING THE BOTTOM OF THE BOTTOM FLANGE OF THE FASCIA BEAM 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 THE OUTSIDE AND BOTTOM OF THE FASCIA BEAMS SHALL BE GREEN, MUNSELL NO 7.5G 4/8. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR SURFACES SHALL BE GRAY, MUNSELL NO 5B 7/1.

STRUCTURE NO 2 - SN 084-0019, I-55 SB OVER SANGAMON RIVER 2.8M NORTH OF IL 54 EXIT IN SANGAMON CO. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL EXISTING STEEL LOCATED 10' FROM ALL EXPANSION JOINTS AND ALL EXTERIOR SURFACES OF BOTH FASCIA BEAMS INCLUDING THE BOTTOM OF THE BOTTOM FLANGE OF THE FASCIA BEAM 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 THE OUTSIDE AND BOTTOM OF THE FASCIA BEAMS SHALL BE GREEN, MUNSELL NO 7.5G 4/8. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR SURFACES SHALL BE GRAY, MUNSELL NO 5B 7/1.

STRUCTURE NO 3 - SN 054-0041, I-55 SB OVER SALT CREEK 2.1M S OF IL 10 IN LOGAN CO. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL EXISTING STEEL LOCATED 5' FROM THE EXPANSION JOINTS SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING PER SSPC SP 10. ALL STEEL CLEANED SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. THE COLOR OF THE FINAL FINISH COAT FOR THE OUTSIDE AND BOTTOM OF THE FASCIA BEAMS SHALL BE GREEN, MUNSELL NO 7.5G 4/8. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR SURFACES AND SHALL BE GRAY, MUNSELL NO 5B 7/1.

STRUCTURE NO 4 - SN 054-0042, I-55 NB OVER SALT CREEK 2.1M S OF IL 10 IN LOGAN CO. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL EXISTING STEEL LOCATED 5' FROM THE EXPANSION JOINTS SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING PER SSPC SP 10. ALL STEEL CLEANED SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. THE COLOR OF THE FINAL FINISH COAT FOR THE OUTSIDE AND BOTTOM OF THE FASCIA BEAMS SHALL BE GREEN, MUNSELL NO 7.5G 4/8. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR SURFACES AND SHALL BE GRAY, MUNSELL NO 5B 7/1.

STRUCTURE NO 5 - SN 068-0043, IL 108 OVER I-55 IN MONTGOMERY CO. CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES". ALL EXISTING STEEL SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING PER SSPC SP 10. ALL STEEL CLEANED SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. THE COLOR OF THE FINAL FINISH COAT FOR THE OUTSIDE AND BOTTOM OF THE FASCIA BEAMS SHALL BE GREEN, MUNSELL NO 7.5G 4/8. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR SURFACES AND SHALL BE GRAY, MUNSELL NO 5B 7/1.

THE USE OF AIR MONITORS WILL BE REQUIRED AT STRUCTURES NUMBERS 1, 2 AND 5. A MINIMUM OF 2 MONITORS WILL BE REQUIRED AT EACH BRIDGE TO MONITOR ABRASIVE BLASTING OPERATIONS AT THIS SITE, SEE SPECIAL PROVISIONS FOR "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES".

THE SSPC-QP-1 AND SSPC-QP2 PAINTING CONTRACTOR CERTIFICATIONS WILL BE REQUIRED FOR THESE BRIDGES.

FILE NAME *	USER NAME * Alaksion	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL NOTES	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
G:\OPERATIONS\Bridges\plans.CAD\72055-06	Bridge Painting 2014\bridgepainting\plans 2014	DRAWN -	REVISED -			I-55	D6 BRIDGE PAINTING 2014	VARIOUS	15	2	
Default	PLOT SCALE * 1/8" = 1' in.	CHECKED -	REVISED -			CONTRACT NO. 72055					
	PLOT DATE * Oct-17-2013 01:58:17PM	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

				100% STATE		
				CONSTR. CODE	CONSTR. CODE	CONSTR. CODE
CODE NO.	ITEM	UNIT	TOTAL QUANTITY	MONTGOMERY BRIDGE	LOGAN BRIDGE	SANGAMON BRIDGE
				0014	0014	0014
				RURAL	RURAL	RURAL
67100100	MOBILIZATION	L SUM	1	0.2	0.4	0.4
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	2	2		
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1	1		
70106800	CHANGEABLE MESSAGE SIGN	CAL MO	2	2		
70800105	TEMPORARY WATER FILLED BARRIER	FOOT	500	500		
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	

13

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	100 % STATE		
				CONSTR. CODE	CONSTR. CODE	CONSTR. CODE
				MONTGOMERY BRIDGE	LOGAN BRIDGE	SANGAMON BRIDGE
				0014 RURAL	0014 RURAL	0014 RURAL
Z0010505	CLEANING AND PAINTING STEEL BRIDGE NO. 5	L SUM	1	1		
Z0010504	CLEANING AND PAINTING STEEL BRIDGE NO. 4	L SUM	1		1	

2

BENCHMARK: - CHISELED 'X' ON NORTHEAST CORNER OF GATE INLET IN MEDIAN APPROXIMATELY 0.2 MILES SOUTH OF BRIDGE, STA. 476, ELEVATION = 553.744
 - CHISELED 'X' ON NORTHEAST CORNER OF THE NORTHWEST WINGWALL OF THE NORTHBOUND BRIDGE, STA. 458+45, ELEV. 541.054

DESCRIPTION OF EXISTING STRUCTURE:
 STA. 462+25, F.A.I. RTE. 55, BUILT IN 1953 AS SEC. 84-2B-2F. STRUCTURE NUMBERS 084-0018(N.B.) AND 084-0019(S.B.). SUPERSTRUCTURE CAST IN PLACE CONCRETE DECK ON WIDE FLANGE STEEL BEAMS AND BUILT-UP STEEL GIRDERS, SUBSTRUCTURE PILE BENT ABUTMENTS AND SOLID PIERS. HORIZONTAL CLEARANCE 30.2 FEET. TOTAL LENGTH 1125.0 FEET BACK TO BACK OF APPROACH SPAN ABUTMENTS. DECK TO BE REMOVED AND STRUCTURE WIDENED, REUSING STRUCTURAL STEEL. TRAFFIC TO BE MAINTAINED UTILIZING MEDIAN CROSSOVER DETOURS. SALVAGE CONTRACTOR SHALL REMOVE EXISTING THREE BEAM BRIDGE RAIL AND STORE ON SITE TO BE REUSED BY I.D.D.T.

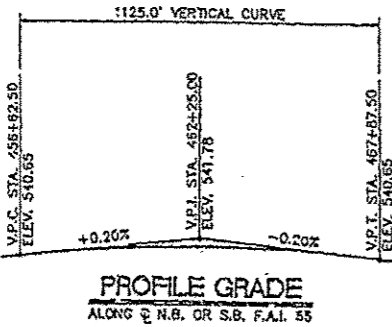
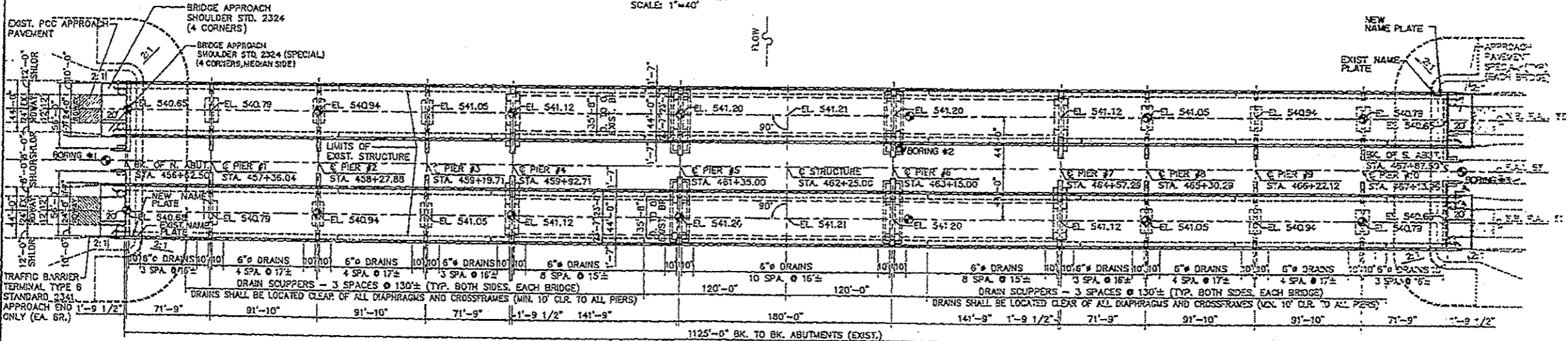
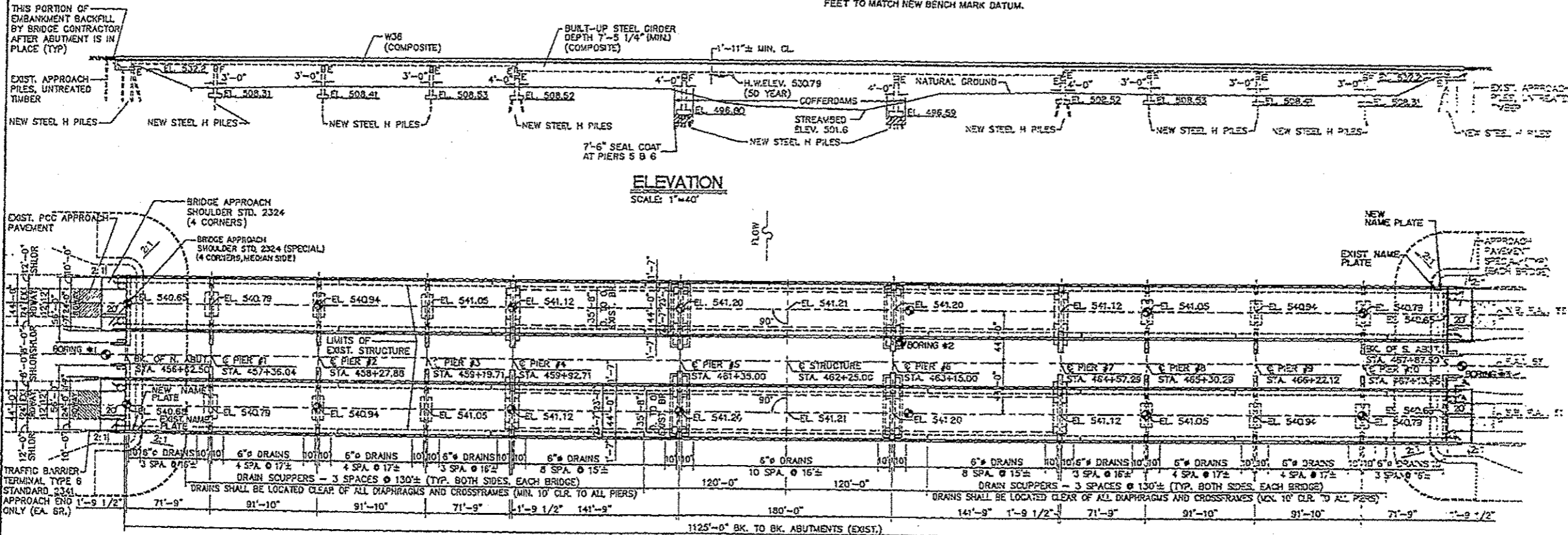
DESIGN SPECIFICATIONS
 1989 AASHTO, 1990, 1991 INTERIM AND SEISMIC RETROFITTING GUIDELINES FOR HIGHWAY BRIDGE

