01-17-2025 LETTING ITEM 084

F.A. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116*	1
	ILLINOIS	CONTRACT NO. 78A75		

* 116 + 1 = 117 TOTAL SHEETS

D-99-054-24

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED HIGHWAY PLANS

VARIOUS ROUTES
SECTION D9 BRIDGE PAINT 2024-1

BRIDGE PAINT
VARIOUS COUNTIES

C-99-101-24

FOR INDEX OF SHEETS, SEE SHEET NO. 3

FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 4-13

BRIDGE NO. 1
SN 028-0010
I-57, 2023 2-WAY
ADT=37200, 27% TRUCKS
TOWNSHIP-BROWNING
POSTED SPEED: 70 MPH (I-57)

BRIDGE NO. 2
SN 028-0020
IL 14, 2023 2-WAY
ADT=6750, 12% TRUCKS
TOWNSHIP-BROWNING
POSTED SPEED: 55 MPH

BRIDGE NO. 3
SN 035-0006
IL 34, 2023 2-WAY
ADT=1200, 15% TRUCKS
TOWNSHIP-CO UNIT ROAD DIST
POSTED SPEED: 55 MPH

BRIDGE NO. 4
SN 039-0064
IL 149, 2023 2-WAY
ADT=2800, 6% TRUCKS
TOWNSHIP-SOMERSET
POSTED SPEED: 55 MPH

BRIDGE NO. 5
SN 039-0074
IL 4, 2023 2-WAY
ADT=1150, 20% TRUCKS
TOWNSHIP-VERGENNES
POSTED SPEED: 55 MPH

BRIDGE NO. 6
SN 064-0013
I-24, 2023 2-WAY
ADT=21200, 28% TRUCKS
TOWNSHIP-CO UNIT ROAD DIST
POSTED SPEED: 70 MPH (I-24)

BRIDGE NO. 7
SN 064-0016
I-24, 2023 2-WAY
ADT=21200, 28% TRUCKS
TOWNSHIP-CO UNIT ROAD DIST
POSTED SPEED: 70 MPH (I-24)

BRIDGE NO. 8
SN 064-0038
I-24, 2023 1-WAY
ADT=250, 36% TRUCKS
TOWNSHIP-CO UNIT ROAD DIST
POSTED SPEED: 40 MPH

BRIDGE NO. 9
SN 073-0025
IL 127, 2023 2-WAY
ADT=3500, 10% TRUCKS
TOWNSHIP-CO UNIT ROAD DIST
POSTED SPEED: 55 MPH

BRIDGE NO. 10
SN 073-0026
IL 127, 2023 2-WAY
ADT=3500, 10% TRUCKS
TOWNSHIP-CO UNIT ROAD DIST
POSTED SPEED: 55 MPH

BRIDGE NO. 11
SN 073-0038
IL 14, 2023 2-WAY
ADT=3550, 11% TRUCKS
TOWNSHIP-CO UNIT ROAD DIST
POSTED SPEED: 55 MPH

BRIDGE NO. 12
SN 077-0027
I-57 & US 51, 2023 2-WAY
ADT=13300, 38% TRUCKS
TOWNSHIP-CO UNIT ROAD DIST
POSTED SPEED: 70 MPH (I-57&US 51)

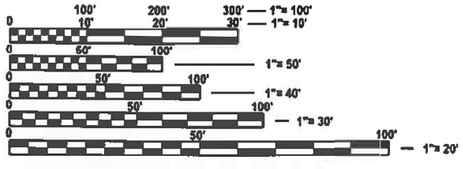
BRIDGE NO. 13
SN 083-0070
IL 34, 2023 2-WAY
ADT=2050, 9% TRUCKS
TOWNSHIP-INDEPENDENCE
POSTED SPEED: 55 MPH

