

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	D7 BRIDGE PAINTING 2023-1	MACON	8	1
		ILLINOIS	CONTRACT NO. 74B36	

04-28-2023 LETTING ITEM 052

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

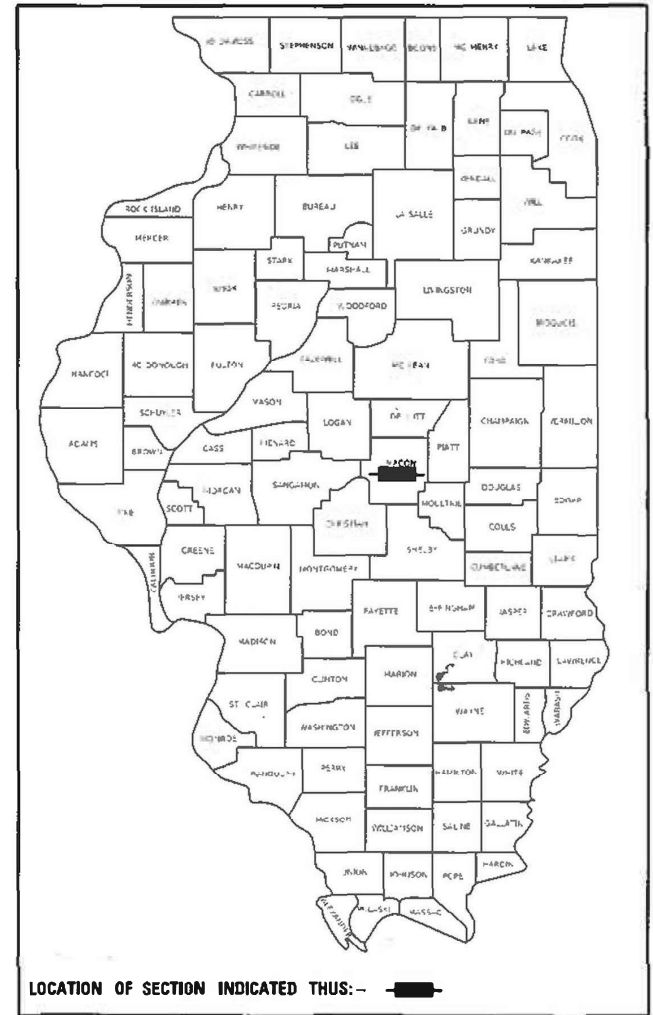
D-97-057-22

FOR INDEX OF SHEETS, SEE SHEET NO. 2

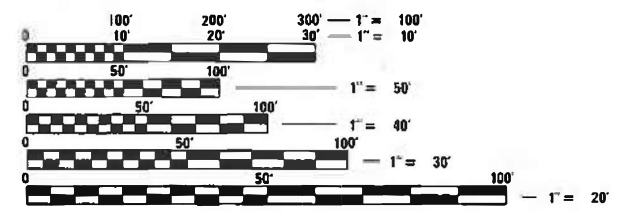
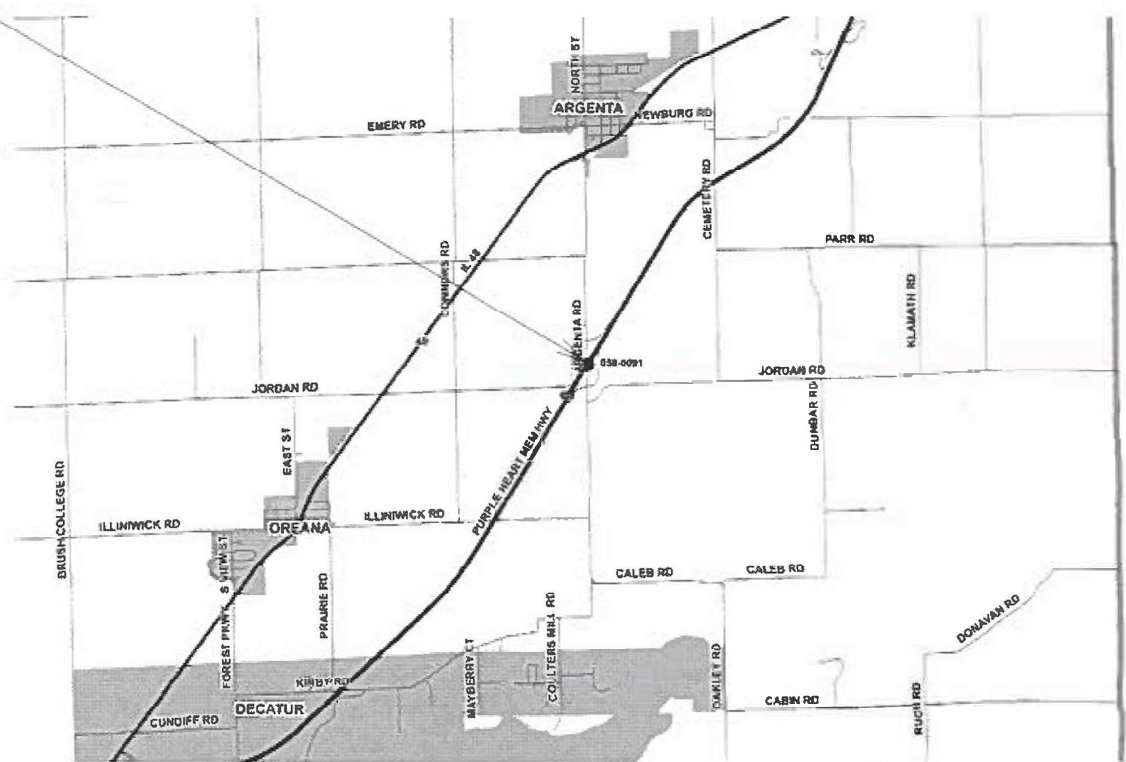
**PROPOSED
HIGHWAY PLANS**

**FAI 72 (I 72)
SECTION D7 BRIDGE PAINTING 2023-1
PROJECT NHPP-ZVI3(050)
BRIDGE PAINTING
MACON COUNTY**

C-97-104-22



SN 058-0091



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: MATT BOWER
PROJECT MANAGER: DESTINY WILLIAMS
PHONE: 217-342-8359
CONTRACT NO. 74B36

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED February 9 2023
Jeffrey P. Myer REGIONAL ENGINEER

March 24, 2023 [Signature]
ENGINEER OF DESIGN AND ENVIRONMENT

March 24, 2023 [Signature]
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

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

INDEX OF SHEETS

GENERAL NOTES

THE WORK INCLUDED IN THIS SECTION CONSISTS OF CLEANING AND PAINTING THE BRIDGE 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 QP1 AND QP2 PAINTING CONTRACTOR CERTIFICATION WILL BE REQUIRED FOR THIS PROJECT.