LOADING HS 20-44, AND ALTERNATE LOADING
 ALLOW 25#/SQ. FT. FOR FUTURE WEARING SURFACE

DESIGN STRESSES
 $f_c = 3,500$ psi (CLASS X CONCRETE)
 $f_y = 80,000$ psi (REINFORCEMENT)
 $f_y = 50,000$ psi (A270 GR. 50 STRUCTURAL STEEL)
 $f_y = 36,000$ psi (A270 GR. 36 STRUCTURAL STEEL)

SHEET 1 OF 45

F.A.I. RTE.	SECTION	COUNTY	POST MILE	SHEET NO.
55	84-2BR-1	SANGAMON	218	173
FED. ROAD DIST. NO.		1-403		



APPROVED
 [Signature]
 [Title]



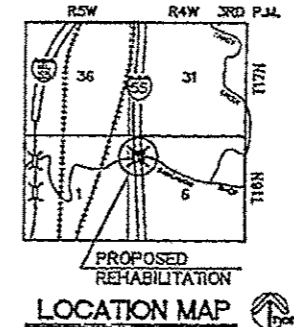
PLAN
 SCALE: 1"=40'
 north

WATERWAY INFORMATION

INDICATES LOCATION OF SOIL BORING

DRAINAGE AREA = 2730 SQ. MI. LOW GRADE ELEV. = 540.1 @ STA. 471+09

FLOOD	FREQ. YR.	Q C.F.S.	OPENING SQ. FT.	NAT. EXIST.	PROP.	HEAD - FT. EXIST.	PROP.	HEADWATER EL. EXIST.	PROP.
DESIGN	50	45,400	15,900	15,900	530.4	0.4	0.4	530.8	530.8
BASE	100	30,100	17,300	17,300	531.8	0.4	0.4	532.2	532.2
OVERTOPPING									
MAX. CALC.	500	64,200	19,900	19,900	535.5	0.4	0.4	535.9	535.9



Johnson, Depp & Quisenberry
 Consulting Engineers
 Springfield, Illinois

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

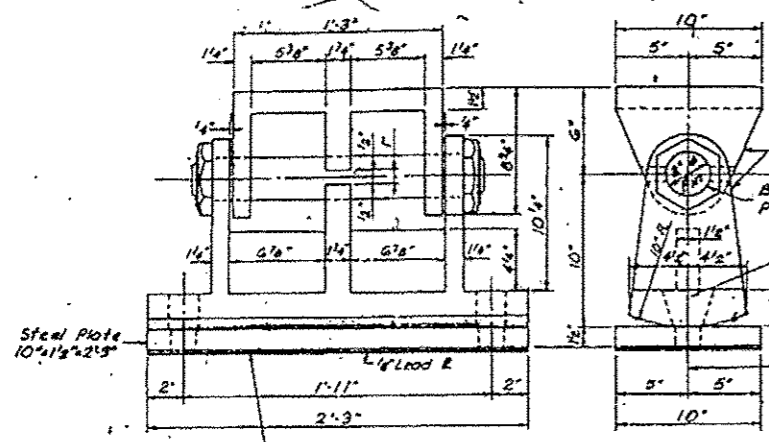
GENERAL PLAN
 I-55 OVER SANGAMON RIVER
 F.A.I. RTE. 55 SECTION 84-2BR-1
 SANGAMON COUNTY
 STATION 462+25.00
 STRUCTURE NOS. 084-0018, 084-0019

FOR INFORMATION ONLY

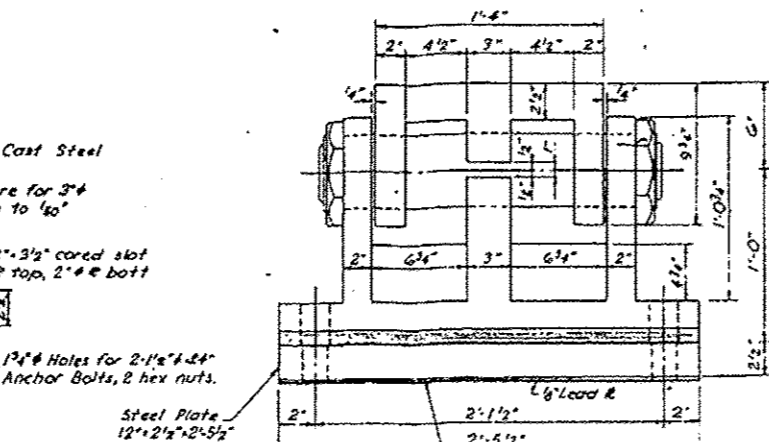
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PLOT SCALE * 1/8"=1'-0"	DATE	DRAWN -	REVISED -			I-55	06 BRIDGE PAINTING 2014	VARIOUS	15	5	
PLOT DATE * 06-03-2013 11:01:54M	DATE	CHECKED -	REVISED -			SCALE: SHEET OF SHEETS STA. TO STA.		CONTRACT NO. 72655			
								ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

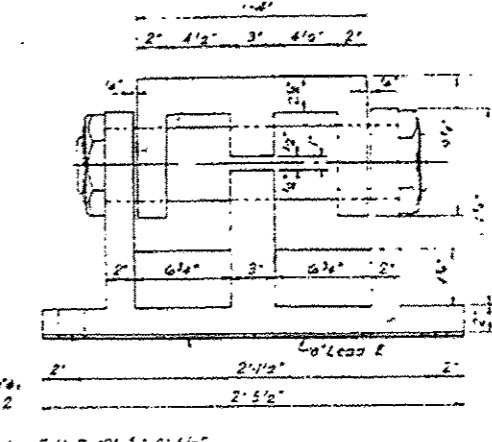
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1-55	D6 BRIDGE PAINTING 2014	VARIOUS	19	7
CONTRACT NO. 72G55				



BEARING DETAILS-PIER 4 & 7



BEARING DETAILS-PIER 6

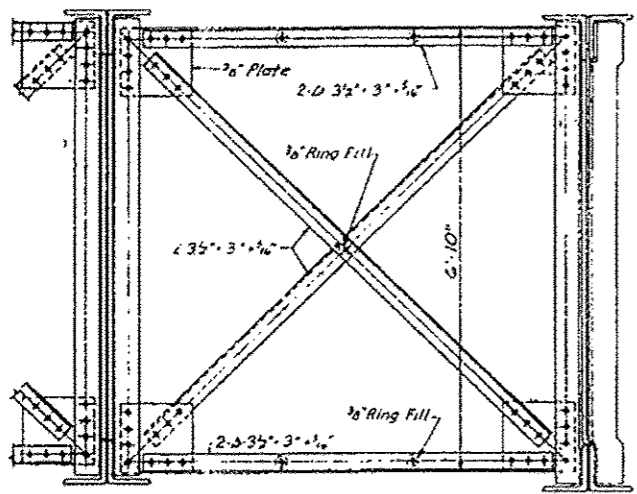


BEARING DETAILS-PIER 5

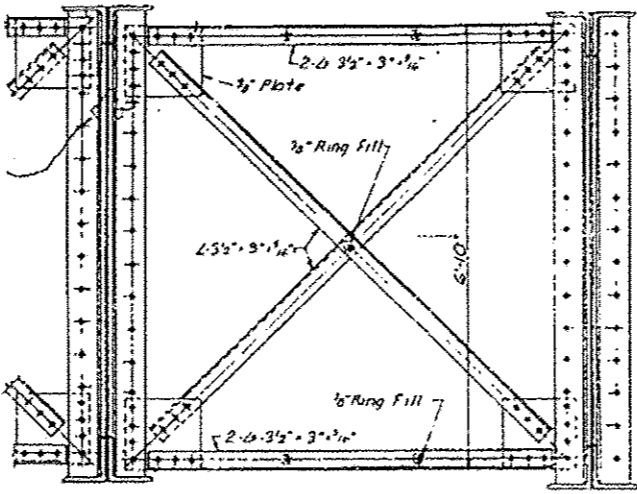
Note: Fill R 10" x 1/2" x 2 1/2" required at Girder #3 only

Note: Fill R 12" x 3/8" x 2 1/2" required at Girder #3 only

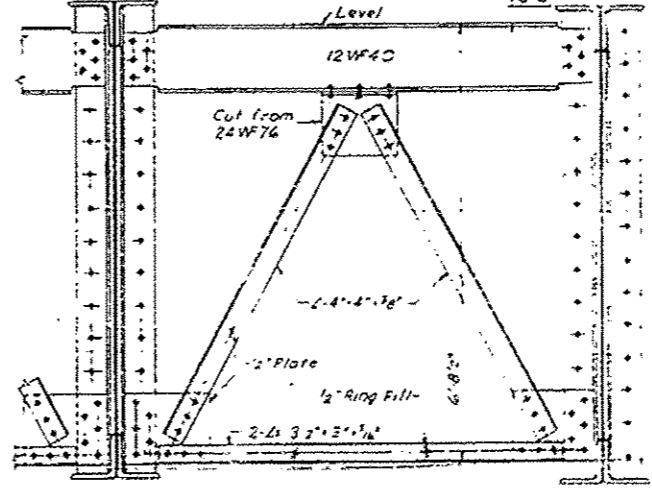
Note: Fill R 12" x 3/8" x 2 1/2" required at Girder #3 only



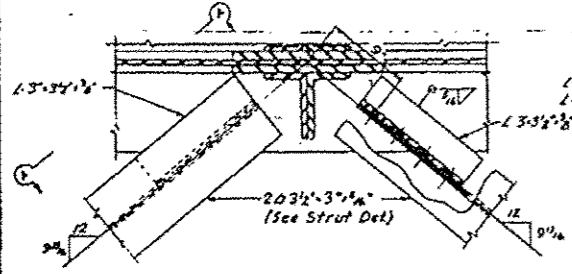
CROSSFRAME F



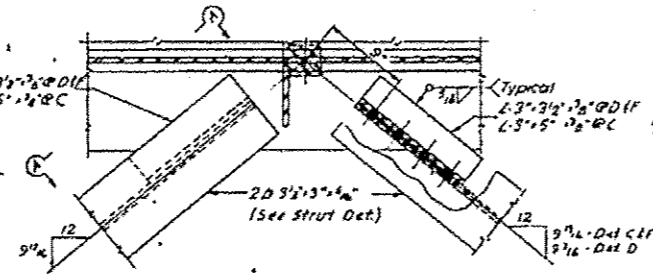
CROSSFRAME F2



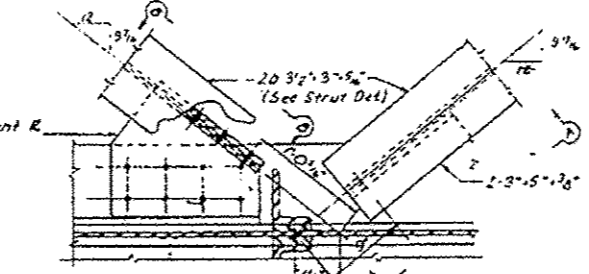
CROSSFRAME F1



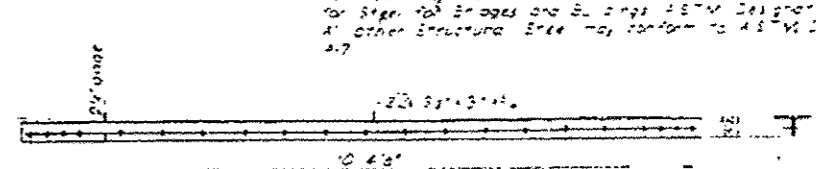
DETAIL G
(Detail B similar)



