11-07-2025 LETTING ITEM 086

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	1
		ILLINOIS	CONTRACT NO. 78B82	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

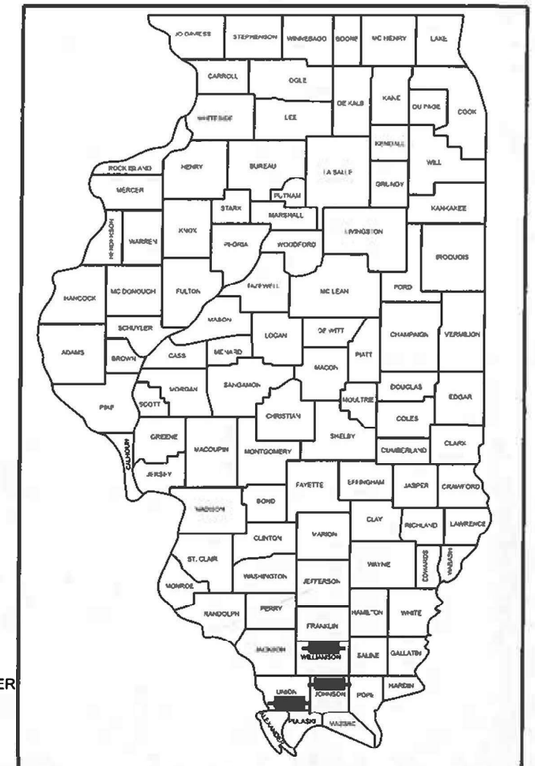
PROPOSED HIGHWAY PLANS

VARIOUS ROUTES
SECTION D9 BRIDGE PAINT 2026-1

BRIDGE PAINT
VARIOUS COUNTIES

C-99-126-25

D-99-093-25



LOCATION OF SECTION INDICATED THUS:-

FOR INDEX OF SHEETS, SEE SHEET NO. 3

FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 4-9

BRIDGE NO. 1
SN 044-0028
I-57, 2023 2-WAY
ADT=16000, 44% TRUCKS
TOWNSHIP-GOREVILLE
POSTED SPEED: 70 MPH

BRIDGE NO. 2
SN 044-0032
I-24, 2024 2-WAY
ADT=20700, 36% TRUCKS
TOWNSHIP-GOREVILLE
POSTED SPEED: 70 MPH

BRIDGE NO. 3
SN 044-0036
I-24, 2024 2-WAY
ADT=20600, 32% TRUCKS
TOWNSHIP-TUNNEL HILL
POSTED SPEED: 70 MPH

BRIDGE NO. 4
SN 091-0017
TR 276, 2020 2-WAY
ADT=150, 15% TRUCKS
TOWNSHIP-LICK CREEK
POSTED SPEED: 55 MPH

BRIDGE NO. 5
SN 091-0018
TR 276, 2020 2-WAY
ADT=150, 15% TRUCKS
TOWNSHIP-LICK CREEK
POSTED SPEED: 55 MPH

BRIDGE NO. 6
SN 091-0042
I-57, 2024 2-WAY
ADT=11500, 50% TRUCKS
TOWNSHIP-LICK CREEK
POSTED SPEED: 70 MPH

BRIDGE NO. 7
SN 091-0049
I-57, 2024 2-WAY
ADT=11500, 50% TRUCKS
TOWNSHIP-LICK CREEK
POSTED SPEED: 70 MPH

BRIDGE NO. 8
SN 091-0050
I-57, 2024 2-WAY
ADT=11900, 55% TRUCKS
TOWNSHIP-DONGOLA
POSTED SPEED: 70 MPH

BRIDGE NO. 9
SN 091-0051
I-57, 2024 2-WAY
ADT=11900, 55% TRUCKS
TOWNSHIP-DONGOLA
POSTED SPEED: 70 MPH

BRIDGE NO. 10
SN 091-0069
IL 3 & IL 146, 2023 2-WAY
ADT=4150, 14% TRUCKS
TOWNSHIP-UNION
POSTED SPEED: 55 MPH

BRIDGE NO. 11
SN 100-0032
IL 148, 2023 2-WAY
ADT=3550, 4% TRUCKS
TOWNSHIP-BLAIRSVILLE
POSTED SPEED: 55 MPH

BRIDGE NO. 12
SN 100-0033
IL 148, 2023 2-WAY
ADT=3650, 4% TRUCKS
TOWNSHIP-BLAIRSVILLE
POSTED SPEED: 55 MPH

BRIDGE NO. 1
SN 044-0028
CARRIES FAS 1931
OVER I-57

BRIDGE NO. 4
SN 091-0017
CARRIES I-57NB OVER
TR 276 LICK CREEK RD

BRIDGE NO. 5
SN 091-0018
CARRIES I-57SB OVER
TR 276 LICK CREEK RD

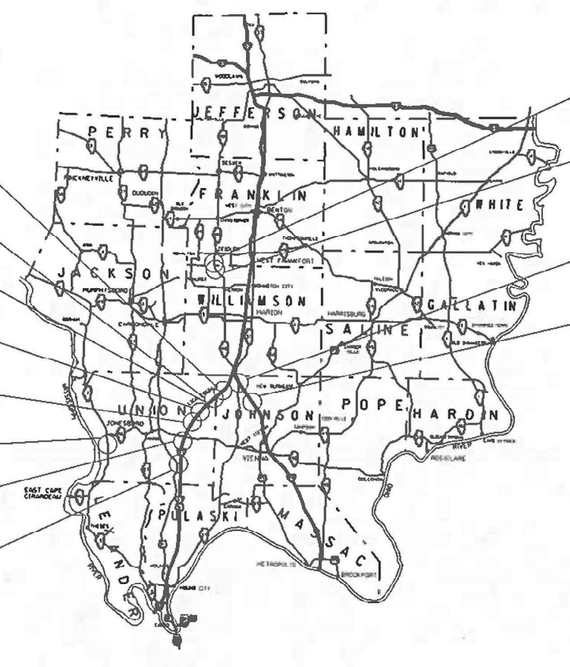
BRIDGE NO. 6
SN 091-0042
CARRIES CH 20 NEW
HOPE RD OVER I-57

BRIDGE NO. 7
SN 091-0049
CARRIES TR 141 CRAFT
LANE OVER I-57

BRIDGE NO. 10
SN 091-0069
CARRIES IL 3 & IL 146
OVER RUNNING LAKE DITCH

BRIDGE NO. 8
SN 091-0050
CARRIES TR 193
FRIENDSHIP SC OVER I-57

BRIDGE NO. 9
SN 091-0051
CARRIES US51NB
OVER I-57SB

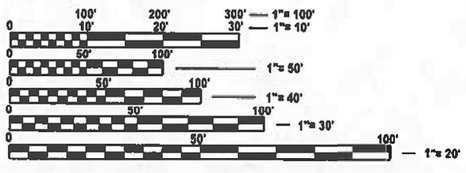


BRIDGE NO. 11
SN 100-0032
CARRIES IL 148
OVER BIG MUDDY RIVER

BRIDGE NO. 12
SN 100-0033
CARRIES IL 148
OVER POND CREEK

BRIDGE NO. 2
SN 044-0032
CARRIES UP RR
OVER I-24

BRIDGE NO. 3
SN 044-0036
CARRIES TR 96 DUTCHMAN
LAKE OVER I-24



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

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 1 20 25
Lora S. Romano
REGISTERED PROFESSIONAL ENGINEER

October 3 20 25
ENGINEER OF DESIGN AND ENVIRONMENT

October 3 20 25
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PROJECT ENGINEER: EHREN KIRBY
PROJECT DESIGNER: DAVID WILSON

CONTRACT NO. 78B82

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

REV - MS

Prepared By: Susan Pace
DISTRICT STUDIES & PLANS ENGINEER

Examined By: Nancy Hee
DISTRICT LAND ACQUISITION ENGINEER

Examined By:
DISTRICT PROGRAM DEVELOPMENT ENGINEER

Examined By:
DISTRICT OPERATIONS ENGINEER

Examined By:
DISTRICT PROJECT IMPLEMENTATION ENGINEER

Examined By:
DISTRICT CONSTRUCTION ENGINEER

Examined By: Aaron Wargo
DISTRICT MATERIALS ENGINEER

MODEL: SignatureSheet [Sheet]
FILE NAME: c:\pw_work\wilsondavid\d1315\D978B82-SHA-Cover_Sig.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SIGNATURE SHEET

SCALE: SHEET 2 OF 2 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	2

CONTRACT NO. 78B82

ILLINOIS FED. AID PROJECT

GENERAL NOTES

THE CONTRACTOR IS REQUIRED TO BE SSPC QP1 AND SSPC QP2 CERTIFIED.

A CONTRACTOR'S RIGHT-OF-ENTRY PERMIT IS REQUIRED BEFORE ANY WORK CAN COMMENCE ON RAILROAD PROPERTY. THE COST TO OBTAIN THIS PERMIT SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT.

PLAN DIMENSIONS AND DETAILS RELATIVE TO EXISTING PLANS ARE SUBJECT TO ROUTINE VARIATIONS. THE CONTRACTOR SHALL FIELD VERIFY EXISTING DIMENSIONS AND DETAILS AFFECTING NEW CONSTRUCTION AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIALS. SUCH VARIATIONS SHALL NOT BE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN SCOPE OF THE WORK. HOWEVER, THE CONTRACTOR WILL BE PAID FOR THE QUANTITY ACTUALLY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

FOR STRUCTURES 044-0028, 044-0032, 044-0036, 091-0042, 091-0049, 091-0050 AND 091-0051, CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES" AND "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES." ALL STRUCTURAL STEEL SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING -SSPC- SP10. ALL STEEL SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1- OZ/E/U. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR STEEL SURFACES SHALL BE GRAY, MUNSELL NO. 5B 7/1. THE COLOR OF THE FINAL FINISH COAT FOR THE EXTERIOR STEEL SURFACES AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE GREEN, MUNSELL NO. 7.5G 4/8.

FOR STRUCTURES 091-0017 AND 091-0018, CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES" AND "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES." ALL STRUCTURAL STEEL WITHIN 10 FT. (MEASURED ALONG THE BEAM) OF EITHER SIDE OF THE SPECIFIED DECK JOINTS SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING -SSPC- SP10. ALL STEEL SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1- OZ/E/U. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR STEEL SURFACES SHALL BE GRAY, MUNSELL NO. 5B 7/1. THE COLOR OF THE FINAL FINISH COAT FOR THE EXTERIOR STEEL SURFACES AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE GREEN, MUNSELL NO. 7.5G 4/8.

FOR STRUCTURES 100-0032 AND 100-0033, CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES" AND "CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES." ALL STRUCTURAL STEEL WITHIN 6 FT. (MEASURED ALONG THE BEAM) OF EITHER SIDE OF THE SPECIFIED DECK JOINTS SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING -SSPC- SP10. ALL STEEL SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1- OZ/E/U. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR STEEL SURFACES SHALL BE GRAY, MUNSELL NO. 5B 7/1. THE COLOR OF THE FINAL FINISH COAT FOR THE EXTERIOR STEEL SURFACES AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE REDDISH BROWN, MUNSELL NO. 2.5YR 3/4.

FOR STRUCTURE 091-0069, CLEANING AND PAINTING OF THE EXISTING STRUCTURAL STEEL SHALL BE AS SPECIFIED IN THE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING EXISTING STEEL STRUCTURES" AND "CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES." ALL STRUCTURAL STEEL OF THE INTERIOR STEEL SURFACES WITHIN 1 FT. (MEASURED ALONG THE BEAM) AT EACH ABUTMENT ADJACENT TO THE CONCRETE DIAPHRAM SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING -SSPC- SP10. ALL STRUCTURAL STEEL OF THE EXTERIOR STEEL SURFACES SHALL BE CLEANED PER NEAR WHITE BLAST CLEANING -SSPC- SP10. ALL STEEL SHALL BE PAINTED ACCORDING TO THE REQUIREMENTS OF PAINT SYSTEM 1- OZ/E/U. THE COLOR OF THE FINAL FINISH COAT FOR ALL INTERIOR STEEL SURFACES SHALL BE GRAY, MUNSELL NO. 5B 7/1. THE COLOR OF THE FINAL FINISH COAT FOR THE EXTERIOR STEEL SURFACES AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE GREEN, MUNSELL NO. 7.5G 4/8.

A TOTAL OF 18 AIR MONITORS ARE REQUIRED TO MONITOR ABRASIVE BLASTING OPERATIONS AT 12 LOCATIONS, 3 AT BRIDGE NO. 1 (SN 044-0028), 3 AT BRIDGE NO. 2 (SN 044-0032), 1 AT BRIDGE NO. 3 (SN 044-0036), 1 AT BRIDGE NO. 4 (SN 091-0017), 1 AT BRIDGE NO. 5 (SN 091-0018), 2 AT BRIDGE NO. 6 (SN 091-0042), 2 AT BRIDGE NO. 7 (SN 091-0049), 3 AT BRIDGE NO. 8 (SN 091-0050), 2 AT BRIDGE NO. 9 (SN 091-0051), 0 AT BRIDGE NO. 10 (SN 091-0069), 0 AT BRIDGE NO. 11 (SN 100-0032), AND 0 AT BRIDGE NO. 12 (SN100-0033).

COMMITMENTS: NONE.

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	COVERSHEET
2	SIGNATURE SHEET
3	GENERAL NOTES, INDEX OF SHEETS AND STANDARDS
4-5	SUMMARY OF QUANTITIES 1
6-7	SUMMARY OF QUANTITIES 2
8-9	SUMMARY OF QUANTITIES 3
10	SCHEDULES
11	BRIDGE PAINT LOCATIONS SN 044-0032 & SN 091-0069
12	I-57/I-24 STAGE CONSTRUCTION DETAILS
13-23	SN 044-0028 STRUCTURE INFORMATION
24-32	SN 044-0032 STRUCTURE INFORMATION
33-36	SN 044-0036 STRUCTURE INFORMATION
37-48	SN 091-0017 & SN 091-0018 STRUCTURE INFORMATION
49-52	SN 091-0042 STRUCTURE INFORMATION
53-56	SN 091-0049 STRUCTURE INFORMATION
57-60	SN 091-0050 STRUCTURE INFORMATION
61-69	SN 091-0051 STRUCTURE INFORMATION
70-74	SN 091-0069 STRUCTURE INFORMATION
75-81	SN 100-0032 STRUCTURE INFORMATION
82-87	SN 100-0033 STRUCTURE INFORMATION

STANDARDS

701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' (4.5m) AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' (4.5M) TO 24" (600 mm) FROM PAVEMENT EDGE
701101-05	OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5m) TO 24" (600mm) FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' (4.5m) AWAY
701201-05	LANE CLOSURE, 2L, 2W, DAY ONLY, FOR SPEEDS ≥ 45 MPH
701316-14	LANE CLOSURE, 2L, 2W, BRIDGE REPAIR, FOR SPEEDS ≥ 45 MPH
701400-12	APPROACH TO LANE CLOSURE, FREEWAY/ EXPRESSWAY
701402-12	LANE CLOSURE, FREEWAY/ EXPRESSWAY, WITH BARRIER
701428-01	TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/ EXPRESSWAY
701901-10	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
862001-01	UNINTERRUPTABLE POWER SUPPLY (UPS)

SUMMARY OF QUANTITIES 1
(BRIDGES 1-6)

			COUNTY:	JOHNSON			UNION		
			ROUTE:	FAS 1931/ I-57	UP RR/ I-24	TR 96 DUTCHMAN LAKE/ I-24	I-57 NB/ TR 276 N LICK CR RD	I-57 NB/ TR 276 N LICK CR RD	CH 20 NEW HOPE RD/ I-57
			FUNDING:						
			LOCATION:	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL
CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	BRIDGE NO. 1 SN 044-0028	BRIDGE NO. 2 SN 044-0032	BRIDGE NO. 3 SN 044-0036	BRIDGE NO. 4 SN 091-0017	BRIDGE NO. 5 SN 091-0018	BRIDGE NO. 6 SN 091-0042
				0047	0047	0047	0047	0047	0047
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO	18	1.5	1.5	1.5	1.5	1.5	1.5
67100100	MOBILIZATION	L SUM	1	0.08	0.08	0.08	0.08	0.08	0.08
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	3						
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	9	1	1	1	1	1	1
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1				0.2	0.2	
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	3						
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	294	28	28	28	14	14	28
70400100	TEMPORARY CONCRETE BARRIER	FOOT	4050	500	500	475	375	375	525
70400125	PINNING TEMPORARY CONCRETE BARRIER	EACH	657	78	78	72	69	69	84
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	4050	500	500	475	375	375	525
70600251	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	15	2	2	2	1	1	2
70600352	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	15	2	2	2	1	1	2
86200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	3						

REV - MS

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	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/31/2025	DATE -	REVISED -	

SUMMARY OF QUANTITIES 1
BRIDGES 1-6

SCALE: | SHEET 1 OF 6 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	4

CONTRACT NO. 78B82

ILLINOIS | FED. AID PROJECT

SUMMARY OF QUANTITIES 1
(BRIDGES 7-12)

100% STATE

			COUNTY:	UNION				WILLIAMSON	
			ROUTE:	TR 141 CRAFT LN/ I-57	TR 193 FRIENDSHIP SC/ I-57	US51 NB/ I-57 SB	IL 3 & IL 146/ RUNNING LAKE DITCH	IL 148/ BIG MUDDY RIVER	IL 148/ POND CREEK
			FUNDING:						
			LOCATION:	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL
CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	BRIDGE NO. 7 SN 091-0049	BRIDGE NO. 8 SN 091-0050	BRIDGE NO. 9 SN 091-0051	BRIDGE NO. 10 SN 091-0069	BRIDGE NO. 11 SN 100-0032	BRIDGE NO. 12 SN 100-0033
				0047	0047	0047	0047	0047	0047
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO		1.5	1.5	1.5	1.5	1.5	1.5
67100100	MOBILIZATION	L SUM		0.08	0.08	0.09	0.09	0.09	0.09
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH					1	1	1
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH		1	1	1			
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM					0.2	0.2	0.2
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH					1	1	1
70107025	CHANGEABLE MESSAGE SIGN	CAL DA		28	28	14	28	28	28
70400100	TEMPORARY CONCRETE BARRIER	FOOT		525	525	250			
70400125	PINNING TEMPORARY CONCRETE BARRIER	EACH		84	84	39			
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT		525	525	250			
70600251	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH		2	2	1			
70600352	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH		2	2	1			
86200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH					1	1	1

REV - MS

SUMMARY OF QUANTITIES 2
(BRIDGES 1-6)

100% STATE

			COUNTY:	JOHNSON			UNION		
			ROUTE:	FAS 1931/ I-57	UP RR/ I-24	TR 96 DUTCHMAN LAKE/ I-24	I-57 NB/ TR 276 N LICK CR RD	I-57 NB/ TR 276 N LICK CR RD	CH 20 NEW HOPE RD/ I-57
			FUNDING:						
			LOCATION:	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL
CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	BRIDGE NO. 1 SN 044-0028	BRIDGE NO. 2 SN 044-0032	BRIDGE NO. 3 SN 044-0036	BRIDGE NO. 4 SN 091-0017	BRIDGE NO. 5 SN 091-0018	BRIDGE NO. 6 SN 091-0042
				0047	0047	0047	0047	0047	0047
X5060611	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 10	L SUM	1						
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM	1	1					
Z0007102	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	L SUM	1		1				
Z00070103	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 3	L SUM	1			1			
Z0007104	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 4	L SUM	1				1		
Z0007105	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 5	L SUM	1					1	
Z0007106	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 6	L SUM	1						1
Z0007107	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 7	L SUM	1						
Z0007108	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 8	L SUM	1						
Z0007109	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 9	L SUM	1						
Z0007111	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 11	L SUM	1						
Z0007123	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 12	L SUM	1						
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM	1	1					

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MODEL: SoQ 2 Sheet 1 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsondad\d1315\D978882-SheC-SoQ.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
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	CHECKED -	REVISED -	
PLOT DATE = 7/30/2025	DATE -	REVISED -	

SUMMARY OF QUANTITIES 2
BRIDGES 1-6

SCALE: SHEET 3 OF 6 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	6
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES 2
(BRIDGES 7-12)

100% STATE

			COUNTY:	UNION				WILLIAMSON	
			ROUTE:	TR 141 CRAFT LN/ I-57	TR 193 FRIENDSHIP SC/ I-57	US51 NB/ I-57 SB	IL 3 & IL 146/ RUNNING LAKE DITCH	IL 148/ BIG MUDDY RIVER	IL 148/ POND CREEK
			FUNDING:						
			LOCATION:	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL
CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	BRIDGE NO. 7 SN 091-0049	BRIDGE NO. 8 SN 091-0050	BRIDGE NO. 9 SN 091-0051	BRIDGE NO. 10 SN 091-0069	BRIDGE NO. 11 SN 100-0032	BRIDGE NO. 12 SN 100-0033
				0047	0047	0047	0047	0047	0047
X5060611	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 10	L SUM					1		
Z0007101	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 1	L SUM							
Z0007102	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 2	L SUM							
Z0007103	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 3	L SUM							
Z0007104	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 4	L SUM							
Z0007105	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 5	L SUM							
Z0007106	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 6	L SUM							
Z0007107	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 7	L SUM		1					
Z0007108	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 8	L SUM			1				
Z0007109	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 9	L SUM				1			
Z0007111	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 11	L SUM						1	
Z0007123	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 12	L SUM							1
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM							

REV - MS

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	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/30/2025	DATE -	REVISED -	

SUMMARY OF QUANTITES 2
BRIDGES 7-12

SCALE: SHEET 4 OF 6 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	7
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES 3
(BRIDGES 1-6)

100% STATE

			COUNTY:	JOHNSON			UNION		
			ROUTE:	FAS 1931/ I-57	UP RR/ I-24	TR 96 DUTCHMAN LAKE/ I-24	I-57 NB/ TR 276 N LICK CR RD	I-57 NB/ TR 276 N LICK CR RD	CH 20 NEW HOPE RD/ I-57
			FUNDING:						
			LOCATION:	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL
CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	BRIDGE NO. 1 SN 044-0028	BRIDGE NO. 2 SN 044-0032	BRIDGE NO. 3 SN 044-0036	BRIDGE NO. 4 SN 091-0017	BRIDGE NO. 5 SN 091-0018	BRIDGE NO. 6 SN 091-0042
				0047	0047	0047	0047	0047	0047
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1		1				
Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO. 3	L SUM	1			1			
Z0010504	CLEANING AND PAINTING STEEL BRIDGE NO. 4	L SUM	1				1		
Z0010505	CLEANING AND PAINTING STEEL BRIDGE NO. 5	L SUM	1					1	
Z0010506	CLEANING AND PAINTING STEEL BRIDGE NO. 6	L SUM	1						1
Z0010507	CLEANING AND PAINTING STEEL BRIDGE NO. 7	L SUM	1						
Z0010508	CLEANING AND PAINTING STEEL BRIDGE NO. 8	L SUM	1						
Z0010509	CLEANING AND PAINTING STEEL BRIDGE NO. 9	L SUM	1						
Z0010510	CLEANING AND PAINTING STEEL BRIDGE NO. 10	L SUM	1						
Z0010511	CLEANING AND PAINTING STEEL BRIDGE NO. 11	L SUM	1						
Z0010512	CLEANING AND PAINTING STEEL BRIDGE NO. 12	L SUM	1						
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1		1				

REV - MS

SUMMARY OF QUANTITIES 3
(BRIDGES 7-12)

100% STATE

			COUNTY:	UNION				WILLIAMSON	
			ROUTE:	TR 141 CRAFT LN/ I-57	TR 193 FRIENDSHIP SC/ I-57	US51 NB/ I-57 SB	IL 3 & IL 146/ RUNNING LAKE DITCH	IL 148/ BIG MUDDY RIVER	IL 148/ POND CREEK
			FUNDING:						
			LOCATION:	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL
CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	BRIDGE NO. 7 SN 091-0049	BRIDGE NO. 8 SN 091-0050	BRIDGE NO. 9 SN 091-0051	BRIDGE NO. 10 SN 091-0069	BRIDGE NO. 11 SN 100-0032	BRIDGE NO. 12 SN 100-0033
				0047	0047	0047	0047	0047	0047
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM							
Z0010503	CLEANING AND PAINTING STEEL BRIDGE NO. 3	L SUM							
Z0010504	CLEANING AND PAINTING STEEL BRIDGE NO. 4	L SUM							
Z0010505	CLEANING AND PAINTING STEEL BRIDGE NO. 5	L SUM							
Z0010506	CLEANING AND PAINTING STEEL BRIDGE NO. 6	L SUM							
Z0010507	CLEANING AND PAINTING STEEL BRIDGE NO. 7	L SUM		1					
Z0010508	CLEANING AND PAINTING STEEL BRIDGE NO. 8	L SUM			1				
Z0010509	CLEANING AND PAINTING STEEL BRIDGE NO. 9	L SUM				1			
Z0010510	CLEANING AND PAINTING STEEL BRIDGE NO. 10	L SUM					1		
Z0010511	CLEANING AND PAINTING STEEL BRIDGE NO. 11	L SUM						1	
Z0010512	CLEANING AND PAINTING STEEL BRIDGE NO. 12	L SUM							1
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM							

REV - MS

MODEL: SoQ 3 Sheet 2 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
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	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SUMMARY OF QUANTITIES 3
BRIDGES 7-12

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	9

CONTRACT NO. 78B82

ILLINOIS FED. AID PROJECT

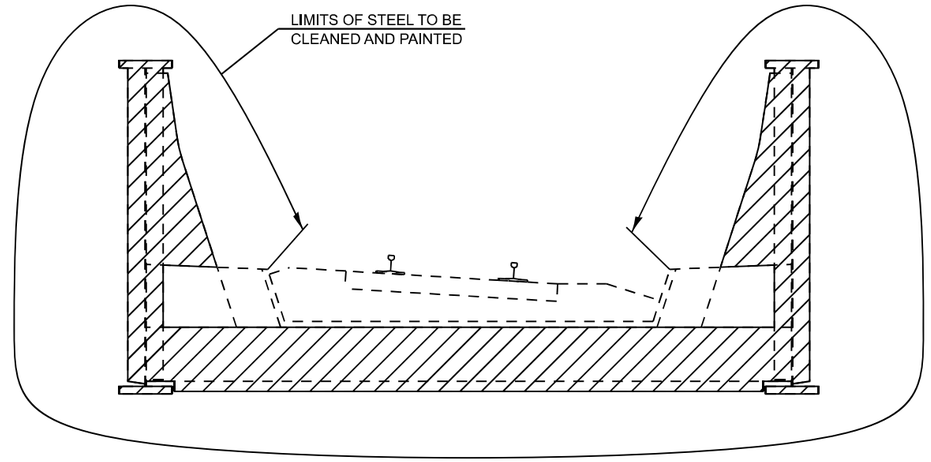
AREAS OF CLEANING AND PAINTING

BRIDGE NUMBER	STRUCTURE NUMBER	LEAD PRESENT	ALL STRUCTURAL STEEL	10 FT. AT BEAM ENDS	6FT. AT BEAM ENDS	1FT. AT END/ FASCIA
1	044-0028	YES	X			
2	044-0032	YES	X			
3	044-0036	YES	X			
4	091-0017	YES		X		
5	091-0018	YES		X		
6	091-0042	YES	X			
7	091-0049	YES	X			
8	091-0050	YES	X			
9	091-0051	YES	X			
10	091-0069	NO				X
11	100-0032	YES			*X	
12	100-0033	YES			X	

* 6ft at beam ends at each abutment and in both directions of the expansion joints for Piers 1 and 3

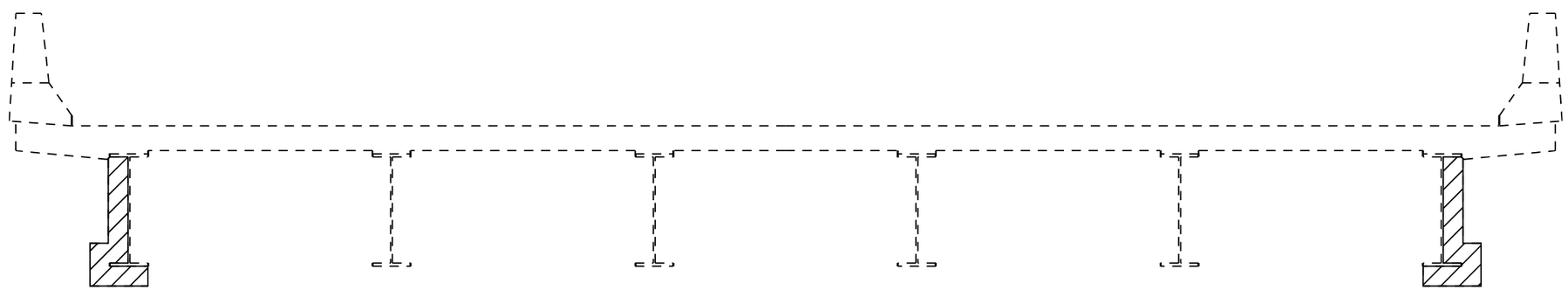
TEMPORARY CONCRETE BARRIER/ RELOCATE TEMPORARY CONCRETE BARRIER

BRIDGE NUMBER	STRUCTURE NUMBER	TEMPORARY CONCRETE BARRIER (FT)	RELOCATE TEMPORARY CONCRETE BARRIER (FT)
1	044-0028	500	500
2	044-0032	500	500
3	044-0036	475	475
4	091-0017	375	375
5	091-0018	375	375
6	091-0042	525	525
7	091-0049	525	525
8	091-0050	525	525
9	091-0051	250	250
TOTAL		4050	4050



SN 044-0032

CLEAN AND PAINT ALL VISABLE STEEL
(INCLUDING ALL STEEL IN-BETWEEN THE FLOOR
BEAMS AND GIRDERS UNDERNEATH SN 044-0032)



SN 091-0069

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PLOT DATE = 8/6/2025	DATE -	REVISED -	

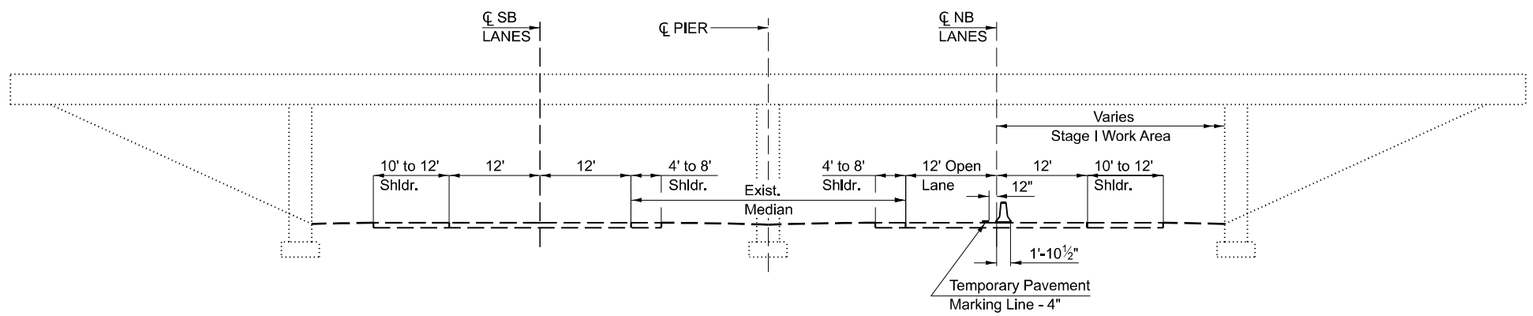
BRIDGE PAINT LOCATIONS
SN 044-0032 & SN 091-0069

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

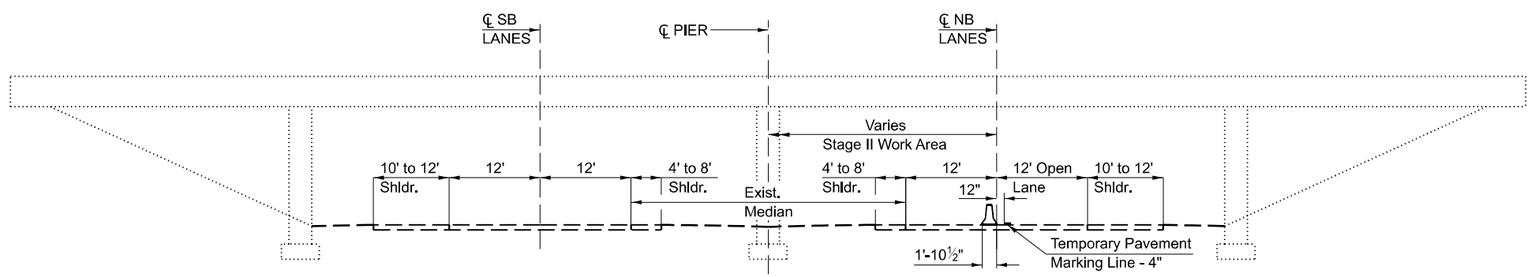
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	11

CONTRACT NO. 78B82

ILLINOIS FED. AID PROJECT



TYPICAL BRIDGE
STAGE I CONSTRUCTION
SHOWING NB LANES
SB LANES SIMILAR BY 180° ROTATION
(I-57/I-24 OVERHEAD STRUCTURES (TYP.))
(LOOKING NORTH)



TYPICAL BRIDGE
STAGE II CONSTRUCTION
SHOWING NB LANES
SB LANES SIMILAR BY 180° ROTATION
(I-57/I-24 OVERHEAD STRUCTURES (TYP.))
(LOOKING NORTH)

MODEL: SN 044-0032 STAGE CONSTRUCTION DETAILS [Sheet]
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PLOT DATE = 7/29/2025	DATE -	REVISED -	

I-57/I-24
STAGE CONSTRUCTION DETAILS

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	12

CONTRACT NO. 78B82

ILLINOIS | FED. AID PROJECT

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI. 57	44-1HB 3D	JOHNSON	42	21
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

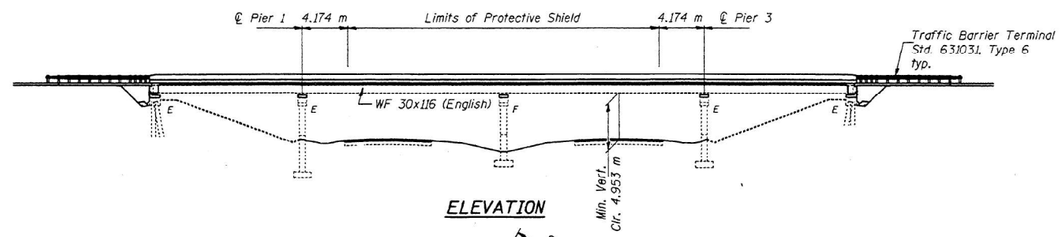
SHEET NO. 1
22 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

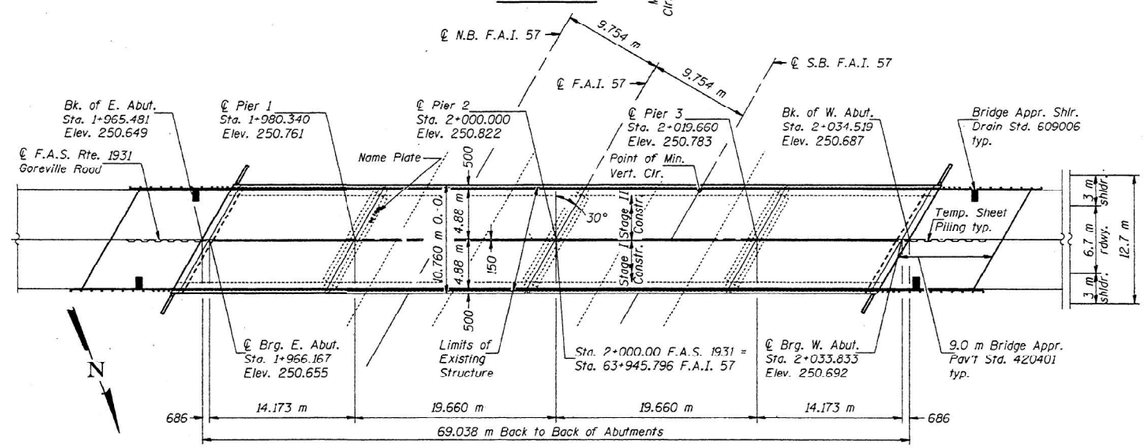
Bench Mark: "□" cut in middle of base of median pier. Elev. 245.032

Existing Structure: The existing 4 span, non-composite steel wide flange bridge was built in 1960 under Section 44-1HB-3. The back-to-back length of the bridge is 69.0 m and the clear width is 8.53 m. The abutments are open pile bents supported on steel piles and the piers are multiple column supported by spread footings. The existing concrete deck shall be removed and replaced with a new composite concrete deck utilizing stage construction.

No salvage



ELEVATION



PLAN

STATION 2+000.00
REBUILT 200 BY
STATE OF ILLINOIS
F.A.S. RT. 1931 SEC. 44-1HB-3D
PROJECT NO. NHI-57-1(185)39
LOADING MS18
STRUCTURE NO. 044-0028

NAME PLATE

See Std. 515001
New name plate shall be located next to the existing Name Plate on pier 1. Cost included with Name Plates.

SN 044-0028
FOR INFORMATION ONLY

LOADING MS18

Allow 1.2 kN/m² for future wearing surface.

DESIGN SPECIFICATIONS

1996 AASHTO with 1997 Thru 1999 Interims
1995 Seismic Retrofitting Manual for Highway Bridges
FHWA-RD-94-052

DESIGN STRESSES

NEW CONSTRUCTION
Field Units

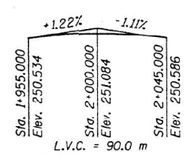
f'_c = 24 MPa
f_y = 400 MPa (reinforcement)
f_y = 345 MPa (M 270M Grade 345) (Structural Steel)
f_y = 250 MPa (M 270M Grade 250) (Structural Steel)

EXISTING CONSTRUCTION
Field Units

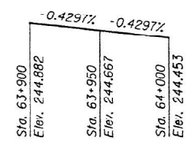
f'_c = 9.6 MPa
f_s = 137 MPa (reinforcement)
f_s = 124 MPa (structural steel)

SEISMIC DATA

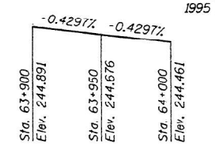
Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 13.5%g
Site Coefficient (S) = 1.0



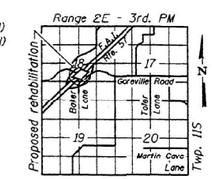
PROFILE GRADE
along ℄ F.A.S. 1931



PROFILE GRADE
N.B. F.A.I. 57
along ℄ F.A.I. 57



PROFILE GRADE
S.B. F.A.I. 57
along ℄ F.A.I. 57



LOCATION SKETCH

GENERAL PLAN
GOREVILLE ROAD OVER
F.A.I. RT. 57
F.A.S. RT. 1931 - SEC. 44-1HB-3D
JOHNSON COUNTY
STATION 2+000.00
STRUCTURE NO. 044-0028

DESIGNED	Fessler Jenkins Inc
CHECKED	
P.W. Sweet DRAWN	Alice M. Coulter
CHECKED	FT/ MT

March 21, 2001
EXAMINED — ENGINEER OF BRIDGE DESIGN
PASSED — ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS — DUANE E. ANDERSON — 081-004625 — SPRINGFIELD — LICENSED STRUCTURAL ENGINEER

EXPIRES 11-30-2002

D-99-004-99

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	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 044-0028
STRUCTURE INFORMATION

SCALE: | SHEET 1 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	13
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.57	44-1HB 3D	JOHNSON	42	22
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 2
22 SHEETS

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts M22, open holes 24 mm ϕ, unless otherwise noted.

Calculated mass of structural steel (AASHTO M 270M, Grade 250) = 1290 kg
Calculated mass of structural steel (AASHTO M 270M, Grade 345) = 360 kg

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.

Field welding of construction accessories will not be permitted to the bottom flange of beams nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

The structural steel bearing plates of the Elastomeric Bearing Assembly shall conform to the requirements of AASHTO M 270M Grade 345.

Reinforcement bars shall conform to the requirements of AASHTO M 31M, M 42M or M 53M Grade 400.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 3 mm. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 3 mm adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, two 3 mm adjusting shims shall be provided for each bearing and placed as detailed.

Field painting of structural steel shall be done under a separate painting contract.

Existing structural steel shall only be cleaned and painted as required by the Special Provision Cleaning and Painting Adjacent Areas of Existing Steel Structures.

All new structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M 300, Type I.

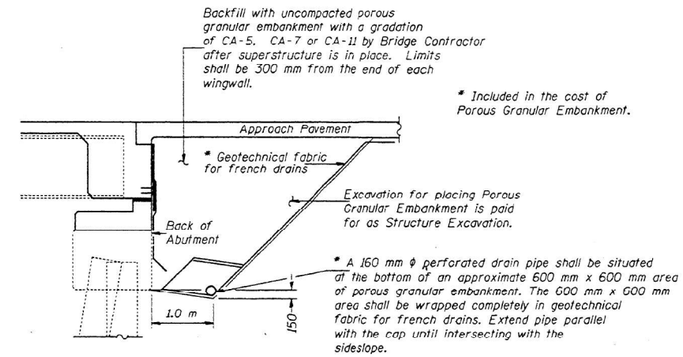
The Contractor shall test the welds at the ends of the existing welded top cover plates for cracks after removal of the existing concrete deck. Dye penetrant, magnetic particle, or other approved testing methods shall be performed by personnel approved by the Engineer. If cracks are found, report them to the Bureau of Bridges and Structures for further processing. The cost of testing is included in Removal of Existing Concrete Deck. The cost of crack repair, if necessary, will be paid according to Article 109.04 of the Standard Specifications.

Anchor bolts shall be set before bolting diaphragms over supports.

All dimensions are in millimeters (mm) except as noted.

Prior to pouring the new concrete deck, all loose rust, loose mill scale, and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04.

All existing construction accessories welded to the top flange over the piers between the quarter points of the beams shall be removed. The remaining weld shall be ground smooth and inspected for cracks using magnetic particle testing. Any cracks that can not be removed by grinding approximately 6 mm deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of this work will be paid for according to Article 109.04.



SECTION THRU SEMI-INTEGRAL ABUTMENT

Dimensions at right angles

SN 044-0028
FOR INFORMATION ONLY

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Concrete Deck	Each	1		1
Porous Granular Embankment	m^3		125	125
Concrete Removal	m^3		17	17
Protective Coat	m^2		822.3	822.3
Concrete Structures	m^3		18.9	18.9
Concrete Superstructure	m^3	189.5		189.5
Bridge Deck Grooving	m^2	627		627
Elastomeric Bearing Assembly, Type 1	Each	24		24
Reinforcement Bars, Epoxy Coated	kg	30430	1970	32400
Furnishing and Erecting Structural Steel	kg	1650	-	1650
Stud Shear Connectors	Each	3324	-	3324
Temporary Sheet Piling	m^2	-	46	46
Name Plates	Each	1	-	1
Bar Splicers	Each	733	37	770
Jacking Existing Superstructure	L Sum	1		1
Protective Shield	m^2	333.0	-	333.0
Structure Excavation	m^3	-	164	164
Controlled Low-Strength Material	m^3	-	2	2

DESIGNED	Fess Teklehaimanot
CHECKED	Mike J. Trello
P.W. Sweet DRAWN	Alice M. Coulter
CHECKED	FT/MJT

March 21, 2001
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

GENERAL DATA
F.A.S. RT. 1931 - SEC. 44-1HB-3D
JOHNSON COUNTY
STATION 2+000.00
STRUCTURE NO. 044-0028

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	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 044-0028
STRUCTURE INFORMATION

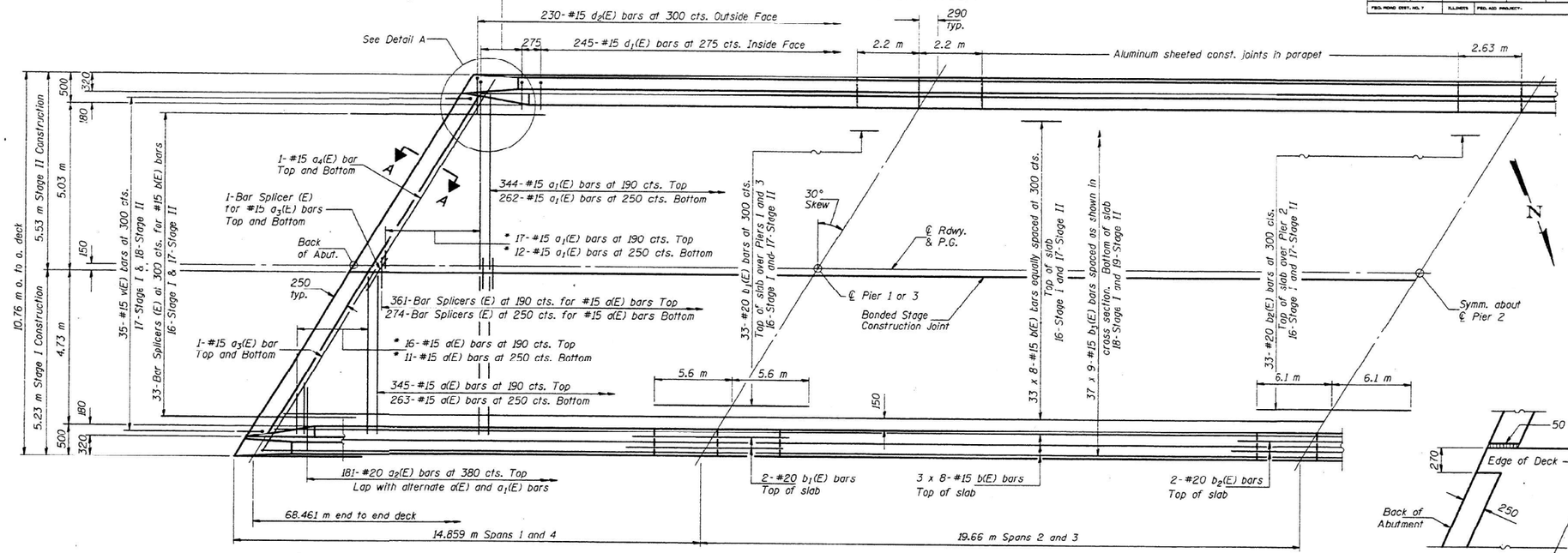
SCALE: | SHEET 2 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	14
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

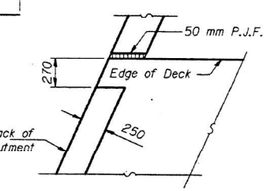
ROUTE NO.	SECTION	COUNTY	SHEETS	TOTAL SHEETS
FAI 57	44-1HB 30	JOHNSON	42	27
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7
22 SHEETS



HALF PLAN

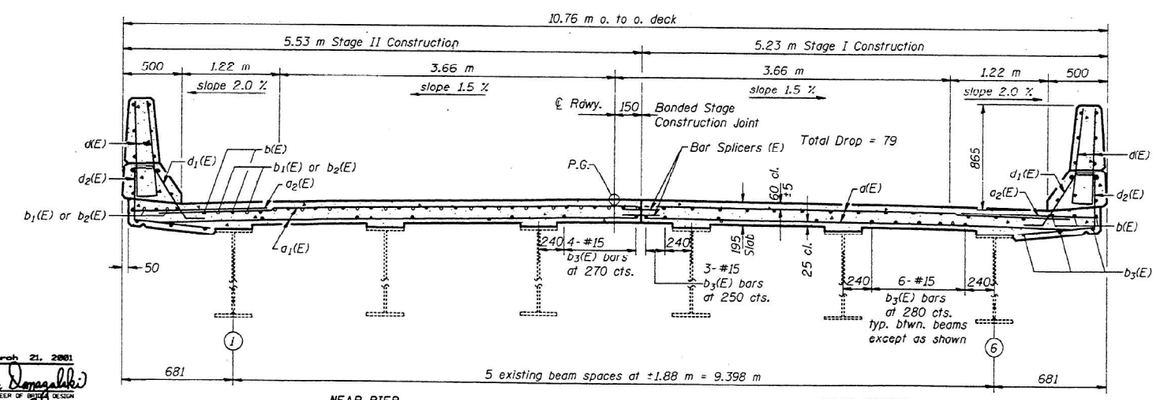
* Order d(E) and a_1(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.



DETAIL A
(Parapet and approach not shown)
(Similar at all four corners)

MIN. BAR LAPS
#15 bars = 510

SN 044-0028
FOR INFORMATION ONLY



NEAR PIER

NEAR MIDSPAN

CROSS SECTION

Notes: See sheet 9 of 22 for diaphragm details and Section A-A.
See sheet 8 of 22 for superstructure details, parapet reinforcement and Bill of Material.
See sheet 22 of 22 for bar splicer details.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 33 x 8-#15 etc. indicates 33 lines of bars with 8 lengths per line.

DESIGNED	Fess Teklehaimanot
CHECKED	Mike J. Trello
P.W. Sweet DRAWN	Alice M. Coulter
CHECKED	FT/MJT

March 21, 2001
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SI-2-L (M) 4-30-99

SUPERSTRUCTURE
F.A.S. RT. 1931 - SEC. 44-1HB-3D
JOHNSON COUNTY
STATION 2+000.00
STRUCTURE NO. 044-0028

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 044-0028
STRUCTURE INFORMATION

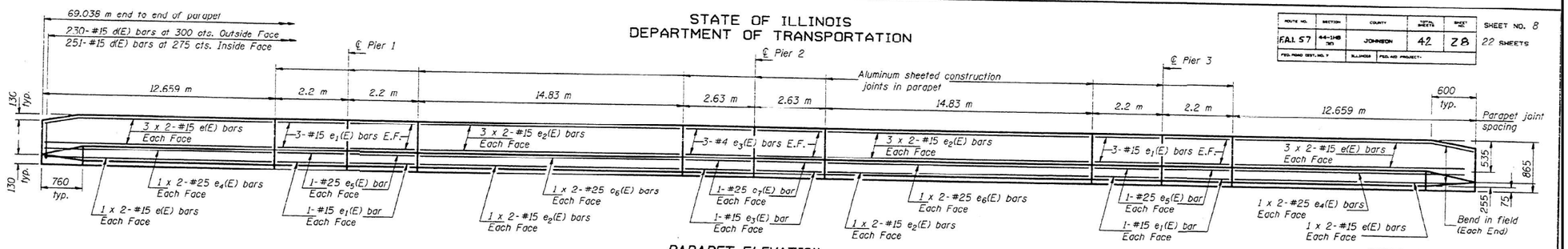
SCALE: SHEET 3 OF 11 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	15
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	44-1HB (3D)	JOHNSON	42	28
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

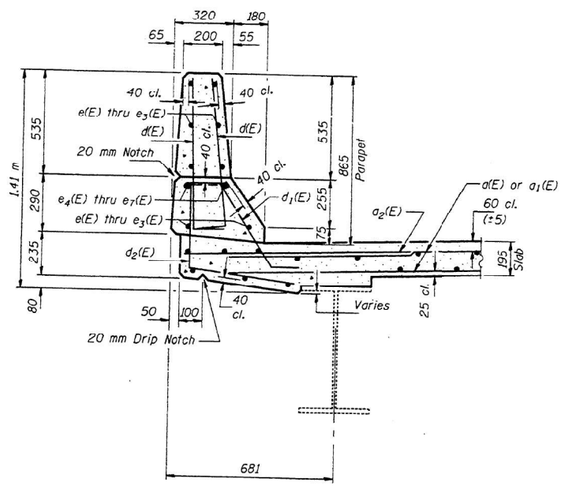
SHEET NO. 8
22 SHEETS



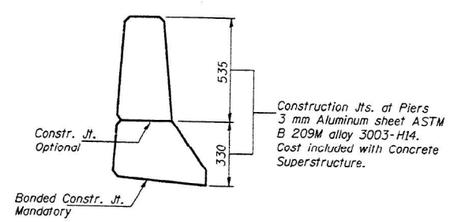
PARAPET ELEVATION
(Looking South)

PARAPET MIN. BAR LAPS
#15 bars = 490
#25 bars = 1010

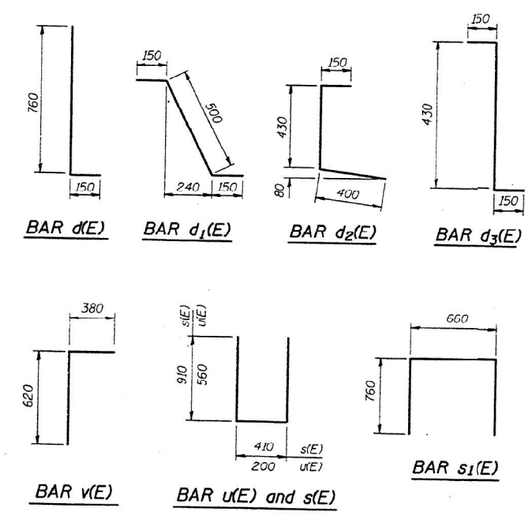
SN 044-0028
FOR INFORMATION ONLY



SECTION THRU PARAPET



PARAPET JOINT DETAILS



BAR d(E) | BAR d1(E) | BAR d2(E) | BAR d3(E)

BAR v(E) | BAR u(E) and s(E) | BAR s1(E)

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
d(E)	635	#15	4.91	
d1(E)	635	#15	5.13	
d2(E)	362	#20	1.20	
d3(E)	4	#15	5.88	
d4(E)	4	#15	6.22	
b(E)	312	#15	9.00	
b1(E)	74	#20	11.20	
b2(E)	37	#20	12.20	
b3(E)	333	#15	8.06	
d(E)	962	#15	0.91	
d1(E)	490	#15	0.80	
d2(E)	460	#15	0.98	
d3(E)	12	#15	0.73	
e(E)	64	#15	6.52	
e1(E)	64	#15	2.12	
e2(E)	64	#15	7.61	
e3(E)	32	#15	2.55	
e4(E)	16	#25	6.79	
e5(E)	16	#25	2.12	
e6(E)	16	#25	7.92	
e7(E)	8	#25	2.55	
m(E)	20	#20	5.88	
m1(E)	20	#20	6.22	
m2(E)	16	#20	2.09	
m3(E)	4	#20	0.03	
m4(E)	4	#20	1.18	
m5(E)	8	#20	0.65	
m6(E)	4	#15	5.88	
m7(E)	4	#15	6.22	
s(E)	86	#15	2.23	
s1(E)	148	#15	2.18	
u(E)	82	#15	1.32	
v(E)	70	#15	1.00	
Reinforcement Bars, Epoxy Coated			kg	30430
Concrete Superstructure			m³	189.5

Notes: Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 1 x 2-#15 etc. indicates 1 line of bars with 2 lengths per line.

DESIGNED	Fess Teklehaimanot
CHECKED	Mike J. Trello
DRAWN	P.W. Sweet / Alice M. Coulter
CHECKED	FT/MJT

March 21, 2001
EXAMINED Thomas J. Domagalski — ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson — ENGINEER OF BRIDGES AND STRUCTURES

SUPERSTRUCTURE DETAILS
F.A.S. RT. 1931 - SEC. 44-1HB-3D
JOHNSON COUNTY
STATION 2+000.00
STRUCTURE NO. 044-0028

MODEL: SN 044-0028 For Information Only 4 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 044-0028
STRUCTURE INFORMATION

SCALE: | SHEET 4 OF 11 SHEETS | STA. | TO STA.

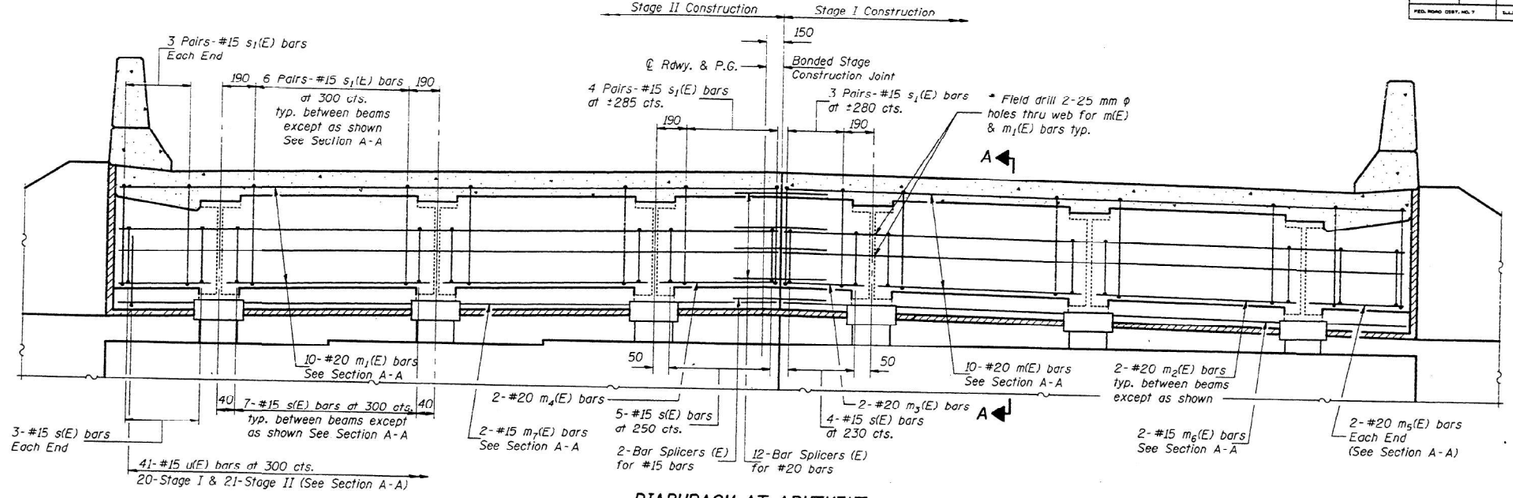
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	16

CONTRACT NO. 78B82
ILLINOIS | FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	44-1HB 3D	JOHNSON	42	79
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

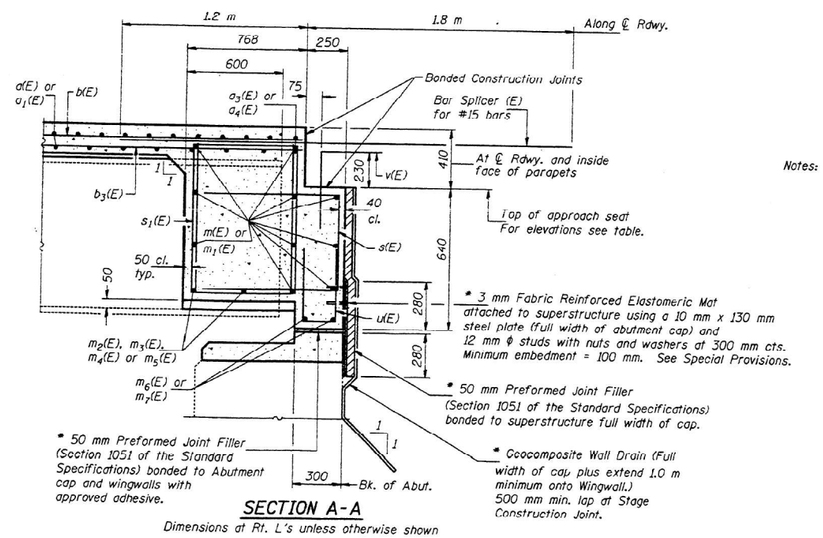
SHEET NO. 9
22 SHEETS



DIAPHRAGM AT ABUTMENT

West Abutment - looking West - East Abutment Similar
Dimensions are perpendicular to ℄ Roadway.

SN 044-0028
FOR INFORMATION ONLY



SECTION A-A

Dimensions at Rt. L's unless otherwise shown

TOP OF APPROACH SEAT ELEVATION TABLE

Location	E. Abut.	W. Abut.
Inside face of S. Parapet	250.184	250.172
℄ Roadway	250.239	250.277
Inside face of N. Parapet	250.131	250.219

Notes: Reinforcement bars in diaphragm are billed with superstructure on sheet 8 of 22.
Concrete in diaphragm is included with Concrete Superstructure on sheet 8 of 22.
For details of bars s(E), s_1(E) and u(E) see sheet 8 of 22.
For bar splicer details see sheet 22 of 22.

* Included in the cost of Concrete Superstructure.
See sheet 8 of 22.

DESIGNED	Fess Teklehaimanot
CHECKED	Mike J. Trello
P.W. Sweet DRAWN	Alice M. Coulter
CHECKED	FT/MJT

March 21, 2001
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SUPERSTRUCTURE DETAILS
F.A.S. RT. 1931 - SEC. 44-1HB-3D
JOHNSON COUNTY
STATION 2+000.00
STRUCTURE NO. 044-0028

MODEL: SN 044-0028 For Information Only 5 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 044-0028
STRUCTURE INFORMATION

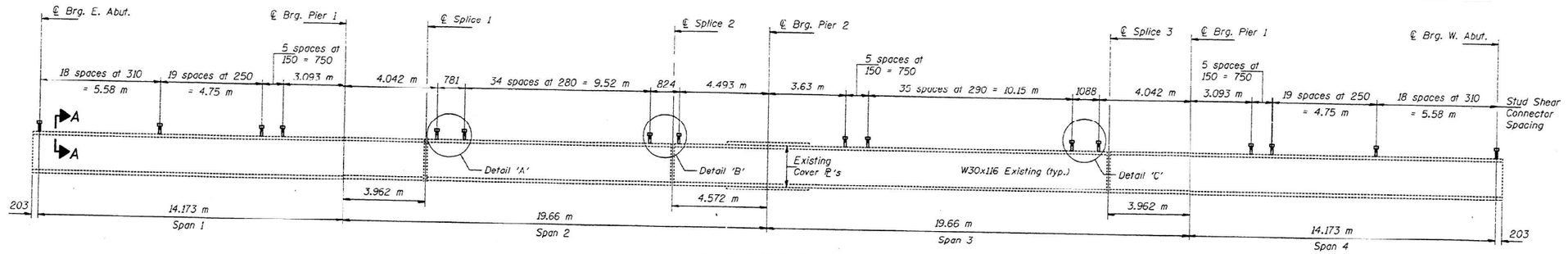
SCALE: | SHEET 5 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	17
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI. 57	44-1HB 3D	JOHNSON	42	30
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 10
22 SHEETS



BEAM ELEVATION

INTERIOR BEAM MOMENT TABLE					
		0.4 Sp. 1 & 0.6 Sp. 4	Piers 1 & 3	0.5 Sp. 2 & Sp. 3	Pier 2
Is	(10^6 mm^4)	2060	2060	2060	2852
Ic (n)	(10^6 mm^4)	5469		5469	
Ic (3n)	(10^6 mm^4)	4029		4029	
Ss	(10^3 mm^3)	5410	5410	5410	7226
Sc (n)	(10^3 mm^3)	7913		7913	
Sc (3n)	(10^3 mm^3)	7155		7155	
Z	(10^3 mm^3)				
wℓ	(kN/m)	10.93	15.48	10.93	15.48
Mℓ	(kN·m)	141	407	176	534
sℓ	(kN/m)	4.55		4.55	
Msℓ	(kN·m)	70		102	
Mt	(kN·m)	371	234	477	296
M (Imp)	(kN·m)	107	64	124	77
s_3[Mt+M(Imp)]	(kN·m)	797	496	1002	622
Ma	(kN·m)	1310	1174	1664	1502
* Mu	(kN·m)	2574	1397	2574	1855
fsℓ non-comp	(MPa)	26	75	33	74
fsℓ (comp)	(MPa)	10		14	
fs_{3} (t+Imp)	(MPa)	101	92	127	86
fs (Overload)	(MPa)	136	167	173	160
fs (Total)	(MPa)				
VR	(kN)	199		215	

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

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

Z is the plastic section modulus used to determine the fully plastic moments in the non-composite areas.

Ma (Applied Moment)=$1.3[M\ell + Ms\ell + s_3(Mt + M_{Imp})]$.

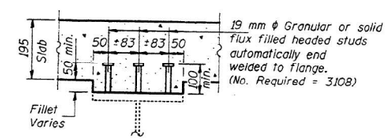
The Plastic Moment capacity (Mu) is computed according AASHTO 10.48.1 and 10.50.1.1.

fs (Overload) is the sum of the stresses due to $M\ell + Ms\ell + s_3(Mt + M_{Imp})$.

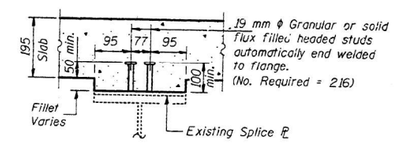
fs (Total) is the sum of the stresses due to $1.3[M\ell + Ms\ell + s_3(Mt + M_{Imp})]$.

INTERIOR BEAM REACTION TABLE				
		Abuts.	Piers 1 & 3	Pier 2
Rℓ	(kN)	206	284	317
Rt	(kN)	139	169	178
Imp.	(kN)	40	46	46
R (Total)	(kN)	385	500	542

* Compact, braced section.



SECTION A-A



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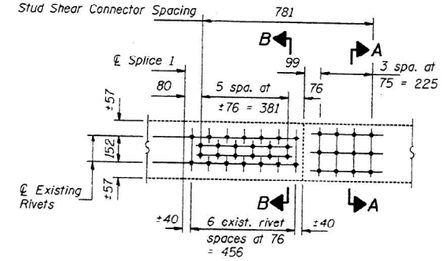
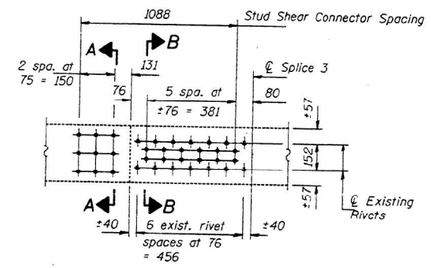


DETAIL A



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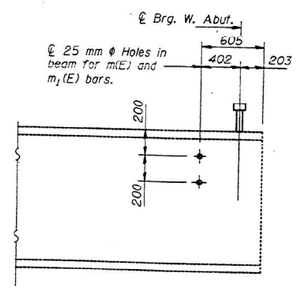
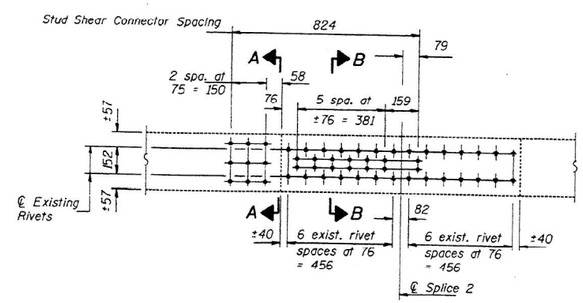


TYP. END OF BEAM ELEVATION

(Measured along ℄ Beam)



DETAIL B

SN 044-0028
FOR INFORMATION ONLY

STRUCTURAL STEEL
F.A.S. RT. 1931 - SEC. 44-1HB-3D
JOHNSON COUNTY
STATION 2+000.00
STRUCTURE NO. 044-0028

DESIGNED	Fess Teklehaimanot
CHECKED	Mike J. Trello
	P.W. Sweet R. Doty
DRAWN	Alice M. Cooler
CHECKED	FT/MJT

March 21, 2001
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

MODEL: SN 044-0028 For Information Only 6 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d1315\D978B82-InfoSheets.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 044-0028
STRUCTURE INFORMATION

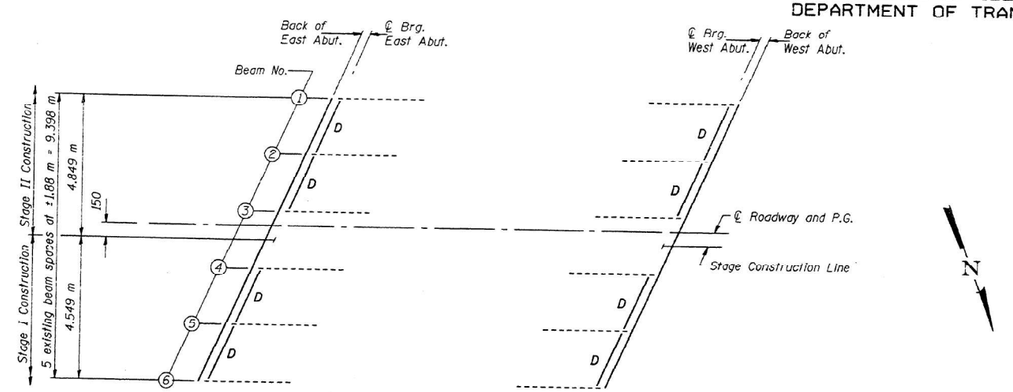
SCALE: | SHEET 6 OF 11 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	18
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

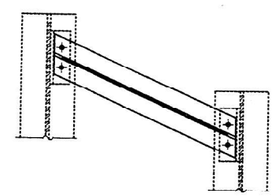
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

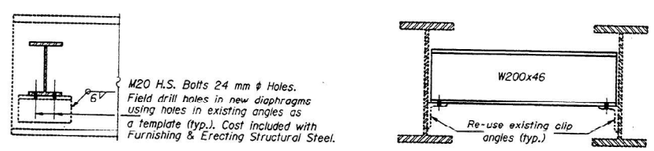
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	44-1HB 3D	JOHNSON	42	31
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 11
22 SHEETS



BEAM END PLAN





DIAPHRAGM D
(Total No. of new diaphragms Required = 8)

Note: All diaphragms at abutments shall be removed.
The existing clip angles shall remain and be reused.
Cost of removal included with Furnishing and Erecting Structural Steel.
All dimensions are in millimeters (mm) except as noted

END DIAPHRAGM REPLACEMENT DETAIL

SN 044-0028
FOR INFORMATION ONLY

DESIGNED	Fess Teklehaimanot
CHECKED	Mike J. Trello
DRAWN	R. Doty
CHECKED	FT/MJT

March 21, 2001
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

STRUCTURAL STEEL
F.A.S. RT. 1931 - SEC. 44-1HB-3D
JOHNSON COUNTY
STATION 2+000.00
STRUCTURE NO. 044-0028

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USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 044-0028
STRUCTURE INFORMATION

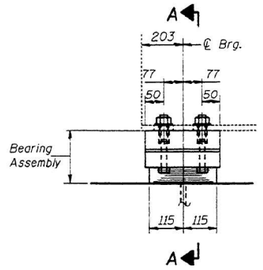
SCALE: SHEET 7 OF 11 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	19
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

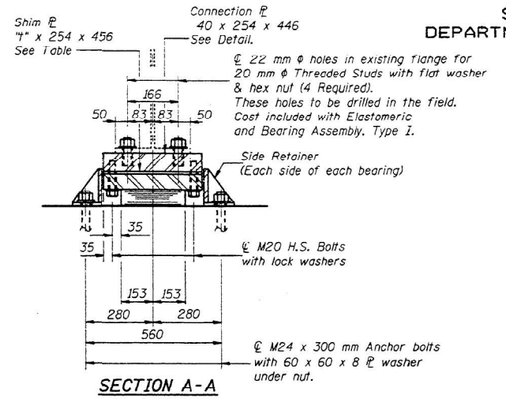
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI.57	44-1HB 3D	JOHNSON	42	32
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
22 SHEETS

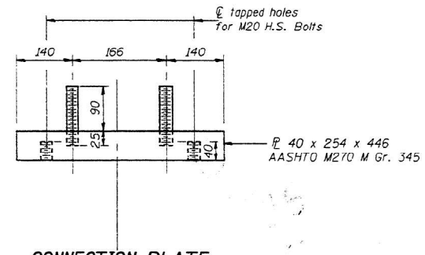


ELEVATION AT ABUTS.

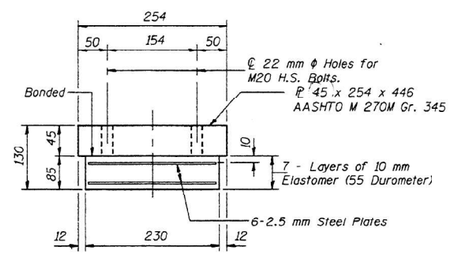


SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



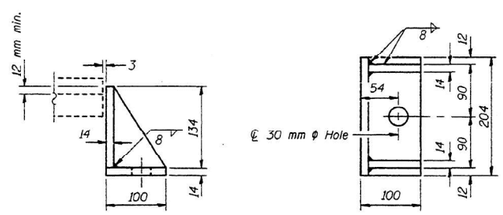
CONNECTION PLATE



BEARING ASSEMBLY

SN 044-0028
FOR INFORMATION ONLY

Notes: See sheet 15 of 22 for anchor bolt installation details.
For Jacking Existing Superstructure Procedure see sheet 13 of 22.
Shim plates shall not be placed under bearing assembly.



SIDE RETAINER AT ABUTS.

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Cost included with Furnishing and Erecting Structural Steel.

TABLE OF "t" DIMENSIONS

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
E. Abut.	*	*	10	*	*	*
W. Abut.	*	*	*	10	*	*

* Shim ℙ if required.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	12

DESIGNED	Fess Teklehaimanot
CHECKED	Mike J. Trello
DRAWN	R. Doty
CHECKED	FT/MJT

March 21, 2001
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

BEARING DETAILS
F.A.S. RT. 1931 - SEC. 44-1HB-3D
JOHNSON COUNTY
STATION 2+000.00
STRUCTURE NO. 044-0028

MODEL: SN 044-0028 For Information Only 8 [Sheet]
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	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 044-0028
STRUCTURE INFORMATION

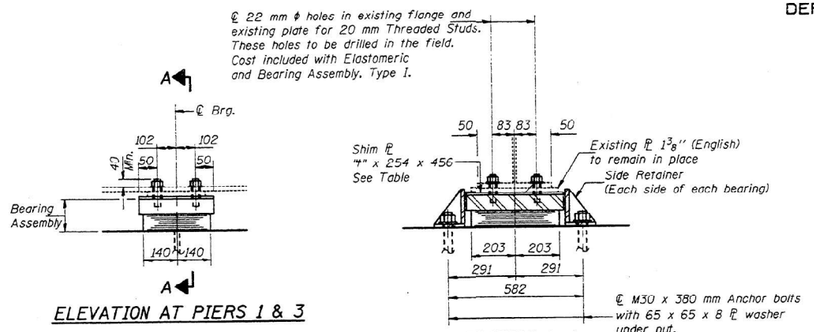
SCALE: SHEET 8 OF 11 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	20
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	44-1HB 3D	JOHNSON	42	33
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 13
22 SHEETS

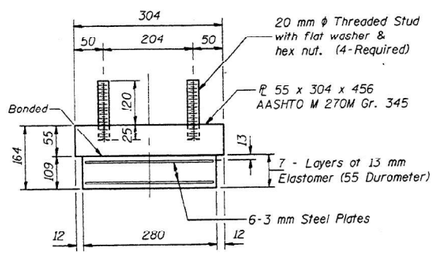
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION AT PIERS 1 & 3

SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

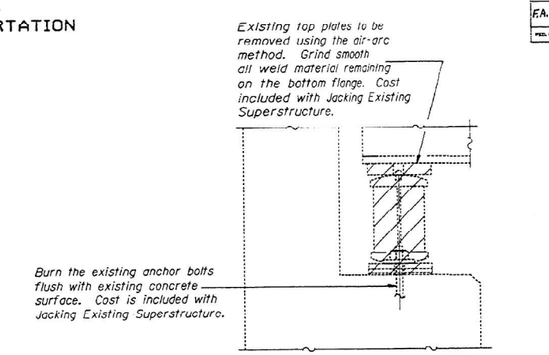


BEARING ASSEMBLY

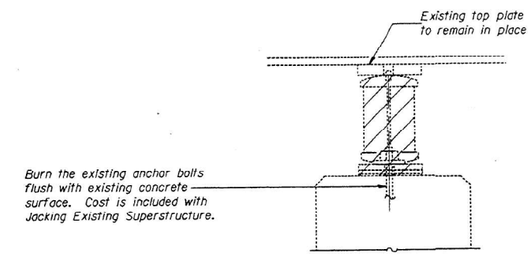
TABLE OF "t" DIMENSIONS

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
Pier 1	*	6	19	16	*	*
Pier 3	*	*	10	16	*	*

* Shim PL if required.

