

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

**PROPOSED
HIGHWAY PLANS**

F.A.P. ROUTE 322 (US 51) & F.A.P. ROUTE 320 (IL 121)
SECTION D7 BRIDGE PAINTING 2016-2

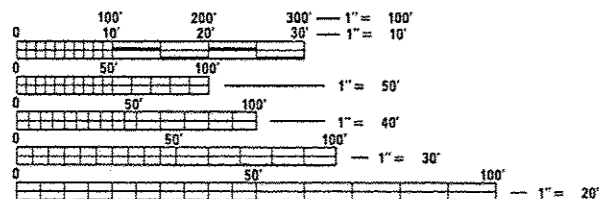
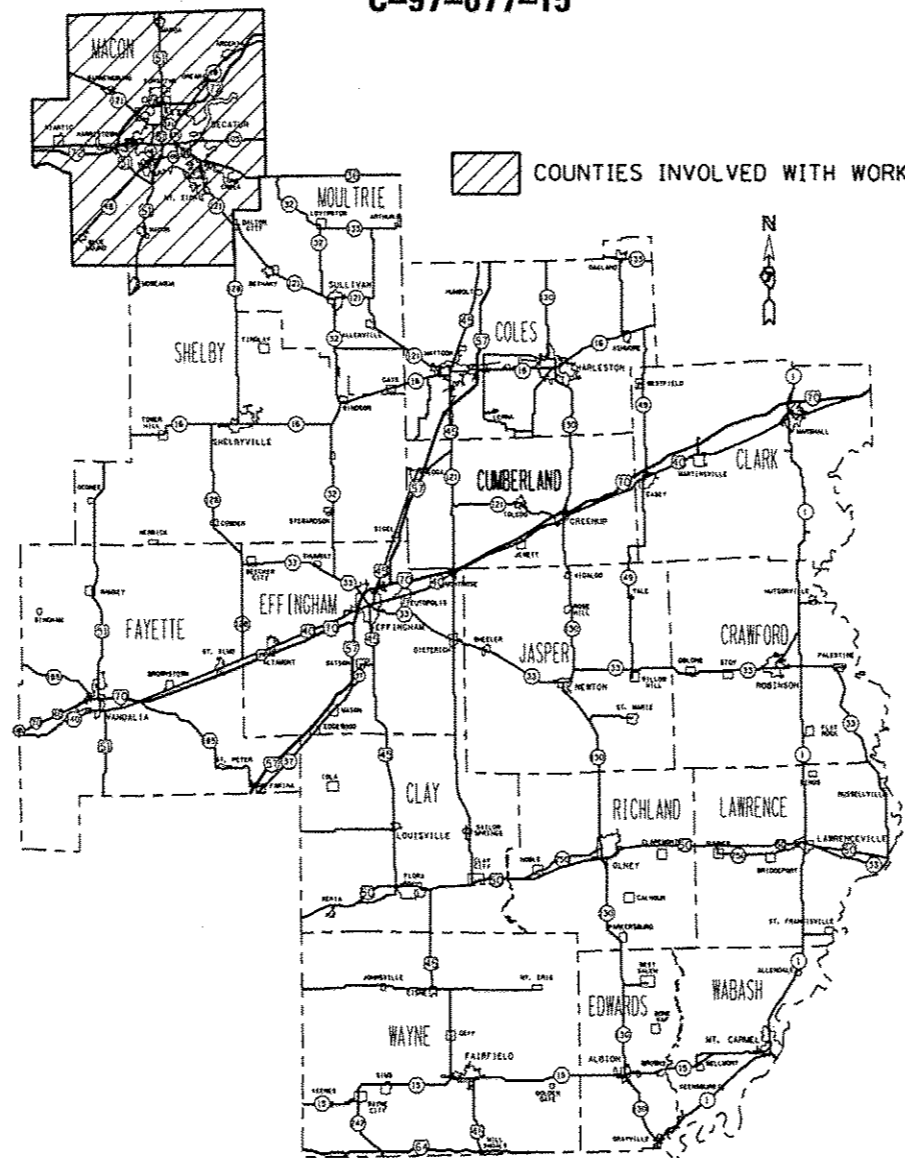
BRIDGE PAINTING
MACON COUNTY
C-97-077-15

FOR INDEX OF SHEETS, SEE SHEET NO. 2

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D7	BRIDGE PAINTING 2016-2	MACON	14	1
		ILLINOIS	CONTRACT NO. 74725	

* F.A.P. 322 & F.A.P. 320

D-97-030-15



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. 74725

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

SUBMITTED August 13, 2015
Roger L. Driskell
DEPUTY DIRECTOR OF HIGHWAYS, REGION ENGINEER

Oct 2, 2015
John D. Baranelli, P.E.
ENGINEER OF DESIGN AND ENVIRONMENT

Oct 2, 2015
Omer Osman, P.E.
DIRECTOR OF HIGHWAYS, CHIEF ENGINEER

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

SHEET NO.	ITEM
1	TITLE SHEET
2	INDEX OF SHEETS, GENERAL NOTES, & LOCATION DESCRIPTIONS
3	SUMMARY OF QUANTITIES
4-14	EXISTING STRUCTURE PLANS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER SHEET NO. 14:

STD. NO.	DESCRIPTION
STANDARD 701101-04	OFF-ROAD OPERATIONS, 15' TO 2' FROM EDGE OF PAVEMENT
STANDARD 701106-02	OFF-ROAD OPERATIONS, MORE THAN 15' AWAY
STANDARD 701400-08	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
STANDARD 701401-09	LANE CLOSURE, FREEWAY/EXPRESSWAY
STANDARD 701602-07	URBAN LANE CLOSURE, MULTILANE, 2W WITH BIDIRECTIONAL LEFT TURN LANE
STANDARD 701606-10	URBAN SINGLE LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
STANDARD 701901-04	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 3 LOCATIONS IN MACON COUNTY IN DISTRICT 7.

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 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.

BRIDGE LOCATION DESCRIPTIONS

LOCATION #1

BRIDGE #1
ROUTE: FAP 320
MARKED: ILL 121
SECTION: 101BR
STATION: 421+56.40
STRUCTURE NUMBER: 058-0055

TYPE OF BRIDGE: Plate Girder-3 Spans (12 Girders)
LOCATION: 1.5 Miles north of Mt. Zion
FEATURE CARRIED/SPANNED: ILL 121 over Long Creek

COLOR OF THE FINISH COAT SHALL BE GREEN, MUNSELL 10B 3/6.

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, on all beams, including beams, bearings and diaphragms, within 10' (measured along the beam) of the abutments and any expansion joints at piers shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. The entire outside and bottom of the bottom flange of both fascia beams (beams 1 & 12), for the entire length of the beams, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. The entire outside and bottom of the bottom flange of the first interior beams (beams 2 & 11), for the entire length of the beams, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. The entire inside and bottom of the bottom flange of the middle beams (beams 5 & 6), for the entire length of the beams, 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.

Four air monitors will be required at this location.

LOCATION #2

BRIDGE #2
ROUTE: FAP 320
MARKED: ILL 121
SECTION: 135BR-2
STATION: 997+25
STRUCTURE NUMBER: 058-0111

TYPE OF BRIDGES: Plate Girder-3 Spans (10 Girders)
LOCATION: Northwest edge of Decatur
FEATURE CARRIED/SPANNED: ILL 121 over Stevens Creek

COLOR OF THE FINISH COAT SHALL BE GREEN, MUNSELL 10B 3/6.

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, on all beams, including beams, bearings and diaphragms, within 5' (measured along the beam) of the abutments and any expansion joints at piers shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. Both fascia beams, for the entire length of the beams, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. The entire inside and bottom of the bottom flange of beams 5 & 6, for the entire length of the beams, 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.

Four air monitors will be required at this location.

LOCATION #3

BRIDGES #3 & #4
ROUTE: FAP 322
MARKED: US 51
SECTION: 51BR-2
STATION: 424+71.99
STRUCTURE NUMBERS: 058-0113 & 058-0114

TYPE OF BRIDGES: Wide Flange I Beams-3 Spans (6 Beams)
LOCATION: 3 miles north of Forsyth
FEATURE CARRIED/SPANNED: US 51 over Stevens Creek

COLOR OF THE FINISH COAT SHALL BE GREEN, MUNSELL 10B 3/6.

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, on all beams, within 5' (measured along the beam) of the abutments, including beams, bearings and diaphragms, shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. The entire outside and bottom of the bottom flange of both fascia beams, for the entire length of the beams, 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 location.

FILE NAME =	USER NAME = steffarmk	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, GENERAL NOTES AND BRIDGE LOCATIONS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
pu\NLS\B4810\INTEG\Illinois.gov\PI100T\0	uments\1007\Offices\District 7\Projects\747	DRAWN	REVISED			• D7 BRIDGE PAINTING 2016-2	MACON	14	2		
	PLOT SCALE = 1/8" = 1' in.	CHECKED -	REVISED -			CONTRACT NO. 74725					
Default	PLOT DATE = 8/18/2019	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					

*F.A.P. 322 & F.A.P. 320

SCALE: N/A SHEET 1 OF 1 SHEETS STA. TO STA.

SUMMARY OF QUANTITIES			URBAN 100% STATE	FAP 322 US 51	FAP 320 IL 121	SUMMARY OF QUANTITIES						
				CONSTRUCTION TYPE CODE						TOTAL QUANTITIES	CONSTRUCTION TYPE CODE	
CODE NO	ITEM	UNIT	TOTAL QUANTITIES	0014	0014	CODE NO	ITEM	UNIT	TOTAL QUANTITIES			
67100100	MOBILIZATION	LSUM	1	0.5	0.5							
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	LSUM	1	0.5	0.5							
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	LSUM	1	0.5	0.5							
70102632	TRAFFIC CONTROL AND PROTECTION, STANDARD 701602	LSUM	1	0.5	0.5							
X7010410	SPEED DISPLAY TRAILER	CAL MO	3	1.5	1.5							
Z0007112	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES	LSUM	1	0.5	0.5							
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	LSUM	1	0.5	0.5							
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	LSUM	1	0.5	0.5							
Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO. 3	LSUM	1	0.5	0.5							
Z0010504	CLEANING AND PAINTING STEEL BRIDGE NO. 4	LSUM	1	0.5	0.5							

10

*F.A.P. 32 & F.A.P. 320

CONTRACT NO. 74725

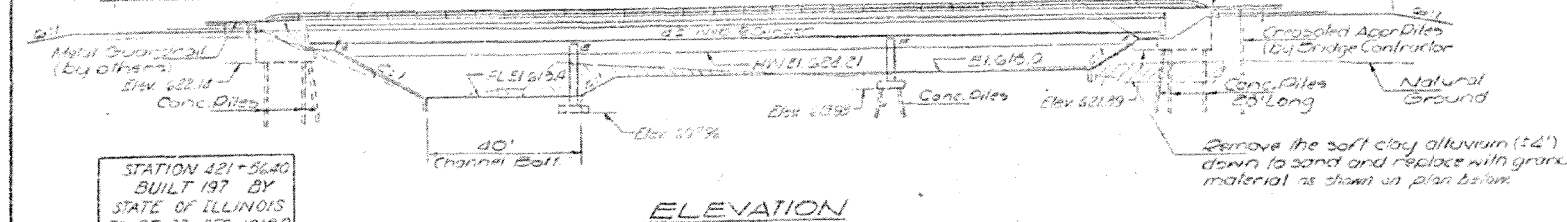
ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
33	101BR	MACON	198	75

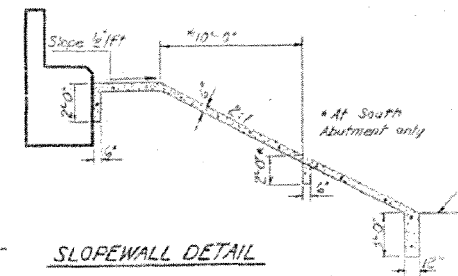
AM-#21 structure 100' E. N. 1/4 Sec. 36, T. 101 N., R. 33 E., S. 101 BR. 2 span
E. N. 1/4 Sec. 36, T. 101 N., R. 33 E., S. 101 BR. 2 span
to be removed by Bridge Contractor to proposed ground line or lower
if does not interfere with new construction after Stage I construction is
complete. No Salvage.

