03-07-2025 LETTING ITEM 103

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	D7 BRIDGE PAINTING 2025-3	MACON	13	1
	ILLINOIS	CONTRACT NO. 74D03		

I 72, US 36

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED HIGHWAY PLANS

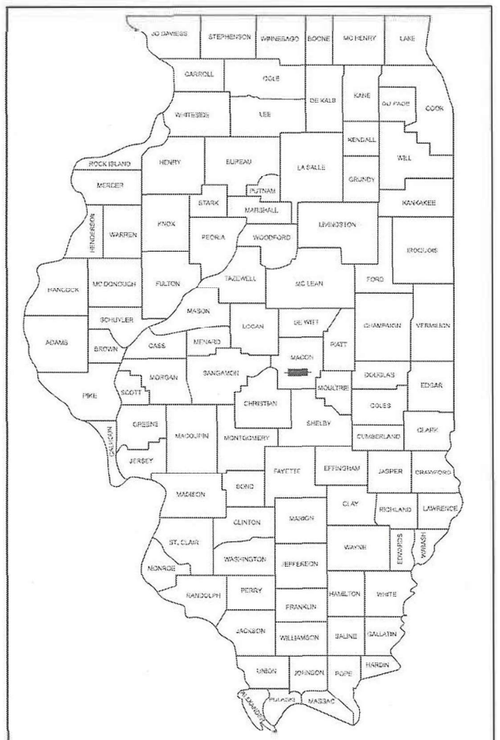
FAI 72, FAP 323 (I 72, US 36)
SECTION D7 BRIDGE PAINTING 2025-3
PROJECT NHPP-SRNC(582)
BRIDGE PAINTING
MACON COUNTY

C-97-066-24

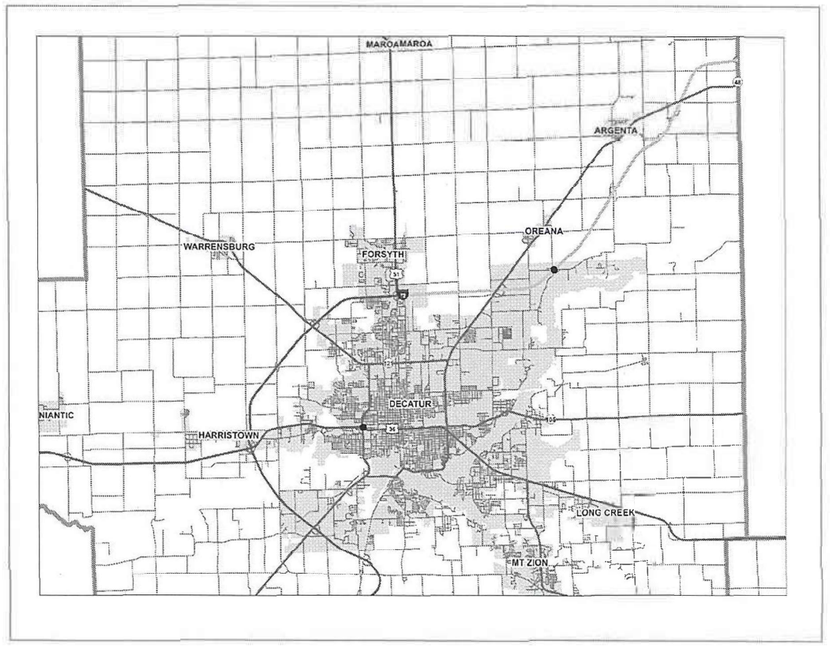
FOR INDEX OF SHEETS, SEE SHEET NO. 2

ADT = 12,300 (1-72)
ADT = 9,350 (45 36)

D-97-035-24



LOCATION OF SECTION INDICATED THUS: ▪



GROSS LENGTH = N/A FT. = N/A MILE
NET LENGTH = N/A FT. = N/A MILE

100' 200' 300' — 1"= 100'
0 10' 20' 30' — 1"= 10'
0 50' 100' — 1"= 50'
0 50' 100' — 1"= 40'
0 50' 100' — 1"= 30'
0 50' 100' — 1"= 20'

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 STACY ANDERSON

CONTRACT NO. 74D03

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED DECEMBER 11 20 24
Jeffrey P Myrick
REGIONAL ENGINEER
January 31 20 25
ENGINEER OF DESIGN AND ENVIRONMENT
January 31 20 25
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

REV - MS

GENERAL NOTES

THE PROPOSED PROJECT IS LOCATED AT 2 LOCATIONS: IL 72 & US 36 IN MACON COUNTY.

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.

INDEX OF SHEETS

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

000001-08 STANDARD SYMBOLS, ABBREVIATIONS, & PATTERNS
001006 DECIMAL OF AN INCH AND OF A FOOT
643001-03 SAND MODULE IMPACT ATTENUATORS
701001-02 OFF-RD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05 OFF-RD OPERATIONS, 2L, 2W, 15' TO 24' FROM PAVEMENT EDGE
701101-05 OFF-RD OPERATIONS, MULT-ILANE, 15' TO 24' FROM PAVEMENT EDGE
701106-02 OFF-RD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701201-05 LANE CLOSURE, 2L, 2W, FOR SPEEDS >= 45 MPH
701321-19 LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER
701400-12 APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701401-13 LANE CLOSURE, FREEWAY/EXPRESSWAY
701402-12 LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER
701606-10 URBAN SINGLE LANE CLOSURE, MULTILANE, 2W WITH MOUTABLE MEDIAN
701611-01 URBAN HALF ROAD CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIAN
701801-06 SIDEWALK, CORNER OR CROSSWALK CLOSURE
701901-10 TRAFFIC CONTROL DEVICES
704001-08 TEMPORARY CONCRETE BARRIER
782006-01 GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

LOCATION #1

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 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.

LOCATION #1

BRIDGE #1
ROUTE: FAI 72
MARKED: IL 72
STATION: 50+10.10
STRUCTURE NUMBER: 058-0087, TR 45(KIRBY RD) over I-72
MACON COUNTY

2 air monitors will be required at this location.

LOCATION #2

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, on all beams, bearings, and diaphragms, within 5' (measured along the beam) of the abutements and any expansion joints shall be cleaned by SSPC-SP10- Near White Metal Blast Cleaning. The outside and bottoms of both fascia beams, for the entire length of the beams, shall be cleaned in their entirety 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.

LOCATION #2

BRIDGE #2
ROUTE: FAP 323
MARKED: US 36
STATION: 7+434.729
STRUCTURE NUMBER: 058-0127, FAP 323(US 36) over FAU 7429(IL 48) IN MACON COUNTY

4 air monitors will be required at this location.

REV - MS

MODEL: General Note [Sheet]
FILE NAME: c:\pw_work\pwidot\hillejal\d0990005\D7774D03-sht-gennotes.dgn

USER NAME = jessica.hille	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 12/11/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

INDEX OF SHEETS, GENERAL NOTES SHEETS

SCALE: | SHEET | OF | SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	D7 BRIDGE PAINTING 2025-3	MACON	13	2
		CONTRACT NO. 74D03		
		ILLINOIS	FED. AID PROJECT	

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 80% FED 20% STATE 0047		
67100100	MOBILIZATION	L SUM	1	1		
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD	EACH	2	2		
	701402					
70100405	TRAFFIC CONTROL AND PROTECTION, STANDARD	EACH	1	1		
	701321					
70102625	TRAFFIC CONTROL AND PROTECTION, STANDARD 701606	L SUM	1	1		
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD	L SUM	1	1		
	701201					
70102634	TRAFFIC CONTROL AND PROTECTION, STANDARD 701611	L SUM	1	1		
70100800	TRAFFIC CONTROL AND PROTECTION, STANDARD	L SUM	1	1		
	701401					
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1	1		
70400100	TEMPORARY CONCRETE BARRIER	FOOT	600	600		
70400125	PINNING TEMPORARY CONCRETE BARRIER	EACH	100	100		
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1200	1200		
70600250	IMPACT ATTENUATORS, TEMPORARY (NON-	EACH	2	2		
	REDIRECTIVE), TEST LEVEL 3					
70600350	IMPACT ATTENUATORS, RELOCATE (NON-	EACH	4	4		
	REDIRECTIVE), TEST LEVEL 3					

SUMMARY OF QUANTITIES

CODE NO	ITEM	UNIT	TOTAL QUANTITIES	CONSTRUCTION TYPE CODE 80% FED 20% STATE 0047		
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT	L SUM	1	1		
	CLEANING RESIDUES NO. 1					
Z0007102	CONTAINMENT AND DISPOSAL OF LEAD PAINT	L SUM	1	1		
	CLEANING RESIDUES NO. 2					
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1		
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1	1		