BRIDGE NO. 14
SN 091-0072
IL 127/146, 2023 2-WAY
ADT=5000, 10% TRUCKS
TOWNSHIP-CO UNIT ROAD DIST
POSTED SPEED: 55 MPH

BRIDGE NO. 15
SN 097-0008
IL 1, 2023 2-WAY
ADT=6350, 9% TRUCKS
TOWNSHIP-CARMI
POSTED SPEED: 35 MPH

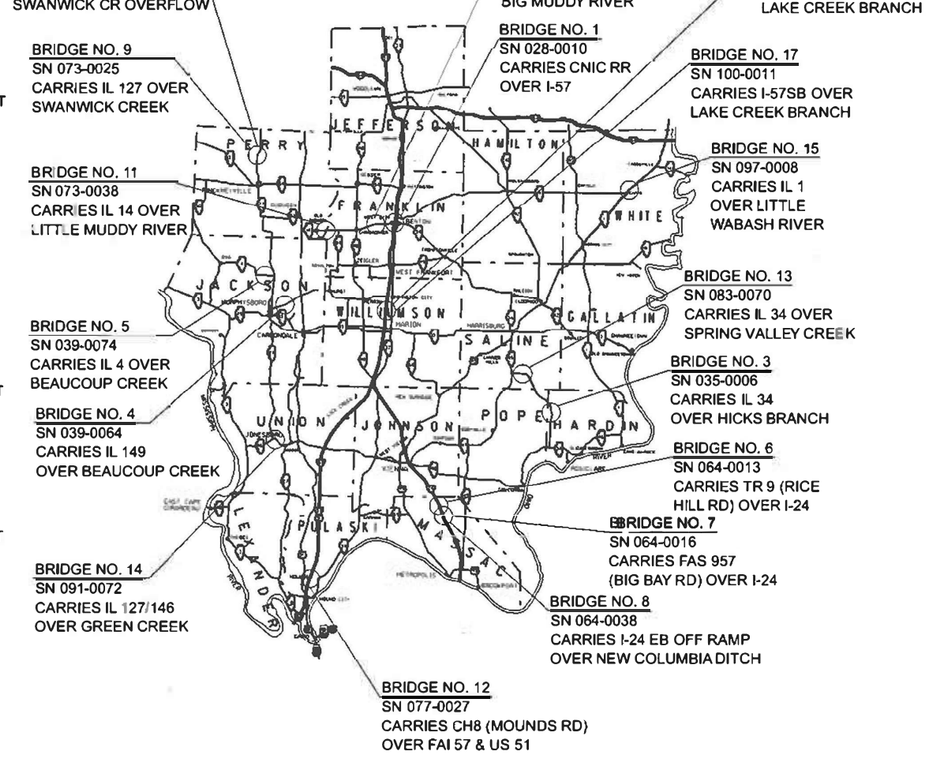
BRIDGE NO. 16
SN 100-0010
I-57NB, 2023 1-WAY
ADT=20650, 42% TRUCKS
TOWNSHIP-CO UNIT ROAD DIST
POSTED SPEED: 70 MPH

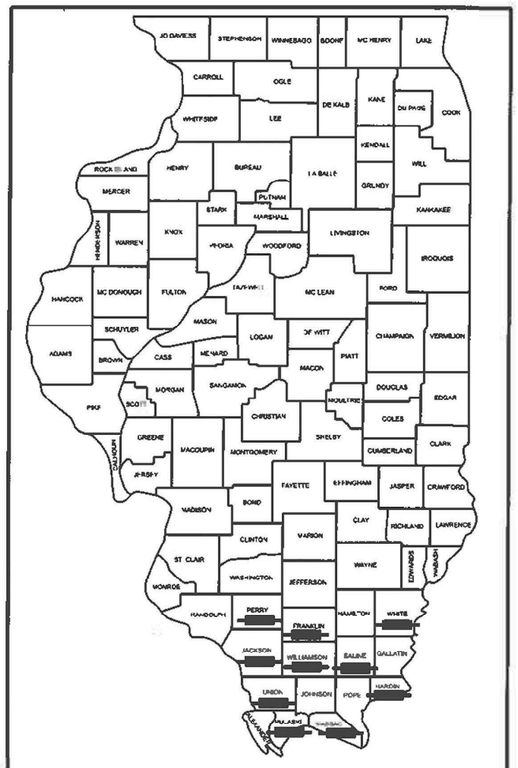
BRIDGE NO. 17
SN 100-0011
I-57SB, 2023 1-WAY
ADT=20650, 42% TRUCKS
TOWNSHIP-CO UNIT ROAD DIST
POSTED SPEED: 70 MPH