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	INDEX OF SHEETS, GENERAL NOTES, LOCATION DESCRIPTION.
3	SUMMARY OF QUANTITIES
4-8	EXISTING STRUCTURE PLANS

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED AFTER THE LAST NUMBERED SHEET:

000001-08	STANDARD SYMBOLS, ABBREVIATIONS, & PATTERNS
643001-02	SAND MODULE IMPACT ATTENUATORS
701101-05	OFF-RD OPERATIONS, MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701400-11	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-13	LANE CLOSURE, FREEWAY/EXPRESSWAY
701402-12	LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER
701901-08	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
001006	DECIMAL OF AN INCH AND OF A FOOT
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

LOCATION

ROUTE: FAI ROUTE 72
 MARKED: I-72
 SECTION: 5865HB-2
 STATION: 599+29.43
 STRUCTURE NUMBER: 058-0091

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, and diaphragms, shall be cleaned by SSPC-SP10 - Near White Metal Blast Cleaning. Cleaning and painting of the existing structural steel shall be as specified in the special provision for "Cleaning and Painting Existing Steel Structures". This structure contains lead paint.

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.

No air monitors will be required at this location.

REV. - MS

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USER NAME = Jessica.Hille	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	INDEX OF SHEETS, GENERAL NOTES, AND BRIDGE LOCATIONS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
	DRAWN -	REVISED -			72	D7 BRIDGE PAINTING 2023-1	MACON	8	2	
PLOT SCALE = 100.0000' / in.	CHECKED -	REVISED -			CONTRACT NO. 74B36					
PLOT DATE = 2/8/2023	DATE -	REVISED -			ILLINOIS FED. AID PROJECT					
				SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	

90% FED
10% STATE

SUMMARY OF QUANTITIES			TOTAL QUANTITIES	CONSTRUCTION TYPE CODE		
CODE NO	ITEM	UNIT		0047		
67100100	MOBILIZATION	L SUM	1	1		
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	2	2		
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401	L SUM	1	1		
70107007	PAVEMENT MARKING BLACKOUT TAPE, 7"	FOOT	2600	2600		
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	28	28		
70300150	SHORT TERM PAVEMENT MARKING REMOVAL	SO FT	1516	1516		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	300	300		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	900	900		
70600250	IMPACT ATTENUATORS, TEMPORARY (NON- REDIRECTIVE), TEST LEVEL 3	EACH	1	1		
70600350	IMPACT ATTENUATORS, RELOCATE (NON- REDIRECTIVE), TEST LEVEL 3	EACH	3	3		
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1		
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1		

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	DRAWN -	REVISED -
PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED -
PLOT DATE = 2/8/2023	DATE -	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SUMMARY OF QUANTITIES

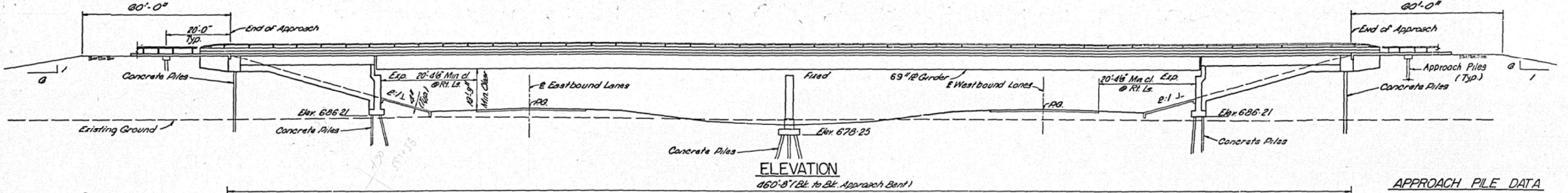
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	D7 BRIDGE PAINTING 2023-1	MACON	8	3
			CONTRACT NO. 74B36	
			ILLINOIS FED. AID PROJECT	

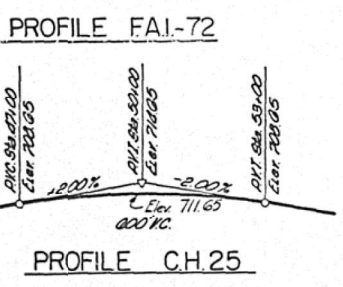
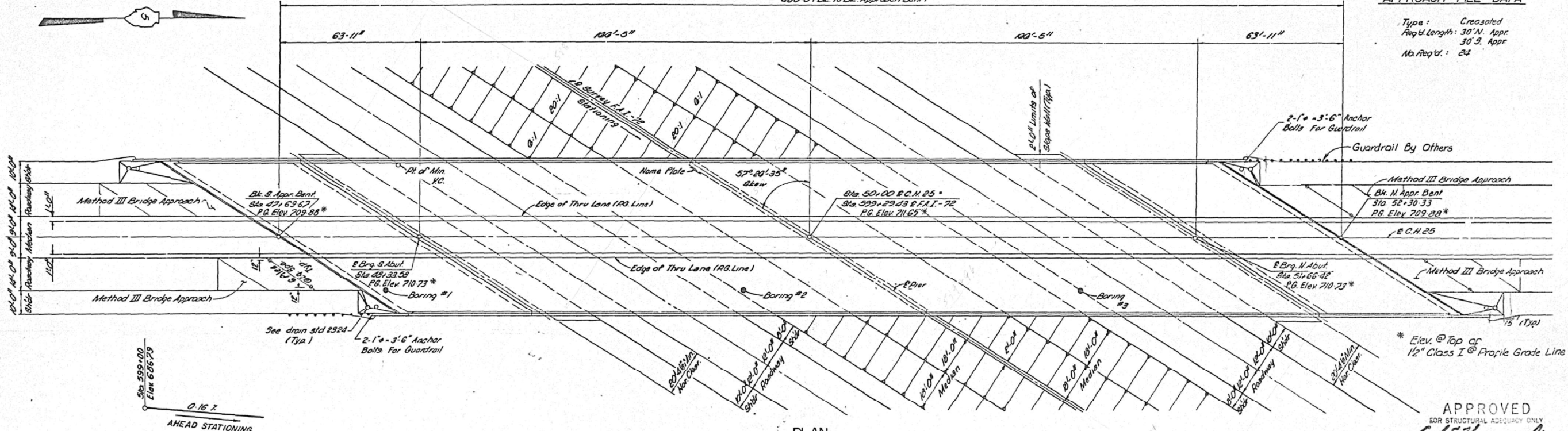
B.M. 11A: Chiseled square on south headwall west of intersection of T.R. 31 and C.H. 25, 460' right of E. I-72 Sta. 591+10. Elev. 688.67.