This portion of Embankment
to be filled by Bridge Contractor
after Abutment
is in place. Top

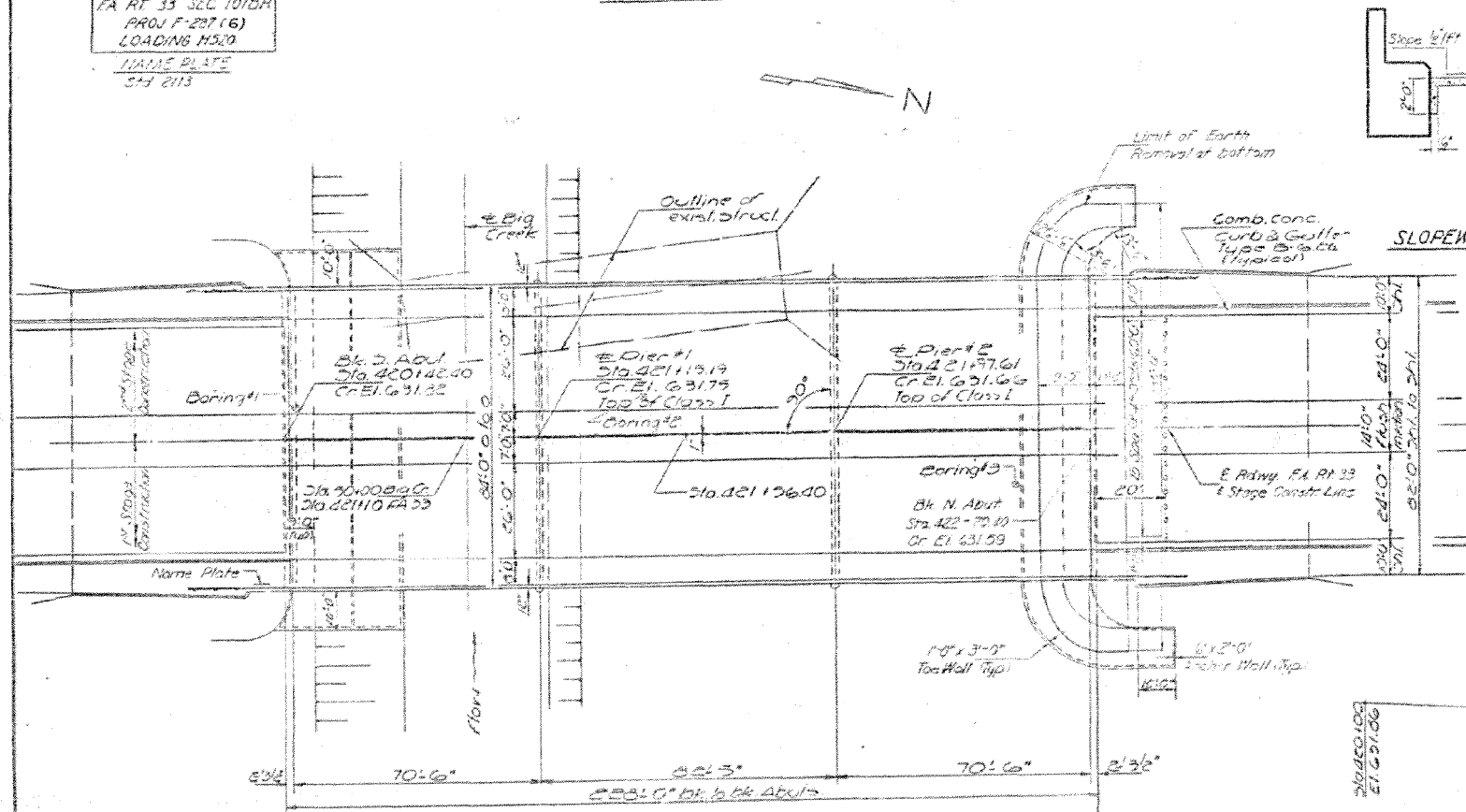


STATION 421+36.40
BUILT 197 BY
STATE OF ILLINOIS
FA RT 33 SEC 101BR
PROJ F-287 (6)
LOADING H320
NAME PLATE
5-3 2113

ELEVATION



SLOEWALL DETAIL



PLAN

TOTAL BILL OF MATERIAL

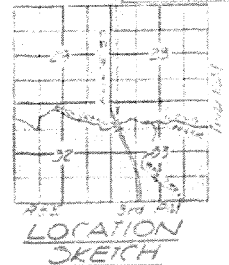
Item	Unit	Super	Sub	Total
Earth Excavation	Cu Yds		480	480
Channel Excavation	Cu Yds		300	300
Pinus Granular Embankment	Cu Yds		630	630
Removal of Existing Structure	Sq Ft			1
Bit Concrete Surf. (See Sheet 1)	Tons	133		133
Structure Excavation	Cu Yds		530	530
Protective Coat	Sq Yds		586	586
Class A Concrete	Cu Yds		221.6	221.6
Class X Concrete	Cu Yds	658.4	178	836.8
Structural Steel	L.S.		1	1
Grid Channel Reinforcement	Each	4824		4824
Steel Railings (See Spec. M)	L.S.		500	500
Temporary Guardrail	L.S.		200	200
Crushed Stone (1/2\"/>				

PROFILE
FA RT 33

DESIGN STRESSES

f_c = 1200 psi - Deck Slab
f_c = 1800 psi - Piers, Approach, Sub
f_c = 20,000 psi - Reinft
f_c = 20,000 psi - Strucl
f_c = 7500 psi - Footings
n = 10

Allow 25% for future W.S.



LOCATION SKETCH

GENERAL PLAN & ELEVATION
PROJECT F-287 (6)
OVER BIG CREEK
FA ROUTE 33
SECTION 101BR
MACON COUNTY
STATION 421+36.40

DESIGNED	S. J. H. H.
CHECKED	M. H. H.
DRAWN	C. E. H. H.
CHECKED	A. H. H.

EXAMINED	
PASSED	
APPROVED	

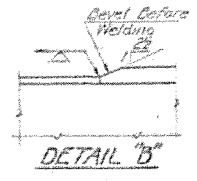
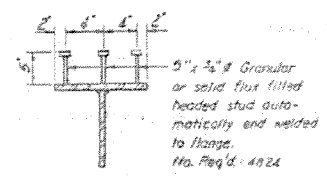
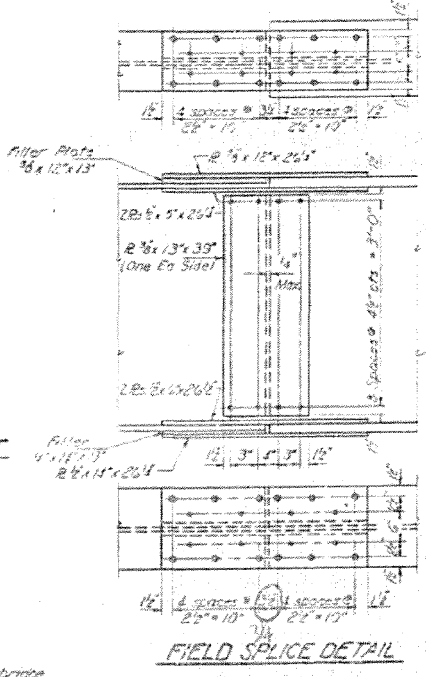
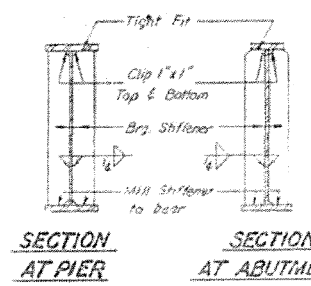
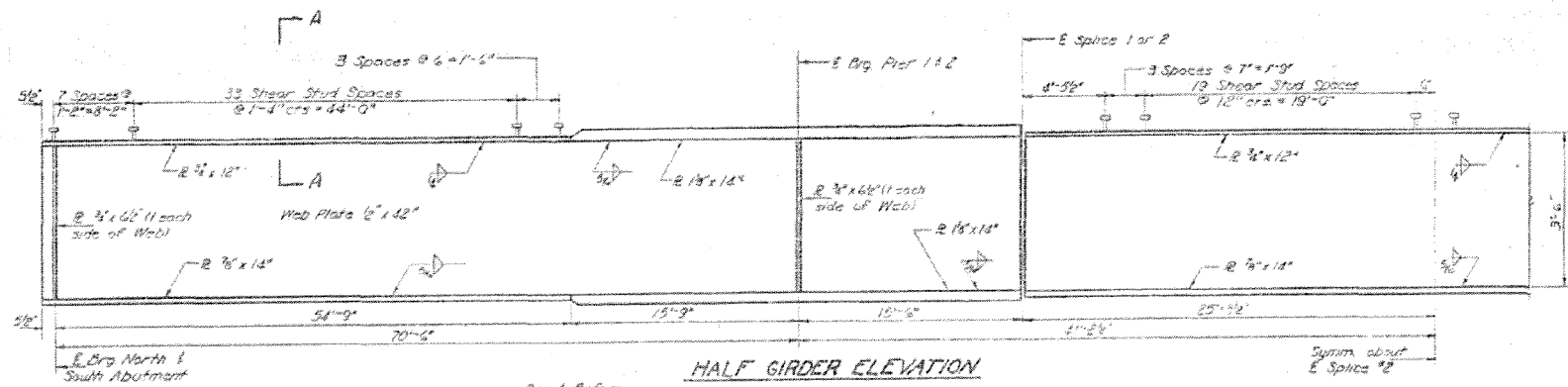
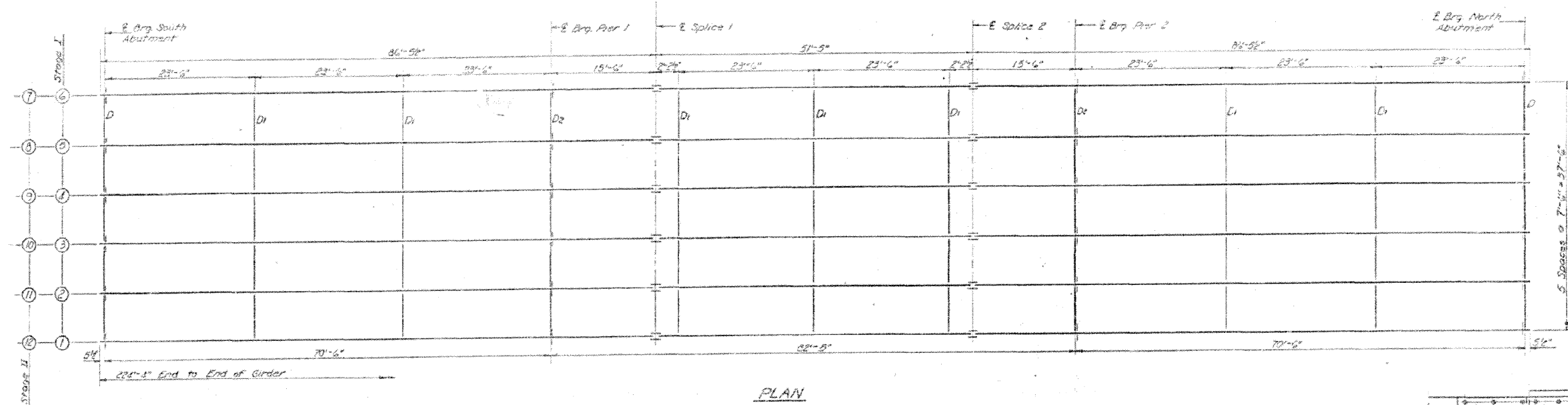
APPROACH PILE DATA
(North Abutment Only)
Type - Crosstied
No. Req'd - 16
Req'd Length - 16'-0"