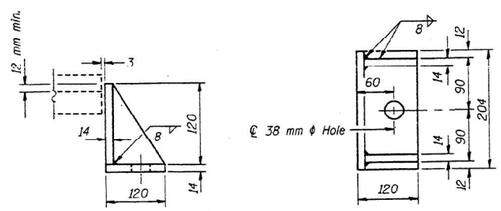


AT ABUTMENTS



AT PIERS

Notes: See sheet 15 of 22 for anchor bolt installation details.
Shim plates shall not be placed under bearing assembly.



SIDE RETAINER AT PIERS 1 & 3

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Cost included with Furnishing and Erecting Structural Steel.

PROCEDURE FOR JACKING EXISTING SUPERSTRUCTURE

1. Jacking of existing structural steel is required to raise the existing beams approximately 95 millimeters to the elevations shown in the table and to temporarily support the beams during jacking and removal and replacement of the bearings. The contractor shall submit for approval by the Engineer, plans for jacking and supporting the beams prior to commencing any jacking operations.
2. Jacking of existing superstructure shall be done after the removal of the existing concrete deck is complete.
3. All diaphragms at the stage construction line shall be disconnected and supported during the jacking operations. The existing bolts connecting the diaphragms to the beams shall be replaced with M20 H.S. bolts.
4. The maximum reaction per bearing is 76 kN at the piers and 17 kN at the abutments. The minimum jack capacity is 150 kN at the the piers and 35 kN at the abutments.

TOP OF BEAM ELEVATION AFTER JACKING EXISTING SUPERSTRUCTURE

Beam	E. Abuts.	Piers 1	Pier 2	Piers 3	W. Abuts.
1	250.385	250.471	250.504	250.469	250.355
2	250.406	250.477	250.534	250.506	250.395
3	250.406	250.477	250.534	250.506	250.422
4	250.397	250.478	250.535	250.506	250.422
5	250.367	250.478	250.535	250.506	250.422
6	250.324	250.440	250.500	250.490	250.414

SN 044-0028
FOR INFORMATION ONLY

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	12

BEARING DETAILS
F.A.S. RT. 1931 - SEC. 44-1HB-3D
JOHNSON COUNTY
STATION 2+000.00
STRUCTURE NO. 044-0028

DESIGNED	Fess Teklehaimanot		
CHECKED	Mike J. Trello		
DRAWN	R. Doty		
CHECKED	FT/MJT		

March 21, 2001
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

MODEL: SN 044-0028 For Information Only 9 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d1131516\D97B82-InfoSheets.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 044-0028
STRUCTURE INFORMATION

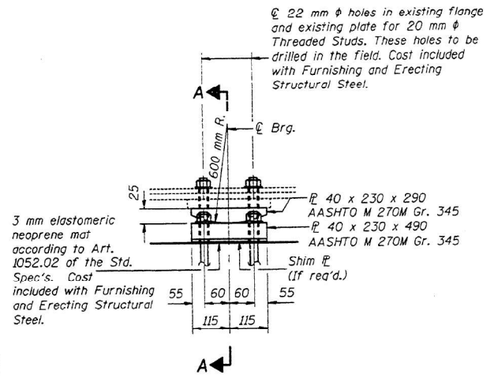
SCALE: SHEET 9 OF 11 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	21
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

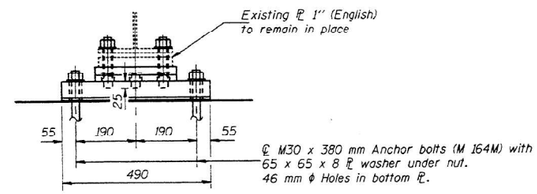
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 57	44-1HB 3D	JOHNSON	42	34
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 14
22 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

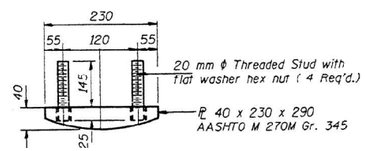


ELEVATION AT PIER 2

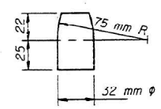


SECTION A-A

FIXED BEARING



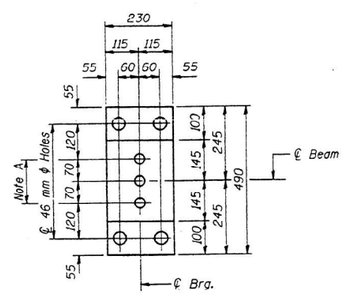
TOP BEARING PLATE
(Existing Beam with Cover Plate)



PINTLE

Pintles shall be AASHTO M270 M Gr. 345

Notes: For anchor bolt installation details see sheet 15 of 22.
See sheet 13 of 22 for Jacking Existing Superstructure Procedure.



PLAN

Note A:
35 mm ϕ Holes 25 mm deep in bottom plate for 32 mm ϕ pintles. Thread or press fit in bottom PL.

DESIGNED	Fess Teklehaimanot
CHECKED	Mike J. Trello
DRAWN	P.W. Sweet R. Doty
CHECKED	FT/MJT

March 21, 2001
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

SN 044-0028
FOR INFORMATION ONLY

BEARING DETAILS
F.A.S. RT. 1931 - SEC. 44-1HB-3D
JOHNSON COUNTY
STATION 2+000.00
STRUCTURE NO. 044-0028

MODEL: SN 044-0028 For Information Only 10 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	
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PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

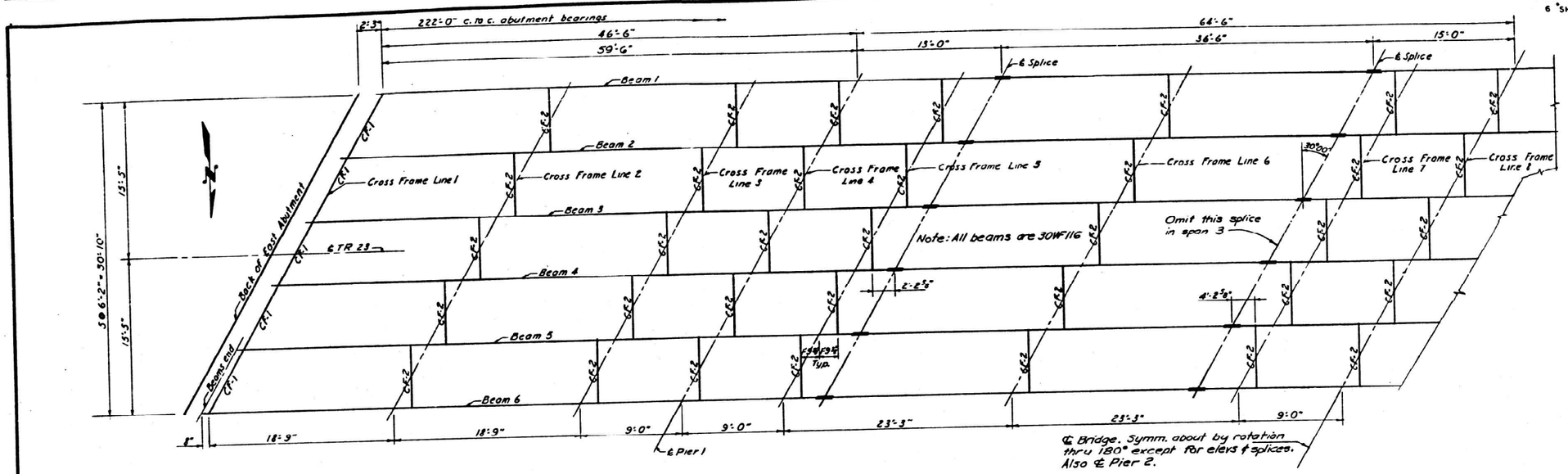
SN 044-0028
STRUCTURE INFORMATION

SCALE: SHEET 10 OF 11 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	22
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

SHEET NO. 2
6 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	44-IHB-3	JOHNSON	55	22
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



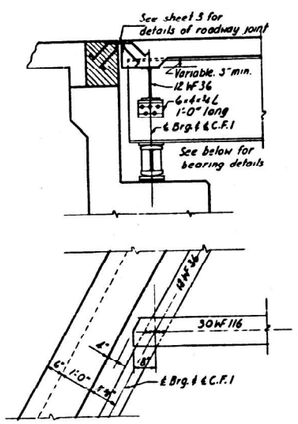
STRUCTURAL STEEL FRAMING PLAN

SPECIAL NOTES

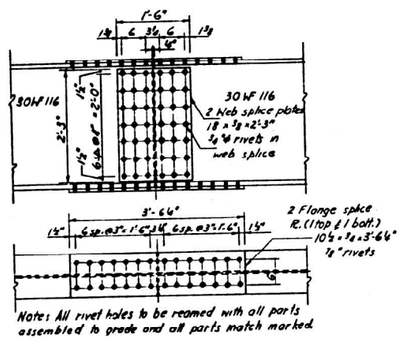
1. CAMBER: No cambering is necessary, but advantage of natural camber should be taken.
2. BOLTS: At the contractors option High Tensile Strength Bolts may be substituted for rivets.
3. ANCHOR BOLTS: shall be set before riveting cross frames over piers and abutments. See Art. 55.8 (F) for setting of masonry bearing plates anchor bolts.
4. BEARINGS: All rockers, bearing plates, fill plates, lead plates, anchor bolts pintles and washers shall be fabricated painted, and set in accordance with Art. 5.1.14 and are included for payment as structural steel. Additional shim plates, if needed, shall be furnished by the contractor.
5. COVER PLATES: A-343 Steel in cover plates and beams to which they are attached.

TABLE A
Fill Plate thickness "f"

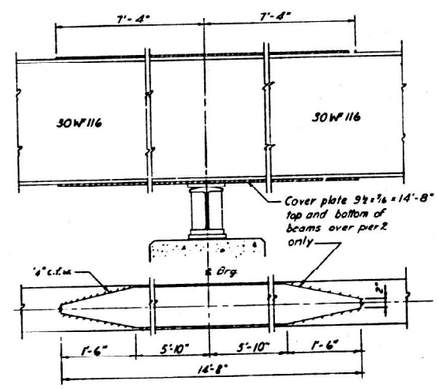
Item	Thickness "f"				Size
	Bm. 2	Bm. 3	Bm. 4	Bm. 5	
E. Abut.	-	1/8"	-	-	9×19
Pier 1	-	1/2"	3/8"	-	9×19
Pier 2	-	-	-	-	-
Pier 3	-	3/8"	3/8"	-	9×19
W. Abut.	-	-	3/8	-	9×19



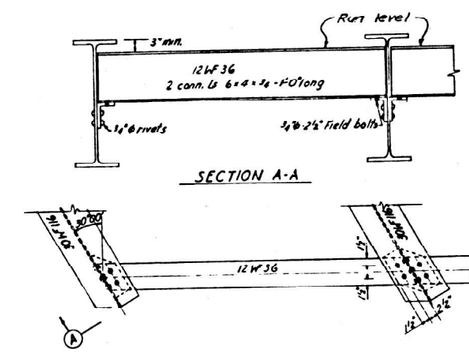
DETAILS AT ABUTMENTS



SPLICE DETAILS - 18 Reqd.



COVER PLATE DETAILS - 12 Reqd.



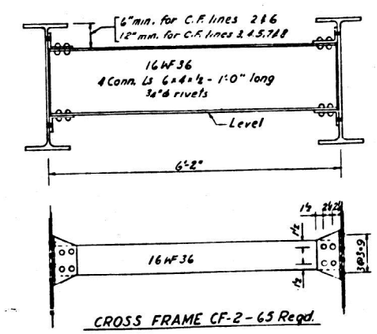
SECTION A-A

CROSS FRAME CF-1 - 10 Reqd.

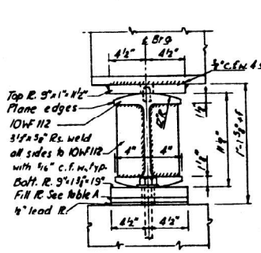
BILL OF MATERIAL

STRUCTURAL STEEL IN GIRDERS	183,910 lbs.
STRUCTURAL STEEL IN BEARINGS	7730 lbs.
TOTAL STRUCTURAL STEEL	191,640 lbs.

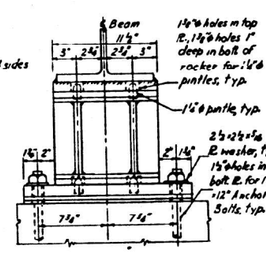
SN 044-0028
FOR INFORMATION ONLY



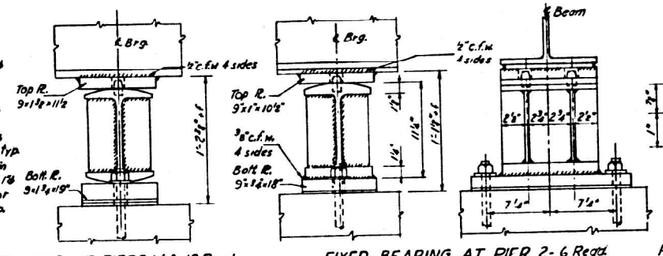
CROSS FRAME CF-2 - 63 Reqd.



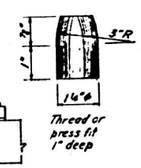
EXPANSION BEARING AT ABUTMENTS - 12 Reqd.



EXP. BRG. AT PIERS 1 & 3 - 12 Reqd.



FIXED BEARING AT PIER 2 - 6 Reqd.



PINTLE DETAIL

Structures by: CLARK and DAILY, Consulting Engineers, Urbana, Illinois Note: Dimensions and identifications not shown are same as those for expansion bearing at abutments.

STEEL FRAMING PLAN - STRUCTURE 44-IHB-3

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

F.A.I. 57 SECTION 44-IHB-3 PROJECT
STA. 187+25.00 JOHNSON COUNTY

HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
DECATUR, ILLINOIS

REVISIONS: NO. | DATE | INITIALS

DRAWN BY Y.N.G. DATE 7-7-58
CHECKED BY V.P. DATE 7-15-58
BOOK NUMBER
PROJECT NO.
SHEET NO.

C&D NO. 317-1

F.A.I. ROUTE-57 SECTION 44-IHB-3 JOHNSON CO. STEEL FRAMING PLAN

MODEL: SN 044-0028 For Information Only 11 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d1131516\D97BB82-InfoSheets.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 044-0028
STRUCTURE INFORMATION

SCALE: SHEET 11 OF 11 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	23
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

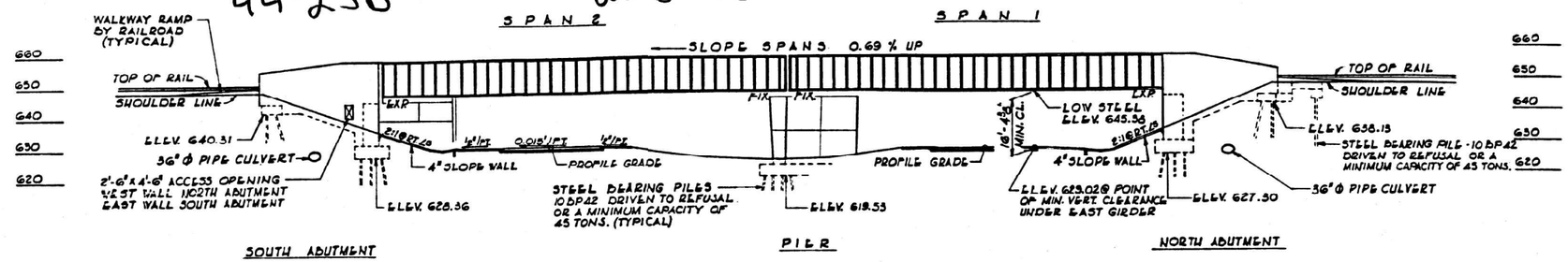
44-258 205+12.86

F.A.I. 24	44-258	JOHNSON	127	22
STA.		TO STA.		

SHEET 1 OF 39

INDEX OF DRAWINGS

SHEET NO.	TITLE
1	GENERAL PLAN AND ELEVATION
2	PROFILES, GENERAL NOTES & QUANTITIES
3	BORINGS
4	FRAMING PLAN AND GIRDER ELEVATIONS
5	GIRDER DETAILS
6	DECK CROSS SECTIONS & DETAILS
7	END FLOOR BEAMS
8	UPPER FLOOR PLATE
9	FLOOR PLATE & BALLAST STOP PLATE
10	BEARING DETAILS
11	FRAMING PLAN - APPROACH SPANS
12	PRESTRESSED I-BEAM DETAILS
13	APPROACH SPAN DETAILS
14	DECK PLAN - NORTH APPROACH SPAN
15	DECK PLAN - SOUTH APPROACH SPAN
16	PIER
17	NORTH ABUTMENT
18	NORTH ABUTMENT DETAILS
19	SOUTH ABUTMENT
20	SOUTH ABUTMENT DETAILS
21	EXCAVATION AND DRAINAGE DETAILS
22	BRIDGE SITE CONTOUR PLAN
23	TEMPORARY RUNAROUND
24 - 39	RUNAROUND CROSS SECTIONS

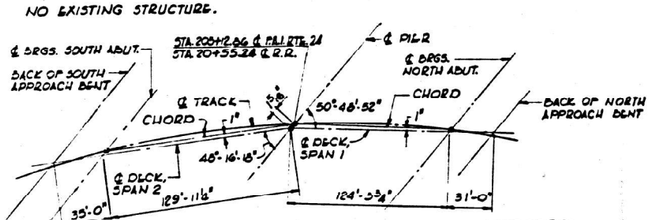


ELEVATION
SCALE 1" = 20'

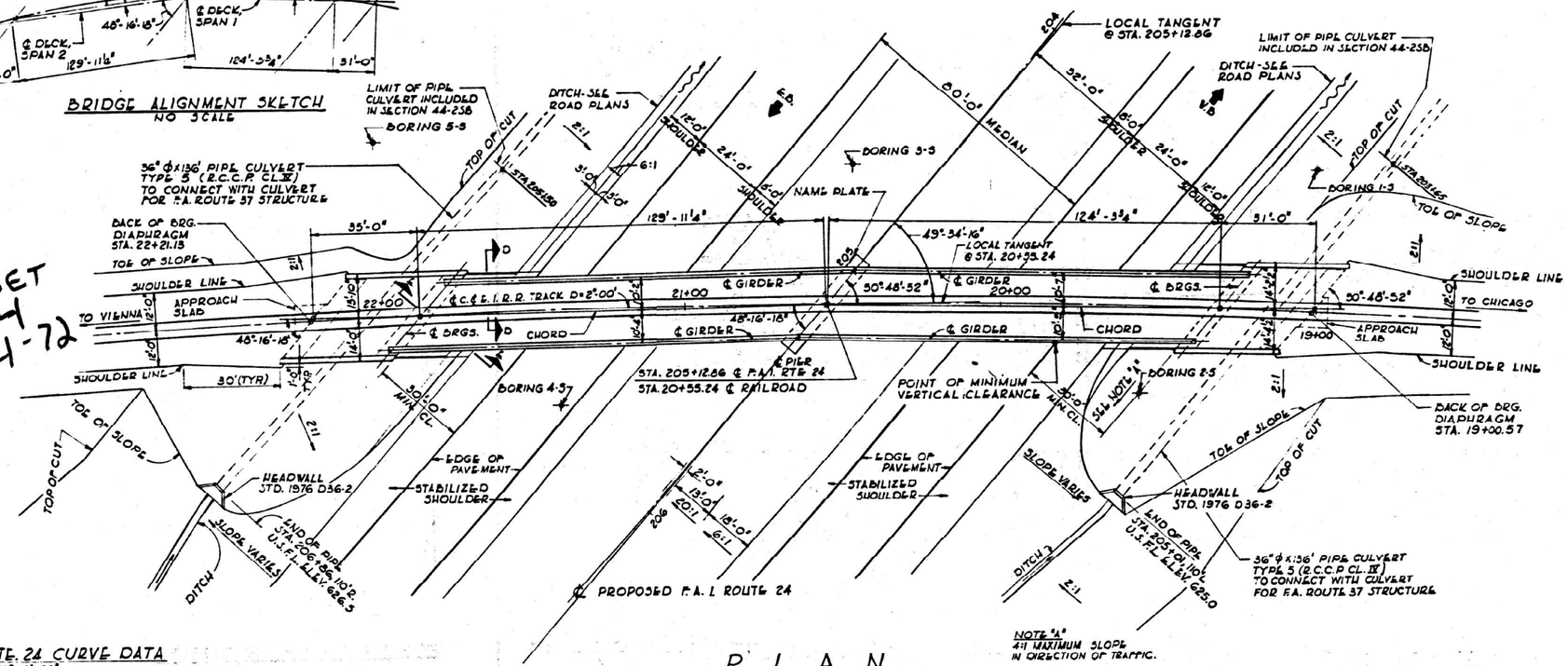
BENCH MARK # 220

R. R. SPIKE IN NORTH ROOT OF 20" ASH TREE, 250' RIGHT OF STA. 206+80
ELEV. 650.90

NO EXISTING STRUCTURE.



BRIDGE ALIGNMENT SKETCH
NO SCALE

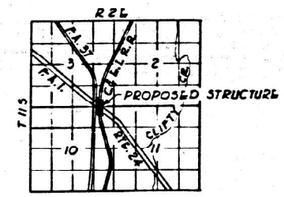


F.A.I. RTE. 24 CURVE DATA

Δ = 18°-12'-02"
D = 00°-30'-00"
R = 11,459.156'
T = 1835.52'
L = 3640.11'
E = 146.07'
P.I. = STA. 213+28.29
S.E. = 0.015/FT.

NOTE: FOR SECTIONS D-D & E-E SEE SHEET 21.

PLAN
SCALE: 1" = 20'



LOCATION PLAN

SN 044-0032
FOR INFORMATION ONLY

044-0032

'16 SET #54 8-4-72

Howard R. Stridiberg #1994 Rec. 9-82

ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB # 7633
100 S. WABASH AVE. CHICAGO, ILLINOIS

GENERAL PLAN & ELEVATION
UNDERPASS
C. & E. I. R. R. BRIDGE NO.
NORTH OF GOREVILLE ILLINOIS
F.A. PROJ. I-IG-24-1(22)2
F.A.I. ROUTE 24 SECTION 44-25B
JOHNSON COUNTY
STATION 205+12.86

044-0032

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 044-0032
STRUCTURE INFORMATION

SCALE:	SHEET 1	OF 9	SHEETS	STA.	TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	24
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

MODEL: SN 044-0032 For Information Only 1 [Sheet]
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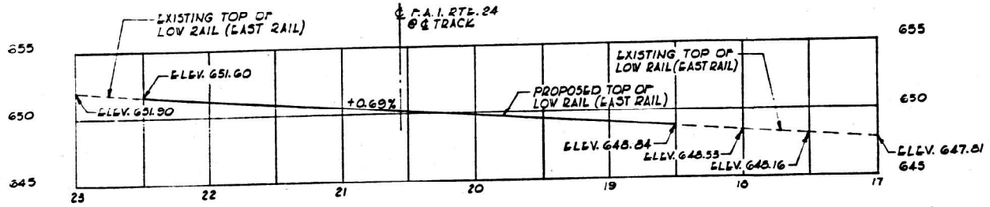
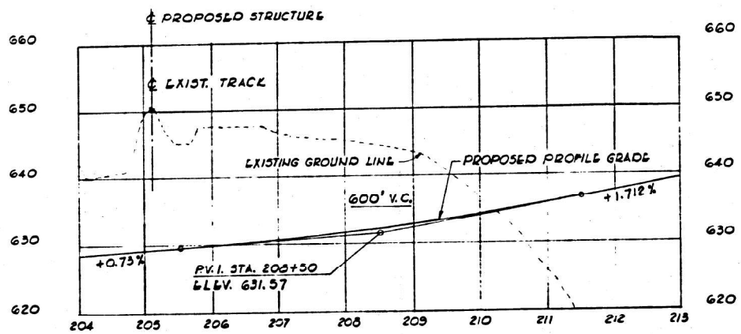
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.24	44-2SB	JOHNSON	127	43
STA.		TO STA.		
S.P.&.REG. NO. 6	ILLINOIS	F.A.	PROJECT	

SHEET 2 OF 39



RAILROAD PROFILE

SCALES: HORIZ. 1" = 50'
VERT. 1" = 5'



PROFILE F.A.I. ROUTE 24

SCALES: HORIZ. 1" = 100'
VERT. 1" = 10'

DESIGN DATA - FLOOR BEAMS

	DESCRIPTION	INTERMEDIATE FLOOR BEAMS SPAN 1		SPAN 2		END FL. BM.
		21 WF 82	21 WF 68	21 WF 82	21 WF 68	21 WF 56
MOMENT	DEAD LOAD	31 F-K	22 F-K	31 F-K	23 F-K	27 F-K
	LIVE LOAD	156 F-K	122 F-K	154 F-K	131 F-K	155 F-K
	IMPACT	62 F-K	50 F-K	61 F-K	54 F-K	69 F-K
	CENTRIF. FORCE & ECCEN.	1 F-K	1 F-K	1 F-K	1 F-K	—
	TOTAL	250 F-K	195 F-K	247 F-K	209 F-K	251 F-K
	NET SECT. MODULUS REQ'D	150 IN³	117 IN³	149 IN³	126 IN³	151 IN³
	SECTION	21 WF 82	21 WF 68	21 WF 82	21 WF 68	21 WF 56
	GROSS I	1752 IN⁴	1476 IN⁴	1752 IN⁴	1476 IN⁴	2069 IN⁴
	LESS HOLES	40 IN⁴	35 IN⁴	40 IN⁴	35 IN⁴	92 IN⁴
	NET I	1712 IN⁴	1443 IN⁴	1712 IN⁴	1443 IN⁴	1997 IN⁴
	NET SECT. MODULUS FURN.	164 IN³	136 IN³	164 IN³	136 IN³	189 IN³
						MAX. @ MAX. M
SHEAR	DEAD LOAD	4 K	5 K	5 K	5 K	13 K 13 K
	LIVE LOAD	21 K	23 K	20 K	25 K	87 K 87 K
	IMPACT	8 K	9 K	8 K	10 K	35 K 35 K
	CENTRIF. FORCE & ECCEN.	1 K	—	1 K	—	— —
	TOTAL	34 K	37 K	34 K	40 K	135 K 135 K
	DIAGONAL TENSION	—	—	—	—	— 15.85 K/□"

BEARING ON MASONRY

DESCRIPTION	END FLOOR BM.	SPAN 1 FIXED	SPAN 1 EXP	SPAN 2 FIXED	SPAN 2 EXP
TOTAL REACTION	203 K	682 K	682 K	711 K	711 K
BEARING AREA FURNISHED	384 □"	384 □"	384 □"	384 □"	861 □"
*AVERAGE BRG. PRESSURE	529 #/□"	893 #/□"	893 #/□"	925 #/□"	825 #/□"

MOMENT PER GIRDER

DESCRIPTION		GIRDERS "G-1" AND "G-2"	GIRDERS "G-3" AND "G-4"
DEAD LOAD		6,370 F-K	6,950 F-K
LIVE LOAD		9,730 F-K	10,650 F-K
IMPACT		2,375 F-K	2,585 F-K
CENTRIF. FORCE & ECCEN.		585 F-K	725 F-K
TOTAL		18,060 F-K	20,910 F-K
NET SECT. MODULUS REQ'D.		11,436 IN³	12,546 IN³
SECTION	1-WEB PL	126" x 3/4"	126" x 3/4"
	2-FLG. PLS	22" x 3 1/2"	22" x 4"
GROSS I FURNISHED		770,835 IN⁴	868,859 IN⁴
LESS HOLES		7,560 IN⁴	7,560 IN⁴
NET I FURNISHED		763,275 IN⁴	861,299 IN⁴
NET SECT. MODULUS FURN.		11,478 IN³	12,855 IN³
GROSS SECT. MODULUS FURN.		11,592 IN³	12,968 IN³

SHEAR PER GIRDER

DESCRIPTION		GIRDERS "G-1" AND "G-2"	GIRDERS "G-3" AND "G-4"
DEAD LOAD		207 K	216 K
LIVE LOAD		355 K	368 K
IMPACT		87 K	90 K
CENTRIF. FORCE & ECCEN.		21 K	25 K
TOTAL		670 K	699 K
END FL. BM. REACTION (D.L)		12 K	12 K
TOTAL REACTION		682 K	711 K
WEB SHEAR		7.08 K/□"	7.40 K/□"
END STIFFENER AREA REQ'D.		34.10 □"	35.55 □"
SECTION	2 PLS	10 1/2" x 1 3/8"	10 1/2" x 1 3/8"
END STIFFENER AREA FURN.		36.75 □"	36.75 □"

GENERAL NOTES

SPECIFICATIONS: STEEL DESIGN IN ACCORDANCE WITH A.R.E.A. SPECIFICATIONS FOR STEEL RAILWAY BRIDGES, DATED 1970. CONCRETE DESIGN IN ACCORDANCE WITH A.R.E.A. SPECIFICATIONS FOR DESIGN OF PLAIN AND REINFORCED CONCRETE MEMBERS, DATED 1970. PRESTRESSED CONCRETE DESIGN IN ACCORDANCE WITH A.R.E.A. SPECIFICATIONS FOR DESIGN OF PRESTRESSED CONCRETE STRUCTURES, DATED 1970. WORKMANSHIP AND MATERIALS IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE STATE OF ILLINOIS, DATED JANUARY 2, 1971, EXCEPT THAT WHEREVER APPLICABLE STEEL FABRICATION SHALL BE IN ACCORDANCE WITH THE A.R.E.A. SPECIFICATIONS. WELDING SHALL BE IN ACCORDANCE WITH THE ABOVE A.R.E.A. SPECIFICATIONS, THE CURRENT SPECIFICATIONS FOR WELDED HIGHWAY AND RAILWAY BRIDGES OF THE AMERICAN WELDING SOCIETY AND WITH THE SPECIAL PROVISIONS.

CLASS X CONCRETE SHALL BE USED THROUGHOUT. ALL CORNERS SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE SHOWN OR NOTED ON THE PLANS.

ALL STEEL SHALL BE STRUCTURAL CARBON STEEL CONFORMING TO A.S.T.M. A36 UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIAL PROVISIONS. THE WEIGHT OF COPPER BEARING STEEL, CAST STEEL, FORGED STEEL, GRAPHITED BRONZE EXPANSION BEARING PLATES, GALVANIZED IRON PLATES, AND LEAD PLATES ARE INCLUDED IN THE WEIGHT OF STRUCTURAL STEEL AND ARE TO BE PAID FOR AT THE CONTRACT LUMP SUM PRICE FOR "FURNISHING AND ERECTING STRUCTURAL STEEL".

CALCULATED WEIGHT OF THESE ITEMS IS AS FOLLOWS:

STRUCTURAL STEEL (A36)	778,810 LBS.
COPPER BEARING STEEL	160,490 LBS.
CAST STEEL	12,700 LBS.
FORGED STEEL	870 LBS.
GRAPHITED BRONZE EXPANSION BEARING PLATES	330 LBS.
GALVANIZED IRON PLATES	90 LBS.
LEAD PLATES	520 LBS.
TOTAL WEIGHT	953,810 LBS.

ALL SHOP CONNECTIONS SHALL BE RIVETED EXCEPT WHERE OTHERWISE SHOWN OR NOTED ON THE DRAWINGS TO BE BOLTED OR WELDED. HIGH STRENGTH BOLTS MAY BE USED IN LIEU OF SHOP RIVETS. ALL FIELD CONNECTIONS SHALL BE BOLTED WITH HIGH-STRENGTH BOLTS EXCEPT WHERE OTHERWISE SHOWN OR NOTED ON THE DRAWINGS TO BE BOLTED WITH MACHINE BOLTS OR WELDED. ALL HIGH-STRENGTH BOLTS, NUTS AND WASHERS SHALL CONFORM TO A.S.T.M. A325 AND SHALL HAVE ONE HARDENED STEEL WASHER PER BOLT UNDER THE ELEMENT TO BE TURNED. HIGH-STRENGTH BOLTS SHALL BE INSTALLED USING THE "TURN OF NUT" METHOD. RIVETS AND BOLTS SHALL BE 7/8" DIAMETER UNLESS OTHERWISE NOTED. HOLES SHALL BE 1/16" LARGER THAN FASTENER SIZE. HOLES FOR SHOP RIVETS SHALL BE SUB-PUNCHED OR SUBDRILLED AND REAMED TO SIZE WITH PARTS ASSEMBLED AS REQUIRED BY A.R.E.A. SPECIFICATIONS AND SPECIAL PROVISIONS. HOLES FOR FIELD CONNECTIONS OF FLOOR BEAMS TO GIRDERS SHALL BE SUBPUNCHED OR SUBDRILLED AS REQUIRED AND SHALL BE REAMED TO SIZE THROUGH STEEL TEMPLATES WITH HARDENED STEEL BUSHINGS, OR THEY MAY BE REAMED TO SIZE WHILE SHOP ASSEMBLED AND MATCH-MARKED. HOLES FOR SHOP AND FIELD CONNECTIONS OF FLOOR BEAM BRACKETS, BALLAST STOP PLATE SUPPORTS, DIAPHRAGMS, LATERAL BRACING, AND UPPER FLOOR PLATES AND THEIR SUPPORTS MAY BE PUNCHED FULL SIZE. SEE SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

STEEL SHALL BE SHOP INSPECTED BY THE ILLINOIS DIVISION OF HIGHWAYS BEFORE PAINTING. THE BASIC LEAD SILICO CHROMATE PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL. FOR ADDITIONAL PAINTING REQUIREMENTS SEE SPECIAL PROVISIONS.

REINFORCEMENT BARS SHALL BE DEFORMED BARS OF NEW BILLET STEEL OF INTERMEDIATE GRADE CONFORMING TO A.S.T.M. SPECIFICATION A615, GRADE 40. ALL REINFORCEMENT BARS SHALL BE LAPPED 24 DIAMETERS UNLESS OTHERWISE SHOWN.

* SLOPE WALL SHALL BE REINFORCED WITH WELDED WIRE FABRIC 6" X 6" MESH, WEIGHING 58# PER 100 SQ. FT.

THE CONTRACTOR SHALL DRIVE ONE TEST PILE AT THE PIER AND ONE TEST PILE AT EACH ABUTMENT IN A PERMANENT LOCATION AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE PILES.

DESIGN DATA

LIVE LOAD
COOPER E-80 PLUS DIESEL IMPACT

DESIGN STRESSES
CONCRETE (CAST-IN-PLACE)
f'c = 3,500 P.S.I.
fc = 1,400 P.S.I. (WITHOUT EARTH PRESSURE)
fc = 1,000 P.S.I. (WITH EARTH PRESSURE)
v = 75 P.S.I. (FOOTINGS)
n = 10
PRECAST PRESTRESSED UNITS
f'c = 5,000 P.S.I.
f'ci = 4,000 P.S.I.
fps = 248,000 P.S.I. (STRANDS)
fpi = 173,600 P.S.I. (STRANDS)
REINFORCING STEEL
fs = 20,000 P.S.I.
STRUCTURAL STEEL
fs = 20,000 P.S.I. (A36)

FOUNDATIONS
PIER AND ABUTMENTS TO BE ON 10 BP 42 STEEL PILES DRIVEN TO REFUSAL OR MINIMUM CAPACITY OF 45 TONS.

SUMMARY OF QUANTITIES

CODE NUMBER	ITEM	UNIT	SUPER	SUB	TOTAL
202001	EARTH EXCAVATION	CU.YD.	—	15,300	15,300
209002	POROUS GRANULAR EMBANKMENT	CU.YD.	—	260	260
X50201	STRUCTURE EXCAVATION	CU.YD.	—	1,060	1,060
503002	CLASS X CONCRETE HEADWALLS	CU.YD.	—	—	3.5
503003	DECK DRAINS	LIN.FT.	652	—	652
504003	CLASS X CONCRETE	CU.YD.	111.6	791.8	903.4
505010	FURNISHING AND ERECTING PRECAST PRE-STRESSED CONCRETE I-BEAMS, 48"	LIN.FT.	386	—	386
506001	MEMBRANE WATERPROOFING	SQ.FT.	5,230	—	5,230
507030	FURNISHING AND ERECTING STRUCTURAL STEEL	LUMP SUM	0.1	—	0.1
511A	PIPE CULVERTS, TYPE 4, 12" (TEMPORARY)	LIN.FT.	—	—	48
511371	PIPE CULVERTS, TYPE 5, RCCP 36"	LIN.FT.	—	—	272
511A	PIPE CULVERTS, TYPE 7, 24" (TEMPORARY)	LIN.FT.	—	—	84
511A14	PIPE CULVERTS, TYPE 2, 12" (TEMPORARY)	LIN.FT.	—	—	218
512001	REINFORCEMENT BARS	POUND	14,210	49,250	63,560**
513015	FURNISHING STEEL PILES 10 BP 42	LIN.FT.	—	3,916	3,916
513026	DRIVING STEEL PILES	LIN.FT.	—	3,916	3,916
513035	TEST PILE STEEL 10 BP 42	EACH	—	3	3
514001	NAME PLATES	EACH	—	1	1
607033	PIPE DRAINS, BITUMINOUS COATED CORRUGATED STEEL, 8"	LIN.FT.	—	79	79
607198	PIPE UNDERDRAINS, PERFORATED CORRUGATED STEEL PIPE, 8"	LIN.FT.	—	60	60
618001	SLOPE WALL, 4 INCH	SQ.YD.	—	152	152
Z10294	PREFORMED JOINT SEALER	LIN.FT.	22	—	22
Z	SUB-BALLAST	TON	—	—	1,420

** INCLUDES 100 POUNDS OF REINFORCEMENT BARS FOR CULVERT HEADWALLS

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ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB 6193
190 S. WABASH AVE. CHICAGO, ILLINOIS

PROFILES, GENERAL NOTES & QUANTITIES
UNDERPASS
C. & E. I. R. R. BRIDGE NO.
NORTH OF GOREVILLE ILLINOIS
F. A. PROJ. I-IG-24-1(22)2
F. A. I. ROUTE 24 SECTION 44-2SB
JOHNSON COUNTY
STATION 205 + 12.86

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USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 044-0032
STRUCTURE INFORMATION

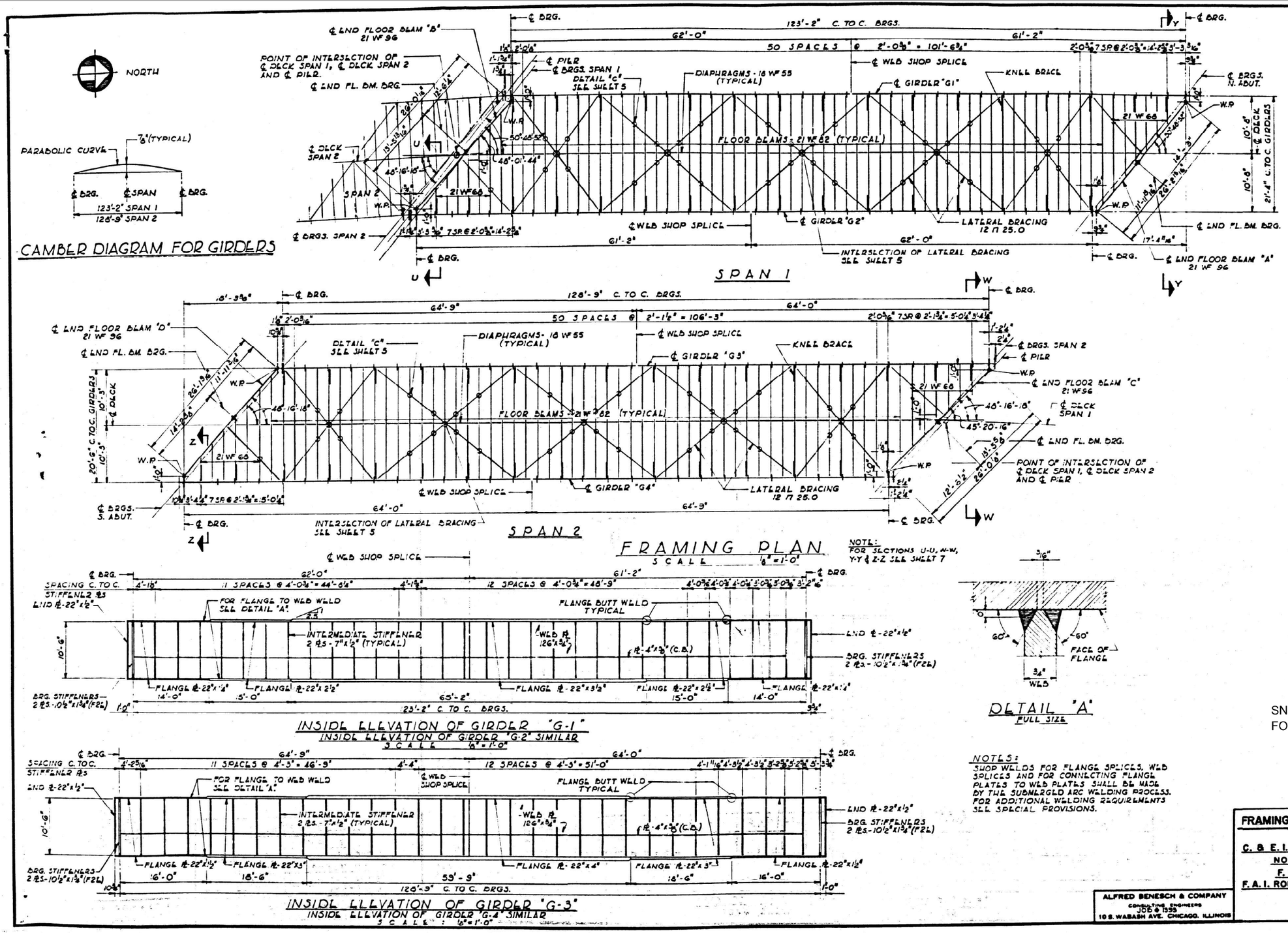
SCALE: | SHEET 2 OF 9 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	25

CONTRACT NO. 78B82
ILLINOIS | FED. AID PROJECT

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 24	44-25B	JOHNSON	127	45
STA.		TO STA.		
B.P.R. REG. NO. 4	ILLINOIS	F.A.	PROJECT	

SHEET 4 OF 39



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NOTES:
SHOP WELDS FOR FLANGE SPLICES, WEB SPLICES AND FOR CONNECTING FLANGE PLATES TO WEB PLATES SHALL BE MADE BY THE SUBMERGED ARC WELDING PROCESS. FOR ADDITIONAL WELDING REQUIREMENTS SEE SPECIAL PROVISIONS.

FRAMING PLAN AND GIRDER ELEVATIONS
UNDERPASS
C. & E. I. R. R. BRIDGE NO.
NORTH OF GOREVILLE ILLINOIS
F. A. PROJ. I-IG-24-1(22)2
F. A. I. ROUTE 24 SECTION 44-25 B
JOHNSON COUNTY
STATION 205+12.86

ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB # 1359
10 S. WABASH AVE. CHICAGO, ILLINOIS

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

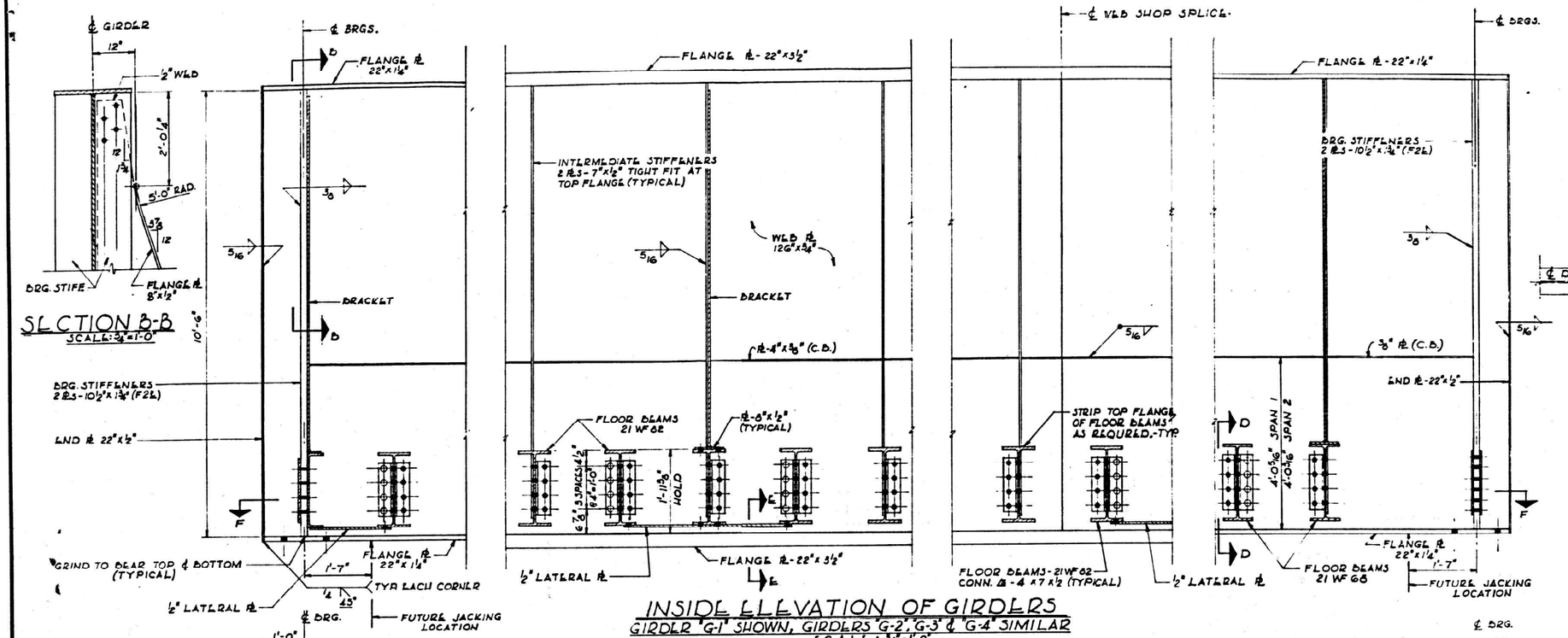
SN 044-0032
STRUCTURE INFORMATION

SCALE: SHEET 3 OF 9 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	26
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.24	44-2SB	JOHNSON	127	66
STA.		TO STA.		
B. P. R. REG. NO. 4	ILLINOIS	F.A.	PROJECT	

SHEET 5 OF 39



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* NOTE
TOP FLANGES OF FLOOR BEAMS TO BE IN A TRUE HORIZONTAL PLANE. DIMENSIONS FROM TOP OF LATERAL PLATES (BOTTOM OF FLOOR BEAM FLANGE) TO BOTTOM OF GIRDER WEB MAY VARY TO COMPENSATE FOR THE OVERRUN OR UNDERRUN OF FLOOR BEAMS.

ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB 815.55
10 S. WABASH AVE. CHICAGO, ILLINOIS

GIRDER DETAILS
UNDERPASS
C. & E. I. R. R. BRIDGE NO.
NORTH OF GOREVILLE ILLINOIS
F. A. PROJ. I-IG-24-1(22)2
F. A. I. ROUTE 24 SECTION 44-2SB
JOHNSON COUNTY
STATION 205+12.86

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PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

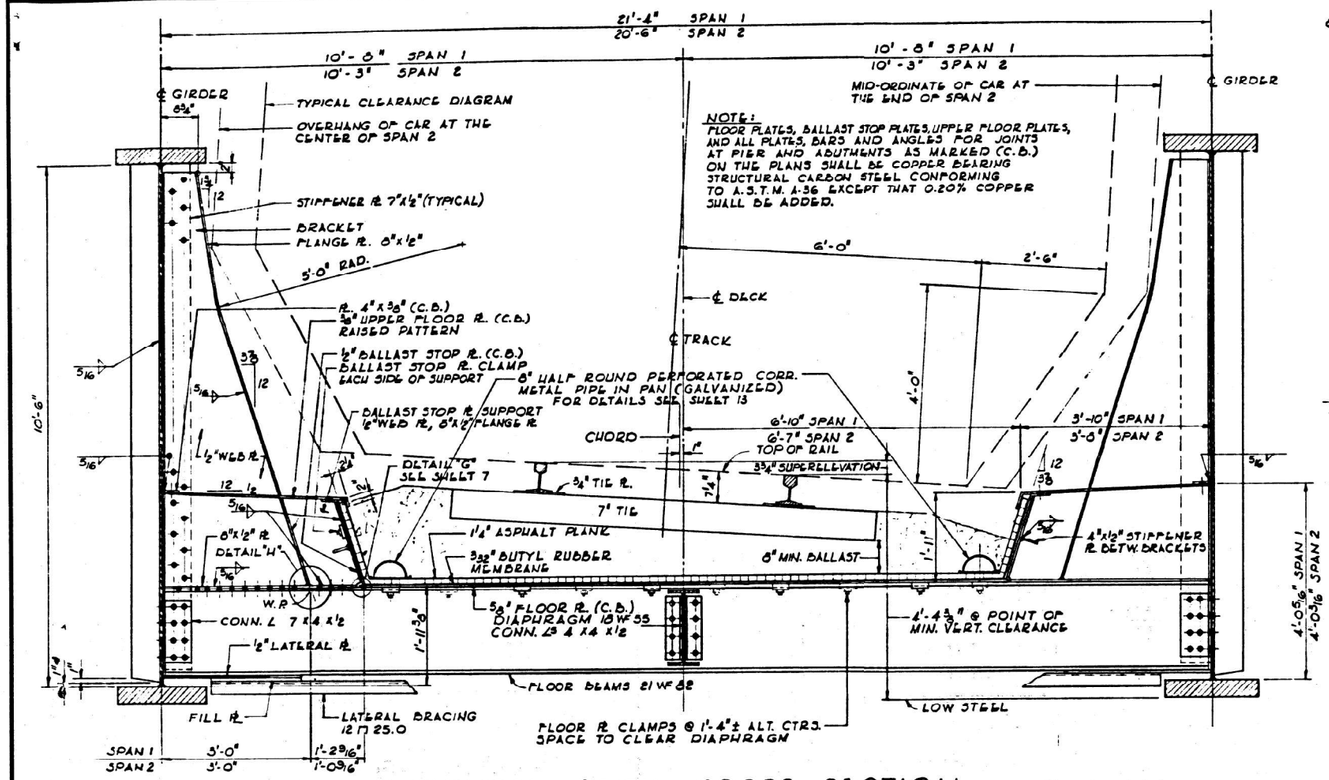
SN 044-0032
STRUCTURE INFORMATION

SCALE: | SHEET 4 OF 9 SHEETS | STA. | TO STA.

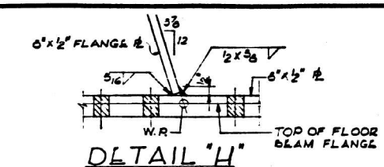
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	27
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.24	44-2SB	JOHNSON	127	47
STA.		TO STA.		
S.P.R. REF. NO.	RAILROAD	F.A.	PROJECT	

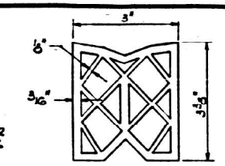
SHEET 6 OF 39



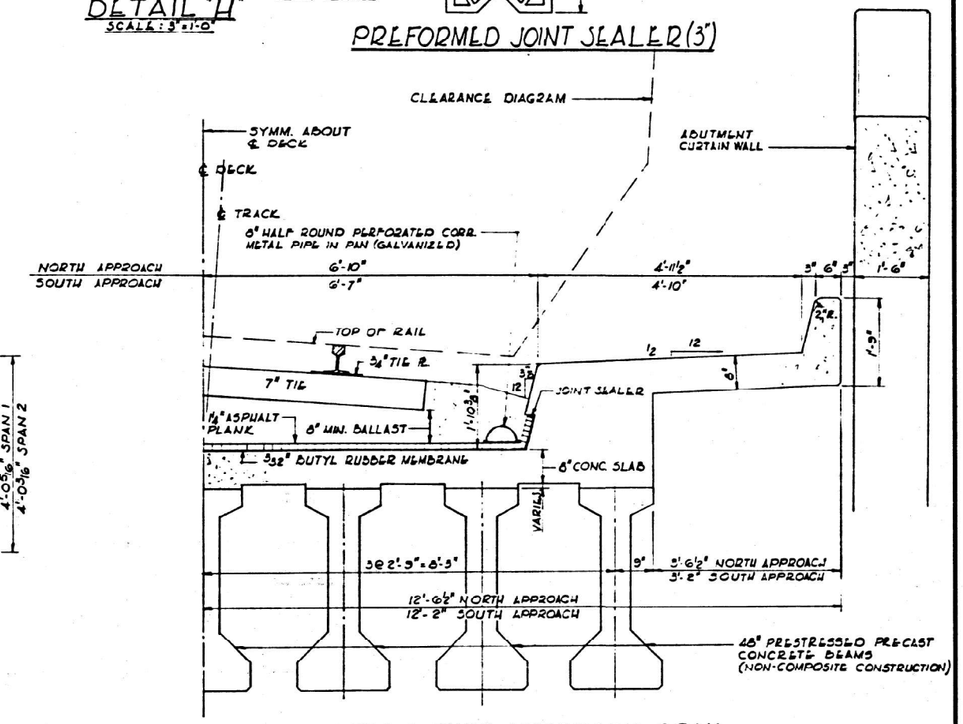
TYPICAL DECK CROSS SECTION
SCALE: 3/4" = 1'-0"



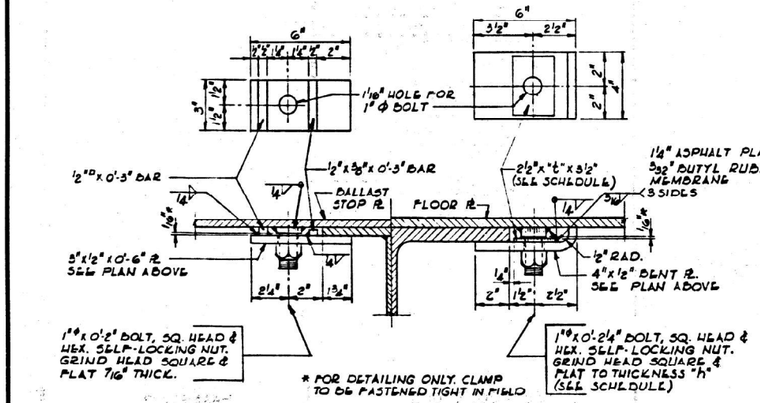
DETAIL "H"
SCALE: 3" = 1'-0"



PREFORMED JOINT SEALER (3")



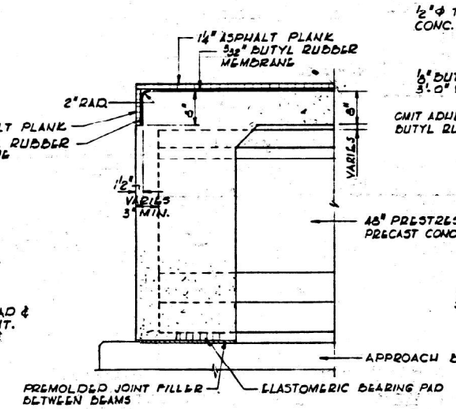
SECTION THRU APPROACH SPAN
SCALE: 3/4" = 1'-0"



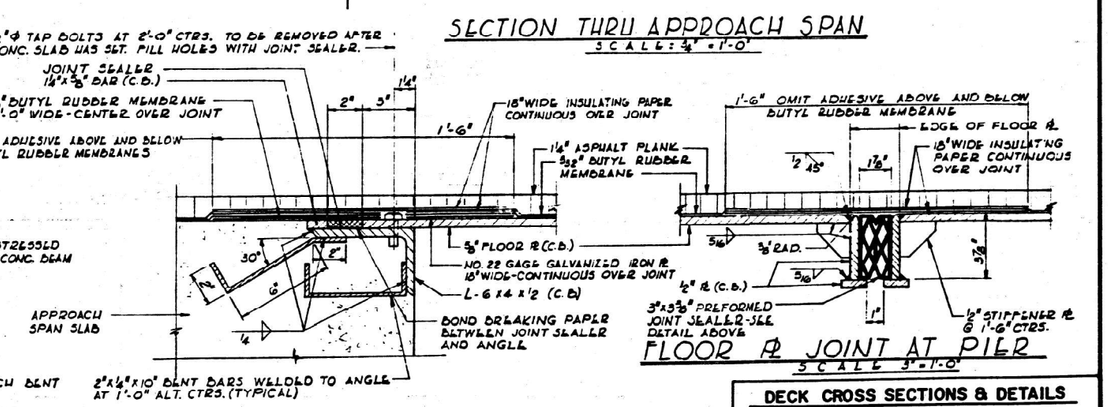
FOR BALLAST STOP PL FOR FLOOR PL

TYP CLAMP DETAILS
SCALE 3" = 1'-0"

FLOOR BEAM	PL "t"	BOLT HEAD "h"
21 WF 68	3/16"	7/16"
21 WF 82	3/4"	9/16"
21 WF 96	5/16"	9/16"



WATERPROOFING DETAIL AT APPROACH BENTS
SCALE: 3/4" = 1'-0"



SECTION A-A
EXP JOINT AT ABUTMENTS
SCALE: 3" = 1'-0"

FLOOR PL JOINT AT PIER
SCALE 3" = 1'-0"

SN 044-0032
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ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB # 1935
160 N. WABASH AVE. CHICAGO, ILLINOIS

DECK CROSS SECTIONS & DETAILS

UNDERPASS
C. & E. I. R.R. BRIDGE NO.
NORTH OF GOREVILLE ILLINOIS
F. A. PROJ. I-IG-24-1(22)2
F. A. I. ROUTE 24 SECTION 44-2SB
JOHNSON COUNTY
STATION 205+12.86

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN 044-0032 STRUCTURE INFORMATION	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -			VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	28
	CHECKED -	REVISED -					CONTRACT NO. 78B82		
PLOT DATE = 7/29/2025	DATE -	REVISED -		SCALE: SHEET 5 OF 9 SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		

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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 24	44-2SB	JOHNSON	127	28
STA.		TO STA.		
S.P.R. REG. NO. 4	ILLINOIS	F.A.	PROJECT #	

SHEET 7 OF 39

SN 044-0032
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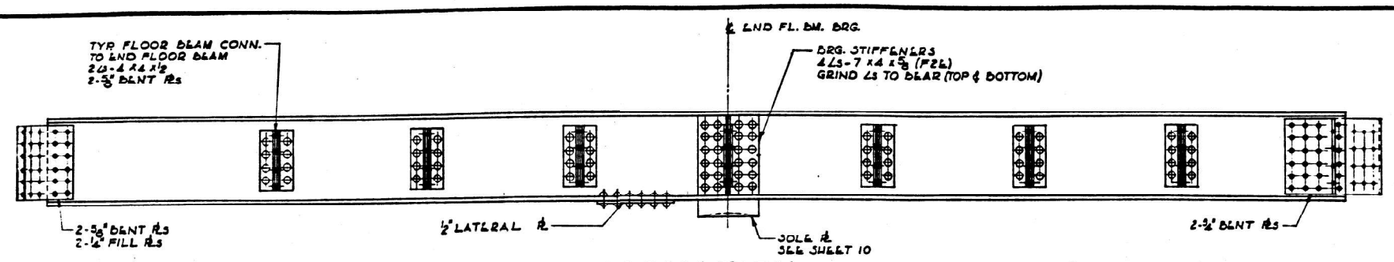
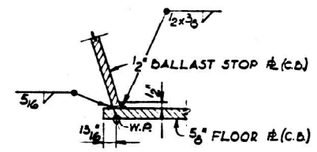
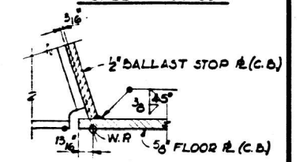


ELEVATION
SCALE: 3/8"=1'-0"



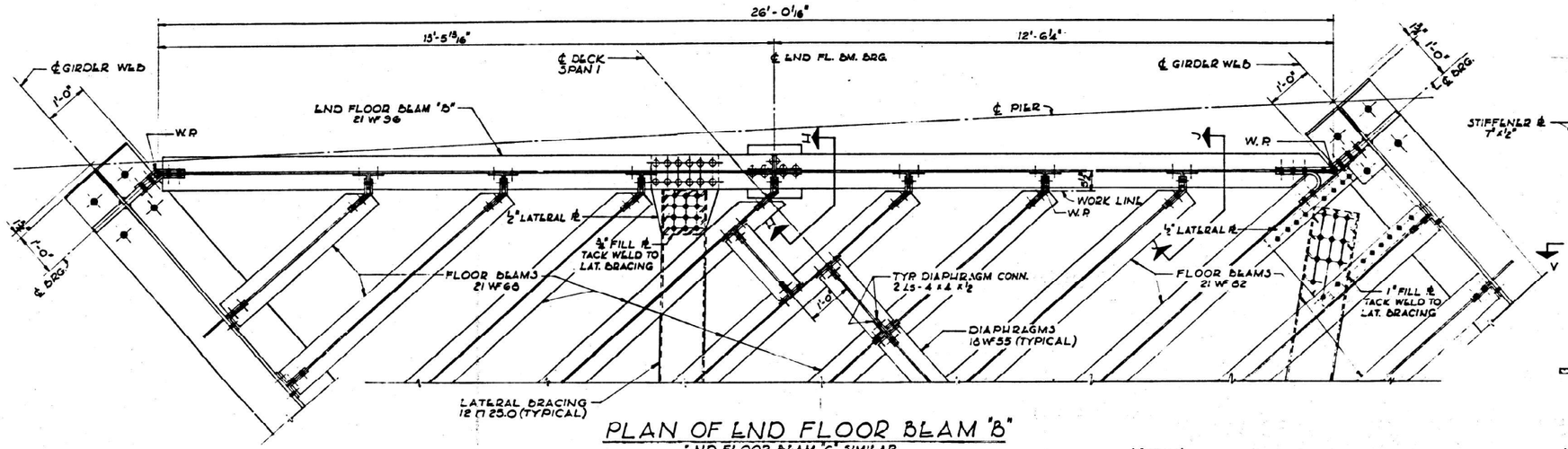
BETWEEN BRACKETS



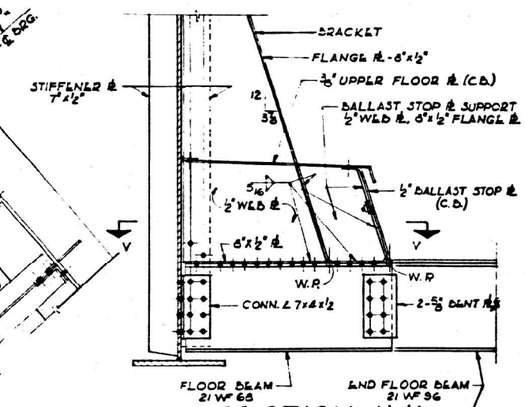
AT BRACKETS

DETAIL "G"
SCALE: 3"=1'-0"

NOTE:
FOR LOCATION OF DETAIL "G" SEE SHEET 6

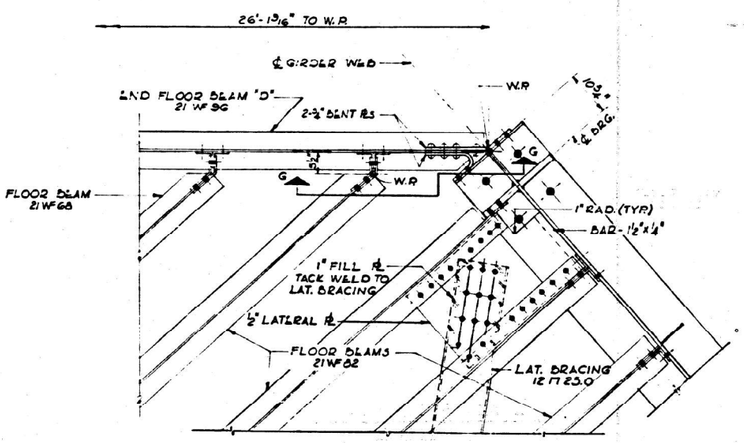


PLAN OF END FLOOR BEAM "B"
END FLOOR BEAM "C" SIMILAR
SCALE: 3/8"=1'-0"

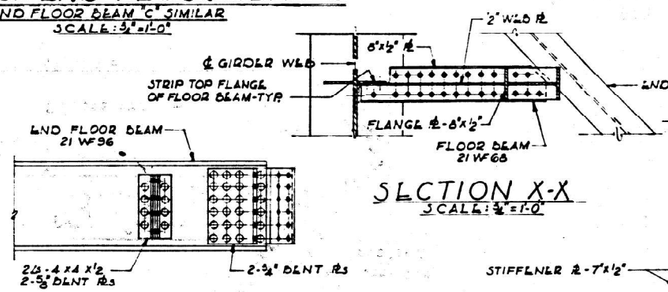


SECTION U-U
SECTION Y-Y SIMILAR
SCALE: 3/8"=1'-0"

NOTE:
FOR LOCATION OF SECTIONS U-U, Y-Y, W-W & Z-Z SEE FRAMING PLAN, SHEET 4

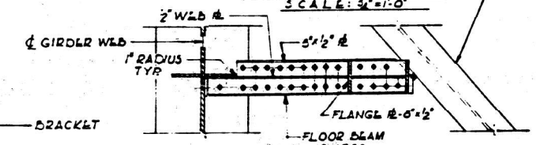


PARTIAL PLAN OF END FLOOR BEAM "D"
END FLOOR BEAM "A" SIMILAR
SCALE: 3/8"=1'-0"

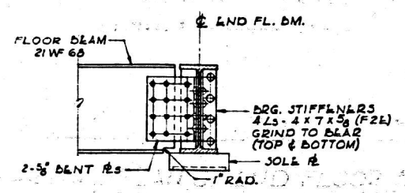


SECTION X-X
SCALE: 3/8"=1'-0"

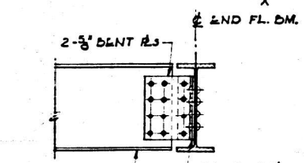
SECTION G-G
SCALE: 3/8"=1'-0"



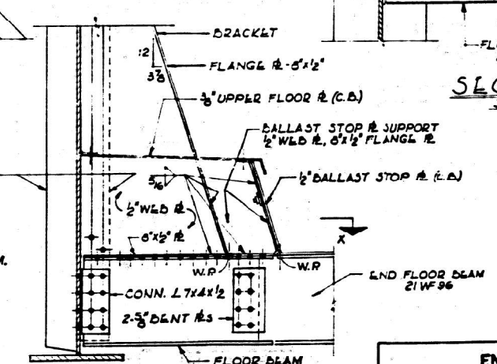
SECTION V-V
SCALE: 3/8"=1'-0"



SECTION H-H
SCALE: 3/8"=1'-0"



SECTION J-J
SCALE: 3/8"=1'-0"



SECTION W-W
SECTION Z-Z SIMILAR
SCALE: 3/8"=1'-0"

ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB # 8331
10 S. WABASH AVE. CHICAGO, ILLINOIS

END FLOOR BEAMS
UNDERPASS
C. & E. I. R.R. BRIDGE NO.
NORTH OF GOREVILLE ILLINOIS
F.A. PROJ. I-IG-24-1(22)2
F.A.I. ROUTE 24 SECTION 44-2S B
JOHNSON COUNTY
STATION 205+12.86

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	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 044-0032
STRUCTURE INFORMATION

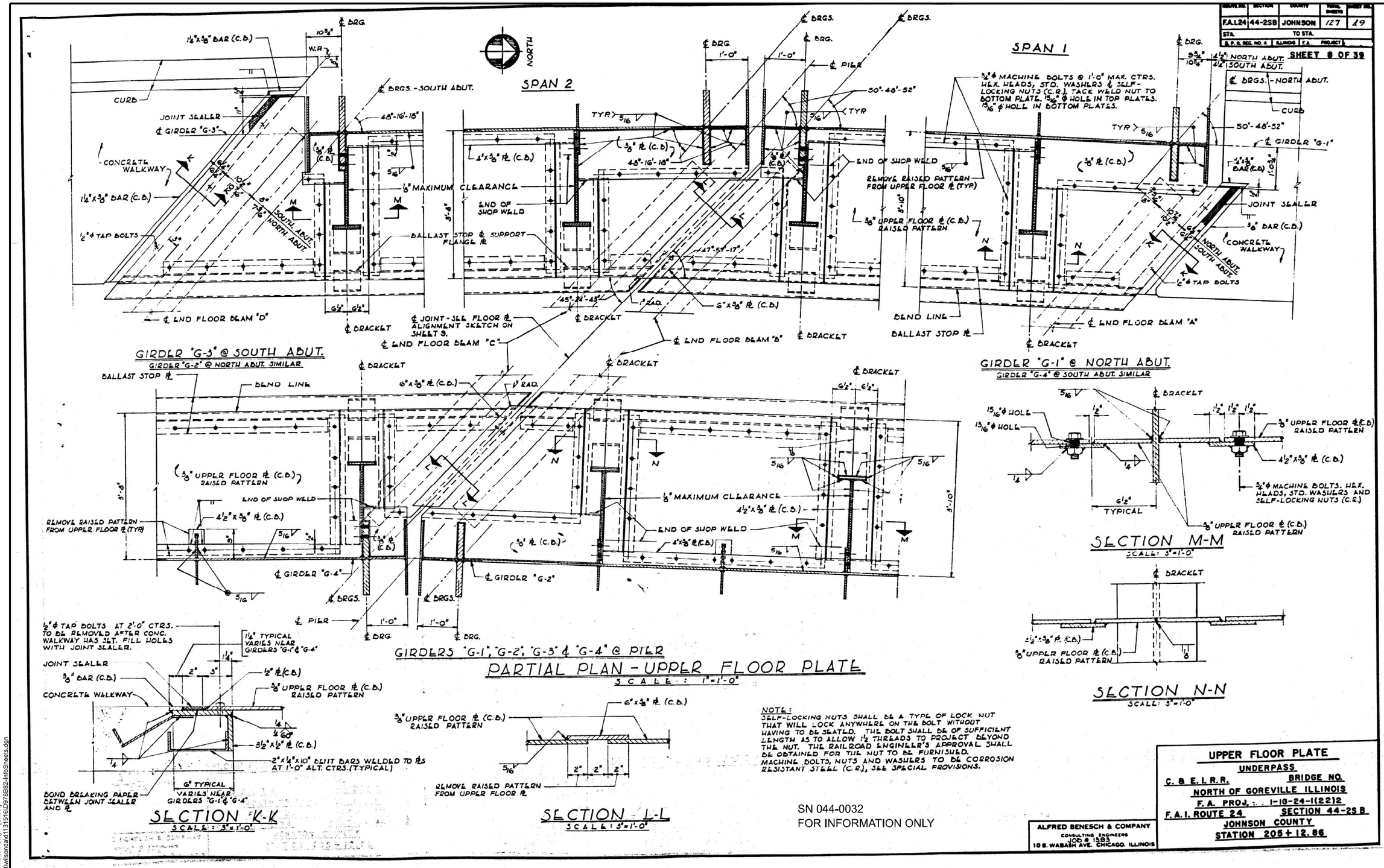
SCALE: | SHEET 6 OF 9 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	29

CONTRACT NO. 78B82
ILLINOIS | FED. AID PROJECT

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.24	44-2SB	JOHNSON	127	19
STA.	TO STA.			
S.P.R. SEC. NO. 4	ILLINOIS	F.A.	PROJECT	

SHEET 8 OF 39



NOTE:
SELF-LOCKING NUTS SHALL BE A TYPE OF LOCK NUT THAT WILL LOCK ANYWHERE ON THE BOLT WITHOUT HAVING TO BE SEATED. THE BOLT SHALL BE OF SUFFICIENT LENGTH AS TO ALLOW 1½ THREADS TO PROJECT BEYOND THE NUT. THE RAILROAD ENGINEER'S APPROVAL SHALL BE OBTAINED FOR THE NUT TO BE FURNISHED. MACHINE BOLTS, NUTS AND WASHERS TO BE CORROSION RESISTANT STEEL (C.R.), SEE SPECIAL PROVISIONS.