STATE OF ILLINOIS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 1
F.A. 1-72	58-65	Macon	96	22	SHEETS 20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



APPROACH PILE DATA
Type: Cressed
Req'd Length: 30' N. Appr.
30' S. Appr.
No. Req'd: 24



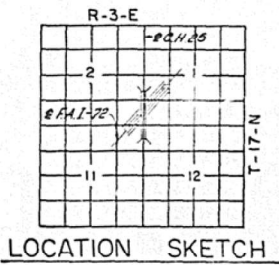
DESIGNED *A.S.V.*
CHECKED *D.E.M.*
DRAWN *D.D. 4-13-72*
CHECKED *D.E.M.*

DESIGN STRESSES
F_c = 1400 psi Curb, Parapet & Substructure
F_c = 1200 psi Superstructure
V_c = 75 psi Footing
F_s = 21,000 psi Structural (Grade 50, A-572)
F_s = 23,000 psi Structural (Grade 42, A-572)
F_s = 27,000 psi Structural (A-588)
F_s = 20,000 psi Structural (A-36) f Reint
n = 10
LL Deflection = L/1800 (Composite)
All Prestressing Strands shall be 7/16" High Strength type 248K, 7-Wire Uncoated Stress Relieved Prestressing Strands, Prestressing Force 18,300 Lbs. per Strand
Concrete Strength at Release of Tension shall be 4000 psi
Compressive Strength of Concrete at 28 days shall be 5000 psi
LOADING: HS 20-44
Allow 25 % for future W.S.

TOTAL BILL OF MATERIALS

Item	Unit	Super	Sub	Total
Aluminum Railing	Lin. Ft.	966	-	966
Structure Excavation	Cu. Yd.	-	222	222
Class X Concrete	Cu. Yd.	1074.0	1131.0	2205.0
Furnishing & Erecting Structural Steel	Lump Sum	1	-	1
Furnishing Concrete Piles	Lin. Ft.	-	7454	7454
Driving Concrete Piles	Lin. Ft.	-	7454	7454
Test Pile Concrete	Each	-	3	3
Name Plates	Each	-	1	1
Neoprene Expansion Joint, 24"	Lin. Ft.	249	-	249
Slope Wall (4 Inch)	Sq. Yd.	-	386	386
Protective Coat	Sq. Yd.	1051	-	1051
Bituminous Conc. Surface Course, Class I	Ton	217	-	217
Cool Tar Interlayer Protective Coat	Sq. Yd.	2611	-	2611
Stud Shear Connectors	Each	3872	-	3872
Reinforcement Bars	Pound	251840	97500	349340
Furnishing & Erecting P.P.C. I-Beams, 48 In.	Lin. Ft.	805	-	805
Furnishing Cressed Piles 20' to 38 feet	Lin. Ft.	-	720	720
Driving Timber Piles	Lin. Ft.	-	720	720

* Calculated Weight of Structural Steel = 1,019,500 lbs



APPROVED
FOR STRUCTURAL AGENCY ONLY
Carl E. Thompson Jr.
Engineer of Bridge & Structures



GENERAL PLAN & ELEVATION
PROJ. 1-72-2 (43) 46
FAI-72 SEC. 58-65HB-2
MACON COUNTY
STA. 599+2943 (FAI-72)

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	DRAWN -	REVISED -
PLOT SCALE = 100,000' / in.	CHECKED -	REVISED -
PLOT DATE = 2/8/2023	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
058-0091

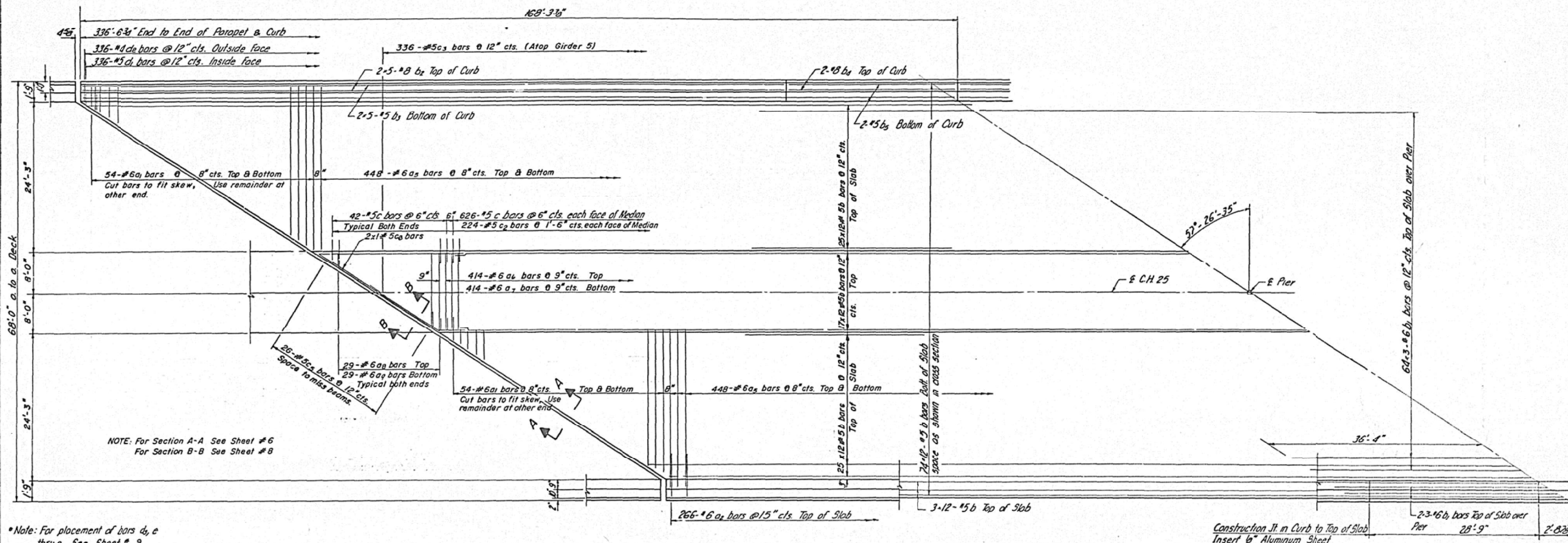
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	D7 BRIDGE PAINTING 2023-1	MACON	8	4
CONTRACT NO. 74836				
ILLINOIS FED. AID PROJECT				

