

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

F.A.I. ROUTE 72 (I-72)
SECTION D7 BRIDGE PAINTING 2014-1

BRIDGE PAINTING
MACON COUNTY

C-97-068-13

MACON COUNTY

FOR INDEX OF SHEETS, SEE SHEET NO. 2

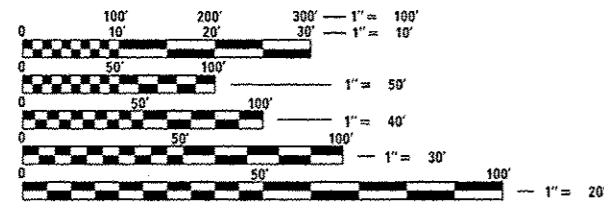
ADT = 10,000 I-72 (2010)
725 IL. 48 (2010)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72		MACON	10	1
ILLINOIS CONTRACT NO. 74622				
D7 BRIDGE PAINTING 2014-1			*10 of 11	

D-97-022-13

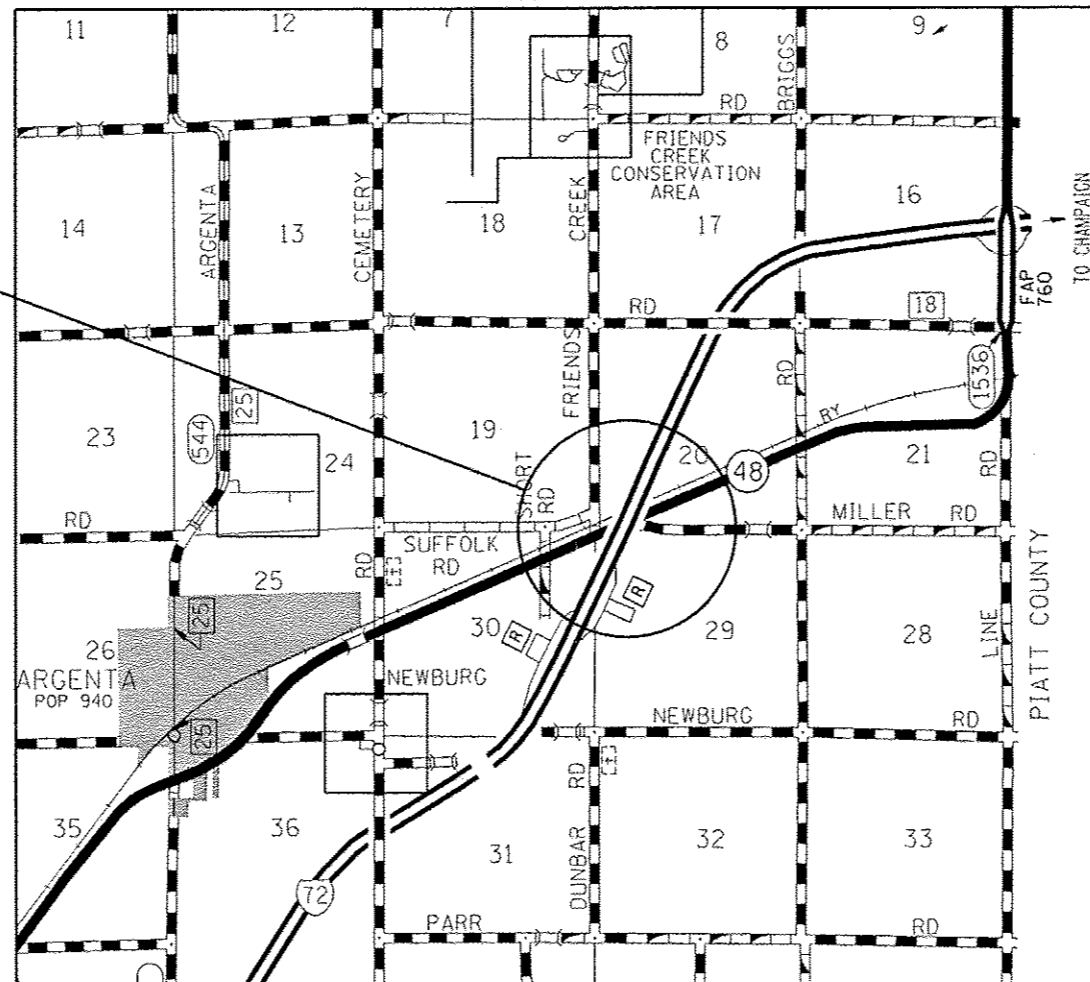


PROJECT LOCATION:
S.N. 058-0095 &
S.N. 058-0096



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



PROJECT ENGINEER: TOM RONAN
PROJECT MANAGER: TOM RONAN
PHONE: (217)-342-8320
CONTRACT NO. 74622

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED Aug 08 2013
Roger L. Dishell
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

October 4 2013
John D. Baranzelli, P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

October 4 2013
Omer Osman, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

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

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX OF SHEETS, GENERAL NOTES, LOCATION DESCRIPTION
3	SUMMARY OF QUANTITIES
4-10A	EXISTING STRUCTURE PLANS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 10:

STANDARD 701001-02	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701006-04	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701101-03	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701106-02	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701201-04	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES
STANDARD 701901-02	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES

GENERAL NOTES

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, THE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" ADOPTED JANUARY 1, 2012; THE SUPPLEMENTAL SPECIFICATIONS, THE RECURRING SPECIAL PROVISIONS, AND THE SPECIAL PROVISIONS INCLUDED IN THE PROPOSAL.

THE PROPOSED PROJECT IS LOCATED AT 2 STRUCTURES AT 1 LOCATION IN MACON COUNTY IN DISTRICT 7. THE LOCATION IS AT STRUCTURE NUMBERS 058-0095 AND 058-0096 ON I-72 IN MACON COUNTY.

THE WORK INCLUDED IN THIS SECTION CONSISTS OF CLEANING AND PAINTING THE BRIDGES AS SPECIFIED IN THE PLANS AND SPECIAL PROVISIONS.

THE STRUCTURAL STEEL SHALL BE CLEANED AND PAINTED AS SPECIFIED IN THE PLANS AND THE SPECIAL PROVISIONS.