WATERWAY INFORMATION
Drainage Area --- 47.5 Sq Miles
Channel Character ---
Channel Opening --- 122.9 Sq Ft
Design Opening --- 1400 Sq Ft
Prop. Opening --- 1400 Sq Ft
Q (100) = 7800 CFS
Created Head = 1.0'

LOADING H320-44

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

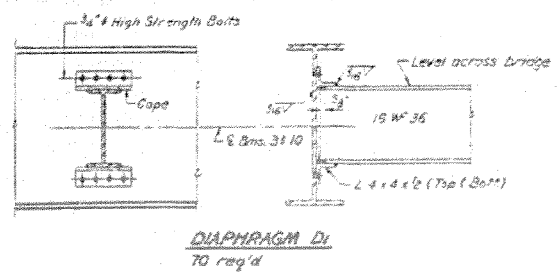
PROJECT NO.	101BR	SECTION	MACON	DATE	1987	SHEET NO.	3
DATE	10/18/87	BY		NO.	77	TOTAL SHEETS	11



DESIGNED	Sol. Tolman	EXAMINED	Mar 16 1972
CHECKED	W. H. H.	PASSED	
DRAWN	R. E. Watkins	APPROVED	
CHECKED	W. H.		

TOP OF WEB ELEVATION *(For Fabrication Only)*

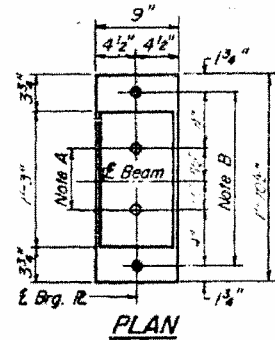
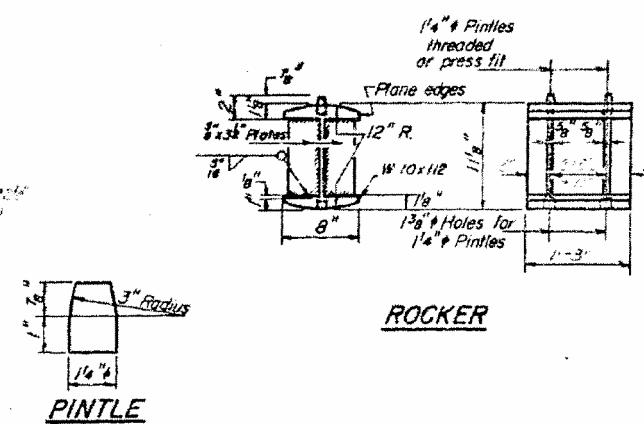
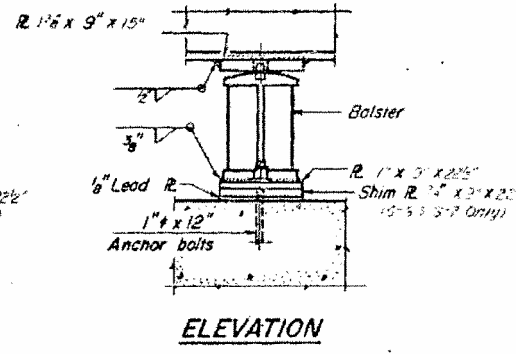
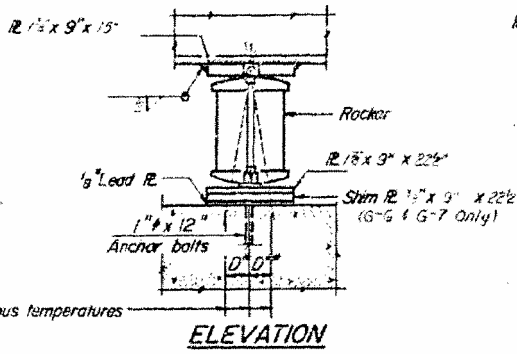
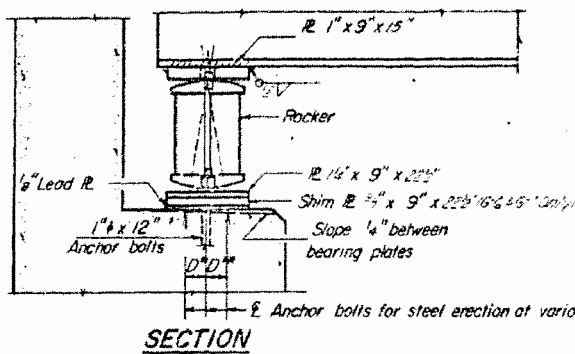
	Girder 11	Girder 12	Girder 21	Girder 22	Girder 31	Girder 32	Girder 41	Girder 42	Girder 51	Girder 52	Girder 61	Girder 62
E. Brg. South Abutment	630.53	630.53	630.53	630.53	630.53	630.53	630.53	630.53	630.53	630.53	630.53	630.53
E. Brg. Pier 1	630.26	630.26	630.26	630.26	630.26	630.26	630.26	630.26	630.26	630.26	630.26	630.26
E. Splice 1	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00
E. Splice 2	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00
E. Brg. Pier 2	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00
E. Brg. North Abutment	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00	630.00



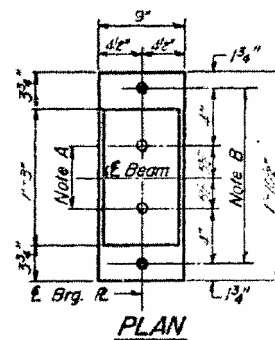
STRUCTURAL STEEL
FA RT 33 SEC. 101BR
MACON COUNTY
STA 421+56.40

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

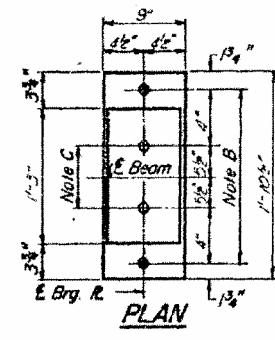
PROJECT NO.	SECTION	SHEET NO.	TOTAL SHEETS
33	MACOM	78	78



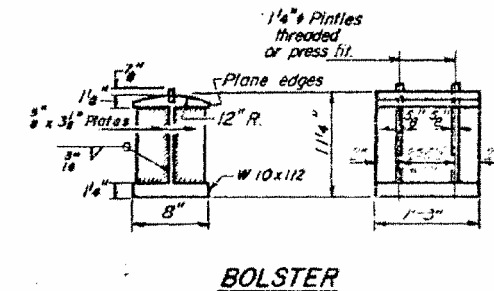
AT ABUTMENT



AT PIER 1



AT PIER 2



BOLSTER

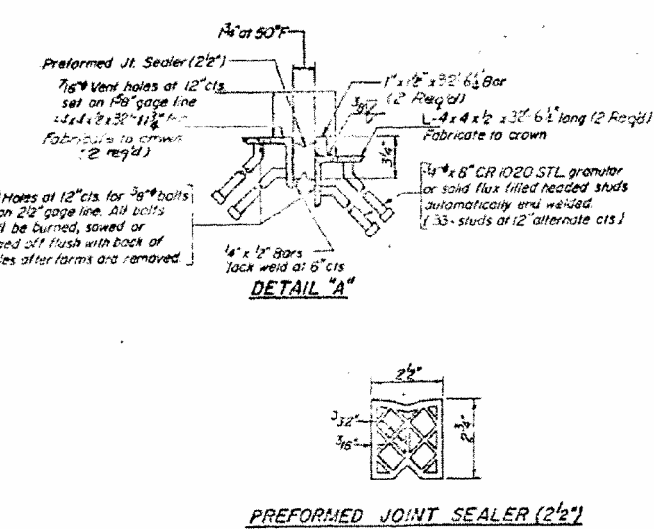
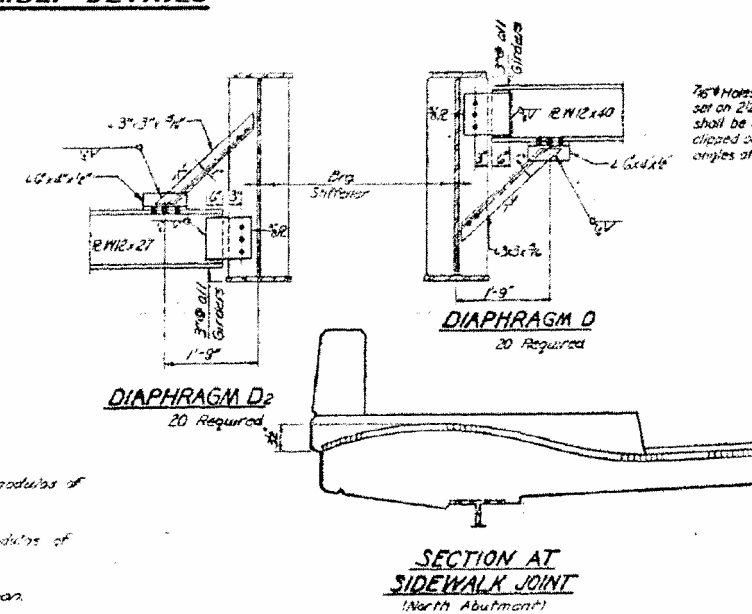
NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

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

BEARING ASSEMBLY DETAILS

INTERIOR GIRDER MOMENT TABLE	Span	Beam	Reaction
I_2	12.712	157.9	157.9
I_c	12.712	157.9	157.9
S_2	3.97	31.1	31.1
S_c	3.97	31.1	31.1
Q	35	125	35
M_2	329	342	213
V_2	1251	6.3	12.4
S_2	5	5	5
M_3	200	177	177
M_4	542	351	532
M_{max}	192	117	177
V_{total}	222	152	58.6
V_2	12.2	20	11.7
V_3	14.2	19.2	12.7
V_4	2	12	12

I_2 and S_2 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 V_2 .
 V_2 is the maximum shear force in span.