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





LOCATION OF SECTION INDICATED THUS: -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED Oct 14 20 24
Kirk H. Brown
REGIONAL ENGINEER

December 6, 2024
ENGINEER OF DESIGN AND ENVIRONMENT

December 6, 2024
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PROJECT ENGINEER: EHREN KIRBY
PROJECT DESIGNER: DAVID WILSON

CONTRACT NO. 78A75

PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

REV - MS

Prepared By: _____
DISTRICT STUDIES & PLANS ENGINEER

Examined By: _____
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: _____
DISTRICT MATERIALS ENGINEER

MODEL: Signature Sheet [Sheet]
FILE NAME: c:\pw_work\dot\d9\david.a.wilson\d0083530\D978A75-SHA-Cover_Sig.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SIGNATURE SHEET

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	2
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

GENERAL NOTES

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

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 028-0020, 064-0016, 064-0038, 077-0027, 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 SURFACES AND BOTTOM FLANGE OF THE FASICA BEAMS SHALL BE GREEN, MUNSELL NO. 7.5G 4/8. FOR STRUCTURE 077-0027, ALL EXISTING PROTECTIVE SHIELD SHALL BE REMOVED AND REINSTALLED, COST INCLUDED IN "CLEANING AND PAINTING EXISTING STEEL STRUCTURES."

FOR STRUCTURE 028-0010, 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 SURFACES AND BOTTOM FLANGE OF THE FASICA BEAMS SHALL BE REDDISH BROWN, MUNSELL NO. 2.5YR 3/4.

FOR STRUCTURE 064-0013, 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 STRUCTURAL STEEL SURFACES SHALL BE GREEN, MUNSELL NO. 7.5G 4/8.

FOR STRUCTURES 039-0064 & 097-0008, 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 CLEAING RESIDUES." ALL STRUCTURAL 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 SURFACES AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE GREEN, MUNSELL NO. 7.5G 4/8.

FOR STRUCTURE 039-0074, 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 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 SURFACES AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE GRAY, MUNSELL NO. 5B 7/1.

FOR STRUCTURE 091-0072, 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." THE FASCIA AND 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 SURFACES AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE REDDISH BROWN, MUNSELL NO. 2.5YR 3/4.

FOR STRUCTURES 073-0025 & 073-0026, 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." THE FASICA AND ALL STRUCTURAL STEEL WITHIN 5 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 SURFACES AND BOTTOM FLANGES OF THE FASCIA BEAMS SHALL BE GRAY, MUNSELL NO. 5B 7/1.

FOR STRUCTURE 035-0006, 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." THE EAST FASCIA AND ALL STRUCTURAL STEEL WITHIN 5 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 SURFACES AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE REDDISH BROWN, MUNSELL NO. 2.5YR 3/4.

FOR STRUCTURE 073-0038, 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." THE INTERIOR FACES, BOTTOM FACE AND DIAPHRAGMS BELOW THE STAGE LINE 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 BOTTOM FLANGE OF THE FASICA BEAMS SHALL BE GREEN, MUNSELL NO. 7.5G 4/8.

FOR STRUCTURE 083-0070, 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 CLEAING RESIDUES." THE INTERIOR FACES, BOTTOM FACE AND DIAPHRAGMS BELOW THE STAGE LINE 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 SURFACES AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE GRAY, MUNSELL NO. 5B 7/1.

FOR STRUCTURES 100-0010 & 100-0011, 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." THE FASCIA, THE INTERIOR FACES, BOTTOM FACE AND DIAPHRAGMS BELOW THE STAGE LINE 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 SURFACES AND BOTTOM FLANGE OF THE FASCIA BEAMS SHALL BE GRAY, MUNSELL NO. 5B 7/1.