ALL DECK DRAINS ON BOTH STRUCTURES SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1 - OZ/E/U. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT THEIR OWN EXPENSE AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

ONLY STRUCTURAL STEEL IS TO BE PAINTED. ALL OTHER SURFACES WILL BE PROTECTED FROM BEING PAINTED. ALL PAINT AND OVERSPRAY WILL BE REMOVED AT THE CONTRACTOR'S EXPENSE.

THE SSPC OP1 AND OP2 PAINTING CONTRACTOR CERTIFICATION WILL BE REQUIRED FOR THIS PROJECT.

STRUCTURE LOCATION DESCRIPTIONS

ROUTE: FAI 72
 MARKED: I-72
 SECTION: 58-66-HVB
 STATION: 798+54.75
 STRUCTURE NUMBER: 058-0095

TYPE OF BRIDGE: Welded Plate Girders-4 Spans (6 Girders)
 LOCATION: 1.5 Miles Northeast of Argenta
 FEATURE CARRIED/SPANNED: I-72 (EB) over ILL 48 & the IC RR

COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL 5B 7/1.

Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, including beams, bearings, diaphragms, lateral bracing, and pin and link assemblies shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

One air monitor will be required at this bridge.

ROUTE: FAI 72
 MARKED: I-72
 SECTION: 58-66-HVB
 STATION: 798+54.75
 STRUCTURE NUMBER: 058-0096

TYPE OF BRIDGE: Welded Plate Girders-4 Spans (6 Girders)
 LOCATION: 1.5 Miles Northeast of Argenta
 FEATURE CARRIED/SPANNED: I-72 (WB) over ILL 48 & the IC RR

COLOR OF THE FINISH COAT SHALL BE GRAY, MUNSELL 5B 7/1.

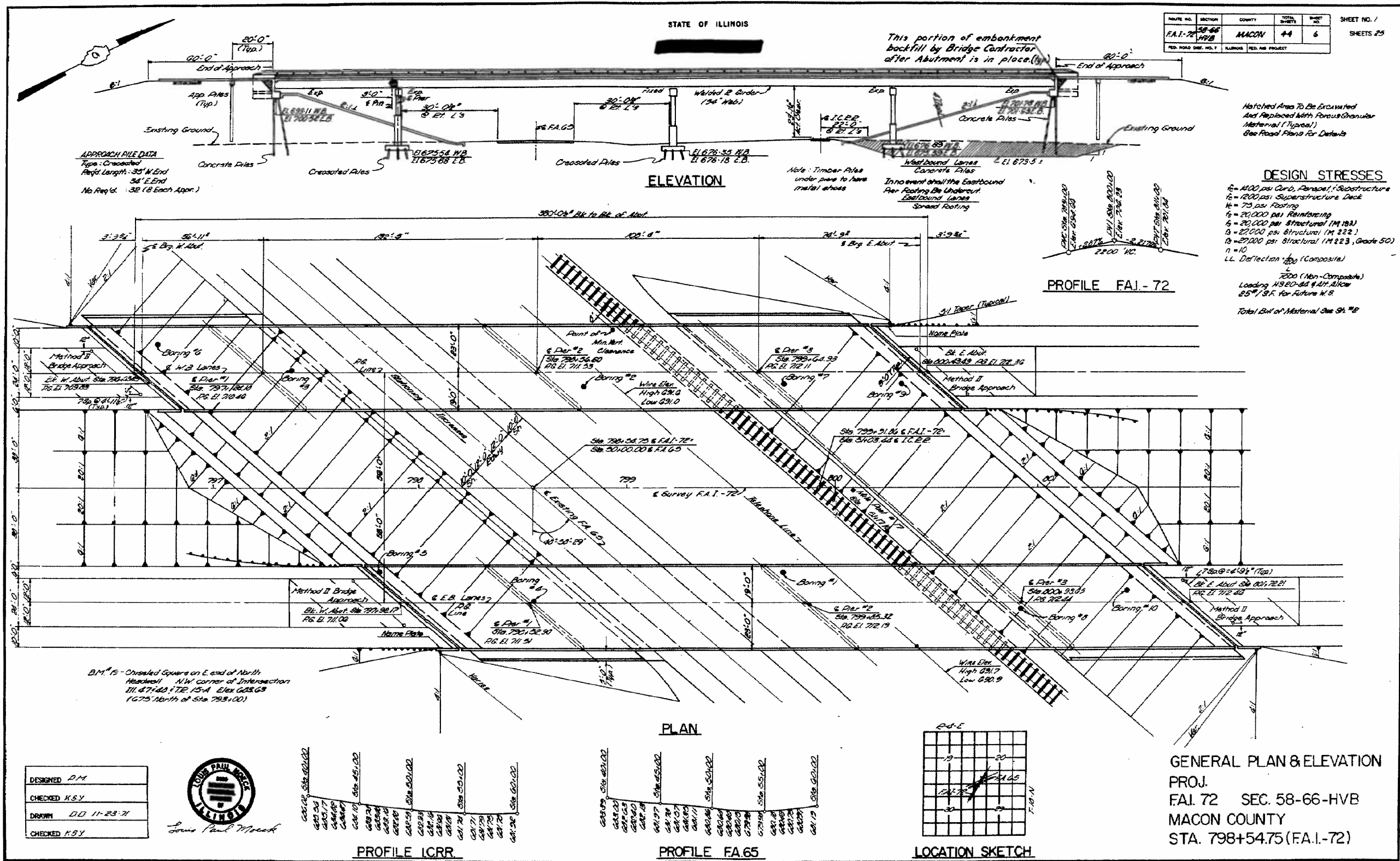
Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". All structural steel, including beams, bearings, diaphragms, lateral bracing, and pin and link assemblies shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning.

The designated areas cleaned per Near White Metal Blast Cleaning - SSPC-SP10 shall be painted according to the requirements of Paint System 1 - OZ/E/U.

One air monitor will be required at this bridge.