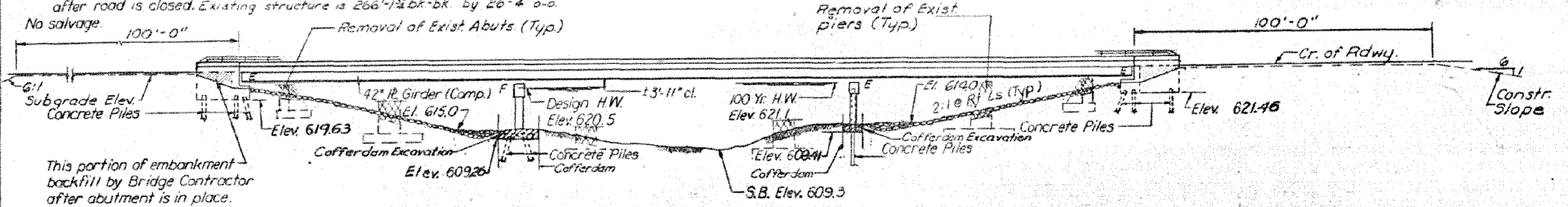


DESIGNED <i>Sol. [Signature]</i>	EXAMINED <i>[Signature]</i>
CHECKED <i>[Signature]</i>	PASSED
DRAWN <i>C.E. Wilkins</i>	APPROVED
CHECKED <i>[Signature]</i>	

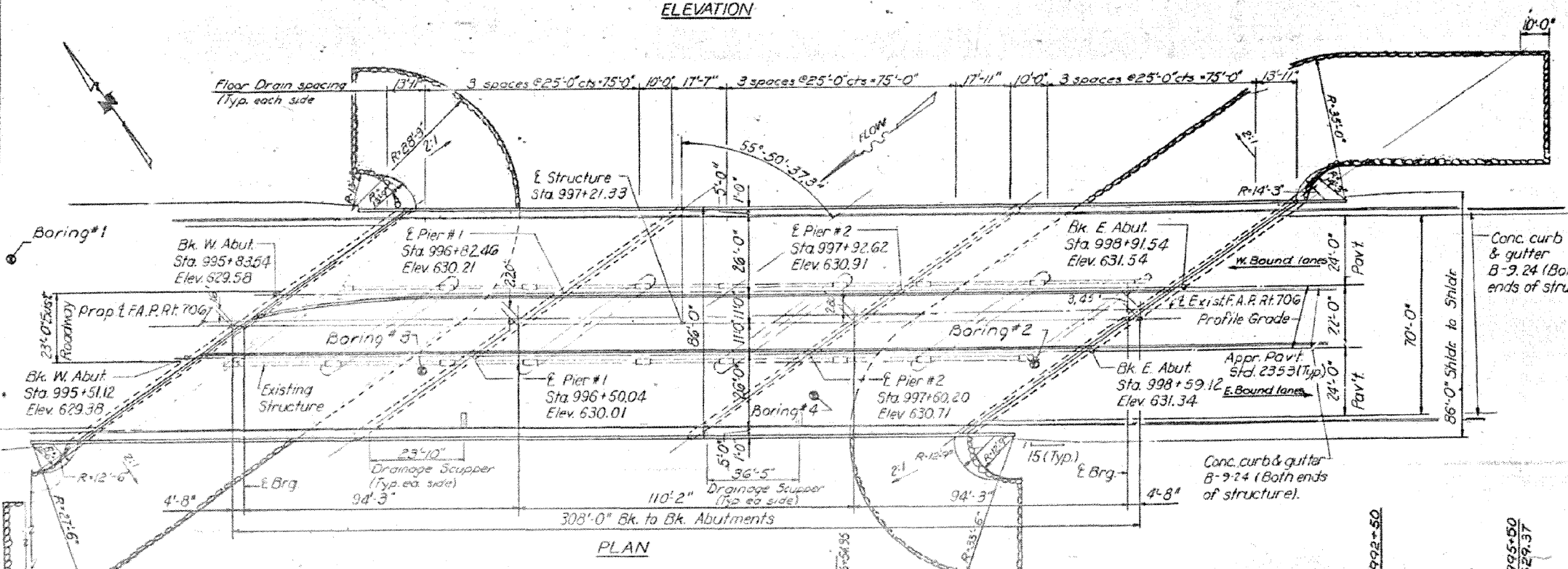
I-2-B 9-1-65, 8-1-70

Benchmark: Chiseled "a" top of curb at S.W. corner of bridge, 12.4' Rt. Sta. 995+70, Elev. 627.83.
 Existing Structure: # 58-0041, built as S.B.I. Rte 121, Section 135B, Sta. 997+74 in 1930. R.C. deck girder super-structure, solid concrete piers & R.C. abutments. Exist. Structure to be removed by Bridge Contractor after road is closed. Existing structure is 266'-1 1/2" bk-bk. by 26'-4" o-a.
 No salvage.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION



ELEVATION



PLAN

WATERWAY INFORMATION

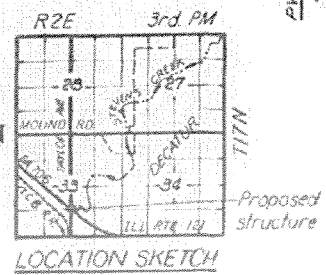
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E.	Exist.	Prop.	Exist.	Prop.
Design	50	5250	871	1077	620.5	0.81	0.47	621.31	620.97
Base	100	6293	959	1176	621.1	0.98	0.61	622.08	621.71
Std. Proj. Flood COE	500	12000	2035	1470	623.1	0.7	0.7	623.8	623.8

MEDIAN REVERSE CURVE DATA

Radius	536.33'
Length of curve	160'

DESIGN STRESSES
 $f_c = 3,500$ p.s.i.
 $f_y = 60,000$ p.s.i. (Reinforcement)
 (Structural Steel) $f_y = 36,000$ p.s.i. M 183, 50,000 p.s.i. M 223 Gr - 50
 (Hybrid girder design)

LOADING HS 20-44
 Design Specifications: 1977 AASHTO and 1978, 1979 & 1980 Interim Specifications.
 Allow 25 #/Sq Ft. for future wearing surface.



PROFILE GRADE

GENERAL PLAN
 F.A.P. ROUTE 706 OVER
 STEVENS CREEK
 F.A.P. ROUTE 706 SECTION 135BR-2
 MACON COUNTY
 STATION 997+2500

DESIGNED: *James Bohlen*
 CHECKED: *V. H. H.*
 DRAWN: *V. H. H.*
 CHECKED: *V. H. H.*

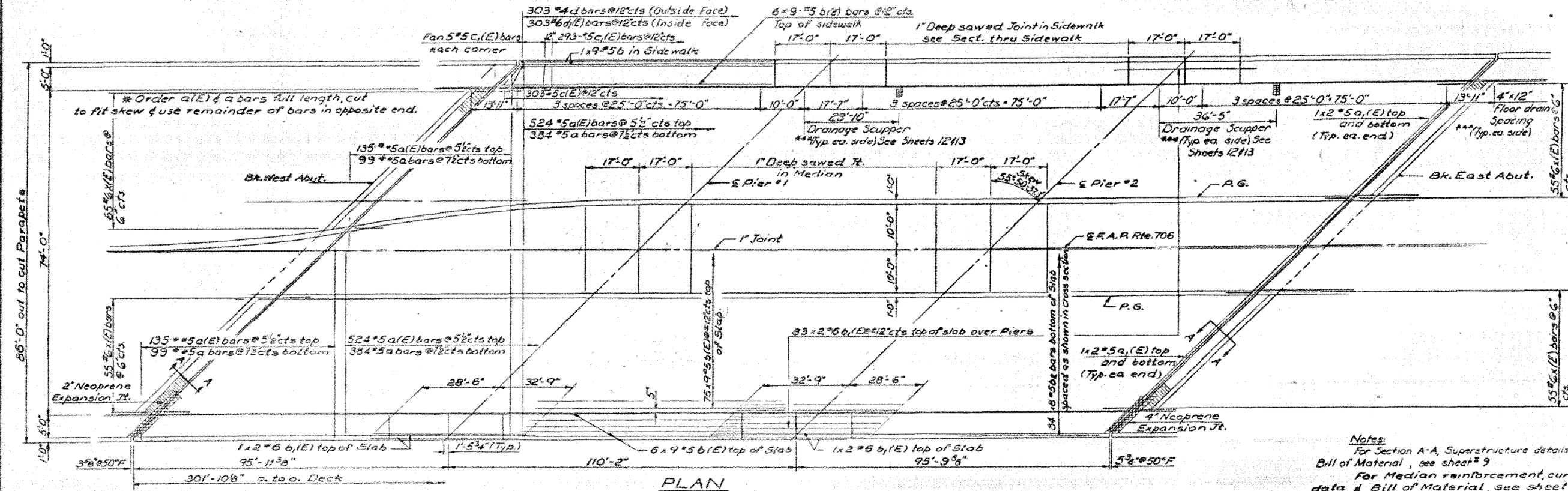
EXAMINED: *James Bohlen*
 PASSED: *V. H. H.*
 APPROVED: *V. H. H.*

February 1, 1982

Updated 2-25-83 D.A.B.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
135R-1 35BR-2	MACON	134	49	24 SHEETS

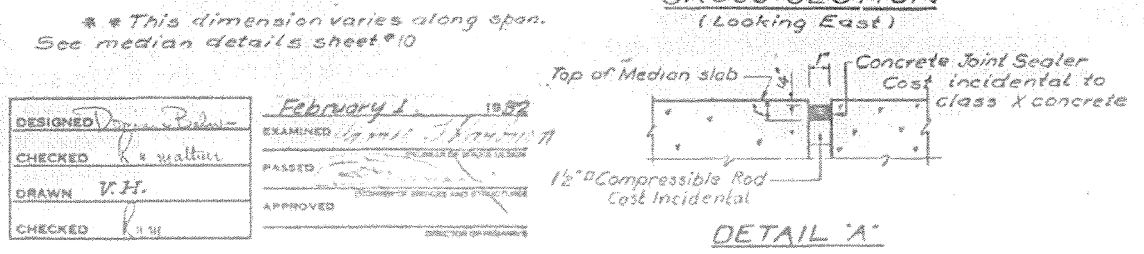
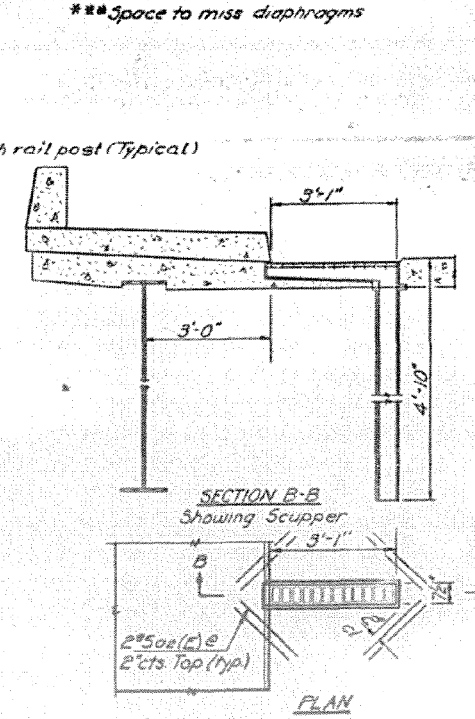
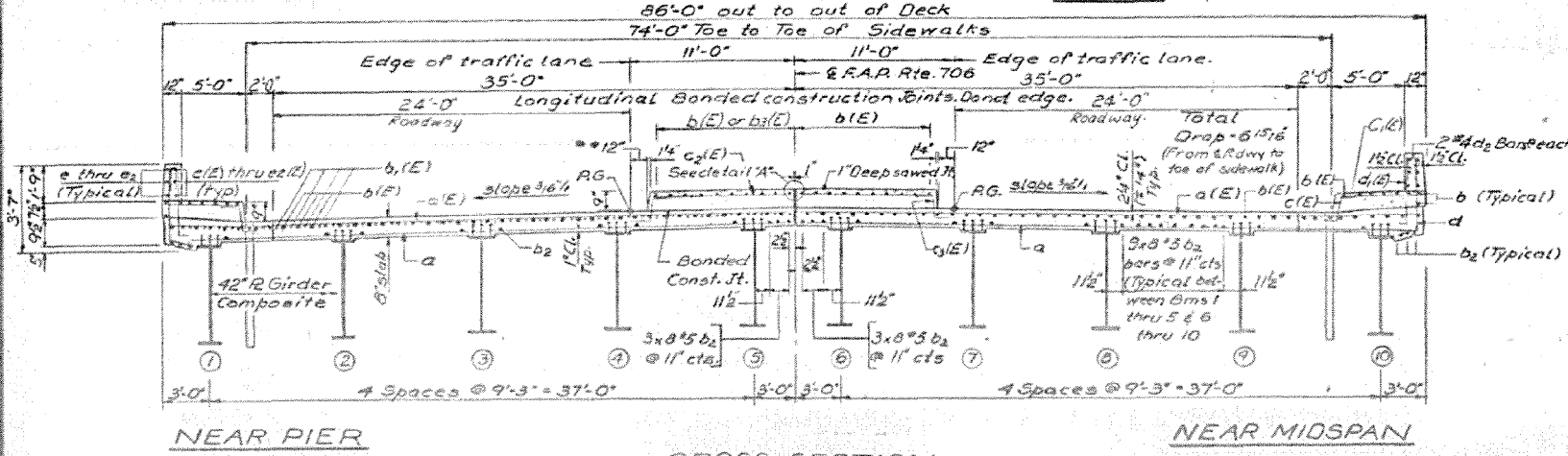


Notes:
For Section A-A, Superstructure details, & Bill of Material, see sheet #9
For Median reinforcement, curve data & Bill of Material, see sheet #10

Bars indicated thus 20x3-#5 etc. indicates 20 Lines of bars with 3 lengths per line.