REV - MS

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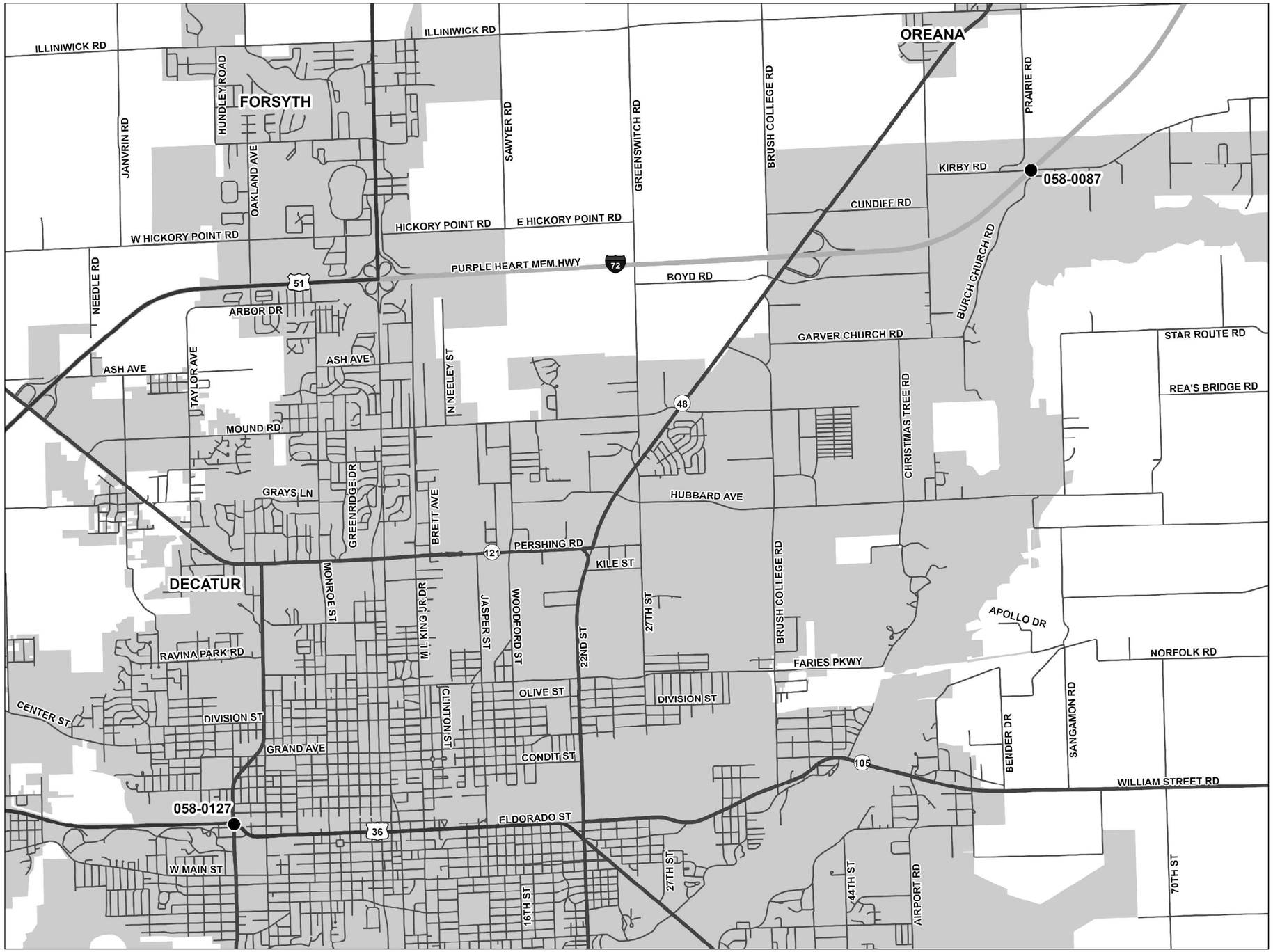
USER NAME = stacy.anderson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 11/27/2024	DATE -	REVISED -	

SUMMARY OF QUANTITIES

SCALE: | SHEET 1 OF 1 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	D7 BRIDGE PAINTING 2025-3	MACON	13	3
		CONTRACT NO. 74D03		
	ILLINOIS FED. AID PROJECT			



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USER NAME = jessica.hille	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 12/11/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOCATION MAP
058-0087 & 058-0127

SCALE: | SHEET 1 OF 10 SHEETS | STA. | TO STA.

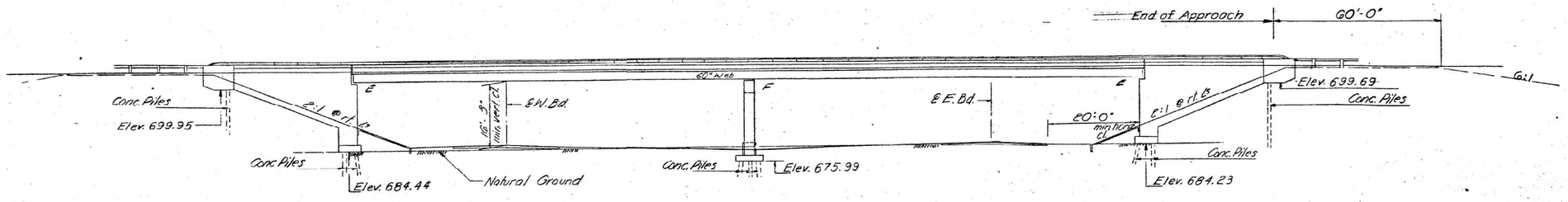
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	D7 BRIDGE PAINTING 2025-3	MACON	13	4
		CONTRACT NO. 74D03		
		ILLINOIS	FED. AID PROJECT	

BM: Spike in P.P.-5TH Pole W. of Intersection of Church Rd. & T.R. 45 at S.E. Cor. NE¼, NE¼ Sec. 81 11N 2W 4th P.M. Sta. 4E01+01 El. 699.70

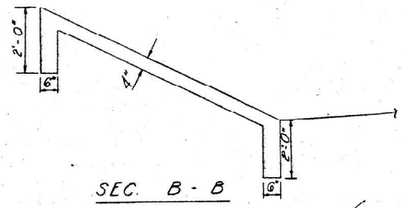
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 72	58-65 HB	MACON	62	16
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

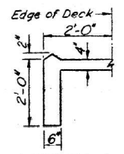
SHEET NO. 1
18 SHEETS



ELEVATION

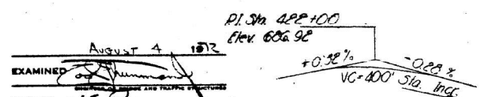


SEC. B - B

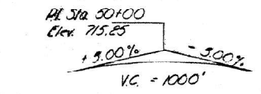


SECTION A-A

PLAN



PROFILE F.A.I. 72
(along ℄ Pavwy.)



PROFILE T.R. 45
(Top of Pl.)

STATION 430+55.06
BUILT 197 BY
STATE OF ILLINOIS
F.A.I. RT. 72 SEC. 58-65-HB
F.A. PROJ I-72-2(41)
LOADING HS15

NAME PLATE
See Std. 2113

PRECAST PRESTRESSED UNITS

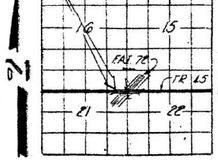
f'_c	=	5000 psi
f'_{ci}	=	4,000 psi
f_s	=	248,000 psi (7/16" Strands)
f_{si}	=	175,600 psi (7/16" Strands)

DESIGN STRESSES

f'_c	= 1200 psi	(Deck Slab)
f'_c	= 1400 psi	(Curb, Parapet, Sub.)
f_s	= 20,000 psi	(Reinf.)
f_s	= 20,000 psi	(Struct.)
v_c	= 75 psi	(Tfg.)
n	= 10	

Allow 85 #/ft' future W.S.
Design Specifications AASHO 1969 as applicable.

LOADING HS 15-44



LOCATION SKETCH

PROJECT I-72-2(41) 43
T.R. 45 OVER F.A.I. 72
F.A.I. 72 SECTION 58-65-HB
MACON COUNTY
STATION 430+55.06 F.A.I. 72 =
STATION 50+10.10 T.R. 45

5-85

DESIGNED	Suresh T. Desai
CHECKED	Jay W. Bytz
DRAWN	daryl
CHECKED	G.W.B.

EXAMINED — August 4 1972
PASSED — W.E. Baumann, Engineer of Design
APPROVED — Richard H. Holtermann, Chief Highway Engineer

058-0087

USER NAME = jessica.hille	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 12/11/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
058-0087

SCALE: | SHEET OF 10 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	D7 BRIDGE PAINTING 2025-3	MACON	13	2
		CONTRACT NO. 74D03		
	ILLINOIS	FED. AID PROJECT		