Note: Bars indicated thus 20-3-#5 etc. indicates 20 lines of bars with 3 lengths per line. Min. bar laps = 24 bar dia.

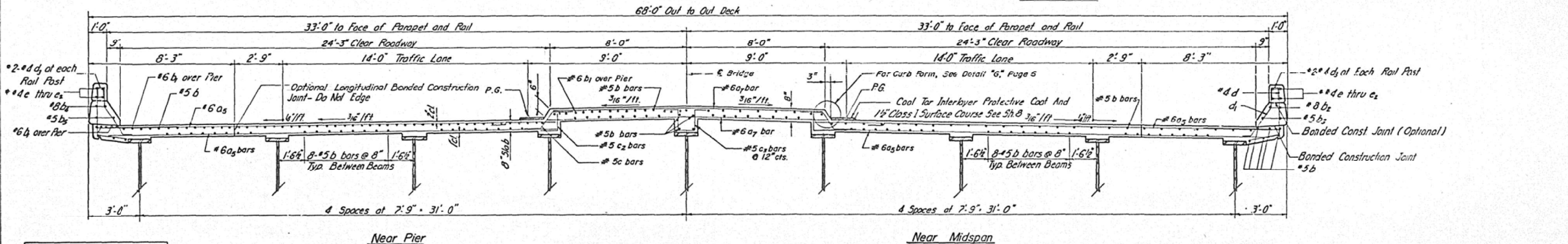
STATE OF ILLINOIS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 7
F.A.I. 72	58-65	MACON	96	28	SHEETS 20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



NOTE: For Section A-A See Sheet #6
For Section B-B See Sheet #8

Note: For placement of bars d₁, e through g See Sheet #9



DESIGNED	J.T.
CHECKED	M.G.X.
DRAWN	M.M.P. 6-7-72
CHECKED	D.E.M.

SLAB DETAILS
F.A.I.-72 SEC. 58-65+8-2
MACON COUNTY
STA. 599+29.43 (F.A.I.-72)

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USER NAME = Jessica.Hille	DESIGNED -	REVISED -
PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -
PLOT DATE = 2/8/2023	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
058-0091

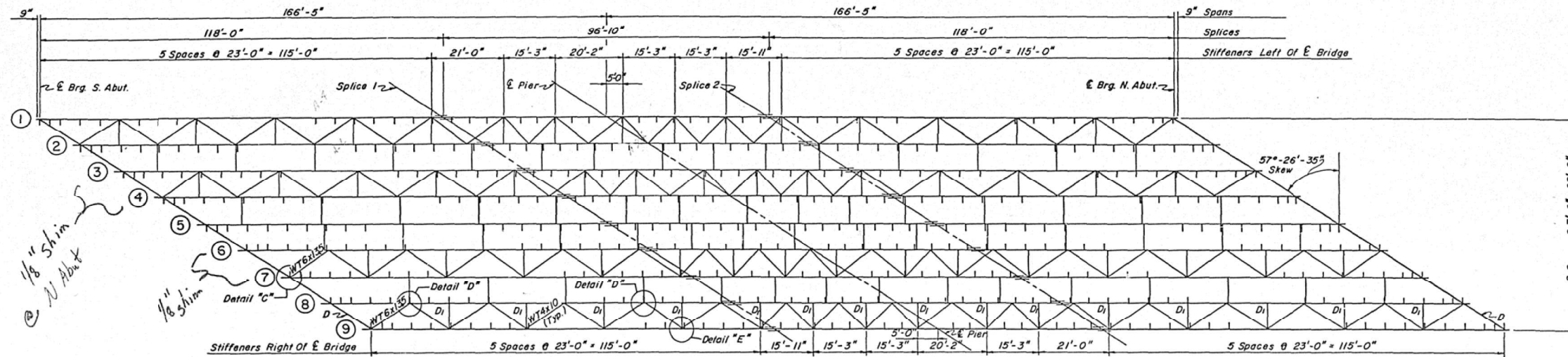
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	D7 BRIDGE PAINTING 2023-1	MACON	8	5
CONTRACT NO. 74B36				
ILLINOIS FED. AID PROJECT				

STATE OF ILLINOIS
DIVISION OF HIGHWAYS

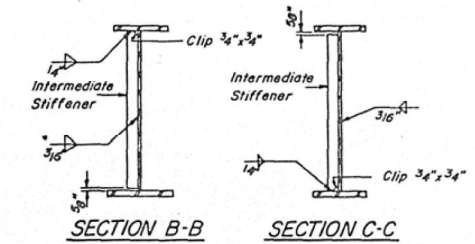
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FA.I.-72	DD-65 HB-2	MACON	96	31
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 10
SHEETS 20