SN 044-0032
FOR INFORMATION ONLY

ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB # 1393
10 S. WABASH AVE. CHICAGO, ILLINOIS

UPPER FLOOR PLATE
UNDERPASS
C. & E. I. R.R. BRIDGE NO.
NORTH OF GOREVILLE ILLINOIS
F. A. PROJ. : I-IG-24-1(22)2
F. A. I. ROUTE 24 SECTION 44-2S B
JOHNSON COUNTY
STATION 205+12.86

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN 044-0032 STRUCTURE INFORMATION
	DRAWN -	REVISED -		
	CHECKED -	REVISED -		
PLOT DATE = 7/29/2025	DATE -	REVISED -		SCALE: SHEET 7 OF 9 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	30
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

MODEL: SN 044-0032 For Information Only 7 [Sheet]
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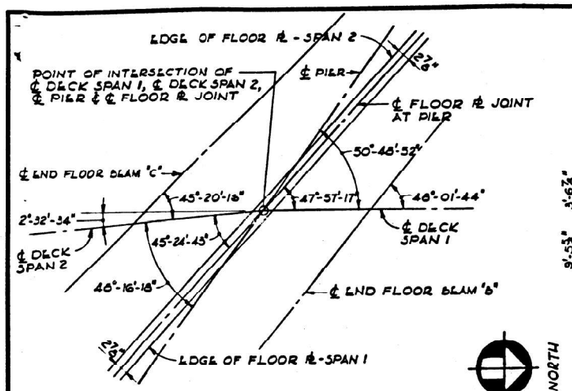
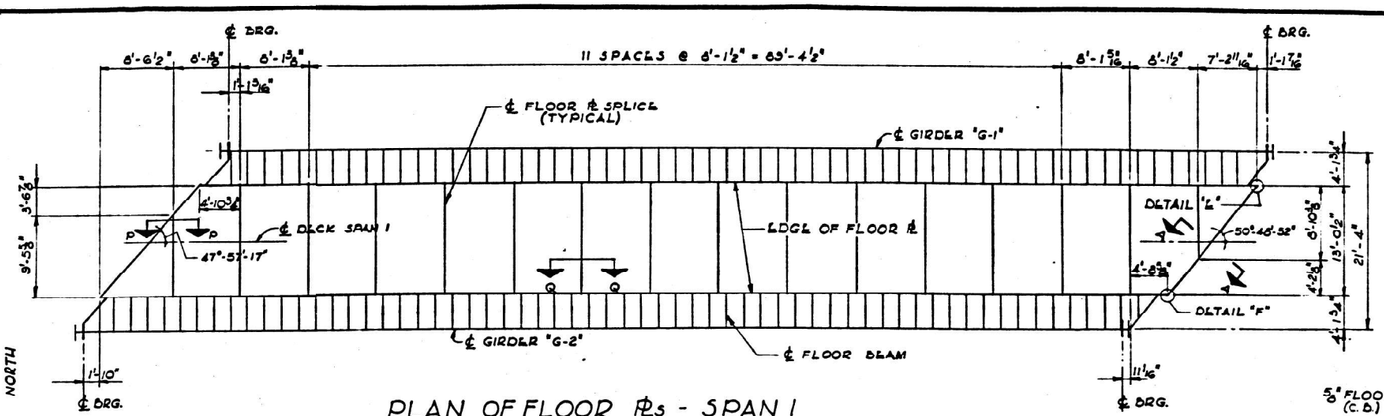
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 24	44-23 B	JOHNSON	127	50
STA.	TO STA.			
S.P.R. SEC. NO. 4	ILLINOIS	F.A. PROJECT		

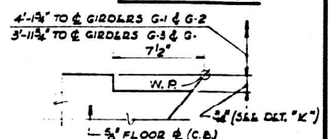
SHEET 9 OF 39



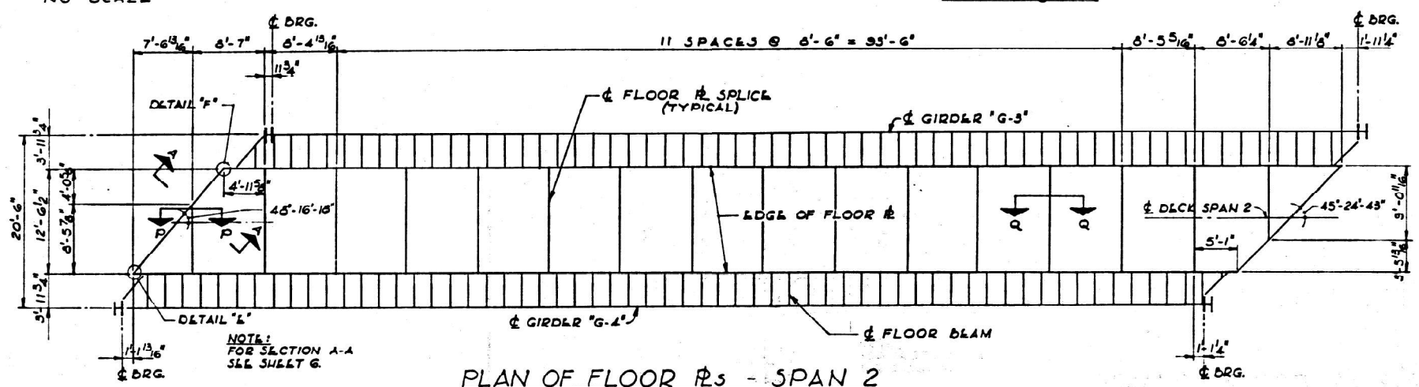
FLOOR PL ALIGNMENT SKETCH
NO SCALE



PLAN OF FLOOR PLs - SPAN 1
SCALE: 1/8" = 1'-0"



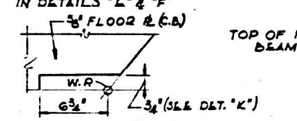
DETAIL "L"



NOTE:
FOR SECTION A-A SEE SHEET 6.

PLAN OF FLOOR PLs - SPAN 2
SCALE: 1/8" = 1'-0"

NOTE:
ALL FLOOR PL DIMENSIONS ARE SHOWN TO W.R. AS SHOWN IN DETAILS "L" & "F"



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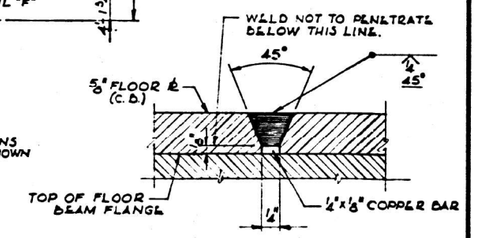
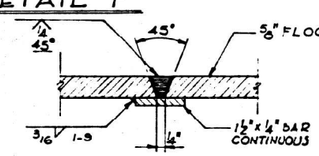
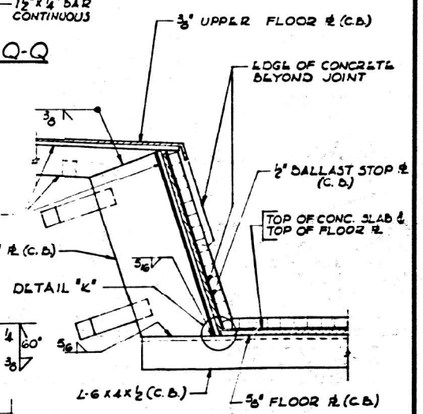


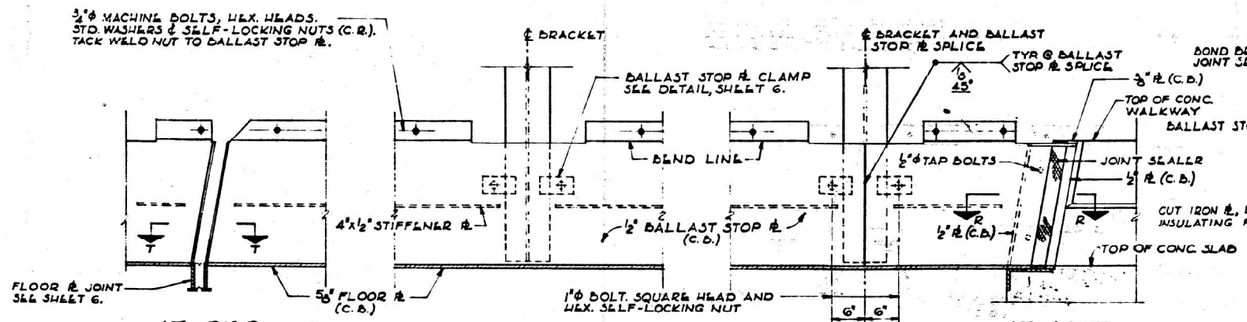
SECTION P-P
SHOWING FIELD SPLICE OVER FLOOR BEAM FLANGES
FULL SIZE



SECTION Q-Q
HALF SIZE



SECTION S-S
SCALE: 1½" = 1'-0"

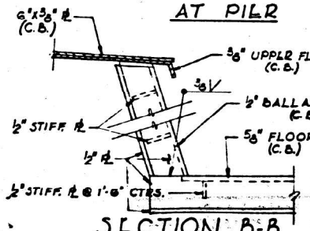


AT PIER

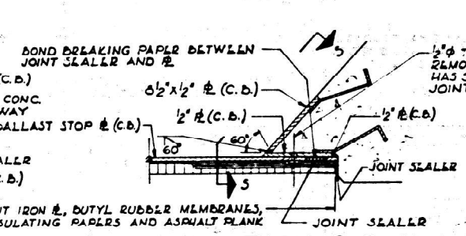
AT ABUT.

NOTE:
SPLICE BALLAST STOP PL AT EVERY OTHER BRACKET.

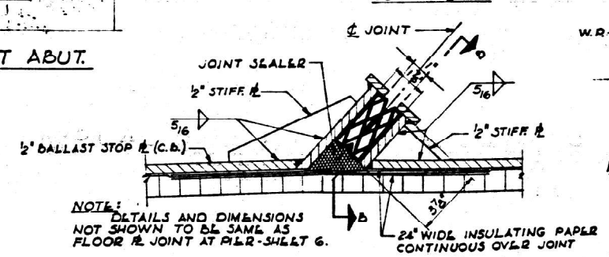
TYPICAL BALLAST STOP PL DETAILS
(DEVELOPED VIEW)
SCALE 1" = 1'-0"



SECTION B-B
SCALE: 1½" = 1'-0"

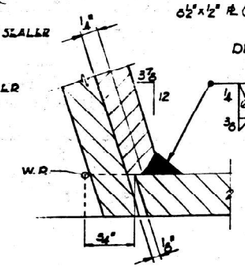


SECTION R-R
SCALE: 1½" = 1'-0"



NOTE:
DETAILS AND DIMENSIONS NOT SHOWN TO BE SAME AS FLOOR PL JOINT AT PIER - SHEET 6.

SECTION T-T
SCALE: 3" = 1'-0"



DETAIL "K"
FULL SIZE

SN 044-0032
FOR INFORMATION ONLY

ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB # 1053
19 S. WABASH AVE. CHICAGO, ILLINOIS

FLOOR PLATE & BALLAST STOP PLATE

UNDERPASS
C. & E. I. R.R. BRIDGE NO.
NORTH OF GOREVILLE, ILLINOIS
F. A. PROJ. I-IG-24-1(22)2
F. A. I. ROUTE 24 SECTION 44-23 B
JOHNSON COUNTY
STATION 205 + 12.86

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 044-0032
STRUCTURE INFORMATION

SCALE: SHEET 8 OF 9 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	31
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

MODEL: SN 044-0032 For Information Only 8 [Sheet]
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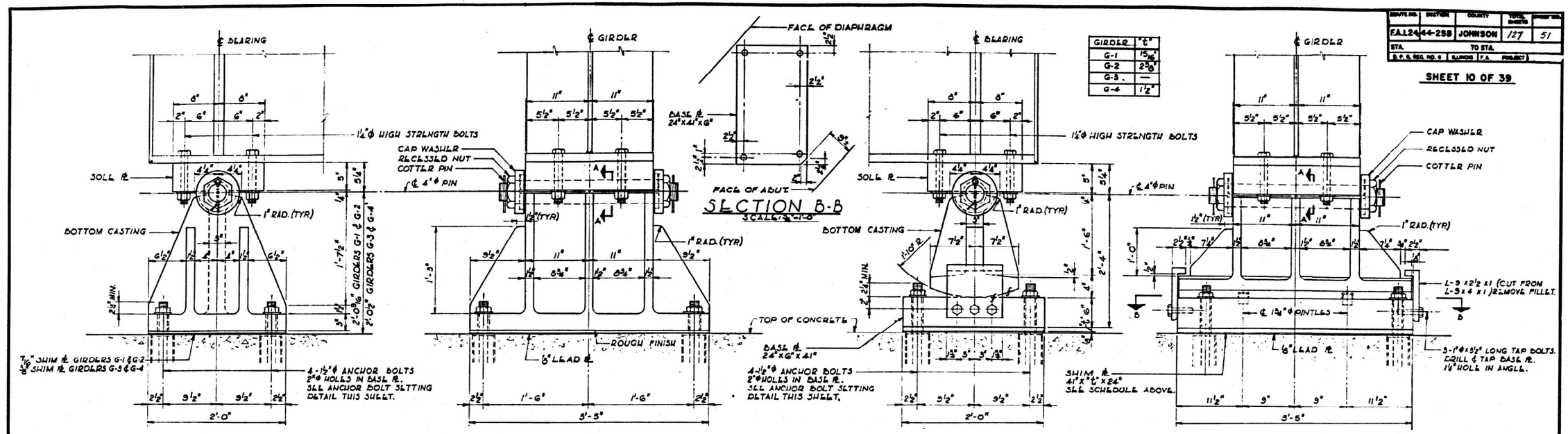
SERIAL NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.24	44-25B	JOHNSON	127	51
STA.		TO STA.		
B.P.R. REG. NO. 0	ILLINOIS	F.A.	PROJECT	

SHEET 10 OF 39

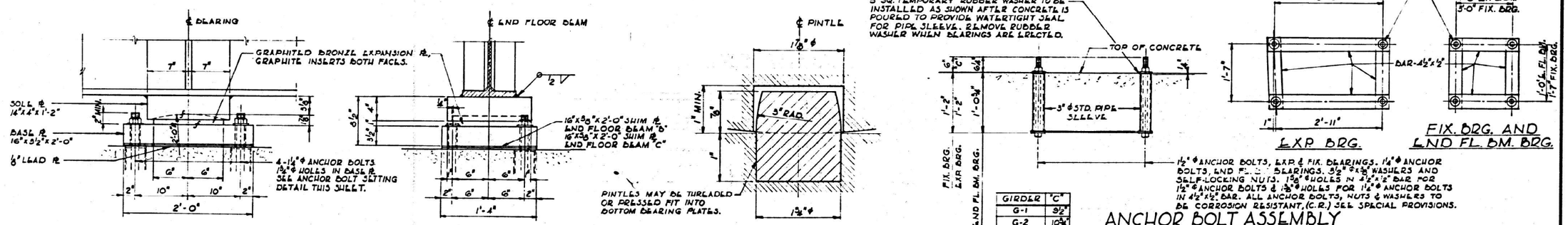


GIRDER	"C"
G-1	15 5/16"
G-2	2 5/8"
G-3	—
G-4	1½"

FIXED BEARING
SCALE: 1½"=1'-0"

EXPANSION BEARING
SCALE: 1½"=1'-0"

SN 044-0032
FOR INFORMATION ONLY



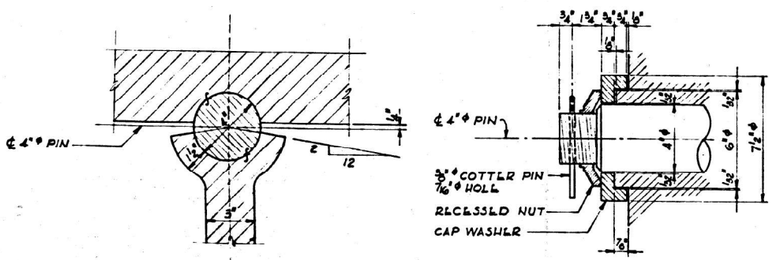
GIRDER	"C"
G-1	9½"
G-2	10 3/8"
G-3	8½"
G-4	10"

END FLOOR BEAM BEARING
SCALE: 1½"=1'-0"

DETAIL OF PINTLE
FULL SIZE

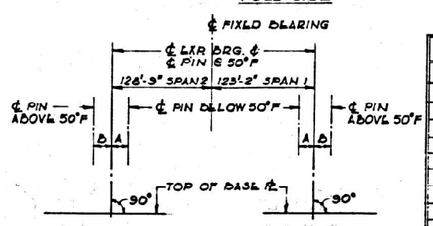
ANCHOR BOLT ASSEMBLY
SCALE: ½"=1'-0"

NOTES:
ALL CASTINGS SHALL CONFORM TO A.S.T.M. A-27, GRADE 65-35, FULLY ANNEALED. PINS FOR GIRDER BEARINGS SHALL BE FORGED TO CONFORM TO A.S.T.M. A-235, CLASS E.
GRAPHITED BRONZE EXPANSION BEARING PLATES SHALL BE MADE FROM CAST BRONZE ALLOY CONFORMING TO A.S.T.M. B-22, ALLOY D, AND SHALL CONTAIN GRAPHITE FILLED RECESSES IN TOP AND BOTTOM SURFACES.
ALL SURFACES MARKED "F" SHALL BE MACHINE FINISHED.
STRUCTURAL STEEL WELDMENTS OF EQUAL SECTIONS AND STRENGTH MAY BE SUBSTITUTED FOR CASTINGS AT THE OPTION OF THE CONTRACTOR SUBJECT TO APPROVAL BY THE ENGINEER PRIOR TO FABRICATION. ADDITIONAL COMPENSATION WILL NOT BE ALLOWED TO THE CONTRACTOR FOR THIS SUBSTITUTION.



SECTION A-A
SCALE 3"=1'-0"

PIN DETAIL
SCALE: 3"=1'-0"



TEMPERATURE CORRECTION FOR EXPANSION BEARINGS

	SPAN 1		SPAN 2	
TEMP.	A	B	A	B
110°F	—	9/16"	—	15/32"
100°F	—	15/32"	—	½"
90°F	—	3/8"	—	13/32"
80°F	—	9/32"	—	5/16"
70°F	—	3/16"	—	3/16"
60°F	—	3/32"	—	3/32"
50°F	0	0	0	0
40°F	3/32"	—	3/32"	—
30°F	3/16"	—	3/16"	—
20°F	9/32"	—	5/16"	—
10°F	⅜"	—	15/32"	—
0°F	15/32"	—	½"	—
-10°F	9/16"	—	15/32"	—

ALFRED BENESCH & COMPANY
CONSULTING ENGINEERS
JOB # 1393
10 S. WABASH AVE. CHICAGO, ILLINOIS

BEARING DETAILS
UNDERPASS
C. & E. I. R. R. BRIDGE NO.
NORTH OF GOREVILLE ILLINOIS
F. A. PROJ. I-16-24-1(22)2
F. A. I. ROUTE 24 SECTION 44-25 B
JOHNSON COUNTY
STATION 205+12.86

MODEL: SN 044-0032 For Information Only 9 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 044-0032
STRUCTURE INFORMATION

SCALE: SHEET 9 OF 9 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	32
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

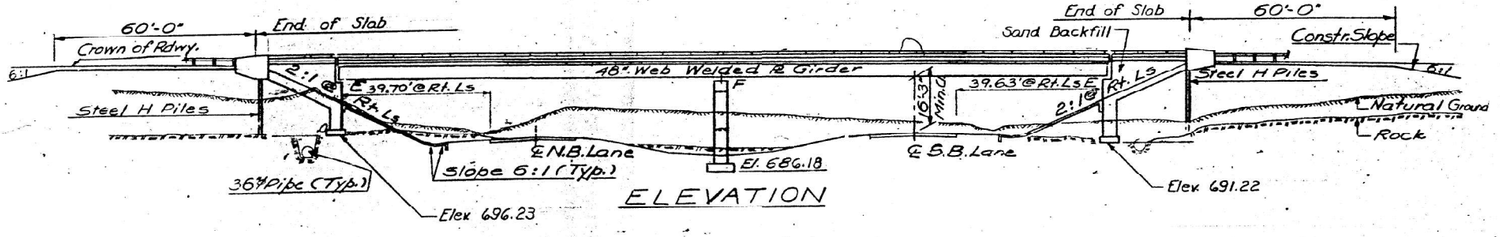
B.M.: Spike in 24" Oak Elev. 702.95 - 165' Rt. Sta. 508+40.

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

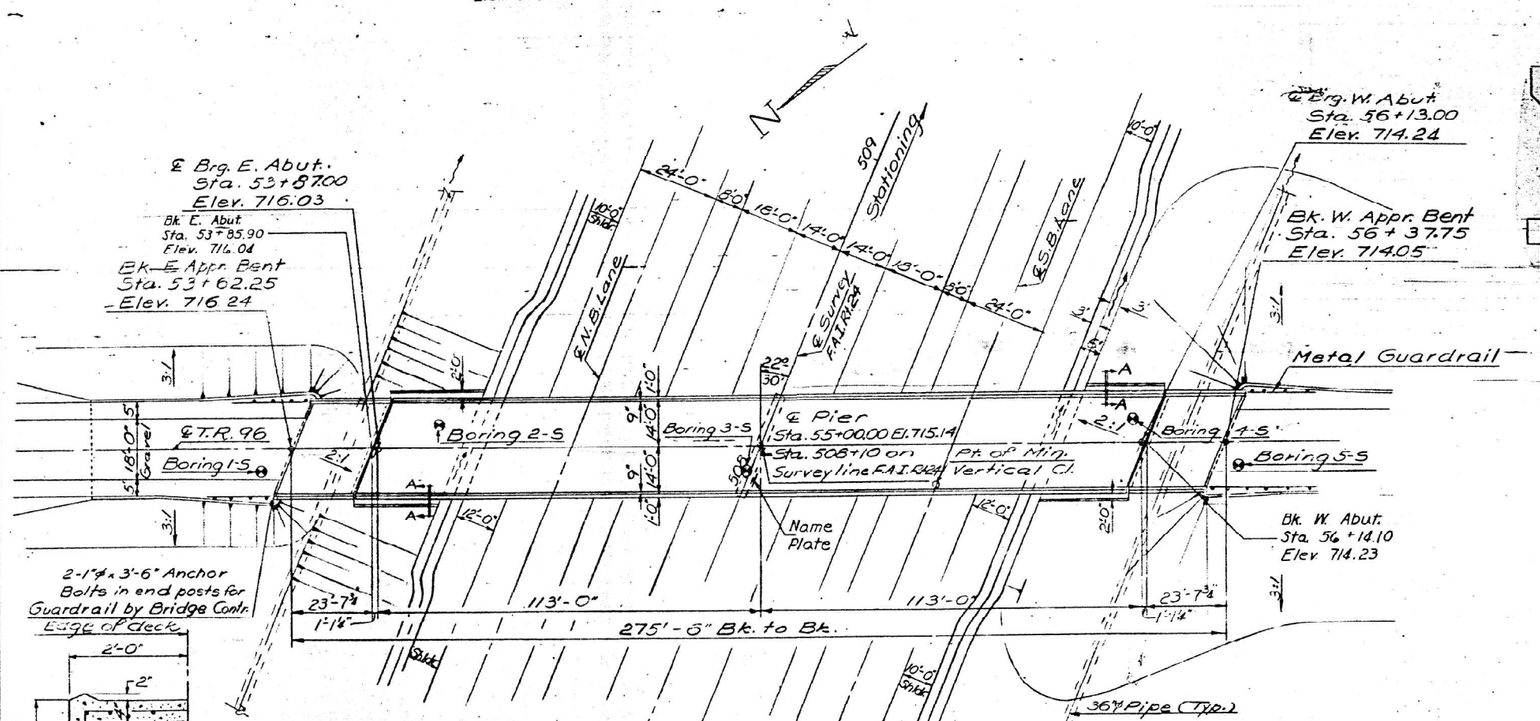
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 24	44-3HB-2	Johnson	60	12

SHEET NO. 1 / 11 SHEETS

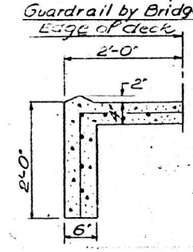
F.A.P. RTE. 24 SECTION 44-3HB-2 ILLINOIS FED. AND PROJECT F-24-1(46)7



ELEVATION



PLAN



SECTION A-A

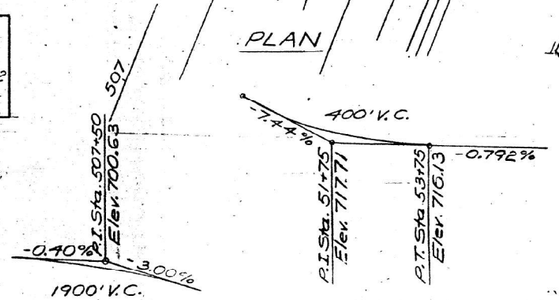
STATION 508+10
BUILT 19 BY
STATE OF ILLINOIS
F.A.I. RT. 24 SEC. 44-3HB-2
F.A. PROJ. I-24-1(1)
LOADING H515

NAME PLATES
Std. 2113-1

Note: Allow 25#/□' for fut. Wearing Surf.

DESIGNED	Emile A. Sawaya
CHECKED	A. Keramati
DRAWN	C.E. Wilkins
CHECKED	A.K.

EXAMINED July 15, 1969
PASSED
APPROVED Richard H. Gutherman
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
ENGINEER OF DESIGN



PROFILE - F.A.I. 24

PROFILE - T.R. 96

GENERAL NOTES

All reinforcement bars shall be lapped "24 diameters unless otherwise shown.

Field connections shall be bolted using high strength bolts. Bolts 3/4" ø, open holes 13/16" ø, unless otherwise noted.

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

Calculated weight of Structural Steel = 215,200 lbs.

Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

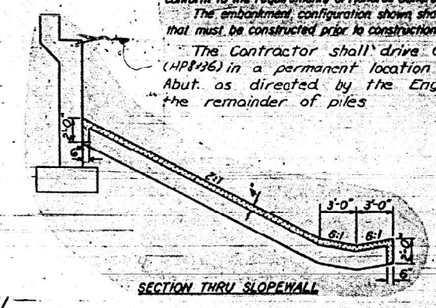
Anchor bolts shall be set before riveting diaphragms over supports.

Slope wall shall be reinforced with welded wire fabric 6" x 6" mesh, weighing 58# per 100 sq. ft.

The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.

The Contractor shall drive One Steel Test Pile (HP8x36) in a permanent location at the West Appr. Abut. as directed by the Engineer before ordering the remainder of piles



SECTION THRU SLOPEWALL

TOTAL BILL OF MATERIAL

Item	Unit	Super.	Sub.	Total
STRUCTURE EXCAVATION	Cu. Yds.		111	111
Protective Coat	Sq. Yds.	952		952
Class X Concrete	Cu. Yds.	280.2	195.1	475.3
* Rock Excavation for Structure	Cu. Yds.		19	19
Structural Steel	L.S.	L.S.		L.S.
Stud Shear Connectors	Each	1224		1224
Aluminum Railing	Lin. Ft.	540		540
Reinforcement Bars	lbs.	63,950	25,740	89,690
Steel ~~Piles (HP8 x 36)~~	Lin. Ft.		171	171
Test Piles Steel (HP8x36)	Each		1	1
Name Plates	Each		1	1
Slope Wall (4")	Sq. Yds.			294
Preformed Joint Sealer	Lin. Ft.	65		65
Sand Backfill	Cu. Yds.			200

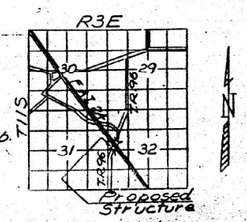
* Includes Excavation for Slopewall

SN 044-0036
FOR INFORMATION ONLY

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 - Ftgs
n = 10

Loading HS15-44
Allowable ⅓ Defl. ~~1/800~~ Comp.



LOCATION SKETCH

GENERAL PLAN & ELEVATION
PROJECT I-24-1(47)
T.R. 96 OVER F.A.I. RT. 24
F.A.I. RT. 24 SEC. 44-3HB-2
JOHNSON COUNTY
STA. 508+10

Rev. W.H. 6-23-71

MODEL: SN 044-0036 For Information Only 1 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 044-0036
STRUCTURE INFORMATION

SCALE: SHEET 1 OF 4 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	33

CONTRACT NO. 78B82

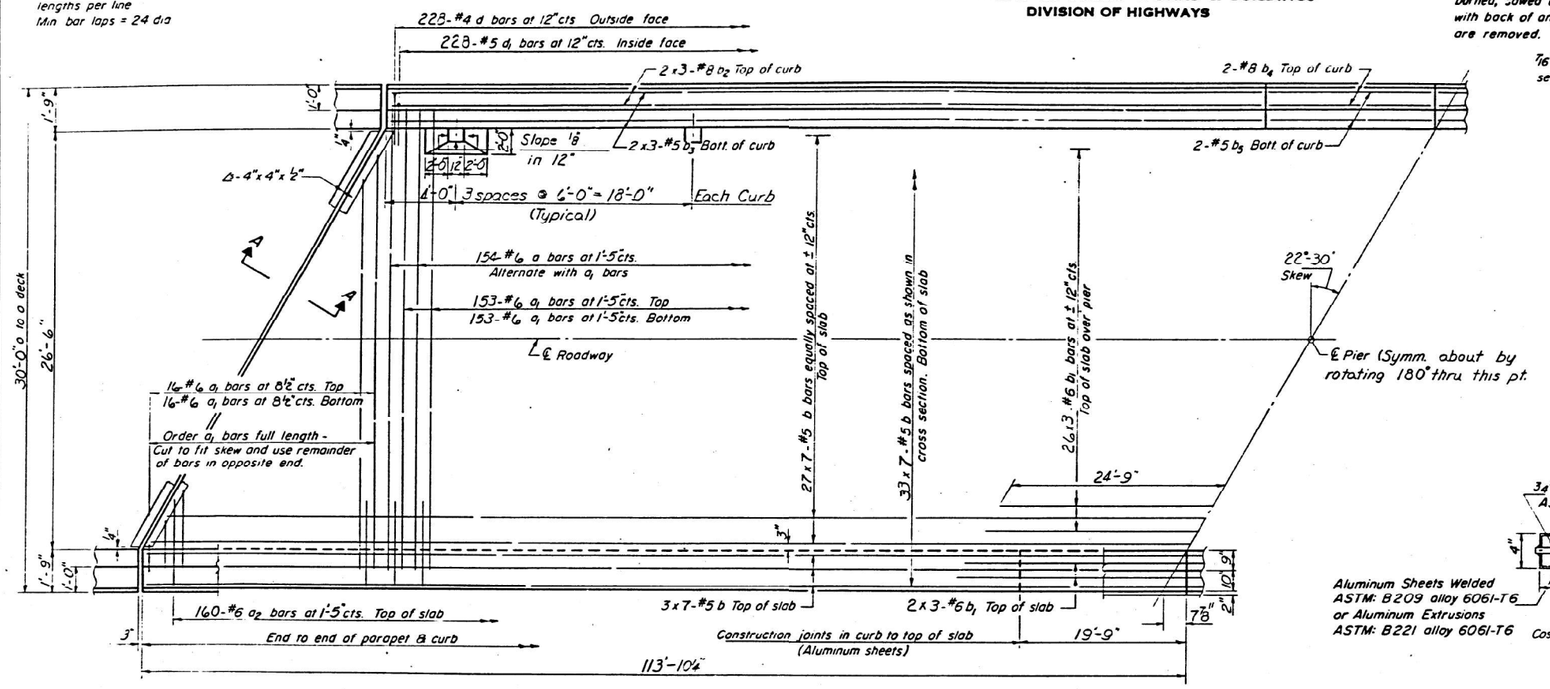
ILLINOIS FED. AID PROJECT

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

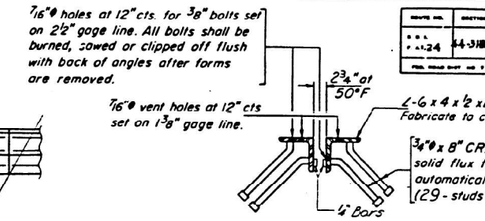
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 24	44-3HB-2	Johnson	60	16

SHEET NO. 5
11 SHEETS

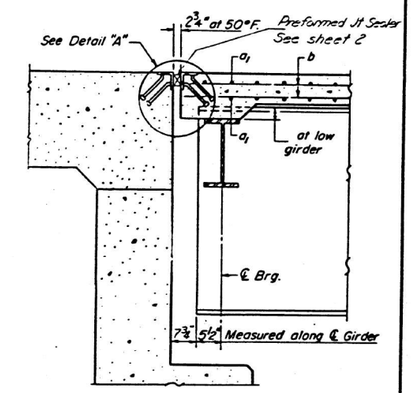
NOTE:
Bars indicated thus 20 x 3-#5 etc indicates 20 lines of bars with 3 lengths per line
Min bar laps = 24 dia



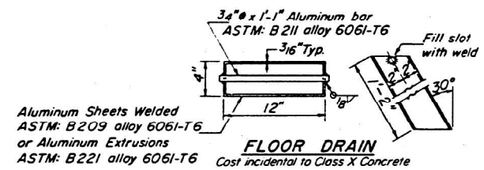
HALF PLAN



DETAIL "A"



SECTION A-A



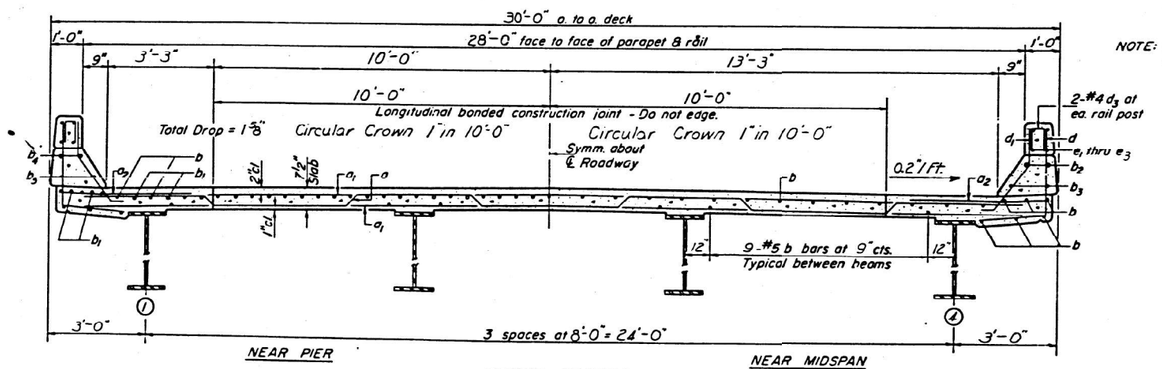
FLOOR DRAIN
Cost incidental to Class X Concrete

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	154	#6	28'-11"	
a_1	339	#6	28'-3"	
a_2	320	#6	4'-0"	
b	462	#5	33'-9"	
b_1	90	#6	17'-6"	
b_2	24	#8	32'-9"	
b_3	24	#5	32'-3"	
b_4	8	#8	19'-6"	
b_5	8	#5	19'-6"	
d	456	#4	4'-6"	
d_1	456	#5	3'-3"	
Reinforcement Bars			Lbs.	47,980
Class X Concrete			Cu. Yds.	193.1
* Structural Steel			Lbs.	215,200

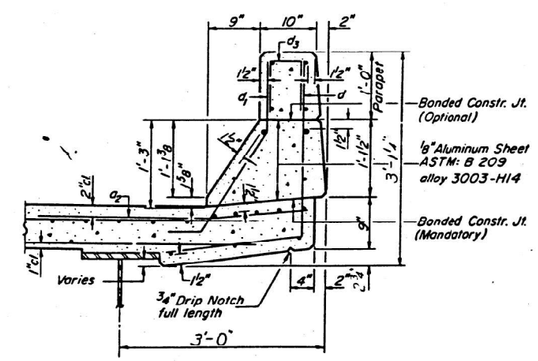
* Weight of bearing assemblies with lead plates and anchor bolts are included as Structural Steel. Est. Wt. = 3910 lbs

Parapet Reinforcement and Class X Concrete are billed on sheet # 8



CROSS SECTION
(Looking West)

NOTE: For placement of bars d_3 and e_1 thru e_3 see sheet #8

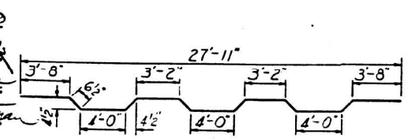


CURB SECTION
Cost of Aluminum Sheets shall be incidental to Class X Concrete.

DESIGNED	Emil A. Samara
CHECKED	A. Keramati
DRAWN	C.E. Wilkins
CHECKED	A.K.

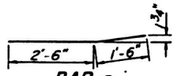
EXAMINED July 15 1969
PASSED
APPROVED

S-4-L(-15° thru 30°) 4-22-68

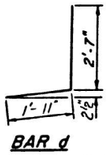


BAR a

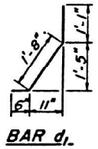
SN 044-0036
FOR INFORMATION ONLY



BAR a_2



BAR d



BAR d_1

SUPERSTRUCTURE
GIRDER SPAN
F.A.I. RT. 24 SEC. 44-3HB-2
JOHNSON COUNTY
STA. 508+10

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 044-0036
STRUCTURE INFORMATION

SCALE: SHEET 2 OF 4 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	34

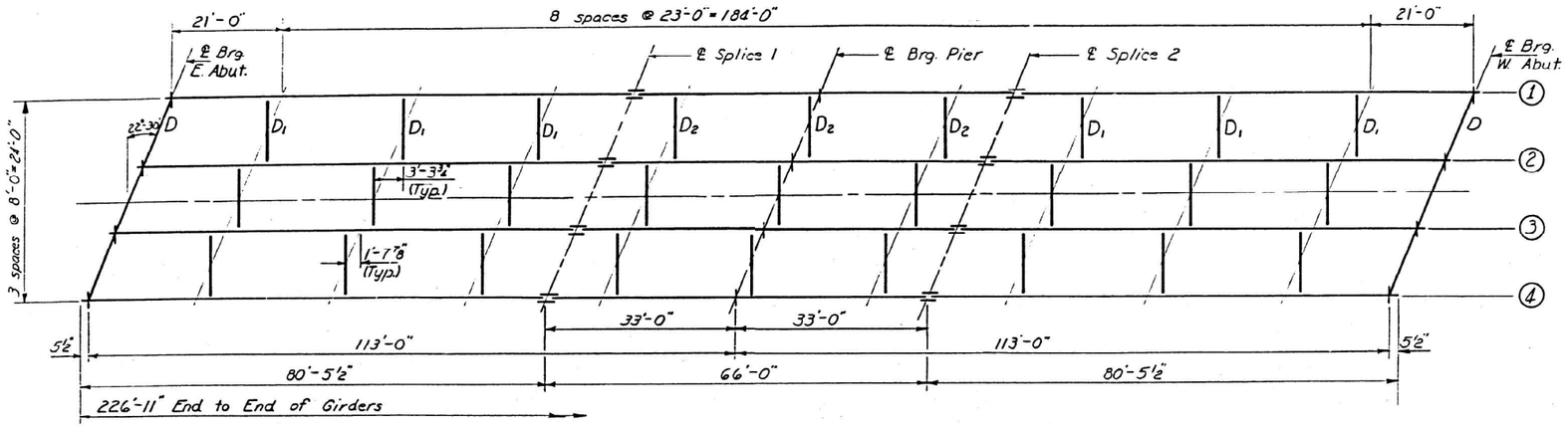
CONTRACT NO. 78B82
ILLINOIS | FED. AID PROJECT

MODEL: SN 044-0036 For Information Only 2 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d1313516\D978B82-InfoSheets.dgn

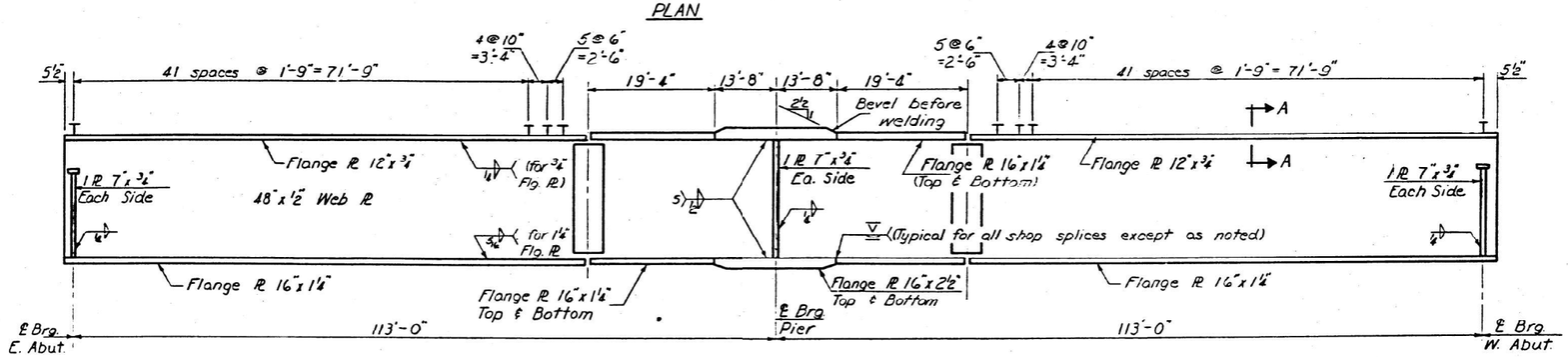
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 24	44-3HB-2	Johnson	60	17
PROJ. ROAD DIST. NO. 7	ILLINOIS	PROJ. AID PROJECT		

SHEET NO. 6
11 SHEETS

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

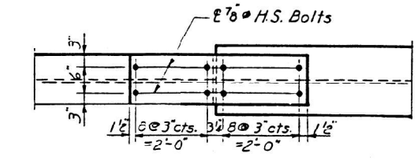


PLAN

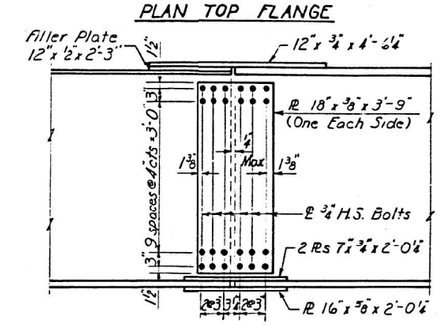


ELEVATION

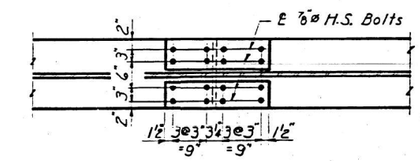
Exterior Face



PLAN TOP FLANGE

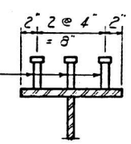


DETAIL OF FIELD SPLICES

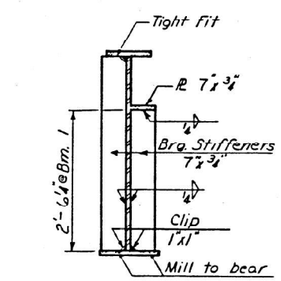


PLAN BOTTOM FLANGE

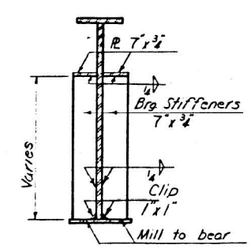
¾" ø x 4" Granular or solid flux filled headed studs automatically end welded to flange. No. Required = 1224



SECTION A-A

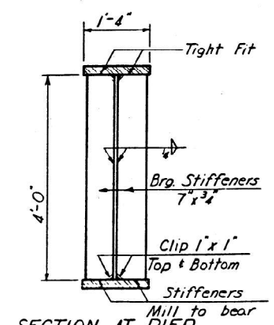


AT EXTERIOR GIRDER



AT INTERIOR GIRDER

SECTION AT ABUTMENTS



SECTION AT PIER

SN 044-0036
FOR INFORMATION ONLY

DESIGNED	Emile A. Zamara
CHECKED	O. Keramati
DRAWN	WILKINS
CHECKED	A. K.

JULY 15 1969
EXAMINED
PASSED
APPROVED

STRUCTURAL STEEL AND DETAILS
F.A.I. RT. 24 SEC. 44-3HB-2
JOHNSON COUNTY
STA. 508+10

MODEL: SN 044-0036 For Information Only 3 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsondaud\113151\D978B82-InfoSheets.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

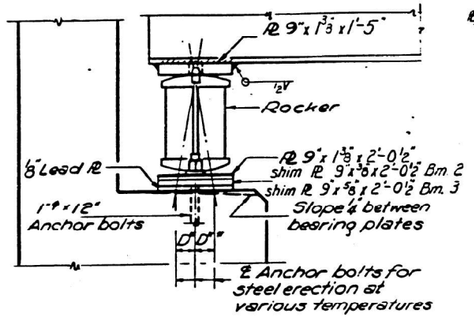
SN 044-0036
STRUCTURE INFORMATION

SCALE: | SHEET 3 OF 4 SHEETS | STA. | TO STA.

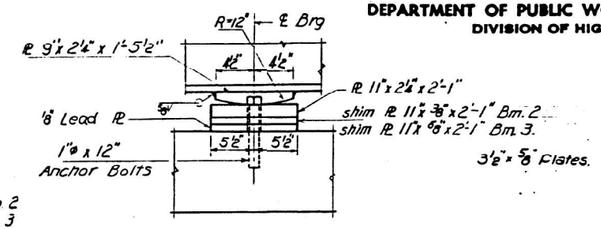
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	35
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

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

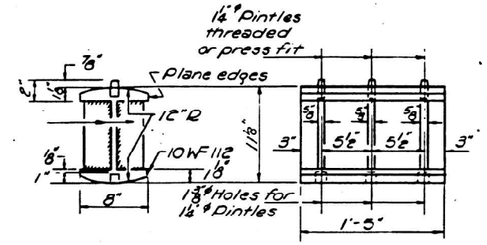
F.A.I. 24	44-3HB-2	Johnson	60	18	SHEET NO. 7 / 11 SHEETS



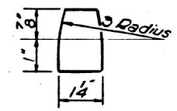
ELEVATION



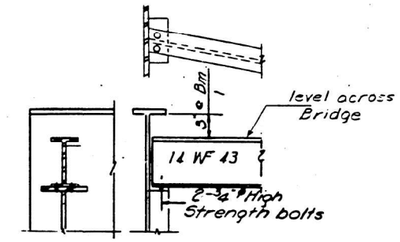
ELEVATION



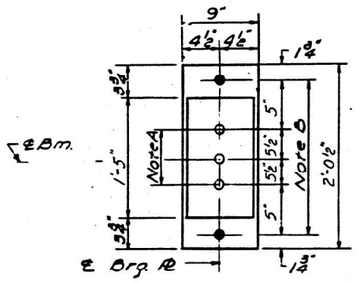
ROCKER



PINTLE

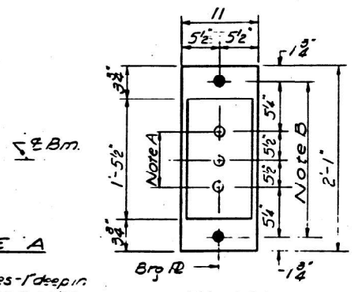


DIAPHRAGM D
6 Required



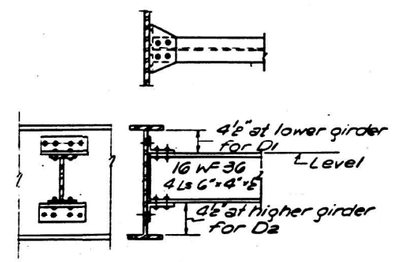
PLAN
AT ABUTMENT

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



PLAN
AT PIER

NOTE B
1 3/8"ø Holes for 1"ø anchor bolts 2 1/2" x 2 1/2" x 5/16" PL washers under nut



DIAPHRAGM
D_1 - 18 Required
D_2 - 9 Required

NOTES ON SETTING OF ANCHOR BOLTS AT EXPANSION BEARINGS

a) D* (Side of brg. away from fixed brg.)
D* = 1/8" per each 100' of expansion for every 15° fall below the normal temperature of 50° F

D** (Side of brg. toward fixed brg.)
D** = 1/8" per each 100' of expansion for every 15° rise above the normal temperature of 50° F

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

TABLE OF MOMENTS, SHEARS & REACTIONS - INTERIOR BEAMS

MOMENTS (Ft.-Kip)				REACTION (Kips)	
	0.4 SPAN 1		PIER	ABUT	PIER
	STEEL SECTION				
DL	737.5	DL	1933.2	38.6	145.6
	Composite Sec.				
SDL	357.6				
LL	790.0	LL	729.5	29.2	52.0
Imp	166.8	Imp	151.0	6.1	10.9
TOTAL	1314.4	TOTAL	2813.7	73.9	208.5

SHEAR (Kips)				
	ABUT.	1/4	1/2	3/4
DL + SDL	55.2	16.5	-22.3	-60.8
LL	35.3	24.3	-19.6	-43.5
Imp	7.5	5.1	-5.1	-9.1
Total	98	45.9	-47.0	-113.4

PROPERTIES	
Steel Section @ 0.4 1	
Is	21,508 in⁴
Sts	685 in³
Sbs	1150 in³
Composite Section	
Ic	56,488 in⁴
Stc	5,130 in³
Sbc	1,545 in³

TOP OF WEB ELEVATION

Location	Beam 1	Beam 2	Beam 3	Beam 4
℄ Brg. E. Abut.	715.04	715.15	715.18	715.12
℄ Splice 1	714.41	714.52	714.54	714.49
℄ Pier	714.15	714.26	714.28	714.23
℄ Splice 2	713.89	714.00	714.02	713.97
℄ Brg. W. Abut.	713.25	713.36	713.39	713.33

SN 044-0036
FOR INFORMATION ONLY

BEARING DETAIL
F.A.I. RT. 24 SEC. 44-3HB-2
JOHNSON COUNTY
STA. 508+10

DESIGNED	Emil A. Samara	EXAMINED	July 15 1969
CHECKED	O. Keramati	PASSED	
DRAWN	C.E. Wilkins	APPROVED	
CHECKED	A.K.		

HENDERSON

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 044-0036
STRUCTURE INFORMATION
SCALE: SHEET 4 OF 4 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	36
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

MODEL: SN 044-0036 For Information Only 4 [Sheet]
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	(91-1HB) DR	UNION	42	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT -		

SHEET NO. 1
23 SHEETS

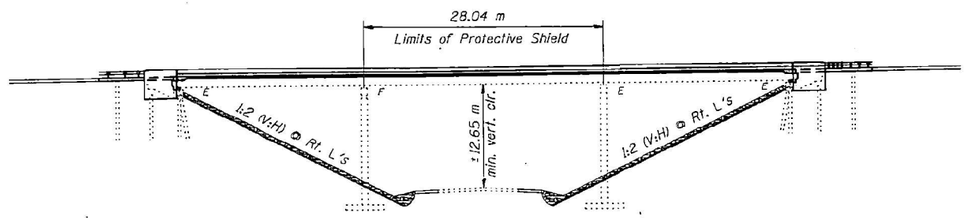
Bench Mark: "□" cut in concrete base of west sign leg at "Gas Exit 40". Station 60+654.0, 9 m Lt. of ℄ NBL, Elev. 162.860

Existing Structure: S.N. 091-0017 (NB) & 091-0018 (SB) built as F.A.I. Route 57 Sec. 91-1HB in 1959. Each structure is a three span continuous wide flange with RC deck. 73.23 m bk. to bk. abutments and 10.87 m o. to o. deck on pile bent abutments and two column piers on spread footings. Remove and replace existing deck, maintaining traffic by utilizing crossovers.

No salvage

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

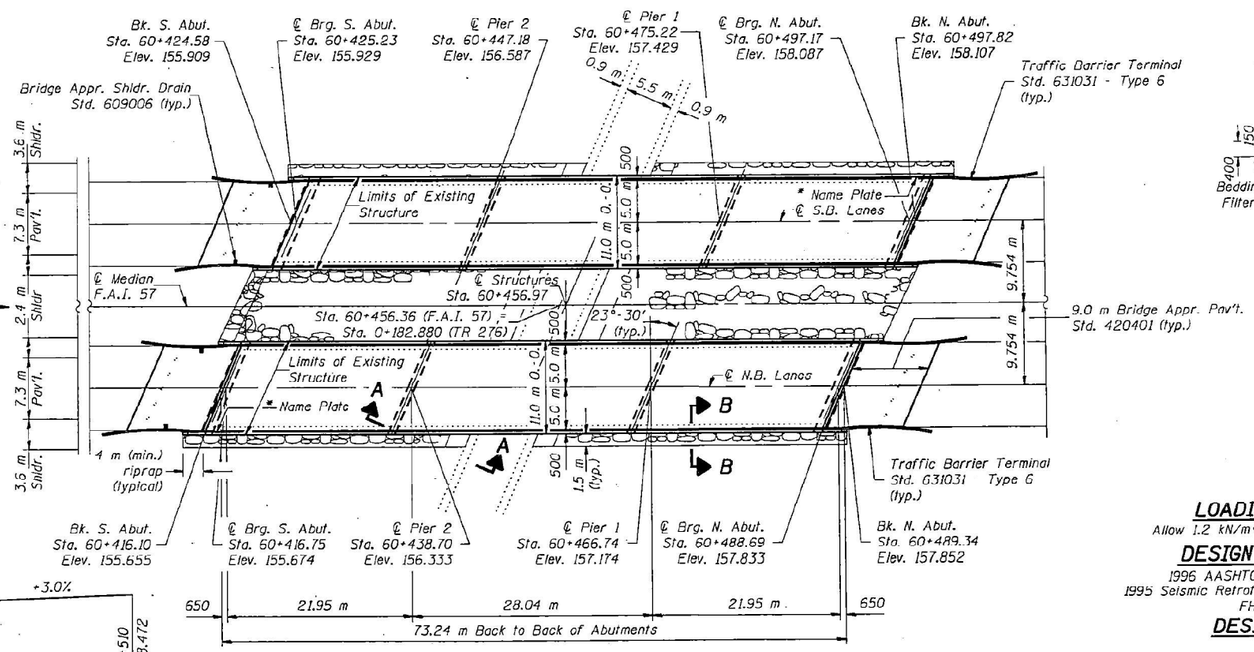
Note: The existing slopewalls and all existing dumped riprap on the bridge cone shall be removed.** Embankment shall be brought in and graded and compacted in order to bring the bridge cone up to the correct 1:2 (V:H) slopes. After inspection and approval of the graded embankment slopes by the Engineer, the Contractor shall place Stone Riprap Class A4 on the slopes. Embankment for shaping slopes will be included in cost of Stone Riprap Class A4. Any voids underneath the abutment caps shall be cleaned, filled and compacted with a suitable material subject to the approval of the Engineer. Cost included with Stone Riprap Class A4.



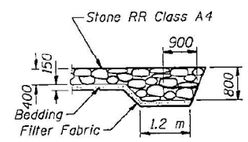
ELEVATION

* Existing Name Plates to be cleaned and relocated next to New Name Plates. Cost included with Name Plates.

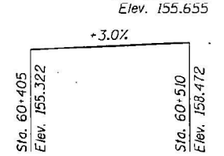
** Cost of removing existing dumped riprap included with slopewall removal. Estimated quantity of existing dumped riprap to be removed is 560 Metric Tons.



PLAN



SECTION B-B



PROFILE GRADE
(along ℄ roadway)

TOTAL BILL OF MATERIAL
TWO STRUCTURES

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Concrete Deck	Each	2		2
Structure Excavation	m^3		326	326
Concrete Removal	m^3		48.0	48.0
Porous Granular Embankment	m^3		210	210
Protective Coat	m^2	1812		1812
Concrete Structures	m^3		56.2	56.2
Concrete Superstructure	m^3	432.2		432.2
Neoprene Expansion Joint 50 mm	m	23.0		23.0
Neoprene Expansion Joint 65 mm	m	23.0		23.0
Elastomeric Bearing Assembly, Type I	Each	24		24
Elastomeric Bearing Assembly, Type II	Each	12		12
Furnishing & Erecting Structural Steel	kg	25410		25410
Stud Shear Connectors	Each	7848		7848
Reinforcement Bars, Epoxy Coated	kg	57210	6950	64160
Stone Riprap Class A4	m^2		2441	2441
Filter Fabric for use with Riprap	m^2		2441	2441
Protective Shield	m^2	617		617
Name Plates	Each	2		2
Bridge Deck Grooving	m^2	1360		1360
Jack and Remove Existing Bearings	Each	48		48
Slope Wall Removal	m^2		1697	1697
Bar Splicers	Each		148	148
2 Structural Steel Repair	kg	4820		4820

3

SN 091-0017 & SN 091-0018
FOR INFORMATION ONLY

LOADING MS18 & ALT.
Allow 1.2 kN/m² for future wearing surface.

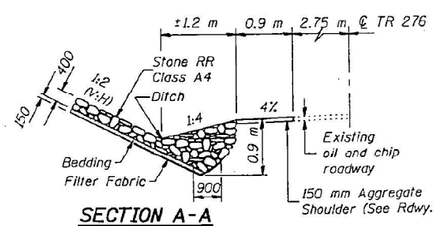
DESIGN SPECIFICATIONS
1996 AASHTO with 1997 & 1998 Interims
1995 Seismic Retrofitting Manual for Highway Bridges
FHWA-RD-94-052

DESIGN STRESSES

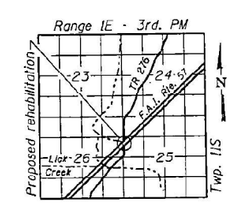
New Construction
f'_c = 24 MPa
f_y = 400 MPa (reinforcement)
f_y = 250 MPa (structural steel) (M 270M Grade 250)

Existing Construction
f'_c = 9.653 MPa
f_s = 137.9 MPa (reinforcement)
f_s = 124.1 MPa (structural steel)
n = 10
v = 0.517 MPa (pier footings)

SEISMIC DATA
Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.14g
Site Coefficient (S) = 1.0



SECTION A-A



LOCATION SKETCH

GENERAL PLAN
INTERSTATE 57 OVER
TR 276
F.A.I. ROUTE 57 - SECTION (91-1HB)DR
UNION COUNTY
STATION 60+456.97
STRUCTURE NO. 091-0017 (N.B.)
STRUCTURE NO. 091-0018 (S.B.)

DESIGNED C.E. Hall
CHECKED
DRAWN R. Doty
CHECKED CEH / ET

April 27, 2000
EXAMINED
PASSED
Secretary of Highways and Transportation

STATE OF ILLINOIS — REGISTERED STRUCTURAL ENGINEER — CHRISTOPHER E. HALL
EXPIRES 11-30-2000

2 Revised 2/7/2001. CEH 3 Revised 6/26/2001. CEH

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USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 091-0017 & SN 091-0018
STRUCTURE INFORMATION

SCALE: SHEET 1 OF 12 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	37
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	(91-1HB)DR	UNION	42	21
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 2
23 SHEETS

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts M22, open holes 24 mm ϕ unless otherwise noted.

All new structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M 300, Type I.

Field welding of construction accessories will not be permitted to the bottom flange of beams nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.

Field painting of structural steel shall be done under a separate painting contract.

Reinforcement bars shall conform to the requirements of AASHTO M 31M, M 42M or M 53M Grade 400.

Two 3 mm adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, shims shall be provided and placed as detailed.

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

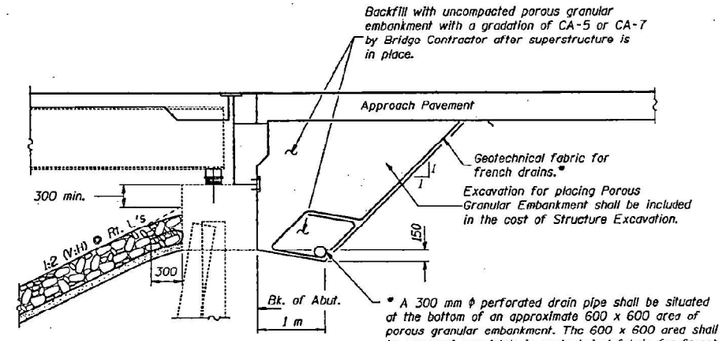
Prior to pouring the new concrete deck, All loose rust, loose mill scale and other loose potentially detrimental foreign material shall be removed from the surfaces of the beams or girders in contact with concrete. The cost of this work will be included in the pay item covering removal of the existing concrete. All heavy rust and other tightly adhered potentially detrimental foreign matter shall also be removed from the surfaces of the beams or girders in contact with concrete. Tightly adhered paint may remain unless otherwise noted. This removal shall be accomplished by methods that will not damage the steel. The cost of this work will be paid for according to Article 109.04.

Existing structural steel shall only be cleaned as required by the Special Provision "Cleaning and Painting Adjacent Areas of Existing Steel Structures."

The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These components include all cover plate material except fill plates.

All dimensions are in millimeters (mm) except as noted.

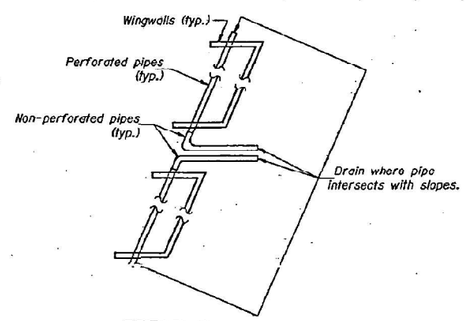
All existing construction accessories welded to the top flange over the pier(s) between the quarter points of the beams or girders shall be removed. The remaining weld shall be ground smooth and inspected for cracks using magnetic particle testing. Any cracks that can not be removed by grinding approximately 7mm deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of this work shall be paid for according to Article 109.04.



* A 300 mm ϕ perforated drain pipe shall be situated at the bottom of an approximate 600 x 600 area of porous granular embankment. The 600 x 600 area shall be wrapped completely in geotechnical fabric for french drains. Extend pipe parallel with cap thru wingwalls. At the exterior sideslopes, terminate pipe where it intersects the sideslope. At the interior slopes between structures, connect perforated pipes with a 300 mm ϕ non-perforated pipe. The 300 mm ϕ non-perforated drain pipe shall be given a smooth radius and turned to outlet on the riprapped bridge cone. See Detail A.

* Included in the cost of Porous Granular Embankment.

SECTION THRU ABUTMENTS
(Dimensions are at Rt. L's)



DETAIL A

STATION 2309+98.02
REBUILT 20 BY
STATE OF ILLINOIS
F.A.I. RT. 57 SECTION (91-1HB)DR
PROJECT NO. ACBHI-57-1(180) 37
LOADING HS20 & ALT.
STR. NO. 091-0017

** NAME PLATE - N.B. LANES
See Std. 515001

STATION 2309+98.02
REBUILT 20 BY
STATE OF ILLINOIS
F.A.I. RT. 57 SECTION (91-1HB)DR
PROJECT NO. ACBHI-57-1(180) 37
LOADING HS20 & ALT.
STR. NO. 091-0018

** NAME PLATE - S.B. LANES
See Std. 515001

** Name Plates reflect English designations.

SN 091-0017 & SN 091-0018
FOR INFORMATION ONLY

DESIGNED	CEH
CHECKED	SDS
DRAWN	R. Doty
CHECKED	CEH/FT

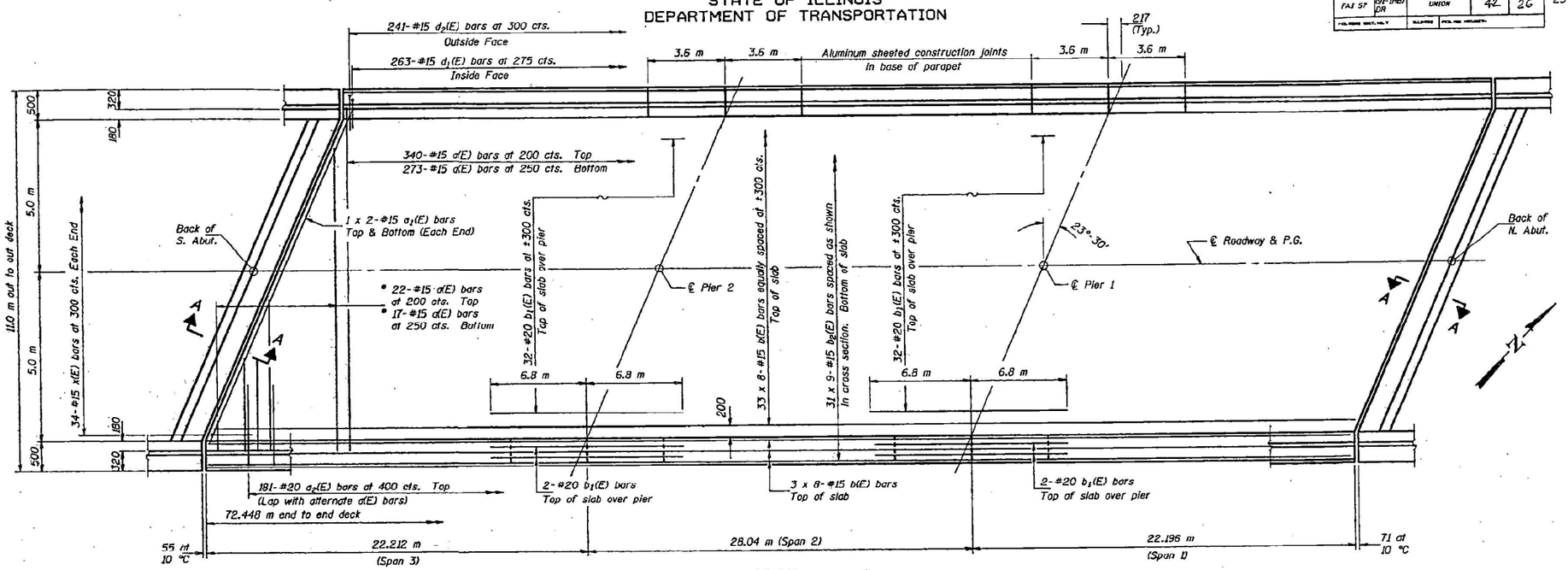
April 27, 2000
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Roland E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

GENERAL DATA
F.A.I. RT. 57 SECTION (91-1HB)DR
UNION COUNTY
STATION 60+456.97

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	(91-1HB) DR	UNION	42	26

SHEET NO. 7
23 SHEETS

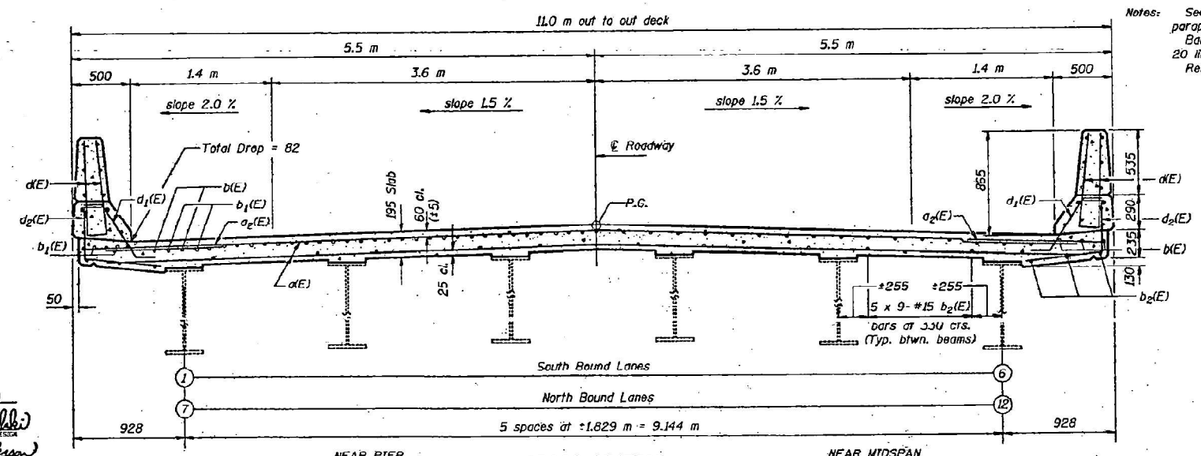
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

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

MIN. BAR LAP
#15 bars = 510



NEAR PIER

CROSS SECTION
(Looking North)

NEAR MIDSPAN

Notes: See sheet 8 of 23 for superstructure details, parapet reinforcement. Section A-A and Bill of Material.
Bars indicated thus 20 x 3-#15 etc. indicates 20 lines of bars with 3 lengths per line.
Reinforcement bars designated (E) shall be epoxy coated.

SN 091-0017 & SN 091-0018
FOR INFORMATION ONLY

SUPERSTRUCTURE
NORTH & SOUTH BOUND LANES
F.A.I. RT. 57 SECTION (91-1HB)DR
UNION COUNTY
STATION 60+456.97

DESIGNED	CEH
CHECKED	SDS
DRAWN	R. Daty
CHECKED	CEH/FT

April 27, 2028
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Robert E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

S-1-0 (M) 4-30-97

MODEL: SN 091-0017 AND SN 091-0018 For Information Only 3 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0017 & SN 091-0018
STRUCTURE INFORMATION

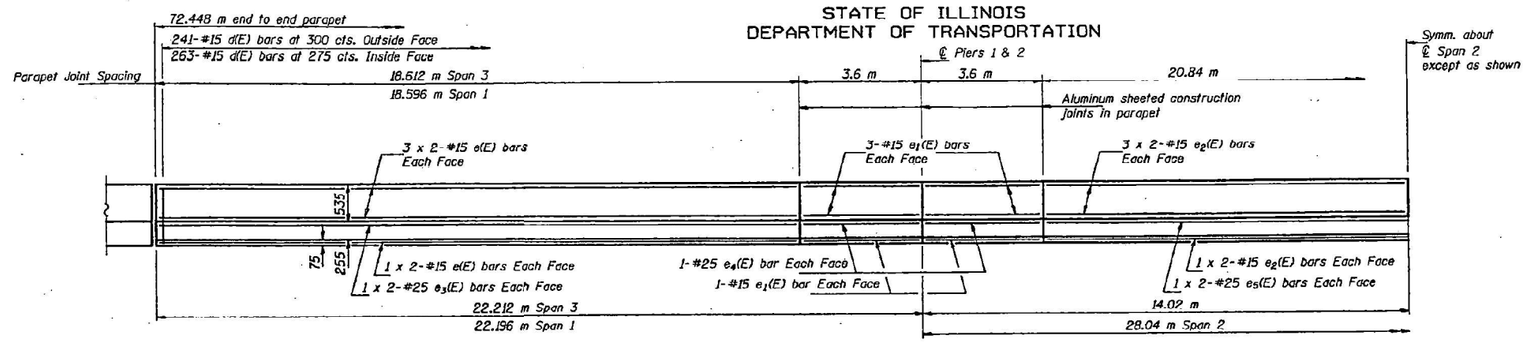
SCALE: SHEET 3 OF 12 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	39
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	(91-1HB) DR	UNION	42	27
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8
23 SHEETS

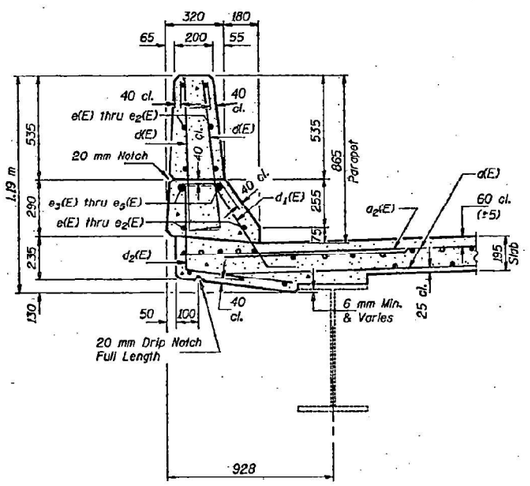
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



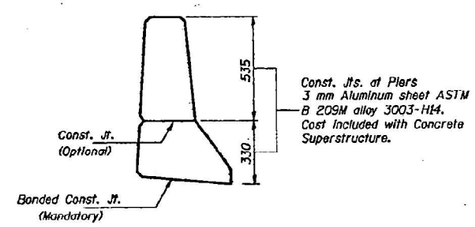
INSIDE ELEVATION OF PARAPET

PARAPET
MIN. BAR LAPS
#15 bars = 490
#25 bars = 1.01 m

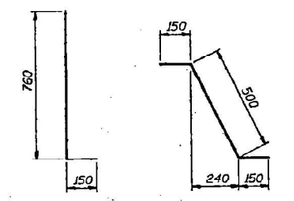
SN 091-0017 & SN 091-0018
FOR INFORMATION ONLY



SECTION THRU PARAPET

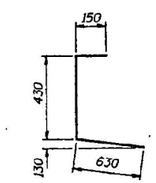


PARAPET JOINT DETAILS

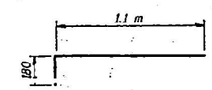


BAR d(E)

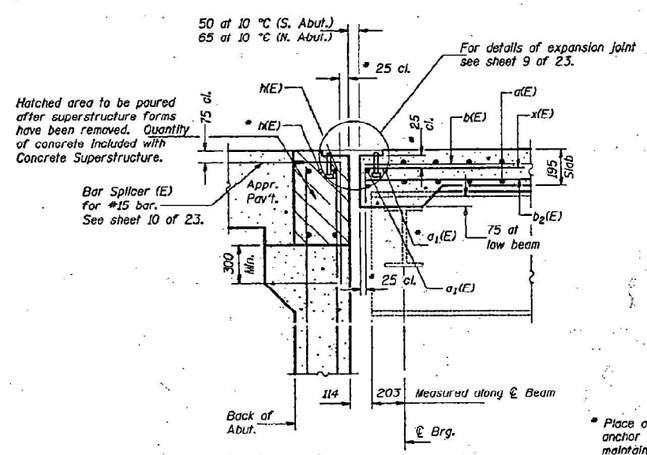
BAR d1(E)



BARS d2(E)



BAR x(E)



SECTION A-A
(Dimensions are at Rt. L's except as shown)

* Place $a_1(E)$ and h(E) bars in back of anchor bolt as shown if required to maintain 25 mm cl. (+0-3 mm). Anchor bolts should be tied to $a_1(E)$ & h(E) bars.

TWO STRUCTURES
BILL OF MATERIAL

Bar	No.	Size	Length (m)	Shape
a(E)	1304	#15	10.40	
$a_1(E)$	16	#15	5.90	
$a_2(E)$	724	#20	1.20	
b(E)	624	#15	9.50	
$b_1(E)$	144	#20	13.60	
$b_2(E)$	558	#15	8.50	
d(E)	2016	#15	0.91	
$d_1(E)$	1052	#15	0.80	
$d_2(E)$	964	#15	1.21	
e(E)	128	#15	9.55	
$e_1(E)$	128	#15	3.52	
$e_2(E)$	64	#15	10.65	
$e_3(E)$	32	#25	9.80	
$e_4(E)$	32	#25	3.52	
$e_5(E)$	16	#25	10.90	
x(E)	136	#15	1.28	
Reinforcement Bars, Epoxy Coated			kg	57210
Concrete Superstructure			m^3	432.2

Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 1 x 2-#15 etc. indicates 1 line of bars with 2 lengths per line.