A TOTAL OF 8 AIR MONITORS ARE REQUIRED TO MONITOR ABRASIVE BLASTING OPERATIONS AT 17 LOCATIONS. 3 AT BRIDGE NO. 1 (SN 028-0010), 1 AT BRIDGE NO. 2 (SN 028-0020), 0 AT BRIDGE NO. 3 (SN 035-0006), 0 AT BRIDGE NO. 4 (SN 039-0064), 0 AT BRIDGE NO. 5 (SN 039-0074), 1 AT BRIDGE NO. 6 (SN 064-0013), 1 AT BRIDGE NO. 7 (SN 064-0016), 1 AT BRIDGE NO. 8 (SN 064-0038), 0 AT BRIDGE NO. 9 (SN 073-0025), 0 AT BRIDGE NO. 10 (SN 073-0026), 0 AT BRIDGE NO. 11 (SN 073-0038), 1 AT BRIDGE NO. 12 (SN 077-0027), 0 AT BRIDGE NO. 13 (SN 083-0070), 0 AT BRIDGE NO. 14 (SN 091-0072), 0 AT BRIDGE NO. 15 (SN 097-0008), 0 AT BRIDGE NO. 16 (SN 100-0010), 0 AT BRIDGE NO. 17 (SN 100-0011).

COMMITMENTS: NONE.

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2	SIGNATURE SHEET	22-25	SN 028-0010 STRUCTURE INFORMATION
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4-5	SUMMARY OF QUANTITIES 1	29-32	SN 035-0006 STRUCTURE INFORMATION
6-7	SUMMARY OF QUANTITIES 2	33-41	SN 039-0064 STRUCTURE INFORMATION
8-9	SUMMARY OF QUANTITIES 3	42-48	SN 039-0074 STRUCTURE INFORMATION
10-11	SUMMARY OF QUANTITIES 4	49-54	SN 064-0013 STRUCTURE INFORMATION
12-13	SUMMARY OF QUANTITIES 5	55-60	SN 064-0016 STRUCTURE INFORMATION
14	SCHEDULES	61-64	SN 064-0038 STRUCTURE INFORMATION
14A	AREAS OF CLEANING AND PAINTING	65-69	SN 073-0025 STRUCTURE INFORMATION
15	SN 028-0010 STAGE CONSTRUCTION DETAILS	70-74	SN 073-0026 STRUCTURE INFORMATION
16	SN 064-0013, SN 064-0016, SN 077-0027 STAGE CONSTRUCTION DETAILS	75-80	SN 073-0038 STRUCTURE INFORMATION
		81-86	SN 077-0027 STRUCTURE INFORMATION
17	SN 028-0010 STAGE I TYPICAL LANE CLOSURE	87-91	SN 083-0070 STRUCTURE INFORMATION
18	SN 028-0010 STAGE II TYPICAL LANE CLOSURE	92-98	SN 091-0072 STRUCTURE INFORMATION
19	SN 039-0074 STAGE I DETAILS	99-108	SN 097-0008 STRUCTURE INFORMATION
20	SN 039-0074 STAGE II DETAILS	109-116	SN 100-0010 & 100-0011 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
701401-13	LANE CLOSURE, FREEWAY/ EXPRESSWAY
701402-12	LANE CLOSURE, FREEWAY/ EXPRESSWAY, WITH BARRIER
701411-09	LANE CLOSURE, MULTILANE, AT ENTRANCE OR EXIT RAMP, FOR SPEEDS ≥ 45 MPH
701428-01	TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/ EXPRESSWAY
701446-11	TWO LANE CLOSURE, FREEWAY/ EXPRESSWAY
701456-05	PARTIAL EXIT RAMP CLOSURE FREEWAY/ EXPRESSWAY
701501-06	URBAN LANE CLOSURE, 2L, 2W, UNDIVIDED
701801-06	SIDEWALK, CORNER OR CROSSWALK CLOSURE
701901-10	TRAFFIC CONTROL DEVICES
704001-08	TEMPORARY CONCRETE BARRIER
862001-01	UNINTERRUPTABLE POWER SUPPLY (UPS)
782006-01	GUARDRAIL AND BARRIER WALL REFLECTOR MOUNTING DETAILS

REV - MS

MODEL: General Notes Index of Sheets and Standards [Sheet]
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	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/22/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES, INDEX OF SHEETS AND STANDARDS

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	3
		CONTRACT NO. 78A75		
		ILLINOIS	FED. AID PROJECT	