DETAIL C,D & F



DETAIL E



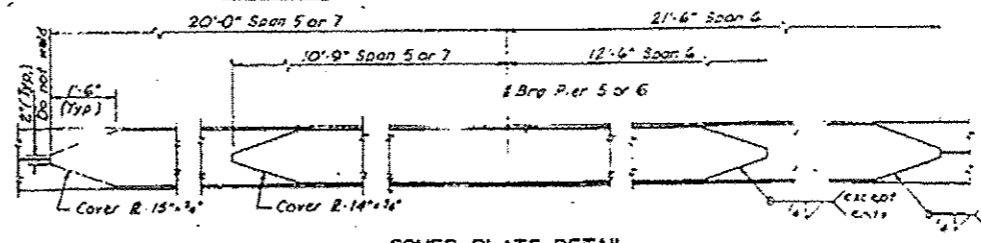
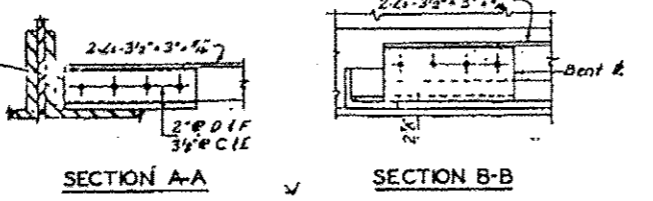
STRUT DETAIL

Note: The structural steel for all steel plates and the sections to which they are welded shall conform to the specifications for steel for bridges and all angles shall conform to AISC Specification for other structural steel may conform to AISC Specification 3.7

Note: This steel is sheet piling

STRUCTURAL STEEL-GIRDER DETAILS
F.A.I. ROUTE 55 OVER SANGAMON RIVER
F.A.I. ROUTE 55 SECTION 84-2B-F
SANGAMON COUNTY
STATION 462+2500 (2)

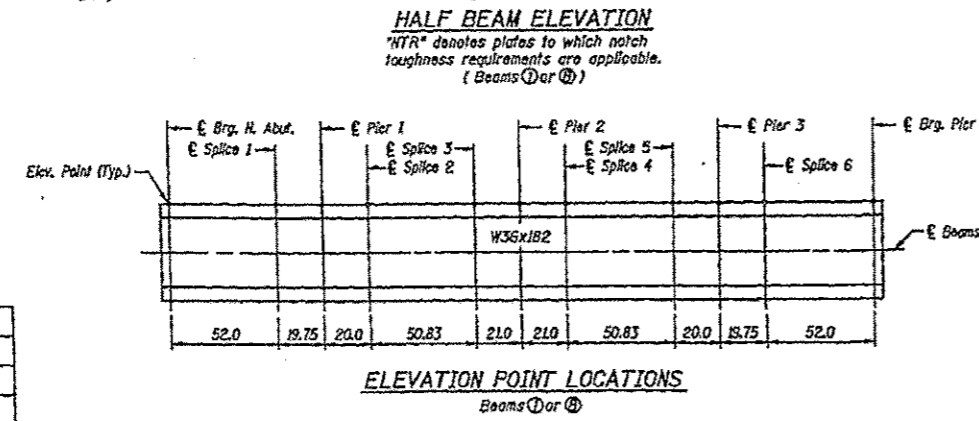
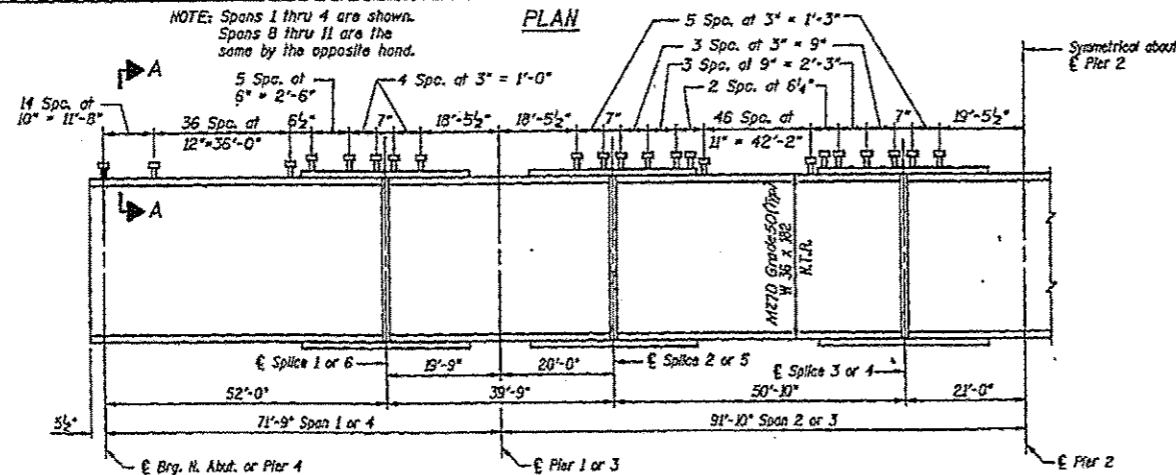
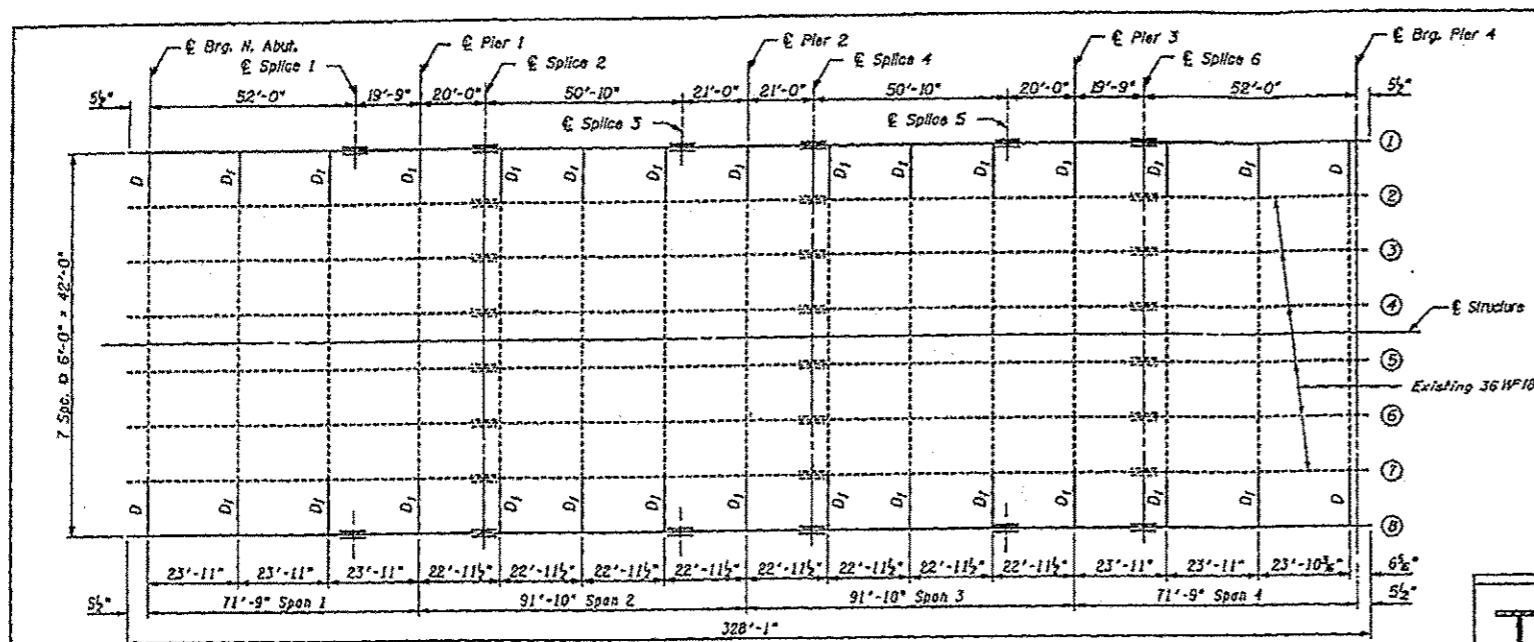
DESIGNED	V.F. Schutte	EXAMINED	SEAL 29 1058
CHECKED	R.D.C.	APPROVED	[Signature]
DRAWN	T.E.B.	APPROVED	[Signature]
CHECKED	R.D.C.	APPROVED	[Signature]



Cover Plates are not to be welded to flange angles until after all riveting is completed

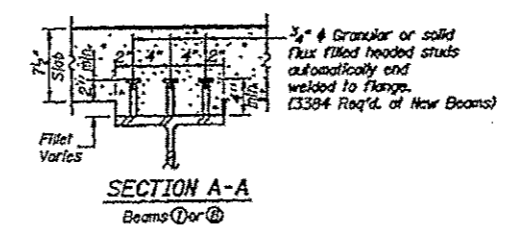
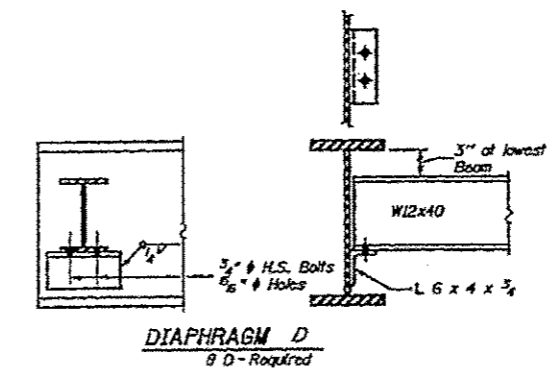
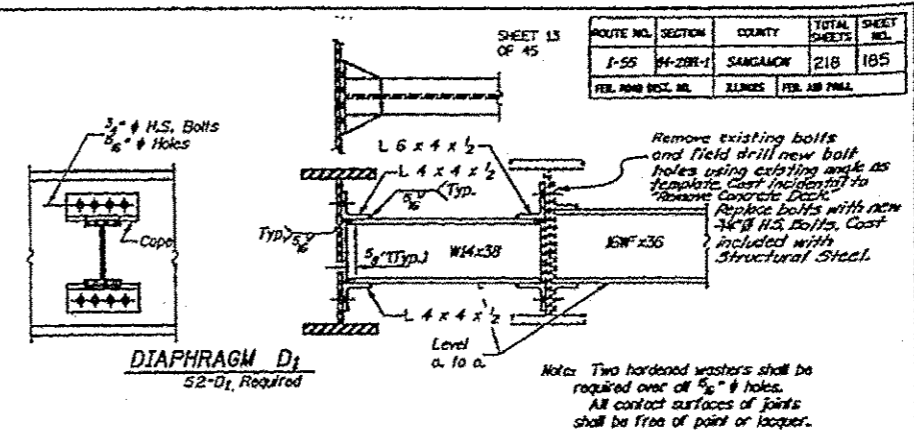
FOR INFORMATIONAL USE ONLY