SUPERSTRUCTURE DETAILS
NORTH & SOUTH BOUND LANES
F.A.I. RT. 57 SECTION (91-1HB)DR
UNION COUNTY
STATION 60+456.97

DESIGNED	CEH		
CHECKED	SDS		
DRAWN	R. Doty		
CHECKED	CEH/FT		

April 27, 2023
EXAMINED Thomas J. Domagalski ENGINEER OF STRUCTURE DESIGN
PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES

MODEL: SN 091-0017 AND SN 091-0018 For Information Only 4 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0017 & SN 091-0018
STRUCTURE INFORMATION

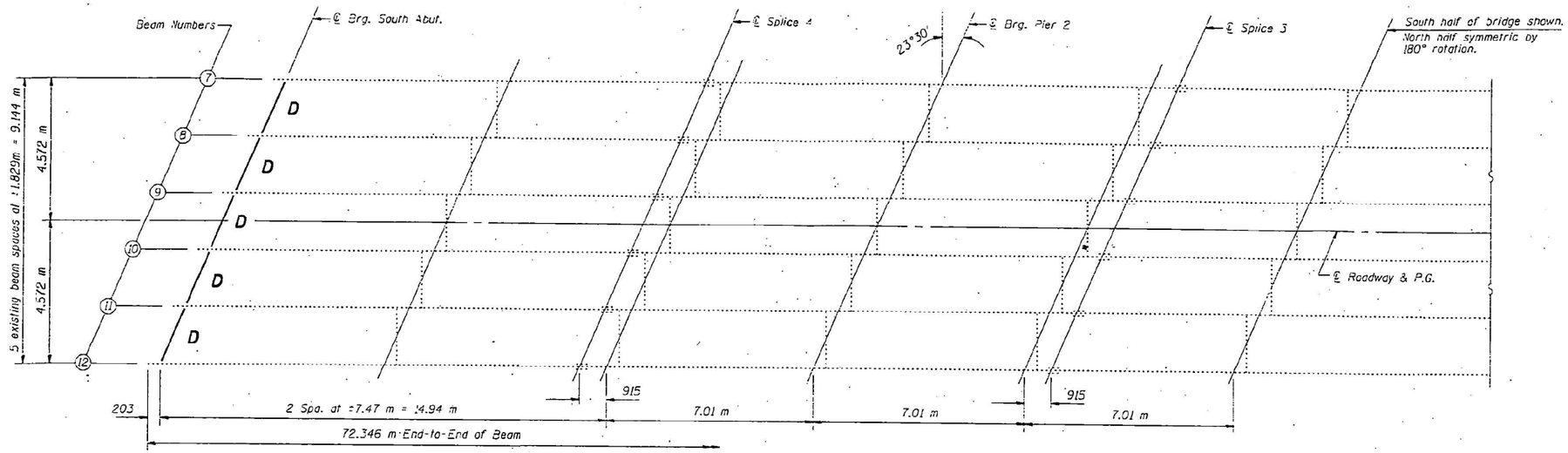
SCALE: SHEET 4 OF 12 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	40
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

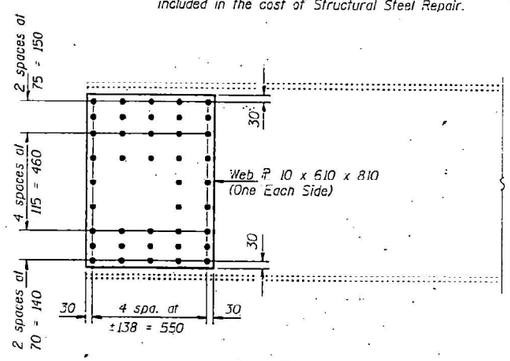
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	(91-1HB) DR	UNION	42	29a
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 29a
23 SHEETS



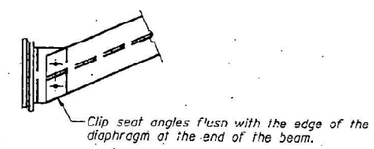
NORTH BOUND EXISTING FRAMING PLAN

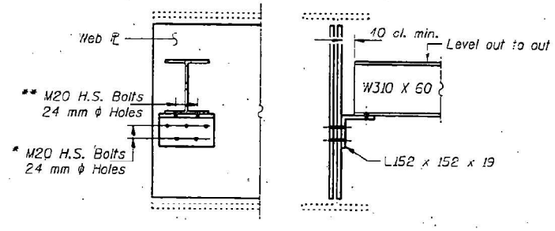
Note: Removal of existing end diaphragms, angles, and rivets is included in the cost of Structural Steel Repair.



BEAM END REPAIR

(Typ. Each Beam. Each End.)
(Diaphragm connection omitted for clarity.)





* Field drill holes in proposed web ℙ's and L's using existing holes in the web as a template. Cost of field drilling included with Structural Steel Repair.

** Field drill holes in proposed L's using holes in the proposed diaphragm as a template. Cost of field drilling included with Structural Steel Repair.

DIAPHRAGM D

(10 Required)
(Web ℄ connection to existing beam omitted for clarity.)

Notes:

The notes and details shown on this sheet pertain to the north bound structure only.
Two hardened washers shall be required over all bolt holes in diaphragms.
Fasteners for web plates shall be M20 high strength bolts with 22 mm ϕ holes. Holes in existing web shall be field drilled using proposed web plates as a template. Cost of field drilling included with Structural Steel Repair.
Beam ends shall be cleaned and painted as required by the Special Provision "Cleaning and Painting Adjacent Areas of Existing Steel Structures" for secondary connections.
All new structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M 300, Type I.
The inside perimeter of the web ℙ's shall receive a bead of silicone sealant suitable for structural steel prior to installation to ensure a watertight connection. Existing webs with holes at the ends of the beams shall receive an additional treatment of silicone sealant after installation of the web ℙ's to ensure a watertight connection between adjacent web ℙ's. Cost of the silicone sealant is included with Structural Steel Repair.

BILL OF MATERIAL

Structural Steel Repair	kg	2410

DESIGNED	CEH
CHECKED	SDS
DRAWN	CEH
CHECKED	CEH/SDS

February 7, 2001
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Robert E. Gaston
ENGINEER OF BRIDGES AND STRUCTURES

SN 091-0017 & SN 091-0018
FOR INFORMATION ONLY

STRUCTURAL STEEL DETAILS
F.A.I. RT. 57 SECTION (91-1HB)DR
UNION COUNTY
STATION 60+456.97

2 Added Sheet 2/7/2001, CEH

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MODEL: SN 091-0017 AND SN 091-0018 For Information Only 5 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsondad\d1315\D978882-InfoSheets.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0017 & SN 091-0018
STRUCTURE INFORMATION

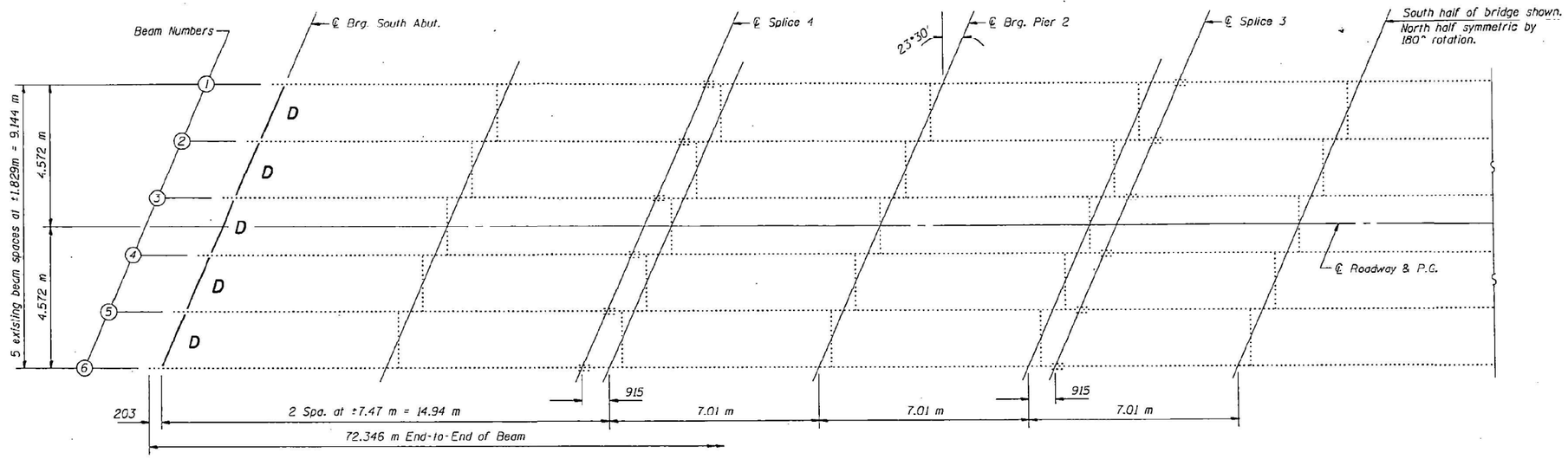
SCALE: SHEET 5 OF 12 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	41
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

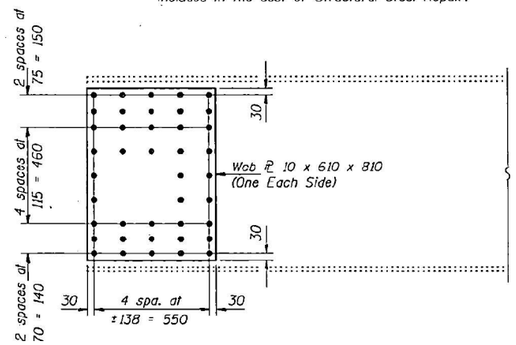
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	(91-1HB) DR	UNION	42	29b
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 10b
23 SHEETS



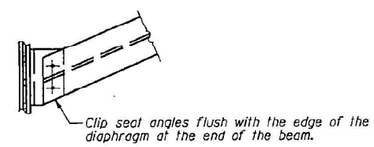
Note: Removal of existing end diaphragms, angles, and rivets is included in the cost of Structural Steel Repair.

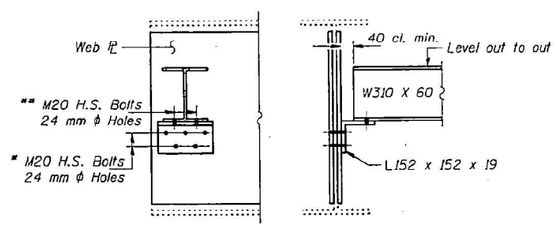
SOUTH BOUND EXISTING FRAMING PLAN



BEAM END REPAIR

(Typ. Each Beam. Each End.)
(Diaphragm connection omitted for clarity.)





* Field drill holes in proposed web ℙ's and L's using existing holes in the web as a template. Cost of field drilling included with Structural Steel Repair.

** Field drill holes in proposed L's using holes in the proposed diaphragm as a template. Cost of field drilling included with Structural Steel Repair.

DIAPHRAGM D

(10 Required)
(Web ℙ connection to existing beam omitted for clarity.)

Notes:

The notes and details shown on this sheet pertain to the south bound structure only.

Two hardened washers shall be required over all bolt holes in diaphragms.

Fasteners for web plates shall be M20 high strength bolts with 22 mm ϕ holes. Holes in existing web shall be field drilled using proposed web plates as a template. Cost of field drilling included with Structural Steel Repair.

Beam ends shall be cleaned and painted as required by the Special Provision "Cleaning and Painting Adjacent Areas of Existing Steel Structures" for secondary connections.

All new structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M 300, Type I.

The inside perimeter of the web ℙ's shall receive a bead of silicone sealant suitable for structural steel prior to installation to ensure a watertight connection. Existing webs with holes at the ends of the beams shall receive an additional treatment of silicone sealant after installation of the web ℙ's to ensure a watertight connection between adjacent web ℙ's. Cost of the silicone sealant is included with Structural Steel Repair.

BILL OF MATERIAL

Structural Steel Repair	kg	2410

DESIGNED	CEH
CHECKED	SDS
DRAWN	CEH
CHECKED	CEH/SDS

June 26, 2001
EXAMINED — ENGINEER OF BRIDGE DESIGN
PASSED — ENGINEER OF BRIDGES AND STRUCTURES

SN 091-0017 & SN 091-0018
FOR INFORMATION ONLY

STRUCTURAL STEEL DETAILS
F.A.I. RT. 57 SECTION (91-1HB)DR
UNION COUNTY
STATION 60+456.97

3 Added Sheet 6/26/2001, CEH

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MODEL: SN 091-0017 AND SN 091-0018 For Information Only 6 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 091-0017 & SN 091-0018
STRUCTURE INFORMATION

SCALE: SHEET 6 OF 12 SHEETS STA. TO STA.

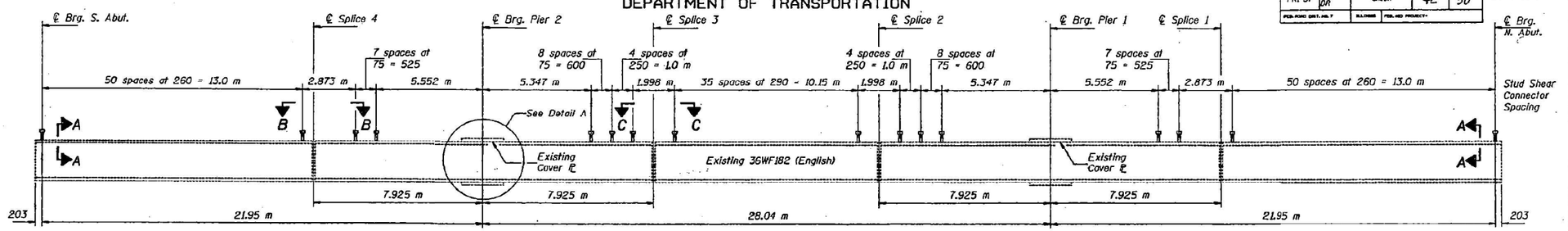
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	42

CONTRACT NO. 78B82
ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	(91-1HB) DR	UNION	42	30
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 11
23 SHEETS



EXISTING INTERIOR BEAM MOMENT TABLE		0.4 Sp. 1 & 0.6 Sp. 3	Piers	0.5 Sp. 2
Is	(10^6 mm⁴)	4720	6680	4720
Ic (n)	(10^6 mm⁴)	11100	——	11100
Ic (3n)	(10^6 mm⁴)	7990	——	7990
Ss	(10^3 mm³)	10200	14000	10200
Sc (n)	(10^3 mm³)	14300	——	14300
Sc (3n)	(10^3 mm³)	12800	——	12800
wℓ	(kN/m)	11.91	16.16	11.91
Mdℓ	(kN-m)	369	1032	373
swℓ	(kN/m)	4.25	——	4.25
Msℓ	(kN-m)	152	——	184
Mℓ	(kN-m)	641	469	707
M (Imp)	(kN-m)	163	113	163
S_3[M+M(Imp)]	(kN-m)	1340	970	1451
Md	(kN-m)	2419	2603	2610
Mu	(kN-m)	2994	——	2994
fsℓ non-comp	(MPa)	36	74	37
fsℓ (comp)	(MPa)	12	——	14
fsS_3(ℓ+Imp)	(MPa)	94	69	101
fs (Overload)	(MPa)	142	143	152
** fs (Total)	(MPa)	——	186	——
VR	(kN)	206	——	212

EXISTING BEAM REACTION TABLE		Abuts.	Piers
Rdℓ	(kN)	130	451
Rℓ	(kN)	149	209
Imp.	(kN)	38	51
R (Total)	(kN)	317	711

* Compact, braced section.
** Non-compact section.

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

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

Md (Applied Moment)=1.3[Mdℓ + Msℓ + S_3(Mℓ + M_{Imp})].

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 Mdℓ + Msℓ + S_3(Mℓ + M_{Imp}).

fs (Total) is the sum of the stresses due to 1.3[Mdℓ + Msℓ + S_3(Mℓ + M_{Imp})].

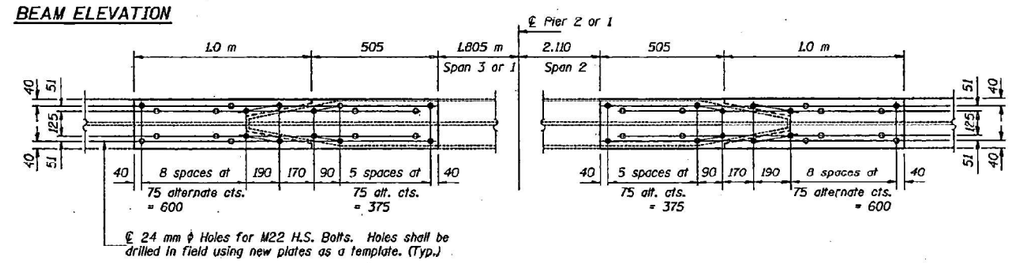
Mdℓ is the moment due to dead loads on the non-composite section.

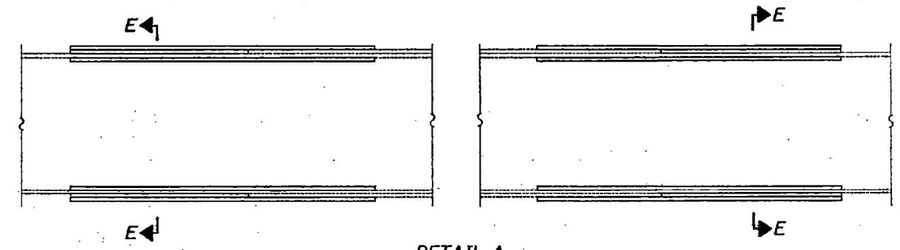
Msℓ is the moment due to dead loads on the composite section.

Mℓ is the moment due to live load on the non-composite or composite section.

M (Imp) is the moment due to live load impact on the non-composite or composite section.

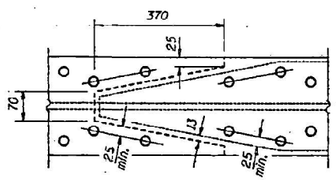
BEAM ELEVATION



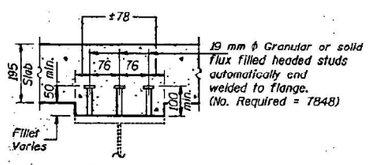


DETAIL A
(Showing existing cover plate retrofitting)

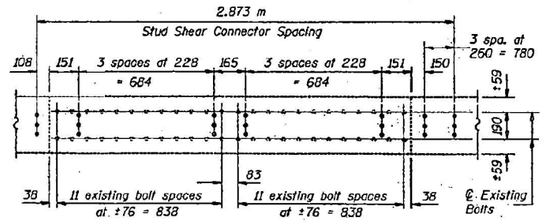
Notes: Cost of field drilling holes is included with Furnishing and Erecting Structural Steel.
"NTR" denotes cover plates to which Notch Toughness Requirements are applicable.



TYPICAL CLEARANCE DETAIL

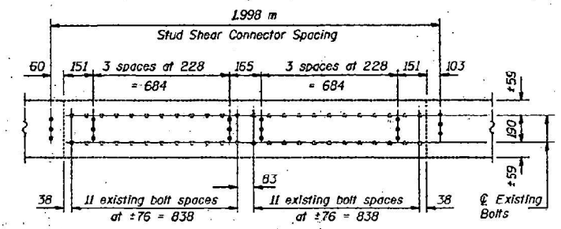


SECTION A-A

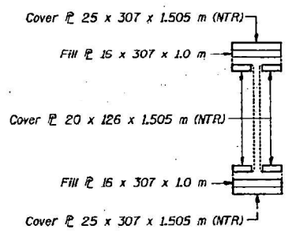


VIEW B-B
(Splice 1 Similar by 180° Rotation)

Note:



VIEW C-C
(Splice 2 Similar by 180° Rotation)



SECTION E-E

DESIGNED	CEH
CHECKED	SDS
DRAWN	R. Doty
CHECKED	CEH/FT

April 27, 2023
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Rafat E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

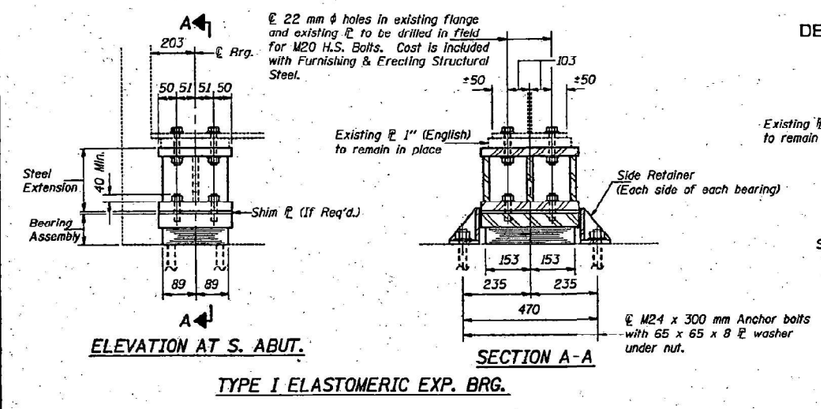
STRUCTURAL STEEL DETAILS
F.A.I. RT. 57 SECTION (91-1HB)DR
UNION COUNTY
STATION 60+456.97

SN 091-0017 & SN 091-0018
FOR INFORMATION ONLY

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	(91-1HB) DR	UNION	42	31

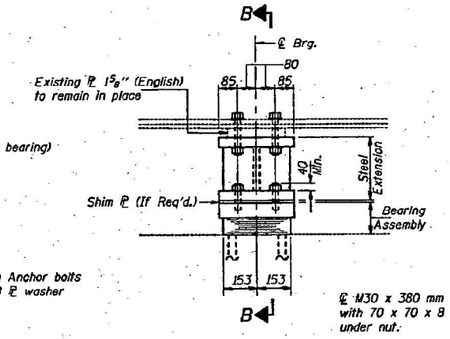
SHEET NO. 12
23 SHEETS



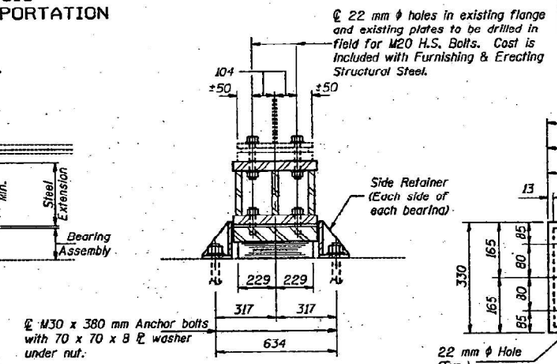
ELEVATION AT S. ABUT.

SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

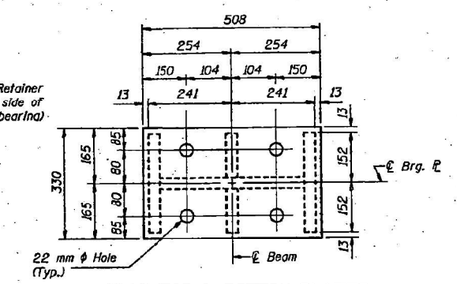


ELEVATION AT PIER 1

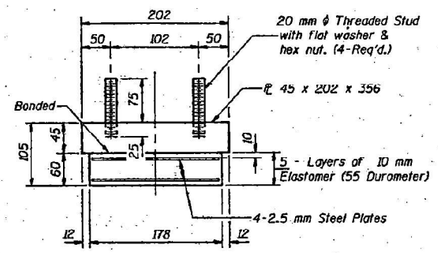


SECTION B-B

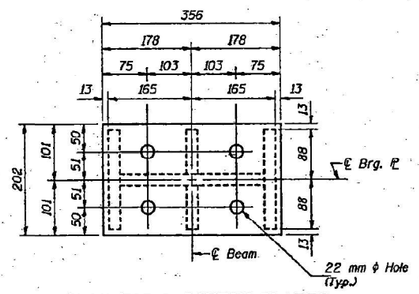
TYPE I ELASTOMERIC EXP. BRG.



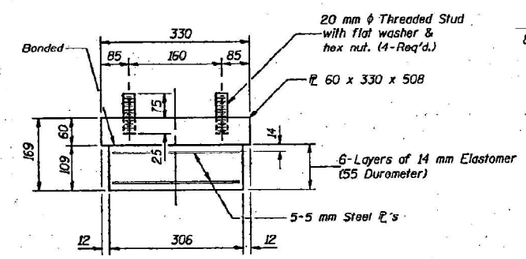
PLAN-TOP & BOTTOM PLATES



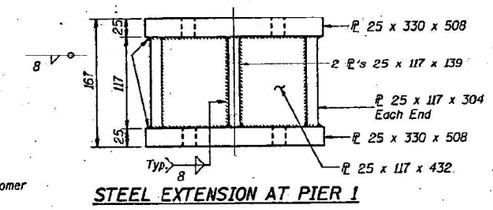
BEARING ASSEMBLY



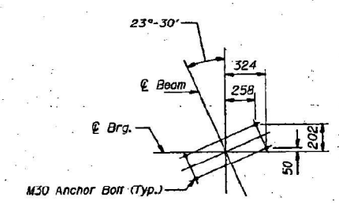
PLAN-TOP & BOTTOM PLATES



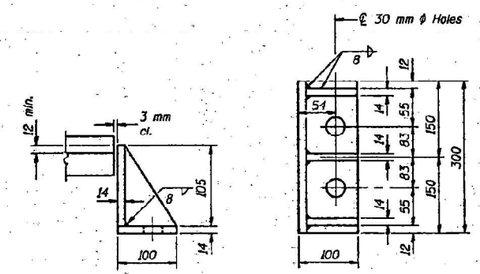
BEARING ASSEMBLY



STEEL EXTENSION AT PIER 1

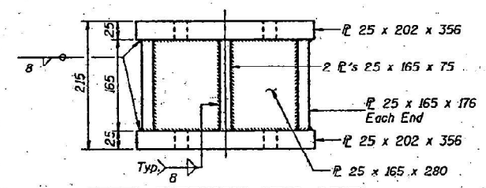


ANCHOR BOLT LOCATION
PLAN AT PIER 1

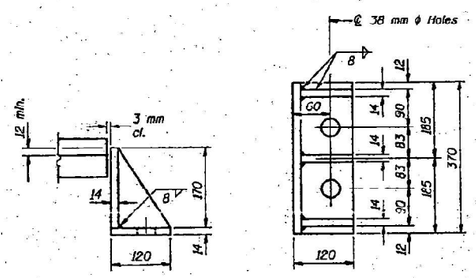


SIDE RETAINER AT S. ABUT.

Equivalent rolled angle with stiffeners will be allowed in lieu of welded Plates. Weight included with Furnishing & Erecting Structural Steel.



STEEL EXTENSION AT S. ABUT.



SIDE RETAINER AT PIER 1

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

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	24

Notes: For anchor bolt installation details see sheet 23 of 23.
See sheet 13 of 23 for Jack and Remove Existing Bearing Procedure.
Shim plates shall not be placed under Bearing Assembly.

DESIGNED	CEH	April 27, 2023	
CHECKED	SDS	EXAMINED	Thomas J. Domagalski, DIRECTOR OF BRIDGE DESIGN
DRAWN	R. Doty	PASSED	Robert E. Anderson, ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	CEH/FT		

BEARING DETAILS
F.A.I. RT. 57 SECTION (91-1HB)DR
UNION COUNTY
STATION 60+456.97

SN 091-0017 & SN 091-0018
FOR INFORMATION ONLY

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 091-0017 & SN 091-0018
STRUCTURE INFORMATION

SCALE: SHEET 8 OF 12 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	44

CONTRACT NO. 78B82
ILLINOIS FED. AID PROJECT

MODEL: SN 091-0017 AND SN 091-0018 For Information Only 8 [Sheet]
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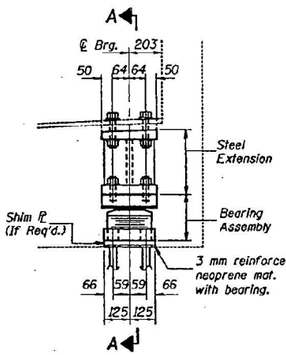
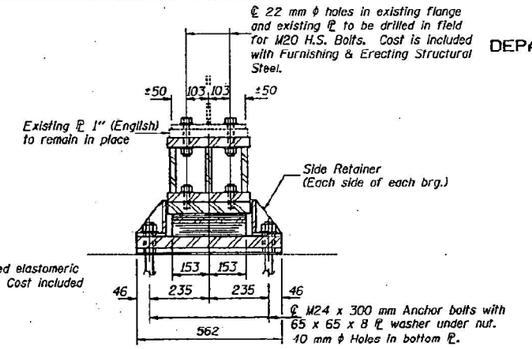
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DRAWING NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	(91-1HB) DR	UNION	42	32

SHEET NO. 13
23 SHEETS

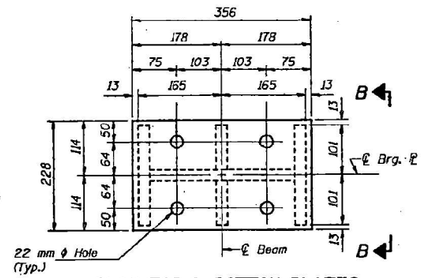


ELEVATION AT N. ABUT.

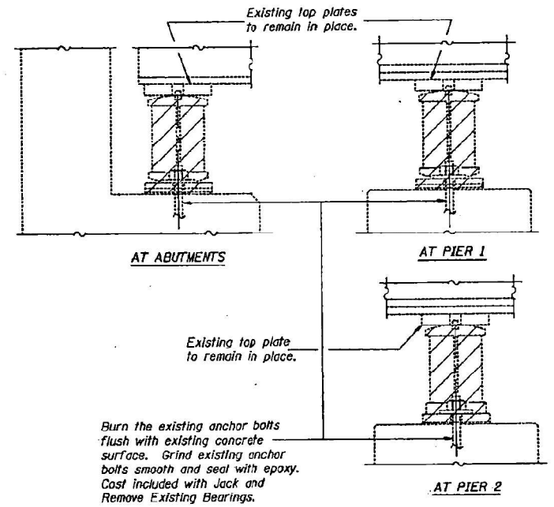


SECTION A-A

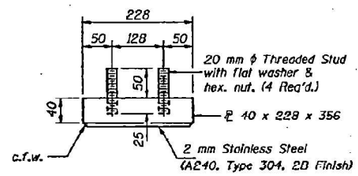
TYPE II TFE ELASTOMERIC EXP. BRG.



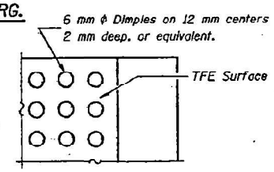
PLAN-TOP & BOTTOM PLATES



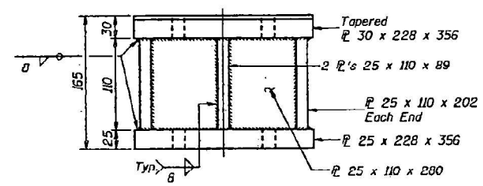
JACK AND REMOVE EXISTING BEARINGS



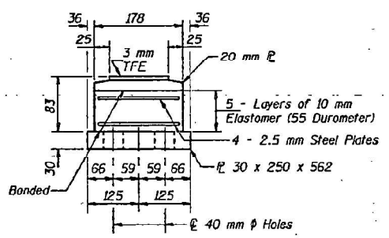
TOP BEARING ASSEMBLY



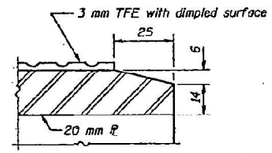
PLAN-TFE SURFACE



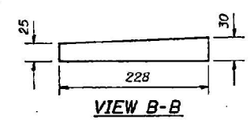
STEEL EXTENSION



BOTTOM BEARING ASSEMBLY



SECTION THRU TFE

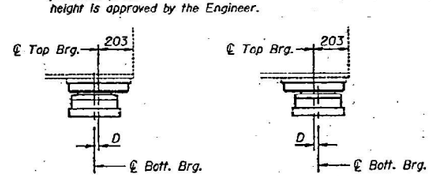


VIEW B-B

Note: For anchor bolt installation details see sheet 23 of 23.

Note: The 3 mm TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 3 mm TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

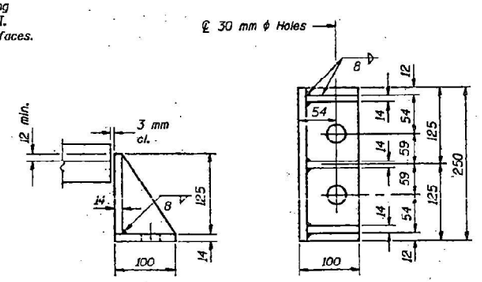


ABOVE 10 °C. (Move bott. brg. toward fixed brg.)

BELOW 10 °C. (Move bott. brg. away from fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D=1 mm per each 10 m of expansion for every 8 °C temp. change from the normal temp. of 10 °C.



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded Plates. Weight included with Furnishing & Erecting Structural Steel.

JACK AND REMOVE EXISTING BEARING PROCEDURE

1. Jack and remove existing bearings shall be done after existing deck removal is complete.
2. The Contractor shall submit for approval by the Engineer, plans for lifting existing beams and installing new bearings prior to commencing any related work. The maximum dead load reaction per beam (mass of steel only) at abutments is 26 kN and 90 kN at piers. Minimum jack capacity is 52 kN at abutments and 180 kN at piers.
3. Prior to ordering any material, the Contractor shall verify steel extension and shim plate thicknesses required at each bearing.
4. The new bearings and steel extensions shall be in place and the jacks shall be lowered before the new concrete deck is poured.

BILL OF MATERIAL

Item	Unit	Total
Jack and Remove Existing Bearings	Each	48
Elastomeric Bearing Assembly, Type II	Each	12

BEARING DETAILS
F.A.I. RT. 57 SECTION (91-1HB)DR
UNION COUNTY
STATION 60+456.97

DESIGNED	CEH	
CHECKED	SDS	
DRAWN	R. Doty	
CHECKED	CEH/FT	

April 27, 2000
EXAMINED Thomas J. Domagalski ENGINEER OF BRIDGE DESIGN
PASSED Robert E. Gudauskas ENGINEER OF BRIDGES AND STRUCTURES

SN 091-0017 & SN 091-0018
FOR INFORMATION ONLY

MODEL: SN 091-0017 AND SN 091-0018 For Information Only 9 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0017 & SN 091-0018
STRUCTURE INFORMATION

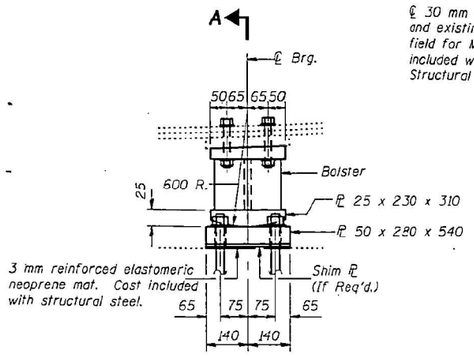
SCALE: SHEET 9 OF 12 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	45
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

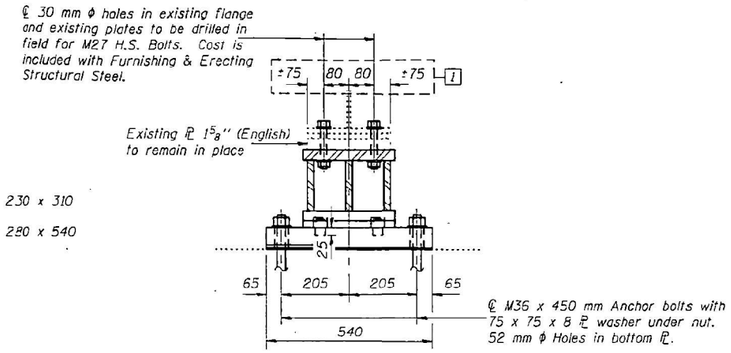
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57	(91-1HB) DR	UNION		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 14
23 SHEETS

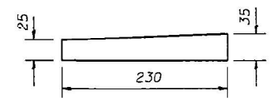


ELEVATION AT PIER 2
(Looking West)

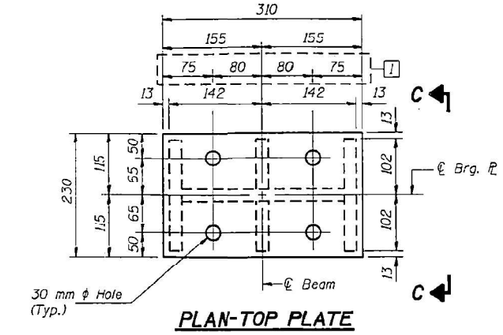


SECTION A-A

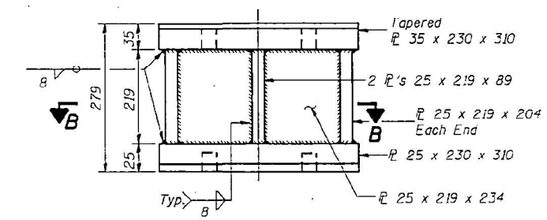
FIXED BEARING



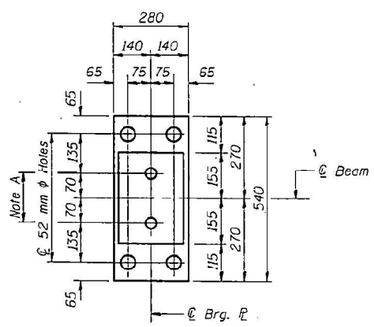
VIEW C-C



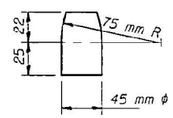
PLAN-TOP PLATE



BOLSTER



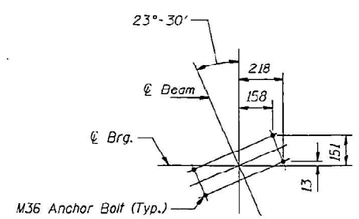
PLAN



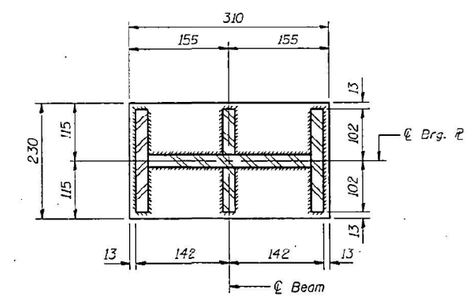
PINTLE

Notes: For anchor bolt installation details see sheet 23 of 23.
See sheet 13 of 23 for Jack and Remove Existing Bearing Procedure.

Note A:
48 mm ϕ Holes-25 mm deep in bolster for 45 mm ϕ pintles.
Thread or press fit in bottom PL.



ANCHOR BOLT LOCATION
PLAN AT PIER 2



SECTION B-B

SN 091-0017 & SN 091-0018
FOR INFORMATION ONLY

DESIGNED	CEH
CHECKED	SDS
DRAWN	R. Doty
CHECKED	CEH/FT

April 27, 2000
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Robert E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

BEARING DETAILS
F.A.I. RT. 57 SECTION (91-1HB)DR
UNION COUNTY
STATION 60+456.97

1 Revised: 7-24-00 C.E.H.

...\projects\rad00012\0910017.dgn Jul. 24, 2000 14:19:20

MODEL: SN 091-0017 AND SN 091-0018 For Information Only 10 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0017 & SN 091-0018
STRUCTURE INFORMATION

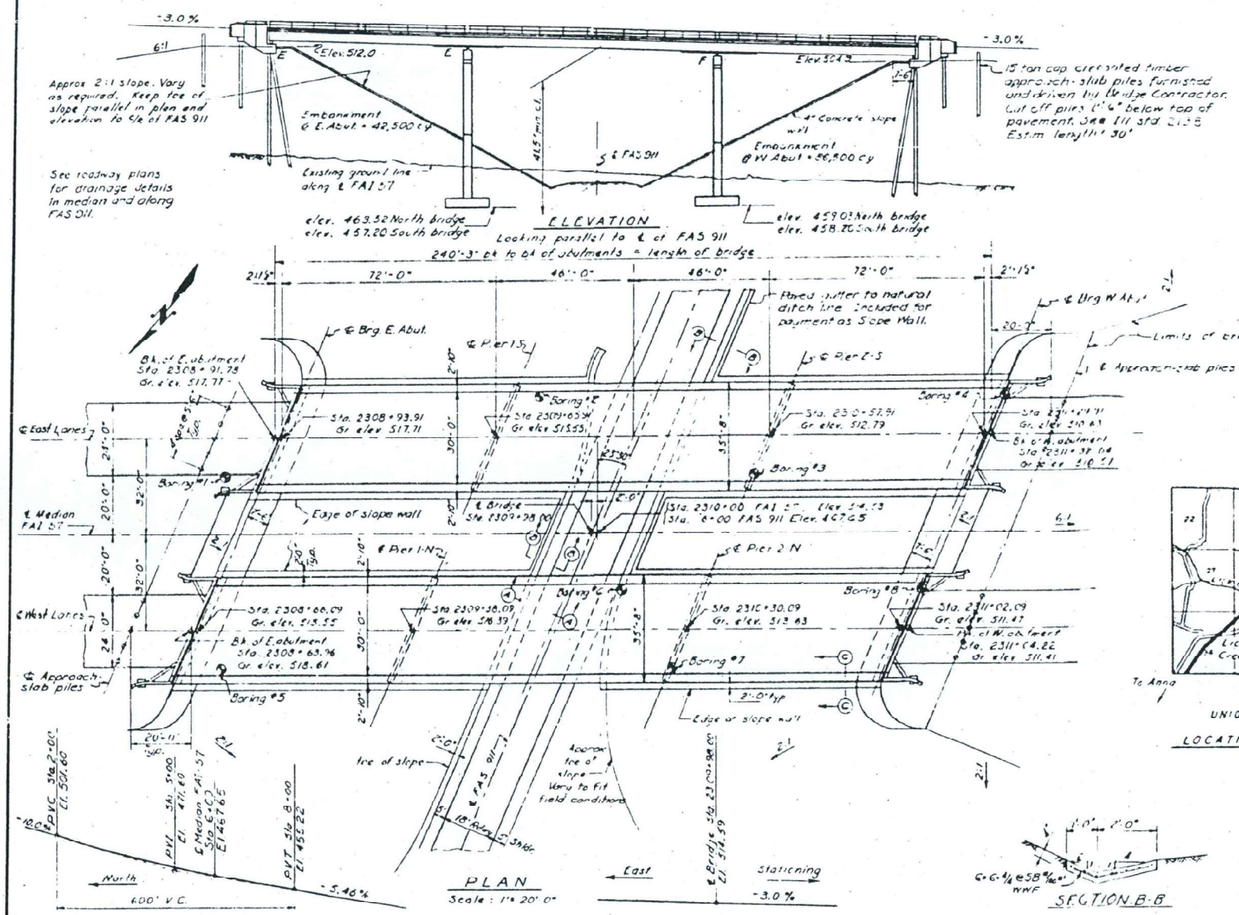
SCALE: SHEET 10 OF 12 SHEETS STA. TO STA.

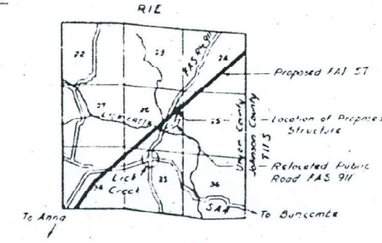
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	46
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	9-1HB	UNION	28	6
F.A. RURAL DIST. NO.	ILLINOIS	PROJECT		

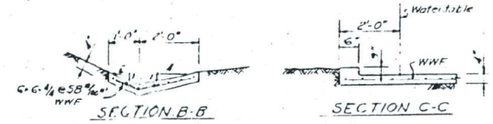
SHEET NO. 1
7 SHEETS

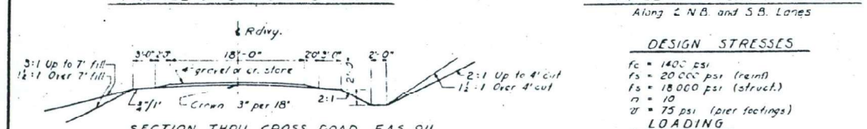
B.M. - L33 Screw 150' Lt. ℄ N.B. Lanes
Sta. 2309+20. Elev. 459.282
::: Existing structure





UNION COUNTY
LOCATION SKETCH





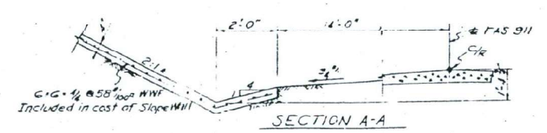
PROFILE OF INTERSTATE FAI 57
Along ℄ N.B. and S.B. Lanes

DESIGN STRESSES

fc = 1400 psi
fs = 20,000 psi (reinf.)
fs = 18,000 psi (struct.)
n = 10
σ = 75 psi (pier footings)

LOADING

H 20-S16-44 and Alternate



SLOPE WALL AND GUTTER DETAILS

Structures by: CLARK and DAILY, Consulting Engineers, Urbana, Illinois

GENERAL NOTES

1. SPECIFICATIONS: The State of Illinois "Standard Specifications for Road and Bridge Construction", Adopted January 2, 1958, shall apply
2. CONCRETE: Class X concrete shall be used throughout. The concrete floor slab shall be finished in accordance with Article 51.19 of the Standard Specifications.
3. METAL HANDRAIL: All rail posts, anchor devices, and lead plates shall be included in cost of Lin. Ft. of Metal Handrail. The length paid for shall be the overall length along the top longitudinal railing member through all posts and caps and including the rail on top of the wing walls.
4. STRUCTURAL STEEL: All rockers, bearing plates, lead plates, pintles and anchor bolts in the bridge bearings, and all steel in the expansion joints shall be furnished and set in accordance with Articles 51.11 and 51.13 respectively, and are included for payment as structural steel.
5. PAINT: Except as otherwise provided all structural steel and metal handrail shall receive one shop coat of red lead paint and two field coats of aluminum paint in accordance with Articles 50.1 through 50.5. All paint is to be furnished and applied by the Contractor.
6. SPREAD FOOTINGS: If soil having a safe bearing value of 4,000 lbs. per sq. ft. is not encountered at the elevation shown on the plans at the bottom of the footings, elevation of footings shall be adjusted as required and as directed by the Engineer.
7. TEST PILES: The Contractor shall drive one test pile at each pier footing and the Southeast Abutment in permanent locations in accordance with Article 50.15 before ordering the remainder of the piles.
8. ENCUMBRANCE: See Special Provisions.

NAME PLATE DATA
See Standard 2112

STATION 2303+38
BUILT BY
STATE OF ILLINOIS
FAI RTE. 57 SEC. 91-1HB
FA PROJ. 2-57-1(71)
LEADING HED-316

See Sht. 6 for location

TOTAL BILL OF MATERIAL - (2 Bridges)

ITEM	UNIT	SUPER	SUBSTR	TOTAL
Class X Concrete	Cu. Yds.	455.9	734.5	1,188.4
Reinforcement Bars	Lbs.	76,480	82,750	159,230
Structural Steel	Lbs.	128,310		128,310
Metal Handrail	Lin. Ft.	104		104
Name Plates	Ea.	2		2
Slope Wall	Sq. Yds.	2,030		2,030
Class A Excav. for Structs.	Cu. Yds.	980		980
Steel Piles (10 BP 42)	Lin. Ft.	1,320		1,320
Test Piles (Steel)	Ea.	2		2
Creosoted Piles, 20" x 30'	Lin. Ft.	660		660

SN 091-0017 & SN 091-0018
FOR INFORMATION ONLY

GENERAL PLAN AND ELEVATION STRUCTURE 91-1HB

REVISIONS

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

FAI 57 SECTION 91-1HB
STA. 2309+98.00
PROJECT
UNION COUNTY

HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
INDIANAPOLIS, INDIANA

J.C. 12-57
D.W. 12-57
G.N. 12-57

PROJECT NO.

DATE

Job No. 317-K

F.A.I. ROUTE 57 SECTION 91-1HB UNION CO. GENERAL PLAN AND ELEVATION

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0017 & SN 091-0018
STRUCTURE INFORMATION

SCALE: SHEET 11 OF 12 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	47
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

MODEL: SN 091-0017 AND SN 091-0018 For Information Only 11 [Sheet]
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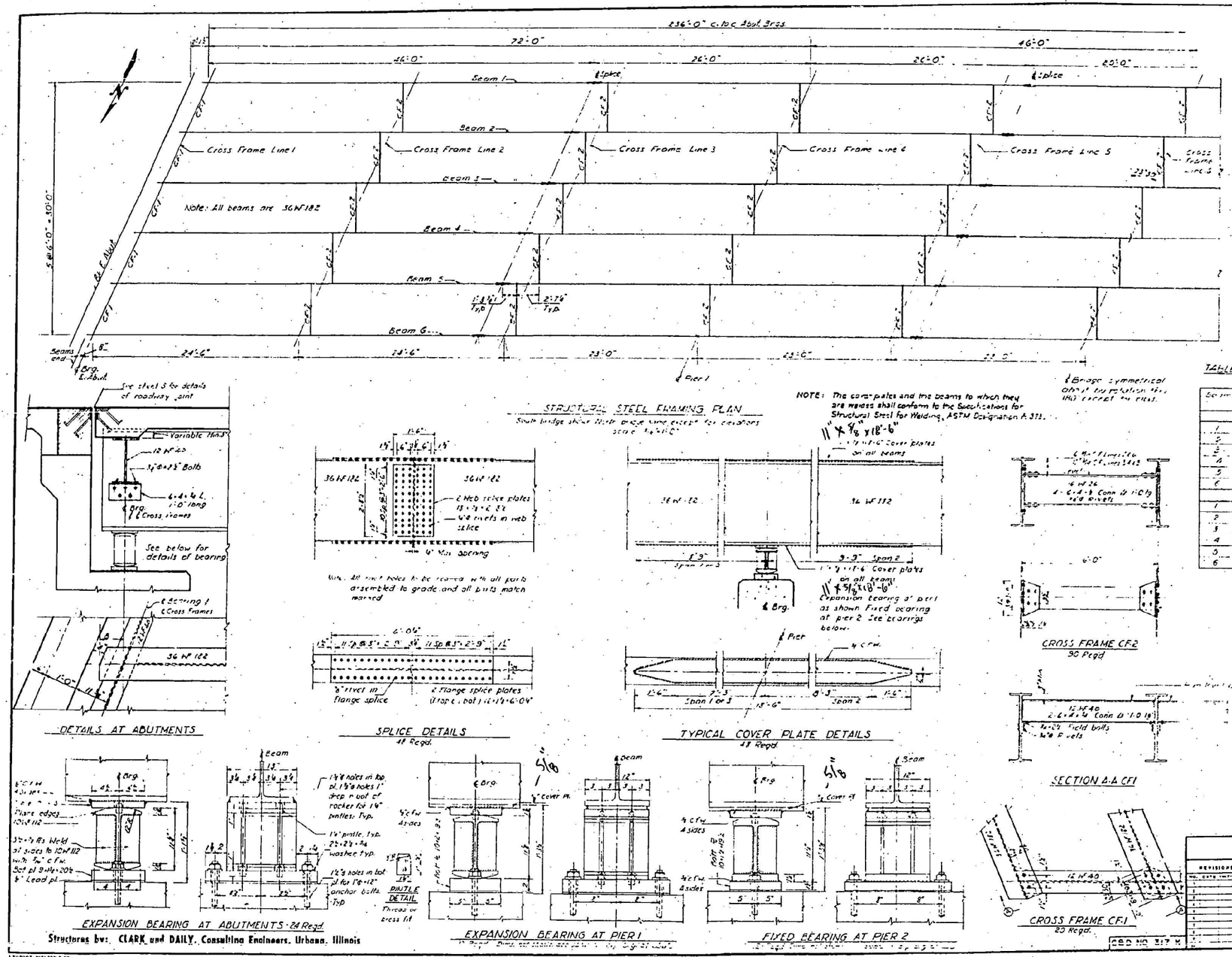

SHEET NO. 2 OF 7 SHEETS	DISTRICT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	57	91-1HB	UNION	28	7
	FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SPECIAL NOTES:

1. The number, dimensions, & locations of anchor bolts is to be taken.
2. If the contractor's option, drill holes & install epoxy coated or galvanized rebars.
3. Anchor bolts shall be set before pouring Cross Frame over piers and abutments. See art. 2.4.5(f) for setting of masonry bearing plates and anchor bolts.
4. All anchor bearing plates and plate anchor bolts, plates and washers shall be fabricated painted and set in accordance with art. 2.4.5 and are included for payment as Structural Steel in Plates. Anchor bolts shall be furnished by the contractor.

Note: Set the 16 x 1½ x 1'-8" of beam 3 under bearing on rock pier and 16 x 1½ x 1'-8" of beam 4 under bearing on rock at pier.

TABLE OF TOP OF BEAM ELEVATIONS AT ℄ BRGS. AND SPLICES

Beam & Brg. ℄ Abut. Span 1	℄ Splice Span 1	℄ Splice Span 2	℄ Splice Span 3	℄ Brg. Span 3	℄ Splice Span 4	℄ Splice Span 5	℄ Brg. Span 6	℄ Abut.
SOUTH BRIDGE								
1	516.73	515.36	514.38	513.80	512.60	511.97	510.64	509.86
2	516.91	515.62	514.76	514.58	512.78	511.97	510.97	509.63
3	517.05	515.84	514.90	514.12	512.92	511.9[illegible]	511.38	510.37
4	517.12	515.[illegible]	514.97	514.13	512.99	511.9[illegible]	511.43	510.44
5	517.14	515.77	514.95	514.21	513.01	511.93	511.42	510.66
6	517.15	515.75	514.97	514.19	512.99	511.9[illegible]	511.43	510.84
NORTH BRIDGE								
1	517.57	516.15	515.31	514.65	513.49	512.65	511.47	510.49
2	517.75	516.37	515.53	514.81	513.61	512.83	511.[illegible]	510.67
3	517.85	516.51	515.73	514.95	513.75	512.97	511.16	510.61
4	517.96	516.58	515.80	515.00	513.80	512.[illegible]	511.[illegible]	510.68
5	517.98	516.60	515.82	515.04	513.84	513.08	511.[illegible]	510.90
6	517.96	516.56	515.80	515.02	513.81	513.06	511.[illegible]	510.89

BILL OF MATERIAL (2 BRIDGES)	
STRUCTURAL STEEL IN GIRDERS	[illegible]
STRUCTURAL STEEL IN BEARINGS	[illegible]
TOTAL STRUCTURAL STEEL	[illegible]

SN 091-0017 & SN 091-0018
FOR INFORMATION ONLY.

STEEL FRAMING PLAN - STRUCTURE 91-1HB

REVISIONS

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

F.A.I. 57 SECTION 91-1HB PROJECT
STA 2309+98.00 UNION COUNTY

HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS

F.A.I. ROUTE 57 SECTION 91-1HB UNION CO STEEL FRAMING PLAN

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN 091-0017 & SN 091-0018 STRUCTURE INFORMATION	F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -			VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	48
	CHECKED -	REVISED -					CONTRACT NO. 78B82		
PLOT DATE = 7/29/2025	DATE -	REVISED -		SCALE: SHEET 12 OF 12 SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		

MODEL: SN 091-0017 AND SN 091-0018 For Information Only 12 [Sheet]
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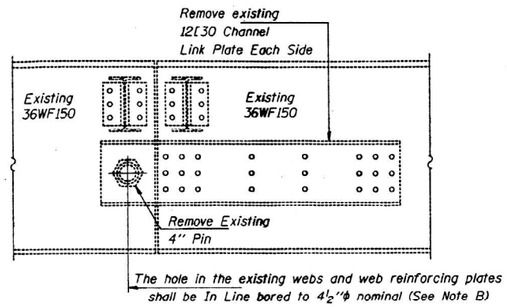
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 57 & FAP 119	*	UNION	20	12
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

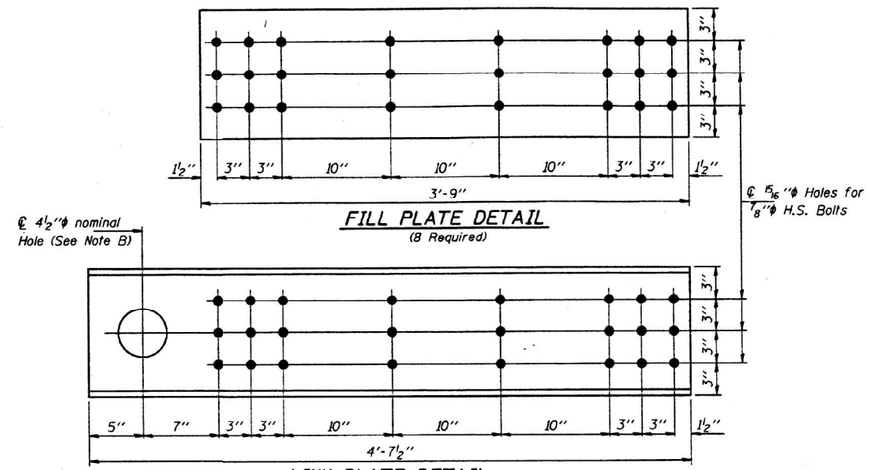
SHEET NO. 1
3 SHEETS

*D-9 BRIDGE PIN REPL. FY98-1



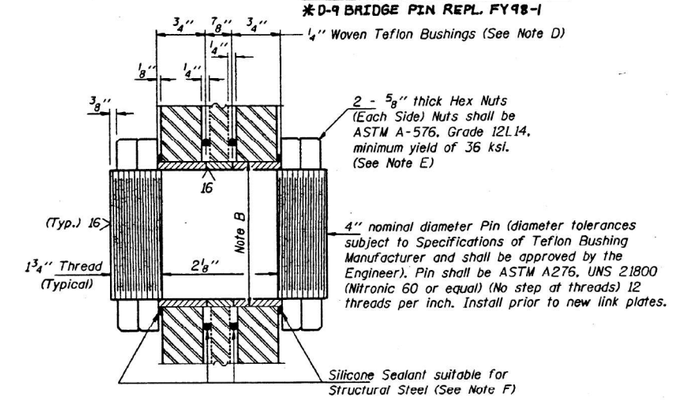
ELEVATION AT EXISTING PIN ASSEMBLY FOR EXTERIOR BEAMS

Any Pins that can be easily removed without damage to the pin shall be salvaged and the Bridge Engineer shall be contacted for disposition. Cost of salvage is included in "Pin and Link Plate Replacement".



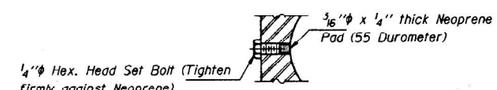
FILL PLATE DETAIL
(8 Required)

LINK PLATE DETAIL
(8 Required)



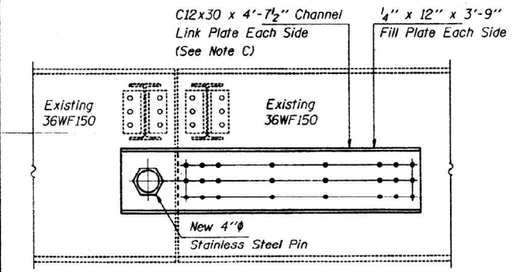
SECTION THRU PIN
(4 Required)

SN 091-0042
FOR INFORMATION ONLY

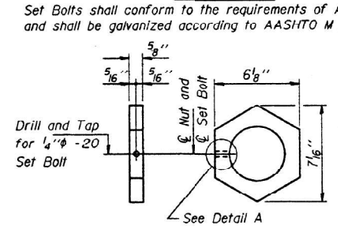


DETAIL A

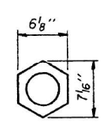
Set Bolts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.



ELEVATION AT NEW PIN ASSEMBLY FOR EXTERIOR BEAMS



EXTERIOR NUT DETAIL
(8 Required)



INTERIOR NUT DETAIL
(8 Required)

MAXIMUM REACTIONS AT PIN

RP	(K)	10.5
RL	(K)	23.3
Imp.	(K)	7.0
R (Total)	(K)	40.8

Note A:
Existing welds shall be inspected for cracks using liquid dye penetrant or magnetic particle testing. Any cracks that are found shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Clean and paint before installing new link plates.

Note B:
Bore diameter for bushing in link plate, existing webs and web reinforcement plates shall correspond to bushing manufacturer's allowable tolerances for proper functioning. Hole diameter may be adjusted to allow use of stock bushings.

Note C:
Inside face of new link plates shall receive first field coat in shop. The primer shall pass the M.E.K. Rub Test before the first field coat is applied.

Note D:
Actual bushing thickness per manufacturer's specifications. ¼" is approximate. Bushings shall be a self lubricating filament wound epoxy matrix backed Duralon Bearing, metal backed Fiber Glide Bearing or equivalent. No primer or grease shall be allowed on bushings. Bushings shall be suitable for dynamic loads of 20,000 psi.

Note E:
Tighten inside nuts to bring all bushings into firm contact, then back off ¼ turn and tighten outer nuts and set bolts.

Note F:
Apply ⅜" bead to face of the web reinforcing plates approximately ½" from bushing immediately before installing new link plates. Place sealant around nuts after installation. Sealant shall be suitable for prolonged exterior exposure without losing flexibility or adhesion to painted steel surfaces. Proposed products shall be subject to Department's acceptance based on documented testing or other evidence.

GENERAL NOTES

All new structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

The Contractor shall provide support and/or shoring systems for the beam in the area of existing pin and link plate replacement. See Special Provision "Temporary Support System."

The inorganic zinc rich primer/acrylic/acrylic paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the acrylic finish coat shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provisions "Cleaning and Painting New Metal Structures". Cost shall be included in the cost of "Pin and Link Plate Replacement".

Existing Structural steel shall be cleaned and painted as required by the Special Provision "Cleaning and Painting Adjacent Areas of Existing Steel Structures". Cost shall be included in the cost of "Pin and Link Plate Replacement."

All existing steel surfaces behind link plates shall be cleaned and primed before installation of new link plates. Cost shall be included in the cost of "Pin and Link Plate Replacement."

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field, except the pin diameters, and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The Pins and Link Plates shall conform to the minimum Charpy V-Notch Toughness of 25 ft.-lbs. at 40° F.

The pins, link plates, bushings, nuts, Set Bolts, Neoprene Pad, silicone sealant fill plates and high strength bolts are the items included in "Pin and Link Plate Replacement".

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Temporary Support System	Each	4
Pin and Link Plate Replacement	Each	4

PIN AND LINK PLATE REPLACEMENT
FAI ROUTE 57 SEC. 91-2HB
UNION COUNTY
STA. 2474+00
STR. No. 091-0042

DESIGNED Victor H. Velez
CHECKED Curtis M. Eroy
DRAWN Paul Summer
CHECKED VHV CME

FEBRUARY 19, 1998
EXAMINED
ENGINEER OF STRUCTURAL SERVICES
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

MODEL: SN 091-0042 For Information Only 1 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d1313516\D978B82-InfoSheets.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 091-0042
STRUCTURE INFORMATION

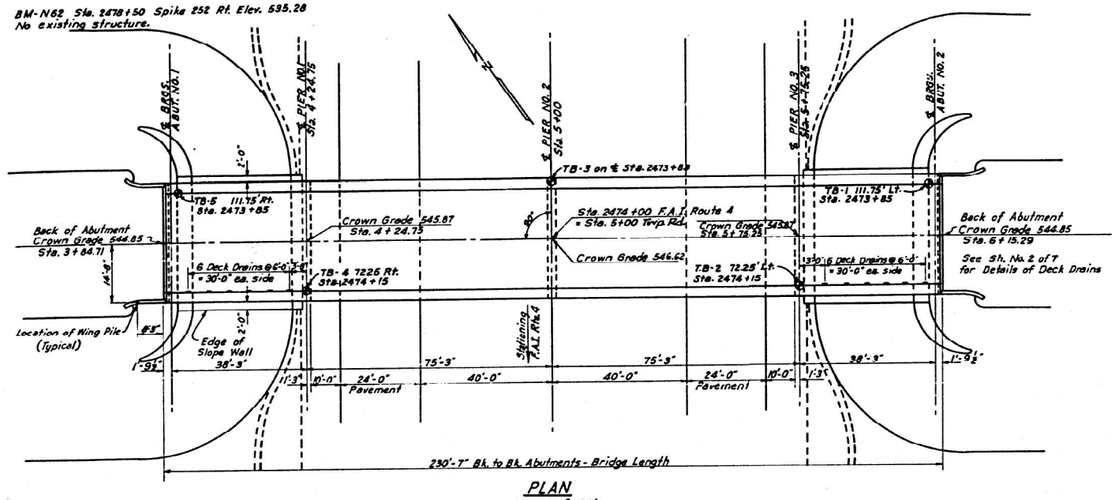
SCALE: SHEET 1 OF 4 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	49

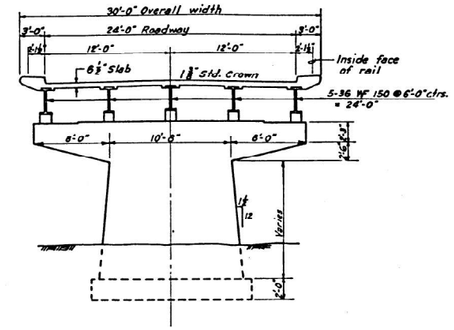
CONTRACT NO. 78B82
ILLINOIS FED. AID PROJECT

SHEET NO. 1 7 SHEETS	ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	FAI 4	91-2HB	UNION	23	7
	FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

BM-N62 Sta. 2478+50 Spike 252 Rt. Elev. 535.28
No existing structure.



PLAN
Scale: 1" = 20'



TRANSVERSE SECTION
Scale: ⅛" = 1'-0"

GENERAL NOTES

Class X Concrete shall be used throughout.

The concrete floor slab shall be finished in accordance with Article 51.18 (a) of the Standard Specifications and shall be poured in one continuous operation between joints.

All rockers, bearing plates, lead plates, pintles and anchor bolts shall be furnished and set in accordance with Article 51.14 of the Standard Specifications, and are included for payment as Structural Steel. The cost of handrail post anchors shall be included in the payment for lineal feet of metal handrail. The Contract Price per lineal feet of handrail shall include the furnishing, installing and painting of the handrail. The number of lineal feet of handrail is measured along the top longitudinal railing member.

Metal handrail on concrete End Post shall be included in lineal feet of metal handrail.

All Structural Steel and metal handrail shall receive one shop coat of red lead paint and two field coats of aluminum paint in accordance with Article 57.1 to 57.5 inclusive, of the Standard Specifications.

All paint shall be furnished and applied by the Contractor.

All structural steel shall be inspected by Illinois Division of Highways before painting.

Backfilling shall be done according to Article 50.10 of the Standard Specifications.

Boring Data are shown on the plans only as a guide to bidders in estimating soil conditions which may be encountered in the field.

The Contractor shall drive one Test Pile at each Abutment in permanent locations as directed by the Engineer before ordering the remainder of the piles.

Rivets ¾" ϕ; open holes 13/16" ϕ except as noted. Holes for ⅞" ϕ Rivets in beam, web and flange splices and channels at hinges subpunched 13/16" ϕ and reamed to 15/16" ϕ.

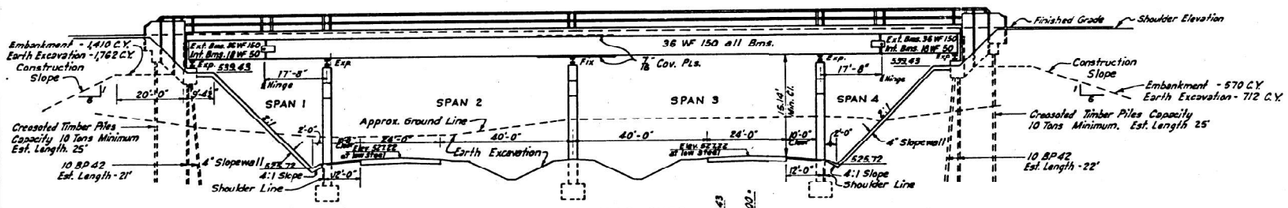
All connections riveted unless noted.

Design Stresses:
- fs = 18,000 p.s.i. for structural steel.
- fs = 20,000 p.s.i. for intermediate grade reinforcing steel.
- fc = 1,400 p.s.i. in superstructure.
- fc = 1,000 p.s.i. in substructure with earth pressure, 1,400 p.s.i. without earth pressure.
- Shear in footings = 75 p.s.i. maximum.
- n = 10

Design Specifications: AASHO H15 S12-44

Slope walls shall be reinforced with welded wire fabric No.4 x No.4 wires; 6" x 6" mesh; wt. 58 lb/100 sq. ft. Cost incidental to Contract.

SN 091-0042
FOR INFORMATION ONLY

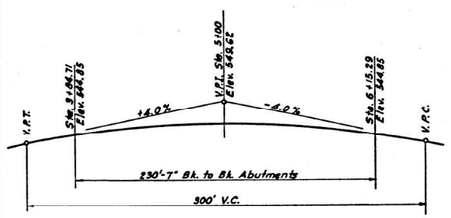


ELEVATION AT NEAR CURB
Scale: 1" = 20' Horiz.
1" = 10' Vert.

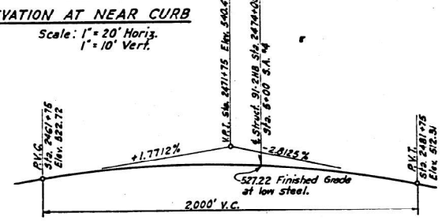
NOTE: Embankment to be obtained from Earth Excavation

STATION 2474+00
BUILT 195 BY
STATE OF ILLINOIS
F.A.I. RT. 4 - SEC. 91-2HB
F.A. PROJ. I-04-1(22)
LOADING H15-S12

NAME PLATE
See Standard 2113
Locate on Piers 1 & 3



CROWN GRADE PROFILE OF BRIDGE

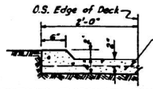


CROWN GRADE PROFILE OF INTERSTATE HIGHWAY BOTH LANES

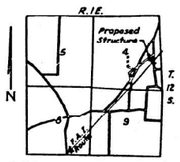
NOTES:
N indicates the number of blows required to drive a 1⅜" ID, 2" OD split spoon sampler 12" by means of a 140# weight falling 30".
qu indicates the unconfined compressive strength of the soil in tons/sq. ft.
See Plan of this sheet for location.

TOTAL BILL OF MATERIAL

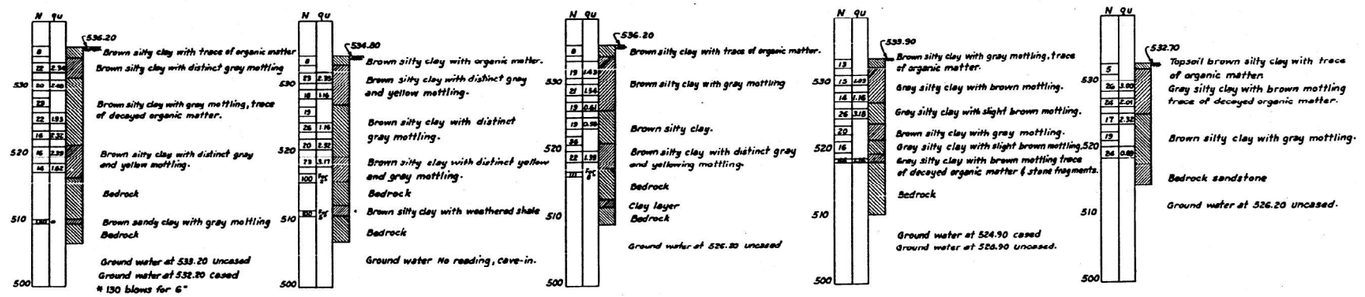
ITEM		SUPERSTRUCT.	SUBSTRUCTURE	TOTAL
Class X Concrete (Bridges)	Cu. Yds.	172.0	171.0	343.0
Reinforcement Bars	Lbs.	30,450	15,570	46,020
Structural Steel	Lbs.	200,200		200,200
Metal Handrail	Lin. Ft.	489		489
Name Plates	Each	2		2
Class A Excavation for Structures	Cu. Yds.		380	380
Creosoted Timber Piles	Lin. Ft.		100	100
Steel Piles (10 BP 42)	Lin. Ft.		172	172
Steel Test Piles (10 BP 42)	Each		2	2
Slope Wall	Sq. Yds.		293	293
Rock Excavation for Structures	Cu. Yds.		20	20



SECTION THROUGH EDGE OF SLOPE WALL



LOCATION SKETCH



STRUCTURES BY: FELL & WHEELER, CONSULTING ENGINEERS, TULSA, OKLAHOMA

REVISIONS			
NO.	DATE	INITIALS	
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STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

FAI-4 SECTION 91-2HB PROJECT I-04-1(22)
STATION 2474+00
UNION COUNTY

HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
DECATUR, ILLINOIS

DRAWN BY G.H.S. DATE 11-57
CHECKED BY W.J.F. DATE 5-58
BOOK NUMBER
PROJECT NO.
SHEET NO.