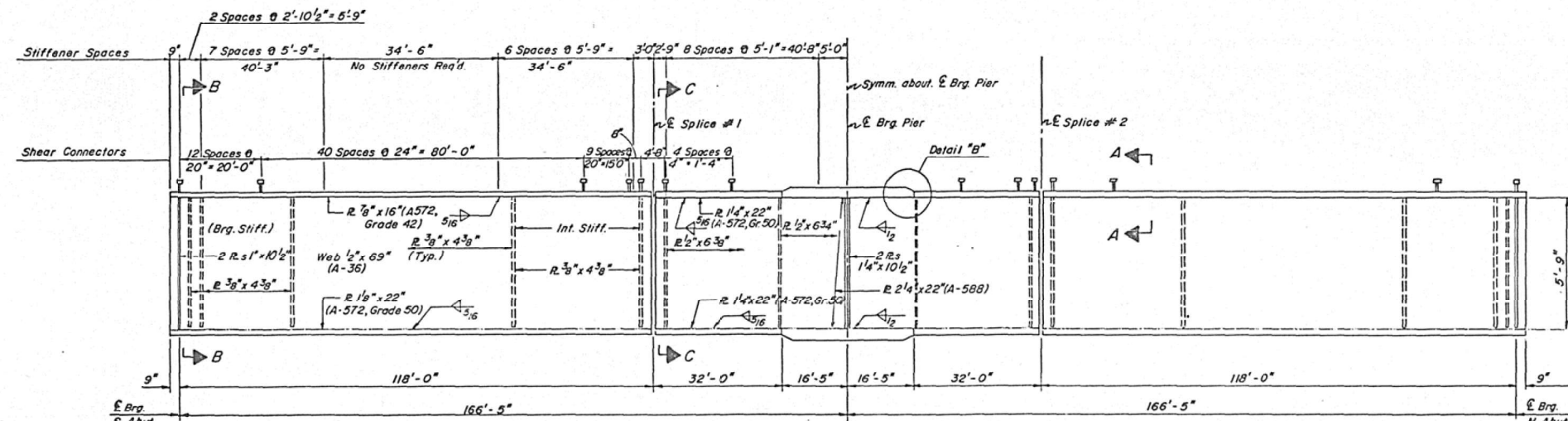
FRAMING PLAN

NOTES:
All lateral bracing members shall be WT4x10 unless otherwise noted.
For details of cross-frames D B D, See Sheet # 11.
Clip top and bottom flange corners to have at least 4 1/2" clearance at right angles to abutment wall.
See Detail "F", Sheet 11.

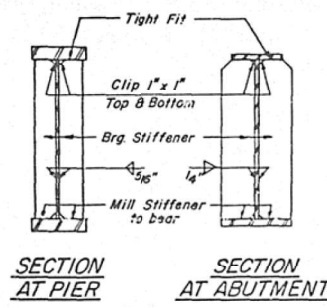


SECTION B-B

SECTION C-C

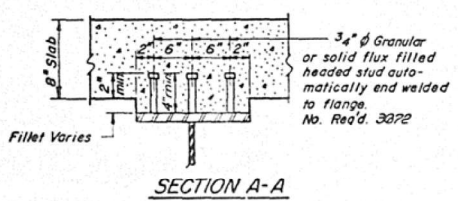


GIRDER ELEVATION

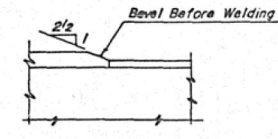


SECTION AT PIER

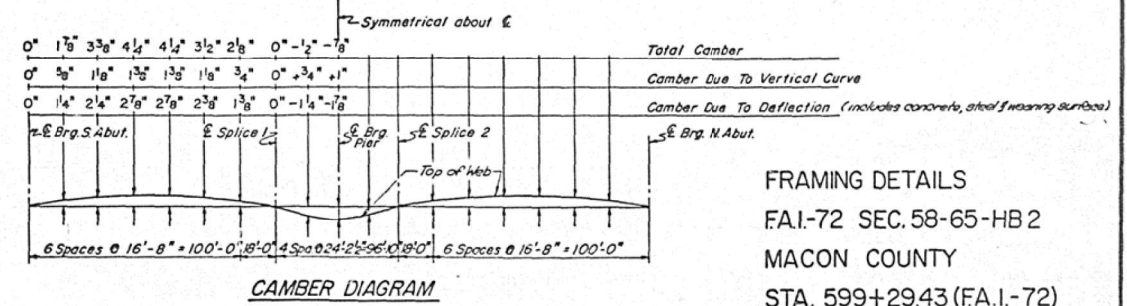
SECTION AT ABUTMENT



SECTION A-A



DETAIL "B"



CAMBER DIAGRAM

DESIGNED	M.S.S.
CHECKED	K.S.Y.
DRAWN	D.D./B.G.
CHECKED	D.E.M./W.B.C.

FRAMING DETAILS
FAI-72 SEC. 58-65-HB 2
MACON COUNTY
STA. 599+29.43 (FA.I.-72)

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PROJECT: 74836
DRAWN: D.D./B.G.
CHECKED: D.E.M./W.B.C.
DATE: 2/8/2023

USER NAME	= Jessica.Hille	DESIGNED	-	REVISED	-
DRAWN	-	REVISION	-	REVISION	-
PLOT SCALE	= 100,0000' / in.	CHECKED	-	REVISION	-
PLOT DATE	= 2/8/2023	DATE	-	REVISION	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
058-0091