SUMMARY OF QUANTITIES 1
(BRIDGES 1-8)

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	COUNTY:	FRANKLIN		HARDIN	JACKSON		MASSAC		
				ROUTE:	CNIC RR/ I-57	IL 14/ BIG MUDDY RIVER	IL 34/ HICKS BRANCH	IL 149-FAP 873/ BEAUCOUP CREEK	IL 4/ BEAUCOUP CREEK	TR 9 RICE HILL RD/ I-24	FAS 957 BIG BAY/ I-24	I-24 RAMP 259/ NEW COLUMBIA DITCH
				FUNDING:	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE
				LOCATION:	URBAN	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL
					BRIDGE NO. 1 SN 028-0010	BRIDGE NO. 2 SN 028-0020	BRIDGE NO. 3 SN 035-0006	BRIDGE NO. 4 SN 039-0064	BRIDGE NO. 5 SN 039-0074	BRIDGE NO. 6 SN 064-0013	BRIDGE NO. 7 SN 064-0016	BRIDGE NO. 8 SN 064-0038
					0047	0047	0047	0047	0047	0047	0047	0047
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CALMO	24		1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.4
67100100	MOBILIZATION	L SUM	1		0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH	1						1			
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH	6							2	2	
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH	1								1	
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM	1			0.1	0.1	0.1	0.1			
70100925	TRAFFIC CONTROL AND PROTECTION, STANDARD 701456	L SUM	1									1
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM	1									
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM	1									
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH	1						1			
70107025	CHANGEABLE MESSAGE SIGN	CALDA	476		28	28	28	28	28	28	28	28
70200100	NIGHTTIME WORK ZONE LIGHTING	L SUM	1		0.34							
70400100	TEMPORARY CONCRETE BARRIER	FOOT	1800		475					425	425	

REV - MS

MODEL: SOQ 1 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d0983537\D978A75-Sht\C-SoQ.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/17/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES 1
BRIDGES 1-8

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	4
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES 1
(BRIDGES 9-17)

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	COUNTY:	PERRY			PULASKI	SALINE	UNION	WHITE	WILLIAMSON	
				ROUTE:	IL 127/ SWANWICK CREEK	IL 127/ SWANWICK CR OVERFLOW	IL 14/ LITTLE MUDDY RIVER	FAS 939-CH8/ FAI 57 & US 51	IL 34/ SPRING VALLEY CREEK	FAP 885-IL 127/146 /GREEN CREEK	FAP-332 (IL 1)/ LITTLE WABASH RIVER	I-57 NB/ LAKE CREEK BRANCH	I-57 SB/ LAKE CREEK BRANCH
				FUNDING:	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE
				LOCATION:	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL	URBAN	RURAL	RURAL
					BRIDGE NO. 9 SN 073-0025	BRIDGE NO. 10 SN 073-0026	BRIDGE NO. 11 SN 073-0038	BRIDGE NO. 12 SN 077-0027	BRIDGE NO. 13 SN 083-0070	BRIDGE NO. 14 SN 091-0072	BRIDGE NO. 15 SN 097-0008	BRIDGE NO. 16 SN 100-0010	BRIDGE NO. 17 SN 100-0011
					0047	0047	0047	0047	0047	0047	0047	0047	0047
67000400	ENGINEER'S FIELD OFFICE, TYPE A	CAL MO			1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
67100100	MOBILIZATION	L SUM			0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.05	0.05
70100100	TRAFFIC CONTROL AND PROTECTION, STANDARD 701316	EACH											
70100207	TRAFFIC CONTROL AND PROTECTION, STANDARD 701402	EACH						2					
70100420	TRAFFIC CONTROL AND PROTECTION, STANDARD 701411	EACH											
70100450	TRAFFIC CONTROL AND PROTECTION, STANDARD 701201	L SUM			0.12	0.12	0.12		0.12	0.12			
70100925	TRAFFIC CONTROL AND PROTECTION, STANDARD 701456	L SUM											
70102620	TRAFFIC CONTROL AND PROTECTION, STANDARD 701501	L SUM									1		
70102640	TRAFFIC CONTROL AND PROTECTION, STANDARD 701801	L SUM									1		
70106500	TEMPORARY BRIDGE TRAFFIC SIGNALS	EACH											
70107025	CHANGEABLE MESSAGE SIGN	CAL DA			28	28	28	28	28	28	28	28	28
70200100	NIGHTTIME WORK ZONE LIGHTING	L SUM										0.33	0.33
70400100	TEMPORARY CONCRETE BARRIER	FOOT						475					