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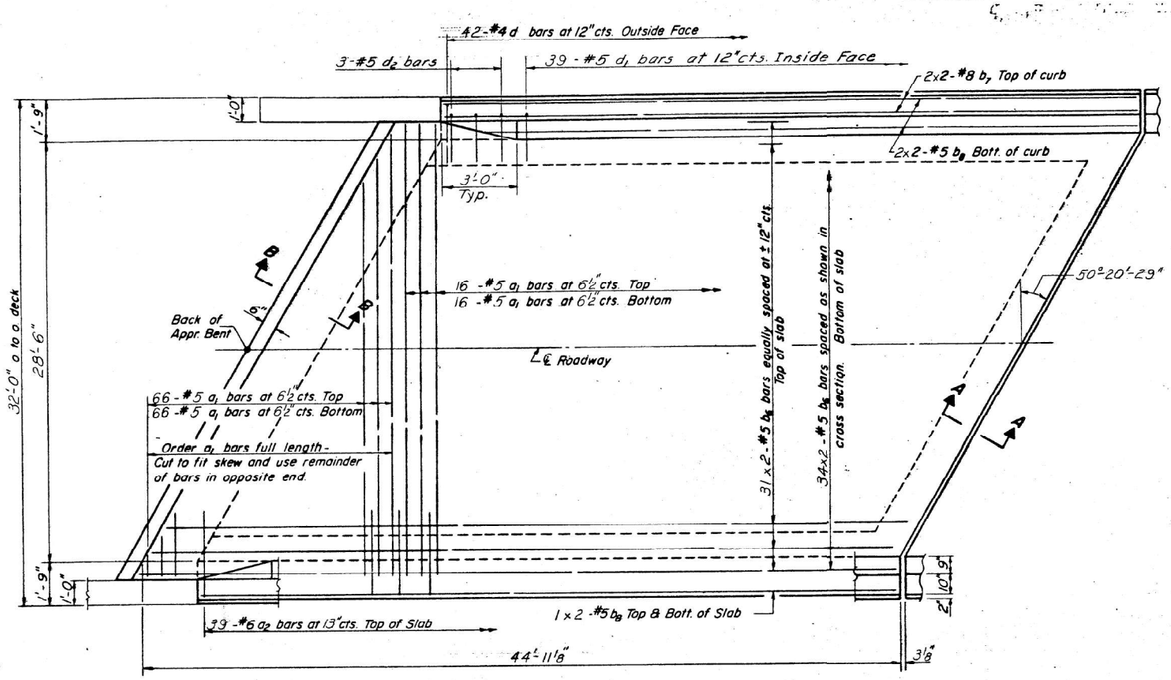
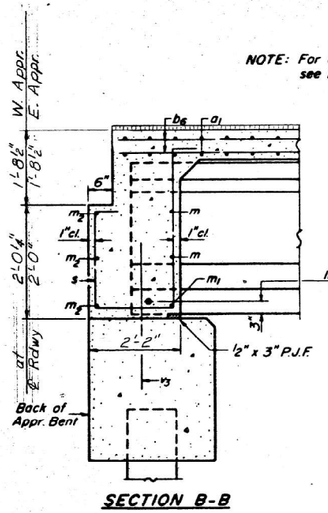
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 72	58-65 HB	MACON	62	22
FED. ROAD DIST. NO. 5	ILLINOIS	FED. AID PROJECT		

SHEET NO. 7
18 SHEETS



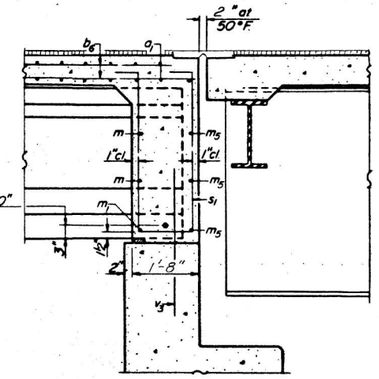
PLAN



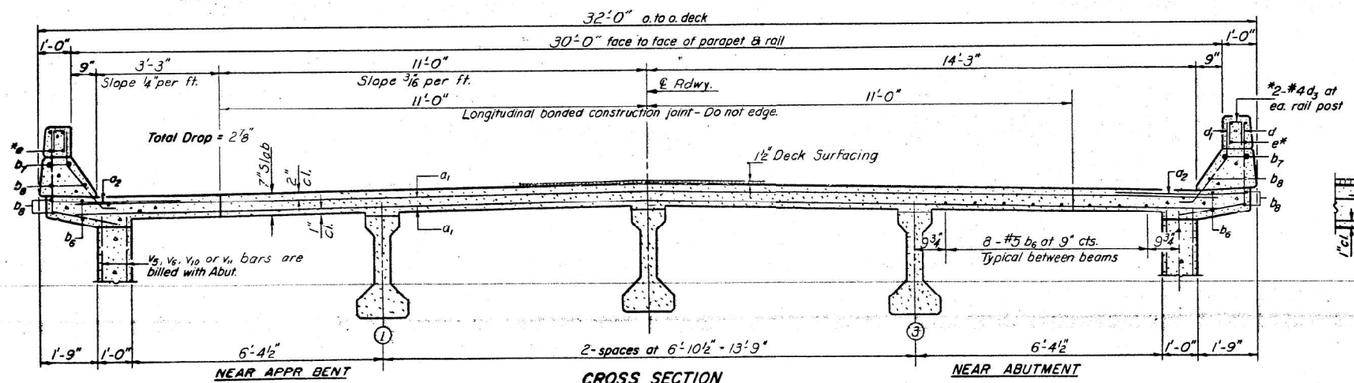
SECTION B-B

NOTE: For details of Neoprene Exp. Jt. see Detail "A" sheet #2

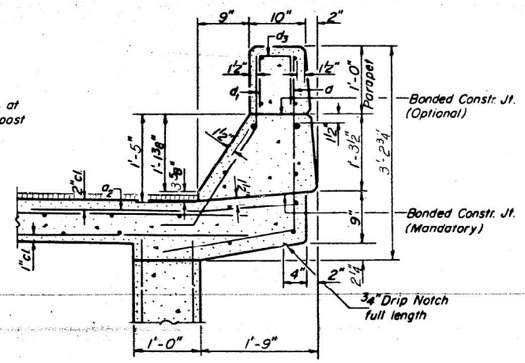
Inserts for ¾"ø x 2'-0" Threaded Rods



SECTION A-A



NEAR APPR BENT — CROSS SECTION (Looking East) — NEAR ABUTMENT



CURB SECTION

*Parapet Reinforcement and Class X Concrete are billed on sheet # 11

For placement and details of bars m thru m_5 and s thru s_2 see sheet # 9

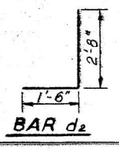
TWO APPR. SPANS
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a_1	328	#5	30'-0"	
a_2	156	#6	4'-0"	
b_6	260	#5	23'-0"	
b_7	16	#8	22'-0"	
b_8	32	#5	21'-9"	
d	168	#4	4'-6"	
d_1	156	#5	3'-7"	
d_2	12	#5	4'-2"	
m	32	#4	9'-3"	
m_1	16	#5	8'-2"	
m_2	12	#5	24'-0"	
m_3	16	#4	5'-9"	
m_4	16	#4	5'-4"	
m_5	12	#5	21'-3"	
s	60	#4	7'-11"	
s_1	60	#4	9'-0"	
s_2	40	#4	6'-8"	
Reinforcement Bars			Lbs.	22120
Class X Concrete			Cu.Yds.	118.7

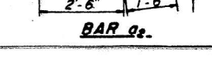
DESIGNED	Suresh T. Desai
CHECKED	Jerry W. Barta
DRAWN	R. P. Summer
CHECKED	C. W. B.

EXAMINED Aug 4 1972
PASSED W. E. Baumann
APPROVED Richard A. Holtzman

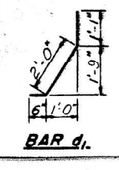
SA-586-L(>30°) 3-17-69



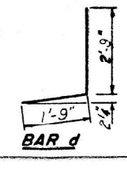
BAR d_2



BAR a_2



BAR d_1



BAR d

APPROACH SPANS
SUPERSTRUCTURE
F.A.I. RT. 72 SEC. 58-65-HB
MACON COUNTY
STATION 430+55.06

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USER NAME = stacy.anderson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 12/11/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
058-0087

SCALE: | SHEET 3 OF 10 SHEETS | STA. | TO STA.

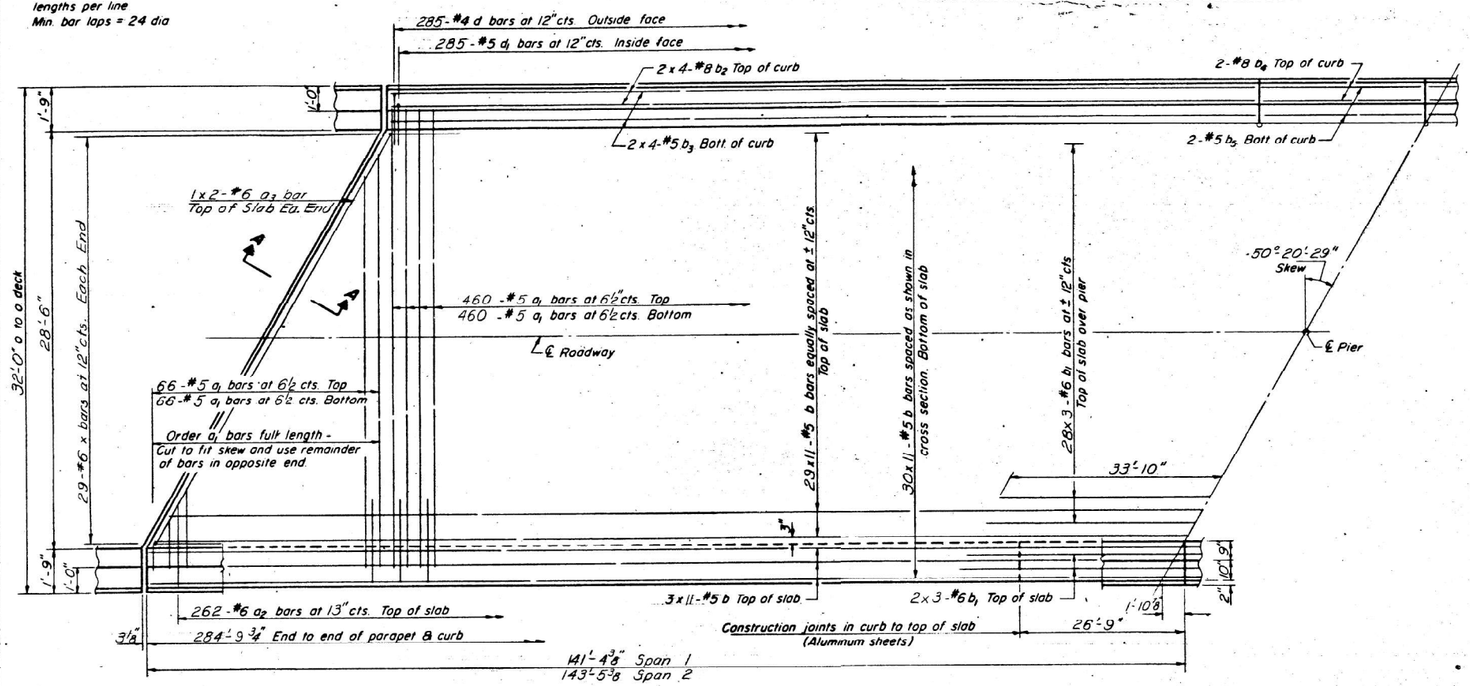
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	D7 BRIDGE PAINTING 2025-3	MACON	13	6
		CONTRACT NO. 74D03		
		ILLINOIS	FED. AID PROJECT	