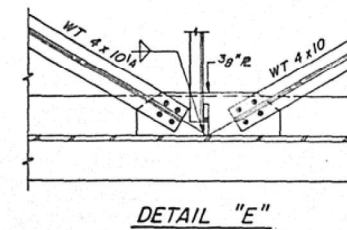
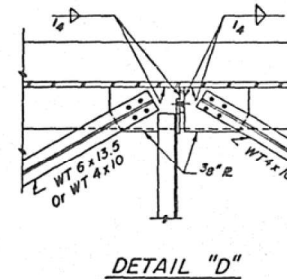
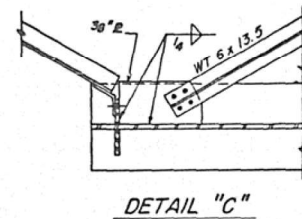
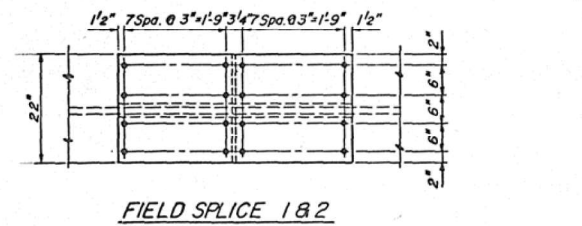
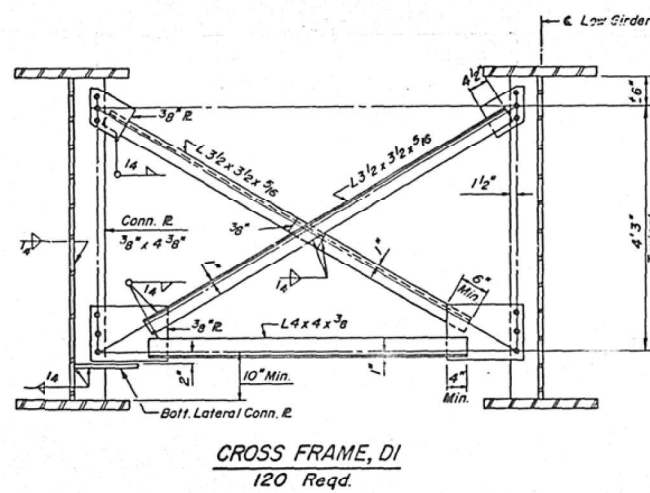
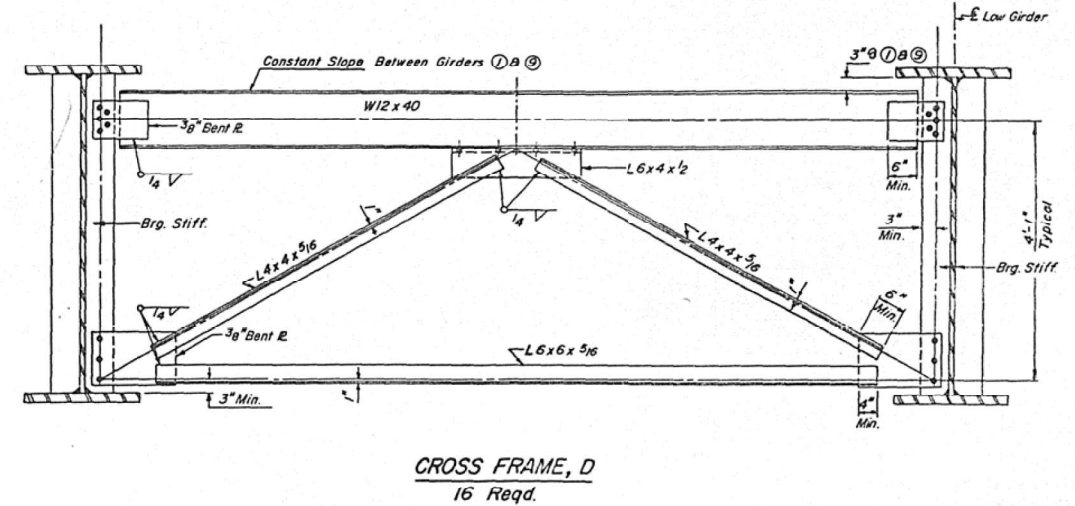
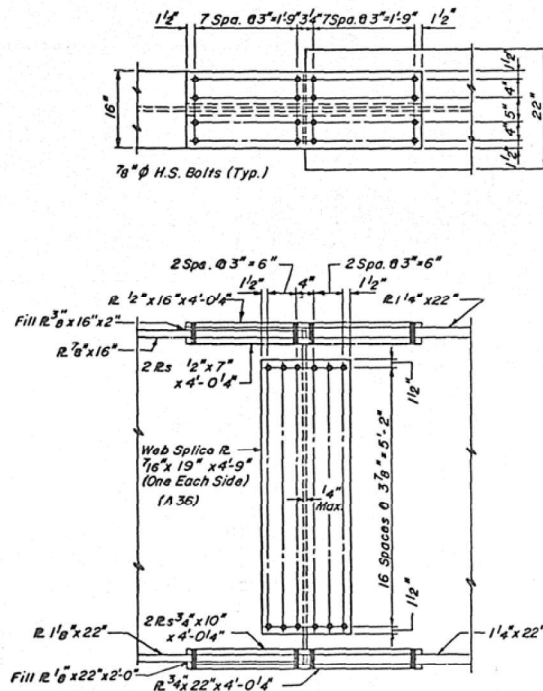
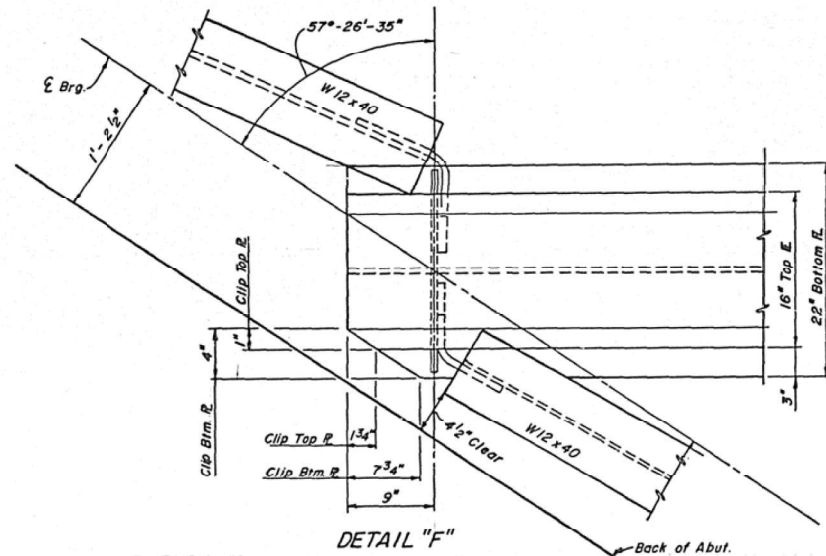
SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	D7 BRIDGE PAINTING 2023-1	MACON	8	6
ILLINOIS			FED. AID PROJECT	