Min. bar laps:
#5 = 1'-8"
#6 = 2'-0"

Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions.

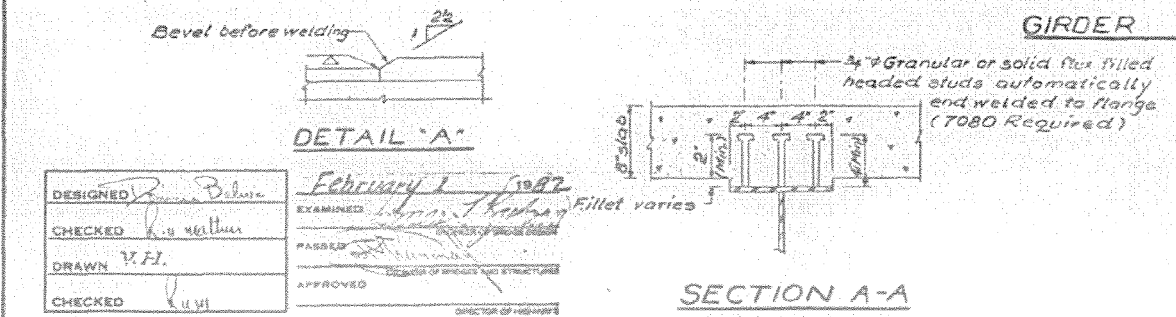
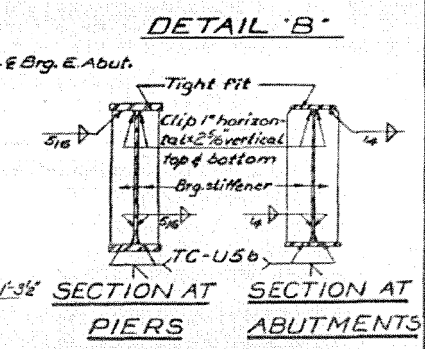
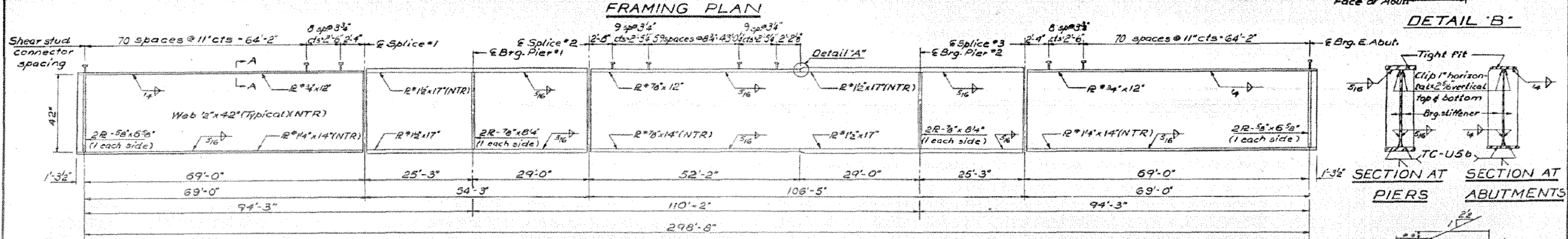
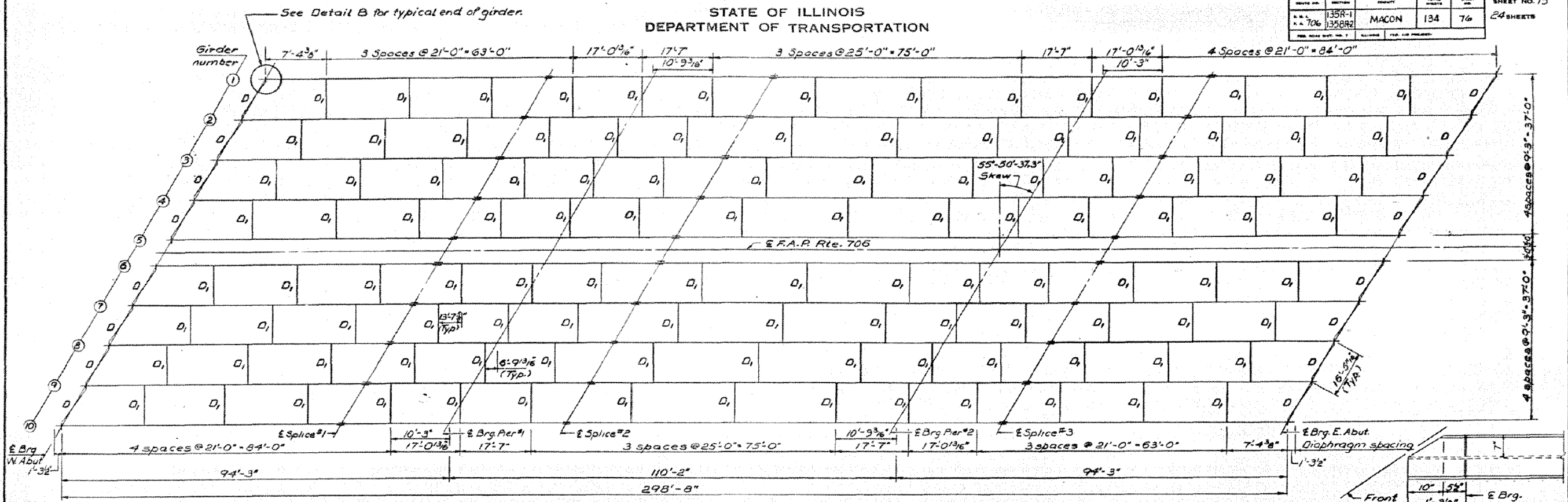


DESIGNED	February 1 1982
CHECKED	
DRAWN	
CHECKED	

SUPERSTRUCTURE
F.A.P. RTE. 706 OVER STEVENS CREEK
F.A.P. RTE. 706-SECTION 135BR-2
MACON COUNTY
STATION 997+25.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROJECT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
135R-1	MACON	134	76	24 SHEETS
706	135BR2			



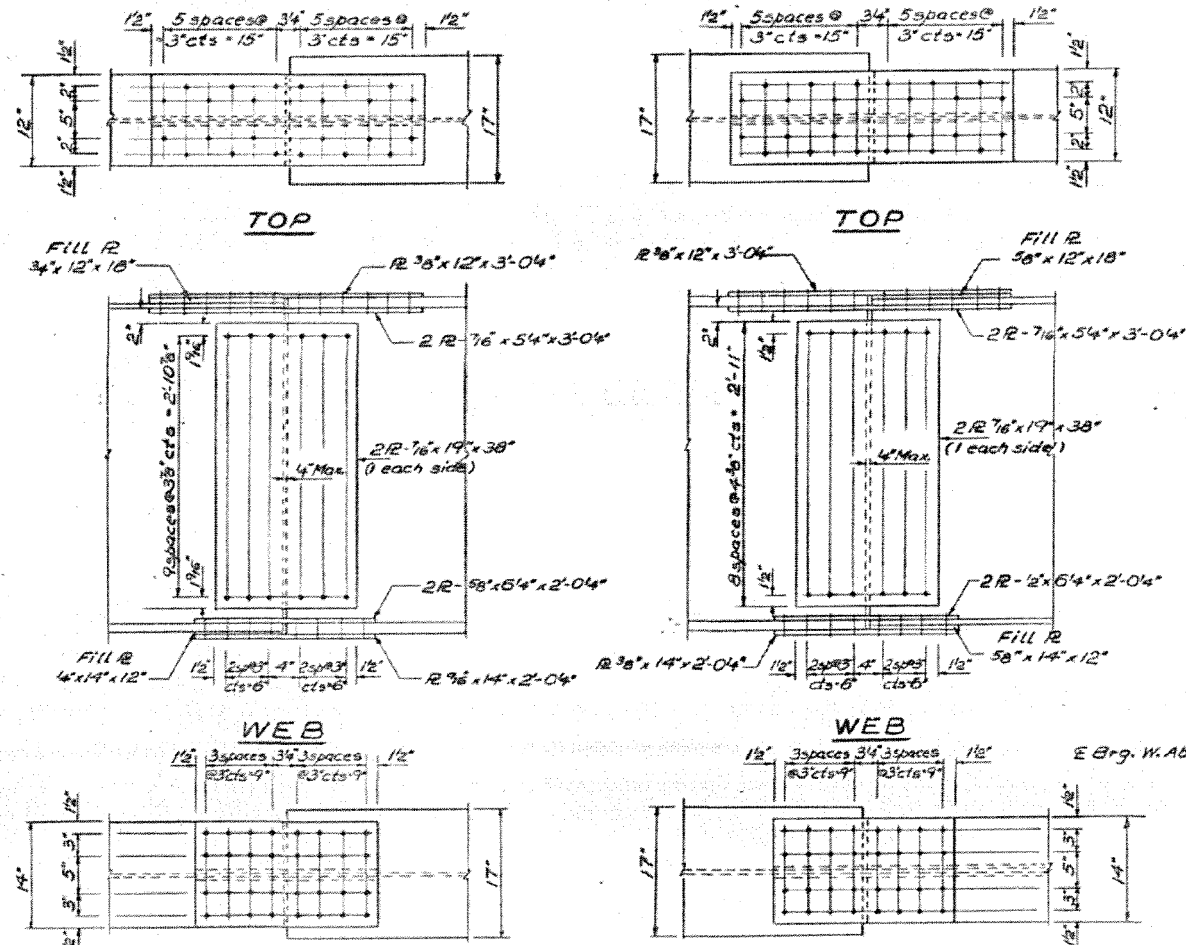
All Structural Steel shall be AASHTO M-183 except the girder flanges, flange & web splice plates as identified with an (*) asterisk, and all bearing steel, which shall be AASHTO M-223 Gr. 50. See sheet #16 for structural steel details. *NTR denotes Plates to which notch toughness requirements are applicable.