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

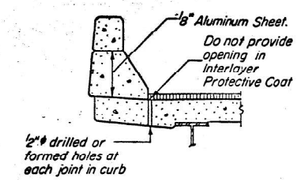
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP RTE. 72	58-65 HB	MACON	62	23

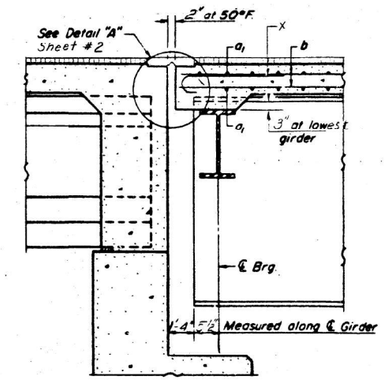
SHEET NO. 8
18 SHEETS



HALF PLAN



SECTION AT CURB JOINTS

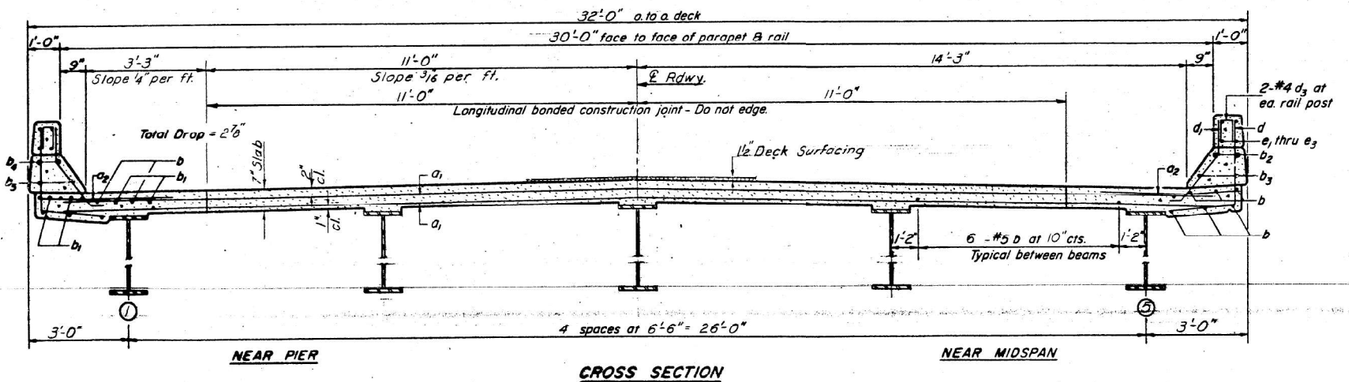


SECTION A-A

BILL OF MATERIAL

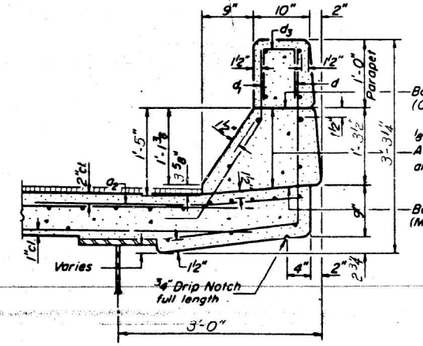
Bar	No.	Size	Length	Shape
a_1	1052	#5	30'-0"	
a_2	524	#6	4'-0"	
a_3	4	#6	23'-0"	
b	715	#5	27'-0"	
b_1	96	#6	23'-6"	
b_2	32	#8	30'-8"	
b_3	32	#5	30'-1"	
b_4	8	#8	26'-6"	
b_5	8	#5	26'-6"	
d	570	#4	4'-6"	
d_1	570	#5	3'-7"	
x	56	#6	2'-9"	
Reinforcement Bars			Lbs.	63220
Class X Concrete			Cu. Yds.	249.7

NOTE: For placement of bars d_3 and e_1 thru e_3 see sheet #11



NEAR PIER — NEAR MIDSPAN

CROSS SECTION
(Looking East)

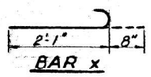


CURB SECTION
Cost of Aluminum Sheets shall be incidental to Class X Concrete.

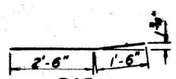
Parapet Reinforcement and Class X Concrete are billed on sheet # 11

DESIGNED	Suresh T Desai	EXAMINED	Aug 4 1972
CHECKED	Harry W Boyett	PASSED	W. E. Baumann
DRAWN	R. P. Summer		Director
CHECKED	G. W. B.		Richard H. Holtermann

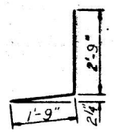
S-586-L(>30°) 4-22-68, 12-3-69



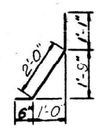
BAR x



BAR a_2



BAR d



BAR d_1

MAIN SPAN
SUPERSTRUCTURE
F.A.I. RT. 72 SEC. 58-65-HB
MACON COUNTY
STATION 430+55.06

USER NAME = jessica.hille	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 12/11/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
058-0087

SCALE: | SHEET 4 OF 10 SHEETS | STA. | TO STA.

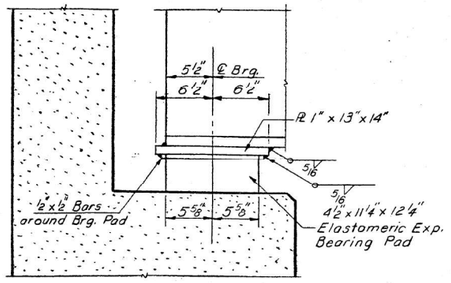
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	D7 BRIDGE PAINTING 2025-3	MACON	13	7
		CONTRACT NO. 74D03		
		ILLINOIS	FED. AID PROJECT	

MODEL: Page 7 [Sheet]
FILE NAME: c:\pw_work\pwdot\hille\d0990005\D774D03-sht-plan.dgn

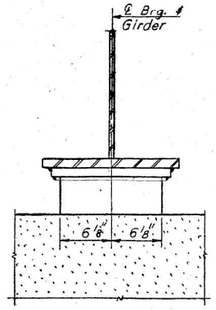
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 72	58-65 HB	MACON	62	27
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 12
18 SHEETS

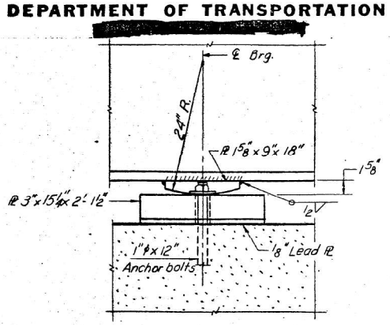
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



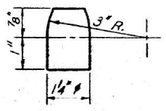
ELEVATION AT ABUTMENT



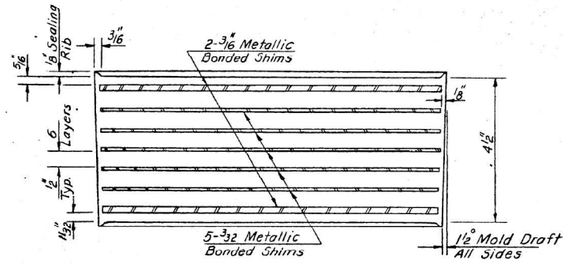
SECTION AT ABUTMENT



ELEVATION AT PIER



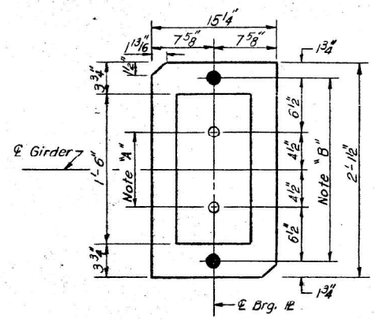
PINTLE



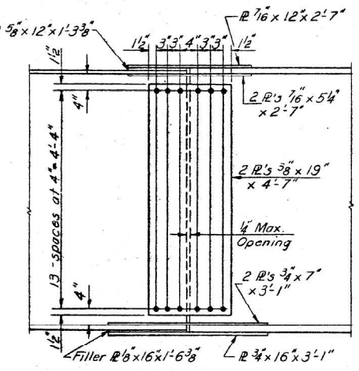
ELASTOMERIC BEARING
(Cost Incidental)

Note "A"
1 1/8" ϕ Holes - 1" deep in top PL for 1 1/4" ϕ Pintles. Thread or press fit pintles in bottom PL.