• 07 BRIDGE PAINTING 2014-1

FILE NAME : c:\pwork\pwork\steffanmk\d0344622\07	USER NAME : steffanmk 74622-shr-index.dgn	DESIGNED - DRAWN -	REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, GENERAL NOTES AND STRUCTURE LOCATION DESCRIPTIONS	F.A.I. RTE. 72	SECTION •	COUNTY MACON	TOTAL SHEETS 10	SHEET NO. 2
Default	PLOT SCALE : 100.0000 / in. PLOT DATE : 8/7/2013	CHECKED - DATE -	REVISED - REVISED -	SCALE: N/A	SHEET 1 OF 1 SHEETS	STA.	TO STA.	CONTRACT NO. 74622 ILLINOIS FED. AID PROJECT		



BRIGHTON ENGINEERING COMPANY

REV. 1-8-74

FILE NAME =	USER NAME = steffennk	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING STRUCTURE PLANS S.N. 058-0095 & 058-0096		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
Default	74622-sht-plan.dgn	DRAWN -	REVISED -		SCALE: N/A	SHEET 1 OF 7 SHEETS	STA.	72	.	MACON	10	4
	PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -				TO STA.					
	PLOT DATE = 8/7/2013	DATE -	REVISED -									
											CONTRACT NO. 74622	ILLINOIS FED. AID PROJECT

07 BRIDGE PAINTING 2014-1

ELEVATION TOP OF WEB W.B. LANES *

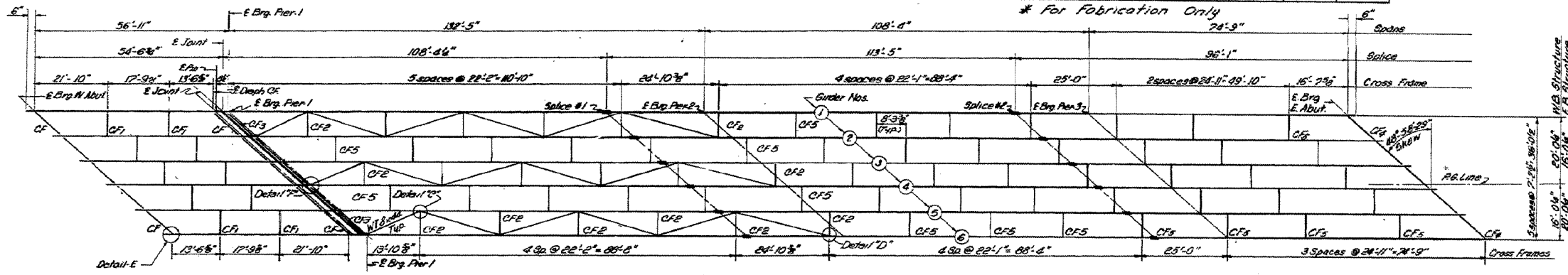
Girder	W. Abut.	Pin	E. Pier-1	Splice-1	E. Pier-2	Splice-2	E. Pier-3	E. Abut.
1	709.33	709.05	709.85	709.90	709.97	710.57	710.68	711.01
2	709.58	709.12	709.18	710.11	710.18	710.76	710.87	711.18
3	709.70	709.32	709.38	710.29	710.35	710.92	711.02	711.32
4	709.84	709.47	709.53	710.41	710.47	711.02	711.12	711.40
5	709.92	709.45	709.49	710.36	710.41	710.94	711.04	711.31
6	709.97	709.36	709.44	710.28	710.33	710.84	710.93	711.19

STATE OF ILLINOIS

ELEVATION TOP OF WEB E.B. LANES *

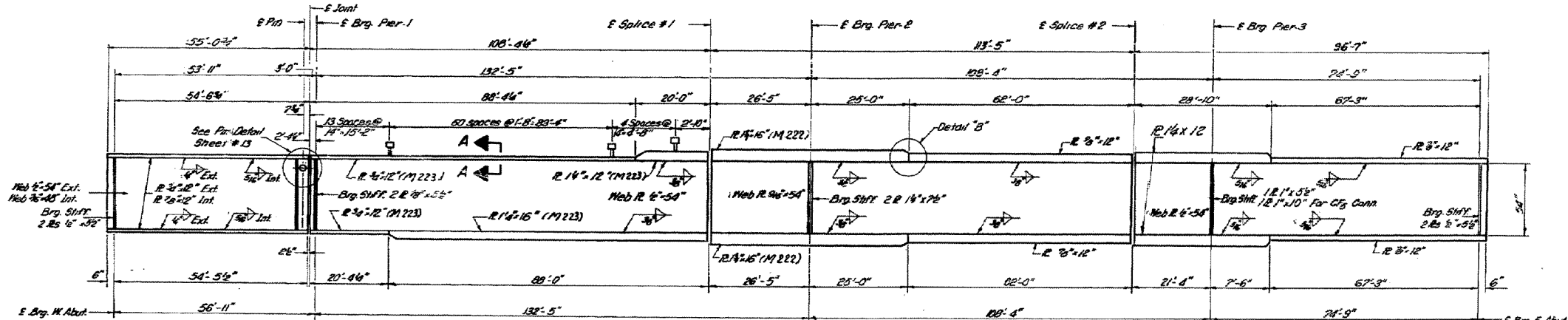
Girder	W. Abut.	Pin	E. Pier-1	Splice-1	E. Pier-2	Splice-2	E. Pier-3	E. Abut.
1	709.74	710.13	710.18	710.81	710.80	711.12	711.17	711.27
2	709.95	710.32	710.38	710.98	710.96	711.27	711.32	711.40
3	710.13	710.50	710.55	711.18	711.18	711.40	711.44	711.51
4	710.13	710.49	710.54	711.10	711.07	711.35	711.39	711.44
5	710.28	710.42	710.47	711.01	710.98	711.24	711.28	711.32
6	709.99	710.33	710.37	710.90	710.86	711.10	711.13	711.15

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. OF
S.A.I. 72	58-66	MACON	44	16	SHEETS 25
F.A.I. 72	HVB				
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			