FRAMING PLAN AND GIRDER DETAILS
F.A.P. RTE. 706 OVER STEVENS CREEK
F.A.P. RTE. 706-SECTION 135BR-2
MACON COUNTY
STATION 997+25.00

DESIGNED	February 1, 1982
CHECKED	
DRAWN	
CHECKED	

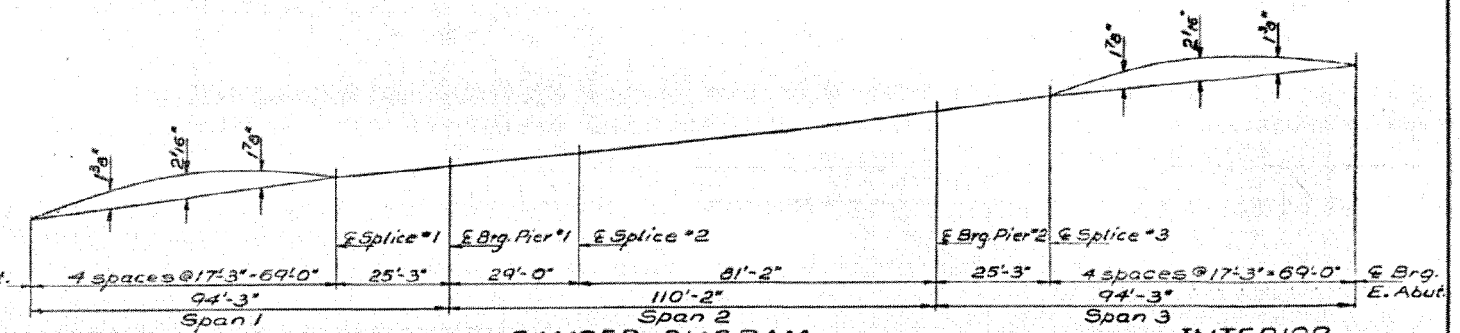
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 706	135BR2	MACON	134	77
SHEET NO. 16 24 SHEETS				



Girder Location	1	2	3	4	5	6	7	8	9	10
E Brg. W. Abut.	628.55	628.61	628.65	628.72	628.53	628.47	628.49	628.26	628.05	627.87
E Splice 1	628.99	629.05	629.10	629.16	628.97	628.91	628.93	628.70	628.47	628.24
E Brg. Pier 1	629.15	629.21	629.26	629.32	629.13	629.07	629.09	628.86	628.63	628.40
E Splice 2	629.33	629.39	629.45	629.51	629.31	629.26	629.28	629.04	628.81	628.58
E Brg. Pier 2	629.85	629.91	629.97	630.02	629.83	629.77	629.79	629.56	629.33	629.10
E Splice 3	630.01	630.07	630.13	630.18	629.99	629.94	629.95	629.72	629.49	629.26
E Brg. E. Abut.	630.49	630.52	630.57	630.62	630.43	630.37	630.39	630.16	629.93	629.70

TOP OF WEB ELEVATIONS
(For Fabrication Purposes only.)



CAMBER DIAGRAM

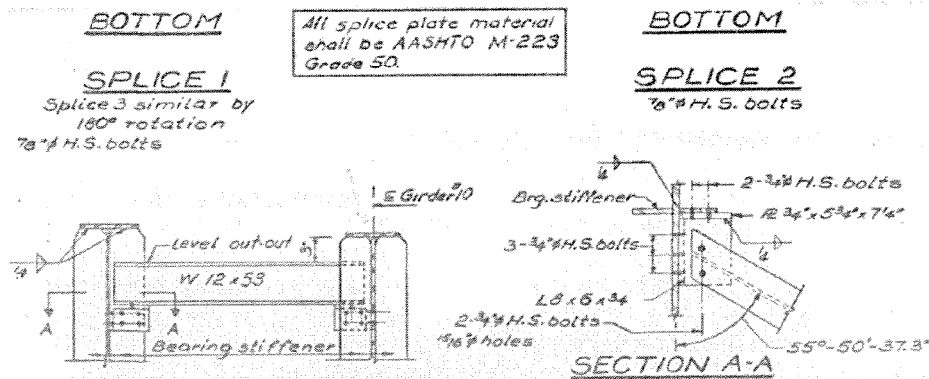
INTERIOR GIRDER MOMENT TABLE

	4 spaces @ 17'-3\"/>		
I_s (in ⁴)	14657	27223	13511
I_c (in ⁴)	40823	—	33230
S_s (in ³)	799	1210	543
S_c (in ³)	1110	—	884
Q (in ²)	1147	1569	1165
M_Q (ft-k)	866	2634	488
$P_{NON-COMPOS}$	13.0	26.1	9.1
S_Q (in ³)	.649	—	.649
M_{S_Q} (ft-k)	570	—	456
M_{I_c} (ft-k)	2171	1797	2031
M_{IMP} (ft-k)	495	439	432
TOTAL (ft-k)	3236	2236	2919
f_s COMP (ksi)	35.0	22.2	39.6
f_s TOTAL (ksi)	48.0	48.3	48.7
V_R (k)	72.7	—	64.8

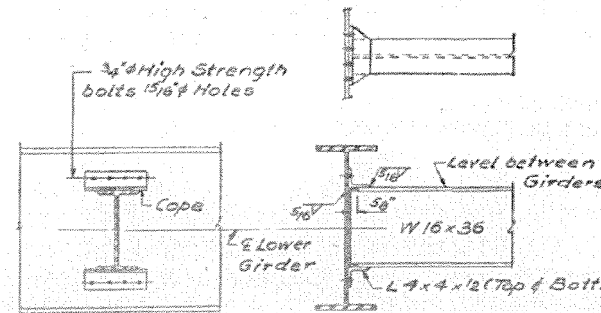
GIRDER REACTION TABLE

	Abut.	Pier 1 or 2
R_{Q+SE} (k)	63.1	206.1
R_Q (k)	53.4	86.0
R_{IMP} (k)	12.2	19.0
R_{TOTAL} (k)	128.7	311.1

Notes:
All contact surfaces of joints for the diaphragms shall be free of paint or lacquer. Two hardened washers shall be required over 1/16\"/>



DIAPHRAGM D
16 Required



DIAPHRAGM D'
112 Required

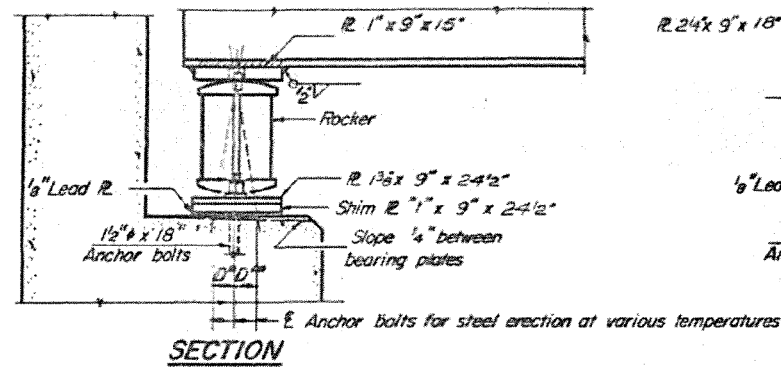
DESIGNED	February 1, 1982
CHECKED	
DRAWN	
CHECKED	

STRUCTURAL STEEL DETAILS
F.A.P. RTE. 706 OVER STEVENS CREEK
F.A.P. RTE. 706-SECTION 135BR-2

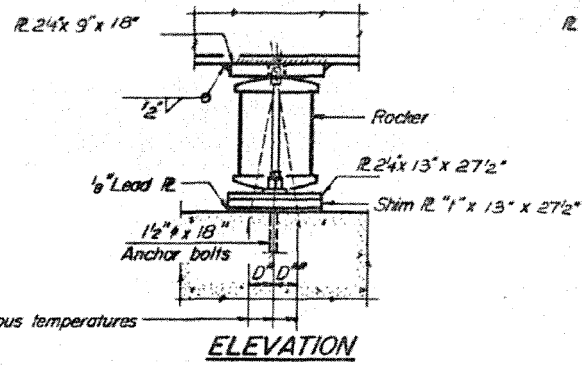
MACON COUNTY
STATION 997+25.00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

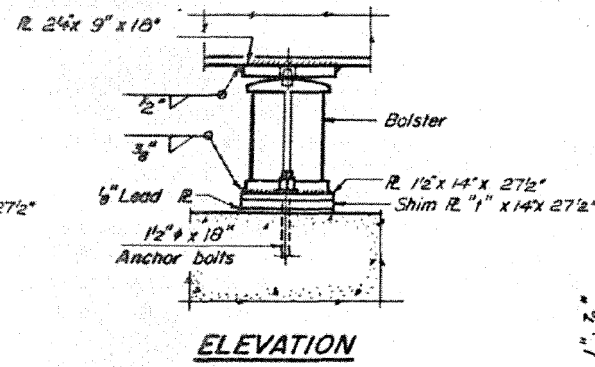
DATE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7/06	135BR-2	MACON	134	78
				24 SHEETS



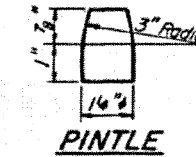
SECTION



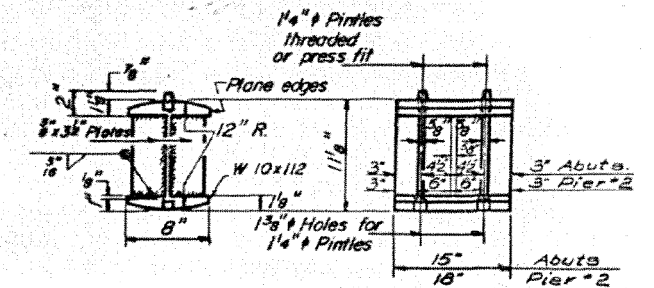
ELEVATION



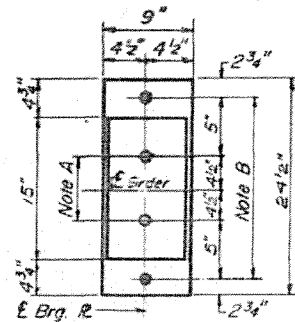
ELEVATION



PINTLE

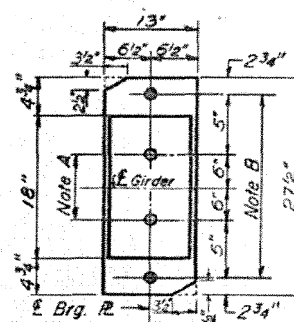


ROCKER



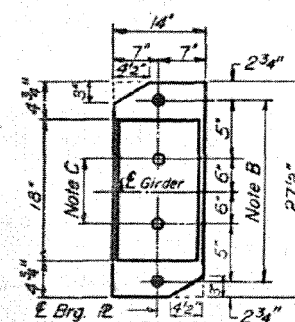
PLAN
AT ABUTMENTS

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



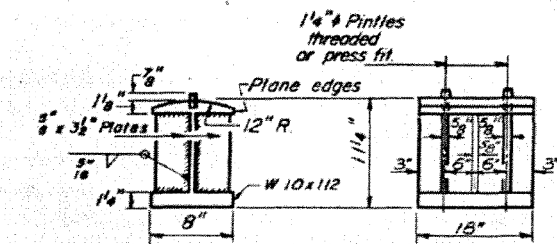
PLAN
AT PIER 2

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



PLAN
AT PIER 1

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



BOLSTER

NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRGS.

- a) D^* (Side of brg. away from fixed brg.)
 $D^* = \frac{1}{8}$ " per each 100' of expansion for every 15° fall below the normal temp. of 50°F.
 D^{**} (Side of brg. toward fixed brg.)
 $D^{**} = \frac{1}{8}$ " per each 100' of expansion for every 15° rise above the normal temp. of 50°F.

- b) After girders have been erected and dimensions D^* or D^{**} determined, holes shall be drilled and anchor bolts shall be grouted in place. All fixed anchor bolts may be built into the masonry.