GENERAL PLAN & ELEVATION - PUBLIC ROAD - 91-2HB

FAI Route 4, Sec. 91-2HB, Union County, Bridge

MODEL: SN 091-0042 For Information Only 2 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsondad\d1315\D0\D978882\InfoSheets.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

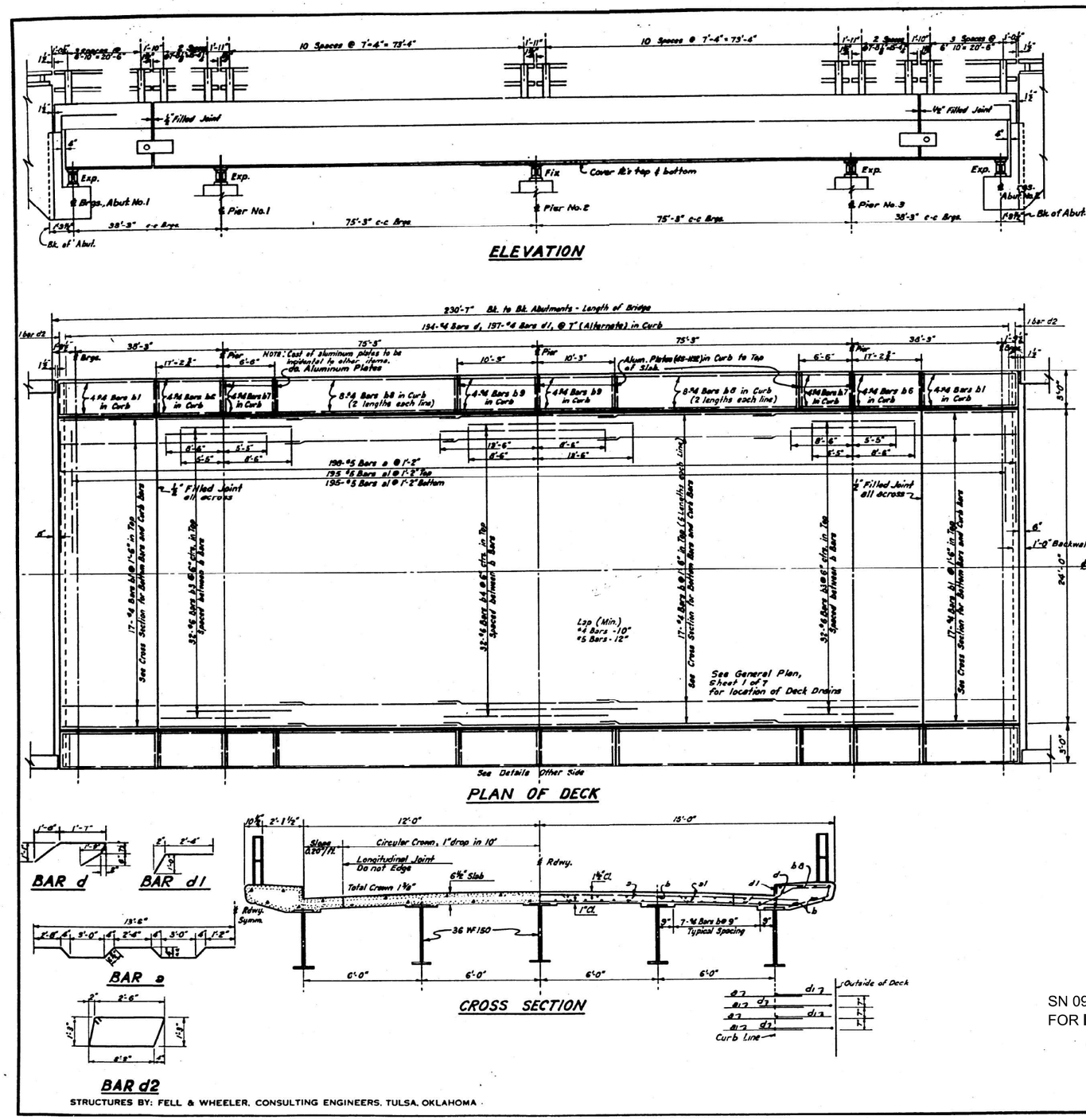
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0042
STRUCTURE INFORMATION

SCALE: SHEET 2 OF 4 SHEETS STA. TO STA.

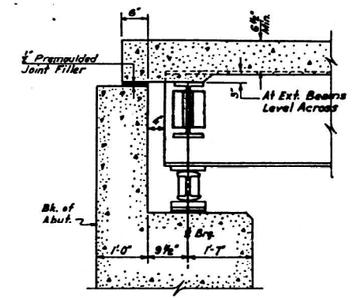
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	50
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

SHEET NO 2 OF 7 SHEETS				
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 4	91-2HB	UNION	23	8

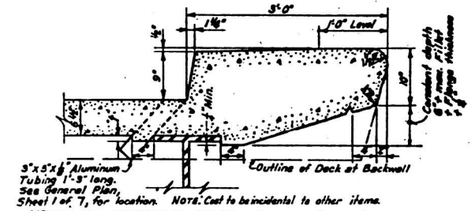


ELEVATION

PLAN OF DECK



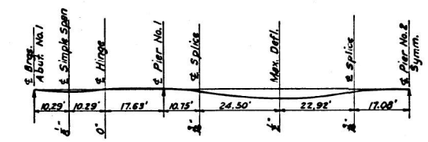
SECTION THROUGH ABUTMENT



NOTE: Cost to be incidental to other items.

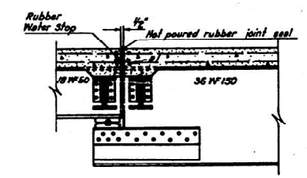
METHOD OF DETERMINING FILLET HEIGHTS "y" - Fillet height "y" (for all beams) is the difference in elevation between bottom of slab and top flange of beam after erection, plus thickness of flange, plus dead load deflection. Provide at least 1/4" clearance between transverse slab bars and top sheet of beam.

DETAIL OF CURB OVERHANG

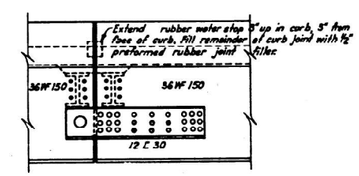


NOTE: After all structural steel has been erected, elevations of tops of beams shall be determined for all control points. Subsequent setting of forms, placing and finishing of concrete shall be governed by these measurements, taking into account the deflections shown.

DEAD LOAD DEFLECTIONS CAUSED BY CONCRETE



HINGE JOINT AT INTERIOR STRINGER



HINGE JOINT AT CURB STRINGER

BILL OF MATERIAL FOR DECK

BAR	NO.	SIZE	LENGTH	SHAPE
a	198	5	25'-0"	
a1	390	5	26'-6"	
b	245	4	37'-8"	
b1	116	4	21'-11"	
b3	64	6	13'-11"	
b4	32	6	22'-0"	
b6	16	4	16'-10"	
b7	16	4	6'-2"	
b8	32	4	29'-6"	
b9	16	4	9'-11"	
d	388	4	5'-10"	
d1	394	4	3'-4"	
d2	4	4	8'-7"	
Class X Concrete, Cu. Yds.				172.
Reinforcement Bars, Lb.				30,450.
Structural Steel, Lb.				200,200.
Name Plates, Ea.				2

CROSS SECTION

STRUCTURES BY: FELL & WHEELER, CONSULTING ENGINEERS, TULSA, OKLAHOMA

SN 091-0042
FOR INFORMATION ONLY

DECK DETAILS — PUBLIC ROAD - 91-2HB

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

FAI-4 SECTION 91-2HB PROJECT 1-04-1(22)
STATION 2474+00
UNION COUNTY

HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
DECATUR, ILLINOIS

REVISIONS		
No.	DATE	INITIALS
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DRAWN BY DATE	P.A.M. 11-57
CHECKED BY DATE	W.J.F. 5-58
"BOOK NUMBER"	
PROJECT NO	
SHEET NO	

FAI Route 4, Sec. 91-2HB, Union County, Bridge

MODEL: SN 091-0042 For Information Only 3 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 091-0042
STRUCTURE INFORMATION

SCALE: | SHEET 3 OF 4 SHEETS | STA. | TO STA.

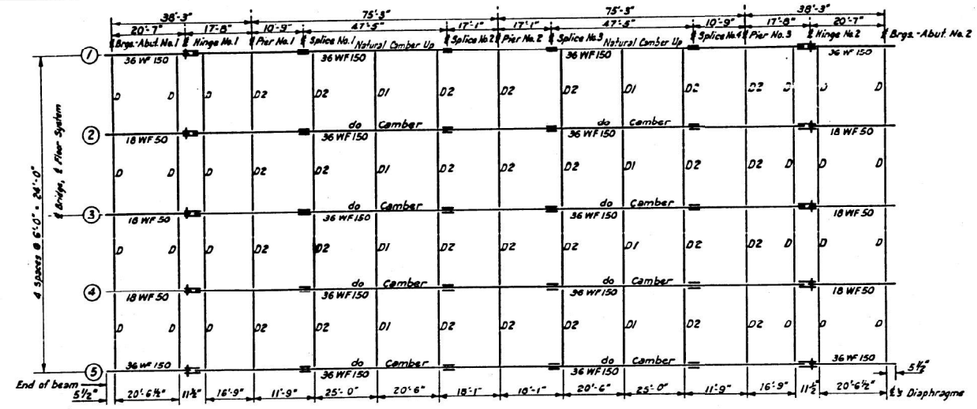
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	51

CONTRACT NO. 78B82

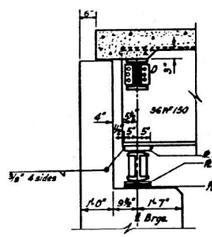
ILLINOIS | FED. AID PROJECT

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAI 4	91-2HB	UNION	23	9
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

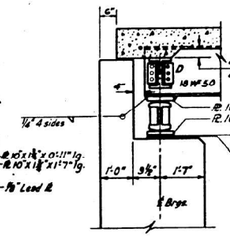
SHEET NO. 3
7 SHEETS



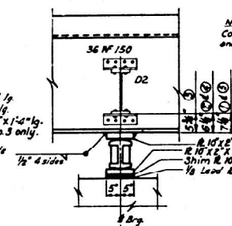
FRAMING PLAN



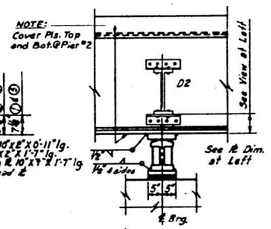
CURB STRINGER AT ABUTMENT



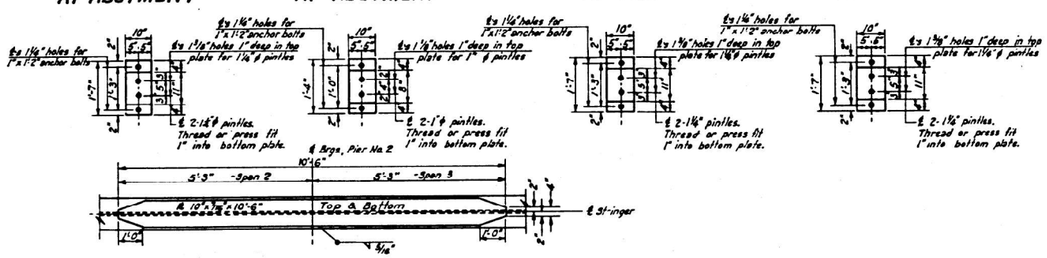
INTERIOR STRINGER AT ABUTMENT



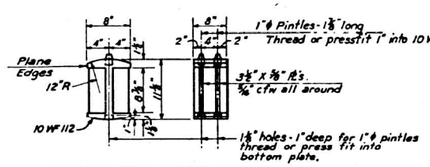
EXPANSION BEARING AT PIER



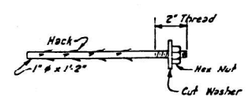
FIXED BEARING AT PIER



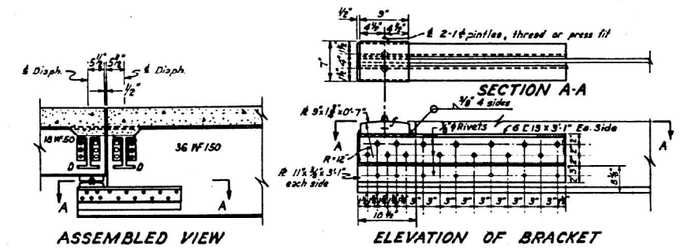
DETAILS OF COVER PLATE
Cover plate both flanges of Beams over Pier No.2



DETAIL OF ROCKER
FOR ABUTMENT BEARINGS, INTERIOR STRINGERS
6 Req'd.

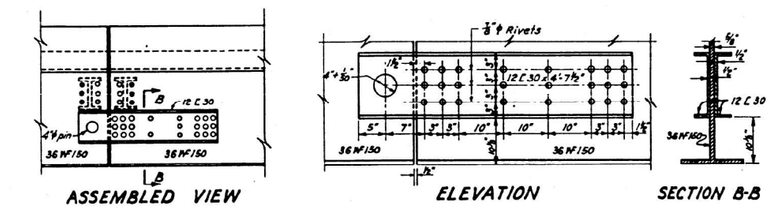


ANCHOR BOLTS
50 Req'd.

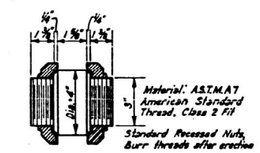


ASSEMBLED VIEW
SECTION A-A
ELEVATION OF BRACKET
ELEVATION
PLAN OF TOP PLATE

DETAILS OF HINGE AT INTERIOR STRINGER
6 Required

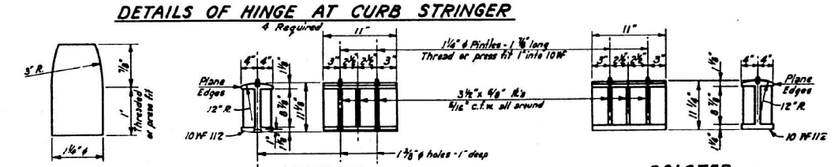


ASSEMBLED VIEW
ELEVATION
SECTION B-B



DETAIL OF PIN

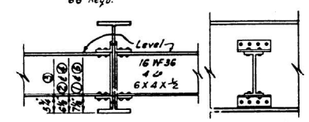
DETAILS OF HINGE AT CURB STRINGER
4 Required



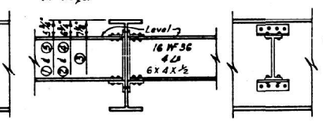
PINTLE
for Pier Bearings & Curb Stringers @ Abuts.
66 Req'd.

ROCKER
for Piers 1 & 3 & Curb Stringers @ Abuts.
14 Req'd.

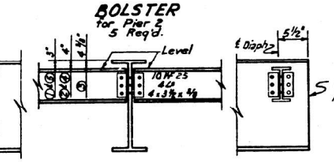
BOLSTER
for Pier 2
5 Req'd.



DIAPHRAGM D2



DIAPHRAGM D1

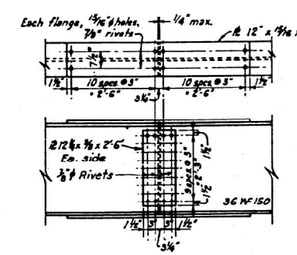


DIAPHRAGM D

ELEVATIONS AT TOPS OF BEAMS

@	BEAMS 1	2	3	4	5
Abut. No.1	544.25	544.33	544.36	544.33	544.25
Hinge No.1	544.81	544.90	544.93	544.90	544.81
Splice No.1	545.43	545.51	545.54	545.51	545.43
Splice No.2	545.94	546.02	546.05	546.02	545.94
Splice No.3	545.94	546.02	546.05	546.02	545.94
Splice No.4	545.43	545.51	545.54	545.51	545.43
Hinge No.2	544.81	544.90	544.93	544.90	544.81
Abut. No.2	544.25	544.33	544.36	544.33	544.25

Note: All rivet holes to be reamed with all parts assembled to grade and all parts match marked at splices. All rivets ⅞" ϕ in beam splices and hinges.



SPLICE DETAILS

TABLE FOR "f" DIMENSION

@	BEAMS 1	2	3	4	5
Abut. No.1	0	0	3/8	0	0
Pier No.1	0	0	5/8	0	0
Pier No.2	0	0	5/8	0	0
Pier No.3	0	0	5/8	0	0
Abut. No.2	0	0	5/8	0	0

William John Fell

STEEL DETAILS — PUBLIC ROAD - 91-2HB

REVISIONS		
NO.	DATE	DESCRIPTION
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STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

FAI-4 SECTION 91-2HB PROJECT I-04-1 (22)
STATION 2474+00
UNION COUNTY

HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
DECATUR, ILLINOIS

DRAWN BY P.A.M. DATE 11-57
CHECKED BY W.J.F. DATE 5-58
BOOK NUMBER
PROJECT NO.
SHEET NO.

STRUCTURES BY: FELL & WHEELER, CONSULTING ENGINEERS, TULSA, OKLAHOMA

SN 091-0042
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FAI Route 4, Sec. 91-2HB, Union County, Bridge

MODEL: SN 091-0042 For Information Only 4 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
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PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0042
STRUCTURE INFORMATION

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	52

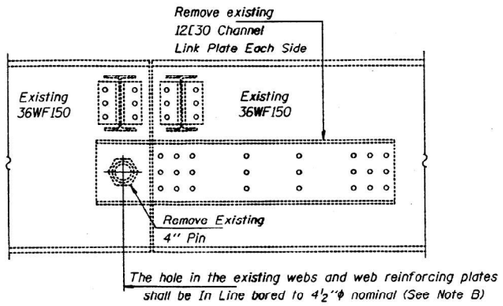
CONTRACT NO. 78B82
ILLINOIS FED. AID PROJECT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA 57 & FAP 839	*	UNION	20	15
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

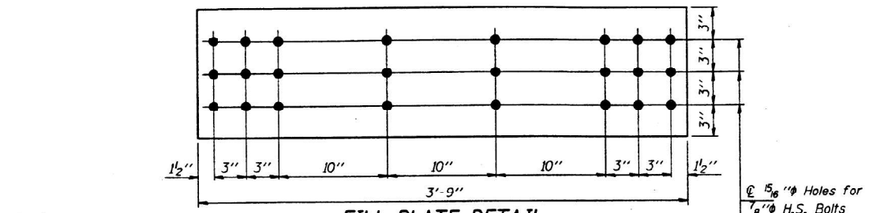
SHEET NO. 1
3 SHEETS

*D-9 BRIDGE PIN REPL. FY 98-1



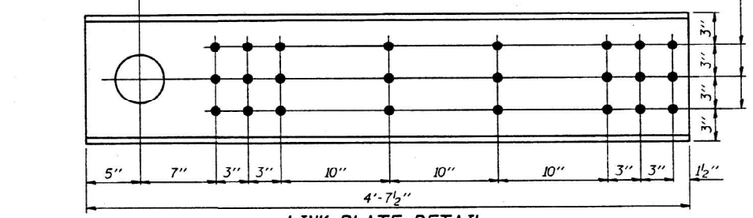
ELEVATION AT EXISTING PIN ASSEMBLY FOR EXTERIOR BEAMS

Any Pins that can be easily removed without damage to the pin shall be salvaged and the Bridge Engineer shall be contacted for disposition. Cost of salvage is included in "Pin and Link Plate Replacement".



FILL PLATE DETAIL

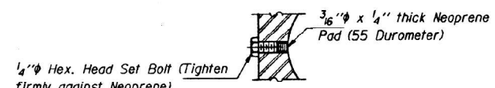
(8 Required)



LINK PLATE DETAIL

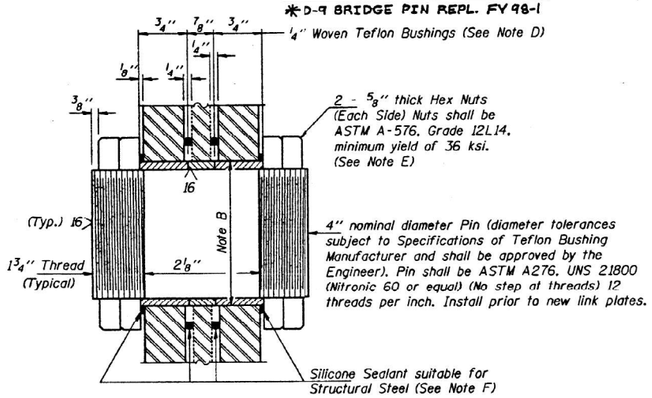
(8 Required)

SN 091-0049
FOR INFORMATION ONLY



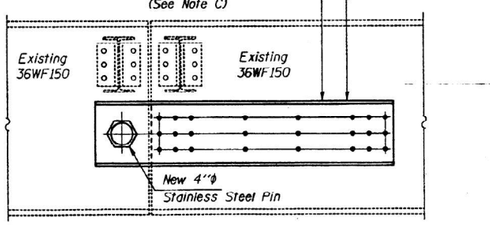
DETAIL A

Set Bolts shall conform to the requirements of ASTM A 307 and shall be galvanized according to AASHTO M 232.

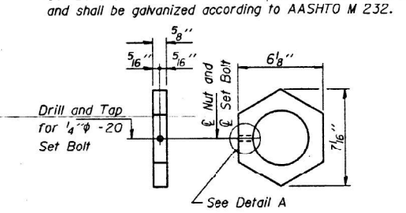


SECTION THRU PIN

(4 Required)

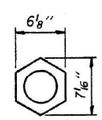


ELEVATION AT NEW PIN ASSEMBLY FOR EXTERIOR BEAMS



EXTERIOR NUT DETAIL

(8 Required)



INTERIOR NUT DETAIL

(8 Required)

MAXIMUM REACTIONS AT PIN

RP	(K)	8.3
RL	(K)	19.6
Imp.	(K)	5.9
R (Total)	(K)	33.8

Note A:
Existing welds shall be inspected for cracks using liquid dye penetrant or magnetic particle testing. Any cracks that are found shall be identified and reported to the Bureau of Bridges and Structures for further disposition. Clean and paint before installing new link plates.

Note B:
Bore diameter for bushing in link plate, existing webs and web reinforcement plates shall correspond to bushing manufacturer's allowable tolerances for proper functioning. Hole diameter may be adjusted to allow use of stock bushings.

Note C:
Inside face of new link plates shall receive first field coat in shop. The primer shall pass the M.E.K. Rub Test before the first field coat is applied.

Note D:
Actual bushing thickness per manufacturer's specifications. 1/4" is approximate. Bushings shall be a self lubricating filament wound epoxy matrix backed Duralon Bearing, metal backed Fiber Glide Bearing or equivalent. No primer or grease shall be allowed on bushings. Bushings shall be suitable for dynamic loads of 20,000 psi.

Note E:
Tighten inside nuts to bring all bushings into firm contact, then back off 1/4 turn and tighten outer nuts and set bolts.

Note F:
Apply 3/8" bead to face of the web reinforcing plates approximately 1/2" from bushing immediately before installing new link plates. Place sealant around nuts after installation. Sealant shall be suitable for prolonged exterior exposure without losing flexibility or adhesion to painted steel surfaces. Proposed products shall be subject to Department's acceptance based on documented testing or other evidence.

GENERAL NOTES

All new structural steel shall conform to AASHTO Classification M-270 Gr. 36, unless otherwise noted.

The Contractor shall provide support and/or shoring systems for the beam in the area of existing pin and link plate replacement. See Special Provision "Temporary Support System."

The Inorganic zinc rich primer/acrylic/acrylic paint system shall be used for shop and field painting of new structural steel except where otherwise noted. The color of the acrylic finish coat shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provisions "Cleaning and Painting New Metal Structures". Cost shall be included in the cost of "Pin and Link Plate Replacement".

Existing Structural steel shall be cleaned and painted as required by the Special Provision "Cleaning and Painting Adjacent Areas of Existing Steel Structures". Cost shall be included in the cost of "Pin and Link Plate Replacement."

All existing steel surfaces behind link plates shall be cleaned and primed before installation of new link plates. Cost shall be included in the cost of "Pin and Link Plate Replacement."

Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field, except the pin diameters, and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

The Pins and Link Plates shall conform to the minimum Charpy V-Notch Toughness of 25 ft.-lbs. at 40° F.

The pins, link plates, bushings, nuts, Set Bolts, Neoprene Pad, silicone sealant fill plates and high strength bolts are the items included in "Pin and Link Plate Replacement".

The existing structural steel coating contains lead. The Contractor should take appropriate precautions to deal with the presence of lead on this project.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Temporary Support System	Each	4
Pin and Link Plate Replacement	Each	4

DESIGNED	VICTOR H. VOLITZ
CHECKED	Curtis M. Ervay
DRAWN	Paul Summer
CHECKED	VHV CMV

FEBRUARY 19, 1998
EXAMINED Todd E. Hahn
ENGINEER OF STRUCTURAL SERVICES
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

PIN AND LINK PLATE REPLACEMENT
FAI ROUTE 57 SEC. 91-2HB-1
UNION COUNTY
STA. 2530+25
STR. No. 091-0049

MODEL: SN 091-0049 For Information Only 1 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 091-0049
STRUCTURE INFORMATION

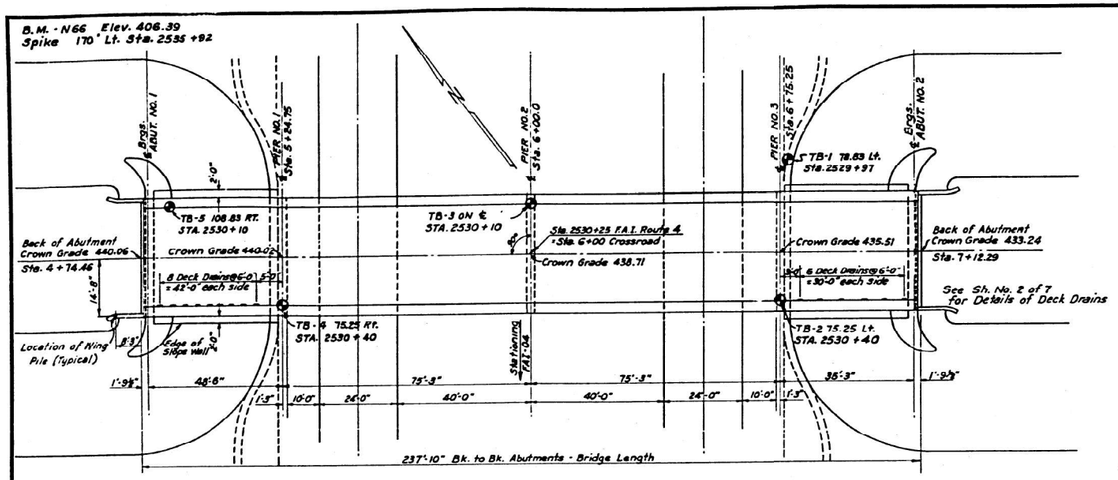
SCALE: SHEET 1 OF 4 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	53
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

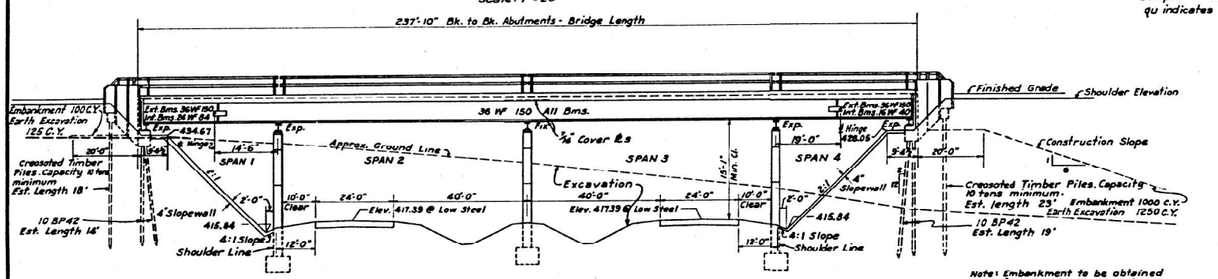
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
4	91-2HB-1	UNION	23	8
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET NO. 1
7 SHEETS

B.M. - N66 Elev. 406.39
Spike 170' Lt. Sta. 2535 +92

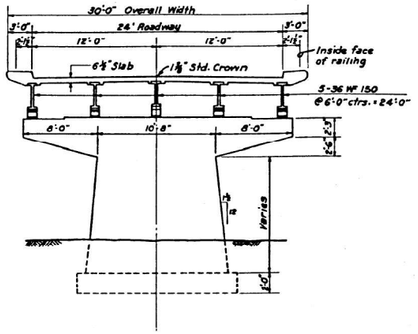


PLAN
Scale: 1" = 20'



Note: Embankment to be obtained from Roadway Excavation.

ELEVATION AT NEAR CURB
Scale: 1" = 20' Horiz.
1" = 10' Vert.



TRANSVERSE SECTION

GENERAL NOTES

Class X Concrete shall be used throughout

The concrete floor slab shall be finished in accordance with Article 51.18 (a) of the Standard Specifications and shall be poured in one continuous operation between joints.

All rockers, bearing plates, lead plates, pintles and anchor bolts shall be furnished and set in accordance with Article 51.14 of the Standard Specifications, and are included for payment as Structural Steel. The cost of handrail post anchors shall be included in the payment for lineal feet of metal handrail. The Contract Price per lineal feet of handrail shall include the furnishing, installing and painting of the handrail. The number of lineal feet of handrail is measured along the top longitudinal railing member.

Metal handrail on concrete End Post shall be included in lineal feet of Metal Handrail.

All Structural Steel and metal handrail shall receive one shop coat of red lead paint and two field coats of aluminum paint in accordance with Article 57.1 to 57.5 inclusive, of the Standard Specifications.

All paint shall be furnished and applied by the Contractor.

All structural steel shall be inspected by Illinois Division of Highways before painting

Backfilling shall be done according to Article 50.10 of the Standard Specifications.

Boring Data are shown on the plans only as a guide to bidders in estimating soil conditions which may be encountered in the field.

The Contractor shall drive one Test Pile at each abutment in permanent locations as directed by the Engineer before ordering the remainder of the Piles.

Design Stresses:
f_s = 18,000 p.s.i. for structural steel.
f_s = 20,000 p.s.i. for intermediate grade reinforcing steel.
f_c = 1,400 p.s.i. in superstructure
f_c = 1,000 p.s.i. in substructure with earth pressure, 1,400 p.s.i. without earth pressure
Shear in footings = 75 p.s.i. maximum.
n = 10

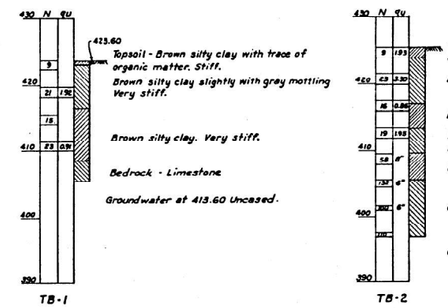
Design Specifications AASHO H15 S12-44

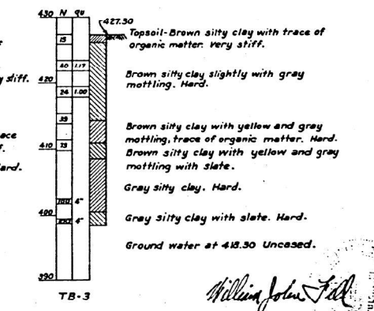
Rivets ¾" ϕ; open hole 13/16" ϕ except as noted. Holes for ⅞" ϕ Rivets in beam, web and flange splices and channels at hinges subpunched 15/16" ϕ and reamed to 15/16" ϕ.

All connections riveted unless noted.

Slope walls shall be reinforced with welded wire fabric No. 4 x No. 4 wires; 6" X 6" mesh; wt. 58 #/100 ft². Cost incidental to Contract.

NOTES:
N indicates the numbers of blows required to drive a 1⅜" I.D., 2" O.D split spoon sampler 12" by means of a 140 lb. weight falling 30"
qu indicates the unconfined compressive strength of the soil in tons/sq.ft.

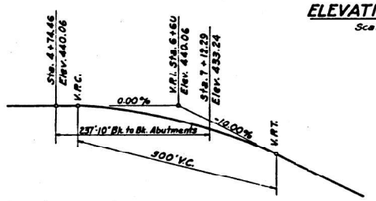




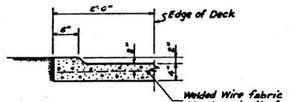
SN 091-0049
FOR INFORMATION ONLY

TOTAL BILL OF MATERIAL

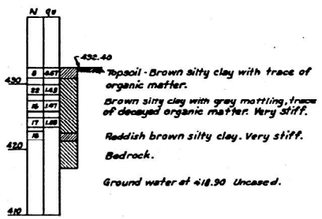
ITEM		SUPERSTRUCT.	SUBSTRUCTURE	TOTAL
Class X Concrete (Bridges)	Cu.Yds.	177.50	172.90	350.40
Reinforcement Bars	Lbs.	32,050	15,580	47,630
Structural Steel	Lbs.	206,500		206,500
Metal Handrail	Lin. Ft.	503.67		503.67
Name Plates	Each	1		1
Class A Excavation for Structures	Cu.Yds.		506	506
Creosoted Timber Piles	Lin. Ft.		82	82
Steel Piles (10 BP42)	Lin. Ft.		132	132
Steel Test Piles (10 BP42)	Each		2	2
Slope Wall	Sq. Yds.		330	330
Rock Excavation For Structures	Cu.Yds.		57	57

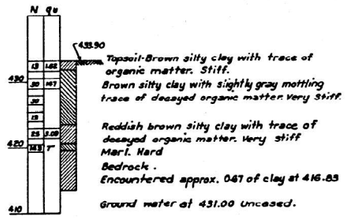


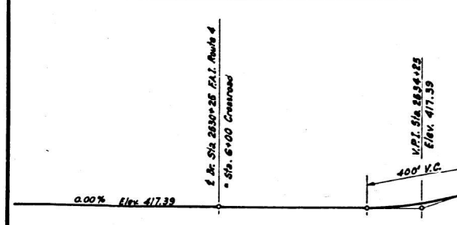
CROWN GRADE PROFILE OF BRIDGE



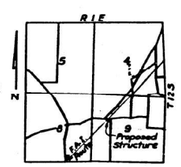
SECTION THRU EDGE OF SLOPEWALL







CROWN GRADE PROFILE OF INTERSTATE HIGHWAY BOTH LANES



LOCATION SKETCH

STATION 2530+00
BUILT 195 BY
STATE OF ILLINOIS
F.A.I. RT. 4 SEC. 91-2HB-1
F.A. PROJ. I-04-1(22)
LOADING H15-S12

NAME PLATE
See Standard 2113
Locate on NW End Post

STRUCTURES BY: FELL & WHELER, CONSULTING ENGINEERS, TULSA, OKLAHOMA

GENERAL PLAN & ELEVATION - PUBLIC ROAD - 91-2HB-1

REVISIONS		
NO.	DATE	INITIALS
1	3-58	W.R.
2		
3		
4		
5		
6		
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10		

STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS
FAI-4 SECTION 91-2HB-1 PROJECT I-04-1(22)
STATION 2530+25
UNION COUNTY
HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
DECATUR, ILLINOIS

DRAWN BY	DATE
W.G.P.	11-57
CHECKED BY	DATE
L.R.	3-58

BOOK NUMBER
PROJECT NO.
SHEET NO.

FAI Route 4, Sec. 91-2HB-1, Union County, Bridge

MODEL: SN 091-0049 For Information Only 2 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

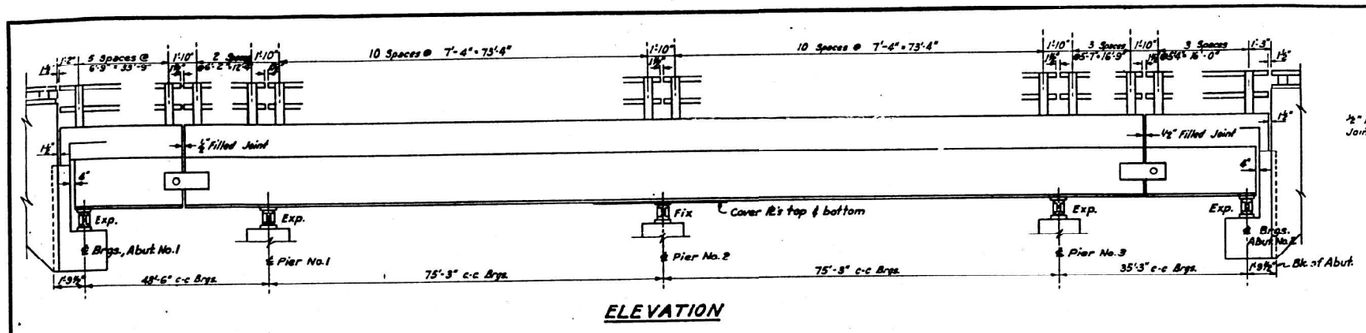
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0049
STRUCTURE INFORMATION

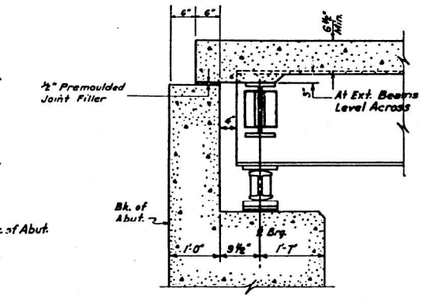
SCALE: SHEET 2 OF 4 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	54
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

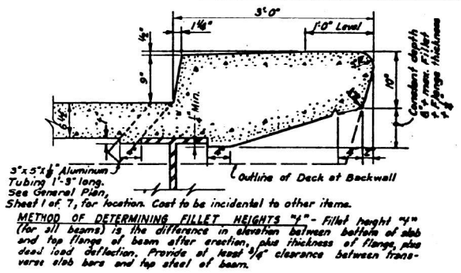
SHEET NO 2 7 SHEETS				
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	91-2HB-1	UNION	23	9
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		



ELEVATION

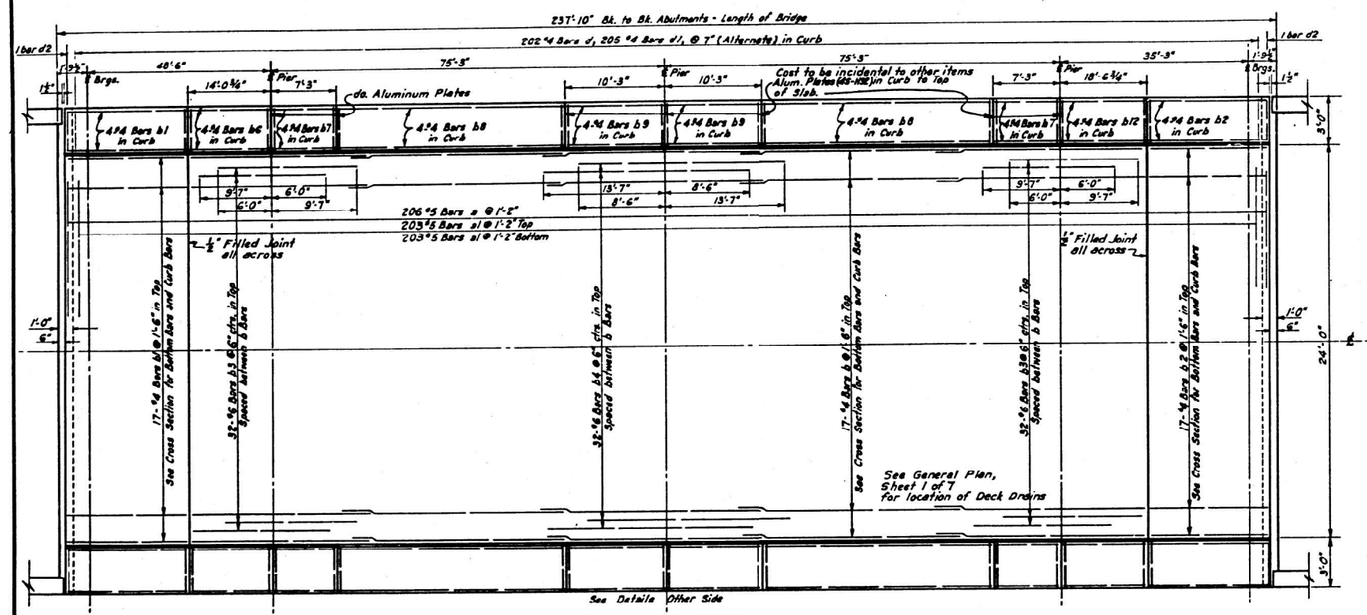


SECTION THROUGH ABUTMENT

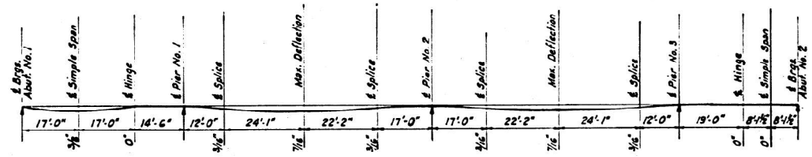


METHOD OF DETERMINING FILLET HEIGHTS "Y" - Fillet height "Y" (for all beams) is the difference in elevation between bottom of slab and top flange of beam after erection, plus thickness of flange, plus dead load deflection. Provide at least 1/4" clearance between transverse slab bars and top steel of beam.

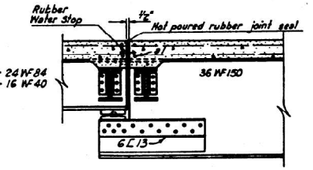
DETAIL OF CURB OVERHANG



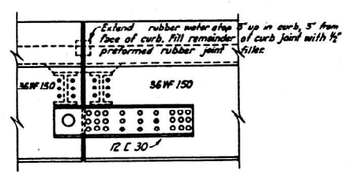
PLAN OF DECK



DEAD LOAD DEFLECTIONS CAUSED BY CONCRETE



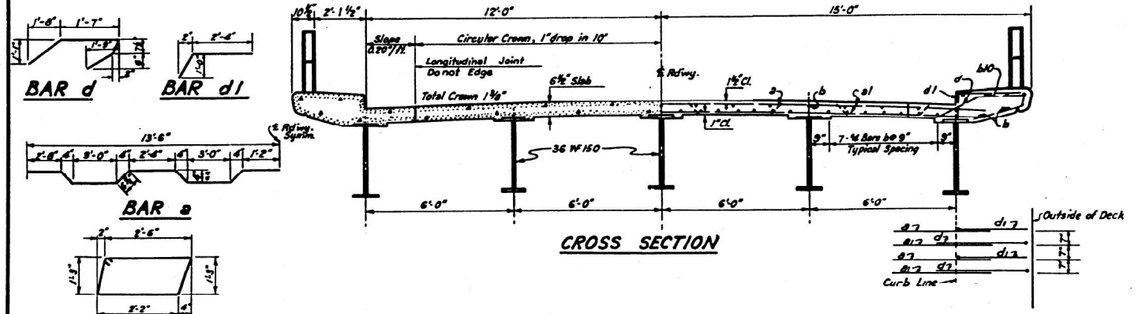
HINGE JOINT AT INTERIOR STRINGER



HINGE JOINT AT CURB STRINGER

BILL OF MATERIAL FOR DECK

BAR	NO.	SIZE	LENGTH	SHAPE
a	206	5	28'-0"	
a1	406	6	26'-6"	
b	245	4	37'-3"	
b1	57	4	35'-5"	
b2	57	4	17'-7"	
b3	64	6	15'-7"	
b4	32	6	22'-1"	
b6	8	4	13'-9"	
b7	16	4	6'-11"	
b8	16	4	57'-5"	
b9	16	4	9'-11"	
b12	8	4	18'-3"	
d	404	4	5'-10"	
d1	410	4	3'-4"	
d2	4	4	8'-7"	
Class X Concrete, Cu. Yds.				177.50
Reinforcement Bars, Lb.				32,050
Structural Steel, Lb.				206,500
Metal Handrail Lin. Ft.				503.67
Name Plates, Ea.				1



CROSS SECTION

STRUCTURES BY: FELL & WHEELER, CONSULTING ENGINEERS, TULSA, OKLAHOMA

SN 091-0049
FOR INFORMATION ONLY

DECK DETAILS- PUBLIC ROAD-91-2HB-1

REVISIONS		
NO.	DATE	INITIALS
1	3-58	W.R.
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STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

FAI-4 SECTION 91-2HB-1 PROJECT I-04-1(22)
STATION 2530+25
UNION COUNTY

HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
DECATUR, ILLINOIS

DRAWN BY	DATE
PAM	11-57
CHECKED BY	DATE
L.R.	3-58
BOOK NUMBER	
PROJECT NO.	
SHEET NO.	

F.A.I. Route 4, Sec. 91-2HB-1, Union County, Bridge

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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

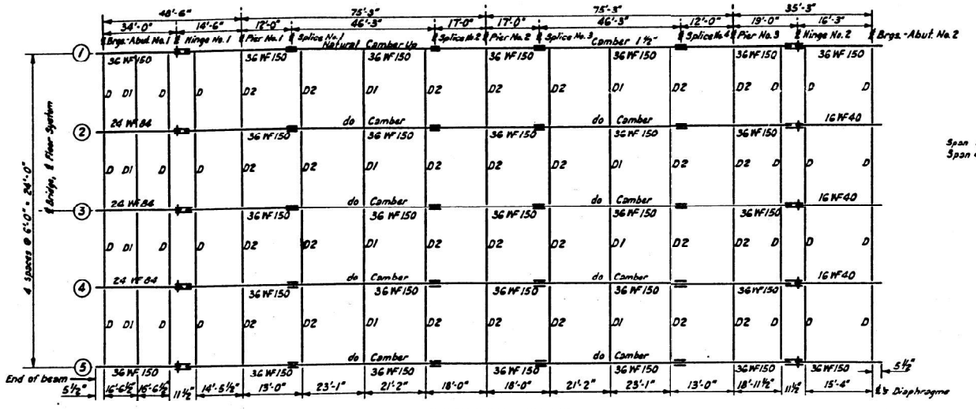
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0049
STRUCTURE INFORMATION

SCALE: SHEET 3 OF 4 SHEETS STA. TO STA.

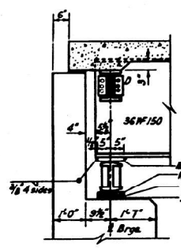
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	55
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

SHEET NO. 3 OF 7 SHEETS				
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	91-2HB-1	UNION	23	10
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

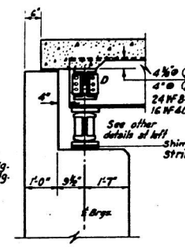


FRAMING PLAN

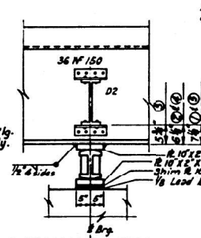
All measurements horizontal.



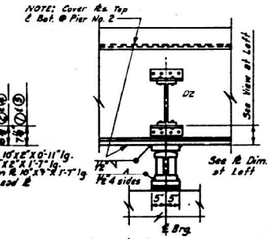
CURB STRINGER AT ABUTMENT



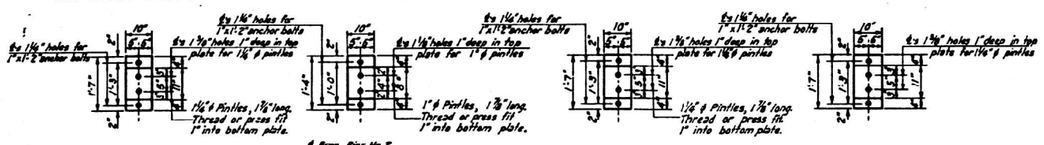
INTERIOR STRINGER AT ABUTMENT

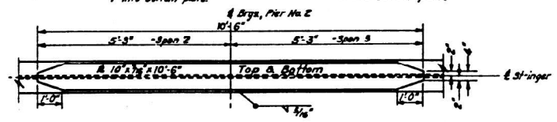


EXPANSION BEARING AT PIER



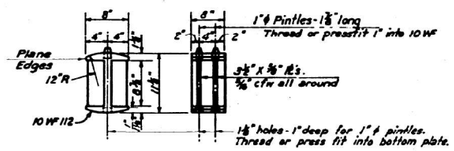
FIXED BEARING AT PIER





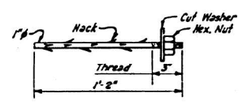
DETAILS OF COVER PLATE

Cover plate both flanges of Beams over Pier No. 2



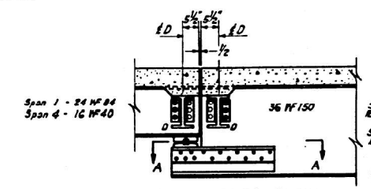
DETAIL OF ROCKER FOR ABUTMENT BEARINGS, INTERIOR STRINGERS

6 Req'd.

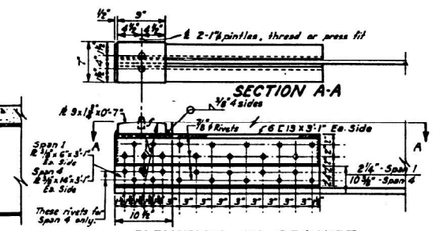


ANCHOR BOLTS

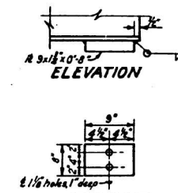
50 Req'd.

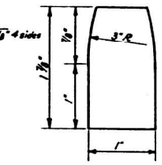


ASSEMBLED VIEW



ELEVATION OF BRACKET



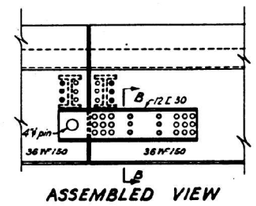


DETAIL OF PINTLE

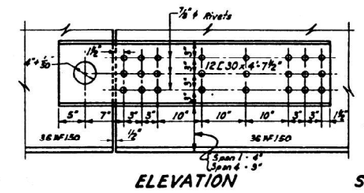
Thread or Press Fit 1" into Plate (for Hinges and Abutment Bearings) 36 Req'd.

DETAILS OF HINGE AT INTERIOR STRINGER

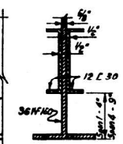
6 Required



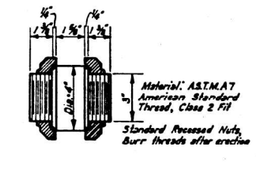
ASSEMBLED VIEW



ELEVATION



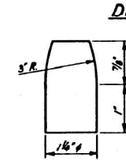
SECTION B-B



DETAIL OF PIN

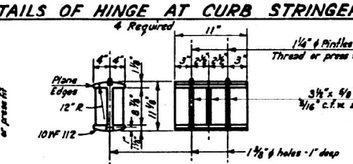
DETAILS OF HINGE AT CURB STRINGER

4 Required



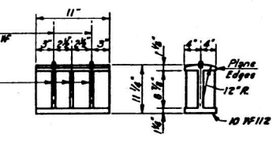
PINTLE

for Pier Bearings and Curb Stringer @ Abuts. 62 Req'd.



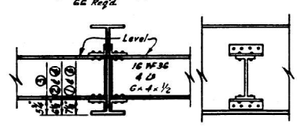
ROCKER

for Piers 1 & 3 and Curb Stringer @ Abuts. 14 Req'd.

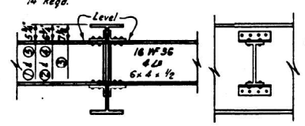


BOLSTER

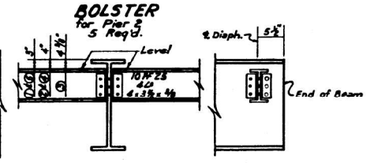
for Pier 2 5 Req'd.



DIAPHRAGM D2



DIAPHRAGM D1

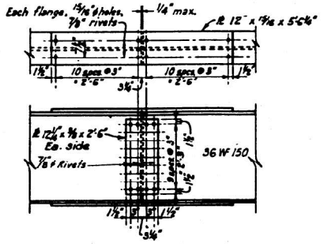


DIAPHRAGM D

ELEVATIONS AT TOPS OF BEAMS

@	BEAMS 1	2	3	4	5
Abut. No. 1	439.40	439.49	439.52	439.49	439.40
Hinge No. 1	439.40	439.49	439.52	439.49	439.40
Splice No. 1	439.30	439.38	439.42	439.38	439.30
Splice No. 2	438.53	438.61	438.65	438.61	438.53
Splice No. 3	437.51	437.59	437.63	437.59	437.51
Splice No. 4	435.51	435.59	435.62	435.59	435.51
Hinge No. 2	433.75	433.83	433.86	433.83	433.75
Abut. No. 2	432.70	432.79	432.82	432.79	432.70

Note: All rivet holes to be reamed with all parts assembled to grade and all parts match marked at splices. All rivets 7/8" ϕ in beam splices and hinges.



SPLICE DETAILS

Note: ℄ of joint shall be vertical at Splices and Hinges.

TABLE FOR "f" DIMENSION

@	BEAMS 1	2	3	4	5
Abut. No. 1	0	0	5/8"	0	0
Pier No. 1	0	0	5/8"	0	0
Pier No. 2	0	0	5/8"	0	0
Pier No. 3	0	0	5/8"	0	0
Abut. No. 2	0	0	5/8"	0	0

William John Hall

SN 091-0049
FOR INFORMATION ONLY

STRUCTURES BY: FELL & WHEELER, CONSULTING ENGINEERS, TULSA, OKLAHOMA

STEEL DETAILS - PUBLIC ROAD-91-2HB-1

REVISIONS		
No.	DATE	INITIALS
1	3-58	L.R.
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STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

FAI-4 SECTION 91-2HB-1 PROJECT I-04-1(22)
STATION 2530+25
UNION COUNTY

HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
DECATUR, ILLINOIS

DRAWN BY	DATE
PAM	11-57
CHECKED BY	DATE
L.R.	3-58
BOOK NUMBER	
PROJECT NO.	
SHEET NO.	

F.A.I. 4, Sec. 91-2HB-1, Union County, Bridge

MODEL: SN 091-0049 For Information Only 4 (Sheet)
FILE NAME: c:\pw_work\pwidot\wilsondad\d1315\D978B82-InfoSheet\S2.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

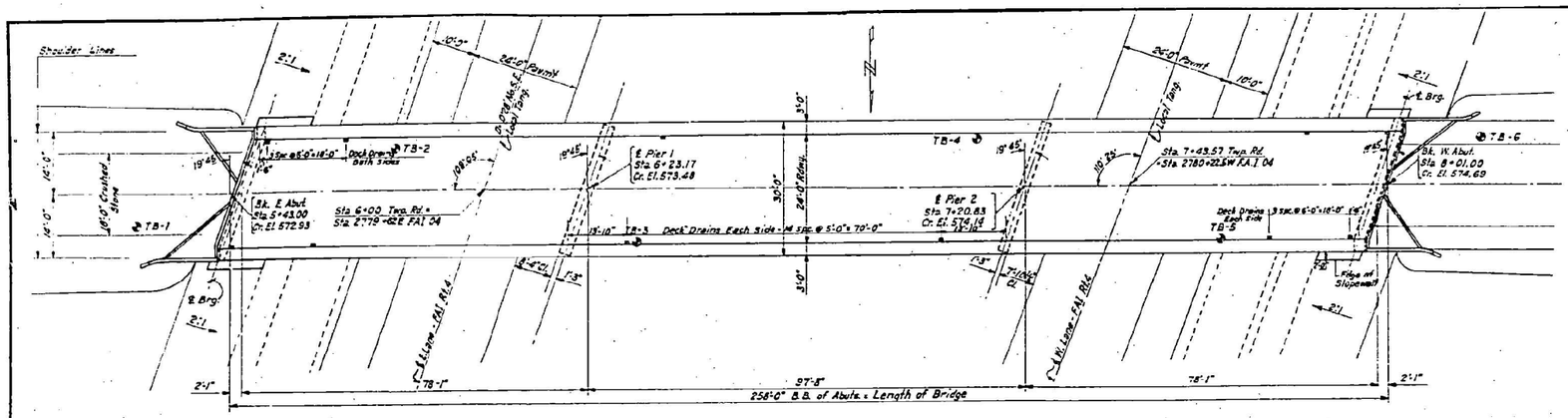
SN 091-0049
STRUCTURE INFORMATION

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	56
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

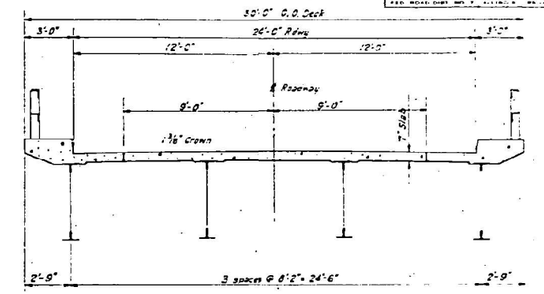
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	91-3-B-7 91-3A-2	LA SALLE	112	25

SHEET NO 1
6 SHEETS



PLAN

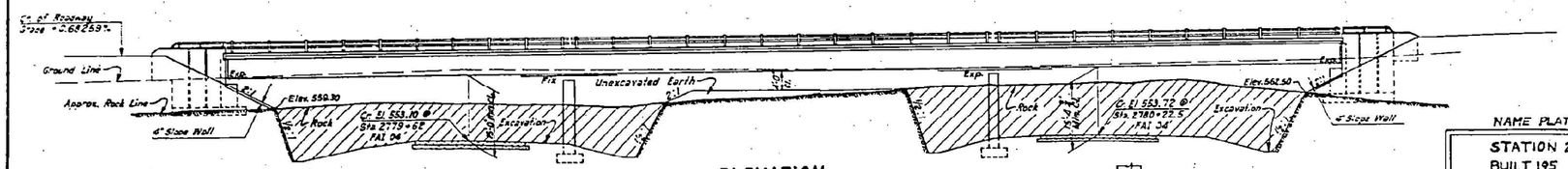
SCALE: 1" = 15'



DECK CROSS SECTION

SCALE: 1/2" = 1'-0"

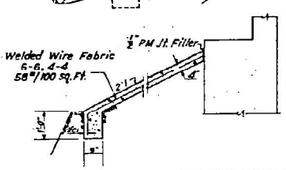
SN 091-0050
FOR INFORMATION ONLY



ELEVATION

SCALE: 1" = 15'

Notes:
N indicates the number of blows required to drive a 1 3/8" I.D., 2" O.D. split spoon sampler 12" by means of a 140# weight falling 30".
q_u indicates the unconfined compressive strength of the soil in tons/sq. ft.
See Plan on this sheet for location of borings.



Note:
Layout of slope walls may be varied to suit ground conditions in the field, as directed by the Engineer.

SECTION THRU SLOPE WALL

NAME PLATE

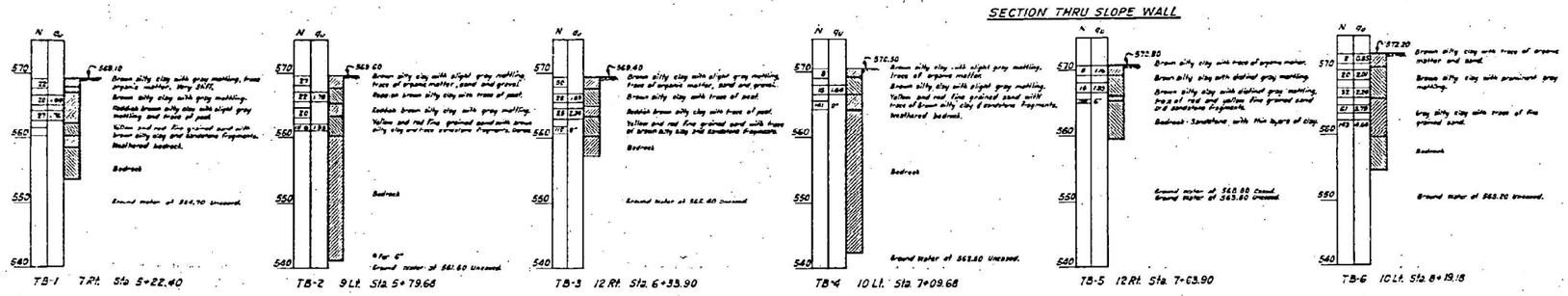
STATION 2779+62
BUILT 195 BY
STATE OF ILLINOIS
F.A.I RT. 4 SEC. 91-3HB-2
F.A. PROJ. I-04-1 (35)
LOADING H15-S12

See Std. 2113

GENERAL NOTES

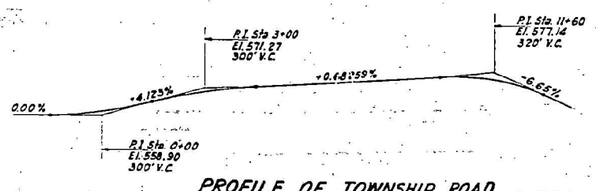
Class X Concrete shall be used throughout.
The concrete floor slab shall be finished in accordance with Article 516.16 of the Standard Specifications and shall be poured in one continuous operation between joints.
All rockers, bearing plates, lead plates, plates and anchor bolts shall be furnished and set in accordance with Article 516.16 of the Standard Specifications, and are included for payment as Structural Steel. The cost of handrail post anchors shall be included in the payment for linear feet of metal handrail. The cement mortar per linear feet of handrail shall include the furnishing, installing and painting of the handrail. The number of linear feet of handrail is measured along the top longitudinal railing member.
Metal handrail on concrete end post shall be included in linear feet of metal handrail.
All structural steel and metal handrail shall receive one shop coat of red lead and two field coats of aluminum paint in accordance with Article 601.16 of the Standard Specifications.
All paint shall be furnished and applied by the Contractor.
All structural steel shall be inspected by Illinois Division of Highways before painting.
Backfilling shall be done according to Article 502.12 of the Standard Specifications.
Boring data are shown on the plans only as a guide to bidders in estimating soil conditions which may be encountered in the field.

Design Stresses:
f_s = 18,000 p.s.i. for structural steel.
f_s = 20,000 p.s.i. for intermediate grade reinforcing steel.
f_c = 1,400 p.s.i. in superstructure.
f_c = 1,000 p.s.i. in substructure with earth pressure, 1,200 p.s.i. without earth pressure.
Shear in footings = 75 p.s.i. maximum.
n = 10
Design Specifications AASHO H15-S12 &E



TOTAL BILL OF MATERIAL

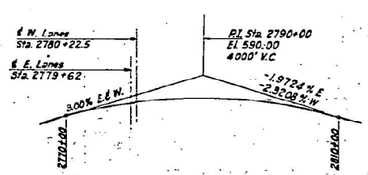
ITEM		SUPERSTR.	SUBSTR.	TOTAL
Class X Concrete	Cu. Yds.	209.3	197.4	406.7
Reinforcement Bars	Lbs.	38,450.	22,300.	60,750.
Structural Steel	Lbs.	234,600		234,600
Metal Handrail	Lin. Ft.	562.88		562.88
Name Plates	Each	1.		1.
Class "A" Excavation for Structures	Cu. Yds.		232.	232.
Rock Excavation for Structures	Cu. Yds.		70.	70.
Slope Wall	Sq. Yds.		65	65



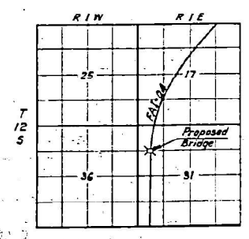
PROFILE OF TOWNSHIP ROAD

B.M.-2 Spike in P.P. 257' Lt. Sta. 2779+12 (E) Elev. 567.23

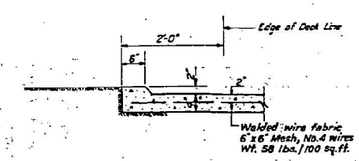
No Existing Structure



PROFILE OF FAI RT. 04



LOCATION SKETCH



SECTION AT EDGE OF SLOPEWALL

GENERAL PLAN & ELEVATION - PUBLIC ROAD - 91-3HB-2

REVISIONS		
No.	DATE	INITIALS
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STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

FAI-4 SECTION 91-3HB-2 PROJECT I-04-1 (35)
STATION 2779+62 E & 2780+22.5 W
UNION COUNTY

HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
DECATUR ILLINOIS

DRAWN BY: PLM DATE: 3-58
CHECKED BY: J.L.C. DATE: 4-58
BOOK NUMBER
PROJECT NO.
SHEET NO.

F.A.I. Route 4, Sec. 91-3HB-2, Union County, Illinois

MODEL: SN 091-0050 For Information Only 1 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsondad\d1315161\D978B82-InfoSheets2.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0050
STRUCTURE INFORMATION

SCALE: | SHEET 1 OF 4 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	57

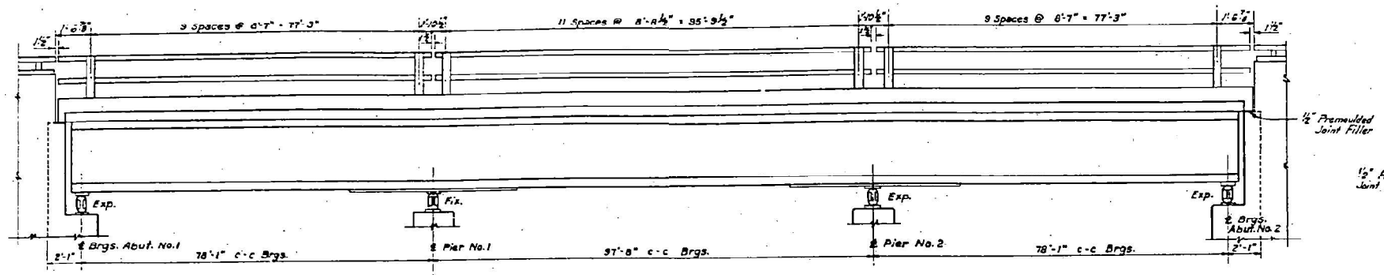
CONTRACT NO. 78B82
ILLINOIS | FED. AID PROJECT

FAI-57

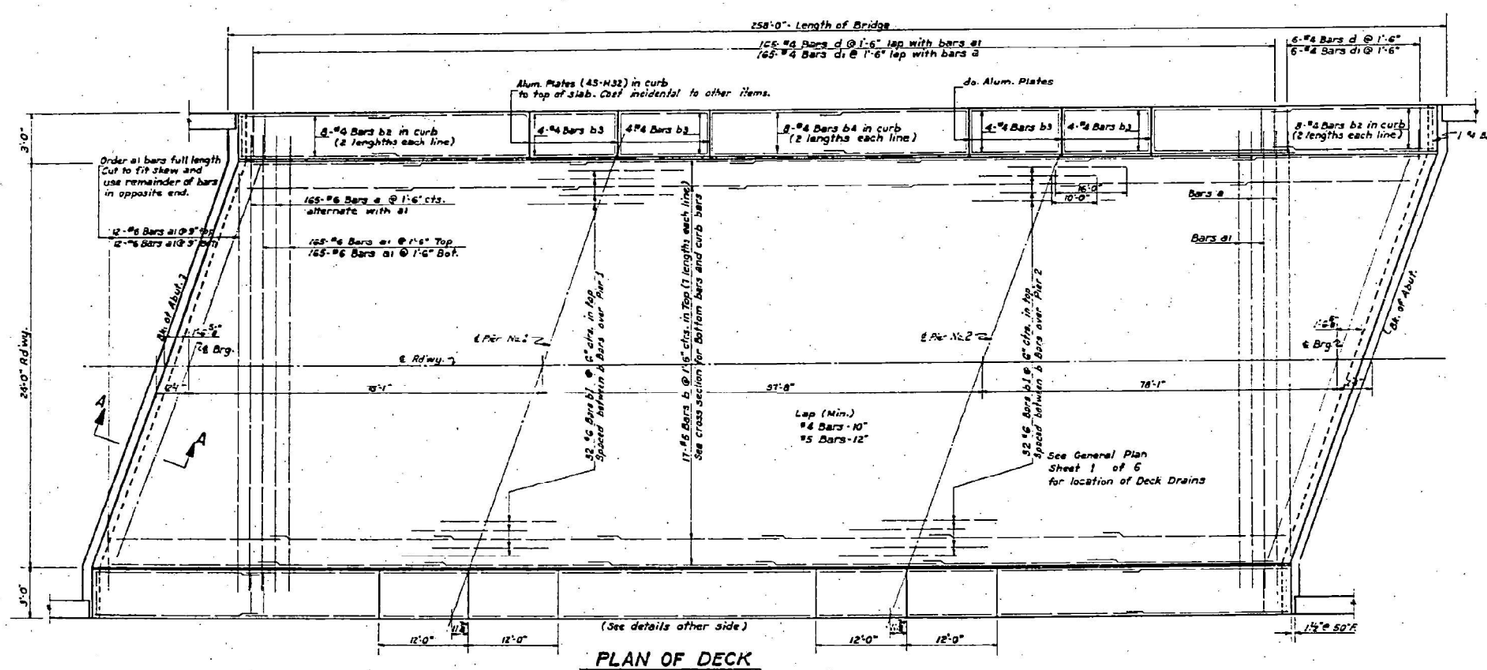
SHEET NO. 2
6 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	91-3-B-2 91-3A-2	UNION	112	28

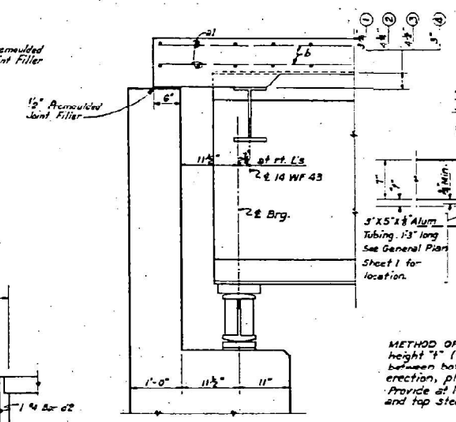
FED. ROAD DIST. NO. 7 ILLINOIS PROJECT



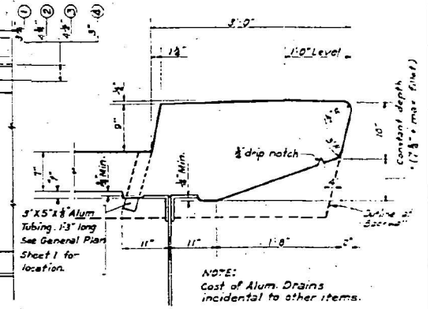
ELEVATION



PLAN OF DECK



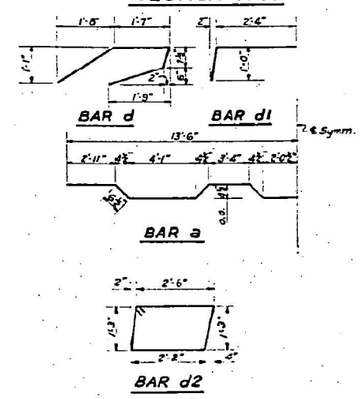
SECTION A-A



NOTE:
Cost of Alum. Drains incidental to other items.

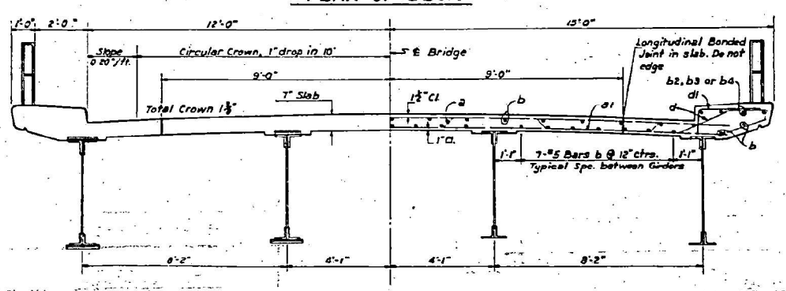
METHOD OF DETERMINING FILLET HEIGHTS "f"- Fillet height "f" (for all beams) is the difference in elevation between bottom of slab and top flange of beam after erection, plus thickness of flange, plus dead load deflection. Provide at least ⅛" clearance between transverse slab bars and top steel of beam.

DETAIL OF CURB OVERHANG

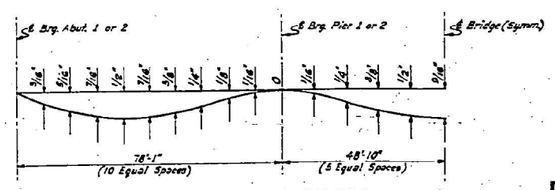


BILL OF MATERIAL FOR DECK

BAR	NO.	SIZE	LENGTH	SHAPE
a	165	6	28'-0"	
a1	354	6	26'-0"	
b	294	5	37'-7"	
b1	64	6	26'-0"	
b2	32	4	34'-1"	
b3	32	4	11'-8"	
b4	16	4	37'-1"	
d	342	4	5'-10"	
d1	342	4	3'-4"	
d2	4	4	8'-7"	
Class X Concrete Cu. Yds.				209.3
Reinforcement Bars Lbs.				38,452
Structural Steel Lbs.				224,600



CROSS SECTION



DEAD LOAD DEFLECTION DIAGRAM

(Based on Concrete Slab & Fillets)

SN 091-0050
FOR INFORMATION ONLY

DECK DETAILS - PUBLIC ROAD - 91-3HB-2

REVISIONS		
No.	DATE	INITIALS
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STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

FAI-4 SECTION 91-3HB-2 PROJECT I-04-1(35)
STATION 2779+62.E & 2780+22.5 W
UNION COUNTY

HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
DECATUR, ILLINOIS

DRAWN BY WCP DATE 3-58
CHECKED BY R.F. DATE 4-58
BOOK NUMBER
PROJECT NO.
SHEET NO.

F.A.I. Route 4, Sec. 91-3HB-2, Union County, Bridge.

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USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0050
STRUCTURE INFORMATION

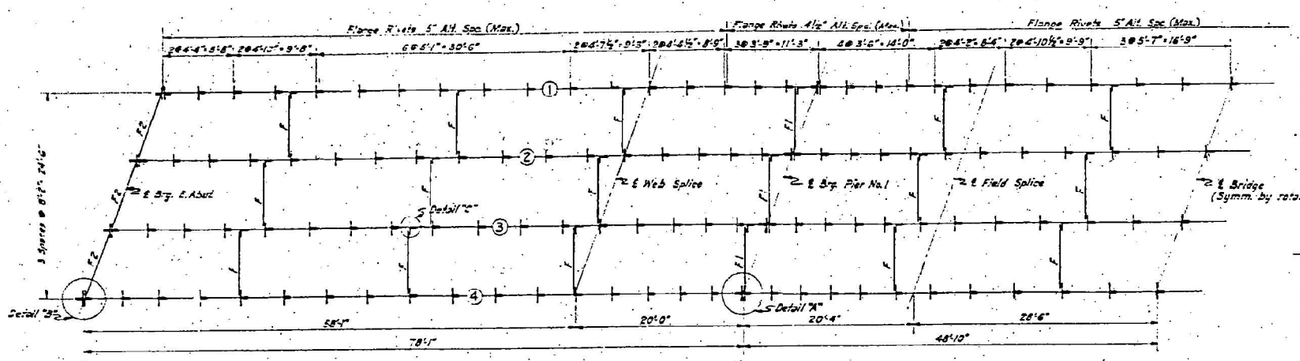
SCALE: SHEET 2 OF 4 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	58

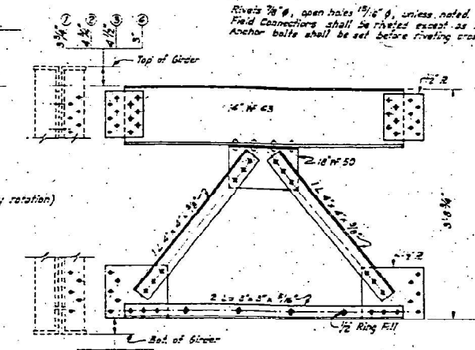
CONTRACT NO. 78B82
ILLINOIS FED. AID PROJECT

SHEET NO. 3
6 SHEETS

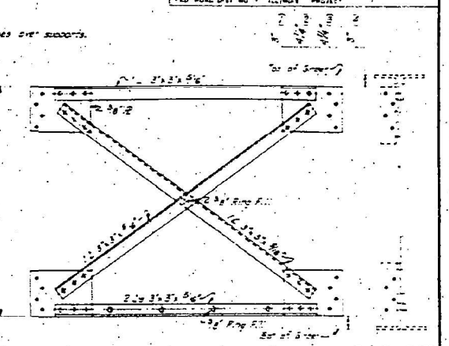
Rivets 7/8" ø, open holes 15/16" ø, unless noted.
Field Connections shall be riveted except as noted.
Anchor bolts shall be set before riveting cross frames over supports.