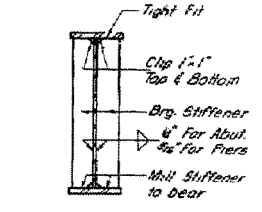


FRAMING PLAN

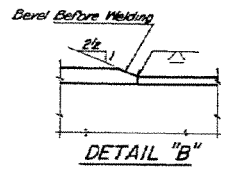
Note:
For details C, D, E, F see sheet #12
For cross frames CF1, CF2, CF3 see sheet #12



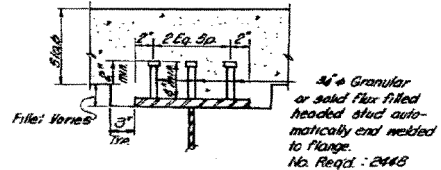
GIRDER ELEVATION



SECTION AT BRG. STIFFENERS



DETAIL "B"



SECTION A-A

E. Brq. W. Abut.	E. Pin	E. Brq. Pier-1	E. Splice #1	E. Brq. Pier-2	E. Splice #2	E. Brq. Pier-3	E. Brq. E. Abut.
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
Total Camber							
Camber Due To Vertical Curve							
Camber Due To Reflection							

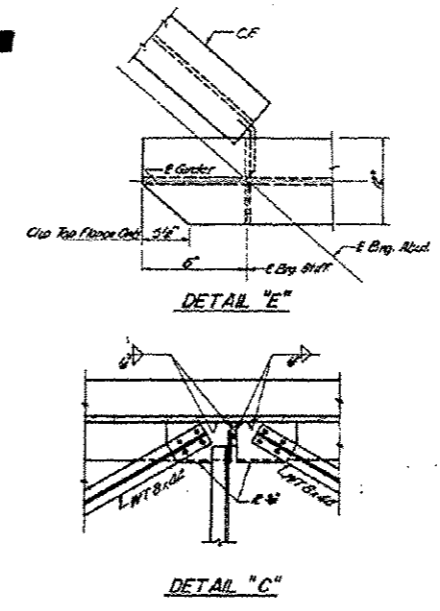
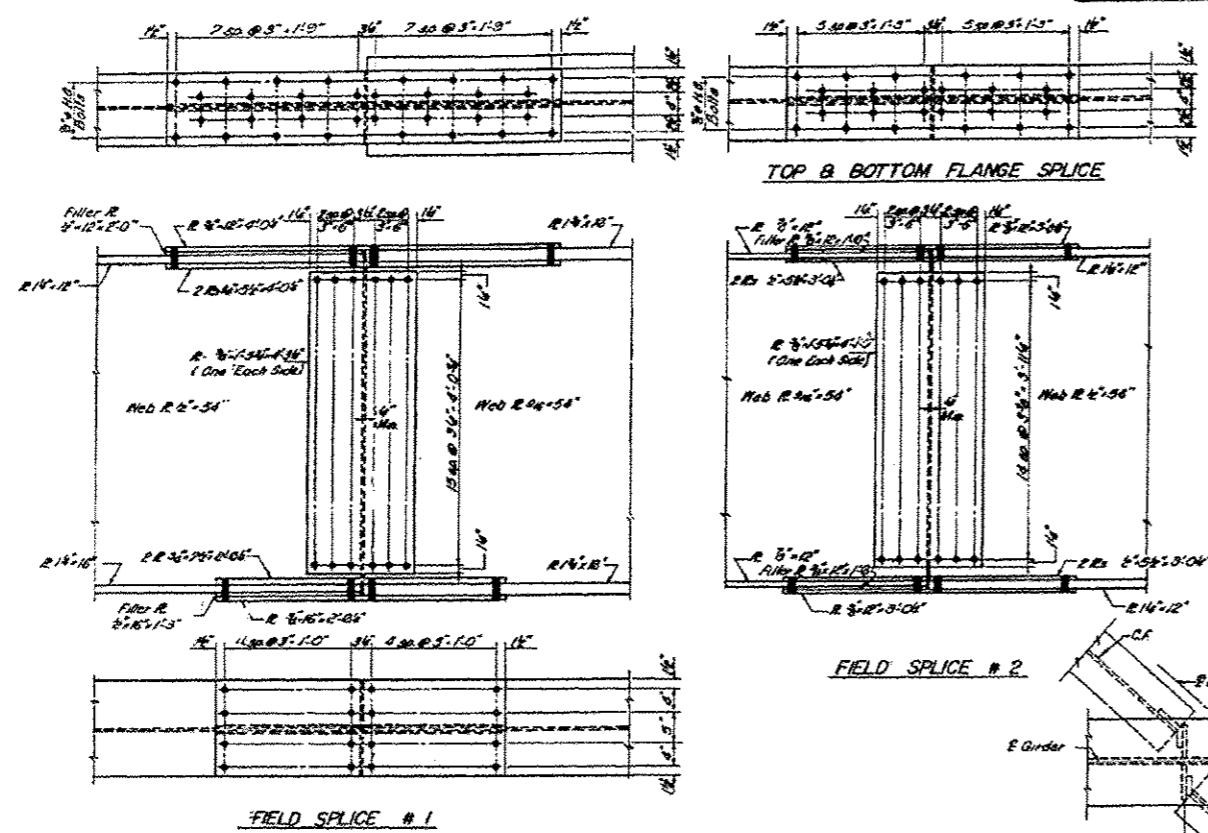
CAMBER DIAGRAM

DESIGNED	A.S.V
CHECKED	S.T
DRAWN	M.M.P 11-21-72
CHECKED	A.S.V

FRAMING DETAILS
FAI-72 SEC. 58-66-HVB
MACON COUNTY
STA. 798+54.75 (FAI-72)

REV 1-6-74

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 72	58-66	MACON	44	17
SHEETS 25				