FILE NAME	OPERATIONS\Bridgplans.CAD\72G55-06	USER NAME	Alexson	DESIGNED	-	REVISED	-	BRIDGE PLANS	INFORMATIONAL USE ONLY	F.A. RTE.	1-55	SECTION	D6 BRIDGE PAINTING 2014	COUNTY	VARIOUS	TOTAL SHEETS	19	SHEET NO.	7
PLOT SCALE	1/8" = 1'-0"	CHECKED	-	REVISED	-	SCALE	-	SHEET	OF	SHEETS	STA.	TO	STA.	ILLINOIS	FED. AID PROJECT				



DESIGNED	PLH
CHECKED	RBD
DRAWN	HGT
CHECKED	PLH

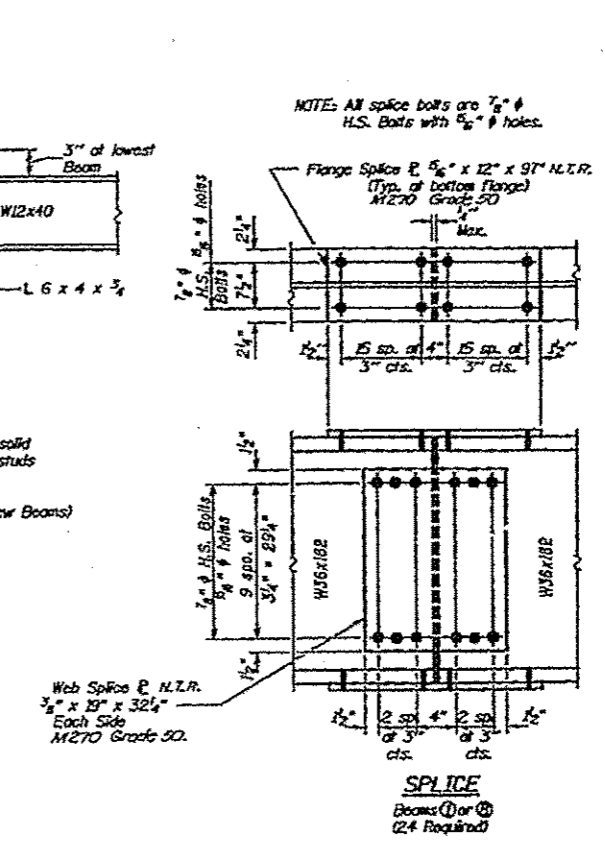
T-2-D B-30-80



ELEVATION OF TOP OF BEAMS

Location	Elevation
E Brg. N. Abut.	539.62
E Splice 1	539.65
E Pier 1	539.67
E Splice 2	539.70
E Splice 3	539.77
E Pier 2	539.80
E Splice 4	539.83
E Splice 5	539.90
E Pier 3	539.93
E Splice 6	539.96
E Brg. Pier 4	540.08

NOTE: Beam 1 & 8 elevations are the same. Spans 8, 9, 10 & 11 are the same by opposite hand. See Sheet #16 of 45 for shear connectors at existing beams. See Sheet #19 for Plan View of Splice Plate.



STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL STEEL DETAILS
I-55 OVER SANGAMON RIVER
F.A.L. RTE. 55 SECTION 84-2BR-1
SANGAMON COUNTY
STATION 462+25.00
STRUCTURE NOS. 084-001B, 084-001C

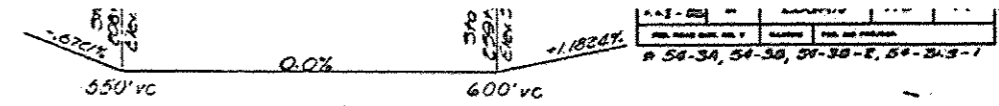
FOR INFORMATION ONLY

FILE NAME *	USER NAME *	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE PLANS INFORMATIONAL USE ONLY	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
S:\Bridges\Plans\CAD\72655-06 Bridge Painting 2014\BridgPainting\72655-06 Bridge Painting 2014.dwg	copenberger	DRAWN -	REVISED -			I-55	06 BRIDGE PAINTING 2014	VARIUS	15	8	
PLOT SCALE * 1/8" = 1'-0"		CHECKED -	REVISED -			SCALE:	SHEET OF SHEETS	STA. TO STA.	CONTRACT NO. 72655		
PLOT DATE * Dec-03-2013 11:03:24AM		DATF -	REVISED -						ILLINOIS FED. AID PROJECT		

APPROACH PILE DATA

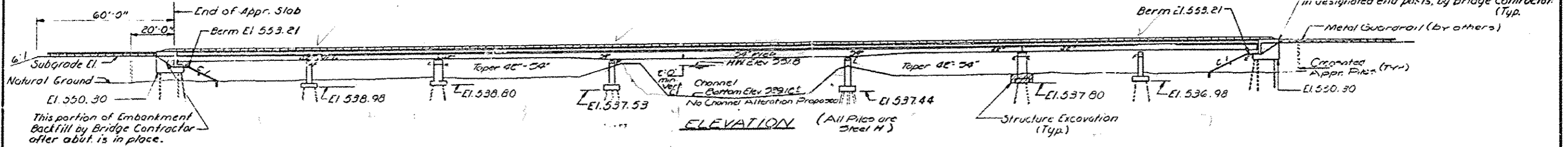
Typ. Creosoted
Est. Length: 23'
No. Req'd: 32

DEPARTMENT OF TRANSPORTATION



**PROFILE
FAI RT. 55**

On median edge of pavement



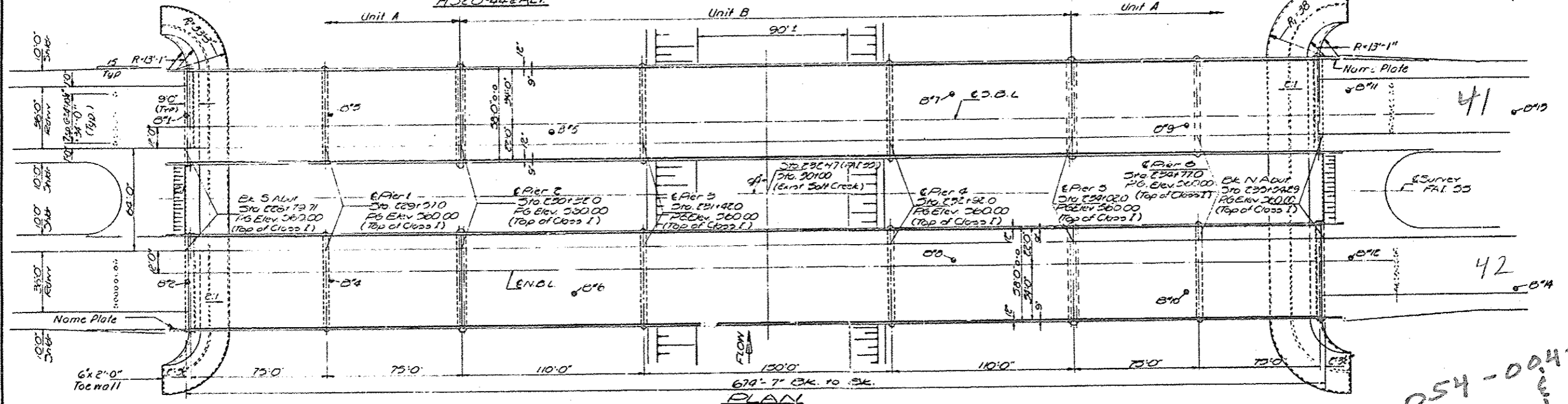
ELEVATION (All Piles are Steel H)

DESIGN STRESSES

fc: 1800 psi. (Sub, Curb, Parapet)
fc: 1500 psi. (Super Slab)
fs: 20000 psi. (Reinf.) (Struct. A 36)
fs: 27000 psi. (Bearing assembly @ Piers 3 & 4 only A 588 steel)
wc: 75 psi. (Ftg.)
n: 10
Design Specifications 1909 MASHO
(as applicable)
Allow 25 lbs / Sq. Ft. for W.C.
H20-44 & ALT.

WATERWAY INFORMATION

Drainage Area: (Total) = 0.16 Sq Miles (Main & Over flow Structures)
Character:
Required Opening: 6580 Sq Ft.
Proposed Opening: (Main Structure 6580 Sq Ft.)
(Overflow Structure 1155 Sq Ft.)
Open: 31,950 cfs (Total)
Control Head: 0.78'



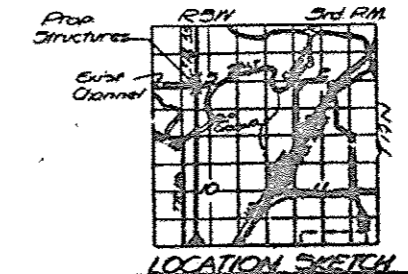
PLAN

STATION 232+17
BUILT BY
STATE OF ILLINOIS
F.A. RT. 55 SEC. 54-3B
F.A. PROJ. I-55-4(88)
LOADING H20 & ALT.

NAME PLATE
See 51d. 2113

DESIGNED	A. Y. Khayyat
CHECKED	J. M. Patel
DRAWN	Fernando
CHECKED	J. M. P.

EXAMINED
PASSED
Richard H. Holterman



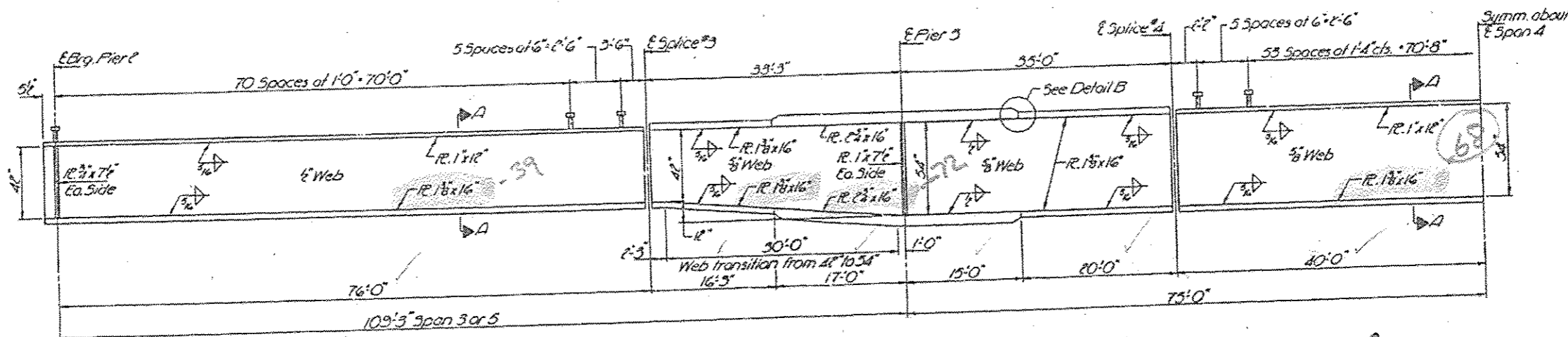
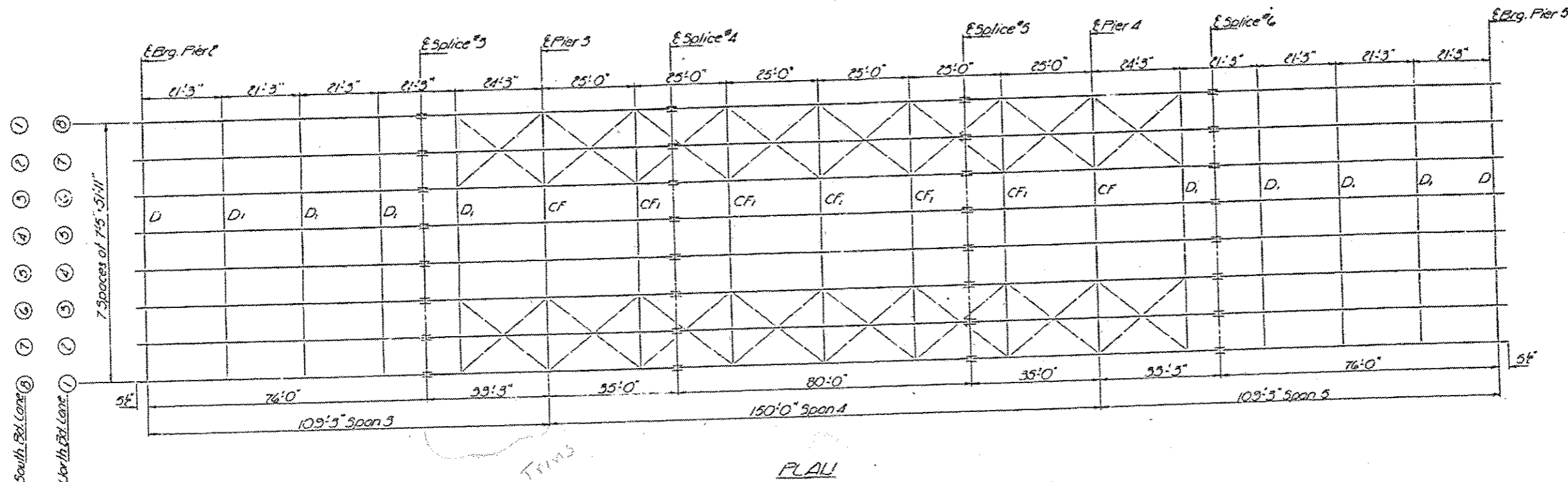
LOCATION SKETCH