BEARING ASSEMBLY DETAILS

SHIM PLATE THICKNESS - "t"

Girder	1	2	3	4	5	6	7	8	9	10
West Abut.	—	1/16"	—	1/16"	—	—	1/4"	—	—	—
East Abut.	—	5/16"	—	1/16"	—	—	1/4"	—	—	—
Pier #1	—	1/16"	—	1/16"	—	—	1/4"	—	—	—
Pier #2	—	1/16"	—	1/16"	—	—	1/4"	—	—	—

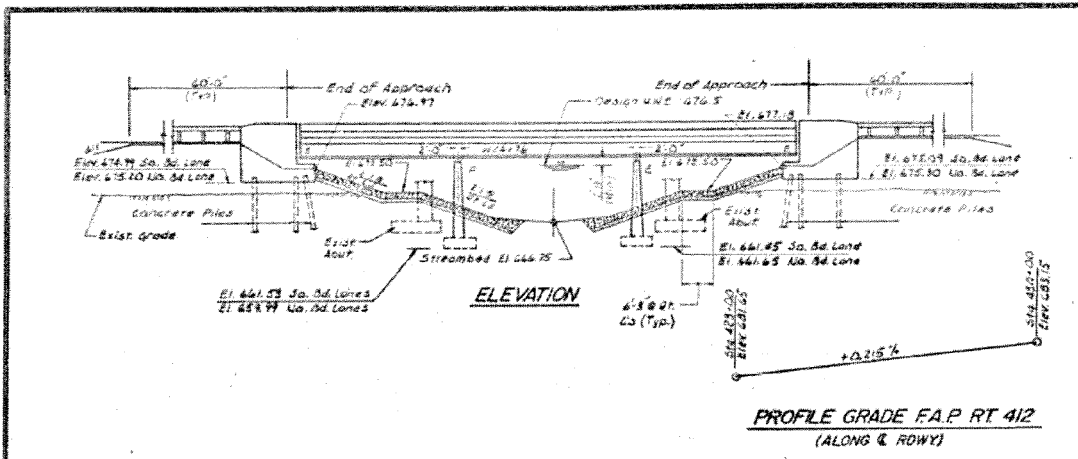
Note: All bearing steel shall be AASHTO M-223, Grade 50.

DESIGNED: *James Biller*
CHECKED: *Lu Mathis*
DRAWN: *V.H.*
CHECKED: *Lu Mathis*
February 2, 1982
EXAMINED: *James H. Korman*
APPROVED: *[Signature]*
DIRECTOR OF HIGHWAYS

I-2-B 4-1-79

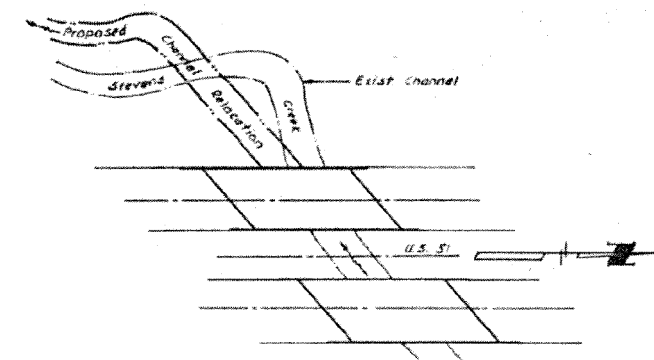
BEARINGS
F.A.R. RTE. 706 OVER STEVENS CREEK
F.A.R. RTE. 706 - SECTION 135BR-2
MACON COUNTY
STATION 997+25.00

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 412	SDP-3, 51R	MACON	192	76
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		



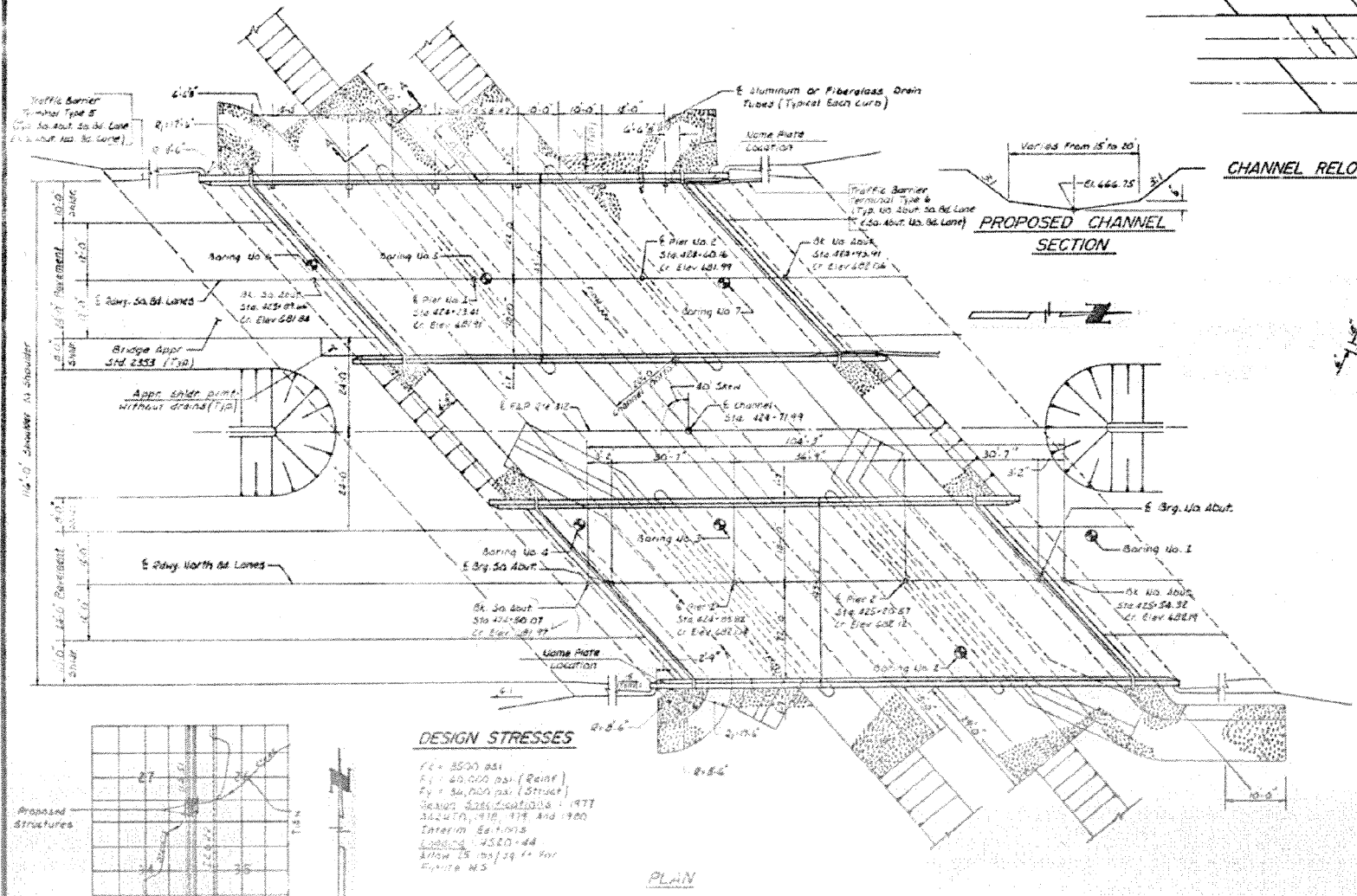
BENCHMARK:
 Chiseled 'D' S.B. Wingwall, Bridge Sta 425+00,
 1.3 mi. North of Emery Road (Elev. 680.97)

EXISTING STRUCTURE:
 Existing structure is one span steel I# with B.C. deck &
 closed concrete abutments. Total length 59' 2". Total
 width 45'-3". Existing structure to be removed after
 completion of new So. Rd. Structure. US 51 to remain open
 to traffic at all times.
 Structure No. 05B-0003



STATION 424+71.99
 BUILT 198 BY
 STATE OF ILLINOIS
 F.A. RT. 412 SEC. 51 BR-2
 F.A. PROJ. FFD-412-2(23)
 LOADING 4520
 STR. NO. *

NAME PLATE
 see std 2113
 # No. Rd. Lanes: 05B-0114
 So. Rd. Lanes: 05B-0113



Drainage Area = 17.05 Sq. Mi. Low Grade Elev = Elev. 476.5 Prop. 477.0 All Sta. 421+00 to 421+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		H.W.E.		Head-Ft.		Headwater El.	
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.
Design	50	2,033	312	581	476.3	476.5	0.7	0.9	477.0	476.8
Base	100	2,522	329	402	476.7	476.8	1.0	0.4	477.7	477.2
Overtopping	500	2,982	329	---	477.8	---	1.5	---	478.9	---
Max. Calc.	500	2,762	---	449	---	477.6	---	0.6	---	478.2

WATERWAY INFORMATION



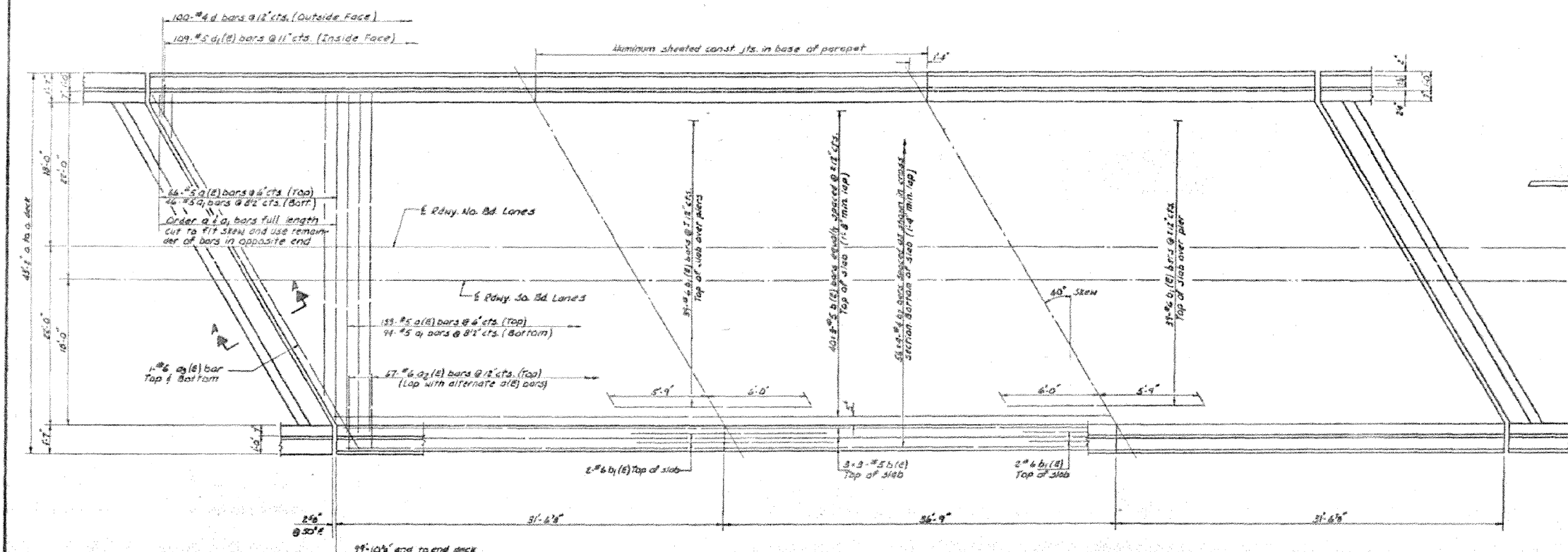
APPROVED
Carl E. ...