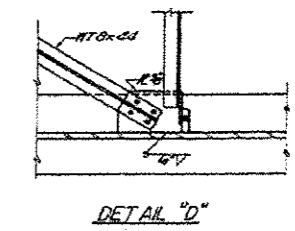
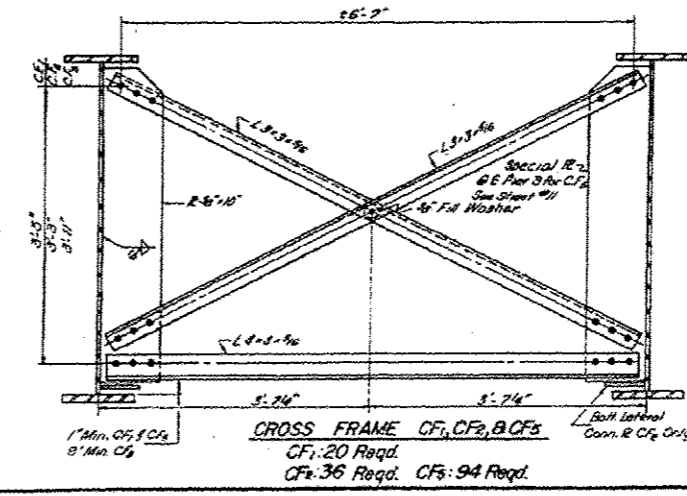
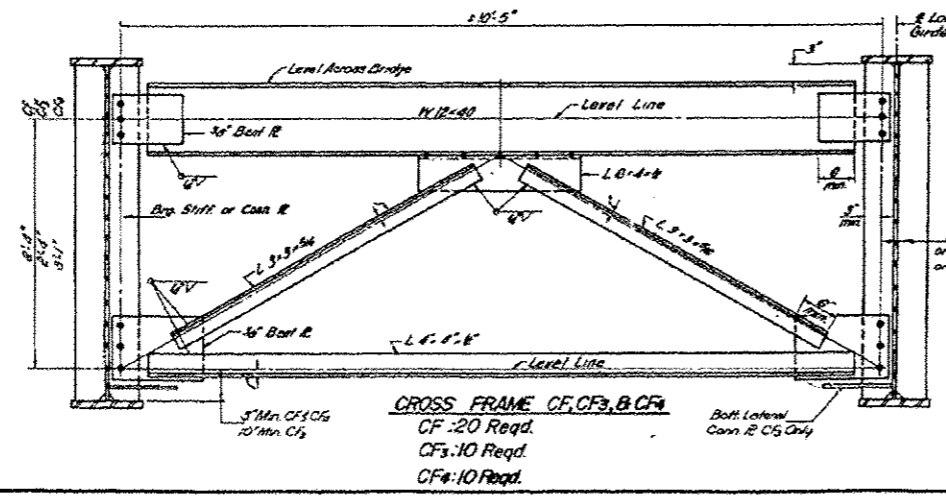
INTERIOR GIRDER MOMENT TABLE

	0-5 Sp.1	Pier-1	0-4 Sp.2	Pier-2	0-5 Sp.3	Pier-3	0 Sp.4
I_b (K)	6574	20050	26928	20908	22192	20459	22971
I_c (K)			71009				
S_b (in ³)	666	723	1181	172	232	1043	803
S_c (in ³)			1662				
R (K)	1.32	1.36	0.27	1.39	1.39	1.37	1.35
M_b (K)	454	198	1175	2572	344	256	620
M_c (K)			2.37	11.93	12.11	2.06	2.25
S_R (K)			0.92				
M_{sE} (K)			36.8				
M_{sC} (K)	405	181	1197	1002	596	624	534
M_{imp} (K)	184	32	223	207	128	144	130
Total (K)	570	173	1399	1206	724	789	693
F_{sE} (KSI)	1027	2.87	14.10	6.17	12.04	3.84	12.32
S TOTAL (KSI)	12.08	6.24	26.11	26.23	15.20	12.63	12.73
V_R (K)			63.8				

INTERIOR GIRDER REACTION TABLE

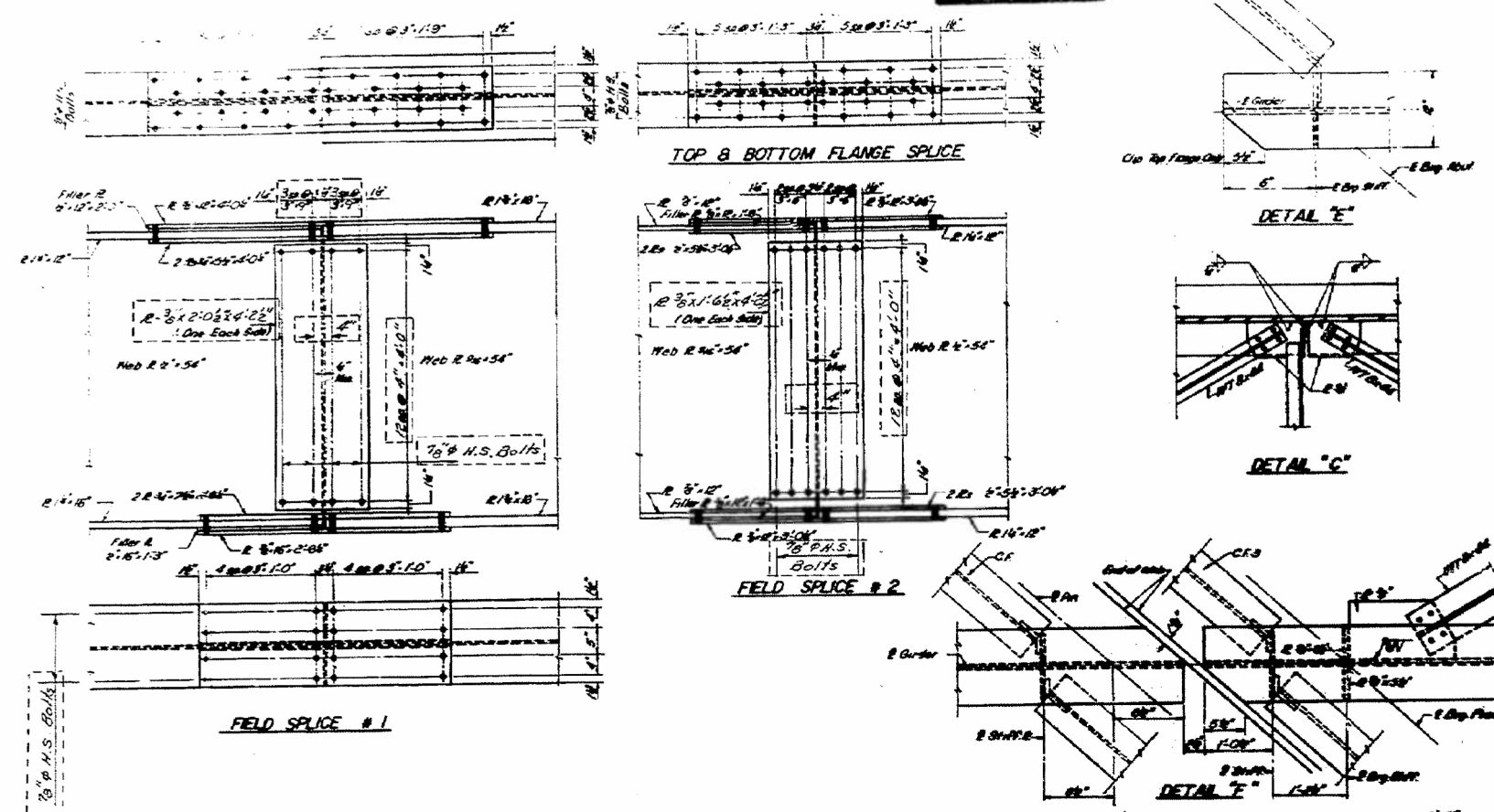
	W. Abut.	Pier-1	Pier-2	Pier-3	E. Abut.
R_g (K)	35.1	111.5	203.4	119.1	20.9
R_b (K)	44.7	53.3	78.3	62.3	43.9
I_{mp} (K)	12.3	12.6	15.0	14.8	11.0
R TOTAL (K)	92.1	177.4	296.6	196.0	55.7