PROJ I-55-4(88) 123
GENERAL PLAN and ELEVATION
FAI RT. 55 over SALT CREEK
SEC. 54-3B
LOGAN COUNTY
STA. 232+17.00

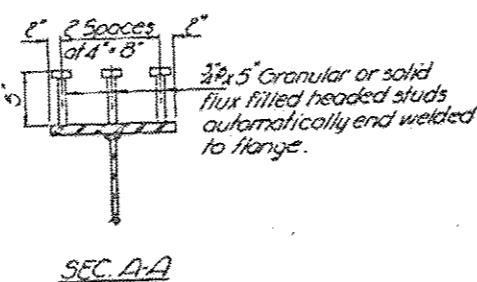
054-0042
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0041

FOR INFORMATIONAL USE ONLY

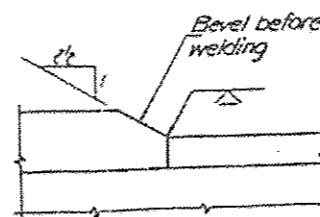
FILE NAME	USER NAME	DESIGNED	REVISED	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BRIDGE PLANS INFORMATIONAL USE ONLY	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
G:\OPERATIONS\Bridges\plans_CAD\72655-05	Alexis	BRIDGE PAINTING 2014	DRAWN			I-55	06 BRIDGE PAINTING 2014	VARIOUS	15	9
		PLOT SCALE	CHECKED							
		PLOT DATE	DATE							



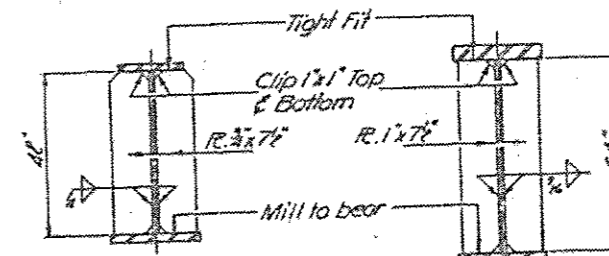
GIRDER ELEVATION



SEC. A-A



DETAIL B



AT PIERS 3&5

AT PIERS 3&4

BEARING STIFFENERS

Note:
For details of D&D, see sh. 12.
For details of CF, CF1, & splices #3 thru #6 see sh. 15.
For lateral bracing detail see sh. 15.

UNIT B
STRUCTURAL STEEL
F.A.I. RT. 55 SEC. 54-3B
LOGAN COUNTY
STA. 232+17.00

DESIGNED	A. Y. KHAYAT
CHECKED	J. M. Patel
DRAWN	J. D.
CHECKED	J. M. P.

EXAMINED
PASSED
APPROVED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE PLANS
INFORMATIONAL USE ONLY

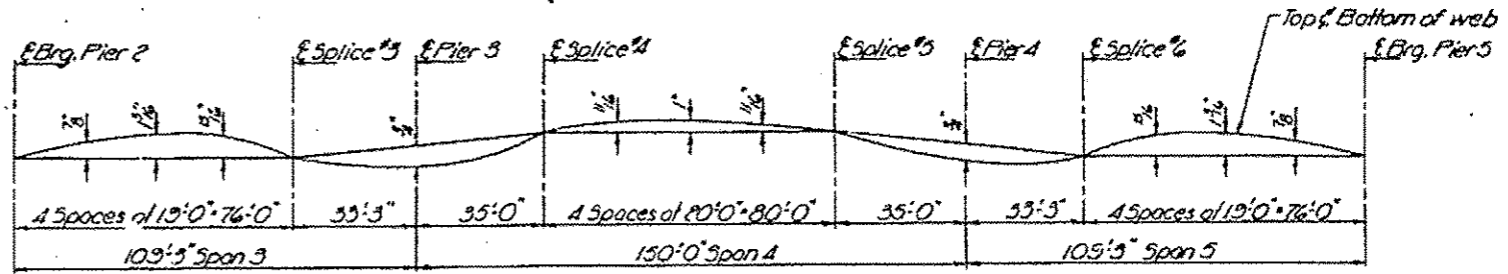
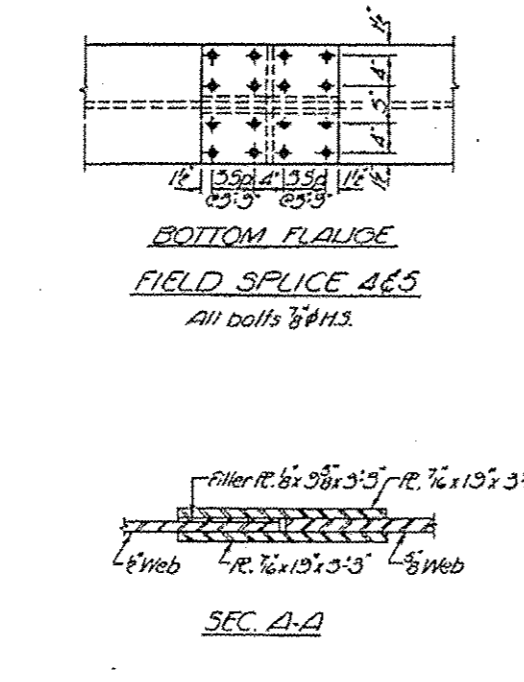
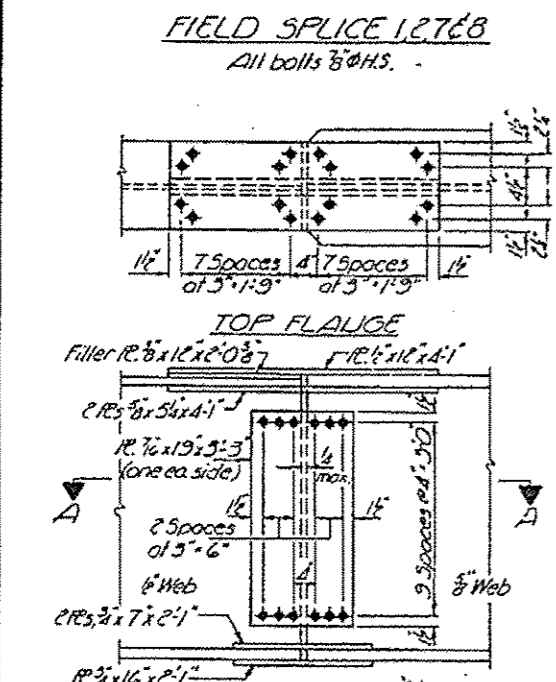
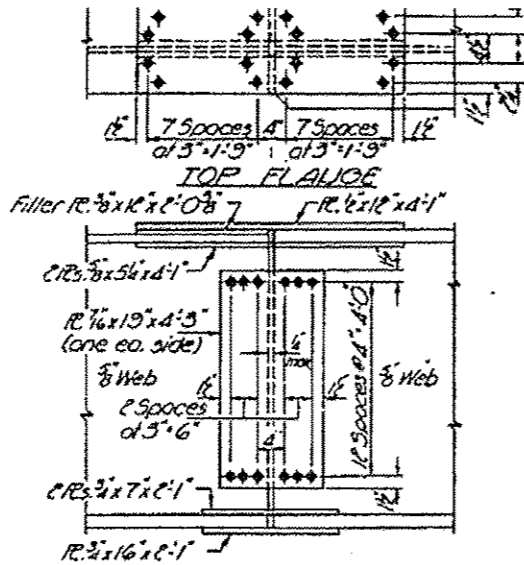
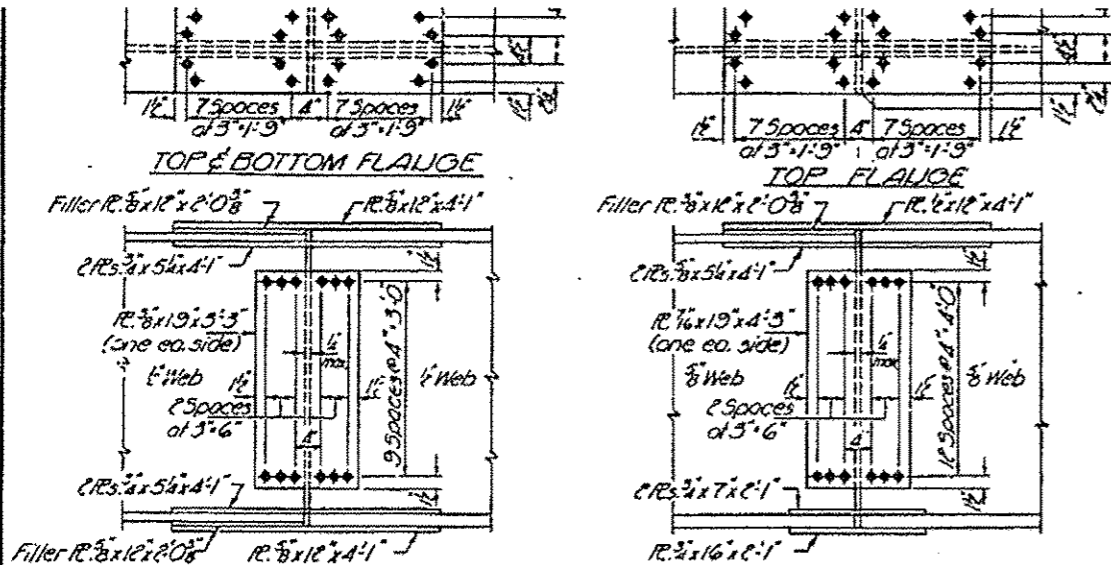
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-55	D6 BRIDGE PAINTING 2014	VARIOUS	15	11
CONTRACT NO. 72655				

FOR INFORMATIONAL USE ONLY

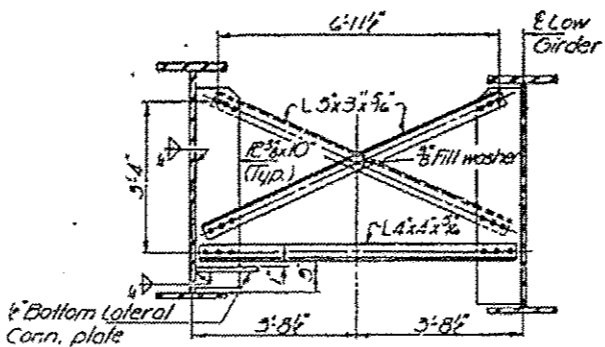
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D:\OPERATIONS\Bridgplans.CAD\72655-06	Aleksion	Bridge Painting 2014\bridgepaintingplans 2014	
		DRAWN -	REVISED -
		CHECKED -	REVISED -
		DATE -	REVISED -
Default	PLOT DATE = Oct-17-2013 02:37:11PM		

SCALE: SHEET OF SHEETS STA. TO STA.