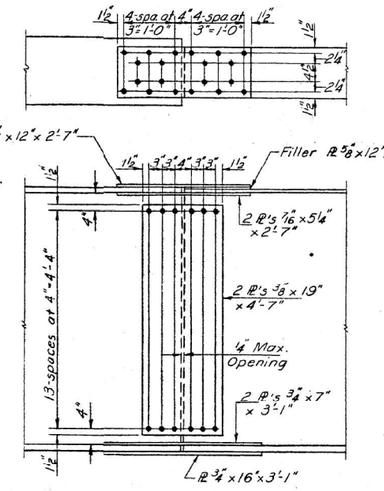
Note "B"
1 1/2" ϕ Holes for 1" ϕ Anchor Bolts - 2 1/2" x 2 1/2" x 5/16" PL Washers under nut.



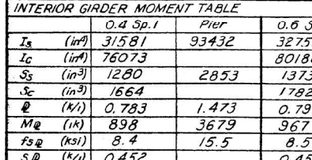
PLAN AT PIER



SPLICE # 1
Use 7/8" ϕ H.S. Bolts Flanges
Use 3/4" ϕ H.S. Bolts Web



SPLICE # 2
Use 7/8" ϕ H.S. Bolts Flanges
Use 3/4" ϕ H.S. Bolts Web



CROSS FRAME CONNECTION DETAIL AT ABUTMENT

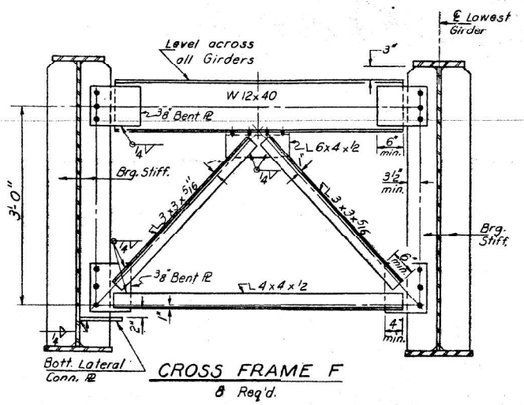
INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp.1	Pier	0.6 Sp.2
I_S	(in^4)	31581	93432	32759
I_C	(in^4)	76073		80188.
S_S	(in^3)	1280	2853	1373
S_C	(in^3)	1664		1782
℄	(K/I)	0.783	1.473	0.791
$M_{℄}$	(IK)	898	3679	967
$f_{S℄}$	(KSI)	8.4	15.5	8.5
$S_{℄}$	(K/I)	0.452		0.452
$M_{S℄}$	(IK)	614		645
$M_{L℄}$	(IK)	812	917	828
M_{Imp}	(IK)	152	173	155
TOTAL	(IK)	1578	1090	1628
$f_{S℄+S℄}$	(KSI)	11.4	4.6	11.0
$f_{S\,TOTAL}$	(KSI)	19.8	20.1	19.5
VR	(K)	39.1		39.1

INTERIOR GIRDER REACTION TABLE				
		W. Abut.	Pier	E. Abut.
$R_{℄}$	(k)	62.6	231.7	64.6
$R_{L℄}$	(k)	29.3	61.5	29.3
Imp.	(k)	5.5	11.5	5.5
R_{TOTAL}	(k)	97.4	304.7	99.4

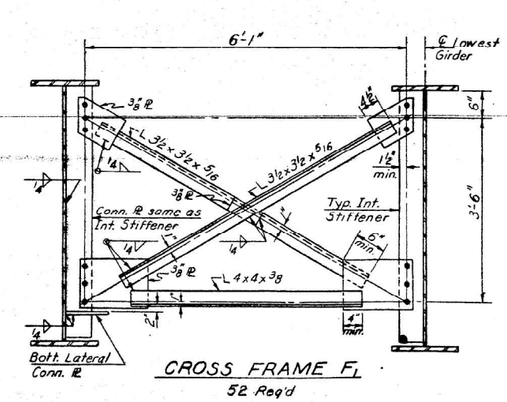
I_S and S_S are the moment of inertia and section modulus of the steel section.
I_C and S_C are the moment of inertia and section modulus of the composite section used in computing f_S.
VR is the maximum ℄ + Impact shear range in span used to determine shear connector spacing

DESIGNED	Suvesh T Desai
CHECKED	Amy V Bartig
DRAWN	R. P. Summer
CHECKED	C. W. B.

EXAMINED Aug. 4 19 [illegible]
PASSED W E Bauman ENGINEER OF DESIGN
APPROVED Richard H Holtermann DIRECTOR OF HIGHWAYS AND TRAFFIC STRUCTURES
CHIEF HIGHWAY ENGINEER



CROSS FRAME F
8 Req'd.



CROSS FRAME F1
52 Req'd

STRUCTURAL STEEL
F.A.I. RT. 72 SEC. 58-65-HB
MACON COUNTY
STATION 430+55.06

MODEL: Page 8 [Sheet]
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USER NAME = jessica.hille	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 12/11/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

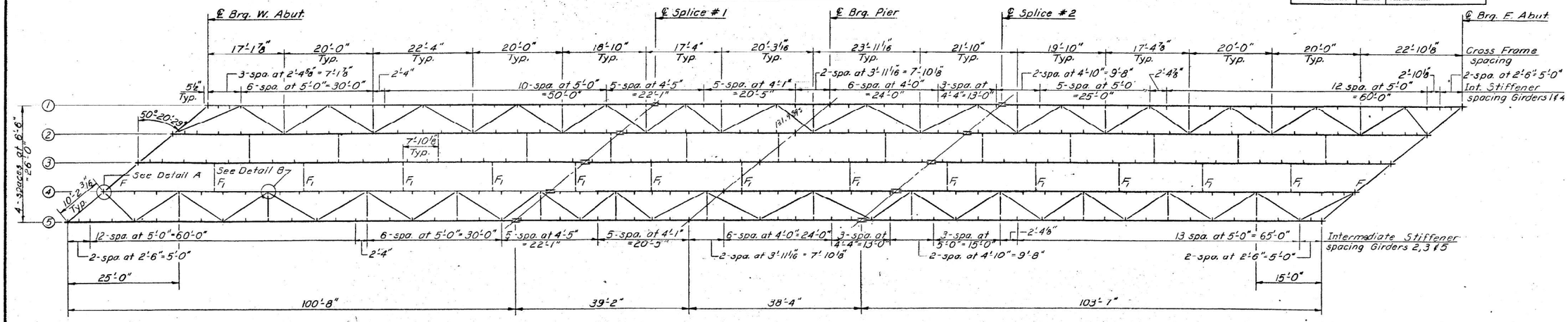
EXISTING STRUCTURE PLANS
058-0087
SCALE: | SHEET 5 OF 10 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	D7 BRIDGE PAINTING 2025-3	MACON	13	8
		CONTRACT NO. 74D03		
	ILLINOIS FED. AID PROJECT			

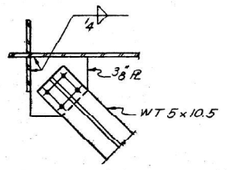
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
A.R.I. F.A.I. 72	58-65 HB	MACON	62	28
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

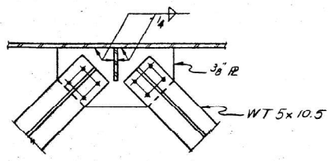
SHEET NO. 13
18 SHEETS



FRAMING PLAN



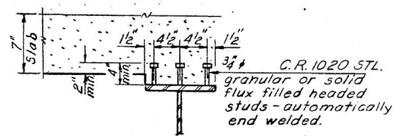
DETAIL A



DETAIL B

TOP OF WEB ELEVATIONS

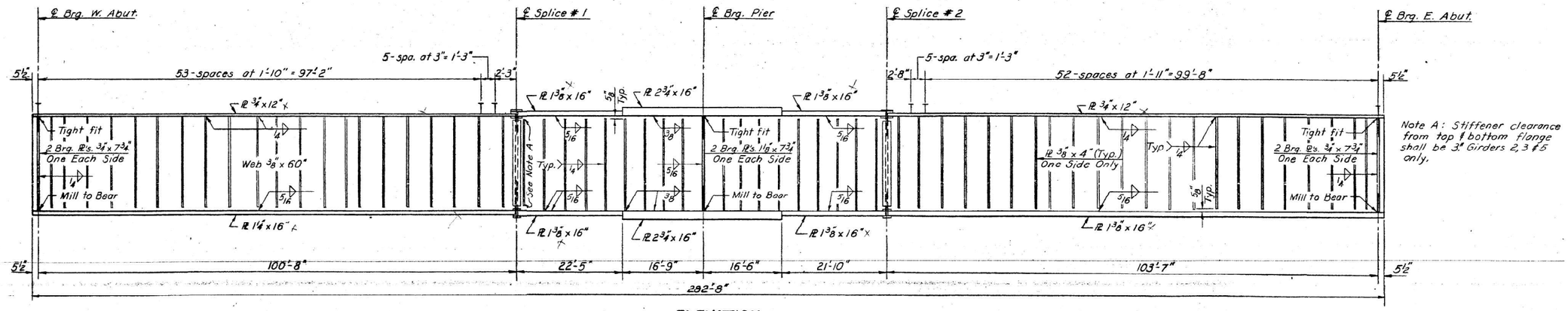
Loc. / Girder	℄ Brg. W. Abut.	℄ Splice # 1	℄ Brg. Pier	℄ Splice # 2	℄ Brg. E. Abut.
1	706.333	706.726	706.535	706.616	705.880
2	706.390	706.830	706.658	706.756	706.069
3	706.432	706.920	706.766	706.883	706.244
4	706.268	706.803	706.667	706.802	706.212
5	706.089	706.671	706.554	706.707	706.166



C.R. 1020 STL. granular or solid flux filled headed studs - automatically end welded.