Note: I_b and S_b 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_b . V_R is the maximum impact shear range in span used to determine shear connector spacing.



DESIGNED BY
CHECKED BY
DRAWN M.M.P. 11-25-72
CHECKED BY

FRAMING DETAILS
F.A.I.-72 SEC. 58-66-HVB
MACON COUNTY
STA. 798+54.75 (F.A.I.-72)



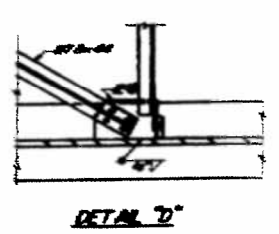
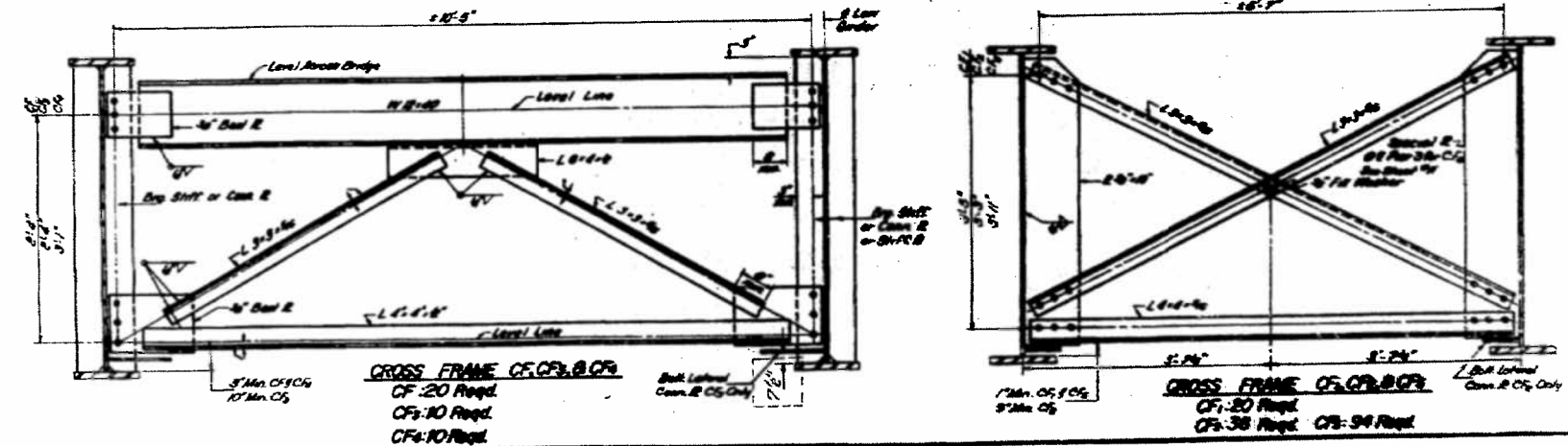
INTERIOR GIRDER MOMENT TABLE

	05 Sp.1	Per-1	04 Sp.2	Per-2	05 Sp.3	Per-3	0 Sp.4
1a (k-ft)	6574	2000	26888	90008	29152	25459	28371
1c (k-ft)			71688				
2a (k-ft)	468	723	1181	170	232	1043	808
2c (k-ft)			1582				
3 (k-ft)	1.82	1.85	0.87	1.88	1.99	1.97	1.85
4a (k-ft)	484	148	1170	2872	394	636	560
4c (k-ft)	2.85	2.87	11.83	18.11	4.00	6.03	3.37
5a (k-ft)			0.92				
5c (k-ft)			36.8				
6a (k-ft)	488	141	1187	1882	526	624	554
6c (k-ft)	184	32	223	204	120	144	130
7a (k-ft)	520	173	1820	1206	724	769	683
7c (k-ft)	427	287	1410	0.17	10.42	2.84	10.96
8a (k-ft)	28.68	6.24	28.11	24.89	15.00	12.69	18.73
8c (k-ft)			63.8				

INTERIOR GIRDER REACTION TABLE

	Per-1	Per-2	Per-3	E. End
Rg (k)	35.1	111.6	205.4	28.0
Rb (k)	48.7	63.3	70.3	45.0
Rc (k)	42.3	42.8	15.8	14.0
Rd (k)	22.1	178.4	280.6	184.0

Note: 1a and 1c are the moment of inertia and section modulus of the steel section. 2a and 2c are the moment of inertia and section modulus of the composite section used in computing 1a. 3a is the maximum 6x support shear range in span used to determine shear connector spacing.