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
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SUMMARY OF QUANTITIES 1
BRIDGES 9-17

SCALE: | SHEET 2 OF 10 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	5
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

MODEL: SOQ 2 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d0983530\D978A75-SheC-SoQ.dgn

REV - MS

SUMMARY OF QUANTITIES 2
(BRIDGES 1-8)

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	COUNTY:	FRANKLIN		HARDIN	JACKSON		MASSAC		
				ROUTE:	CNIC RR/ I-57	IL 14/ BIG MUDDY RIVER	IL 34/ HICKS BRANCH	IL 149-FAP 873/ BEAUCOUP CREEK	IL 4/ BEAUCOUP CREEK	TR 9 RICE HILL RD/ I-24	FAS 957 BIG BAY/ I-24	I-24 RAMP 259/ NEW COLUMBIA DITCH
				FUNDING:	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE
				LOCATION:	URBAN	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL
					BRIDGE NO. 1 SN 028-0010	BRIDGE NO. 2 SN 028-0020	BRIDGE NO. 3 SN 035-0006	BRIDGE NO. 4 SN 039-0064	BRIDGE NO. 5 SN 039-0074	BRIDGE NO. 6 SN 064-0013	BRIDGE NO. 7 SN 064-0016	BRIDGE NO. 8 SN 064-0038
					0047	0047	0047	0047	0047	0047	0047	0047
70400125	PINNING TEMPORARY CONCRETE BARRIER	EACH	588		132					144	144	
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT	1800		475					425	425	
70600251	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	12		2					2	2	
70600352	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH	12		2					2	2	
86200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH	1						1			
X5060603	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 3	L SUM	1				1					
X5060604	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 4	L SUM	1					1				
X5060605	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 5	L SUM	1						1			
X5060609	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 9	L SUM	1									
X5060611	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 10	L SUM	1									
X5060612	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 11	L SUM	1									
X5060613	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 13	L SUM	1									
X5060614	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 14	L SUM	1									

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FILE NAME: c:\pw_work\pwidot\wilsondia\d0983530\D978A75-ShtC-SoQ.dgn

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES 2
BRIDGES 1-8

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	6
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES 2
(BRIDGES 9-17)

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	COUNTY:	PERRY			PULASKI	SALINE	UNION	WHITE	WILLIAMSON	
				ROUTE:	IL 127/ SWANWICK CREEK	IL 127/ SWANWICK CR OVERFLOW	IL 14/ LITTLE MUDDY RIVER	FAS 939-CH8/ FAI 57 & US 51	IL 34/ SPRING VALLEY CREEK	FAP 885-IL 127/146 /GREEN CREEK	FAP-332 (IL 1)/ LITTLE WABASH RIVER	I-57 NB/ LAKE CREEK BRANCH	I-57 SB/ LAKE CREEK BRANCH
				FUNDING:									
				LOCATION:	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL	URBAN	RURAL	RURAL
					BRIDGE NO. 9 SN 073-0025	BRIDGE NO. 10 SN 073-0026	BRIDGE NO. 11 SN 073-0038	BRIDGE NO. 12 SN 077-0027	BRIDGE NO. 13 SN 083-0070	BRIDGE NO. 14 SN 091-0072	BRIDGE NO. 15 SN 097-0008	BRIDGE NO. 16 SN 100-0010	BRIDGE NO. 17 SN 100-0011
					0047	0047	0047	0047	0047	0047	0047	0047	0047
70400125	PINNING TEMPORARY CONCRETE BARRIER	EACH						168					
70400200	RELOCATE TEMPORARY CONCRETE BARRIER	FOOT						475					
70600251	IMPACT ATTENUATORS, TEMPORARY (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH						2				2	2
70600352	IMPACT ATTENUATORS, RELOCATE (NON-REDIRECTIVE, NARROW), TEST LEVEL 3	EACH						2				2	2
86200300	UNINTERRUPTABLE POWER SUPPLY, EXTENDED	EACH											
X5060603	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 3	L SUM											
X5060604	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 4	L SUM											
X5060605	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 5	L SUM											
X5060609	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 9	L SUM			1								
X5060611	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 10	L SUM				1							
X5060612	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 11	L SUM					1						
X5060613	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 13	L SUM							1				
X5060614	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 14	L SUM								1			