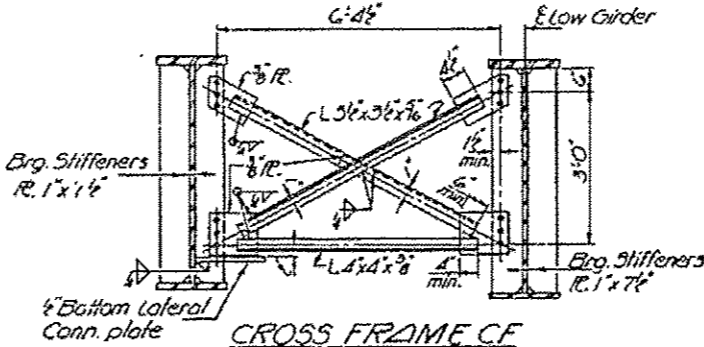
ILLINOIS FED. AID PROJECT



CAMBER DIAGRAM
Unit B only



CROSS FRAME CF1
All bolts 3/8 H.S.



CROSS FRAME CF
All bolts 3/8 H.S.

NORTH-SOUTH BC. LINES
*TOP OF WEB ELEVATIONS

	Girder 1	Girder 2	Girder 3	Girder 4	Girder 5	Girder 6	Girder 7	Girder 8
Unit A	E Brg. Splice 1 or 8	558.56	558.72	558.87	559.01	559.15	559.29	558.81
	E Splice 1 or 8	558.56	558.72	558.87	559.01	559.15	559.29	558.81
	E Splice 2 or 7	558.56	558.72	558.87	559.01	559.15	559.29	558.81
	E Brg. Pier 2 or 3	558.56	558.72	558.87	559.01	559.15	559.29	558.81
Unit B	E Brg. Pier 2	558.56	558.72	558.87	559.01	559.15	559.29	558.81
	E Splice 3	558.56	558.72	558.87	559.01	559.15	559.29	558.81
	E Pier 3	558.56	558.72	558.87	559.01	559.15	559.29	558.81
	E Splice 4	558.60	558.76	558.91	559.05	559.19	559.33	558.85
	E Splice 5	558.60	558.76	558.91	559.05	559.19	559.33	558.85
	E Pier 4	558.62	558.78	558.93	559.07	559.21	559.35	558.87
	E Splice 6	558.56	558.72	558.87	559.01	559.15	559.29	558.81
	E Brg. Pier 5	558.56	558.72	558.87	559.01	559.15	559.29	558.81

*For fabrication only

UNIT A

INTERIOR GIRDER MOMENT TABLE

04 Span Pier 166

	1	2
I (in ⁴)	11710.1	24756.6
Q (K)	1408	1408
M _E (K)	512.81	1099.98
M _L (K)	566.90	531.06
Imp. (K)	141.58	152.76
M _{total} (K)	1170.69	1757.80
I _s (in ⁴)	19.04	19.42

UNIT B

INTERIOR GIRDER MOMENT TABLE

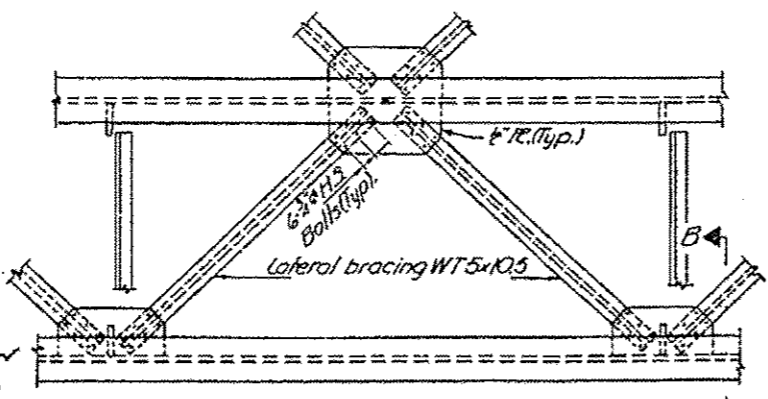
04 Span 304.5 Sp. 4 Pier 304

	1s	1c	5s	5c
I (in ⁴)	18113.1	52353.9	79109.1	—
Q (K)	1408	1408	1408	—
M _E (K)	512.81	1099.98	2165.14	—
M _L (K)	566.90	531.06	—	—
Imp. (K)	141.58	152.76	—	—
M _{total} (K)	1170.69	1757.80	2165.14	—
I _s (in ⁴)	19.04	19.42	—	—

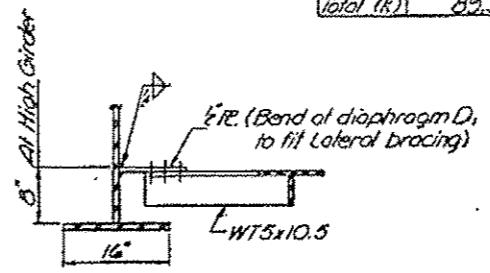
INTERIOR GIRDER REACTION TABLE

	Unit A	Unit B
R _E (K)	38.21	134.39
R _L (K)	40.95	58.78
Imp. (K)	10.63	14.70
Total (K)	89.79	207.87

I_s 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.



PARTIAL PLAN
Showing connections of lateral bracing



SEC. B-B

DESIGNED A. V. KHAYAT
CHECKED J. M. Patel
DRAWN J. D.
CHECKED J. M. R.

EXAMINED
PASSED
DATE

STRUCTURAL STEEL DETAILS
FAI. RT. 55 SEC. 54-3B
LOGAN COUNTY
972 292-1700

FOR INFORMATIONAL USE ONLY

B.M. NO. 10 BOAT SPIKE IN ...
STA. 1651+47 ELEV. 641.71

DIVISION OF HIGHWAYS

GENERAL NOTES

ALL REINFORCEMENT BARS SHALL BE LAPPED 24 DIAMETERS UNLESS OTHERWISE SHOWN.
Fasteners shall be high strength bolts. Bolts 3/8" dia holes 1/2", unless otherwise noted.

FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED IN THE BOTTOM FLANGE BEAMS OR GIRDERS NOR ON THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED WHEN APPROVED BY THE ENGINEER.

ANCHOR BOLTS SHALL BE SET BEFORE RIVETING DIAPHRAGMS.

SLOPE SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" X'.

Calculated weight of Structural Steel = 597,800 lbs.

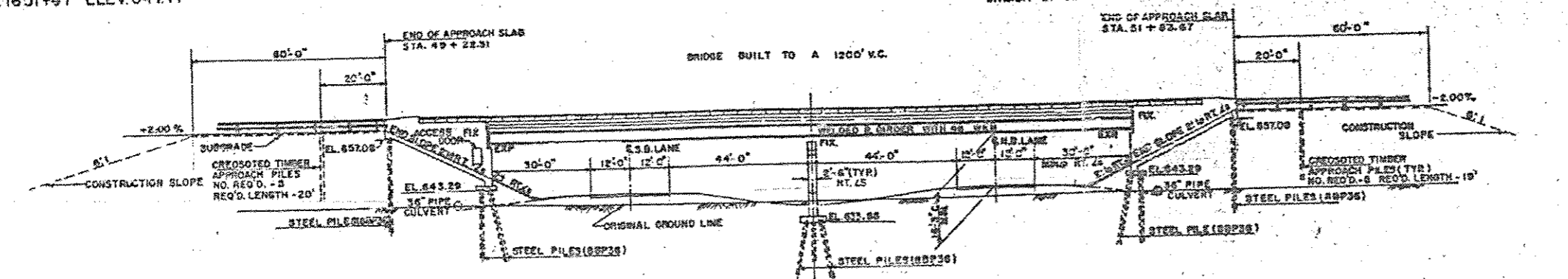
THE EMBANKMENT CONSTRUCTION SHOWN SHALL BE THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.

THE CONTRACTOR SHALL DRIVE TWO (2) TEST PILES IN A PERMANENT LOCATION, ONE AT THE APPROACH BENT, AND ONE AT THE END ABUTMENT AS DIRECTED BY THE ENGINEER BEFORE THE REMAINDER OF PILES.

THE CONCRETE RAIL SECTION ABOVE THE MANDATORY CONSTRUCTION JOINT AT THE TOP SHALL BE CONSTRUCTED OF CLASS X CONCRETE, EXCEPT THE AGGREGATES SHALL COMPLY WITH THE REQUIREMENTS OF STANDARD CONCRETE.

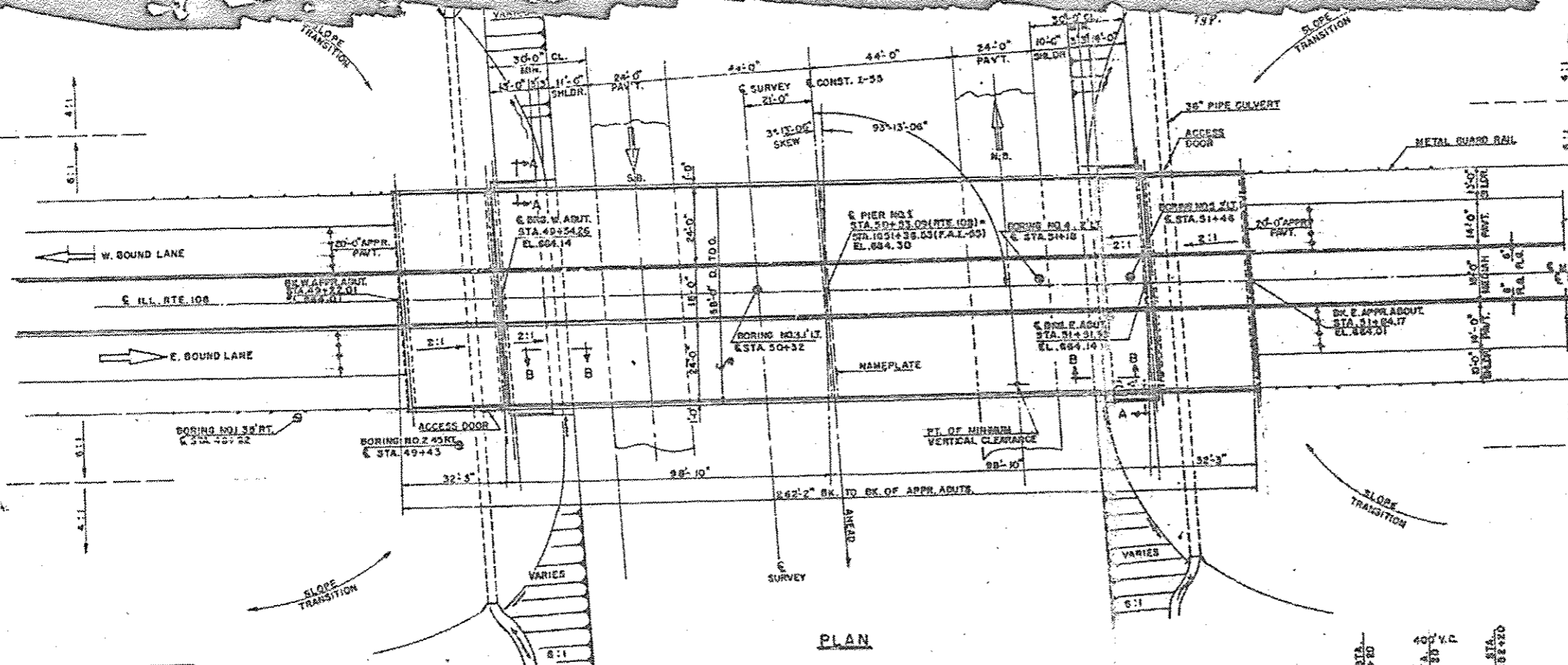
The basic lead silico chromate paint system shall be used for shop and field painting of Structural Steel.