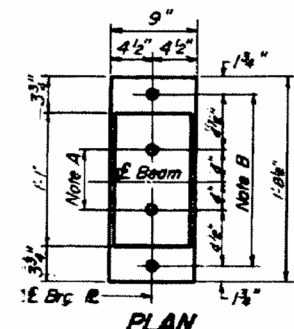
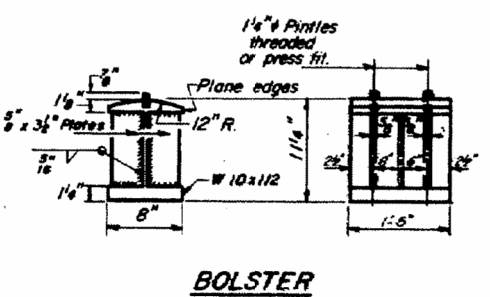
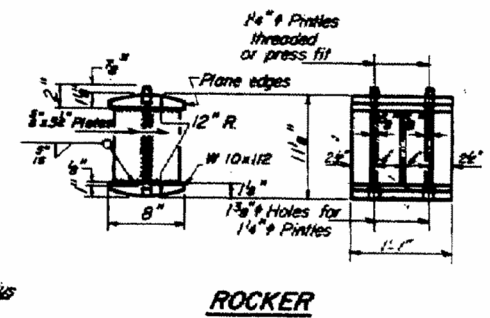
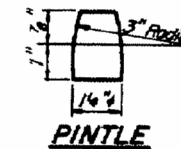
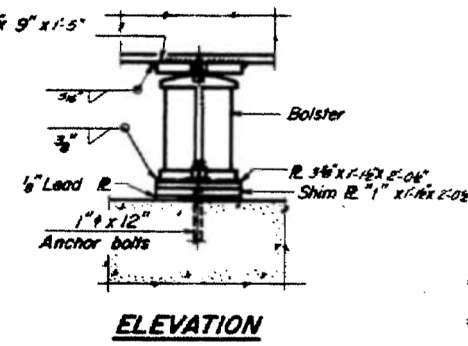
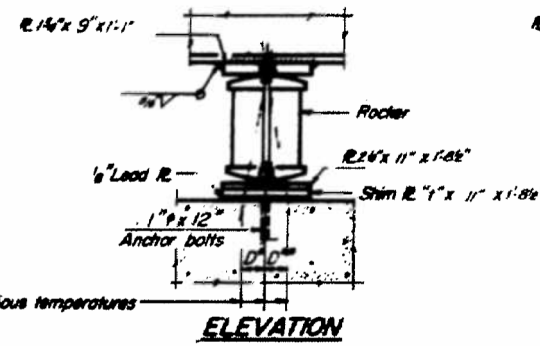
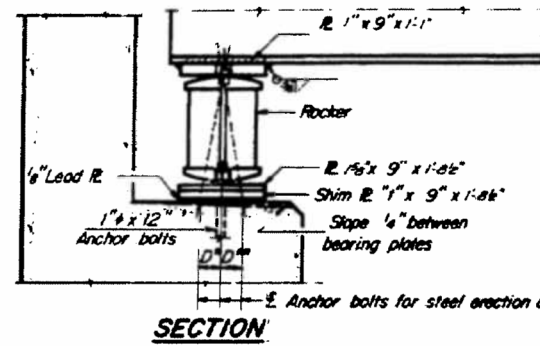


DESIGNED BY
 CHECKED BY
 DRAWN M.M.P. 11-25-78
 CHECKED R.B.Y.

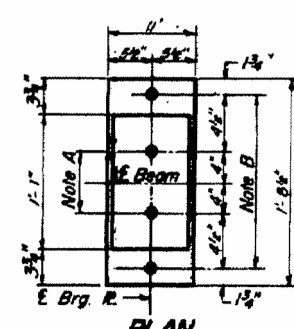
REV 3-26-74 A.K.J.

REV 1-1-78

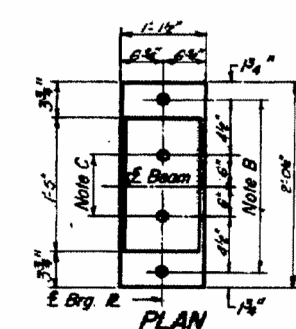
FRAMING DETAILS
 FA-1-72 SEC. 58-66+MB
 MACON COUNTY
 STA. 798+54.75 (FA-1-72)



PLAN AT ABUTMENT



PLAN AT PIER 1 & 3



PLAN AT PIER 2

NOTE A
1 3/8" 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. 1/4 x 2 1/2 x 2 1/2 R. Washers under nut.

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

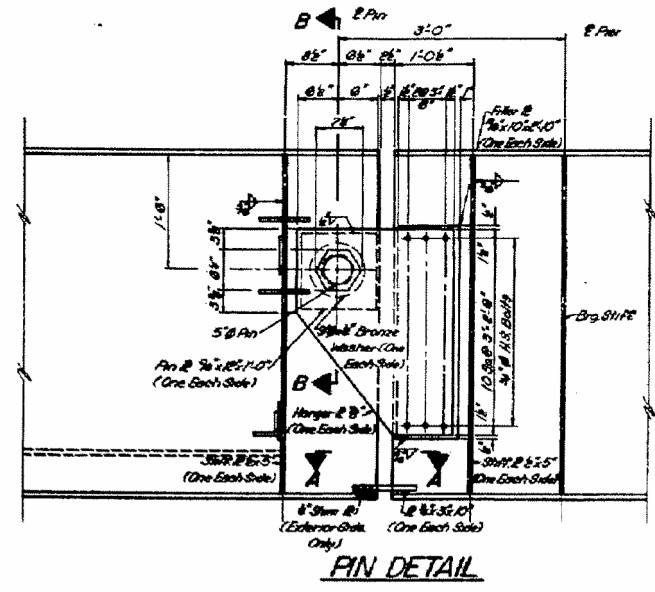
NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

- 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.