MODEL: SOQ 4 [Sheet]
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES 2
BRIDGES 9-17

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	7
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

REV - MS

SUMMARY OF QUANTITIES 3
(BRIDGES 1-8)

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	COUNTY:	FRANKLIN		HARDIN	JACKSON		MASSAC		
				ROUTE:	CNIC RR/ I-57	IL 14/ BIG MUDDY RIVER	IL 34/ HICKS BRANCH	IL 149-FAP 873/ BEAUCOUP CREEK	IL 4/ BEAUCOUP CREEK	TR 9 RICE HILL RD/ I-24	FAS 957 BIG BAY/ I-24	I-24 RAMP 259/ NEW COLUMBIA DITCH
				FUNDING:	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE
				LOCATION:	URBAN	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL
					BRIDGE NO. 1 SN 028-0010	BRIDGE NO. 2 SN 028-0020	BRIDGE NO. 3 SN 035-0006	BRIDGE NO. 4 SN 039-0064	BRIDGE NO. 5 SN 039-0074	BRIDGE NO. 6 SN 064-0013	BRIDGE NO. 7 SN 064-0016	BRIDGE NO. 8 SN 064-0038
					0047	0047	0047	0047	0047	0047	0047	0047
X5060615	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 15	L SUM	1									
X5060616	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 16	L SUM	1									
X5060617	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 17	L SUM	1									
X7010216	TRAFFIC CONTROL AND PROTECTION, SPECIAL	L SUM	1	1								
X7010805	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401 (SPECIAL)	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							
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								1	
Z0007108	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 8	L SUM	1									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								
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM	1		1							

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES 3
BRIDGES 1-8

SCALE: | SHEET 5 OF 10 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	8
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES 3
(BRIDGES 9-17)

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	COUNTY:	PERRY			PULASKI	SALINE	UNION	WHITE	WILLIAMSON	
				ROUTE:	IL 127/ SWANWICK CREEK	IL 127/ SWANWICK CR OVERFLOW	IL 14/ LITTLE MUDDY RIVER	FAS 939-CH8/ FAI 57 & US 51	IL 34/ SPRING VALLEY CREEK	FAP 885-IL 127/146 /GREEN CREEK	FAP-332 (IL 1)/ LITTLE WABASH RIVER	I-57 NB/ LAKE CREEK BRANCH	I-57 SB/ LAKE CREEK BRANCH
				FUNDING:	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE
				LOCATION:	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL	URBAN	RURAL	RURAL
					BRIDGE NO. 9 SN 073-0025	BRIDGE NO. 10 SN 073-0026	BRIDGE NO. 11 SN 073-0038	BRIDGE NO. 12 SN 077-0027	BRIDGE NO. 13 SN 083-0070	BRIDGE NO. 14 SN 091-0072	BRIDGE NO. 15 SN 097-0008	BRIDGE NO. 16 SN 100-0010	BRIDGE NO. 17 SN 100-0011
					0047	0047	0047	0047	0047	0047	0047	0047	0047
X5060615	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 15	L SUM									1		
X5060616	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 16	L SUM										1	
X5060617	CONTAINMENT AND DISPOSAL OF NON-LEAD PAINT CLEANING RESIDUES NO. 17	L SUM											1
X7010216	TRAFFIC CONTROL AND PROTECTION, SPECIAL	L SUM											
X7010805	TRAFFIC CONTROL AND PROTECTION, STANDARD 701401 (SPECIAL)	L SUM										0.5	0.5
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											
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											
Z0007108	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 8	L SUM											
Z0007123	CONTAINMENT AND DISPOSAL OF LEAD PAINT CLEANING RESIDUES NO. 12	L SUM						1					
Z0010501	CLEANING AND PAINTING STEEL BRIDGE NO. 1	L SUM											
Z0010502	CLEANING AND PAINTING STEEL BRIDGE NO. 2	L SUM											