CONTRACT NO. 74836

STATE OF ILLINOIS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. //
F.A.I.-72	58-65	MACON	96	32	SHEETS 20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



ELEVATION TOP OF WEB

Beam	Abut	Spl #1	Pier	Spl #2	Abut
1	708.82	710.05	710.14	710.37	709.90
2	709.15	710.29	710.34	710.52	709.96
3	709.43	710.47	710.49	710.63	709.97
4	709.70	710.65	710.62	710.73	709.97
5	709.96	710.81	710.75	710.81	709.96
6	709.97	710.73	710.62	710.65	709.70
7	709.97	710.63	710.49	710.47	709.43
8	709.96	710.52	710.34	710.29	709.15
9	709.90	710.37	710.14	710.05	708.82

* These Elevations Are For Fabrication Only.

STEEL QUANTITIES

A 36	513,800 ^{sq}
A 588	103,300
A 572 - Grade 50	297,200
A 572 - Grade 42	105,200
TOTAL	1,019,500 ^{sq}

INTERIOR GIRDER REACTION TABLE

	Abutment	Pier
R _L (K)	64.2	313.2
R _R (K)	52.6	111.1
IMP (K)	9.0	19.0
R TOTAL (K)	145.8	443.3

INTERIOR GIRDER MOMENT TABLE

	0.4 Span 1	Pier
I _s (IN ⁴)	59250	139375
I _c (IN ⁴)	134538	
S _y (IN ³)	1946	3793
S _c (IN ³)	2531	
R (K/IN)	1.08	1.45
M _R (K)	1764	5705
f _s (KSI)	10.85	18.05
S _R (K/IN)	0.37	
M _s (K)	700	
M _L (K)	1649	1050
M _{imp} (K)	282	316
TOTAL M _c (K)	2631	2166
f _s Comp (KSI)	12.75	6.85
f _s TOTAL (KSI)	23.63	24.90
VR (K)	66.8	

I_s and S_y 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 f_s.
VR is the Maximum &+ Impact Shear Range in Span, Used to Determine Shear Stud Spacing.

FRAMING DETAILS
FAI-72 SEC. 58-65-HB2
MACON COUNTY
STA. 599 + 29.43 (FAI-72)

DESIGNED	K.S.Y.
CHECKED	D.E.M.
DRAWN	D.D./B.C.
CHECKED	D.E.M./W.B.C.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
058-0091

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SCALE: SHEET OF SHEETS STA. TO STA.

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72	D7 BRIDGE PAINTING 2023-1	MACON	8	7
CONTRACT NO. 74B36				
ILLINOIS FED. AID PROJECT				

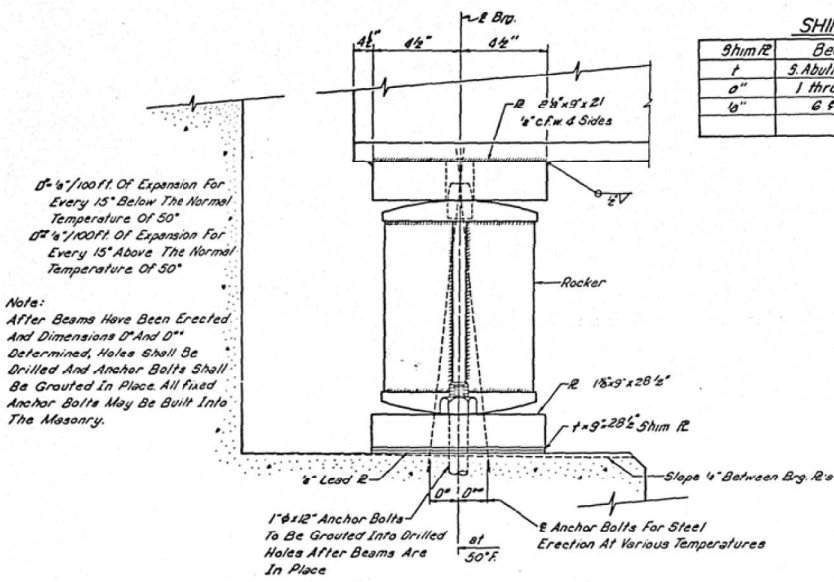
STATE OF ILLINOIS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
58-65	HB-2	MACON	96	33
F.A.I. - 72	HB-2	ILLINOIS	FED. AID PROJECT	

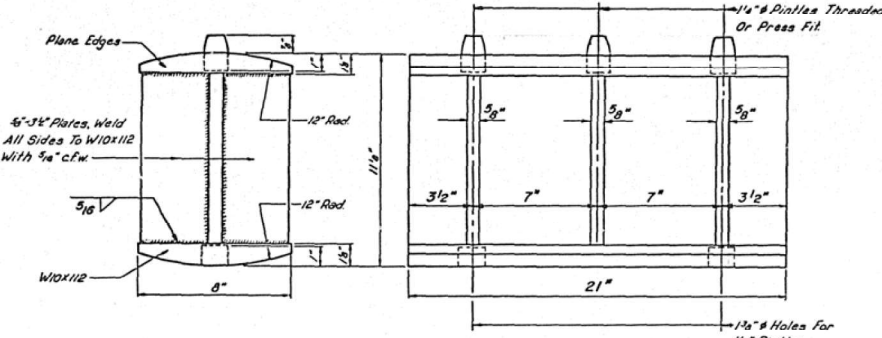
SHEET NO. 12
SHEETS 20

SHIM TABLE

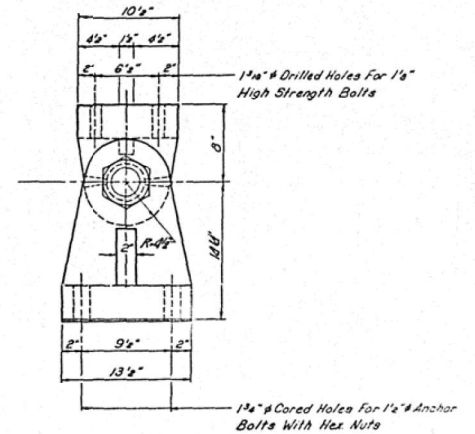
Shim R.	Beam	N.O.
1"	S. Abutment	N. Abutment
0"	1 thru 3, 5 & 9	1 & 2, 5 thru 9
0"	6 & 7	3 & 4