STA. 1651+36.53
BUILT 19 BY
STATE OF ILLINOIS
P.A.I. RT. 55-SEC. 68-2H91
F.A. PROJ. 1-55-2(S9)
LOADING HS 20



ELEVATION

ITEM	UNIT	SUPER.	QUANTITY
CLASS A EXCAVATION FOR STRUCTURE	CY. YRS.		17
CLASS X CONCRETE	CY. YRS.	235.0	37
STRUCTURAL STEEL	LBS.		597,800
FURNISHING & ERECTING PRECAST PRESTRESSED CONCRETE I BEAMS (38")	LM. FT.		945
REINFORCEMENT BARS	LBS.	125,000	204
ALUMINUM RAILING	LS. FT.		488
STEEL H PILES (8 BP 36)	LS. FT.		36
TEST PILES STEEL (8 BP 36)	EACH		2
SLOPE WALL (4')	LS. YDS.		2
STUD SHEAR CONNECTORS	EACH	3188	1
NAME PLATE	EACH		1
PROTECTIVE COAT	SQ. YDS.	2098	1
CROCKETED PILES (UP TO 20')	LS. FT.		3
PREFORMED JOINT SEALER	LS. FT.	137	1



PLAN

DESIGNED	B.H.B.	EXAMINED	
CHECKED	G.E.P.	PASSED	
DRAWN	J.P.E.	APPROVED	

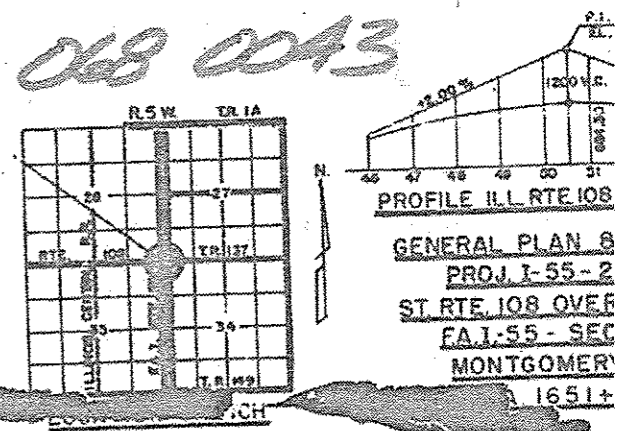
DESIGN STRESSES

FIELD UNITS

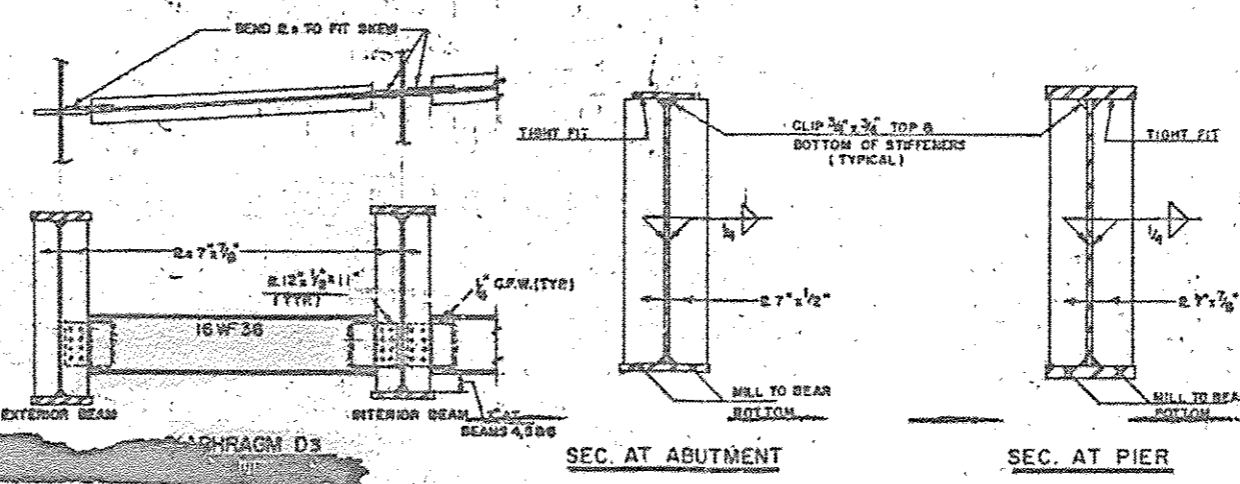
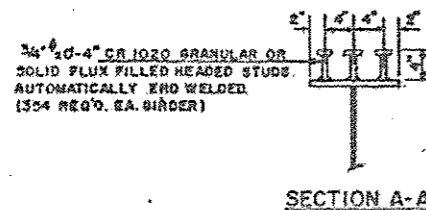
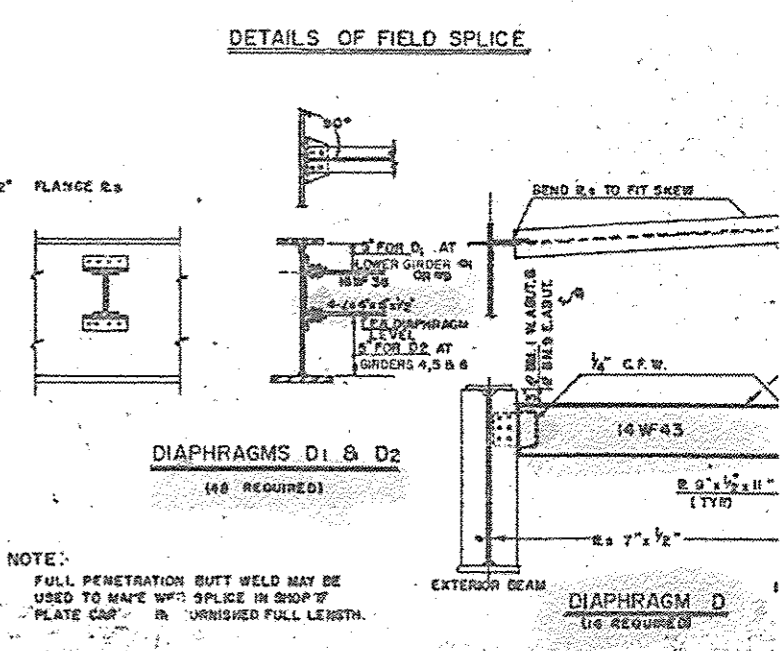
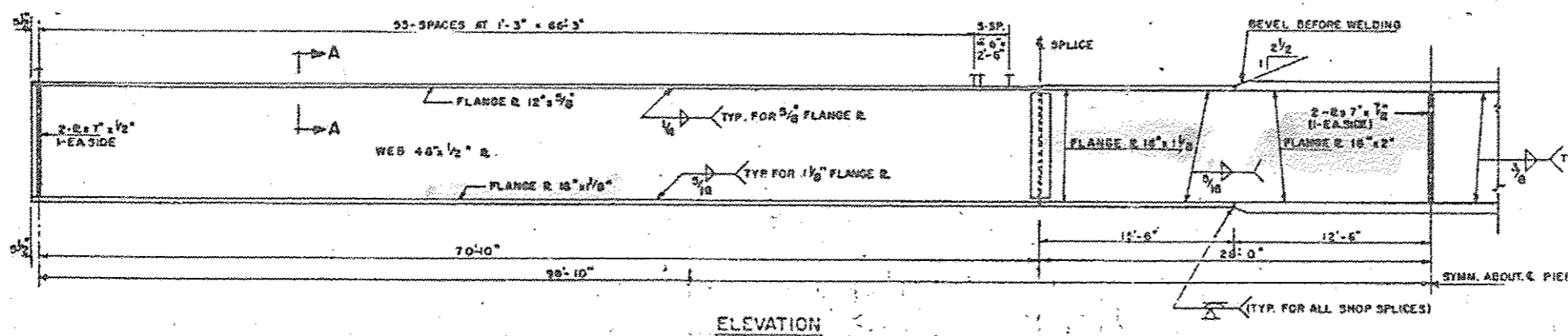
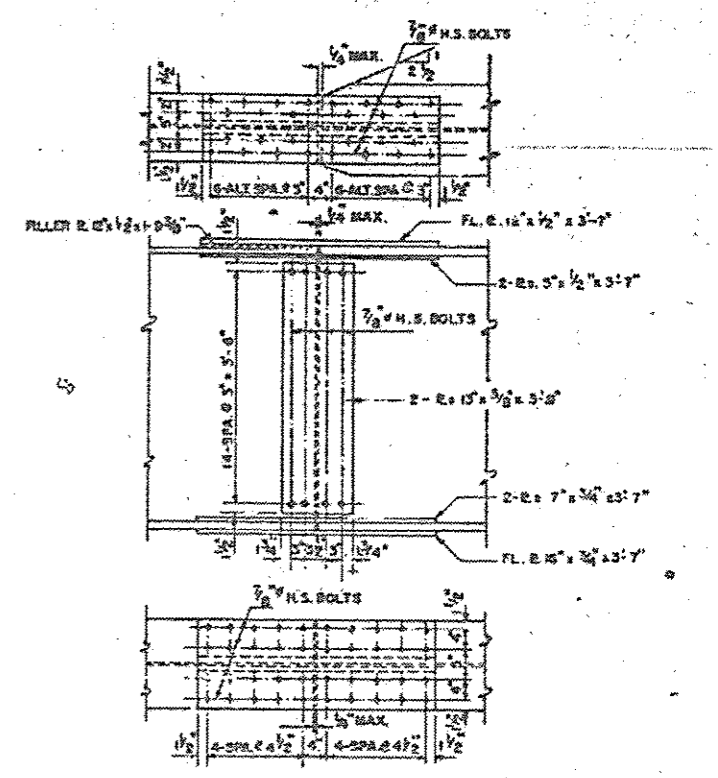
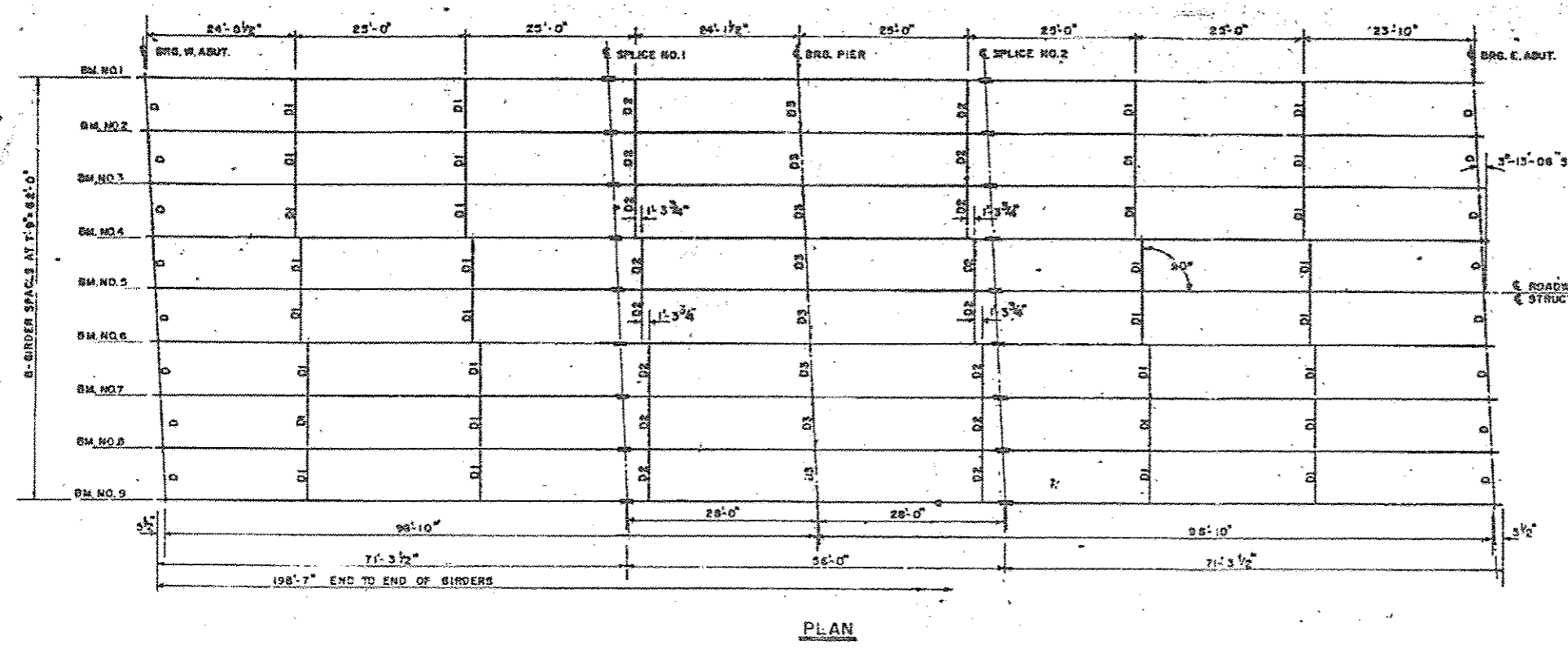
$f_c = 1200$	p. s. i.	DECK
$f_c = 1400$	p. s. i.	SUB. CURB & PARAPET
$f_c = 20000$	p. s. i.	STRUCT. & REIN.
$f_c = 74$	p. s. i.	FOOTINGS