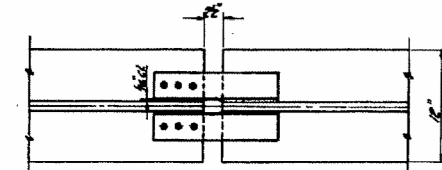
DESIGNED	K.S.V.
CHECKED	S.T.
DRAWN	N.M.P. 8-22-72
CHECKED	K.S.V.

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

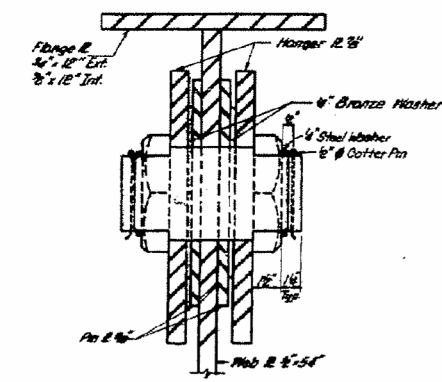
BEARING ASSEMBLY DETAILS



PIN DETAIL



SECTION A-A



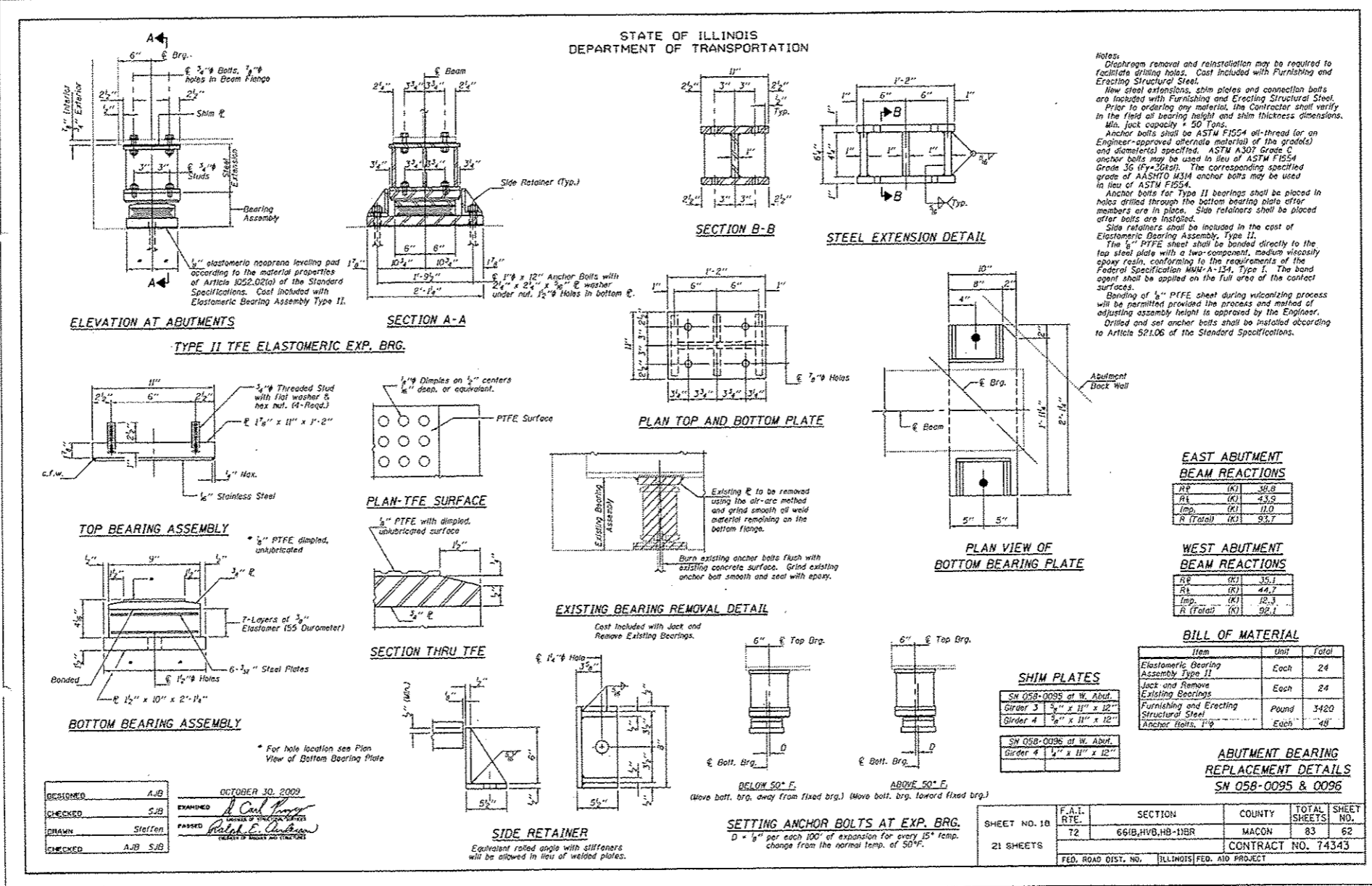
SECTION B-B

SHIM PLATES

Structure	Location	Size
E.B.	N. Abut - Grader 3	5"
	N. Abut - Grader 4	5"
	Pier 1 - Grader 3	5"
	Pier 2 - Grader 3	5"
	Pier 3 - Grader 3	5"
M.B.	N. Abut - Grader 4	4"
	Pier 1 - Grader 4	5"

BEARING & PIN DETAILS
F.A.I.-72 SEC. 58-66-HVB
MACON COUNTY
STA. 798+54.75 (F.A.I.-72)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FILE NAME :	USER NAME : staffennk	DESIGNED :	REVISED :	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING STRUCTURE PLANS S.N. 058-0095 & 058-0096	SCALE: N/A	SHEET 7 OF 7 SHEETS	STA. TO STA.	F.A.I. RTS.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
chp_wrk\swidoc\stefennk\d0344622\0	74622-shrplan.dgn	DRAWN :	REVISED :						T2		MACON	10	10A
Default	PLOT SCALE * 100.0000 1/16"	CHECKED :	REVISED :						CONTRACT NO. 74622				
	PLOT DATE * 8/7/2013	DATE :	REVISED :						ILLINOIS FED. AID PROJECT				