GENERAL PLAN AND ELEVATION

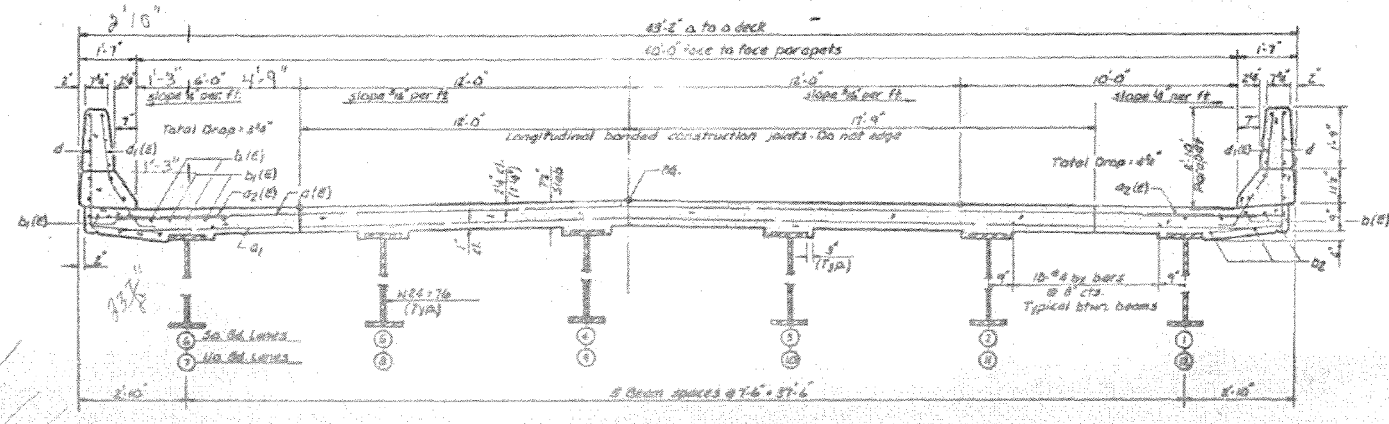
Date: 1-18-01	Designed: D.L.C.	PROJECT	Sheet No.
Reviewed:	Drawn: A.S.S.	F.A.P. RTE. 412 OVER STEVENS CREEK	1
Checked: D.L.C.	Approved: D.L.C.	F.A.P. RTE. 412 SEC. 51 BR-2	
		MACON COUNTY	
		STA. 424+71.99	

Prepared by: WVP CORPORATION Consulting Engineers - Architects - Planners - Decatur, Illinois - St. Louis, Missouri

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 412	SDR-3 SR	JORDY	192	81
FED. ROAD DIST. NO.	ALNOIS	PROJECT		



PLAN



CROSS SECTION
Looking North, No. Bd. Lanes
Looking South, So. Bd. Lanes

Notes:
See sheet No. 7 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions.
Bars indicated thus 40, 3-#5 etc. indicates 40 lines of bars with 3 lengths per line.

SUPERSTRUCTURE		Sheet No.
Date: 7-20-01	Designed: D.L.C.	6
Drawn: J.O.S.	Checked: D.L.C.	
Approved: D.L.C.		
F.A.P. RTE. 412 SEC. 51 BR-2 MACON COUNTY STA. 424+71.99		
Prepared by: WVP CORPORATION Consulting Engineers-Architects-Planners Geotek Bldg. - St. Louis, Missouri		

FILE NAME =	USER NAME = steffenk	DESIGNED -	REVISED -
pw:\11084EBIDINTEG.111nois.gov\PIWIDOT\Documents\DOT Offices\District 7\Projects\74725\DRAWING\CABsheets\0774725-sht-plan.dgn		CHECKED -	REVISED -
Default	PLOT DATE = 8/18/2015	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

PLAN
STRUCTURES 058-0113 & 058-0114

SCALE: N/A SHEET 2 OF 3 SHEETS STA. TO STA.

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D7 BRIDGE PAINTING 2016-2		MACON	14	13
CONTRACT NO. 74725				
ILLINOIS FED. AID PROJECT				

*F.A.P. 322 & F.A.P. 320

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP RTE	SEC 51 BR 2	MACON	172	09
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

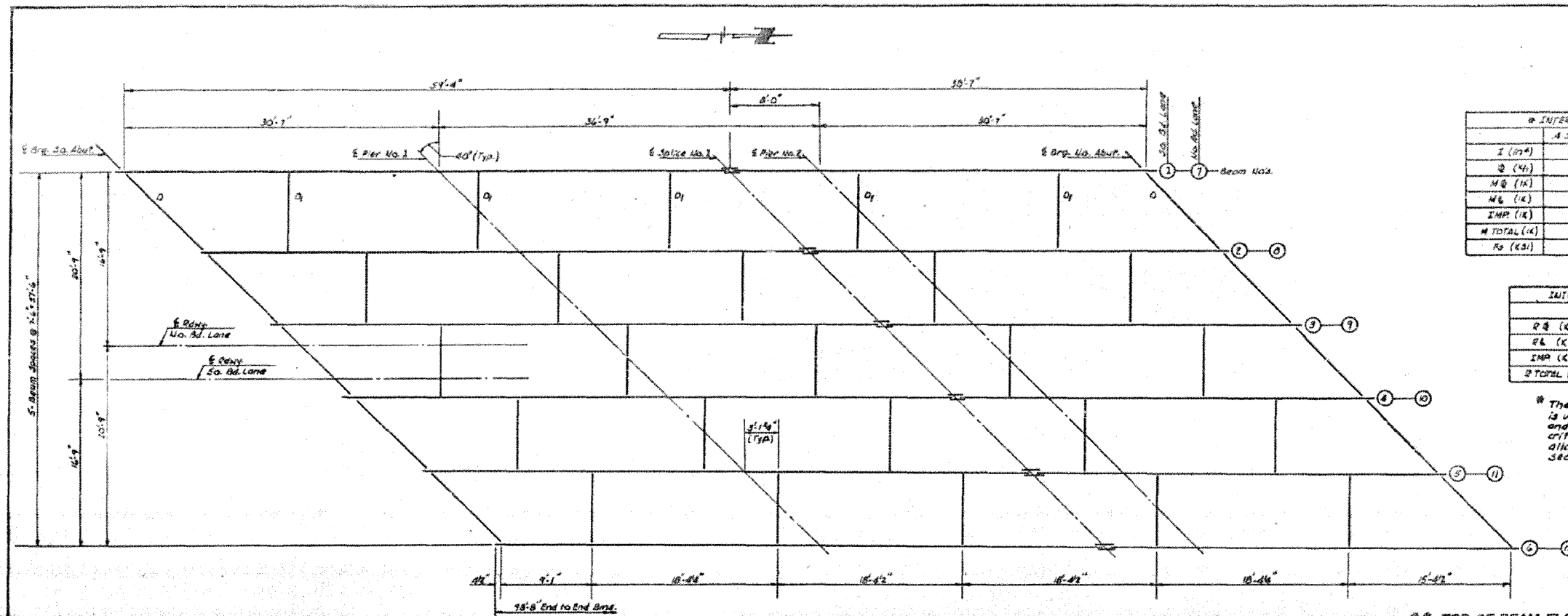
*** INTERIOR BEAM MOMENT TABLE**

	4 Span 1 or 3	Pier 1 or 2	5 Span 2
I (K)	2100	2100	2100
Q (K)	1118	1118	1118
M _Q (K)	97.0	165.6	79.2
M _I (K)	349.5	302.1	352.1
IMP (K)	104.9	90.4	105.7
M TOTAL (K)	551.2	558.3	537.0
R ₀ (K)	36.00	36.00	36.00

INTERIOR BEAM REACTION TABLE

	Abutment	Pier 1 or 2
R ₀ (K)	12.9	41.8
R _I (K)	31.9	42.0
IMP (K)	7.6	12.6
R TOTAL (K)	54.4	96.4

* The load factor (1.3)[Q+Ima] is used in computing moments and stresses. The beam meets the criteria for a braced compact section allowing the use of the plastic section modulus $Z_p = 201 \text{ in}^3$



FRAMING PLAN
(All Bms are W24x76)

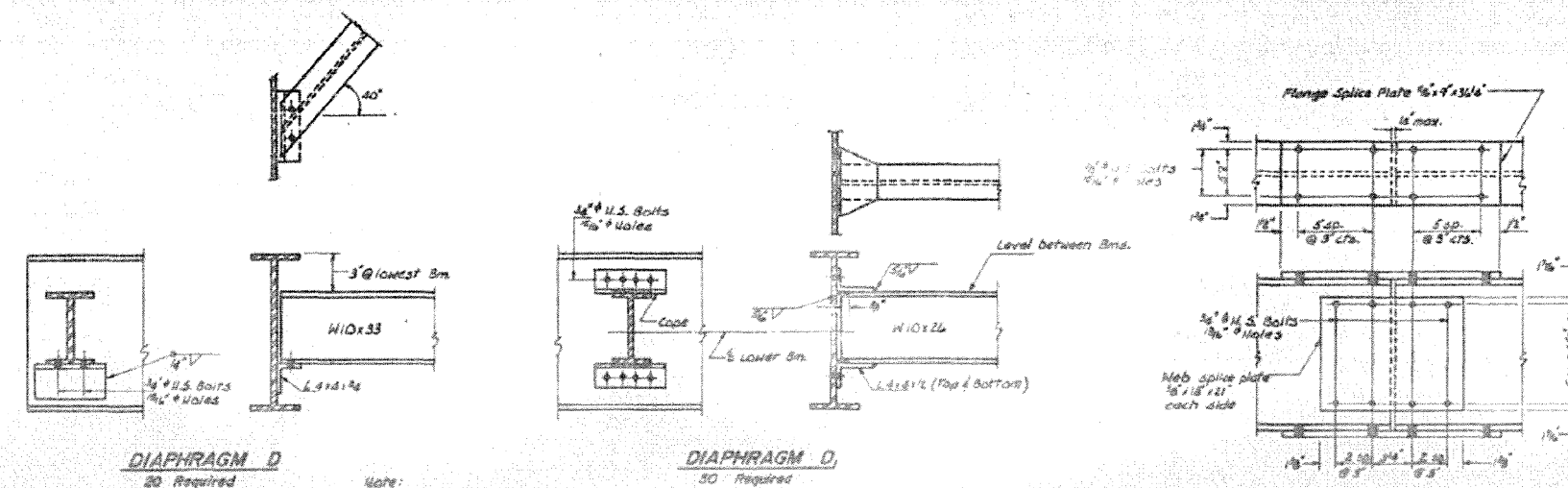
**** TOP OF BEAM ELEVATIONS - SQ. BD. LANES**

Beams	1	2	3	4	5	6
6 Brg. So. Abut.	680.71	680.88	681.02	681.10	680.99	680.87
6 Pier 2	680.78	680.95	681.09	681.16	681.06	680.93
6 Splice 2	680.84	681.01	681.15	681.22	681.12	680.99
6 Pier 2	680.86	681.03	681.17	681.24	681.14	681.01
6 Brg. No. Abut.	680.92	681.09	681.23	681.31	681.20	681.08

**** TOP OF BEAM ELEVATIONS - NO. BD. LANES**

Beams	7	8	9	10	11	12
6 Brg. So. Abut.	680.92	681.09	681.22	681.16	681.06	680.92
6 Pier 2	680.99	681.16	681.29	681.23	681.13	680.99
6 Splice 2	681.05	681.22	681.35	681.29	681.19	681.05
6 Pier 2	681.04	681.23	681.36	681.31	681.21	681.06
6 Brg. No. Abut.	681.13	681.30	681.43	681.37	681.27	681.13

** For Fabrication Only



STRUCTURAL STEEL DETAILS

Date: 7-28-81	Designed: D.L.C.	FAP RTE 412 SEC 51 BR-2 MACON COUNTY STA 424+71.99	Sheet No.
Drawn: A.R.S.	Checked: D.J.A.		9
Approved: D.L.C.			
Prepared by: WVP CORPORATION Consulting Engineers - Architects - Planners - Decorative, Illinois - St. Louis, Missouri			WVP Job No. 074725