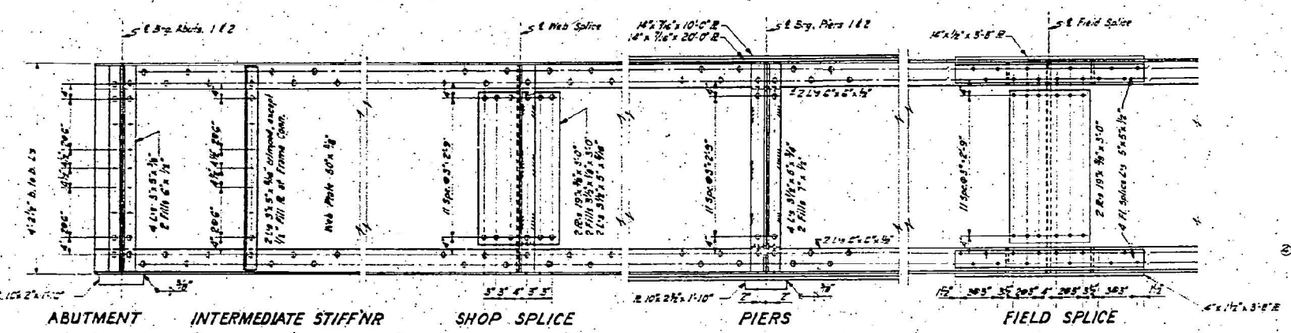
STRUCTURAL STEEL FRAMING HALF PLAN



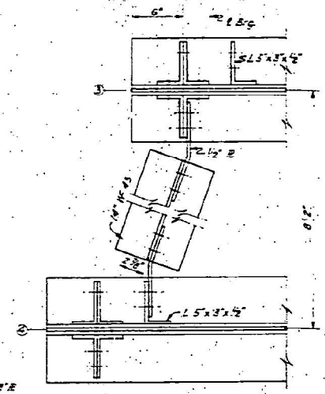
TYPICAL FRAME F2



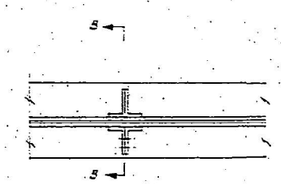
TYPICAL FRAME F & F1



TYPICAL GIRDER DETAILS

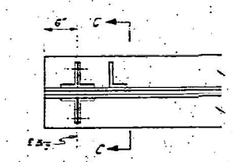


CROSS FRAME CONNECTION AT ABUTMENTS

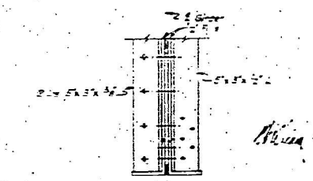


DETAIL A

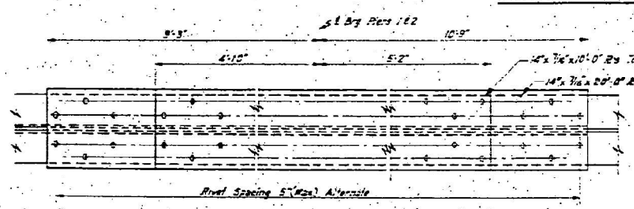
SECTION B-B



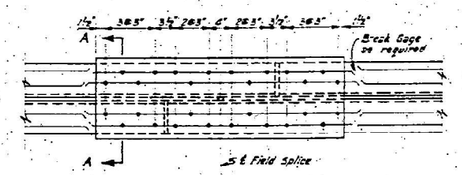
DETAIL B



SECTION C-C

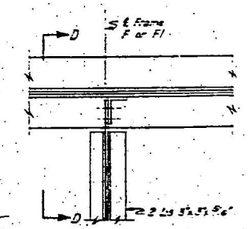


SPANS 1 & 3 SPAN 2

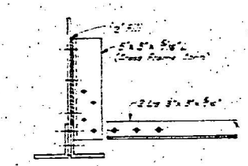


FIELD SPLICE FOR FLANGE

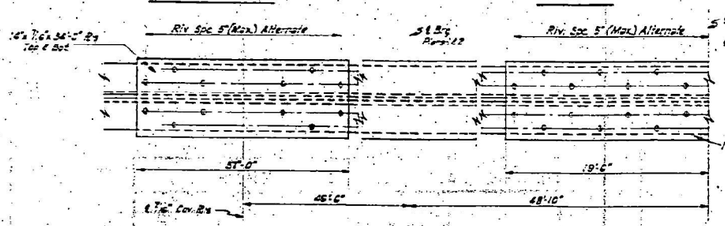
SN 091-0050
FOR INFORMATION ONLY



DETAIL C

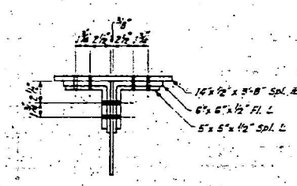


SECTION D-D

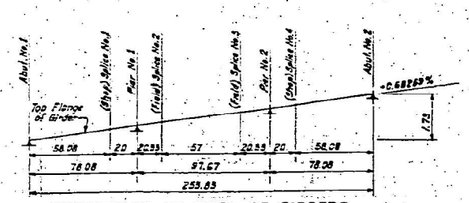


SPANS 1 & 3 SPAN 2

COVER PLATES



SECTION A-A



ELEVATIONS AT TOPS OF GIRDERS

BEAM NO.	ABT. NO. 1	SPL. NO. 1	PIER NO. 1	SPL. NO. 2	SPL. NO. 3	PIER NO. 2	SPL. NO. 4	ABT. NO. 2
1	572.21	572.61	572.76	572.88	573.27	573.62	573.54	573.94
2	572.29	572.69	572.84	572.96	573.35	573.50	573.63	574.03
3	572.27	572.67	572.82	572.94	573.33	573.48	573.60	574.00
4	572.15	572.55	572.70	572.82	573.21	573.36	573.49	573.89

GIRDER DETAILS - PUBLIC ROAD - 91-3HB-2

REVISIONS	
NO.	DATE
1	
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STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

F.A.I. - 4 SECTION 91-3HB-2 PROJECT I-04-1(35)
STATION 277+62 E & 278+22.5 W COUNTY
UNION

HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
DECATUR, ILLINOIS

DRAWN BY PAN DATE 3-58
CHECKED BY DATE
BOOK NUMBER
PROJECT NO.
SHEET NO.

F.A.I. Route 4, Sec. 91-3HB-2, Union County, Bridge

MODEL: SN 091-0050 For Information Only 3 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0050
STRUCTURE INFORMATION

SCALE: SHEET 3 OF 4 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	59

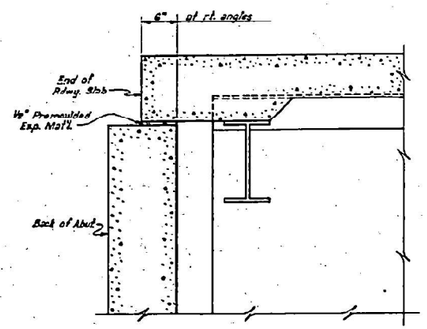
CONTRACT NO. 78B82

ILLINOIS FED. AID PROJECT

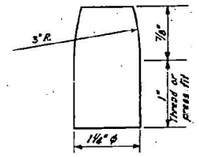
FAI-57

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
4	91-3HB-2	UNION	112	30
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

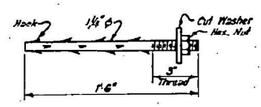
SHEET NO 6
6 SHEETS



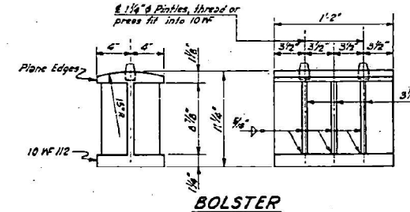
SECTION THRU BACKWALL



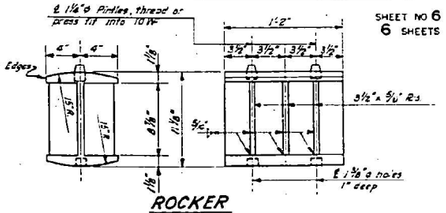
PINTLE
(56 Required)



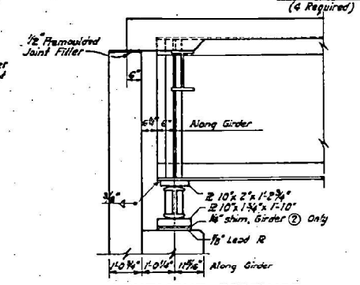
ANCHOR BOLT DETAIL
(32 Required)



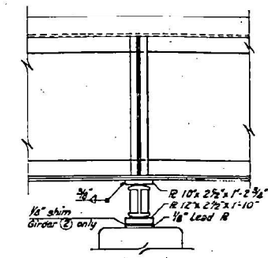
BOLSTER
(4 Required)



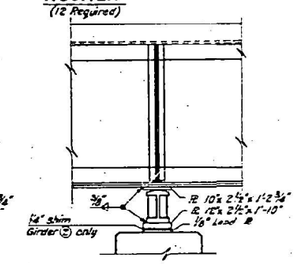
ROCKER
(12 Required)



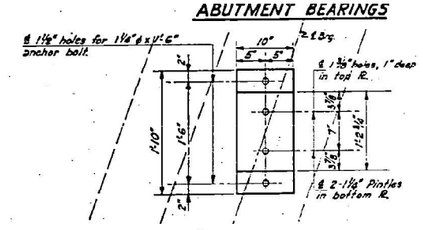
ABUTMENT BEARINGS

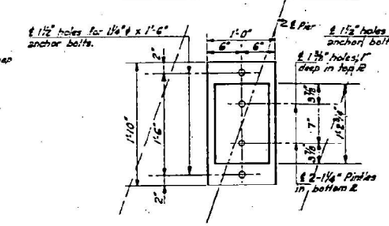


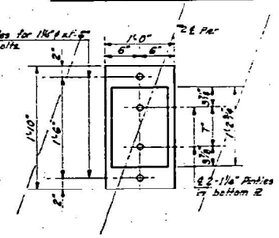
EXPANSION PIER BEARINGS

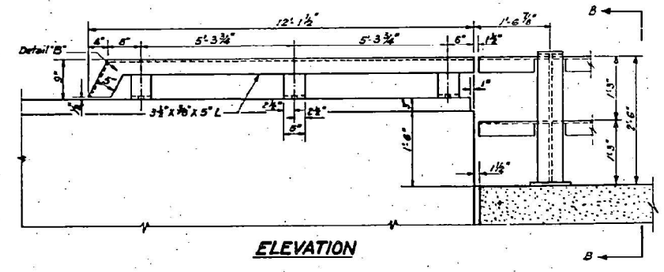


FIXED PIER BEARINGS

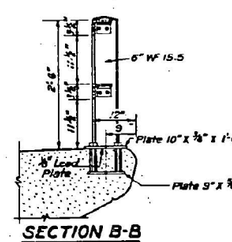




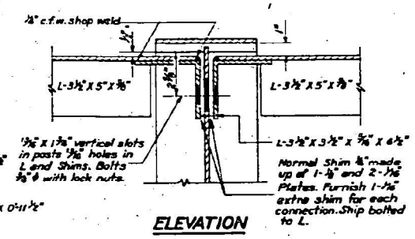




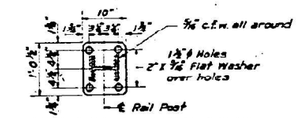
ELEVATION



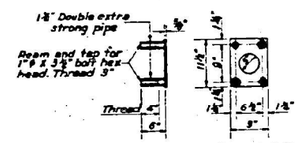
SECTION B-B



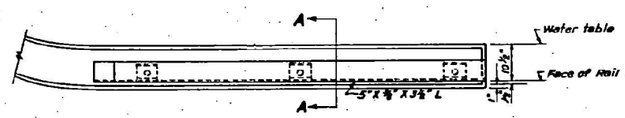
ELEVATION



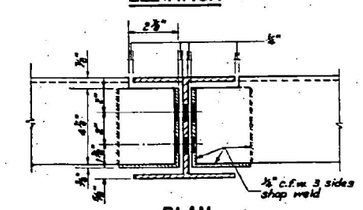
RAIL POST BASE PLATE
10" x 3/8" x 1'-0 1/2"



ANCHOR DETAILS
Plate 9" x 3/8" x 0'-11 1/2"
Ship with 1" ϕ x 3 1/2" Bolts in place



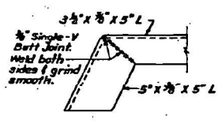
PLAN



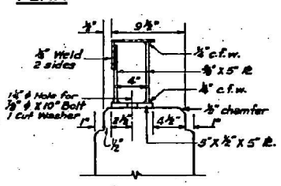
PLAN
DETAIL "A"
Typical Connection

Metal Handrail	Lin. Ft.	562.88

Note: Lin. Ft. of Metal Handrail shall be measured along the top longitudinal railing member through all gaps and includes both single and double angle rail.

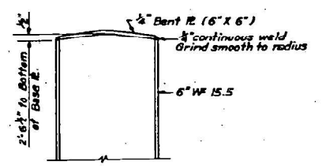


DETAIL "B"



SECTION A-A

END POST DETAILS



CAP DETAIL
Side View

BEARINGS, HANDRAIL & MISC. DETAILS-PUBLIC ROAD- 91-3HB-2

REVISIONS		
NO.	DATE	INITIALS
1		
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STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

FAI-4 SECTION 91-3HB-2 PROJECT I-04-1(35)
STATION 277+66.6 E & 278+22.5 W
UNION COUNTY

HOMER L. CHASTAIN & ASSOCIATES
CONSULTING ENGINEERS
DECATUR, ILLINOIS

DRAWN BY	DATE
WDP	3-88
CHECKED BY	DATE
RJF	4-88

BOOK NUMBER
PROJECT NO
SHEET NO

F.A.I. Route 4, Sec 91-3HB-2, Union County, Bridge

SN 091-0050
FOR INFORMATION ONLY

MODEL: SN 091-0050 For Information Only 4 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 091-0050
STRUCTURE INFORMATION

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	60
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 322	(91-4HB) BY	UNION	380	373
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
16 SHEETS

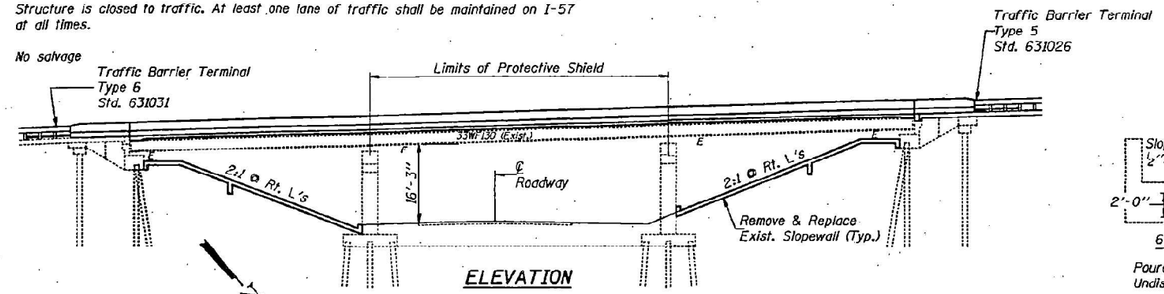
Bench Mark: "□" cut on hubguard, N.W. corner of bridge Elev. 446.48

Existing Structure: The existing structure was built in 1959 as F.A.I. Route 4, Section 91-4-HB. The structure consists of a 3-span continuous non-composite wide flange superstructure with an overall length of 164'-5" bk. to bk. abuts. and an out to out width of 25'-8".

Structure is closed to traffic. At least one lane of traffic shall be maintained on I-57 at all times.

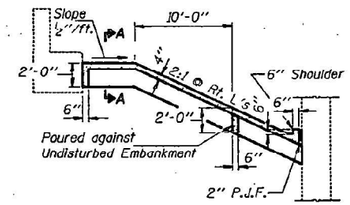
No salvage

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

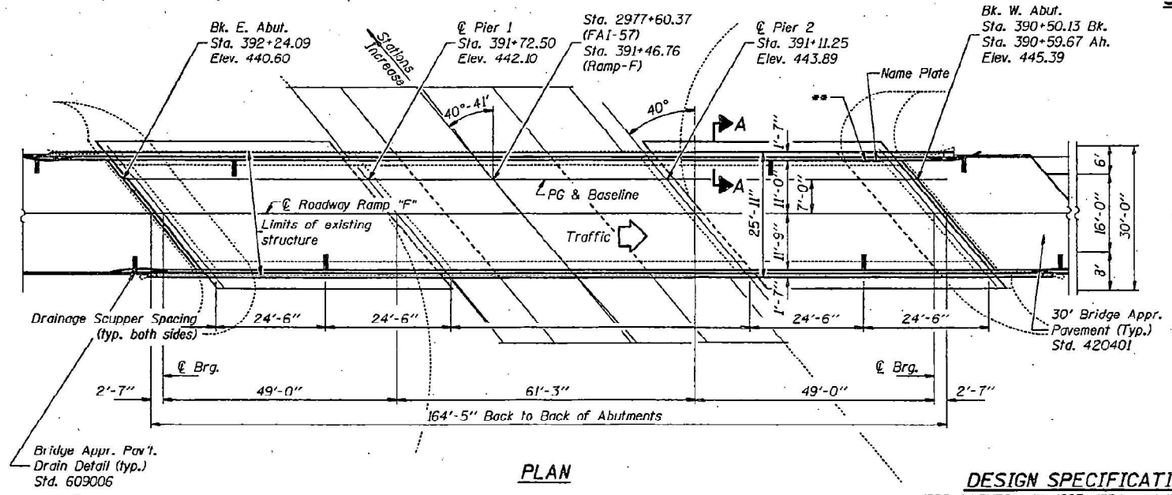


ELEVATION

** Existing Name Plate to be cleaned and relocated. Cost included with "Name Plates."



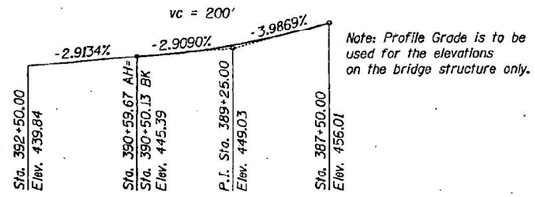
SECTION THRU SLOPEWALL



PLAN

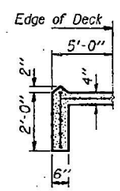
STATION 391+46.76
REBUILT 199 BY
STATE OF ILLINOIS
F.A.P. RT. 322 SEC. (91-4HB)BY
PROJECT ACNHF-322(29)
LOADING HS20
STR. NO. 091-0051

NAME PLATE
See Std. 515001



Note: Profile Grade is to be used for the elevations on the bridge structure only.

PROFILE GRADE RAMP "F"
(along Baseline)



SECTION A-A

DESIGN SPECIFICATIONS
1992 AASHTO, with 1993, 1994, and 1995 Interims
1995 Seismic Retrofitting Manual for Highway Bridges (FHWA-RD-94-052)

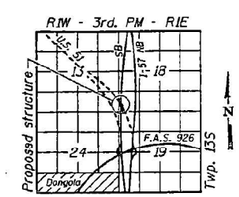
LOADING HS20-44
Allow 25#/sq. ft. for future wearing surface.

DESIGN STRESSES

NEW CONSTRUCTION
FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi (reinforcement)

EXISTING SUBSTRUCTURE
FIELD UNITS
f_c = 1,400 psi super.; 1,000 psi sub.
f_s = 20,000 psi (reinforcement)
f_s = 18,000 psi (structural steel)
n = 10

SEISMIC DATA
Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.16g
Site Coefficient (S) = 1.0



LOCATION SKETCH

GENERAL NOTES

All new structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300 TY.I.

Field welding of construction accessories will not be permitted to the bottom flange of beams nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42 or M-53 Grade 60.

Plan dimensions and details relative to existing structure have been taken from existing plans and field survey Elevations and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

Prior to pouring the new concrete for the deck, all loose rust, loose mill scale and all other loose, detrimental foreign material shall be removed from the portions of flanges of beams in contact with concrete. The removal shall be accomplished according to the requirements of the SSPC Surface Preparation Specifications SP-3 for power tool cleaning or SP-2 for hand tool cleaning. Cost shall be included in the cost of "Concrete Superstructure."

Existing structural steel will be cleaned and painted on a future contract.

SN 091-0051
FOR INFORMATION ONLY

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Concrete Deck	Each	1		1
Concrete Removal	Cu. Yd.		12.9	12.9
Bonded Preformed Joint Seal 2"	Foot	66		66
Concrete Superstructure	Cu. Yd.	143.5		143.5
* Protective Coat	Sq. Yd.	560		560
Elastomeric Bearing Assembly, Type I	Each	8		8
Elastomeric Bearing Assembly, Type II	Each	4		4
Concrete Structures	Cu. Yd.		6.2	6.2
Furnishing & Erecting Structural Steel	Pound	5740		5740
Stud Shear Connectors	Each	1630		1630
Reinforcement Bars, Epoxy Coated	Pound	33310	1980	35290
Name Plates	Each	1		1
Drainage Scuppers	Each	4		4
Jack and Remove Existing Bearings	Each	16		16
Protective Shield	Sq. Yd.	175		175
Bridge Deck Grooving	Sq. Yd.	372		372
Slopewall Removal	Sq. Yd.		300	300
Slopewall 4"	Sq. Yd.		363	363

* Quantity is for top and inside surfaces of parapets and slab.

GENERAL PLAN
U.S. RTE. 51 RAMP OVER
S.B. F.A.I. RTE. 57
F.A. 322 - SECTION (91-4HB)BY
UNION CO.
STA. 391+46.76
STRUCTURE NO. 091-0051

DESIGNED Steve Maynard	February 25, 1997	EXAMINED Louis J. Kassar, ENGINEER OF BRIDGE DESIGN
CHECKED Jayne F. Schiff		PASSED Ralph E. Anderson, ENGINEER OF BRIDGES AND STRUCTURES
DRAWN R. Doty		
CHECKED SPM JFS		

STATE OF ILLINOIS, RALPH E. ANDERSON, 081-004625, LICENSED STRUCTURAL ENGINEER

EXPIRES 11-30-98

MODEL: SN 091-0051 For Information Only 1 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0051
STRUCTURE INFORMATION

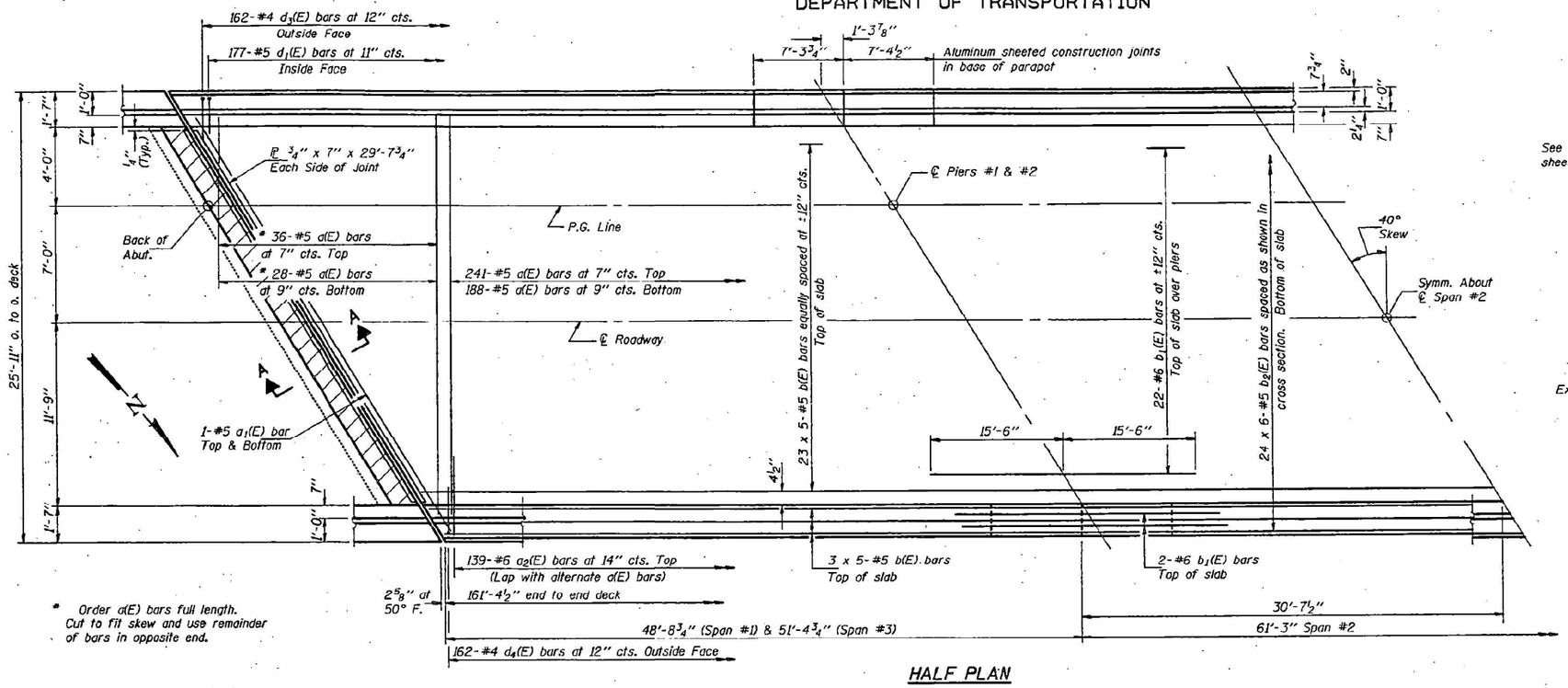
SCALE: | SHEET 1 OF 9 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	61
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

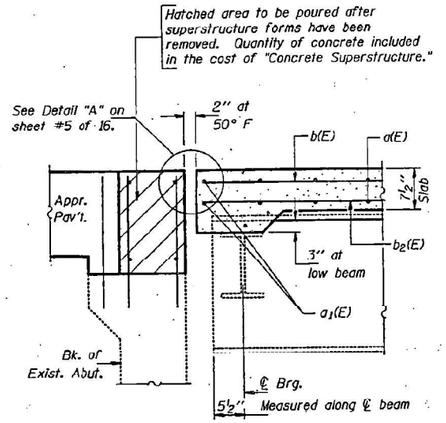
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 322	(91-4HB) BY	UNION	388	376
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT -		

SHEET NO. 4
16 SHEETS



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

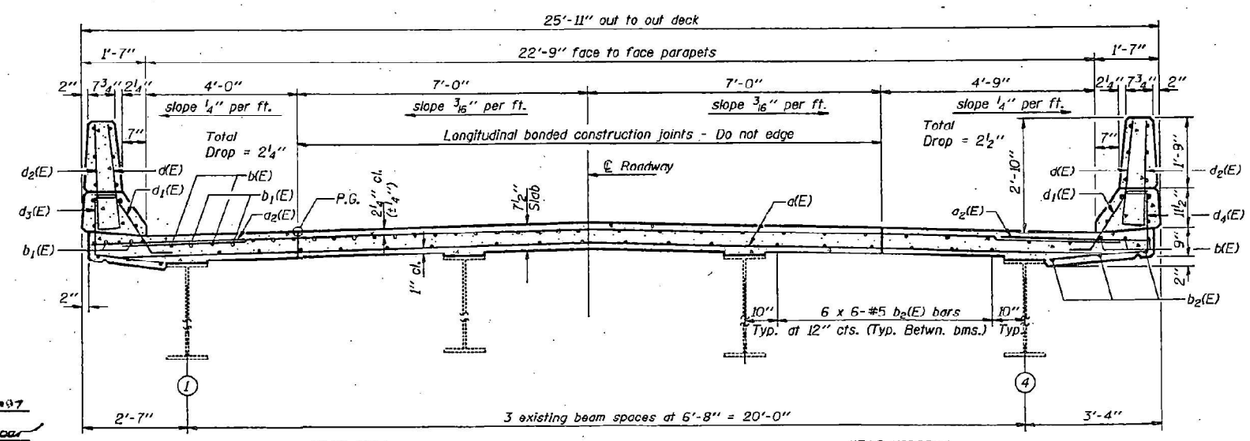
HALF PLAN



SECTION A-A

Notes: See sheet #5 of 16 for superstructure details, parapet reinforcement and Bill of Material.
See sheet #1 of 16 for drainage scupper spacing.
Cut longitudinal reinforcement bars to clear drainage scuppers. Cost included with "Reinforcement Bars, Epoxy Coated."
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

MIN. BAR LAPS
#5 bars = 1'-8"



CROSS SECTION
(Looking West)

SN 091-0051
FOR INFORMATION ONLY

DESIGNED	Steven Reynolds	FEB. 25, 1997
CHECKED	Jerome F. Schiff	EXAMINED Craig D. Kasper, ENGINEER OF BRIDGE DESIGN
DRAWN	R. Doty	PASSED Ralph E. Anderson, ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	SPM JFS	

S-2-R(>30°) 12-31-87

SUPERSTRUCTURE
F.A. RT. 322 SEC. (91-4HB)BY
UNION COUNTY
STA. 391+46.76

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0051
STRUCTURE INFORMATION

SCALE: SHEET 2 OF 9 SHEETS STA. TO STA.

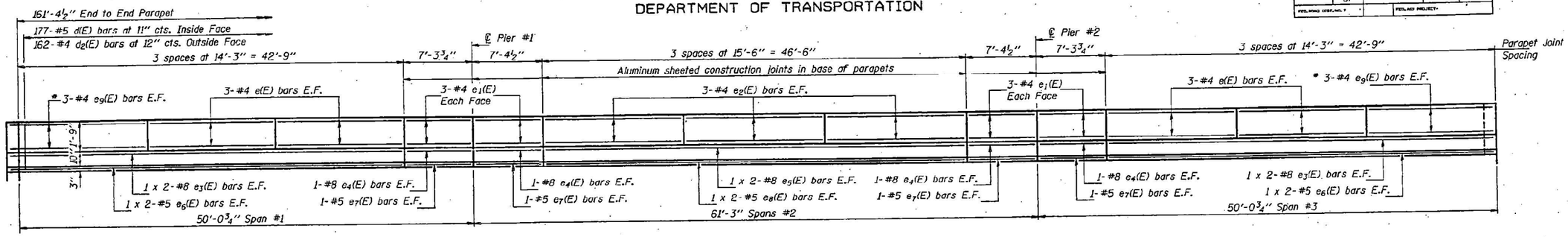
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	62
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

MODEL: SN 091-0051 For Information Only 2 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d1313516\D978B82-InfoSheets2.dgn

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 322	(91-4HB) BY	UNION	388	377
FED. ROAD DIST. NO. 7		FED. AID PROJECT-		

SHEET NO. 5
16 SHEETS



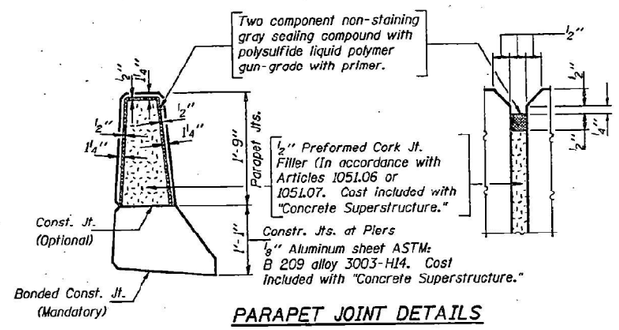
INSIDE ELEVATION OF PARAPET

* Order e9(E) bars full length. Cut to fit skew and use remainder of bars in opposite end.

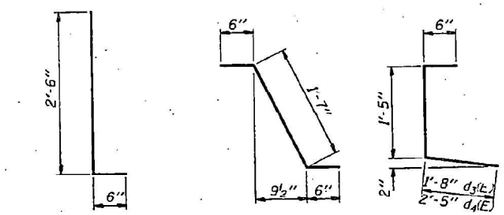
SN 091-0051
FOR INFORMATION ONLY

MIN. BAR LAPS

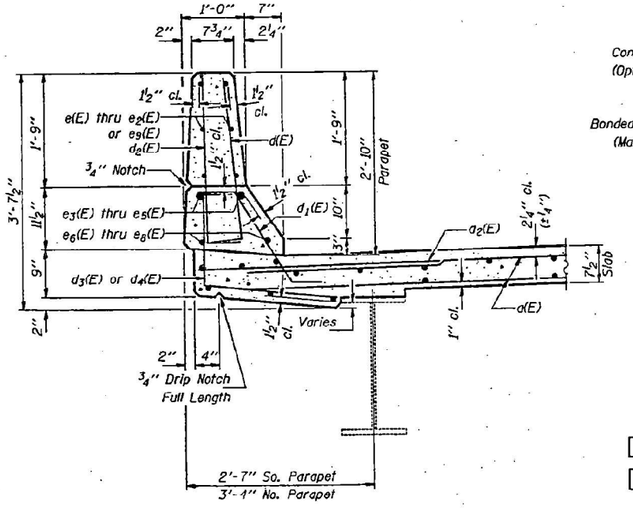
#5 (E) bar = 1'-8"
#8 (E) bar = 3'-5"



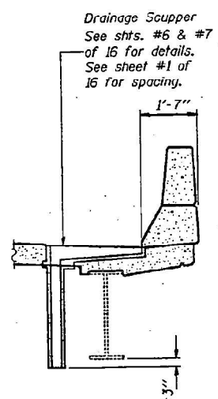
PARAPET JOINT DETAILS



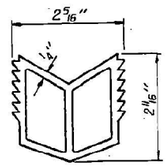
BARS d(E) & d2(E) | BAR d1(E) | BARS d3(E) & d4(E)



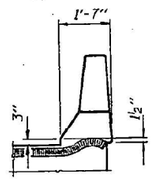
SECTION THRU PARAPET



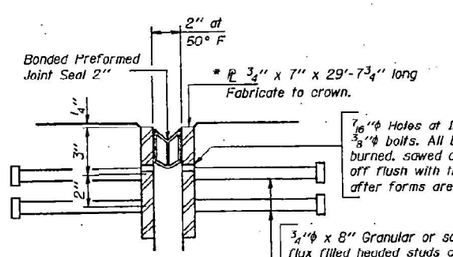
SECTION B-B



BONDED PREFORMED JOINT SEAL 2"

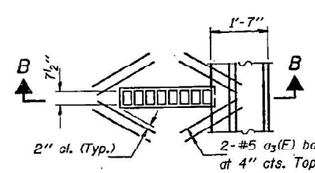


END TREATMENT



DETAIL "A"

* Furnish in segments of 20 ft. maximum length. Maximum space between installed segments shall be 3/16". Seal space with Silicone Sealant suitable for Structural Steel.



Cut b(E) & b2(E) bars to clear Scupper.

PLAN

SUPERSTRUCTURE BILL OF MATERIAL

Bar	No.	Size	Length	Shape
d(E)	493	#5	24'-0"	
d1(E)	4	#5	30'-10"	
d2(E)	278	#6	4'-0"	
d3(E)	32	#5	2'-0"	
b(E)	145	#5	33'-7"	
b1(E)	52	#6	31'-0"	
b2(E)	144	#5	28'-3"	
d(E)	354	#5	3'-0"	
d1(E)	354	#5	2'-7"	
d2(E)	324	#4	3'-0"	
d3(E)	162	#4	3'-7"	
d4(E)	162	#4	4'-4"	
e(E)	48	#4	14'-0"	
e1(E)	48	#4	7'-0"	
e2(E)	36	#4	15'-3"	
e3(E)	16	#8	23'-6"	
e4(E)	16	#8	7'-0"	
e5(E)	8	#8	24'-10"	
e6(E)	16	#5	22'-7"	
e7(E)	16	#5	7'-0"	
e8(E)	8	#5	24'-0"	
e9(E)	12	#4	28'-0"	
Reinforcement Bars. Epoxy Coated			Lbs.	33310
Concrete Superstructure			Cu. Yd.	143.5

Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 1 x 2-#5 etc. indicates 1 line of bars with 2 lengths per line.

SUPERSTRUCTURE DETAILS
F.A. RT. 322 SEC. (91-4HB)BY
UNION COUNTY
STA. 391+46.76

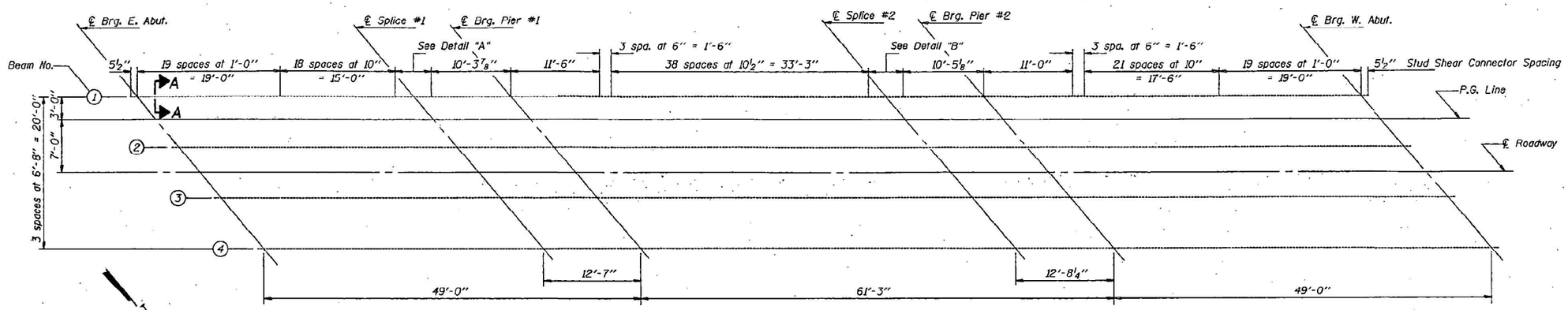
DESIGNED			
CHECKED			
DRAWN	R. Doty		
CHECKED			

EXAMINED FEB. 25, 1977 — ENGINEER OF BRIDGE DESIGN
PASSED — ENGINEER OF BRIDGE AND STRUCTURES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 322	(91-4HB) BY	UNION	388	380
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT-	

SHEET NO. 8
16 SHEETS

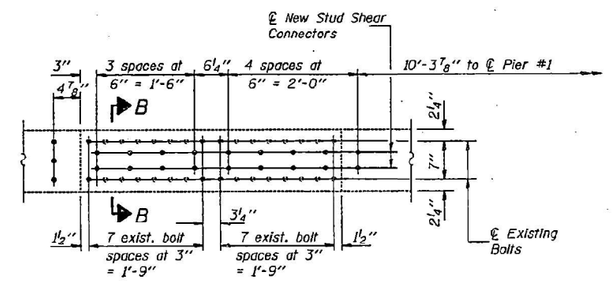


ELEVATIONS LOCATION PLAN

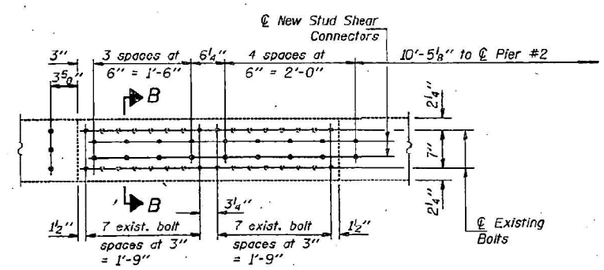
EXISTING INTERIOR BEAM MOMENT TABLE				
		0.4 Sp. 4 or 0.6 Sp. 1	0.5 Sp. 2	Pier #1 or Pier #2
Is	(in⁴)	6710	6710	6710
Ic (n)	(in⁴)	17042	17042	———
Ic (3n)	(in⁴)	12606	12606	———
Ss	(in³)	406	406	406
Sc (n)	(in³)	579	579	———
Sc (3n)	(in³)	525	525	———
wℓ	(k/')	.791	.791	1.138
Mℓ	(k/')	130	127	328
fsℓ non-comp	(ksi)	3.8	3.8	9.7
sℓ	(k/')	.347	.347	———
Msℓ	('k)	66	78	———
fs Sℓ	('k)	1.5	1.8	———
Mt	('k)	317	353	182
M (Imp)	('k)	91	94	50
fs [Mt+MImp)]	(ksi)	8.5	9.3	6.9
fs (Total)	(ksi)	13.8	14.9	16.6
VR	(k)	48.2	40.8	———

Is and Ss are the moment of inertia and section modulus of the steel section used in computing fs (Total).
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 ℄+ Impact shear range in span.

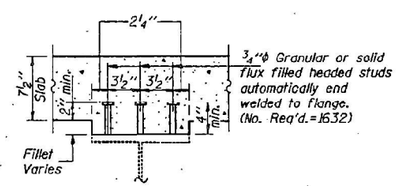
EXISTING BEAM REACTION TABLE			
		Abuts.	Piers
Rℓ	(k)	21.2	69.4
Rt	(k)	34.2	41.0
Imp.	(k)	9.8	11.4
R (Total)	(k)	65.2	121.8



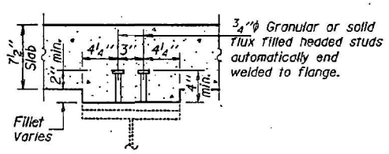
DETAIL "A"



DETAIL "B"



SECTION A-A



SECTION B-B

SN 091-0051
FOR INFORMATION ONLY

STRUCTURAL STEEL
F.A. RT. 322 SEC. (91-4HB)BY
UNION COUNTY
STA. 391+46.76

DESIGNED
CHECKED
DRAWN R. Doty
CHECKED

FEB. 25, 1997
EXAMINED
ENGINEER OF BRIDGE DESIGN
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

MODEL: SN 091-0051 For Information Only 4 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d1315161\D978B82-InfoSheets2.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0051
STRUCTURE INFORMATION

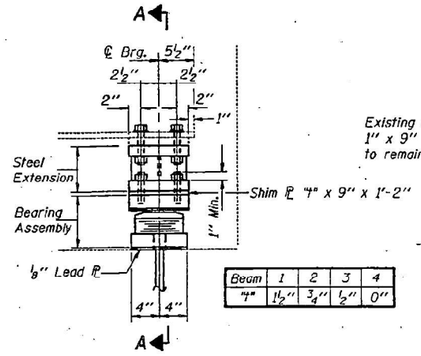
SCALE: SHEET 4 OF 9 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	64
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

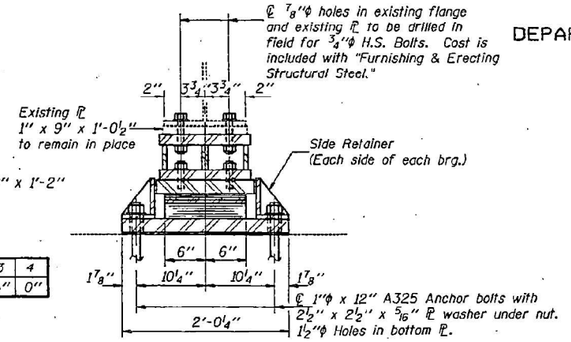
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 322	(91-4HB) BY	UNION	388	381
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 9
16 SHEETS



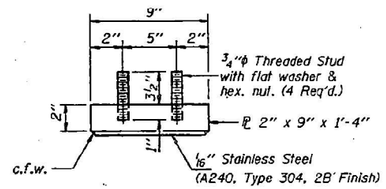
Beam	1	2	3	4
"t"	1½"	¾"	½"	0"

ELEVATION AT W. ABUT.

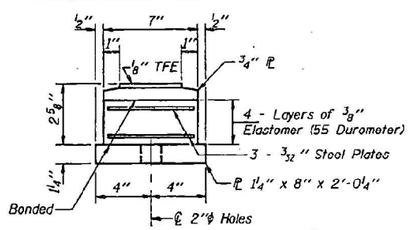


SECTION A-A

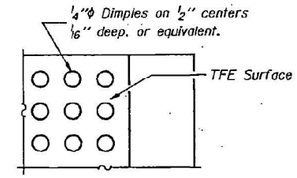
TYPE II TFE ELASTOMERIC EXP. BRG.



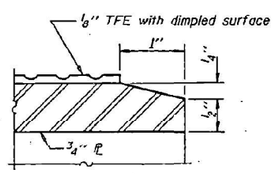
TOP BEARING ASSEMBLY



BOTTOM BEARING ASSEMBLY



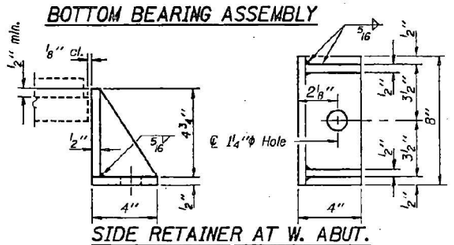
PLAN-TFE SURFACE



SECTION THRU TFE

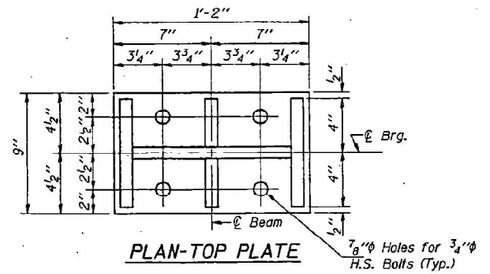
Note: The ⅛" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of ⅛" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

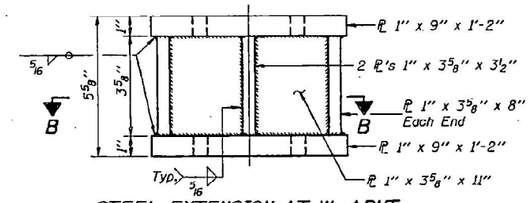


SIDE RETAINER AT W. ABUT.

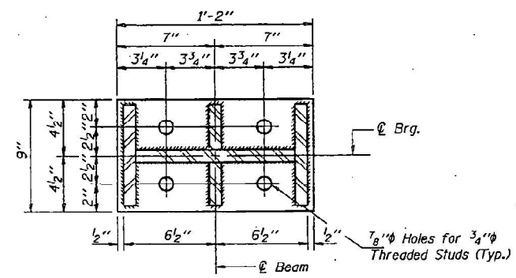
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates. Weight included with Structural Steel.



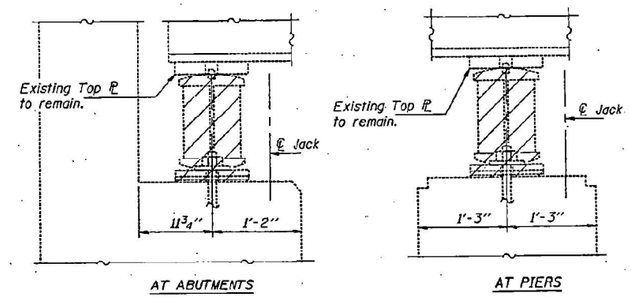
PLAN-TOP PLATE



STEEL EXTENSION AT W. ABUT.



SECTION B-B



AT ABUTMENTS

AT PIERS

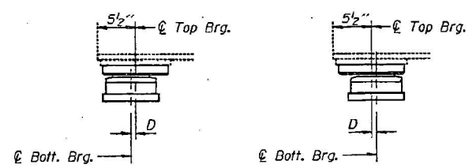
JACK AND REMOVE EXISTING BEARING

(Dimensions at Rt. L's)

JACK AND REMOVE EXISTING BEARING PROCEDURE

1. The Contractor shall submit for approval by the Engineer, plans for jacking prior to commencing any work at the bearings.
2. Jacking and removing existing bearings shall be done after existing deck removal is completed and before a new deck is poured.
3. Jacking shall be limited to a maximum of ⅛" transversely between adjacent beams and ¼" longitudinally between adjacent supports to remove and install new bearings.
4. The maximum dead load reaction with deck removed (per bearing) at each abutment is 3.0 kips and 10.0 kips at each pier. Min. Jack Capacity at the abutments is 6 kips and 20 kips at the piers.
5. The new bearings and steel extensions shall be in place and the jacks shall be lowered before the new concrete deck is poured.

Notes: For anchor bolt installation details see sheet #16 of 16.



BELOW 50°F. (Move bott. brg. away from fixed brg.)

ABOVE 50°F. (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D=⅛" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

SN 091-0051
FOR INFORMATION ONLY

BILL OF MATERIAL

Item	Unit	Total
Jack and Remove Existing Bearings	Each	16
Elastomeric Bearing Assembly, Type II	Each	4

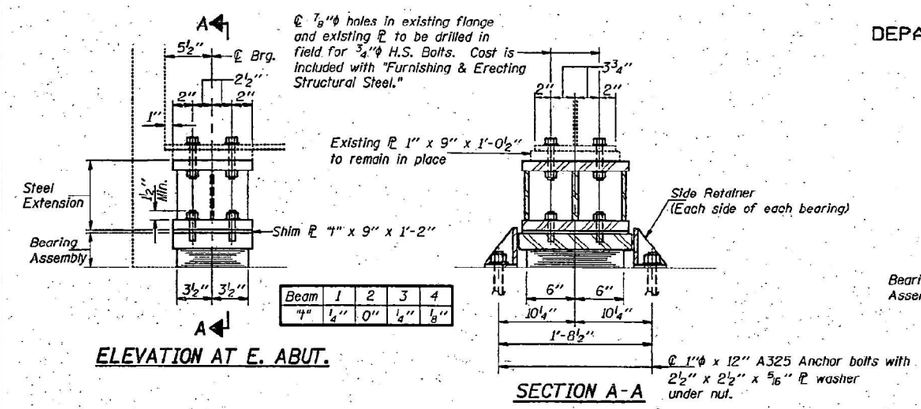
BEARING DETAILS
F.A. RT. 322 SEC. (91-4HB)BY
UNION COUNTY
STA. 391+46.76

DESIGNED	L. Ten Mayel	FEB. 25, 1997
CHECKED	Jayne F. Duff	EXAMINED Greg J. Kasper, ENGINEER OF BRIDGE DESIGN
DRAWN	R. Daty	PASSED Ralph E. Anderson, ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	JB	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 322	(91-4HB) BY.	UNION	388	382
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 10
16 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

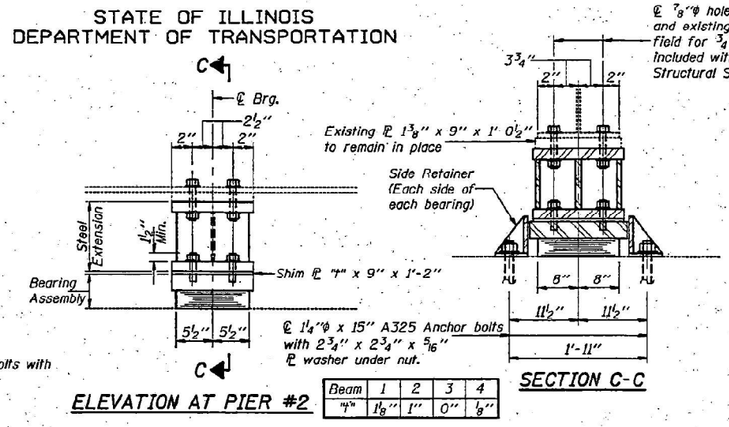


Beam	1	2	3	4
"t"	1/4"	0"	1/4"	1/8"

ELEVATION AT E. ABUT.

SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

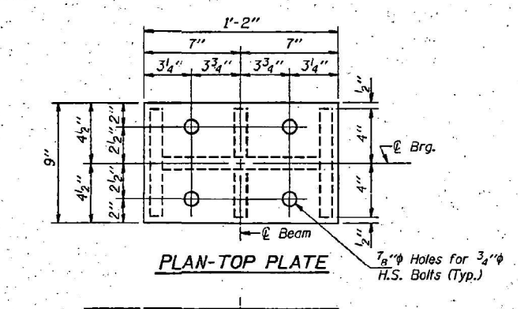


Beam	1	2	3	4
"t"	1 1/8"	1"	0"	1/8"

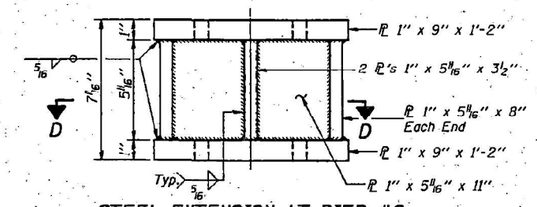
ELEVATION AT PIER #2

SECTION C-C

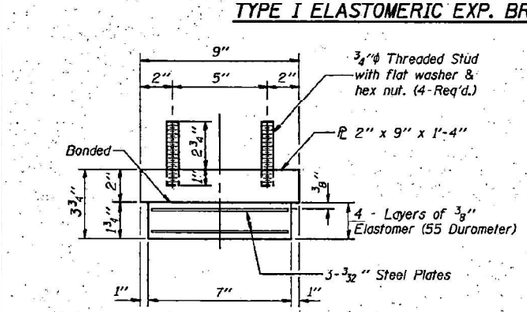
TYPE I ELASTOMERIC EXP. BRG.



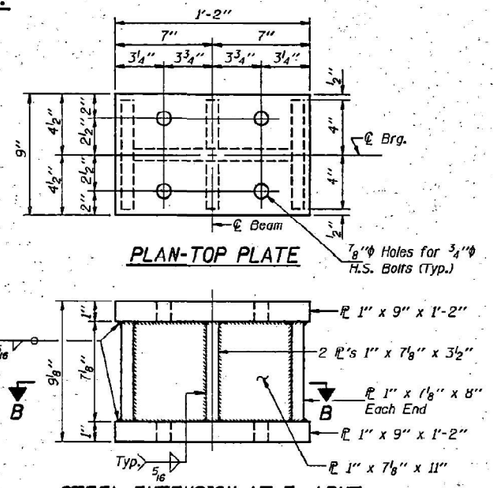
PLAN-TOP PLATE



STEEL EXTENSION AT PIER #2



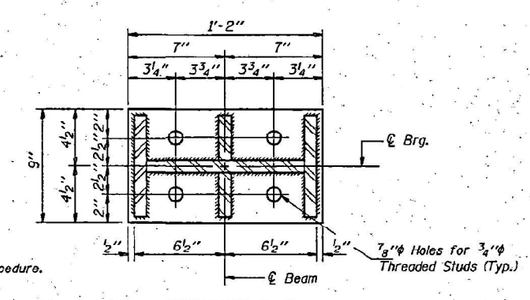
BEARING ASSEMBLY



PLAN-TOP PLATE

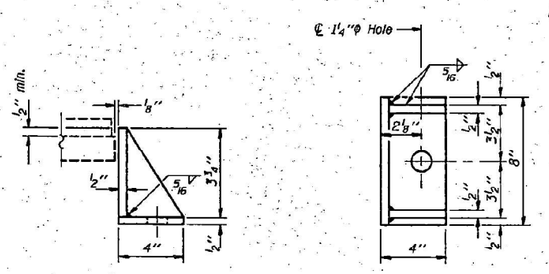
STEEL EXTENSION AT E. ABUT.

BEARING ASSEMBLY



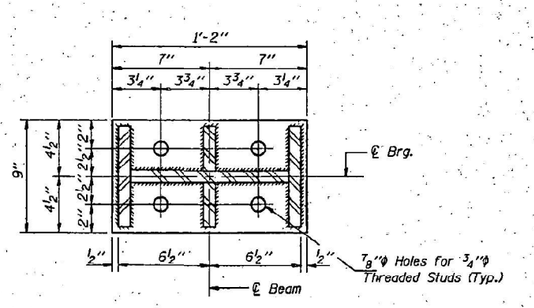
SECTION D-D

Notes: For anchor bolt installation details see sheet #15 of 16.
See sheet #9 of 16 for Jack and Remove Existing Bearing Procedure.
Shim plates shall not be placed under Bearing Assembly.
For anchor bolt location at Pier #2 see sheet #11 of 16.

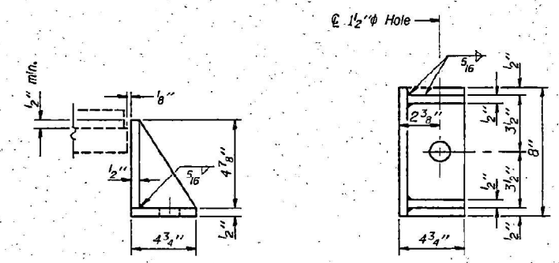


SIDE RETAINER AT E. ABUT.

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



SECTION B-B



SIDE RETAINER AT PIER #2

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

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	8

SN 091-0051
FOR INFORMATION ONLY

BEARING DETAILS
F.A. RT. 322 SEC. (91-4HB)BY
UNION COUNTY
STA. 391+46.76

DESIGNED		
CHECKED		
DRAWN	R. Doty	
CHECKED	JFS	

FEB. 25, 1997
EXAMINED — ENGINEER OF BRIDGE DESIGN
PASSED — ENGINEER OF BRIDGES AND STRUCTURES

MODEL: SN 091-0051 For Information Only 6 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d1315161\D978882-InfoSheets2.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 091-0051
STRUCTURE INFORMATION

SCALE: | SHEET 6 OF 9 SHEETS | STA. | TO STA.

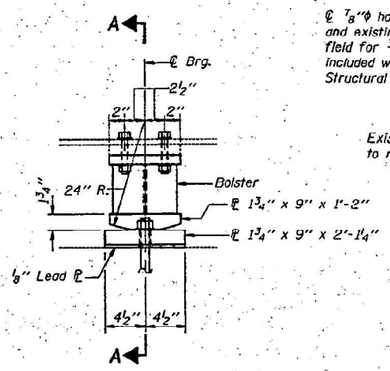
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	66

CONTRACT NO. 78B82
ILLINOIS | FED. AID PROJECT

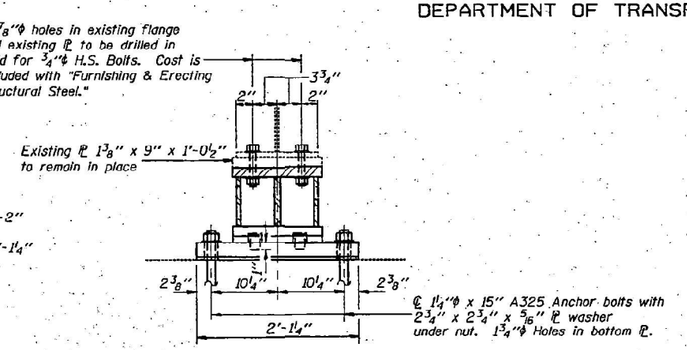
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 322	(91-4HB) BY	UNION	388	383
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 11
16 SHEETS

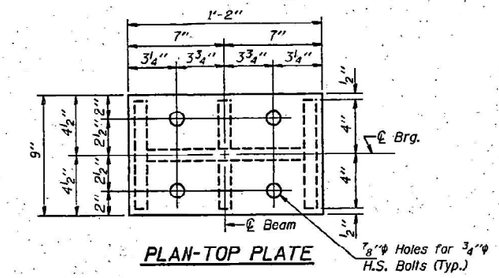
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION AT PIER #1

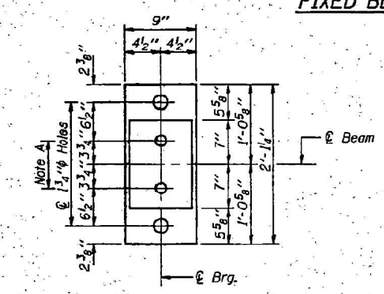


SECTION A-A



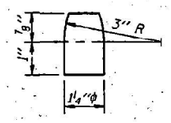
PLAN-TOP PLATE

FIXED BEARING



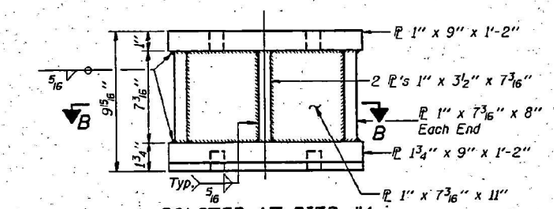
PLAN

Note A:
1⅜"φ Holes-1" deep in bolster for 1¼"φ pintles. Thread or press fit in bottom ℄.

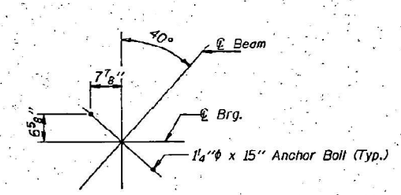


PINTLE

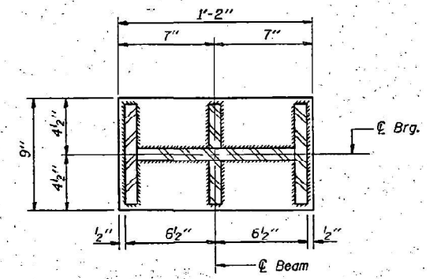
Notes: For anchor bolt installation details see sheet #16 of 16.
See sheet #9 of 16 for Jack and Remove Existing Bearing Procedure.



BOLSTER AT PIER #1

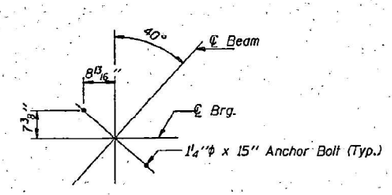


ANCHOR BOLT LOCATION
PLAN AT PIER #1



SECTION B-B

SN 091-0051
FOR INFORMATION ONLY



ANCHOR BOLT LOCATION
PLAN AT PIER #2

DESIGNED	R.E. Rummel	FEB. 25, 1997
CHECKED	Jayne F. Schiff	EXAMINED Oraj O. Kaspar, ENGINEER OF BRIDGE DESIGN
DRAWN	R. Doty	PASSED Ralph E. Anderson, ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	RMR JFS	

BEARING DETAILS
F.A. RT. 322 SEC. (91-4HB)BY
UNION COUNTY
STA. 391+46.76

MODEL: SN 091-0051 For Information Only 7 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsondad\d1315\D978B82-InfoSheets2.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 091-0051
STRUCTURE INFORMATION

SCALE: SHEET 7 OF 9 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	67
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

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

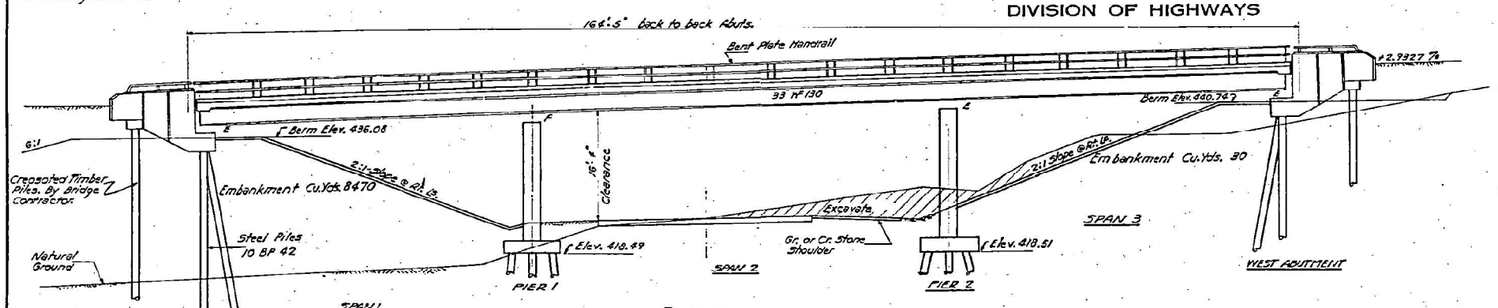
FAI-57

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
U.S.R. F.A.I. 4	91-4-HB	Union	32	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

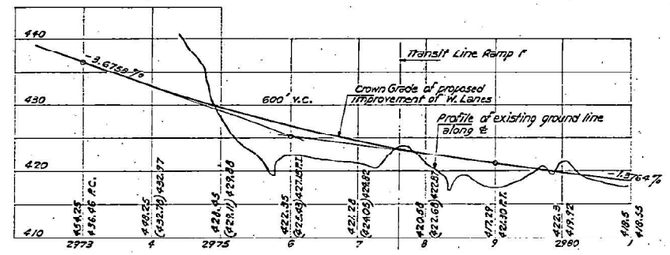
SHEET NO. 1
9 SHEETS

S.P.:- Spike and two washers in top of 28" stump 186' Rt. Station 2980+10 West Lanes Elev. 463.78

No Existing Structure



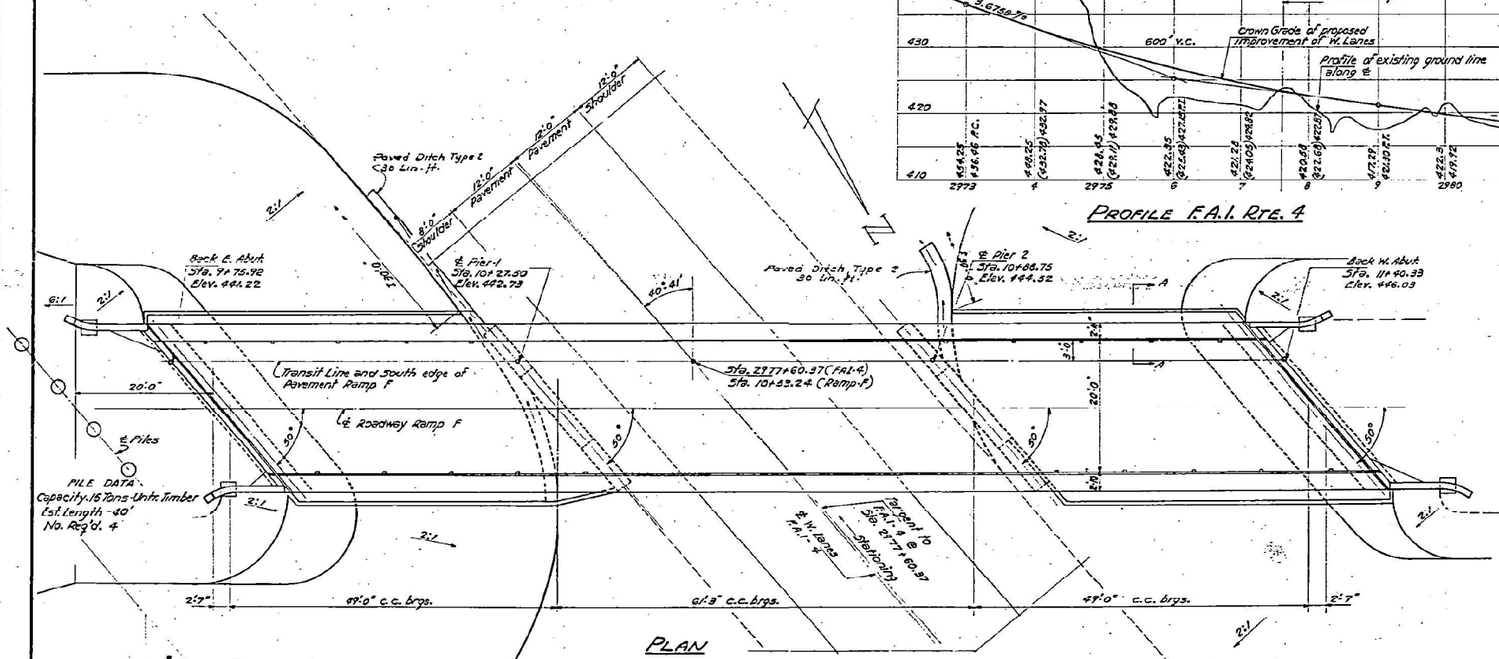
ELEVATION
Scale: 1" = 10'-0"



PROFILE F.A.I. RTE. 4

TOTAL BILL OF MATERIAL

ITEM		SUPER.	SUB.	TOTAL
Class-"X" Concrete	Cu. Yds.	116.2	155.1	271.3
Reinforcement Bars	Lbs.	19890	12920	32810
Structural Steel	Lbs.	103410		103410
Name Plates	Each	1		1
Metal Handrail (Alt. "A")	Lin. Ft.	353		353
Aluminum Handrail (Alt. "B")	Lin. Ft.	364		364
Steel Piles 10" BP 42	Lin. Ft.		240	240
Test Piles (Steel)	Each		2	2
Creosoted Piles	Lin. Ft.		1092	1092
Untreated Timber Piles	Lin. Ft.		160	160
Test Piles (Timber)	Each		2	2
Class-A Excavation for Structure	Cu. Yds.		95	95
Slope Wall	Sq. Yds.		300	300
Paved Ditch, Type 2	Lin. Ft.			60



PLAN

GENERAL NOTES

Class-"X" Concrete shall be used throughout.
The concrete floor slab shall be finished in accordance with Art. 516(a) of the Standard Specifications. Slope Wall shall be reinforced with welded wire fabric 6"x6" mesh #4 wires, weighing 58# per 100 sq. ft.
All rockers, bearing plates, base plates, pintles and anchor bolts shall be fabricated and set in accordance with Art. 514 of the Standard Specifications and are included in quantity of Structural Steel. Rivets & Spanners unless noted. Field connections made of bolts unless noted.
Anchor bolts shall be set before pouring diaphragms over supports.
Except as otherwise provided, all Structural Steel shall receive one shop and two field coats of aluminum paint in accordance with Arts. 571 to 573 of the Standard Specifications.
All paint shall be furnished and applied by the Contractor.
The Contractor shall drive one test pile at each Abutment in permanent location and one timber test pile in the vicinity of each pier before ordering remainder of piles.
The contract price per Sq. Yd. of "Slope Wall" shall include new slope, walls, and paved berm.

F.A.I.-4 CURVE DATA

Δ - - - - 17°00'-12.67"
T - - - - 685.19'
D - - - - 1°-16'
L - - - - 1360.28'
R - - - - 4583.72'
E - - - - 50.93'
S.E. - - - 0.02' per ft.
At Joined Sta. 2971+99.71 & Sta. 2972+19.78
and Sta. 2986+79.80 & Sta. 2985+59.80

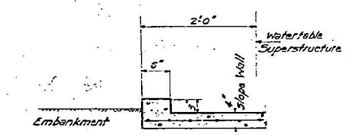
DESIGN STRESSES

fc - - - - - - 1400 #/□" Super. 1000 #/□" Sub.
v - - - - - - 75 #/□" Footings
fs - - - - - 20000 #/□" Bent
fs - - - - - 18000 #/□" Struct.
n - - - - - 10

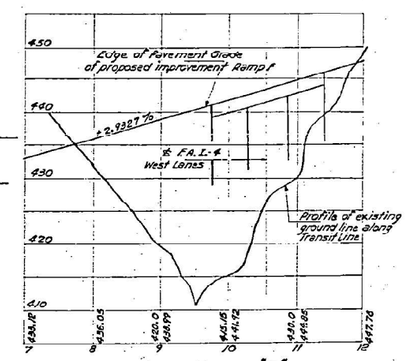
Loading H20-S16-44

Superpavement Ver. 53.24
Built 195 By
State of Illinois
F.A.I. Route 4 - Sec. 91-4-HB
F.A. Project I-04-1 (27)
Loading H20-S16

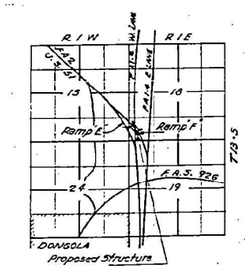
LETTERING FOR NAME PLATE
See Standard 213



SECTION A-A



PROFILE RAMP-"F"



LOCATION SKETCH

SN 091-0051
FOR INFORMATION ONLY

GENERAL PLAN & ELEVATION
PROJECT-I-04-1(27)
RAMP-F OVER WEST LANES
F.A.I. ROUTE 4 - SEC. 91-4-HB
UNION COUNTY
STATION 10+53.24

DESIGNED	Russell W. Bauer	EXAMINED	May 27 1958
CHECKED	F.V. Jackson	PASSED	
DRAWN	R.K.F. / M. Miller	APPROVED	R.A. Bartelsmeyer, Chief Highway Engineer
CHECKED	F.V. Jackson		

MODEL: SN 091-0051 For Information Only 8 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsondad\d1315161\D978B82-InfoSheets2.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0051
STRUCTURE INFORMATION

SCALE: | SHEET 8 OF 9 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	68
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

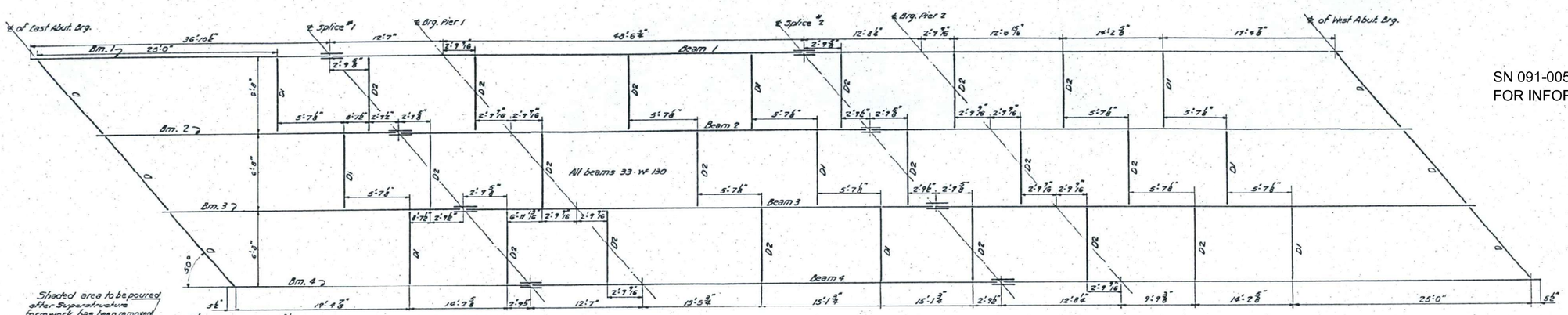
FAI-57

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
S.B.I. F.A.I. 4	91-4-HB	Union	32	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO 3
9 SHEETS

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

SN 091-0051
FOR INFORMATION ONLY



LAYOUT OF STRUCTURAL STEEL

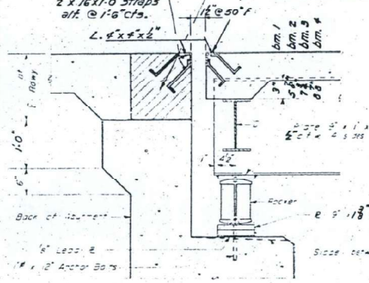
Shaded area to be poured after Superstructure formwork has been removed

5/16" c.f.w (3 sides)

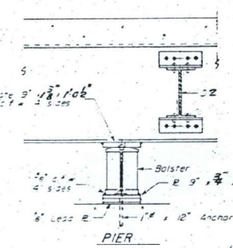
2"x 7/16"x1'-0" straps alt. @ 1'-6" ctrs.