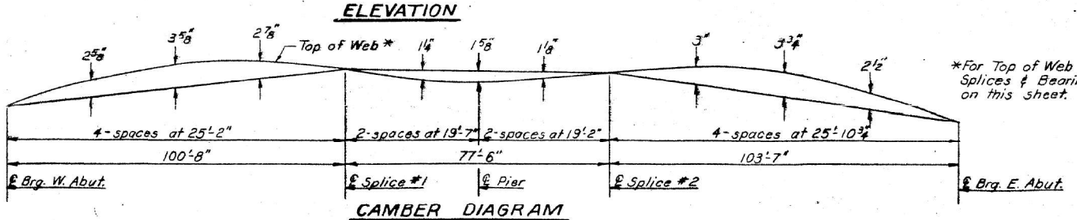
SHEAR CONNECTORS

351 Req'd. Ea. Girder



Note A: Stiffener clearance from top & bottom flange shall be 3" Girders 2, 3 & 5 only.

ELEVATION



CAMBER DIAGRAM

*For Top of Web Elevations at Splices & Bearings see table on this sheet.

DESIGNED	Suresh T. Desai
CHECKED	Huy W. Bader
DRAWN	R. P. Summer
CHECKED	G. W. B.

EXAMINED Aug. 4 1972
PASSED W. E. Baumann ENGINEER OF DESIGN
APPROVED Richard A. Holtzman BUREAU CHIEF HIGHWAY STANDARDS

STRUCTURAL STEEL
F.A.I. RT. 72 SEC. 58-65-HB
MACON COUNTY
STATION 430+55.06

USER NAME = jessica.hille	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 12/11/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
058-0087

SCALE: | SHEET 6 OF 10 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	D7 BRIDGE PAINTING 2025-3	MACON	13	9
		CONTRACT NO. 74D03		
	ILLINOIS	FED. AID PROJECT		

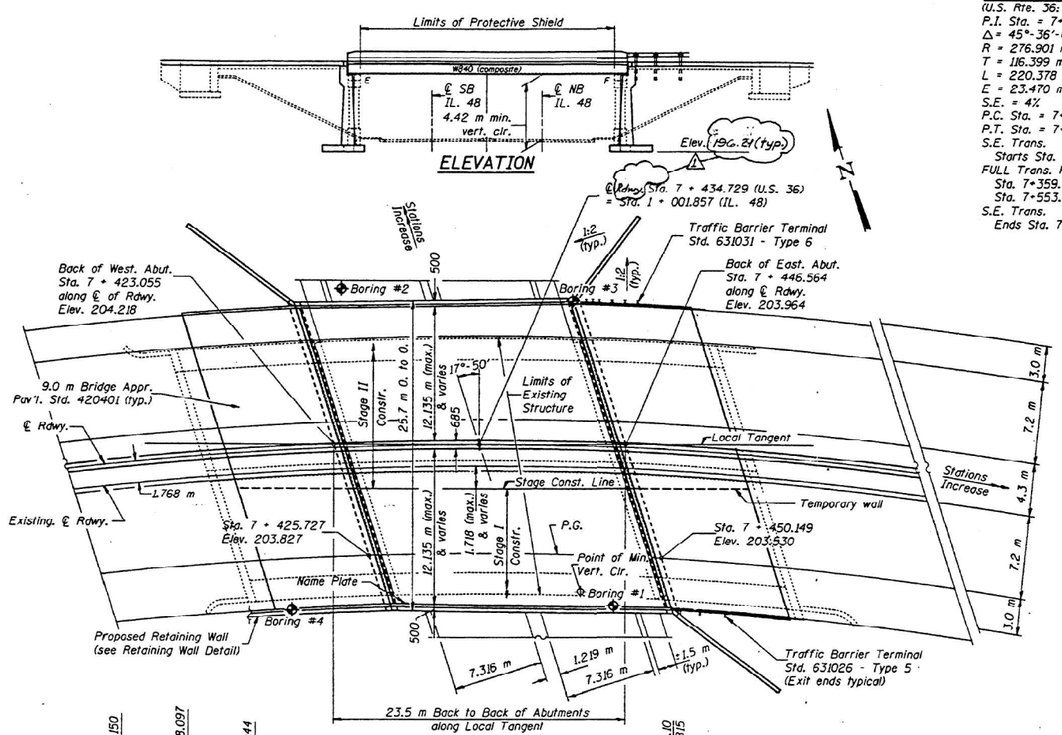
Bench Mark 4459-S. Chiseled square on the S.W. slopewall curb. 11.26 m Rt. of Station 7+416.34 Elevation = 202.276

Existing Structure: S.N. 058-0018 was built in 1960 as F.A. Rte. 49, Section 13X-HB consisting of a 3 span R.C. deck on WF steel beams with a horizontal clearance of 21.23 m. The spans are 11.3 m, 21.69 m and 12.24 m with total Bk. to Bk. length of 46.02 m. The structure is to be removed and replaced in its entirety utilizing median crossovers for stage construction.

No salvage

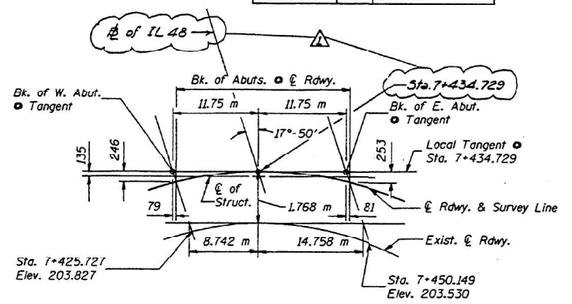
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 323	(13X-HB) BR	MACON	55	SHEET NO. 1
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		25 SHEETS



CURVE DATA

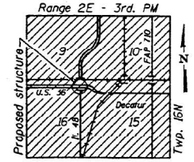
(U.S. Rte. 36: survey line along ℄ Roadway)
P.I. Sta. = 7+462.930
Δ = 45°-36'-00" (RT)
R = 276.901 m
T = 116.399 m
L = 220.378 m
E = 23.470 m
S.E. = 4%
P.C. Sta. = 7+346.531
P.T. Sta. = 7+566.909
S.E. Trans. Starts Sta. 7+299.731
FULL Trans. From Sta. 7+359.731 to Sta. 7+553.709
S.E. Trans. Ends Sta. 7+613.709



OFFSET SKETCH

STATION 7 + 434.729
BUILT 19 BY
STATE OF ILLINOIS
F.A. RT. 323 SEC. (13X-HB)BR
F.A. PROJ.
LOADING MS18
STR. NO. 058-0127

NAME PLATE
See Std. 515001



LOCATION SKETCH

LOADING MS18

Allow 1.2 kN/m² for future wearing surface.

DESIGN SPECIFICATIONS

1996 AASHTO

DESIGN STRESSES

FIELD UNITS
f'_c = 24 MPa
f_y = 400 MPa (reinforcement)
f_y = 345 MPa (M270 Grade 345 structural steel)
f_y = 250 MPa (M270 Grade 250 structural steel) ⚠1

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.048g
Site Coefficient (S) = 1.0

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each			1
Preformed Joint Seal 64 mm	m	27		27
Preformed Joint Seal 45 mm	m	27		27
Concrete Superstructure	m³	143.8		143.8
Protective Coat	m²	635		635
Elastomeric Bearing Assembly Type I	Each	13		13
Concrete Structures	m³		779.5	779.5
Furnish & Erect Structural Steel	L.S.	1		1
Stud Shear Connectors	Each	2535	1386	3921
Temporary Bridge Rail	m	46		46
Reinforcement Bars, Epoxy Coated	kg	18470	66370	84840
Structure Excavation	m³		3156	3156
Name Plates	Each	1		1
Pipe Underdrain for Structures 150 mm	m		94	94
Bridge Seat Sealer	m²		27	27
Bridge Deck Grooving	m²	513		513
Geotextile Retaining Wall	m²		78	78
Geocomposite Wall Drain	m²		595	595
Furnishing Steel Piles HP310x94	m		337	337
Driving Steel Piles	m		337	337
Protective Shield	m²		442	442
Rubbed Finish	m²		192	192

* Includes bridge deck, top and inside faces of parapets and top and both faces of median parapet.