PRECAST PRESTRESSED UNITS

$f_c = 5000$	p. s. i.
$f_{t1} = 4000$	p. s. i.
$f_s = 248000$	p. s. i.
$f_{s1} = 173,600$	p. s. i.
ALLOW 25% FOR FUTURE W.S.	



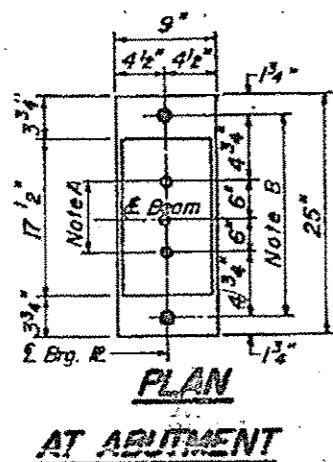
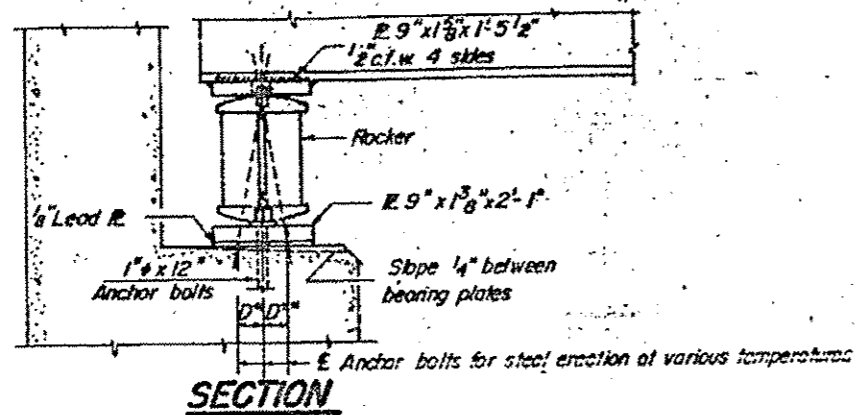
FOR INFORMATIONAL USE ONLY



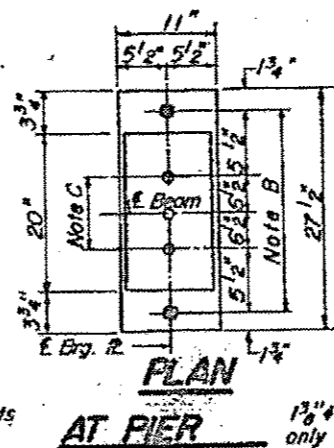
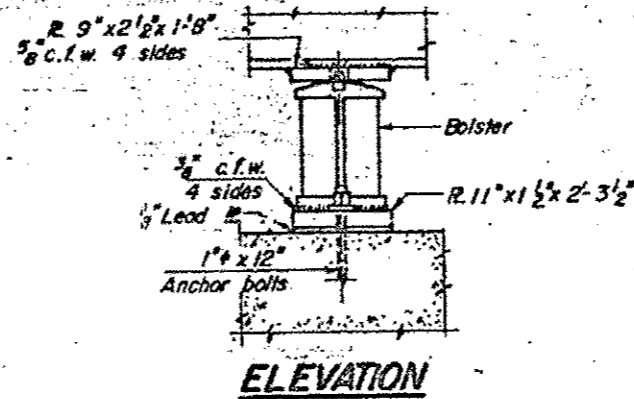
DESIGNED	G.E.P.	19
CHECKED	B.H.S.	
DRAWN	J.P.E.	
CHECKED		

STRUCTURAL ST
PROJ. 1-55-215
ST. RTE. 108 OVER I
E.A. 1-5-3 SEC. 5
MONTGOMERY C
STA. 1651 + 34

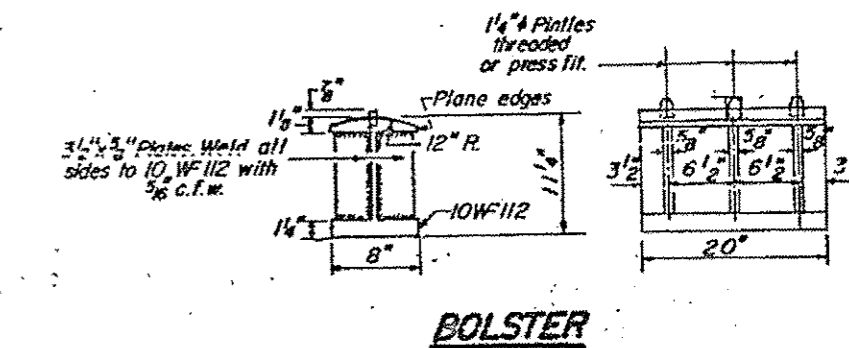
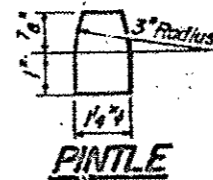
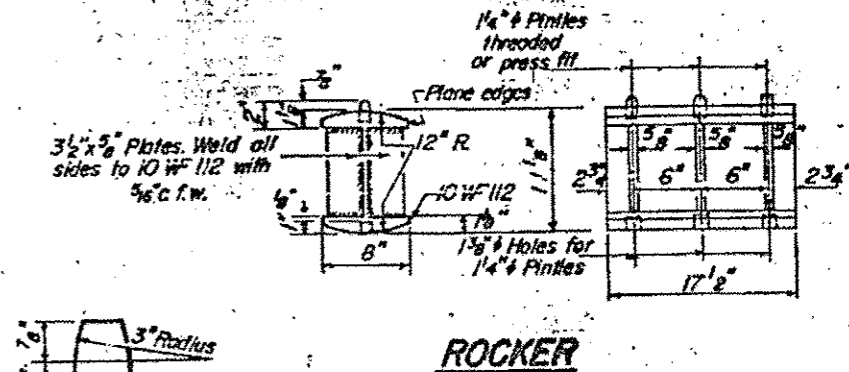
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NOTE A
1-1/2" Holes - 1" deep in top R for pintles. Thread or press fit pintles into bottom R.



NOTE B
1-1/2" Holes for 1" anchor bolts 2-1/2 x 2-1/2 x 3/16" R. Washers under nut.



NOTE C
1-1/2" Holes 1" deep in top R only for 1/4" pintles.

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.

BEARING ASSEMBLY DETAILS

GIRDER ELEV.(TOP OF WEB)

	G. Brs. Above	G. Splice	G. Pier	G. Splice	G. Brs. Below
Girder No. 1	663,069	663,073	663,075	663,076	663,080
Girder No. 2	663,181	663,193	663,198	663,197	663,200
Girder No. 3	663,314	663,319	663,317	663,318	663,319
Girder No. 4	663,439	663,438	663,436	663,436	663,436
Girder No. 5	663,436	663,438	663,438	663,436	663,435
Girder No. 6	663,435	663,435	663,435	663,436	663,436
Girder No. 7	663,319	663,318	663,317	663,316	663,314
Girder No. 8	663,200	663,197	663,198	663,195	663,191
Girder No. 9	663,080	663,073	663,073	663,073	663,069

TABLE OF MOMENTS & REACTIONS*

	Moments - Ft. Kips		Reactions - Kips	
	0.4 Span	Pier	Abuts.	Pier
D.L.	574.3	1556.2	34.7	132.4
S.D.L.	228.9	365.3	12.1	39.0
L.L.	874.7	739.2	45.0	75.3
Impact	195.1	164.8	10.0	16.4
Total	1873.0	2825.7	101.8	261.1

* - Interior Beams

PROPERTIES

	Steel Section	Composite Section
I _x	18,543 in ⁴	53,049.0 in ⁴
S _x	620.2 in ³	5,586.5 in ³
I _y	1,040 in ⁴	1,319.0 in ⁴
S _y	115.5 in ³	171.5 in ³

DESIGNED	G.E.P.	19
CHECKED	B.H.B.	
DRAWN	J.P.E.	
CHECKED	G.E.P.	

BEARING DET
PROJ. I-55-2/
ST. RTE 108 OVER
F.A.I-55 - SEC.
MONTGOMERY
STA. 1651+

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