L. 4"x4"x½"

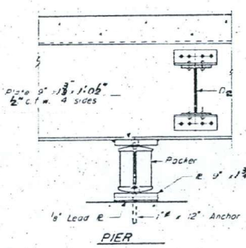
7/16" holes @ 12" cts. for ⅞" bolts. All bolts shall be burned, sawed, or clipped off flush with back of angles after forms are removed.



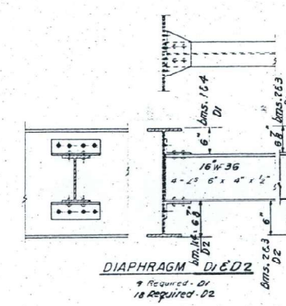
SECTION AT ABUTMENT



PIER

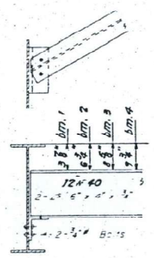


PIER



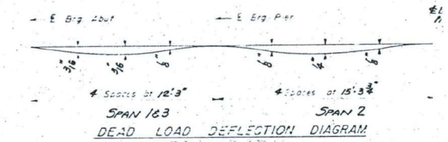
DIAPHRAGM D1 & D2

4 Required - D1
16 Required - D2



DIAPHRAGM D

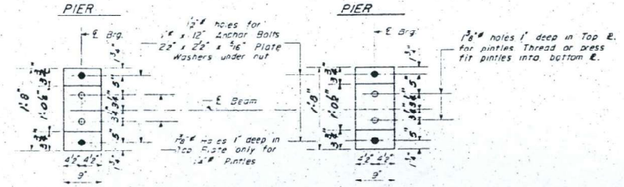
6 Required



DEAD LOAD DEFLECTION DIAGRAM

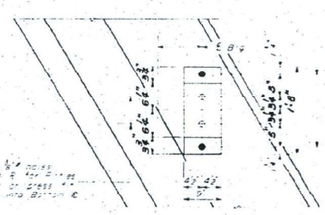
ELEVATION TOP OF BEAMS

Location \ Beam	1	2	3	4
℄ of Brg. East Abut.	440.56	440.79	440.96	441.05
℄ of Splice 1	441.62	441.86	442.02	442.12
℄ Brg. Pier 1	441.79	442.23	442.39	442.48
℄ of Splice 2	443.42	443.65	443.82	443.91
℄ of Brg. Pier 2	443.79	444.03	444.19	444.28
℄ of Brg. West Abut.	445.23	445.46	445.63	445.72



PLAN

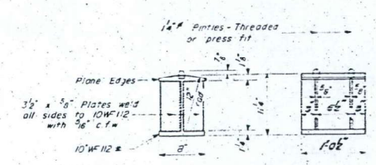
PLAN



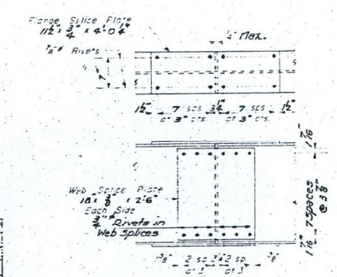
PLAN

DETAIL OF PINTLE

DETAIL OF BEARING AT PIER 2 ℄ ABUTS.



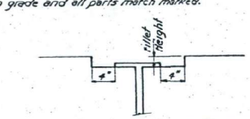
DETAIL OF BEARING AT PIER 1



DETAIL OF SPLICE

Note: All rivet holes in splice to be reamed with all parts assembled to grade and all parts match marked.

After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals not to exceed 10 ft. from these elevations subtract the increment of deflection for these points determined from the dead load deflection diagram. The elevations so obtained subtracted from the theoretical grade elevations minus floor thickness equals the fillet heights above top of beam.
In all cases provide a minimum clearance of ¾" between transverse slab bars and top of splice plates, or top flange of beam.



DETAIL OF FILLET HEIGHT

DESIGNED	Russell A. Davis	DATE	May 27 1958
CHECKED	Floyd F. Jordan	DRAWN	W. H. Romine
DRAWN	W. H. Romine & E. H. Miller	REVISED	E. H. Miller
CHECKED	Floyd K. Jordan	REVISED	R. R. Bartelsmeyer

I-2-R

STRUCTURAL STEEL
F.A.I. RT. 4 - SEC. 91-4-HB
UNION COUNTY
STA. 10+53.24

MODEL: SN 091-0051 For Information Only 9 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d1315\D978882\InfoSheet\2.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0051
STRUCTURE INFORMATION

SCALE: SHEET 9 OF 9 SHEETS STA. TO STA.

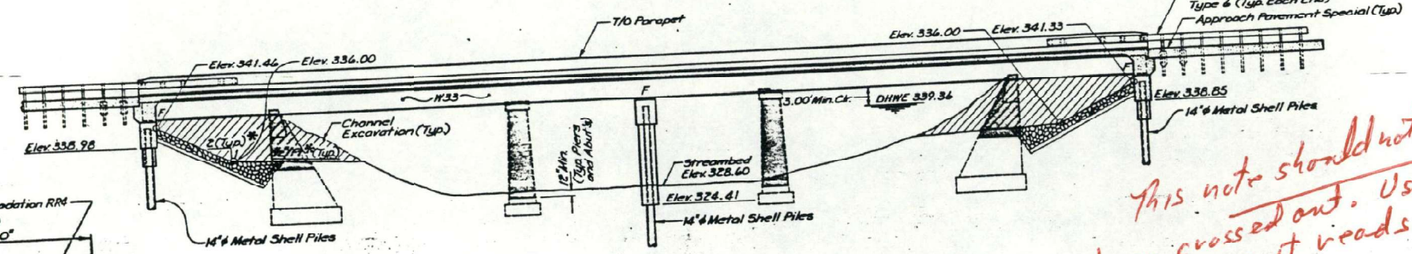
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	69
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

FA-312	102B-1	Union	35	20
STA		TO STA		
FED ROAD DIST NO	ILLINOIS	PROJECT		

Dwg No. 1 of 16

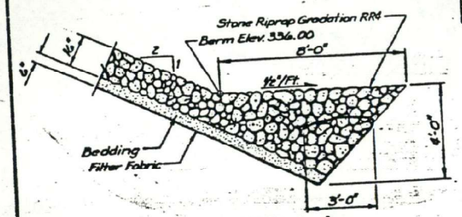
BENCHMARK: AT THE UPPR BRIDGE OVER RUNNING LAKE DITCH, 200'± EAST (DOWNSTREAM) FROM FA-14, BRONZE DISK STAMPED DC&GS W106 1935 IN TOP OF NORTH ABUTMENT WALL, 12' WEST OF WEST TRACK, ELEV. 343.26.

EXISTING STRUCTURE: STA. 677+82, SBI RT. 146/FA RT. 51, SECTION 102B. BUILT 1929, WIDENED 1953, STRUCTURE NO. 091-0025. SUPERSTRUCTURE IS THREE SPAN REINFORCED CONCRETE T-BEAM, 117'-0" OVERALL LENGTH, 27'-9 1/2" CLEAR FACE TO FACE CURBS. SUBSTRUCTURE IS PILE SUPPORTED REINFORCED CONCRETE MULTIPLE COLUMN ABUTMENTS AND PIERS. STRUCTURE TO BE ENTIRELY REMOVED, NO SALVAGE. TRAFFIC TO BE MAINTAINED UTILIZING STAGE CONSTRUCTION.

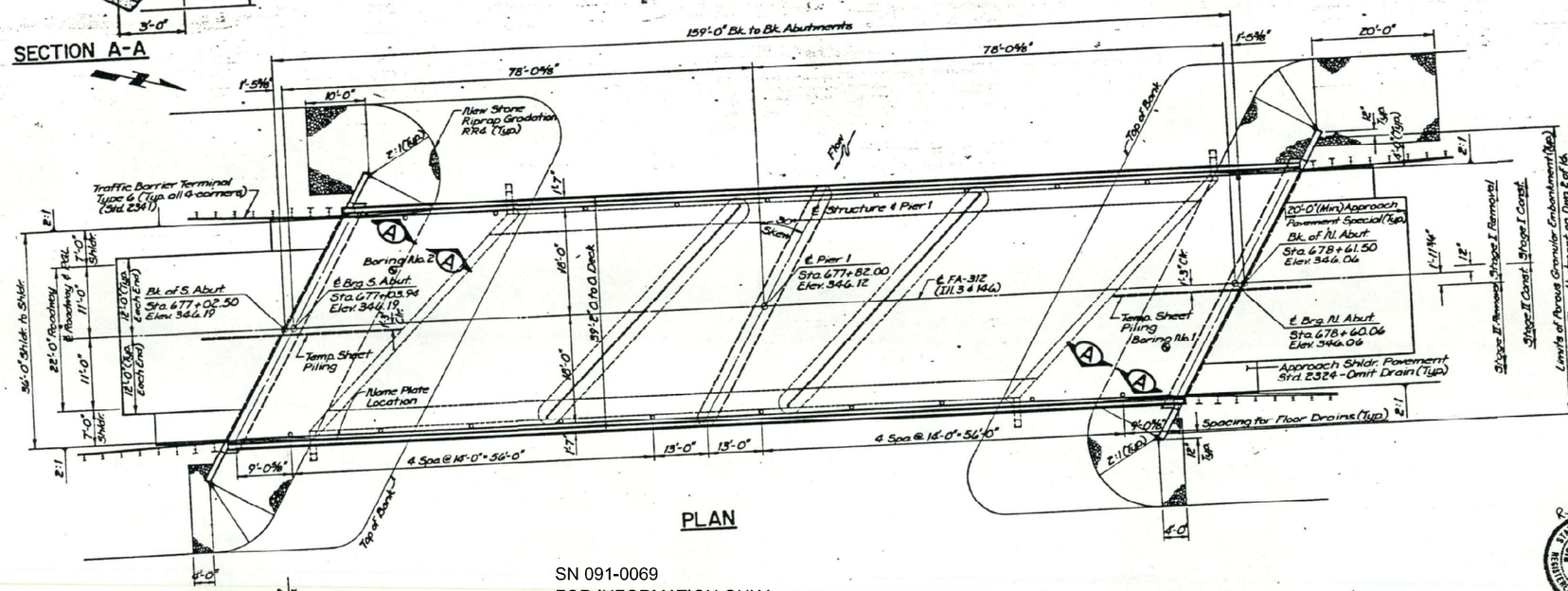


ELEVATION

This note should not have been crossed out. Use note 4 as it reads



SECTION A-A



PLAN

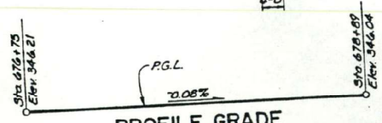
GENERAL NOTES

1. SEE PROPOSAL FOR BORING DATA.
2. FASTENERS SHALL BE HIGH STRENGTH BOLTS. BOLTS 3/4"ϕ, OFFSET HOLES 13/16"ϕ, UNLESS OTHERWISE NOTED.
3. CALCULATED WEIGHTS OF STRUCTURAL STEEL = 119,550 LBS. (M223, GRADE 50) & 14,310 LBS. (M183).
4. ~~THE ZINC-SILICATE AND VINYL PAINT SYSTEM SHALL BE USED FOR SHOP AND FIELD PAINTING OF STRUCTURAL STEEL. THE COLOR OF THE VINYL FINISH COAT SHALL BE NUMBELL NO. 7.5G 4/8 INTERSTATE GREEN.~~
5. THE STEEL BEAMS AND ALL SPLICE PLATE MATERIAL EXCEPT FILL PLATES SHALL BE AASHTO M223, GRADE 50.
6. FIELD WELDING OF CONSTRUCTION ACCESSORIES WILL NOT BE PERMITTED TO THE BOTTOM FLANGE OF BEAMS OR GIRDERS NOR TO THE TOP FLANGE FOR A DISTANCE EQUAL TO ONE-FOURTH THE SPAN LENGTH EACH WAY FROM THE PIER SUPPORTS. FIELD WELDING IN OTHER AREAS WILL BE PERMITTED ONLY WHEN APPROVED BY THE ENGINEER.
7. THE MAIN LOAD CARRYING MEMBER COMPONENTS SUBJECT TO TENSILE STRESS SHALL CONFORM TO THE SUPPLEMENTAL REQUIREMENTS FOR NOTCH TOUGHNESS ZONE 2. THESE COMPONENTS ARE THE WIDE FLANGE BEAMS AND ALL SPLICE PLATE MATERIAL EXCEPT FILL PLATES.
8. REINFORCEMENT BARS SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M-31, M-42 OR M-53, GRADE 60.
9. LAYOUT OF SLOPE PROTECTION SYSTEM MAY BE VARIED IN THE FIELD TO SUIT GROUND CONDITIONS AS DIRECTED BY THE ENGINEER.
10. BEARING SEAT SURFACES SHALL BE CONSTRUCTED OR ADJUSTED TO THE DESIGNATED ELEVATIONS WITHIN A TOLERANCE OF 1/8 INCH. ADJUSTMENT SHALL BE MADE EITHER BY GRINDING THE SURFACE OR BY SHIMMING THE BEARING. TWO 1/8" ADJUSTING SHIMS, OF THE DIMENSIONS OF THE BOTTOM BEARING PLATE, SHALL BE PROVIDED FOR EACH BEARING IN ADDITION TO ALL OTHER PLATES OR SHIMS.
11. THE CONTRACTOR SHALL DRIVE 1-14"ϕ TEST PILE SHELL IN A PERMANENT LOCATION AT THE SOUTH ABUTMENT AS DIRECTED BY THE ENGINEER BEFORE ORDERING THE REMAINDER OF THE PILES.
12. COMPLETE EXCAVATION IN FRONT OF NEW ABUTMENTS PRIOR TO REMOVING EXISTING PIERS.
13. THE CONCRETE, FOR BRIDGE FLOORS FINISHED IN ACCORDANCE WITH ARTICLE 503.15 OF THE STANDARD SPECIFICATIONS, SHALL BE PLACED AND COMPACTED PARALLEL TO THE SKEW IN UNIFORM INCREMENTS ALONG CENTER LINE OF BRIDGE. THE FINISHING MACHINE, WHEN REQUIRED, SHALL BE SET PARALLEL TO THE SKEW FOR STRIKING OFF AND SCREEDING THE CONCRETE.

STATION 677+82.00
BUILT 199_ BY
STATE OF ILLINOIS
F.A. RT. 312 SEC. 102B-1
F.A. PROJECT F-312(1)
LOADING HS 20
STR. NO. 091-0069

NAME PLATE
(See Std. 2113)

SN 091-0069
FOR INFORMATION ONLY



PROFILE GRADE
(Along ℄ FA-312)

WATERWAY INFORMATION

Drainage Area = 29.8 sq. mi. Low Grade Elev. 345.83 @ Sta. 683+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	50	1760	489	772	339.36	0.42	0	339.78	339.36
Base	100	1940	500	791	339.51	0.50	0	340.01	339.51
Max. Calc.	500	2360	523	832	339.83	0.68	0	340.51	339.83

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Rudolph E. Carlson
Engineer of Bridges and Structures

DESIGN SPECIFICATIONS
1. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, AASHTO, 1989.
2. AASHTO GUIDE SPECIFICATIONS FOR SEISMIC DESIGN OF HIGHWAY BRIDGES, 1983. SEISMIC PERFORMANCE CATEGORY C (A=0.20). SOIL PROFILE TYPE II. (S=1.2)

LOADING
HS 20-44, WITH ALLOWANCE FOR 25 psf FUTURE WEARING SURFACE.

DESIGN STRESSES
f'_c = 3,500 psi (REINFORCEMENT)
f_y = 60,000 psi (M223, GRADE 50
f_y = 50,000 psi STRUCTURAL STEEL) LOAD FACTOR DESIGN; COMPOSITE IN +M REGIONS.

R.E.D. Rupp
STATE OF ILLINOIS RICHARD E. RUPP No. 4647 REGISTERED STRUCTURAL ENGINEER
License Expires 11-30-92

LOCATION SKETCH

GENERAL PLAN & ELEVATION
ILL. 3 & 146 OVER RUNNING LAKE DITCH
FA-312 SECTION 102B-1
STA. 677+82.00
UNION COUNTY
STRUCTURE NO. 091-0069

LEGEND

F = Fixed Bearing
P.G.L. = Profile Grade Line
⊕ = Soil Boring Location
= Exist. Structure to be Removed

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	8-90
DRAWN BY:	WEM	8-90
CHECKED BY:	JRF	8-90
APPROVED BY:	RDP	8-90

RTB 5-21-91

MODEL: SN 091-0069 For Information Only 1 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

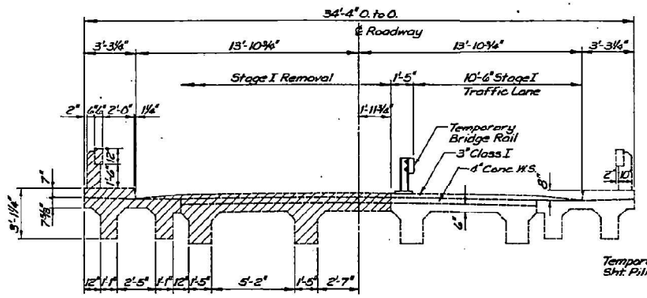
SN 091-0069
STRUCTURE INFORMATION

SCALE: SHEET 1 OF 5 SHEETS STA. TO STA.

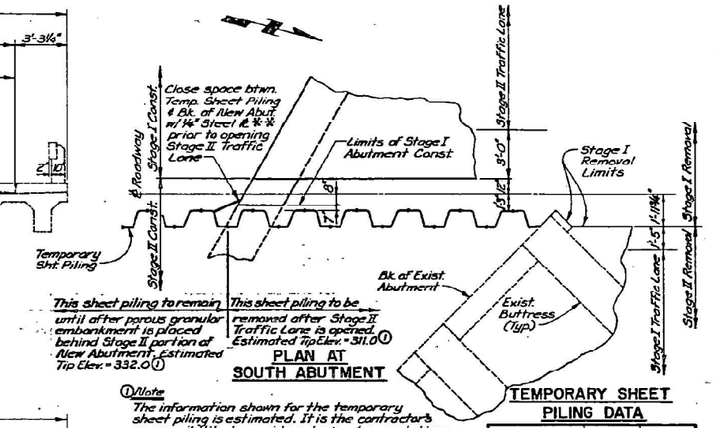
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	70
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA-14	102B-1	Union	35	21
STA.		TO STA		
FED. ROAD DIST. NO.		ILLINOIS	PROJECT	

Dwg. No. 2 of 16



Note
Hatched areas indicate concrete removal.



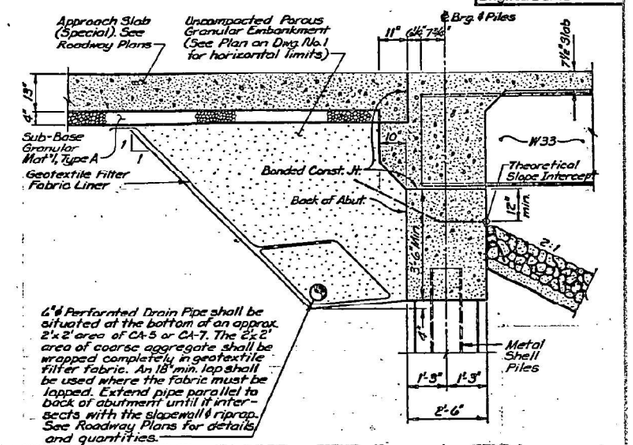
PLAN AT SOUTH ABUTMENT

① Note
The information shown for the temporary sheet piling is estimated. It is the contractor's responsibility to provide a design & computations of the temporary sheet piling & any required associated members, subject to the approval of the Engineer.

TEMPORARY SHEET PILING DATA

	S. Abut.	N. Abut.
Length	31'-6"	34'-6"
Bottom Elev.	As Shown	As Shown
Top Elev.	346.0	346.0
Quantity (Sq. Ft.)	861	932

** Cost incidental to Temporary Sheet Piling.

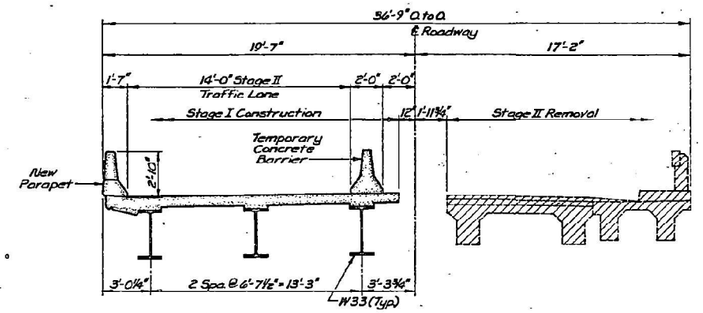


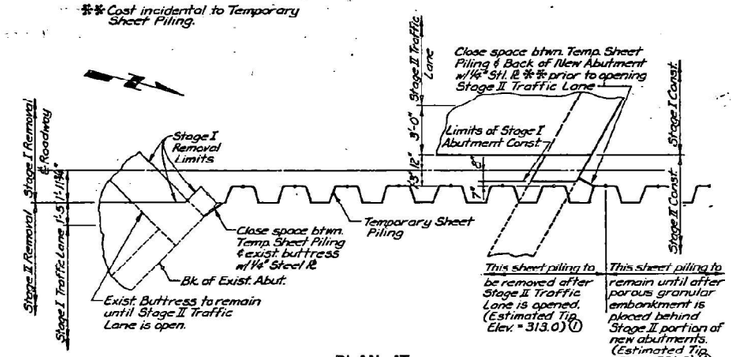
4" ϕ Perforated Drain Pipe shall be situated at the bottom of an approx. 2' x 2' area of CA-5 or CA-7. The 2' x 2' area of coarse aggregate shall be wrapped completely in geotextile filter fabric. An 18" min. lap shall be used where the fabric must be lapped. Extend pipe parallel to back of abutment until it intersects with the slopewall & riprap. See Roadway Plans for details and quantities.

SECTION THRU ABUTMENT
(At Right Angles)

TOTAL BILL OF MATERIAL

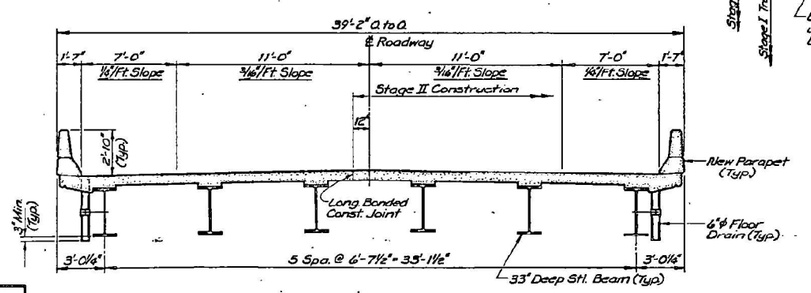
ITEM	UNIT	SUPER-STRUCTURE	SUB-STRUCTURE	TOTAL
Removal of Existing Structures	Each	–	–	1
Porous Granular Embankment	Cu. Yds.	–	193	193
Structure Excavation	Cu. Yds.	–	196	196
Temporary Sheet Piling	Sq. Ft.	–	1793	1793
Cofferdams	Each	–	1	1
Cofferdam Excavation	Cu. Yds.	–	270	270
Seal Coat Concrete	Cu. Yds.	–	185	185
Floor Drains	Each	20	–	20
Protective Coat	Sq. Yds.	765	–	765
Class X Concrete Superstructure	Cu. Yds.	213.1	–	213.1
Class X Concrete	Cu. Yds.	–	103.4	103.4
Furnish & Erect Structural Steel	L. Sum	1	–	1
Stud Shear Connectors	Each	2196	–	2196
Reinforcement Bars (Epoxy Coated)	Lbs.	48,470	9560	58,030
Furnishing Metal Pile Shells, 14" ϕ	Lin. Ft.	–	2415	2415
Driving & Filling Shells	Lin. Ft.	–	2415	2415
Test Piles, 14" ϕ Metal Shells	Each	–	1	1
Name Plates	Each	1	–	1
Stone Riprap Class A4	Ton.	–	574	574
Filter Fabric for use with Riprap	Sq. Yds.	–	560	560
Temporary Bridge Rail	Lin. Ft.	218	–	218
Channel Excavation	Cu. Yds.	–	616	616





PLAN AT NORTH ABUTMENT

TEMPORARY SHEET PILING FOR ABUTMENT & END SLOPE CONSTRUCTION



SN 091-0069
FOR INFORMATION ONLY

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	8-90
DRAWN BY:	WEM	8-90
CHECKED BY:	JRF	8-90
APPROVED BY:	RDP	8-90

CROSS SECTIONS SHOWING STAGE REMOVAL & CONSTRUCTION
(LOOKING NORTH)

STAGE CONSTRUCTION DETAILS
ILL. 3 & 146 OVER RUNNING LAKE DITCH
FA-14 SECTION 102B-1
STA. 677+82.00
UNION COUNTY
STRUCTURE NO. 091-0069

MODEL: SN 091-0069 For Information Only 2 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0069
STRUCTURE INFORMATION

SCALE: SHEET 2 OF 5 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	71

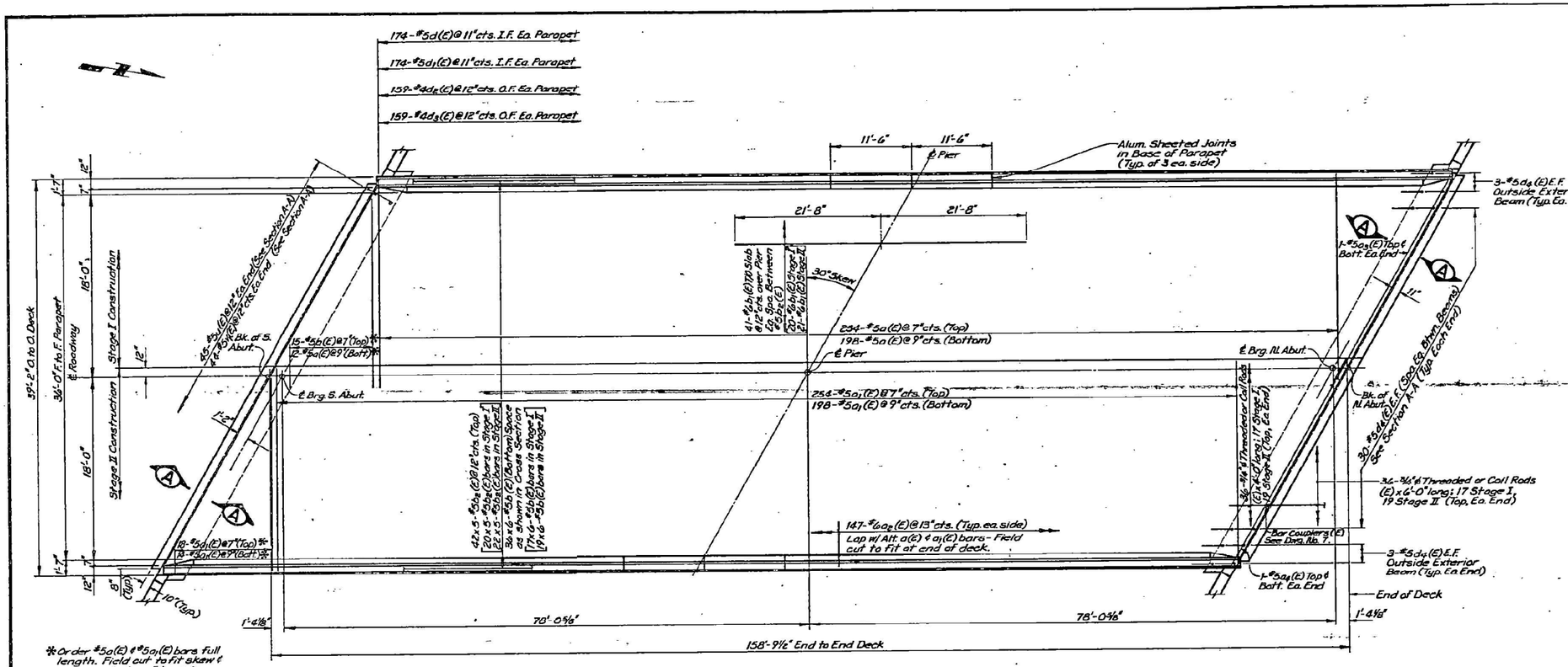
CONTRACT NO. 78B82
ILLINOIS FED. AID PROJECT

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA-14	102B-1	Union	35	24
STA		TO STA.		
FED ROAD DIST NO. 9	ILLINOIS	PROJECT		

Drig. No. 5 of 16

NOTES

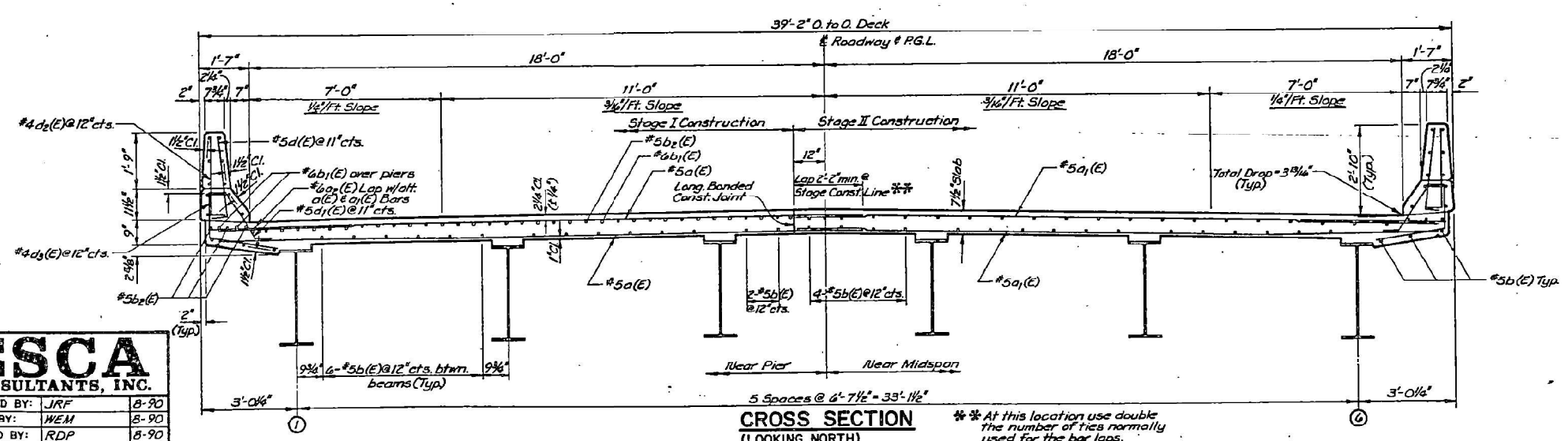
1. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.
2. BARS INDICATED THUS: 42x5-#5, ETC., INDICATES 42 LINES OF BARS WITH 5 LENGTHS PER LINE.
3. ONLY ALUMINUM SHEETED JOINTS IN PARAPETS ARE SHOWN ON THIS DWG. LOCATION OF ALL OTHER PARAPET JOINTS IS SHOWN ON DWG. NO. 6.
4. SEE DWG. NO. 7 FOR DETAILS AND BILL OF MATERIALS.



*Order #5a(E) & #5a1(E) bars full length. Field cut to fit skew & use remainder of bars in opposite end.

PLAN

Min Bar Lap
#5 . . . . 1'-8"



CROSS SECTION
(LOOKING NORTH)

** At this location use double the number of ties normally used for the bar laps.

SN 091-0069
FOR INFORMATION ONLY

SUPERSTRUCTURE
ILL. 3 & 146 OVER RUNNING LAKE DITCH
FA-14 SECTION 102B-1
STA. 677+82.00
UNION COUNTY
STRUCTURE NO. 091-0069

ESCA CONSULTANTS, INC.

DESIGNED BY:	JRF	8-90
DRAWN BY:	WEM	8-90
CHECKED BY:	RDP	8-90
APPROVED BY:	RDP	8-90

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0069
STRUCTURE INFORMATION

SCALE: SHEET 3 OF 5 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	72
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

MODEL: SN 091-0069 For Information Only 3 [Sheet]
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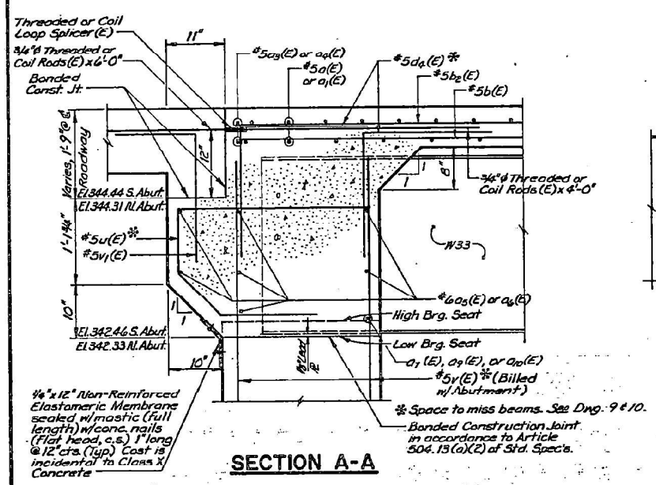
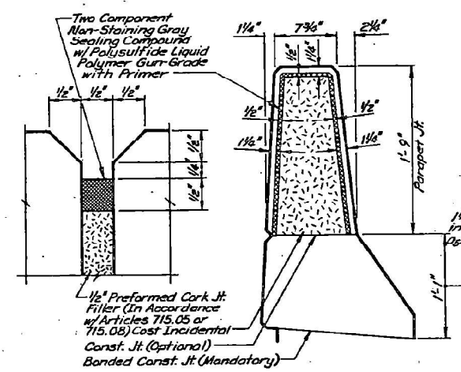
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FA-14	102B-1	Union	35	26
STA.		TO STA.		
FED. ROAD DIST NO.	ILLINOIS	PROJECT		

Dwg. No. 7 of 16

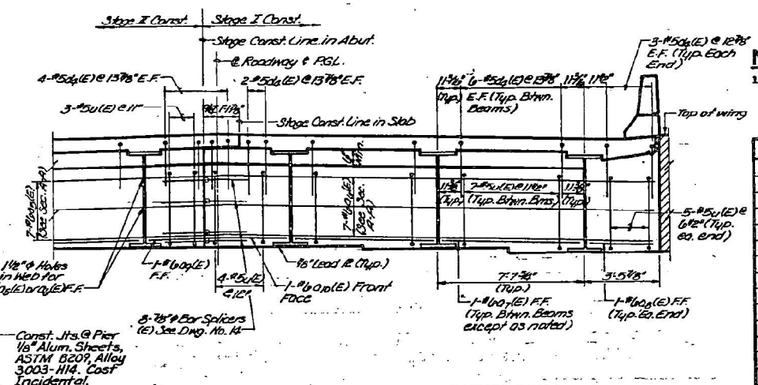


SECTION A-A



DETAILS OF PARAPET JOINT

(See Dwg. No. 6 for location of these joints.)



DIAPHRAGM AT SOUTH ABUTMENT

(Looking South, N. Abut. Similar)

Note:
All Dimensions Parallel to Skewed Abutment Unless Otherwise Noted.

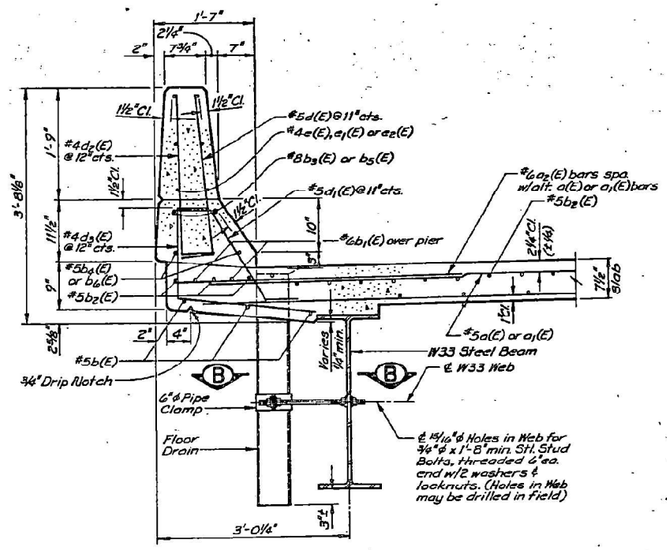
NOTES

1. REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

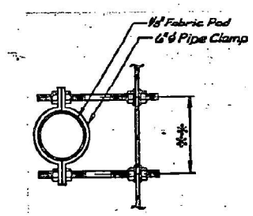
BILL OF MATERIAL

BAR	No.	SIZE	LENGTH	SHAPE
a(E)	479	#5	20'-2"	—
a1(E)	484	#5	19'-8"	—
a2(E)	294	#6	4'-6"	—
a3(E)	4	#5	23'-4"	—
a4(E)	4	#5	23'-0"	—
a5(E)	14	#6	21'-8"	—
a6(E)	14	#6	25'-7"	—
a7(E)	8	#6	7'-3"	—
a8(E)	4	#6	3'-1"	—
a9(E)	2	#6	2'-9"	—
a10(E)	2	#6	4'-3"	—
b(E)	216	#5	28'-4"	—
b1(E)	41	#6	29'-4"	—
b2(E)	210	#5	35'-6"	—
b3(E)	16	#8	36'-3"	—
b4(E)	16	#5	50'-1"	—
b5(E)	8	#8	11'-2"	—
b6(E)	8	#5	11'-2"	—
d(E)	348	#5	3'-0"	L
d1(E)	348	#5	2'-7"	L
d2(E)	318	#4	3'-0"	L
d3(E)	318	#4	4'-1"	L
d4(E)	144	#5	4'-0"	L
e(E)	48	#4	16'-6"	—
e1(E)	24	#4	11'-2"	—
e2(E)	48	#4	16'-8"	—
u(E)	90	#5	6'-4"	C
v1(E)	88	#5	3'-8"	⅂

ITEM	UNIT	QUANTITY
Class X Conc. Superstructure	Cu. Yds.	213.7
Reinf. Bars (Epoxy Coated)	Lbs.	48,470
Floor Drains	Each	20
Protective Coat	Sq. Yds.	765



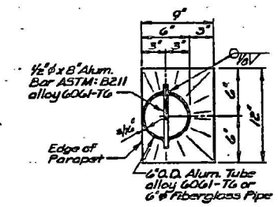
SECTION THRU PARAPET



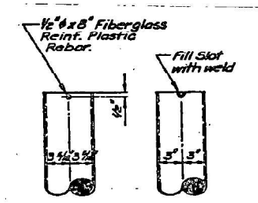
SECTION B-B

NOTES

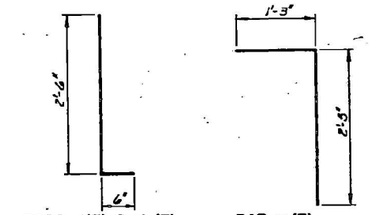
1. THE SURFACE OF THE FIBERGLASS PIPE SHALL BE FREE OF BOND INHIBITING AGENTS.
2. FIBERGLASS PIPE SHALL CONFORM TO ASTM D2996, WITH SHORT-TIME RUPTURE STRENGTH HOOP TENSILE STRESS OF 30,000 PSI MINIMUM.
3. THE EXTERIOR SURFACES OF THE FLOOR DRAIN SHALL BE PAINTED WITH THE VINYL ENAMEL COAT PAINTING SPECIFIED FOR STRUCTURAL STEEL. THE EXTERIOR SURFACES OF THE ALUMINUM TUBE SHALL BE CLEANED AND GIVEN A WASHCOAT PRETREATMENT IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL'S SPEC. SSPC-SP1 & SSPC-PAINT 27 PRIOR TO PAINTING. FIBERGLASS TO HAVE PREWASH AS PER MIL-P-15328.



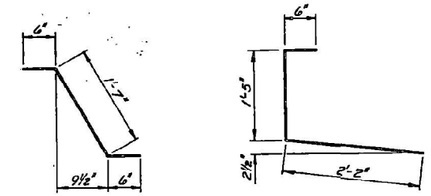
TOP PLAN
(Showing Alum. Tube)



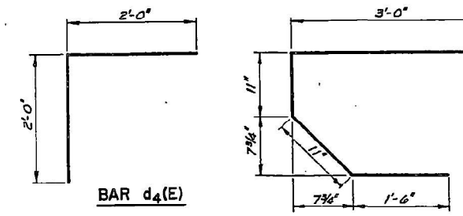
FLOOR DRAIN DETAILS



BARS d(E) & d2(E) — BAR v1(E)



BAR d1(E) — BAR d3(E)



BAR d4(E) — BAR u(E)

BAR BENDING DETAILS

SN 091-0069
FOR INFORMATION ONLY

SUPERSTRUCTURE DETAILS

ILL. 3 & 146 OVER RUNNING LAKE DITCH
FA-14 SECTION 102B-1
STA. 677+82.00
UNION COUNTY
STRUCTURE NO. 091-0069

ESCA CONSULTANTS, INC.

DESIGNED BY:	JRF	8-90
DRAWN BY:	WEM	8-90
CHECKED BY:	RDP	8-90
APPROVED BY:	RDP	8-90

B30118

MODEL: SN 091-0069 For Information Only 4 (Sheet)
FILE NAME: c:\pw_work\pwidot\wilsonda\d1315161\D978B82_InfoSheets2.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 091-0069
STRUCTURE INFORMATION

SCALE: | SHEET 4 OF 5 SHEETS | STA. | TO STA.

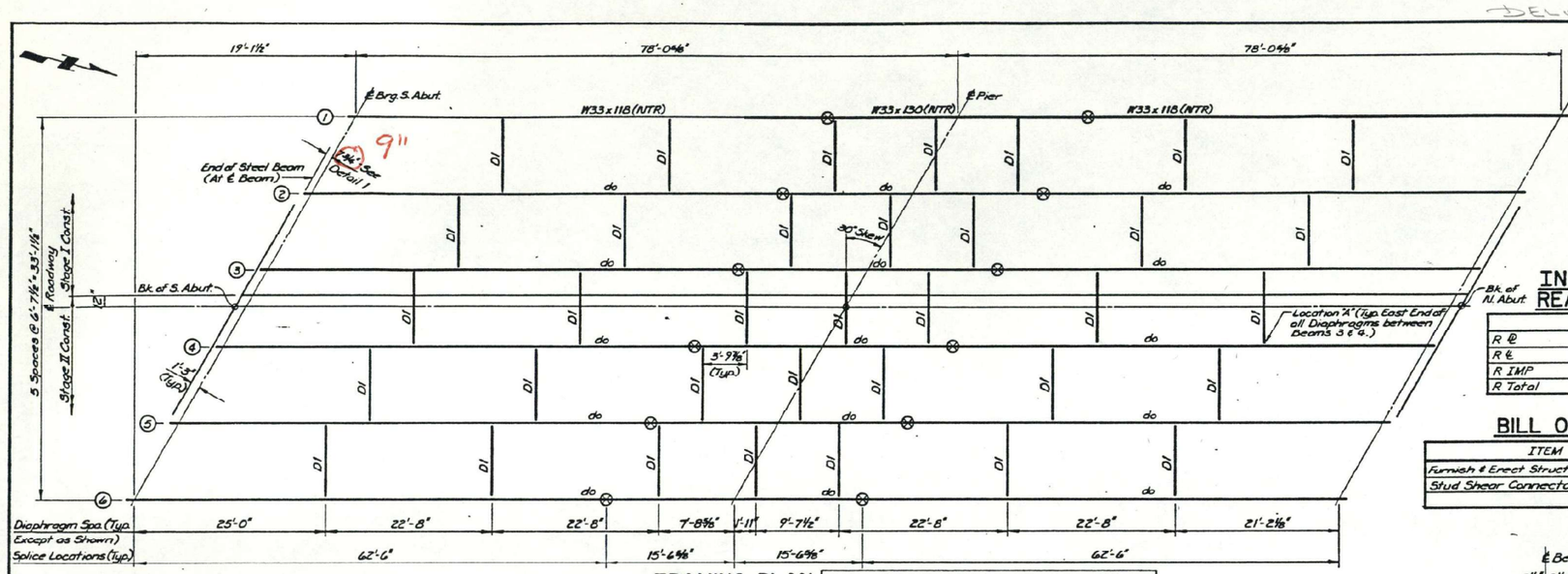
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	73
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

RTB 5-21-91 Boro

DELONG'S 314-635 6121

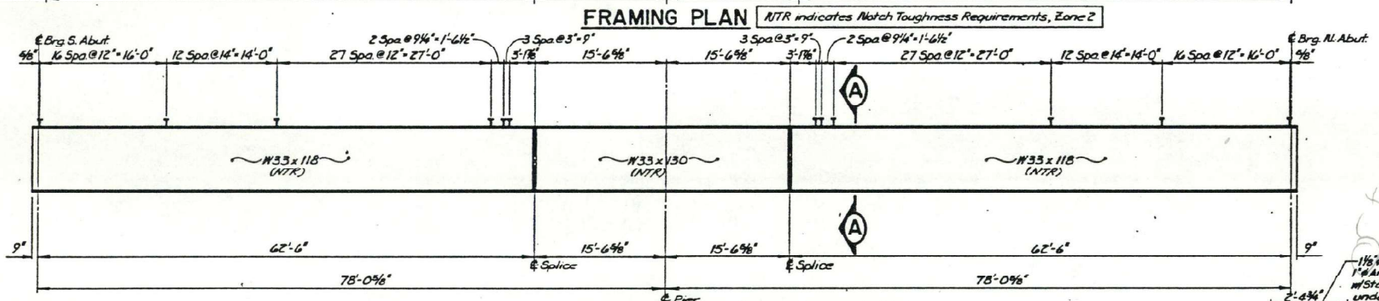
ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
FA-14	102B-1	Union	35	27
STA		TO STA		
FED ROAD DIST NO		ILLINOIS	PROJECT	

Drg. No. 8 of 16



FRAMING PLAN

NTR indicates Notch Toughness Requirements, Zone 2



ELEVATION

(Showing Spacing for Stud Shear Connectors)

NOTES

1. ALL BEAMS & SPLICE PLATES EXCLUDING FILL PLATES & BEARING PLATES SHALL BE AASHTO M223 GRADE 50.

INTERIOR BEAM REACTION TABLE

		ABUTMENT	PIER
R ℘	(k)	31.3	103.5
R ℄	(k)	37.4	51.3
R IMP	(k)	9.2	12.6
R Total	(k)	77.9	167.4

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Furnish & Erect Structural Steel	L. Sum	1
Stud Shear Connectors	Each	2196

INTERIOR BEAM MOMENT TABLE

		0.4 SPAN 1	PIER
I_s	(in^4)	5900	6710
I_c ℘	(in^4)	12,089	–
I_c ℄	(in^4)	16,437	–
S_s	(in^3)	359	406
S_c ℘	(in^3)	489	–
S_c ℄	(in^3)	541	–
Z	(in^3)	–	467
@ N.C.	(k/ft)	0.750	1.062
M @ N.C.	(ft-k)	346.2	713.3
@ C.	(k/ft)	0.300	–
M @ C.	(ft-k)	153.6	–
M ℄	(ft-k)	614.1	300.9
M IMP	(ft-k)	151.2	74.1
4/3(M ℄ + I)	(ft-k)	1275.6	625.0
M_D	(ft-k)	2307.8	1739.8
M_U	(ft-k)	3124.0	1945.8
f_s @ N.C.	(ksi)	11.57	21.08
f_s @ C.	(ksi)	3.77	–
f_s 4/3(℄ + I)	(ksi)	28.29	18.47
f_s (Overload)	(ksi)	43.63	39.55
V_R	(ksi)	49.4	–

MOMENTS AND STRESSES SHOWN HAVE BEEN DETERMINED BY ADJUSTING THE RESULTS OF ELASTIC ANALYSIS 10% IN ACCORDANCE WITH AASHTO 10.48.1.3.

I_s AND S_s ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE STEEL SECTION USED IN COMPUTING f_s (OVERLOAD).

I_c AND S_c ARE THE MOMENT OF INERTIA AND SECTION MODULUS OF THE COMPOSITE SECTION USED IN COMPUTING f_s (OVERLOAD).

V_R IS THE MAXIMUM ½+I SHEAR RANGE IN SPAN.

Z IS THE PLASTIC SECTION MODULUS USED TO DETERMINE THE FULLY PLASTIC MOMENT CAPACITY (M_u) IN THE NON-COMPOSITE AREAS.

THE FULLY PLASTIC MOMENT CAPACITY (M_u) IS COMPUTED ACCORDING TO AASHTO 10.48.1 IN THE NON-COMPOSITE AREAS, AND AASHTO 10.50.1.1 IN THE COMPOSITE AREAS.

M_D (APPLIED MOMENT) = 1.3[M ℘ N.C. + M ℘ C. + 5/3(M ℄+I)].

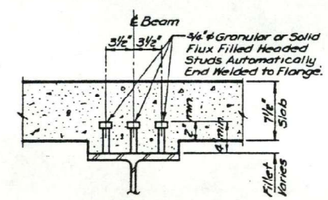
f_s (OVERLOAD) IS THE SUM OF THE STRESSES DUE TO M ℘ N.C. + M ℘ C. + 5/3(M ℄+I).

M ℘ N.C. = MOMENT DUE TO DEAD LOADS ON NON-COMPOSITE SECTION.

M ℘ C. = MOMENT DUE TO DEAD LOADS ON COMPOSITE SECTION.

M ℄ = MOMENT DUE TO LIVE LOADS ON NONCOMPOSITE OR COMPOSITE SECTION.

I = LIVE LOAD IMPACT.



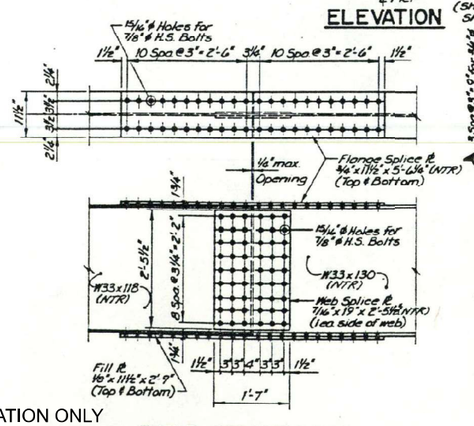
SECTION A-A

(2196 REQUIRED)

TABLE OF ELEVATIONS (T/O STEEL BEAMS)

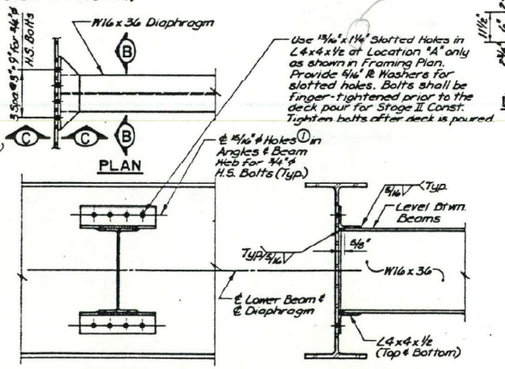
BEAM	S. ABUT.	SPLICE	PIER	SPLICE	N. ABUT.
1	345.224	345.140	345.128	345.116	345.100
2	345.360	345.276	345.264	345.252	345.235
3	345.447	345.362	345.370	345.358	345.342
4	345.470	345.385	345.373	345.361	345.345
5	345.369	345.285	345.273	345.261	345.244
6	345.240	345.155	345.143	345.131	345.115

Note: Elevations shown are top of flange (not Splice ℘); they do not include deflection and are intended for use in fabrication of Steel Beams. Top of Steel of Splices is the top of W33x130. Top of W33x118 is ⅛" Lower of Splices.



FIELD SPLICE DETAIL

(REQ'D AT 12 LOCATIONS)



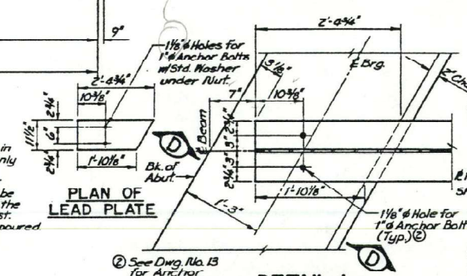
SECTION B-B

SECTION C-C

DIAPHRAGM D1

(35 REQ'D)

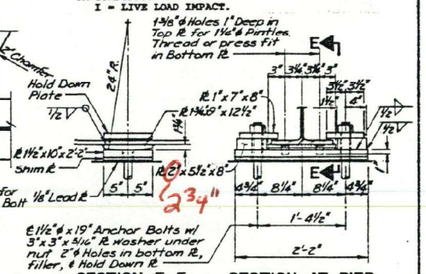
① Hardened washers shall be req'd over all oversize holes (2 per bolt)



PLAN OF LEAD PLATE

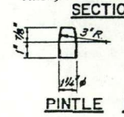
DETAIL 1

(SECTIONAL PLAN AT ABUTMENT)



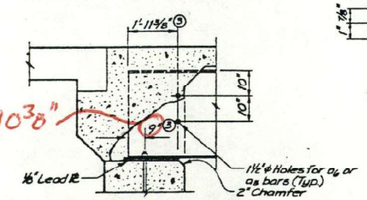
SECTION E-E

SECTION AT PIER



PINTLE

FIXED BEARING



③ Measured Along ℄ Beam

SECTION D-D

STEEL FRAMING

ILL. 3 & 146 OVER RUNNING LAKE DITCH
FA-14 SECTION 102B-1
STA. 677+82.00
UNION COUNTY
STRUCTURE NO. 091-0069

ESCA CONSULTANTS, INC.

DESIGNED BY:	RDP	8-90
DRAWN BY:	WEM	8-90
CHECKED BY:	JRF	8-90
APPROVED BY:	RDP	8-90

SN 091-0069
FOR INFORMATION ONLY

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 091-0069
STRUCTURE INFORMATION

SCALE: | SHEET 5 OF 5 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	74
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

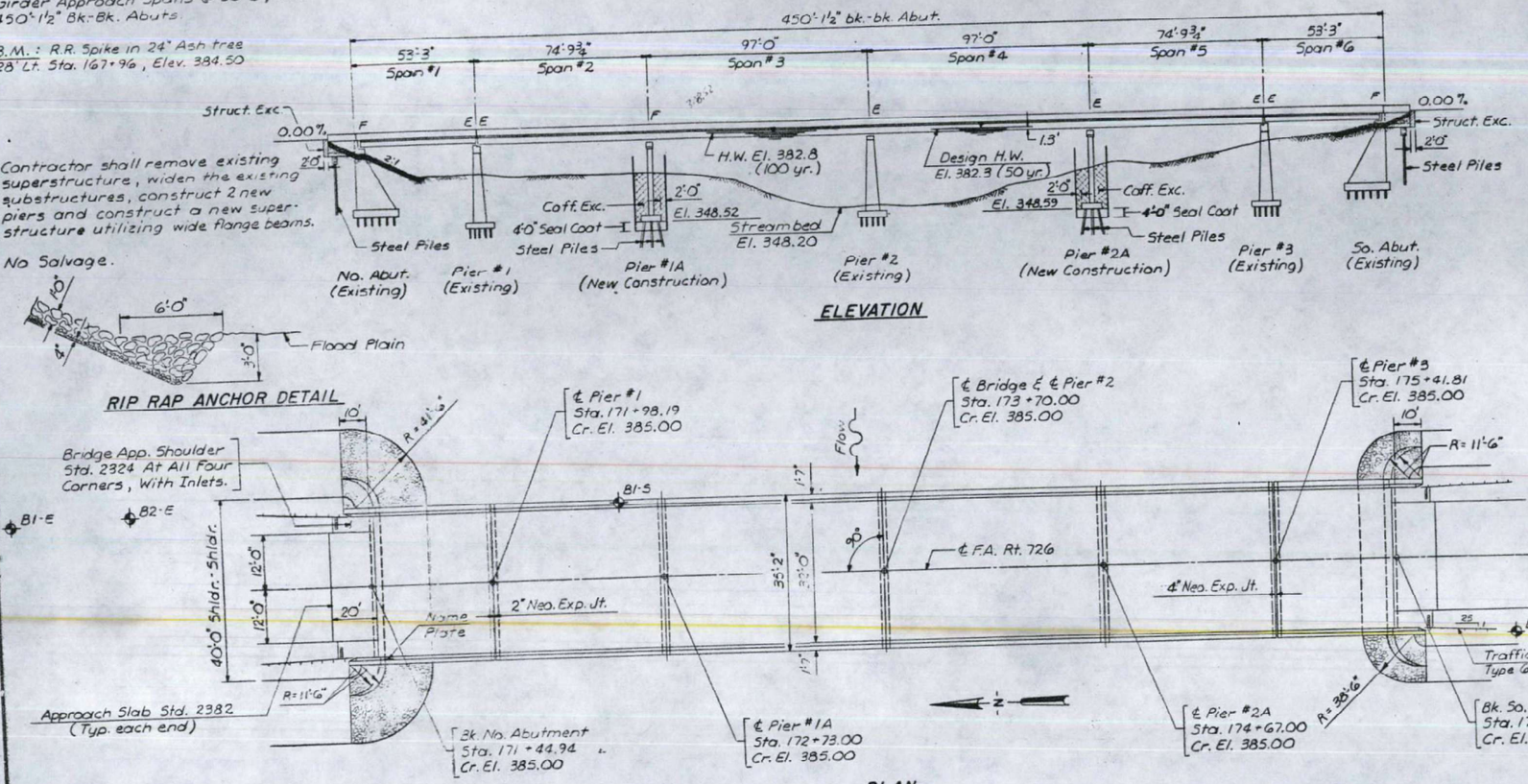
MODEL: SN 091-0069 For Information Only 5 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d1313516\D978B82-InfoSheets2.dgn

Sec. 129 BC-BR

Sheet 1 of 15.

Existing Structure: #100-0032, Sec. 129 BC - Built in 1931, 2 Through Truss Steel Spans @ 163'-0¾", 2 R.C. Deck Girder Approach Spans @ 50'-0", Clear Roadway = 21'-1", 450'-1½" Bk.-Bk. Abuts.

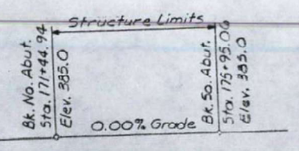
B.M.: R.R. Spike in 24" Ash tree 28' Lt. Sta. 167+96, Elev. 384.50



ELEVATION

RIP RAP ANCHOR DETAIL

PLAN



PROFILE GRADE

DESIGN STRESSES

Concrete: Load Factor Design
fc' = 3500 p.s.i.
fy = 60,000 p.s.i. (Reinforcement)
n = 9
Structural Steel: Load Factor Design
fy = 50,000 p.s.i. (M222 - Unpainted)
Loading: AASHTO HS 20-44

Allowance for 25 p.s.f. future wearing surface
1977 AASHTO Specifications and 1978, 1979 & 1980 Interim Specifications.

APPROVED FOR STRUCT.

STATION 173+70
BUILT 198__ BY
STATE OF ILLINOIS
F.A. RT. 726 SEC. 129 BC-BR
PROJECT FR 726(21)
LOADING HS20
STR. NO. 100-0032

LETTERING FOR NAME PLATE

Locate Name Plate at Northwest corner of Bridge. (See Sta. 2113)

WATERWAY INFORMATION

Drainage Area 798 Sq. Mi. Low Grade Elev. 382.93 At Sta. 150+00

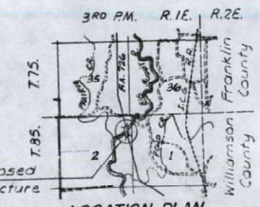
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	50	20800	8707	8181	382.3	0.14	0.16	382.44	382.46
Base	100	22300	8877	8181	382.8	0.16	0.18	382.96	382.98
Overtopping	100								
Max. Calc.	500								

TOTAL BILL OF MATERIAL

Item	Unit	Super.	Sub.	Total
Removal of Existing Superstructure	Each	1		1
Concrete Removal	Cu.Yd.	—	69.1	69.1
Expansion Bolts, ¾"φ	Each	—	162	162
Structure Excavation	Cu.Yd.	—	96	96
Cofferdam Excavation	Cu.Yd.	—	726	726
Cofferdam (Pier 1A)	Each	—	1	1
Cofferdam (Pier 2A)	Each	—	1	1
Floor Drains	Each	60	—	60
Protective Coat	Sq.Yd.	1,985	—	1,985
Class X Concrete	Cu.Yd.	474.2	342.5	816.7
Seal Coat Concrete	Cu.Yd.	—	154.1	154.1
Structural Steel	L. Sum.	1	—	1
Stud Shear Connectors	Each	5,530	—	5,530
Reinforcement Bars	Pound	43,830	27,710	71,540
Reinforcement Bars (Epoxy Coated)	Pound	70,540	—	70,540
Steel Piles, HP 8 x 36	Lin. Ft.	—	423	423
Steel Piles, HP 10 x 42	Lin. Ft.	—	973	973
Test Piles, Steel HP 8 x 36	Each	—	1	1
Name Plate	Each	1	—	1
Stone Riprap	Sq.Yd.	—	862	862
Elastomeric Bearing Assembly, Type I	Each	—	20	20
Elastomeric Bearing Assembly, Type II	Each	—	5	5
Elastomeric Bearing Assembly, Type III	Each	—	5	5
Neoprene Expansion Joint (2")	Lin. Ft.	34	—	34
Neoprene Expansion Joint (4")	Lin. Ft.	34	—	34

GENERAL NOTES

1. See Sheet 2 of 15 for Boring Data.
2. Fasteners shall be high strength bolts AASHTO M-164, Type 3. Bolts ⅞"φ, open holes 15/16"φ unless otherwise noted.
3. Calculated weight of Structural Steel = 365,890 Lbs.
4. All structural steel shall be AASHTO M-222 unpainted type.
5. All structural steel for a distance of three times the depth of the beams, but not exceeding 10 feet, each way from deck joints shall be cleaned and given one coat of the basic lead silica chromate primer and maroon final coat. Both coats to be applied in the shop with spot painting only in the field.
6. Field welding of construction accessories will not be permitted to the bottom flange of beams nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
7. Anchor bolts shall be set before bolting diaphragms over supports.
8. The contractor shall drive one test pile in a permanent location at Pier 2A as directed by the Engineer before ordering the remainder of piles.
9. Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4,080 Lbs., and ¾"φ x 12" hooked bolts.
10. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ⅛ inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two ⅛" adjusting shims, of the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, shims of the dimensions of the top bearing plate shall be provided and placed as detailed.
11. The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These Components are the wide flange beams and all splice plate material.
12. Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-53 Grade 60.
13. All contact surfaces of joints for the diaphragms shall be free of paint or lacquer.
14. Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.



LOCATION PLAN

SN 100-0032
FOR INFORMATION ONLY

10-20-81

GENERAL PLAN AND ELEVATION
FEDERAL AID PRIMARY RT. 726 (ILL. 148)
SECTION 129 BC-BR
OVER BIG MUDDY RIVER
WILLIAMSON COUNTY
STATION 173+70.00

R.D.O.
D.A.N.

HANSON ENGINEERS INCORPORATED
SPRINGFIELD, PEORIA & ROCKFORD, ILLINOIS

FILE NO. 805200
DATE 11-12-8

MODEL: SN 100-0032 For Information Only 1 [Sheet]
FILE NAME: c:\pw_work\pw\dot\wilsonda\d1315\i\D978882-InfoSheets2.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

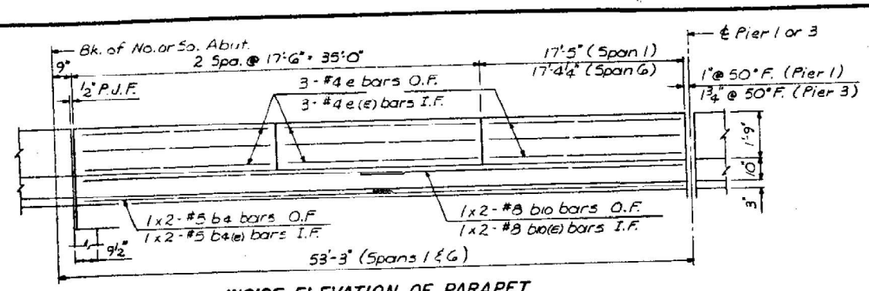
SN 100-0032
STRUCTURE INFORMATION

SCALE: | SHEET 1 OF 7 SHEETS | STA. TO STA.

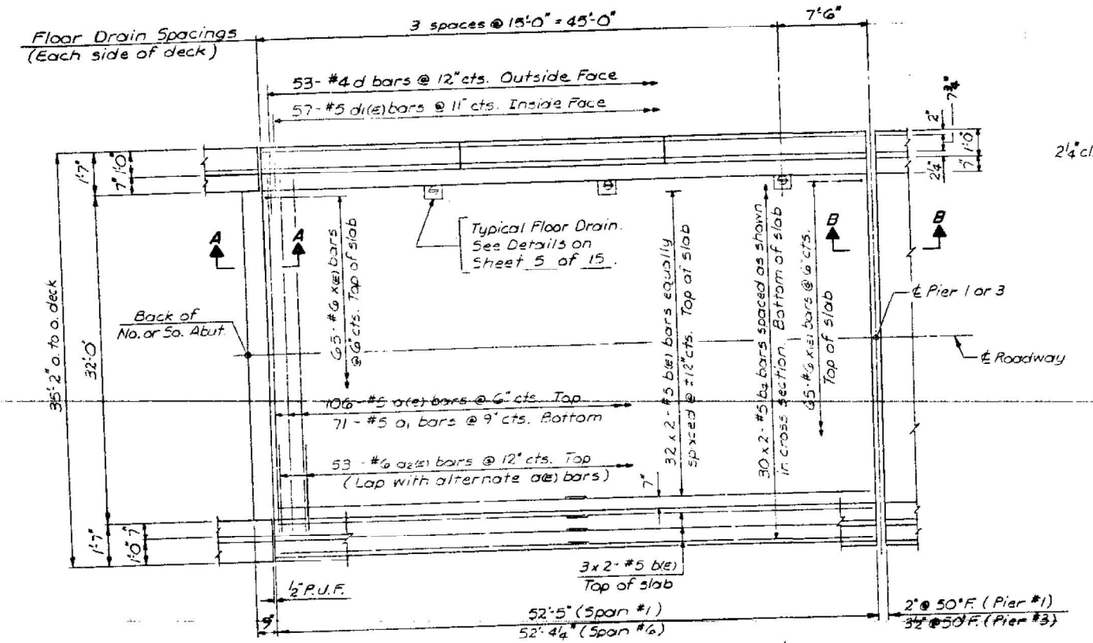
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	75

CONTRACT NO. 78B82
ILLINOIS | FED. AID PROJECT

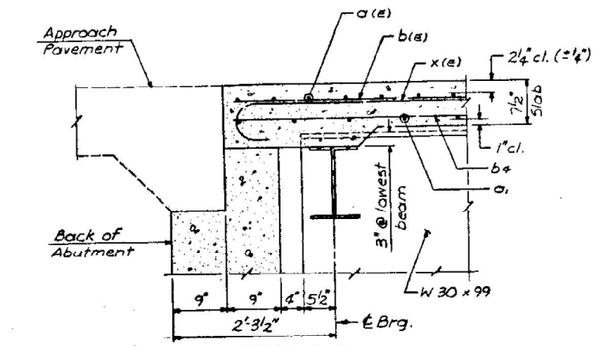
Sheet 4 of 15.



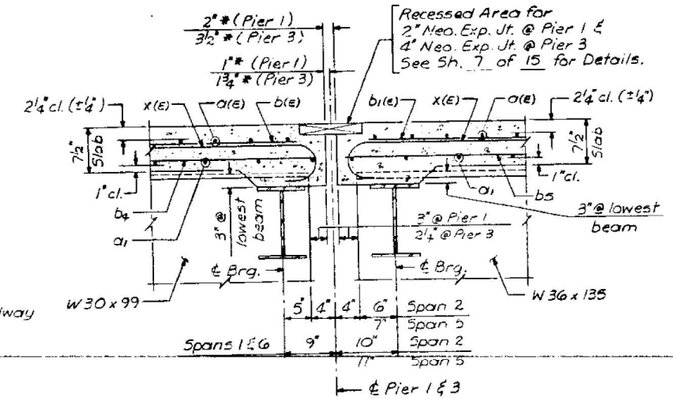
INSIDE ELEVATION OF PARAPET
(SPANS 1 & 6)



PLAN
(SPANS 1 & 6)

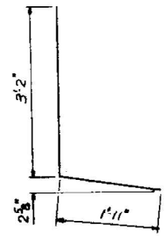


SECTION A-A

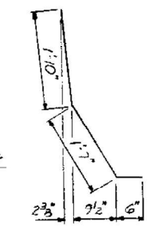


SECTION B-B
* @ 50°F.

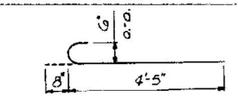
SN 100-0032
FOR INFORMATION ONLY



BAR d



BAR d1(ε)

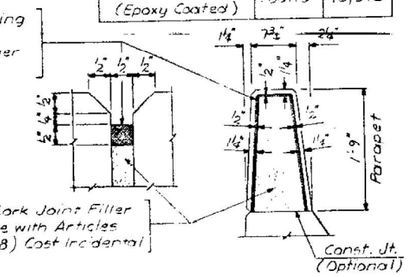


BAR x(ε)

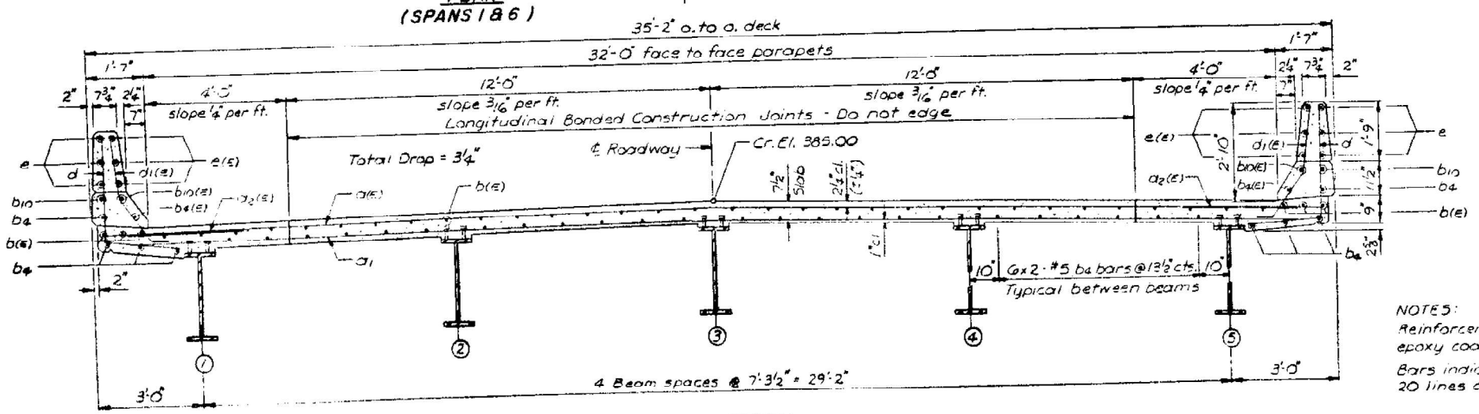
BILL OF MATERIAL
SPANS 1 THRU 6

Bar	No.	Size	Length	Shape
a(ε)	900	#5	33'-2"	
a1	601	#5	33'-2"	
a2(ε)	900	#6	4'-0"	
b(ε)	76	#5	26'-5"	
b1(ε)	494	#5	28'-0"	
b2(ε)	210	#5	15'-8"	
b3(ε)	105	#5	16'-8"	
b4	128	#5	26'-10"	
b4(ε)	8	#5	26'-10"	
b5	390	#5	28'-0"	
b6	12	#5	21'-7"	
b6(ε)	12	#5	21'-7"	
b7	8	#5	12'-8"	
b7(ε)	8	#5	12'-8"	
b8	12	#5	24'-4"	
b8(ε)	12	#5	24'-4"	
b9	4	#5	13'-8"	
b9(ε)	4	#5	13'-8"	
b10	8	#8	27'-10"	
b10(ε)	8	#8	27'-10"	
b11	8	#8	32'-5"	
b11(ε)	8	#8	32'-5"	
b12	8	#8	12'-8"	
b12(ε)	8	#8	12'-8"	
b13	12	#8	25'-7"	
b13(ε)	12	#8	25'-7"	
b14	4	#8	13'-3"	
b14(ε)	4	#8	13'-3"	
d	900	#4	5'-7"	
d1(ε)	980	#5	3'-11"	
e	84	#4	17'-0"	
e(ε)	84	#4	17'-0"	
e1	48	#4	15'-0"	
e1(ε)	48	#4	15'-0"	
e2	24	#4	12'-8"	
e2(ε)	24	#4	12'-8"	
e3	12	#4	13'-3"	
e3(ε)	12	#4	13'-3"	
x(ε)	390	#6	5'-1"	
Class X Concrete			Cu. Yds.	474.2
Reinforcement Bars			Pound	43,830
Reinforcement Bars (Epoxy Coated)			Pound	70,540

Two component non-staining sealing compound with polysulfide liquid polymer gun grade with primer.



PARAPET JOINT DETAIL



CROSS SECTION
(SPANS 1 & 6)
LOOKING SOUTH

Bar Size	Min. Lap Req'd.
#5	1'-8"
#8	3'-8"

NOTES:
Reinforcement bars designated (*) shall be epoxy coated. See Special Provisions.
Bars indicated thus 20 x 3 - #5 etc. indicates 20 lines of bars with 3 lengths per line.

SUPERSTRUCTURE - SPANS 1 & 6
FEDERAL AID PRIMARY RT. 726 (ILL. 148)
SECTION 129 BC-BR
OVER BIG MUDDY RIVER
WILLIAMSON COUNTY
STATION 173+70.00

T.C.H.
C.R.N.
D.A.N.
T.C.H.