DESIGNED	Sharon D. Smith
CHECKED	Northern Aftermick
DRAWN	KG
CHECKED	SDG HSL

DECEMBER 3 1997
EXAMINED Raj S. Kapur ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS RALPH E. ANDERSON 081 004625 REGISTERED PROFESSIONAL ENGINEER AND STRUCTURAL ENGINEER

EXPIRES 11-30-98

GENERAL PLAN
U.S. ROUTE 36 OVER
FAIRVIEW AVENUE (IL. ROUTE 48)
F.A. ROUTE 323 - SECTION (13X-HB)BR
MACON COUNTY
STATION 7+434.729
STRUCTURE NO. 058-0127

⚠1 Revised 12-31-97 SDG

AS BUILT

USER NAME = jessica.hille	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 12/11/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
058-0127

SCALE: | SHEET 7 OF 10 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	D7 BRIDGE PAINTING 2025-3	MACON	13	10
		CONTRACT NO. 74D03		
		ILLINOIS	FED. AID PROJECT	

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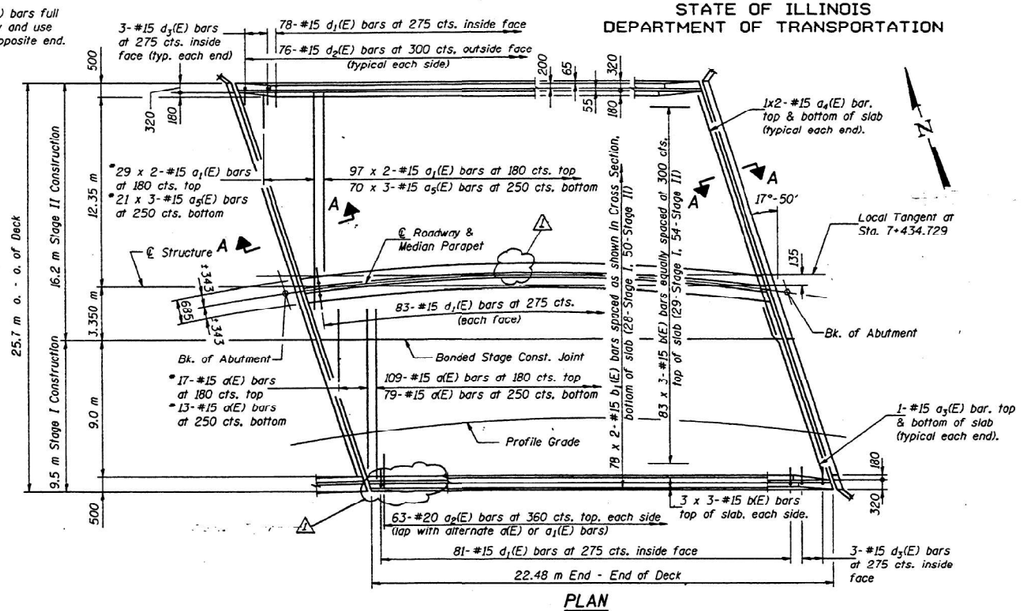
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 323	(13X-HB) BR	MACON		63
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 9
25 SHEETS

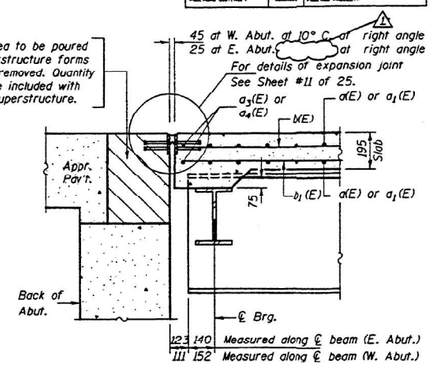
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

* Order a(E) and a_1(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.



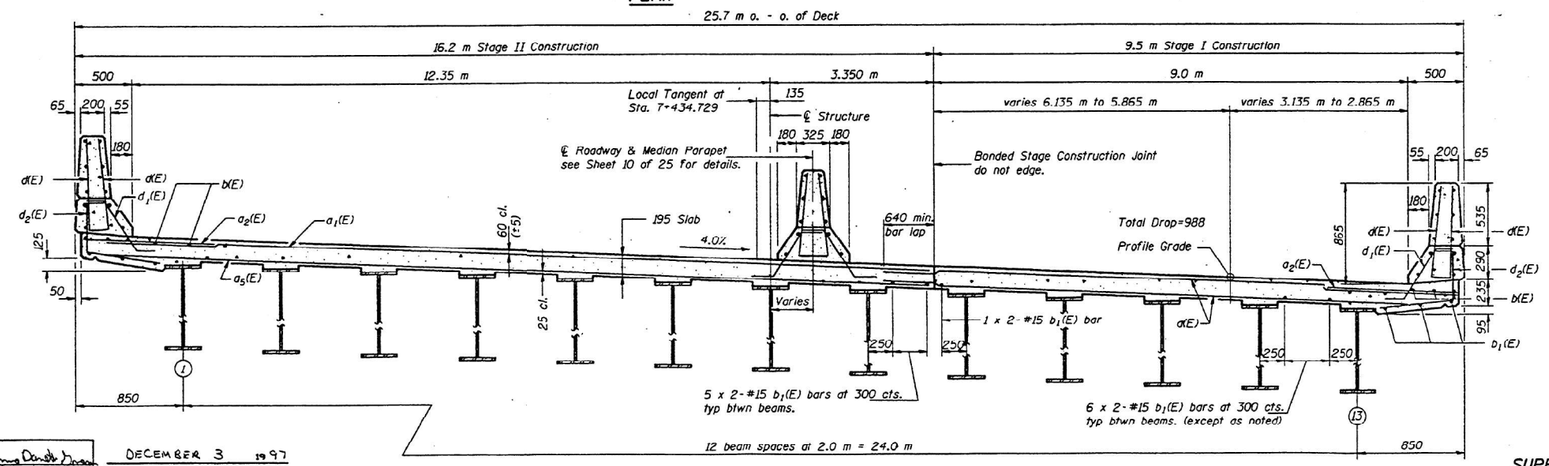
PLAN

MIN. BAR LAP
#15 640
(unless otherwise noted)



SECTION A-A

Notes: See Sheet #10 of 25 for superstructure details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 x 3-#15 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet #10 of 25 for parapet and median parapet reinforcement.
All dimensions are in millimeters (mm) except as noted.



CROSS SECTION
(Looking East)

SUPERSTRUCTURE
F.A.P. ROUTE 323 - SECTION (13X-HB)BR
MACON COUNTY
STATION 7+434.729

DESIGNED	Thomas Dandridge Jr.	DECEMBER 3 1997
CHECKED	Heather Kaspersmith	EXAMINED Greg D. Kaspar ENGINEER OF BRIDGE DESIGN
DRAWN	KG	PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	SDG HJL	

⚠ Revised 12-31-97 SDG

MODEL: Page 11 [Sheet]
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USER NAME = jessica.hille	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 12/11/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

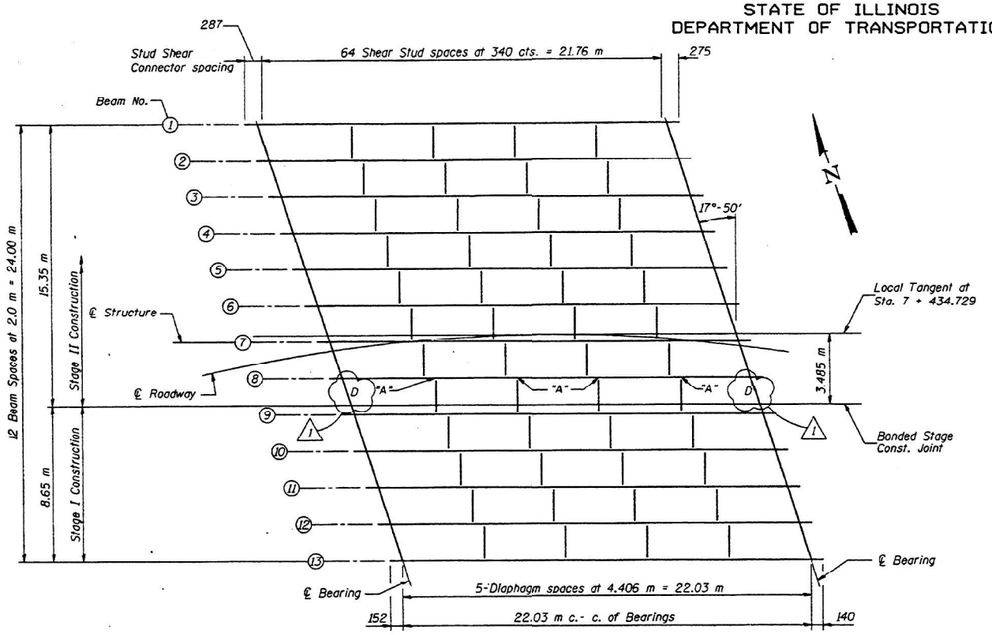
EXISTING STRUCTURE PLANS
058-0127

SCALE: | SHEET 8 OF 10 SHEETS | STA. | TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	D7 BRIDGE PAINTING 2025-3	MACON	13	11
		CONTRACT NO. 74D03		
		ILLINOIS	FED. AID PROJECT	

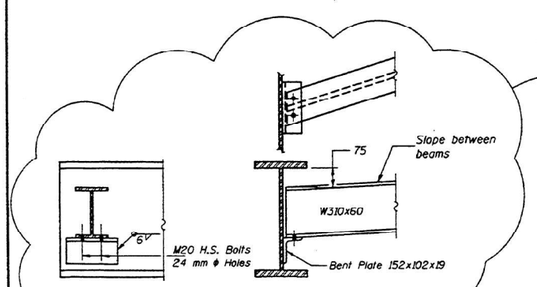
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 323	(13X-HB) BR	MACON	60	SHEET NO. 12
FED. ROAD DIST. NO. 7	STATE PROJECT	FED. AID PROJECT		25 SHEETS



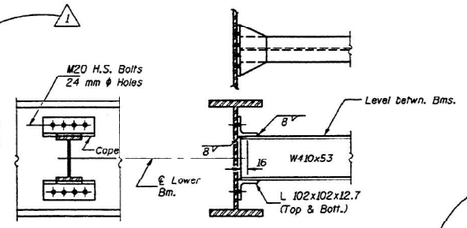
FRAMING PLAN

All beams are W840x210 AASHTO M270, Grade 345 "NTR"