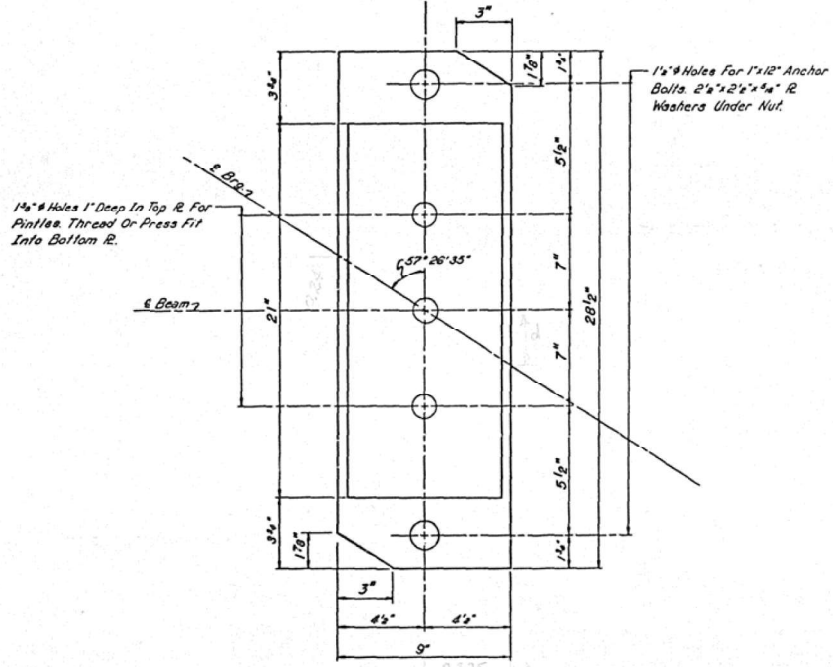
SECTION AT ABUTMENT



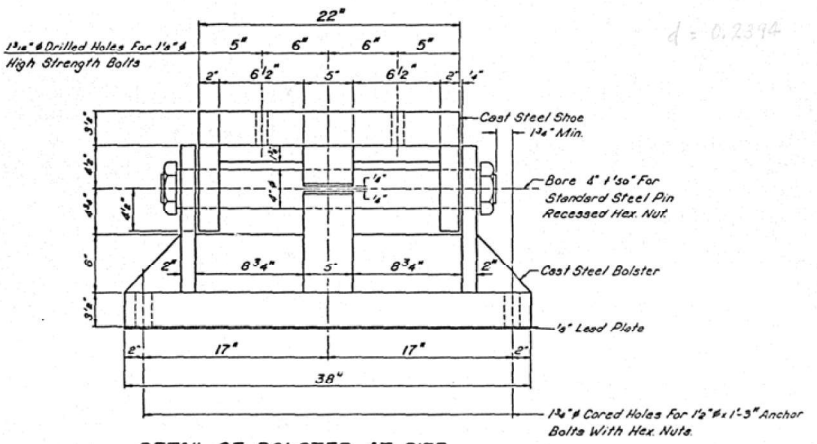
DETAIL OF ROCKER AT ABUTMENT



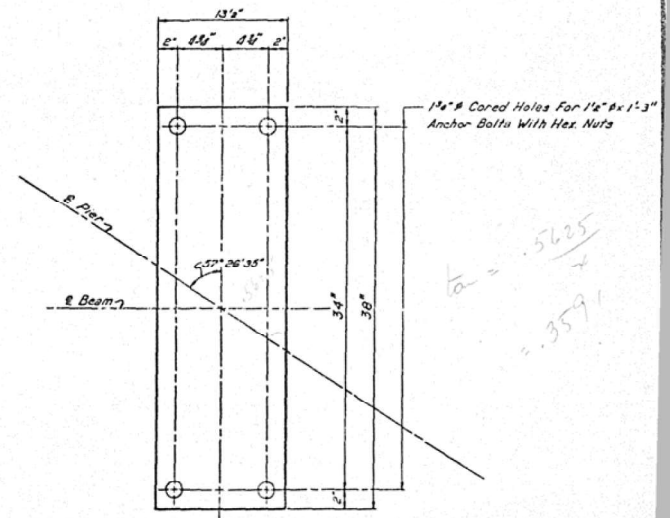
SECTION AT PIER



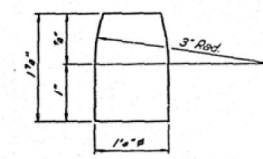
PLAN AT ABUTMENT



DETAIL OF BOLSTER AT PIER



PLAN AT PIER



DETAIL OF PINTLE

DESIGNED	K.S.Y.
CHECKED	D.E.M.
DRAWN	N.R. 5-11-72
CHECKED	K.S.Y.

BEARING DETAILS
F.A.I. 72 SEC. 58-65-HB-2
MACON COUNTY
STA. 599+29.43 (F.A.I. 72)

MODEL: Default
 FILE: 3dmodel.pia
 PROJECT: 74836\CADD\Drawings\DOT Office\Drawings\74836\CADD\Drawings\74836\Sheet_12.dwg
 PLOT DATE: 2/8/2023

SPRING 44811

USER NAME = Jessica.Hille	DESIGNED -	REVISED -
PLOT SCALE = 100,0000' / in.	DRAWN -	REVISED -
PLOT DATE = 2/8/2023	CHECKED -	REVISED -
	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
058-0091

SCALE: SHEET OF SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
72	D7 BRIDGE PAINTING 2023-1	MACON	8	8
ILLINOIS			FED. AID PROJECT	

CONTRACT NO. 74B36