HANSON ENGINEERS
SPRINGFIELD, PEORIA & ROCKFORD, ILLINOIS

HNS 20X
11-12-

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0032
STRUCTURE INFORMATION

SCALE: | SHEET 2 OF 7 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	76

CONTRACT NO. 78B82
ILLINOIS | FED. AID PROJECT

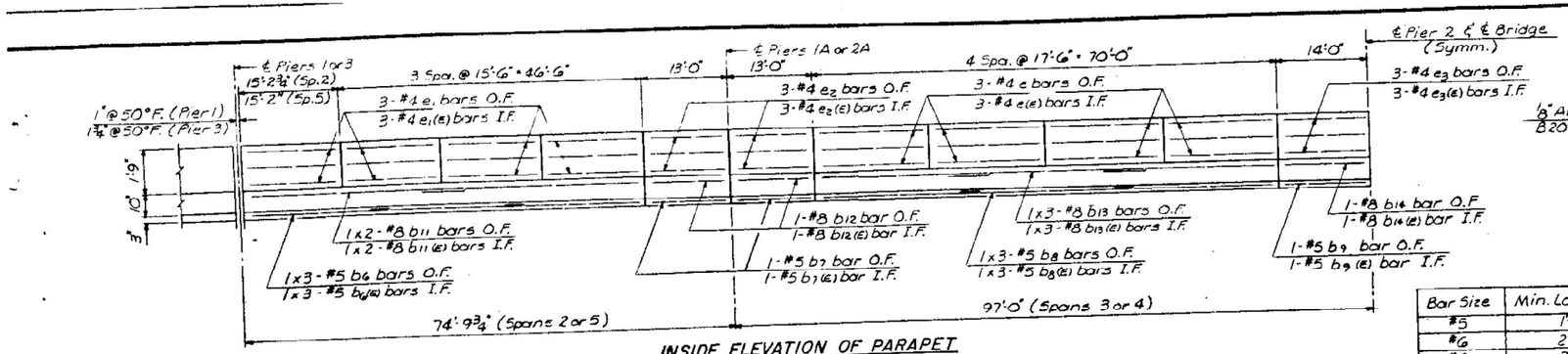
MODEL: SN 100-0032 For Information Only 2 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d131516\D978B82_InfoSheets2.dgn

Sec. 129 BC-BR

Fed. Rd.	Williamson	31	76
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT	

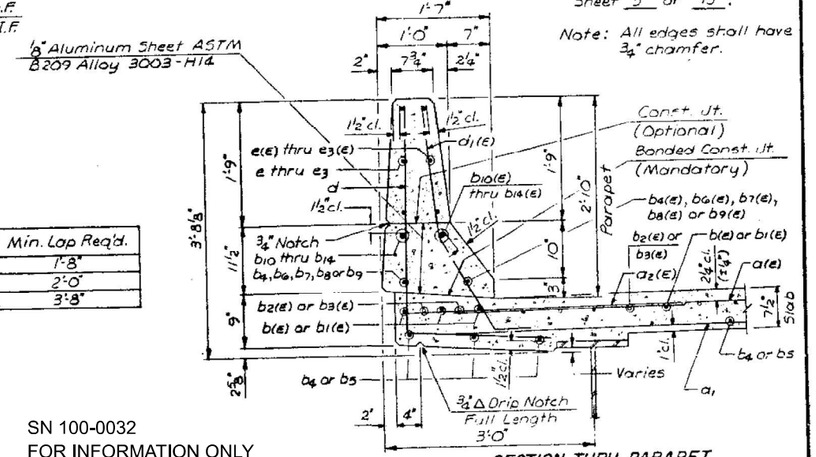
Sheet 5 of 15

Note: All edges shall have ¾" chamfer.

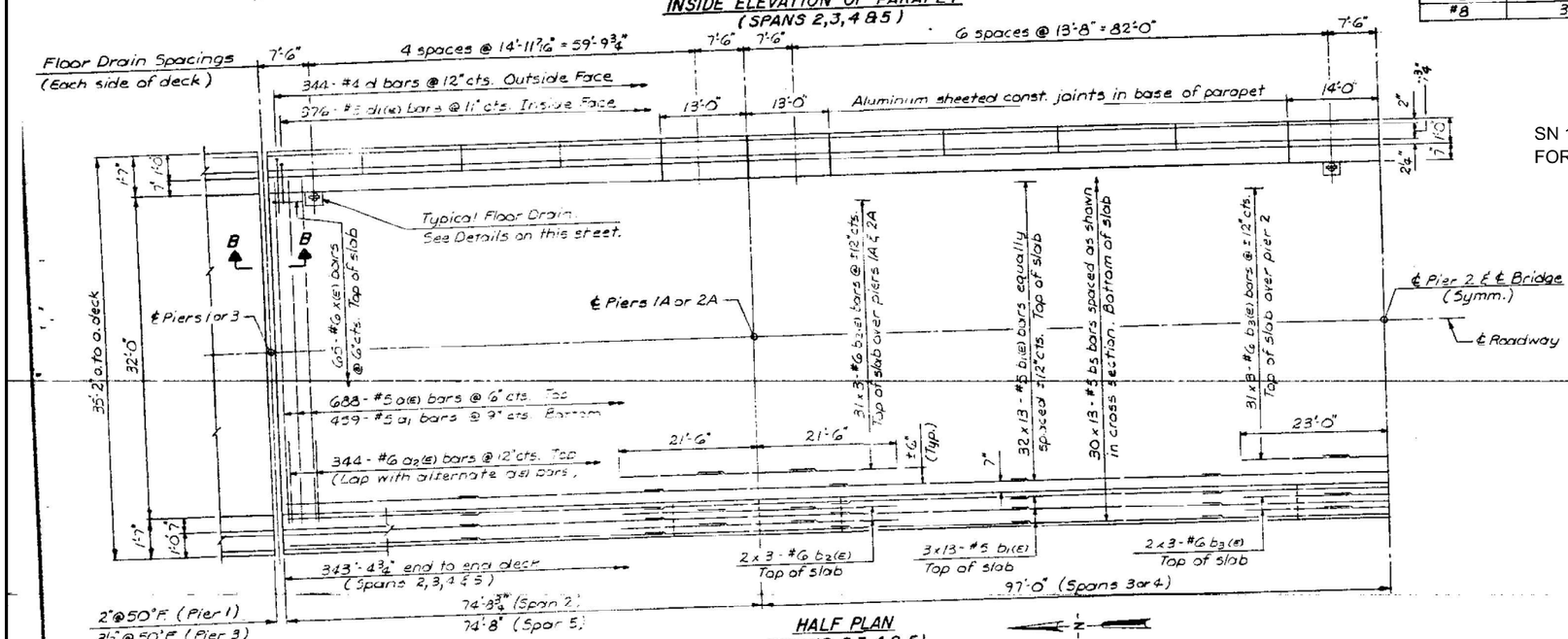


INSIDE ELEVATION OF PARAPET
(SPANS 2,3,4 & 5)

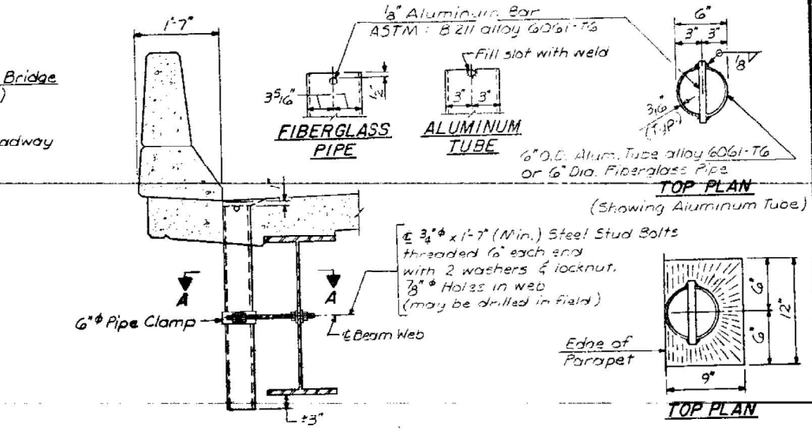
Bar Size	Min. Lap Req'd.
#5	1'-8"
#6	2'-0"
#8	3'-8"



SECTION THRU PARAPET



HALF PLAN
(SPANS 2,3,4 & 5)

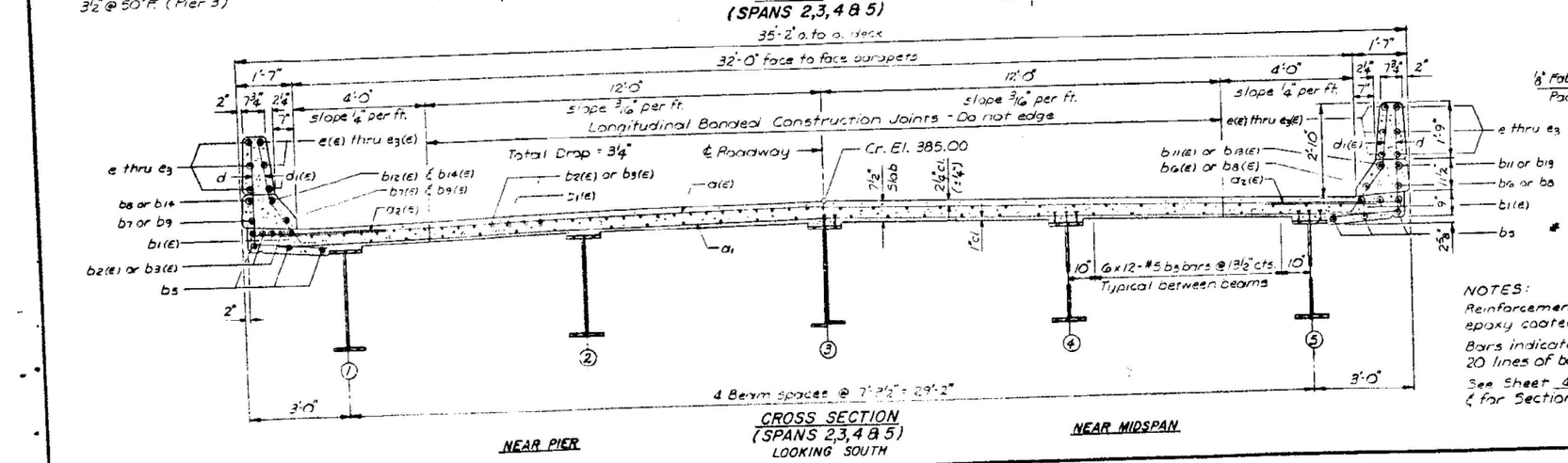


SECTION AT PARAPET

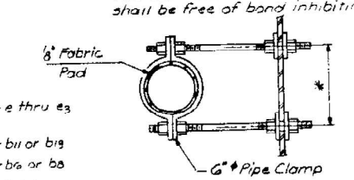
The surface of the Fiberglass pipe shall be free of bond inhibiting agents

NOTE: Fiberglass pipe shall conform to ASTM D2996, Designation Code RTRP-11AE-3112. Pipes with Class C or F liner are acceptable.

The exterior surfaces of the Floor Drain shall be painted with the Basic Lead Silica Chromate painting specified for Structural Steel except the Final coat shall be maroon. The exterior surfaces of the Aluminum pipe shall be cleaned and given a washcoat pretreatment in accordance with Steel Struct. Painting Council's Specification SSPC-SP1 & SSPC-PT3 prior to painting.



NEAR PIER — CROSS SECTION (SPANS 2,3,4 & 5) LOOKING SOUTH — NEAR MIDSPAN



SECTION A-A

* Dimension as required by Pipe Clamp.

FLOOR DRAIN DETAILS
(No Floor Drains required)

NOTES:
Reinforcement bars designated (E) shall be epoxy coated. See Special Provisions.
Bars indicated thus 20 x 3 - #5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 4 of 15 for Bill of Material & for Section B-B.

SN 100-0032
FOR INFORMATION ONLY

SUPERSTRUCTURE - SPANS 2,3,4 & 5
FEDERAL AID PRIMARY RT. 726 (ILL. 148)
SECTION 129 BC-BR
OVER BIG MUDDY RIVER
WILLIAMSON COUNTY
STATION 173+70.00

DESIGNED T.E.H. CHECKED C.R.N. DRAWN D.A.N. CHECKED T.E.H.

HANSON ENGINEERS INCORPORATED — SPRINGFIELD, VIRGINIA & ROCKFORD, ILLINOIS

30-20-20 Yo
11-12-81

MODEL: SN 100-0032 For Information Only 3 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d1315\D978B82-InfoSheets2.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0032
STRUCTURE INFORMATION

SCALE: SHEET 3 OF 7 SHEETS STA. TO STA.

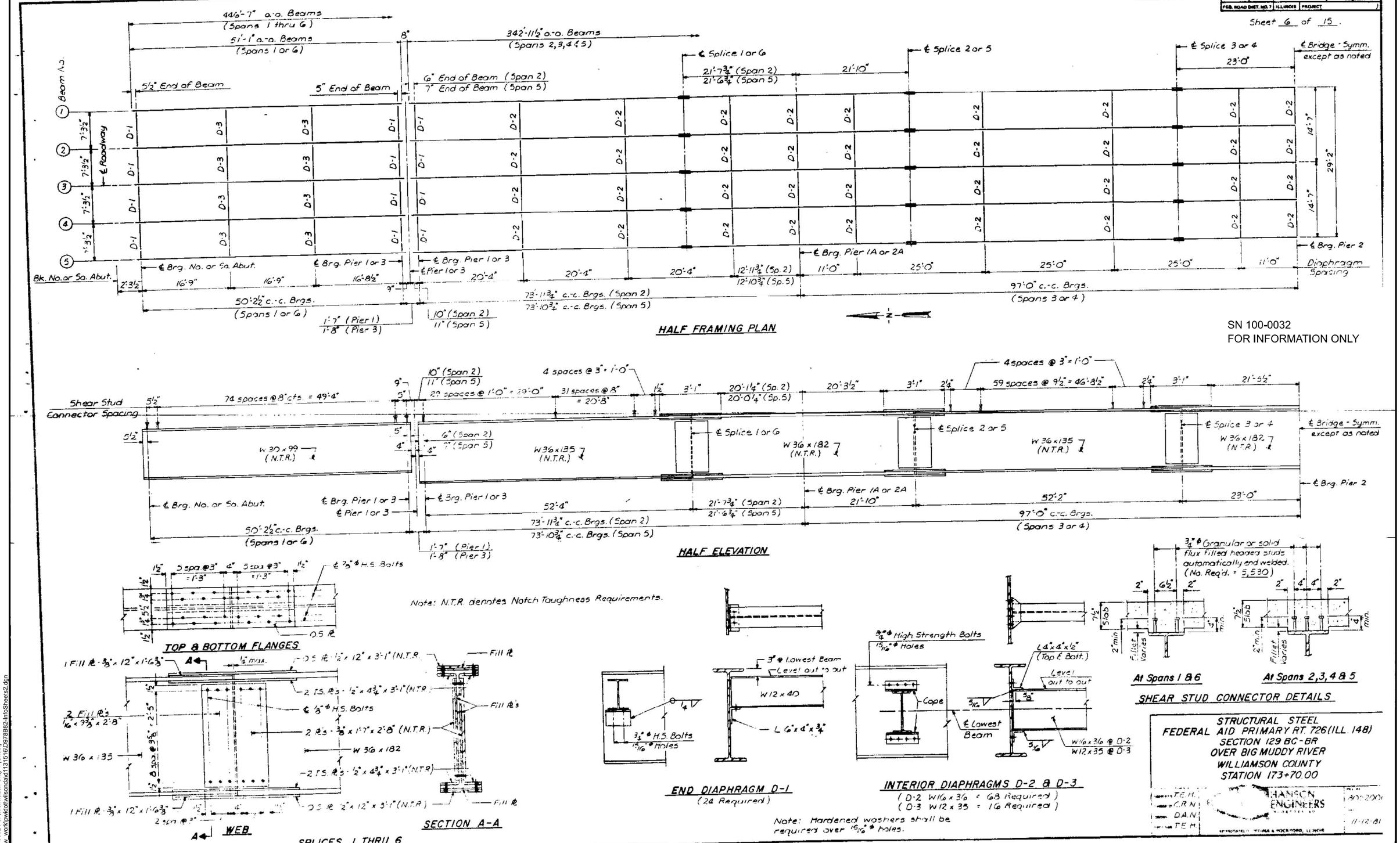
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	77

CONTRACT NO. 78B82
ILLINOIS FED. AID PROJECT

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 726	(B)	Williamson	87	77
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

(B) Sec. 129 BC-BR

Sheet 6 of 15



USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0032
STRUCTURE INFORMATION

SCALE: SHEET 4 OF 7 SHEETS STA. TO STA.

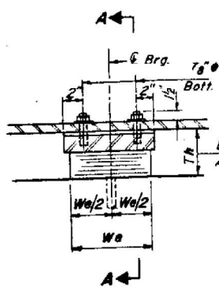
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	78
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

MODEL: SN 100-0032 For Information Only 4 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d1131516\D978B82-InfoSheets2.dgn

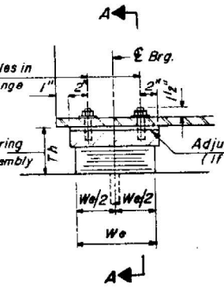
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
VARIOUS	●	Williamson	21	19
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

● Sec. 129 BC-BR

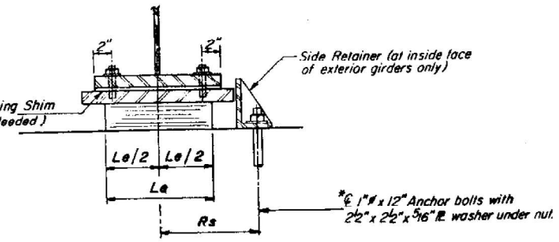
Sheet 8 of 15



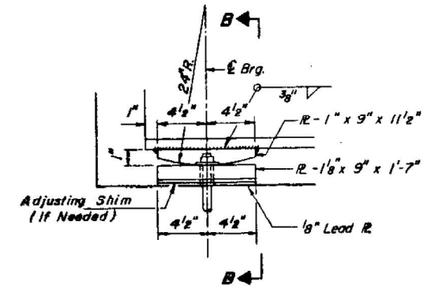
SECTION AT PIER 2



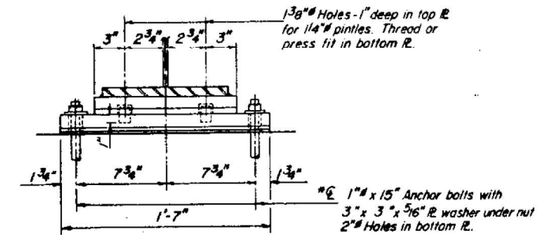
SECTION AT PIERS 1 & 3



SECTION A-A



ELEVATION AT ABUTMENT



SECTION B-B

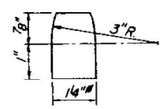
FIXED BEARING

(At N. Abut. = 5 Req'd.)
(At S. Abut. = 5 Req'd.)

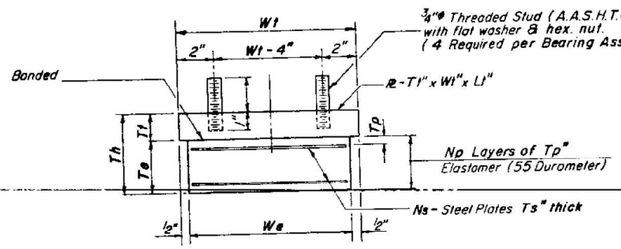
TYPE I ELASTOMERIC EXP. BRG.

(At Pier 1 - No. & So. Brgs. = 10 Req'd.)
(At Pier 2 = 5 Req'd.)
(At Pier 3 - So. Brgs. = 5 Req'd.)

*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.



PINTLE

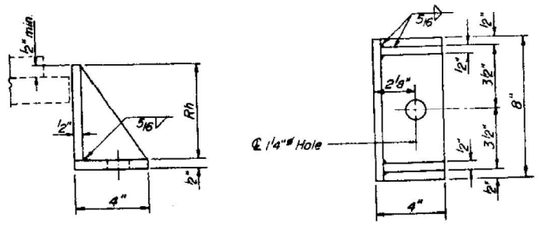


BEARING ASSEMBLY

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

TYPE I ELASTOMERIC EXPANSION BEARING
TABLE OF DIMENSIONS

Location of Bearing	Top Plate			Elastomer Dimensions							Retainer		Th
	Tt	Wt	Lt	Te	We	Le	Np	Ns	Tp	Ts	Rh	Rs	
Pier 1 No. Brg.	1 7/8"	8"	1'-2"	1 3/4"	7"	12"	4	3	3/8"	3/32"	3 1/2"	9 1/4"	3 5/8"
Pier 1 So. Brg.	1 3/4"	10"	1'-3"	2 1/4"	9"	12"	5	4	3/8"	3/32"	4"	9 3/4"	4"
Pier 2	2 7/8"	13"	1'-10"	3 9/16"	12"	20"	5	4	9/16"	3/16"	6 1/2"	1'-11 1/4"	6 1/16"
Pier 3 So. Brg.	1 7/8"	8"	1'-2"	1 3/4"	7"	12"	4	3	3/8"	3/32"	3 1/2"	9 1/4"	3 5/8"



SIDE RETAINER

SN 100-0032
FOR INFORMATION ONLY

TYPE I ELASTOMERIC EXP. BRG.
FEDERAL AID PRIMARY RT. 726 (ILL. 148)
SECTION 129 BC-BR
OVER BIG MUDDY RIVER
WILLIAMSON COUNTY
STATION 173+70.00

DESIGNED	T.E.H.	HANSON ENGINEERS INCORPORATED	FILE NO. 80S20(
CHECKED	C.R.N.		
DRAWN	D.A.N.		DATE 11-12-(
CHECKED	T.E.H.	SPRINGFIELD, PEORIA & ROCKFORD, ILLINOIS	

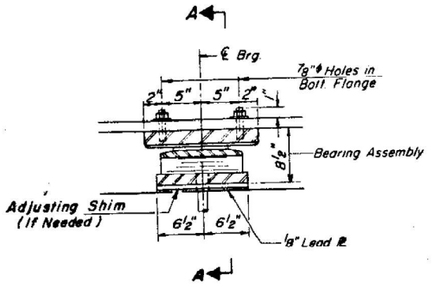
MODEL: SN 100-0032 For Information Only 5 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d1315161\D978B82-InfoSheets2.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

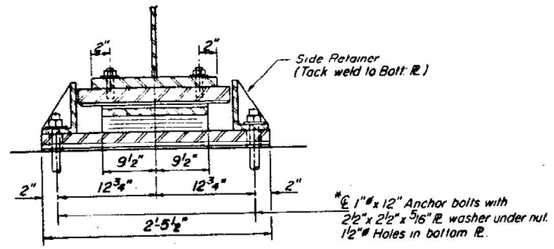
SN 100-0032
STRUCTURE INFORMATION

SCALE: SHEET 5 OF 7 SHEETS STA. TO STA.

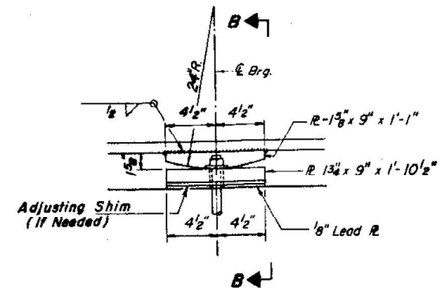
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	79
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	



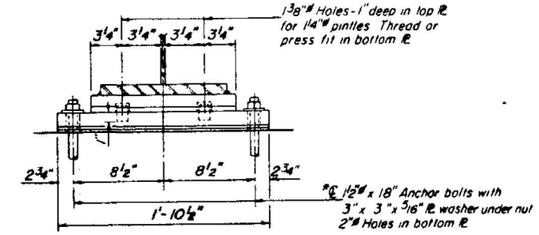
SECTION AT PIER



SECTION A-A



ELEVATION AT PIER

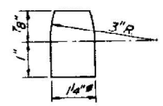


SECTION B-B

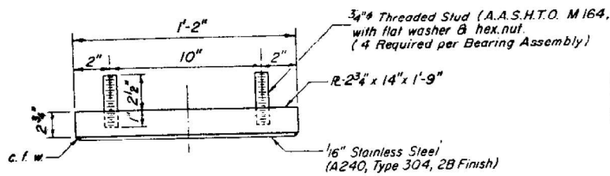
FIXED BEARING
(At Pier 1A = 5 Req'd.)

TYPE II TFE ELASTOMERIC EXP. BRG
(At Pier 2A = 5 Req'd.)

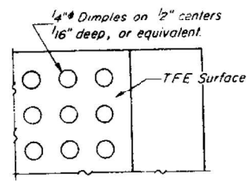
*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.



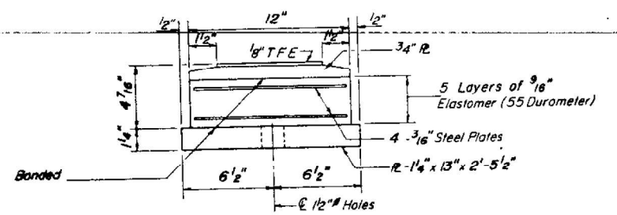
PINTLE



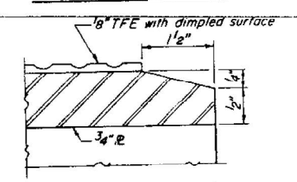
TOP BEARING ASSEMBLY



PLAN-TFE SURFACE



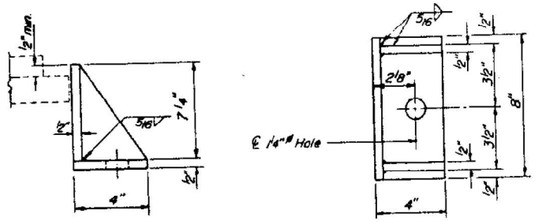
BOTTOM BEARING ASSEMBLY



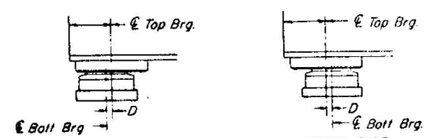
SECTION THRU TFE

Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.



SIDE RETAINER



BELOW 50°F
(Move bolt brg. away from fixed brg.)

ABOVE 50°F
(Move bolt brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F

SN 100-0032
FOR INFORMATION ONLY

TYPE II ELASTOMERIC EXP. BRG.
FEDERAL AID PRIMARY RT. 726 (ILL. 148)
SECTION 129 BC-BR
OVER BIG MUDDY RIVER
WILLIAMSON COUNTY
STATION 173+70.00

T.E.H. / C.R.N. / D.A.N. / T.E.H.

HANSON ENGINEERS INCORPORATED
SPRINGFIELD, PEORIA & ROCKFORD, ILLINOIS

HED 80S2006

11-12-81

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
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PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0032
STRUCTURE INFORMATION

SCALE: | SHEET 6 OF 7 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	80
		CONTRACT NO. 78B82		
		ILLINOIS FED. AID PROJECT		

MODEL: SN 100-0032 For Information Only 6 [Sheet]
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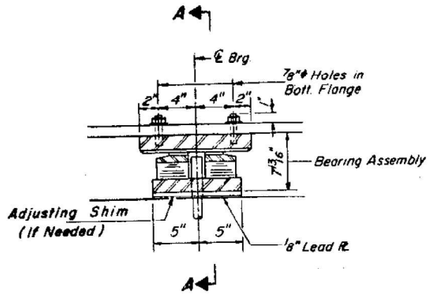

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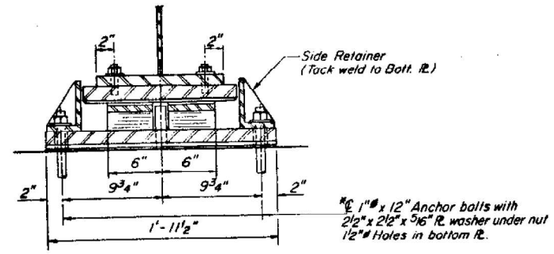
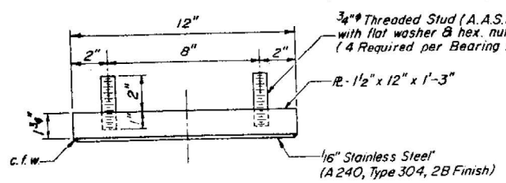


SECTION A-A

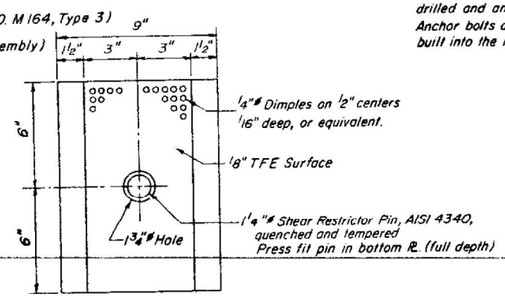
TYPE III ELASTOMERIC EXP. BRG.

(At Pier 3 - N. Brg. = 5 Req'd.)

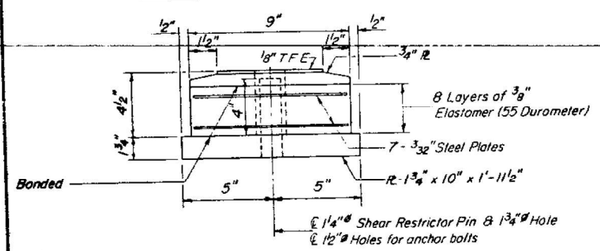
*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.



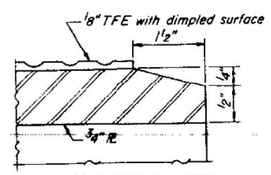
TOP BEARING ASSEMBLY



PLAN-TFE ELASTOMERIC BRG.



BOTTOM BEARING ASSEMBLY



SECTION THRU TFE

Note: The 1/8" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

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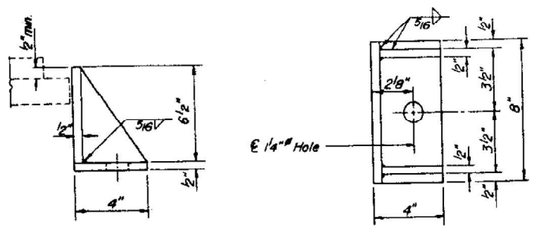
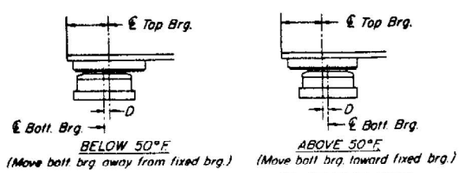


SIDE RETAINER



BELOW 50°F (Move bott. brg. away from fixed brg.)

ABOVE 50°F (Move bott. brg. toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F

SN 100-0032
FOR INFORMATION ONLY

TYPE III ELASTOMERIC EXP. BRG.
FEDERAL AID PRIMARY RT. 726 (ILL. 148)
SECTION 129 BC-BR
OVER BIG MUDDY RIVER
WILLIAMSON COUNTY
STATION 173+70.00

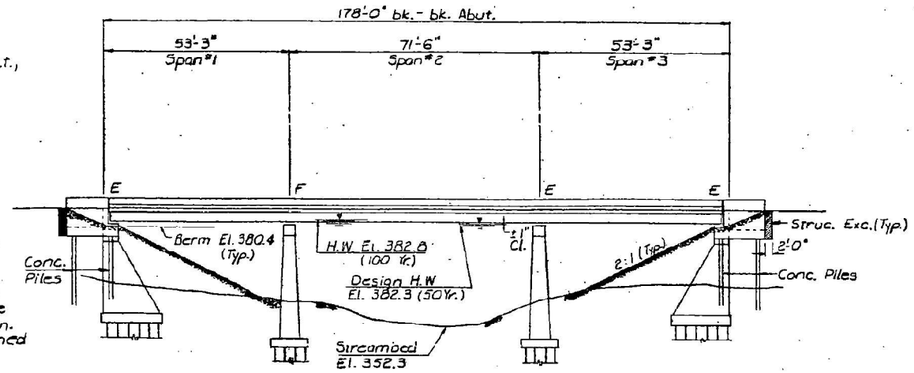
T.E.H.
C.R.N.
D.A.N.
T.E.H.

WILLIAMSON ENGINEERS INCORPORATED
ROCKFORD, ILLINOIS

FILE NO. 80S200
DATE 11-12-8

1 Through Truss Steel Span (1-6), 6 R.C. Deck Girder Approach Spans @ 53'-3" Clear Roadway = 21'-1", 178'-0" Bk.-Bk. Abutments.

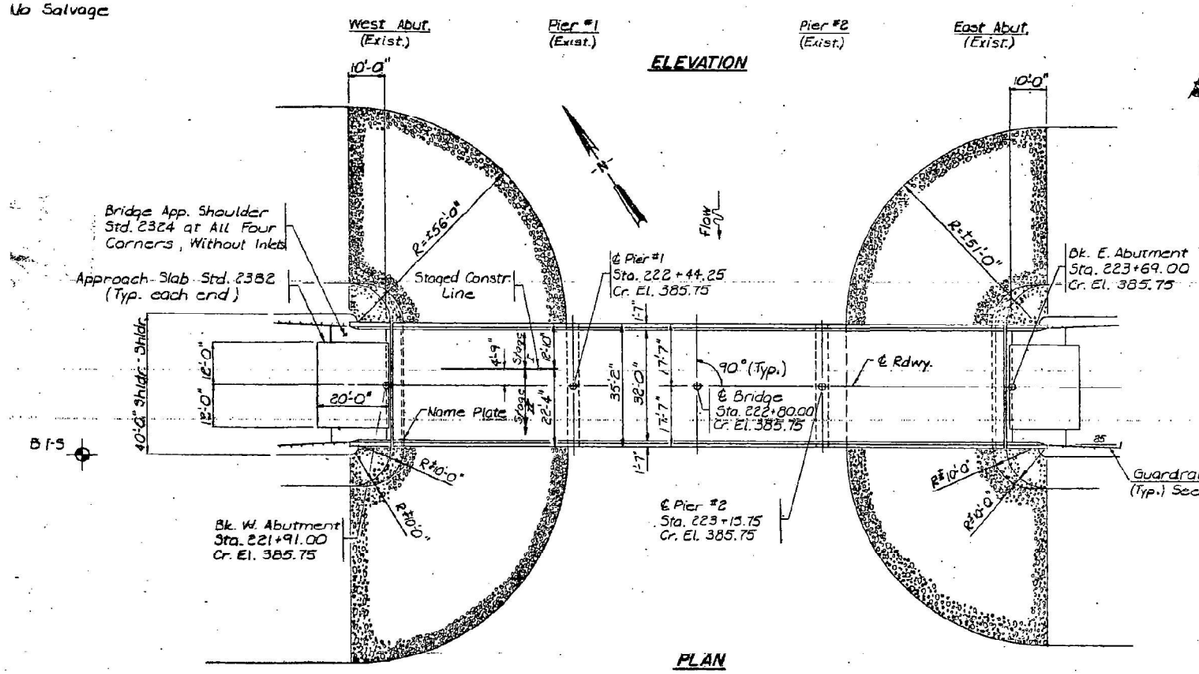
B.M.: North end Hub Guard 11' Lt., Sta. 221+91, El. 384.76



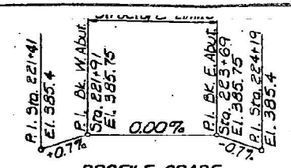
Contractor shall remove existing Superstructure, widen existing Substructure and construct a new superstructure utilizing a Concrete deck on wide flange beams and Staged Construction. One lane traffic to be maintained at all times.

No Salvage

ELEVATION



PLAN

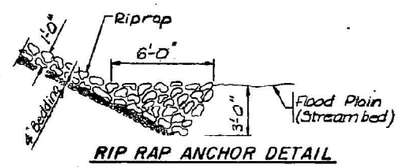


PROFILE GRADE

STATION 222+80
BUILT 198__ BY
STATE OF ILLINOIS
F.A. RT. 726 SEC. 129BC-BR-1
PROJECT FR-726(22)
LOADING HS20
STR. NO. 100-0033

LETTERING FOR NAME PLATE

Locate Name Plate at Northwest corner of Bridge (See Std. 2113)



RIP RAP ANCHOR DETAIL

SN 100-0033
FOR INFORMATION ONLY

FED. ROAD DIST. NO. 7 | ILLINOIS | PROJECT

Sheet 1 of 16

GENERAL NOTES

1. See Sheet 2 of 15 for Boring Data.
2. Fasteners shall be high strength bolts A.A.S.H.T.O. M-164, Type 3. Bolts 7/8"ϕ, open holes 15/16"ϕ unless otherwise noted.
3. Calculated weight of Structural Steel = 117,300 Lbs.
4. All structural steel shall be A.A.S.H.T.O. M-222 unpainted type except expansion joint angles and attached bars which shall be A.A.S.H.T.O M 183 and shop painted with two coats of basic lead silico chromate paint.
5. All structural steel for a distance of three times the depth of the beams or girders, but not exceeding 10 feet, each way from deck joints shall be cleaned and given one coat of the basic lead silico chromate primer and maroon field coat. Both coats to be applied in the shop with spot painting only in the field.
6. Field welding of construction accessories will not be permitted to the bottom flange of beams nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.
7. Anchor bolts shall be set before bolting diaphragms over supports.
8. The Contractor shall drive one concrete test pile in a permanent location at the West Abut. as directed by the Engineer before ordering the remainder of piles.
9. Expansion bolts shall consist of approved expansion anchors, providing minimum certified proof load = 4080 Lbs., and 3/4"ϕ x 12" hooked bolts.
10. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 inch. Adjustment shall be made either by grinding the surface or by shimming the bearing. Two 1/8" adjusting shims, of the the dimensions of the bottom bearing plate, shall be provided for each bearing in addition to all other plates or shims. For Type I Elastomeric Bearings, shims of the dimensions of the top bearing plate shall be provided and placed as detailed.
11. The main load carrying member components subject to tensile stress shall conform to the Supplemental Requirements for Notch Toughness Zone 2. These Components are the wide flange beams and all splice plate material.
12. Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-53 Grade 60, except as noted in the abutments and piers.
13. All contact surfaces of joints for the diaphragms shall be free of paint or lacquer.
14. Plan dimensions and details relative to existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to verify such dimensions and details in the field and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation or a change in the scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.

TOTAL BILL OF MATERIAL

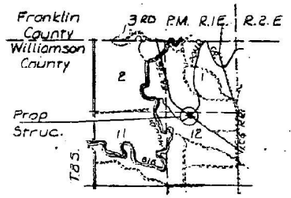
Item	Unit	Super	Sub	Total
Removal of Existing Superstructure	Each	1	—	1
Concrete Removal	Cu. Yd.	—	30	30
Expansion Bolts, 3/4"ϕ	Each	—	120	120
Structure Excavation	Cu. Yd.	—	82	82
Floor Drains	Each	22	—	22
Protective Coat	Sq. Yd.	782	—	782
Class X Concrete	Cu. Yd.	186.4	93.1	279.5
Furnishing Steel Piles HP8x36	Lin. Ft.	—	48	48
Structural Steel	L. Sum	1	—	1
Stud Shear Connectors	Each	840	—	840
Reinforcement Bars	Pound	18,680	9,460	28,140
Reinforcement Bars (Epoxy Coated)	Pound	27,890	—	27,890
Concrete Piles	Lin. Ft.	—	285	285
Test Piles, Concrete	Each	—	1	1
Name Plate	Each	1	—	1
Stone Riprap	Sq. Yd.	—	1460	1460
Elastomeric Expansion Bearing, Type I	Each	—	10	10
Elastomeric Expansion Bearing, Type II	Each	—	5	5
Preformed Joint Seal 2 1/2"	Lin. Ft.	34	—	34
Preformed Joint Seal 4"	Lin. Ft.	34	—	34
Temporary Support System	L. Sum	—	—	1
Temporary Bridge Rail	Lin. Ft.	—	—	218

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
Engineer of Bridge & Structures

JOHN E. HANSON
4336
REGISTERED STRUCTURAL ENGINEER OF ILLINOIS
11-12-81

WATERWAY INFORMATION

Drainage Area 100 Sq. Mi		Low Grade Elev. 382.93			At Sta. 150+00				
Flood	Freq. Yr.	Q C.F.S.	Opening Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head — Ft. Exist.	Head — Ft. Prop.	Headwater Elev. Exist.	Headwater Elev. Prop.
Design	50	8100	3056	3224	382.3	0.16	0.15	382.46	382.45
Base	100	8685	3056	3241	382.8	0.17	0.18	382.97	382.98
Overtopping	100	8665	3056	3241	382.8	0.17	0.18	382.97	382.98
Max. Calc.	500								



LOCATION PLAN

DESIGN STRESSES

Concrete: Load Factor Design
f_c = 3500 p.s.i.
f_y = 60,000 p.s.i. (Reinforcement)
n = 9
Structural Steel: Load Factor Design
f_y = 50,000 p.s.i (M222-Unpainted)
Loading: A.A.S.H.T.O. HS 20-44

Allowance for 25 p.s.f. F.W.S.
Design Specifications:
1977 A.A.S.H.T.O. Specifications and 1978, 1979 & 1980 Interim Specifications.

GENERAL PLAN AND ELEVATION
FEDERAL AID PRIMARY RT. 726 (ILL.148)
SECTION 129-BC-BR-1
OVER POND CREEK
WILLIAMSON COUNTY
STATION 222+80.00

PKB
EH
MLB
TEH

HANSON ENGINEERS INCORPORATED
SPRINGFIELD PEORIA & ROCKFORD ILLINOIS

FILE NO. 8052006
DATE 11-12-81

MODEL: SN 100-0033 For Information Only 1 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 100-0033
STRUCTURE INFORMATION

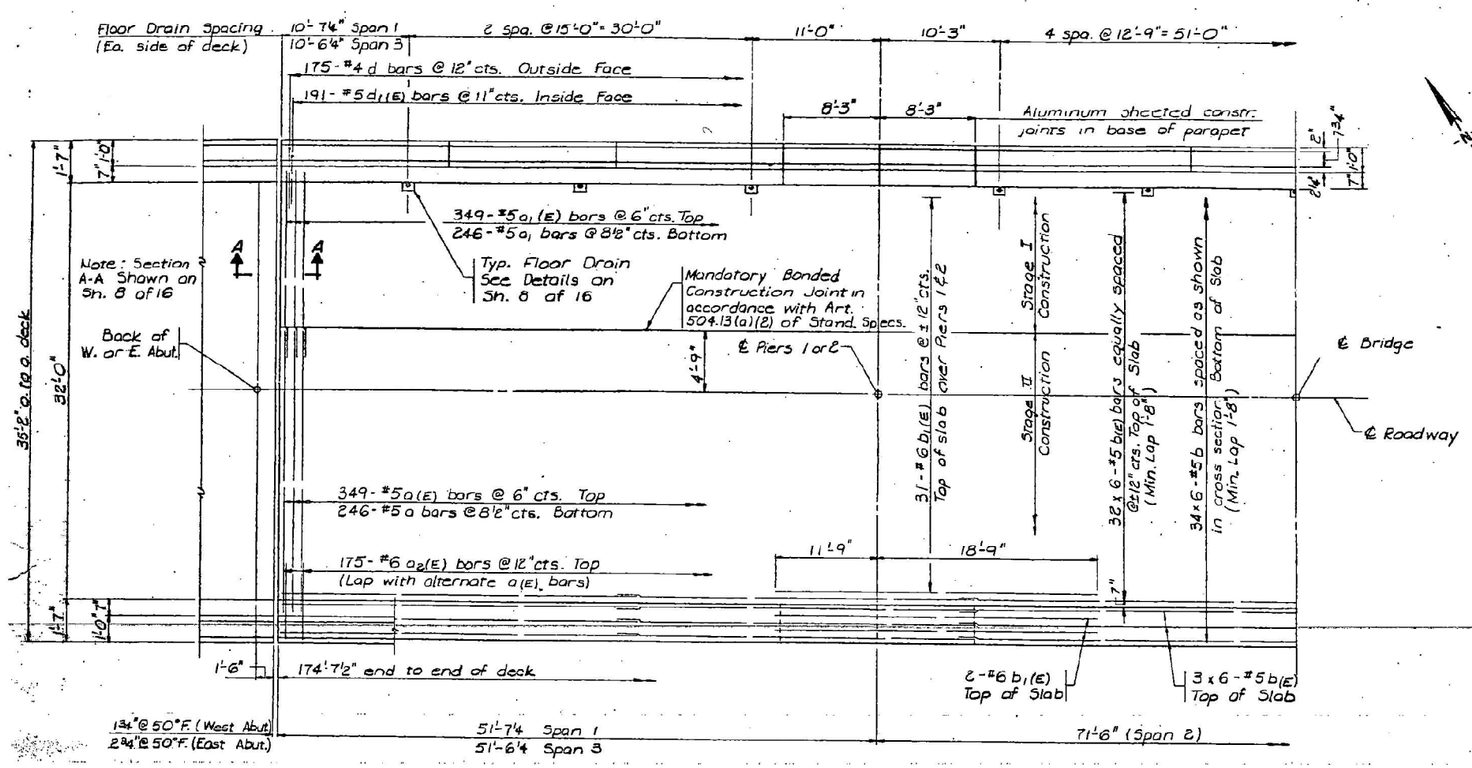
SCALE: | SHEET 1 OF 6 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	82
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

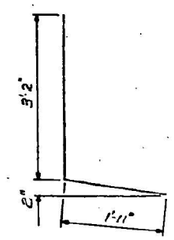
F.A. RTE.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FA 726	(B)	Williamson	36	21

Sec. 129 BC-BR-1

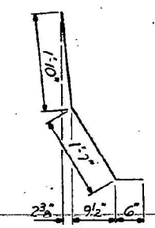
Sheet 7 of 16



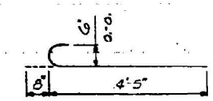
HALF PLAN



BAR d



BAR d1(E)



BAR x(E)

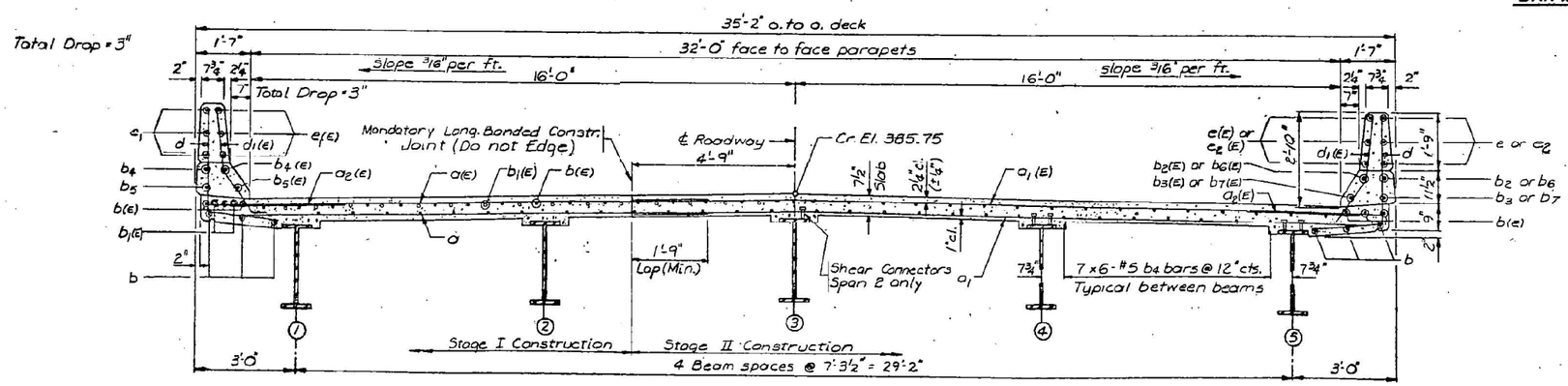
Bar	No.	Size	Length	Shape
a	246	#5	18'-7"	—
a(E)	349	#5	18'-7"	—
a1	246	#5	21'-4"	—
a1(E)	349	#5	21'-4"	—
a2(E)	350	#6	4'-0"	—
b	204	#5	30'-6"	—
b(E)	228	#5	30'-6"	—
b1(E)	70	#5	30'-6"	—
b2	8	#8	23'-4"	—
b2(E)	8	#8	23'-4"	—
b3	8	#5	22'-4"	—
b3(E)	8	#5	22'-4"	—
b4	8	#8	8'-0"	—
b4(E)	8	#8	8'-0"	—
b5	8	#5	8'-0"	—
b5(E)	8	#5	8'-0"	—
b6	4	#8	29'-4"	—
b6(E)	4	#8	29'-4"	—
b7	4	#5	28'-4"	—
b7(E)	4	#5	28'-4"	—
d	350	#4	5'-1"	L
d1(E)	382	#5	3'-11"	L
c	36	#4	14'-2"	—
c(E)	36	#4	14'-2"	—
c1	24	#4	8'-0"	—
c1(E)	24	#4	8'-0"	—
c2	18	#4	18'-1"	—
c2(E)	18	#4	18'-1"	—
Class X Concrete			Cu.Yds.	186.4
Reinforcement Bars			Pound	18,680
Reinforcement Bars (Epoxy Coated)			Pound	27,890

Notes:

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

Bar indicated thus 20 x 3 - #5 etc. indicates 20 lines of bars with 3 lengths per line.

Work this Sht. W/ Sht. #8



NEAR PIER

CROSS SECTION
(LOOKING EAST)

NEAR MIDSPAN

SN 100-0033
FOR INFORMATION ONLY

SUPERSTRUCTURE
FEDERAL AID PRIMARY RT. 726 (ILL. 148)
SECTION 129-BC-BR-1
OVER POND CREEK
WILLIAMSON COUNTY
STATION 222+80.00

P.K.B.
T.E.H.
M.L.B.
T.E.H.

HANSON ENGINEERS INCORPORATED

FILE NO. 6052006

11-12-81

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0033
STRUCTURE INFORMATION

SCALE: SHEET 2 OF 6 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	83

CONTRACT NO. 78B82

ILLINOIS FED. AID PROJECT

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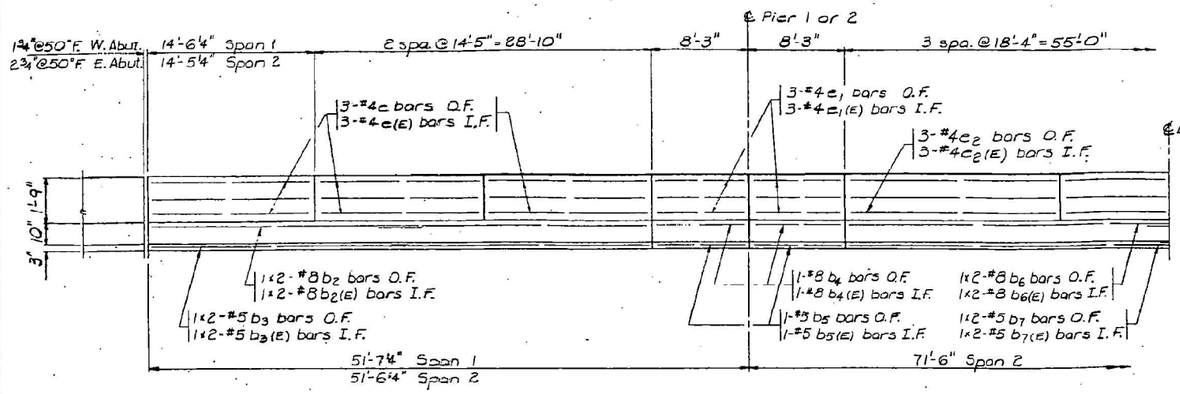
ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	
FA726	(8)	Williamson	38	2
FED ROAD DIST. NO. 7	ILLINOIS	PROJECT		

(8) Sec. 129 BC-BR-1

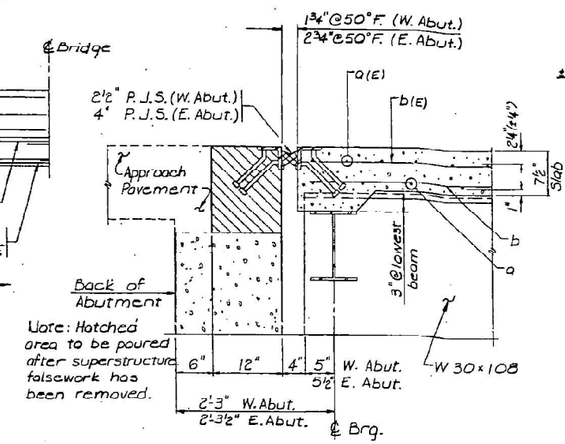
Sheet 8 of 16



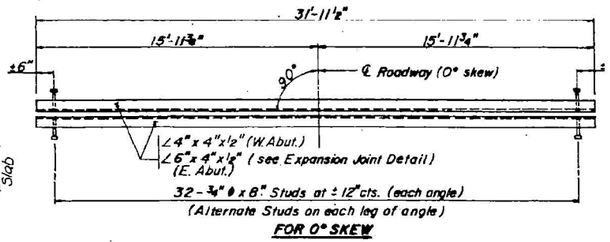
INSIDE ELEVATION OF PARAPET

Bars indicated thus 1x2-#8 etc. indicates 1 line of Bars with 2 lengths per line

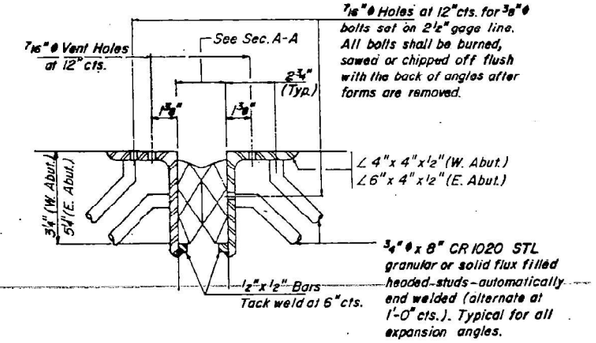
Min. Laps=
1'-8" #5 Bars
3'-8" #8 Bars



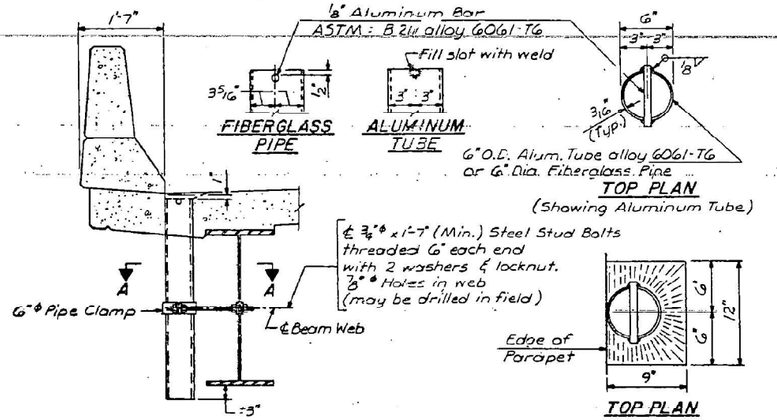
SECTION A-A



FOR 0° SKEW



TYPICAL EXPANSION JOINT DETAIL

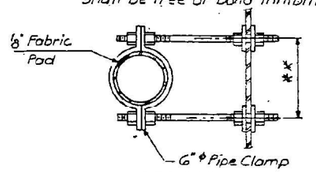


SECTION AT PARAPET

The surface of the Fiberglass pipe shall be free of bond inhibiting agents.

NOTE: Fiberglass pipe shall conform to ASTM D2996, Designation Code RTRP-11AE-5112. Pipes with Class C or F liner are acceptable.

The exterior surfaces of the Floor Drain shall be painted with the Basic Lead Silico Chromate painting specified for Structural Steel.* The exterior surfaces of the Aluminum pipe shall be cleaned and given a washcoat pretreatment in accordance with Steel Structural Painting Council's Specification SSPC-SP1 & SSPC-PT2 prior to painting.

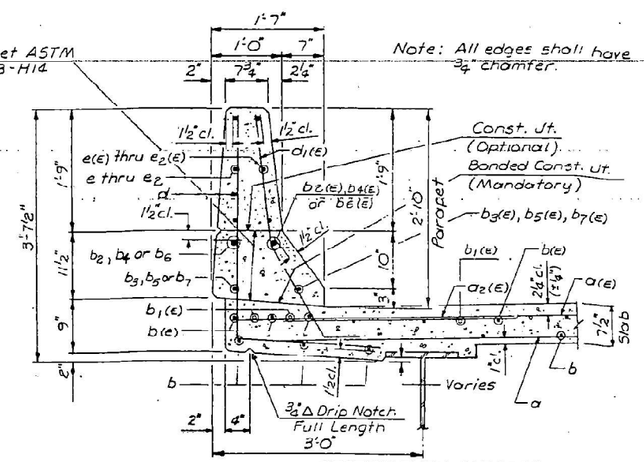


SECTION A-A

** Dimension as required by Pipe Clamp.

FLOOR DRAIN DETAILS
(No Floor Drains Req'd.: 22)

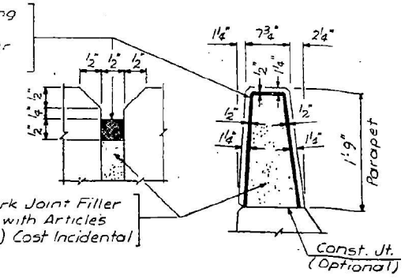
* The Final coat shall be maroon.



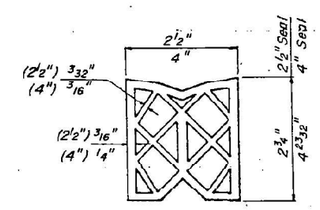
Note: All edges shall have ¾" chamfer.

SECTION THRU PARAPET

Two component non-staining sealing compound with polysulfide liquid polymer gun grade with primer.



PARAPET JOINT DETAIL

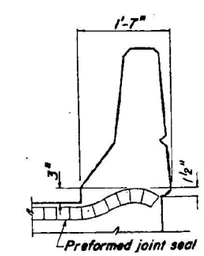


PREFORMED JOINT SEAL
2½" W. ABUT.
4" E. ABUT.

NOTES

The angle shall be fabricated to fit crown of roadway.

The Preformed Joint Seal shall be paid for by the Unit Price per Lin. Ft.



AT ABUTMENTS

SN 100-0033
FOR INFORMATION ONLY

SUPERSTRUCTURE DETAILS
FEDERAL AID PRIMARY RT. 726 (ILL. 14
SECTION 129-BC-BR-1
OVER POND CREEK
WILLIAMSON COUNTY
STATION 222+80.00

DESIGNED P.K.B.
CHECKED T.E.H.
DRAWN M.L.B.
REVIEWED T.E.H.

HANSON ENGINEERS INCORPORATED

FILE NO. 80520
DATE 11-12-

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0033
STRUCTURE INFORMATION

SCALE: SHEET 3 OF 6 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	84
		CONTRACT NO. 78B82		
		ILLINOIS	FED. AID PROJECT	

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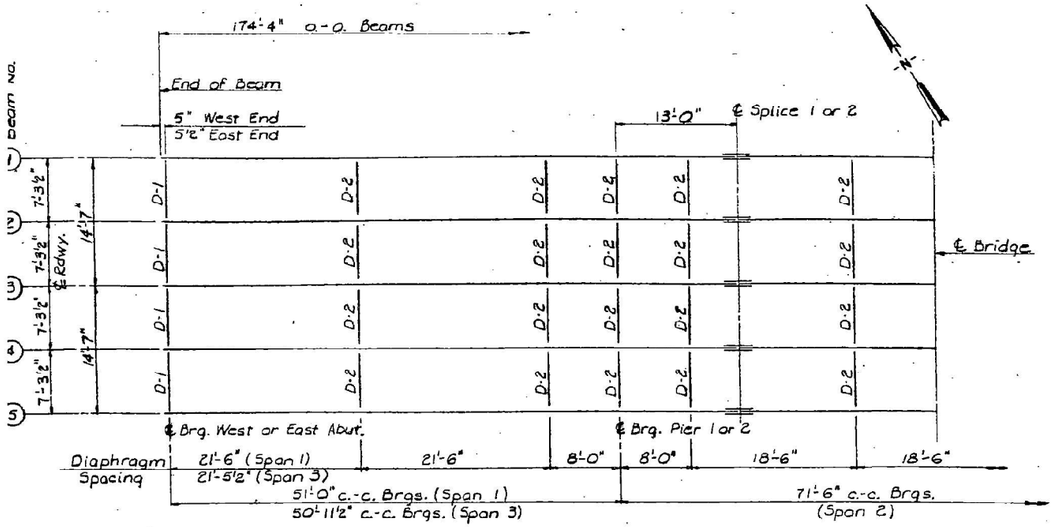
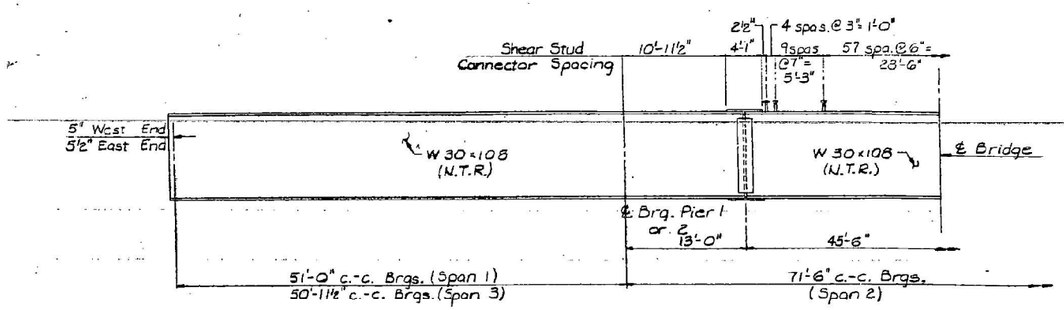
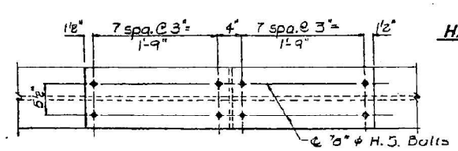


HALF FRAMING PLAN

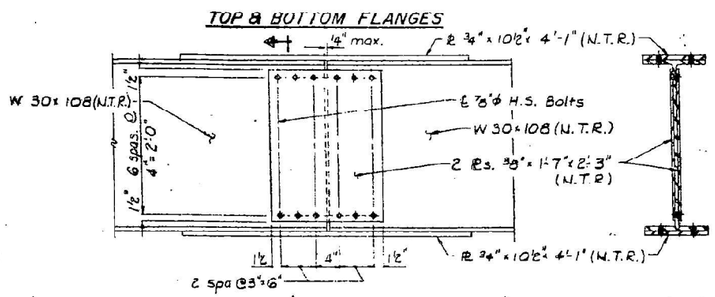
All Beams W30×108 (NTR)





HALF ELEVATION

TOP & BOTTOM FLANGES



SECTION A-A

SPLICES 1 & 2

TOP OF BEAM ELEVATIONS *

	Bm. #1 or #5	Bm. #2 or #4	Bm. #3
℄ Brg. West Abut.	384.83	384.95	385.06
℄ Brg. Pier #1			
℄ Splice #1			
℄ Splice #2			
℄ Brg. Pier #2			
℄ Brg. East Abut.	384.83	384.95	385.06

* Elevations are for Fabrication Only

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

Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs (Overload)

Z is the plastic section modulus used to determine the Fully Plastic Moments in the non-composite areas.

The Fully Plastic Moments (Mu) are computed according to AASHTO. 1.759(A) & 1.762(A).

fs (Overload) is the sum of the stresses due to $M_{DL} + M_{SDL} + f_3(M_{LL} + M_I)$

VR is the maximum LL + impact shear range in span used to determine shear connector spacing.

Note: NTR indicates components to which ~~notch toughness requirements are applicable.~~

Work this Sht. w/Shts. 10 & 11.

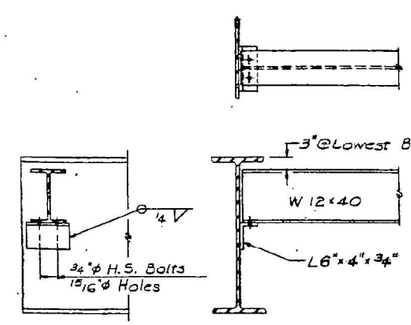
INTERIOR BEAM MOMENT TABLE

		0.4 Span 1 or 0.6 Span 3	Pier 1 or Pier 2	0.5 Span 2
Is	(in.⁴)	4470	4470	4470
Ic	(in.⁴)	—	—	13356
Ss	(in.³)	299	299	299
Sc (n=27, n=9)	(in.³)	—	—	422, 467
Z	(in.³)	—	—	346
DL	(k/ft)	1.151	1.151	.823
M DL	('k)	184	437	202
S DL	(k/ft)	—	—	.328
Ms DL	('k)	—	—	96
M LL	('k)	331	264	510
M Imp	('k)	94	71	130
f3 (M LL + I)	('k)	710	560	1069
1.3(M DL + Ms DL + f3(M LL + I))	('k)	1162	1296	1778
Fully Plastic Moment	('k)	1442	1442	2723
fs DL non-comp	(ksi)	7.4	17.54	8.1
fs sDL comp	(ksi)	—	—	2.7
fs f3 (LL + I)	(ksi)	28.5	22.5	27.5
fs (overload)	(ksi)	35.9	40.0	38.3
VR	(k)	—	—	47.7

INTERIOR BEAM REACTION TABLE

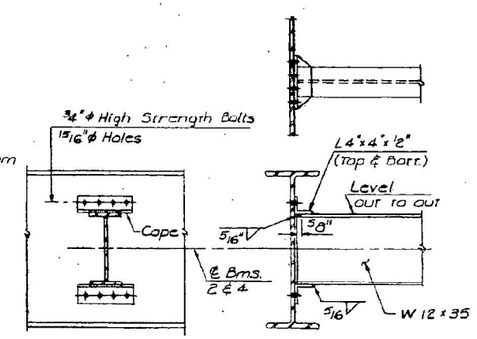
	East or West Abut.	Pier 1 or Pier 2
R DL	20.7	79.1
R LL	36.9	47.4
Imp.	10.5	12.7
R DL + LL + I	68.1	139.2

SN 100-0033
FOR INFORMATION ONLY



END DIAPHRAGM D-1

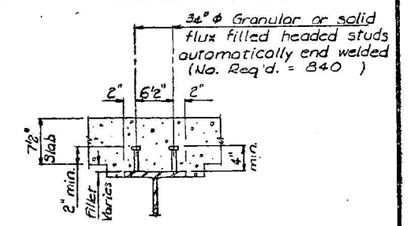
(8 Required)



INTERIOR DIAPHRAGMS D-2

(40 Required)

Note: Hardened washers shall be required over 15/16" ϕ holes for diaphragm connections (2/ Bolt).



AT SPAN 2

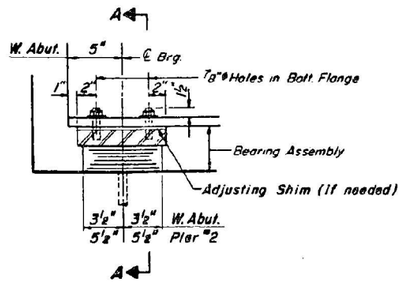
SHEAR STUD CONNECTOR DETAILS

STRUCTURAL STEEL
FEDERAL AID PRIMARY RT. 726 (ILL. 148)
SECTION 129-BC-BR-1
OVER POND CREEK
WILLIAMSON COUNTY
STATION 222+8000

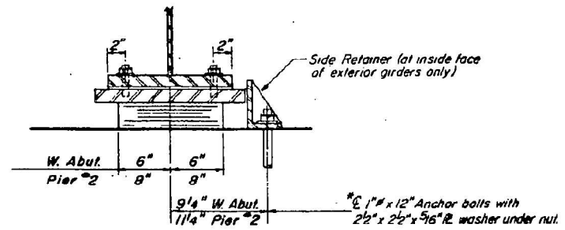
R.K.B.
T.E.H.
M.L.B.
T.E.H.

HANSON ENGINEERS INCORPORATED
SPRINGFIELD & ROCKFORD, ILLINOIS

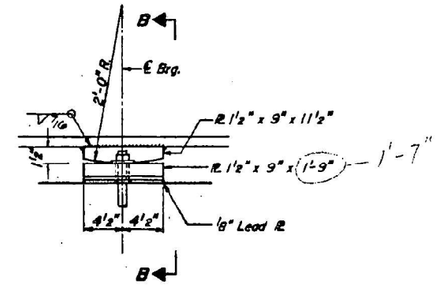
FILE NO. BCS2006
DATE 11-12-81



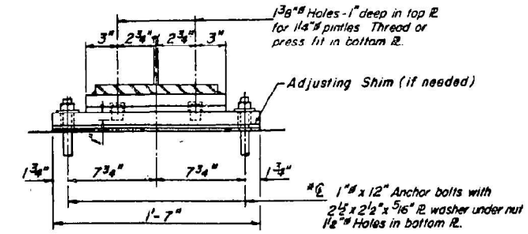
SECTION AT ABUT.



SECTION A-A



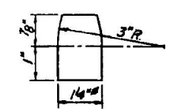
ELEVATION AT PIER



SECTION B-B

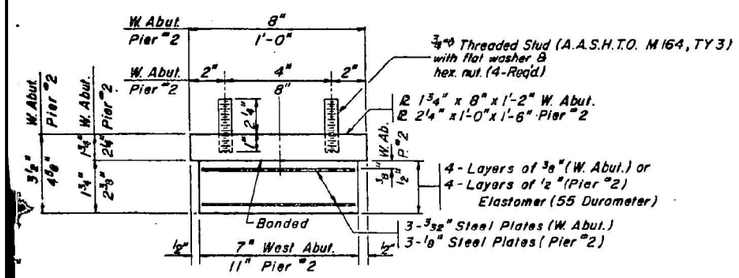
FIXED BEARING
(AT PIER NO. 1 5 REQ'D.)

*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built-into the masonry.

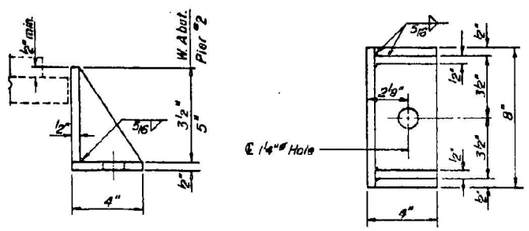


PINTLE

TYPE I ELASTOMERIC EXP. BRG.
(AT WEST ABUTMENT 5 REQ'D.)
(AT PIER NO. 2 5 REQ'D.)



BEARING ASSEMBLY



SIDE RETAINER

SN 100-0033
FOR INFORMATION ONLY

TYPE I ELASTOMERIC EXP. BRG.
FEDERAL AID PRIMARY RT. 726 (ILL. 148)
SECTION 129-BC-BR-1
OVER POND CREEK
WILLIAMSON COUNTY
STATION 222+80.00

DESIGNED P.K.B.
CHECKED T.E.H.
DRAWN M.L.B.
TRACED T.E.H.

HANSON ENGINEERS
SPRINGFIELD, PEORIA & ROCKFORD, ILLINOIS

FILE NO. 8052006
DATE 11-12-81

MODEL: SN 100-0033 For Information Only 5 [Sheet]
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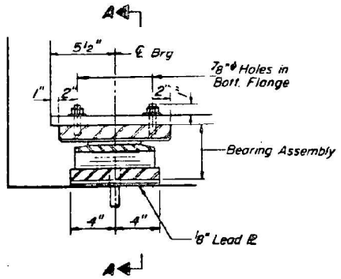
USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 7/29/2025	DATE -	REVISED -	

SN 100-0033
STRUCTURE INFORMATION

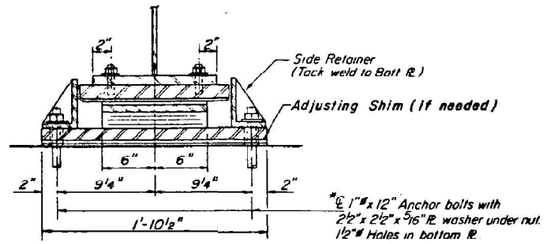
SCALE: | SHEET 5 OF 6 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	86

CONTRACT NO. 78B82
ILLINOIS | FED. AID PROJECT



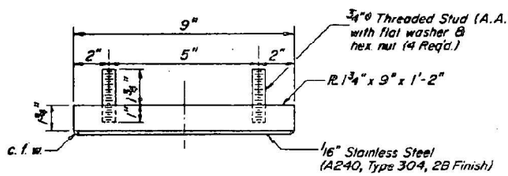
SECTION AT ABUT.



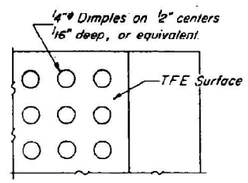
SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG.
(AT EAST ABUTMENT 5 REQ'D.)

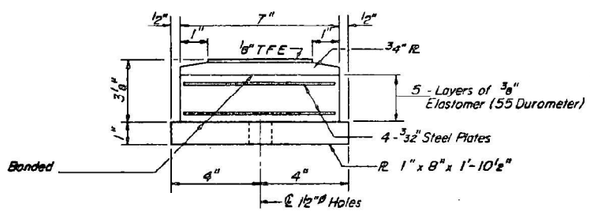
*Note: After girders have been erected holes at expansion bearings shall be drilled and anchor bolts grouted in place. Anchor bolts at fixed bearings may be built into the masonry.



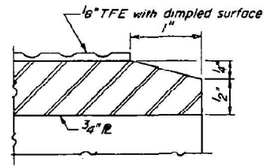
TOP BEARING ASSEMBLY



PLAN - TFE SURFACE



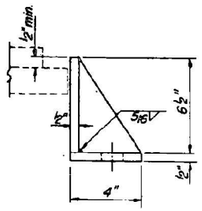
BOTTOM BEARING ASSEMBLY

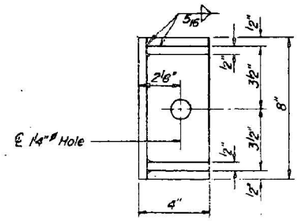


SECTION THRU TFE

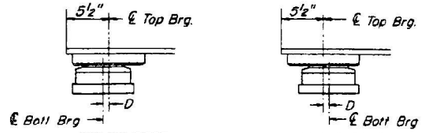
Note: The ⅛" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of ⅛" TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.





SIDE RETAINER



BELOW 50°F (Move bott brg. away from fixed brg.)

ABOVE 50°F (Move bott brg toward fixed brg.)

SETTING ANCHOR BOLTS AT EXP. BRG.

D = ⅛" per each 100' of expansion for every 15° temp change from the normal temp. of 50°F

SN 100-0033
FOR INFORMATION ONLY

TYPE II ELASTOMERIC EXP BRG.
FEDERAL AID PRIMARY RT. 726 (ILL. 148)
SECTION 129-BC-BR-1
OVER POND CREEK
WILLIAMSON COUNTY
STATION 222+80.00

PROJECT P.E.O.
DESIGNED T.E.H.
CHECKED M.L.B.
DRAWN P.K.B.

HANSON ENGINEERS

8052006

11-12-81

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 7/29/2025	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0033
STRUCTURE INFORMATION

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2026-1	VARIOUS	87	87
		CONTRACT NO. 78B82		
	ILLINOIS	FED. AID PROJECT		

MODEL: SN 100-0033 For Information Only 6 [Sheet]
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