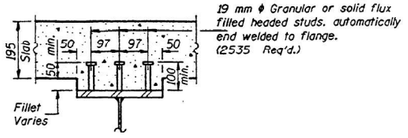
END DIAPHRAGM

24 Required



INTERIOR DIAPHRAGM

48 Required

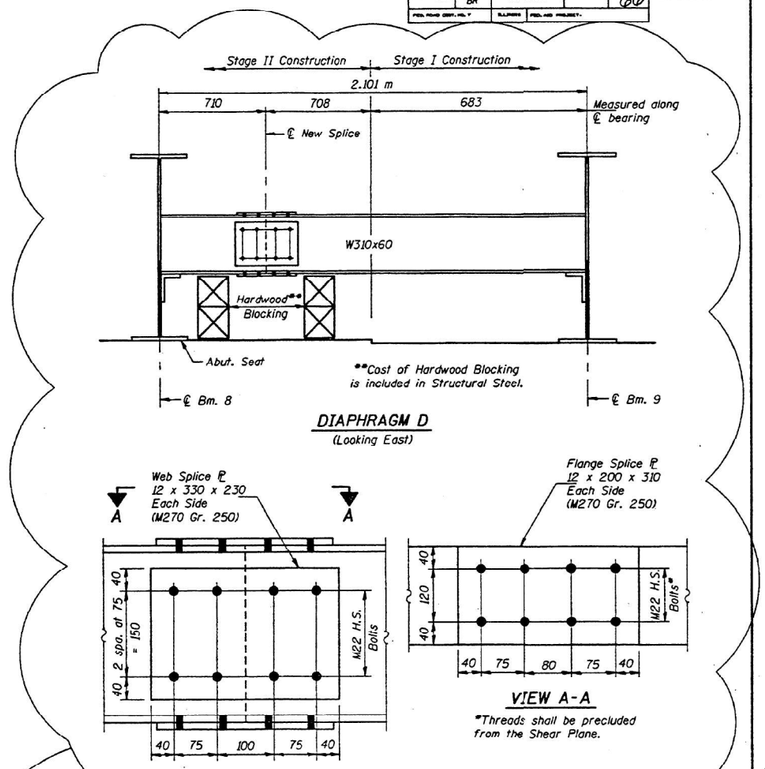


19 mm ϕ Granular or solid flux filled headed studs, automatically end welded to flange. (2535 Req'd.)

SECTION A-A

DESIGNED	SDG	
CHECKED	MJS	
DRAWN	KG	
CHECKED	SDG	HJL

EXAMINED 19
Proj. Dev. Engr. CHIEF OF BRIDGE DESIGN
PASSED
Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES



DIAPHRAGM D

(Looking East)

NEW SPLICE

(2 required)

VIEW A-A

*Threads shall be precluded from the Shear Plane.

TOP OF BEAM ELEVATIONS*

LOCATION	℄ Brg. W. Abut.	℄ Brg. E. Abut.
Beam 1	204.510	204.306
Beam 2	204.426	204.217
Beam 3	204.343	204.128
Beam 4	204.259	204.039
Beam 5	204.175	203.949
Beam 6	204.091	203.860
Beam 7	204.007	203.770
Beam 8	203.922	203.679
Beam 9	203.838	203.589
Beam 10	203.753	203.497
Beam 11	203.668	203.406
Beam 12	203.584	203.314
Beam 13	203.498	203.222

* For Fabrication Only.

Notes:

"NTR" denotes members to which Notch Toughness Requirements are applicable.

Two hardened washers shall be required over all 24 mm ϕ holes in diaphragms.

Use 22 x 40 mm slotted holes in connection angles 102 x 102 x 12.7 at location "A" only. Provide 8 mm plate washers for slotted holes. Bolts shall be finger-tightened prior to the deck pour for Stage II Construction and then fully tightened after completion of the deck pour for Stage II Construction.

STRUCTURAL STEEL DETAILS
F.A.P. ROUTE 323 - SECTION (13X-HB)BR
MACON COUNTY
STATION 7+434.729

1 Revised 12-31-97 SDG

MODEL: Page 12 [Sheet]
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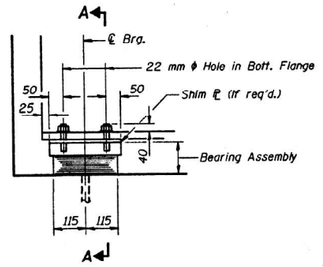
USER NAME = jessica.hille	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	EXISTING STRUCTURE PLANS 058-0127	
	DRAWN -	REVISED -			
	CHECKED -	REVISED -			
PLOT DATE = 12/11/2024	DATE -	REVISED -		SCALE:	SHEET 9 OF 10 SHEETS STA. TO STA.

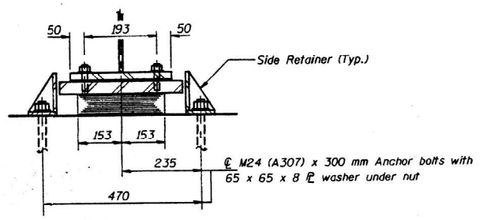
F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	D7 BRIDGE PAINTING 2025-3	MACON	13	12
		CONTRACT NO. 74D03		
		ILLINOIS	FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 323	(13X-HB)BR	MACON	67	SHEET NO. 13 25 SHEETS
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		



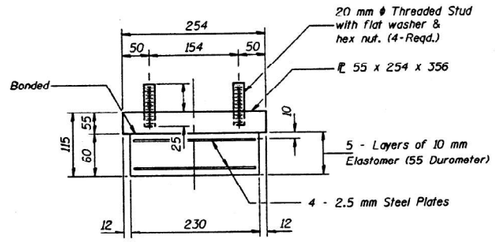
ELEVATION AT WEST ABUTMENT



SECTION A-A

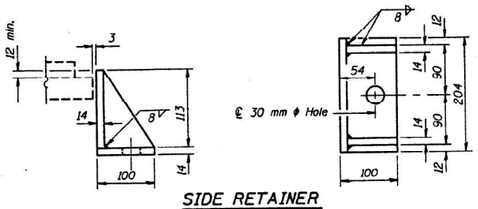
TYPE I ELASTOMERIC EXP. BRG.

Notes: Anchor bolts at fixed bearings may be built into the masonry.
See sheet #14 of 25 for Anchor Bolt installation.



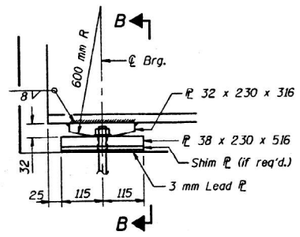
BEARING ASSEMBLY

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

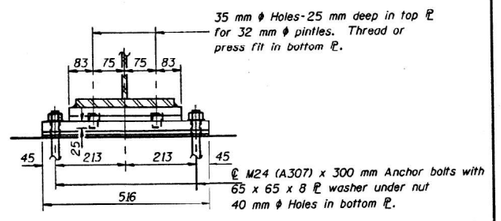


SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.

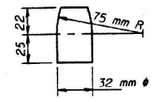


ELEVATION AT EAST ABUTMENT



SECTION B-B

FIXED BEARING



PINTLE

INTERIOR GIRDER MOMENT TABLE		0.5 Span
Is	(10^6 mm⁴)	3110
Ic (n)	(10^6 mm⁴)	8000
Ic (3n)	(10^6 mm⁴)	5860
Ss	(10^3 mm³)	7350
Sc (n)	(10^3 mm³)	10600
Sc (3n)	(10^3 mm³)	9580
wℓ	(kN/m)	11.8
Mℓ	(kN·m)	715
sℓ	(kN/m)	4.90
Msℓ	(kN·m)	297
Mt	(kN·m)	829
M (Imp)	(kN·m)	211
5/3(Mt+M(Imp))	(kN·m)	1732
Ma	(kN·m)	3568
Mu	(kN·m)	4372
fsℓ non-comp	(MPa)	97
fsℓ (comp)	(MPa)	31
fs5/3(lt+Imp)	(MPa)	163
fs (Overload)	(MPa)	292
VR	(kN)	209.0

INTERIOR GIRDER REACTION TABLE		Abut.
Rℓ	(kN)	184
Rt	(kN)	167
Imp.	(kN)	42
R (Total)	(kN)	393

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Overload).

Ic(n) and Sc(n) are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

Ic(3n) and Sc(3n) are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)

VR is the maximum Live Load + Impact shear range in span.

Ma (Applied Moment)=1.3(Mℓ + Msℓ + 5/3(Mt + Mimp)).

The Plastic Moment capacity (Mu) is computed according to AASHTO 10.48.1 and 10.50.1.1.

fs (Overload) is the sum of the stresses due to Mℓ + Msℓ + 5/3(Mt + Mimp).

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	13

DESIGNED	Shamma Datta	DECEMBER 3 1997
CHECKED	Martin Goldsmith	EXAMINED Raji D. Kaspar, ENGINEER OF BRIDGE DESIGN
DRAWN	KG	PASSED Ralph E. Anderson, ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	SDG HSL	

I-2-E1 (M) 4-30-97

BEARING DETAILS
F.A.P. ROUTE 323 - SECTION (13X-HB)BR
MACON COUNTY
STATION 7+434.729

USER NAME = jessica.hille	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 12/11/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXISTING STRUCTURE PLANS
058-0127
SCALE: SHEET 10 OF 10 SHEETS STA. TO STA.

F.A.P RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
323	D7 BRIDGE PAINTING 2025-3	MACON	13	13
		CONTRACT NO. 74D03		
		ILLINOIS FED. AID PROJECT		

MODEL: Page 13 [Sheet]
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