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FILE NAME: c:\pw_work\pwidot\wilsonda\d0983530\D978A75-SttC-SoQ.dgn

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES 3
BRIDGES 9-17

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	9
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

REV - MS

SUMMARY OF QUANTITIES 4
(BRIDGES 1-8)

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	COUNTY:	FRANKLIN		HARDIN	JACKSON		MASSAC		
				ROUTE:	CNIC RR/ I-57	IL 14/ BIG MUDDY RIVER	IL 34/ HICKS BRANCH	IL 149-FAP 873/ BEAUCOUP CREEK	IL 4/ BEAUCOUP CREEK	TR 9 RICE HILL RD/ I-24	FAS 957 BIG BAY/ I-24	I-24 RAMP 259/ NEW COLUMBIA DITCH
				FUNDING:	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE
				LOCATION:	URBAN	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL
					BRIDGE NO. 1 SN 028-0010	BRIDGE NO. 2 SN 028-0020	BRIDGE NO. 3 SN 035-0006	BRIDGE NO. 4 SN 039-0064	BRIDGE NO. 5 SN 039-0074	BRIDGE NO. 6 SN 064-0013	BRIDGE NO. 7 SN 064-0016	BRIDGE NO. 8 SN 064-0038
					0047	0047	0047	0047	0047	0047	0047	0047
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								1	
Z0010508	CLEANING AND PAINTING STEEL BRIDGE NO. 8	L SUM	1									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									
Z0010513	CLEANING AND PAINTING STEEL BRIDGE NO. 13	L SUM	1									
Z0010514	CLEANING AND PAINTING STEEL BRIDGE NO. 14	L SUM	1									
Z0010515	CLEANING AND PAINTING STEEL BRIDGE NO. 15	L SUM	1									

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES 4
BRIDGES 1-8

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	10
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

SUMMARY OF QUANTITIES 4
(BRIDGES 9-17)

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	COUNTY:	PERRY			PULASKI	SALINE	UNION	WHITE	WILLIAMSON	
				ROUTE:	IL 127/ SWANWICK CREEK	IL 127/ SWANWICK CR OVERFLOW	IL 14/ LITTLE MUDDY RIVER	FAS 939-CH8/ FAI 57 & US 51	IL 34/ SPRING VALLEY CREEK	FAP 885-IL 127/146 /GREEN CREEK	FAP-332 (IL 1)/ LITTLE WABASH RIVER	I-57 NB/ LAKE CREEK BRANCH	I-57 SB/ LAKE CREEK BRANCH
				FUNDING:	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE
				LOCATION:	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL	URBAN	RURAL	RURAL
					BRIDGE NO. 9 SN 073-0025	BRIDGE NO. 10 SN 073-0026	BRIDGE NO. 11 SN 073-0038	BRIDGE NO. 12 SN 077-0027	BRIDGE NO. 13 SN 083-0070	BRIDGE NO. 14 SN 091-0072	BRIDGE NO. 15 SN 097-0008	BRIDGE NO. 16 SN 100-0010	BRIDGE NO. 17 SN 100-0011
					0047	0047	0047	0047	0047	0047	0047	0047	0047
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											
Z0010508	CLEANING AND PAINTING STEEL BRIDGE NO. 8	L SUM											
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						
Z0010513	CLEANING AND PAINTING STEEL BRIDGE NO. 13	L SUM						1					
Z0010514	CLEANING AND PAINTING STEEL BRIDGE NO. 14	L SUM							1				
Z0010515	CLEANING AND PAINTING STEEL BRIDGE NO. 15	L SUM								1			

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PLOT DATE = 10/17/2024	DATE -	REVISED -	

SUMMARY OF QUANTITIES 4
BRIDGES 9-17

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	11
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

MODEL: SOQ 8 [Sheet]
FILE NAME: c:\pw_work\pwdot\wilsonda\d0983530\D978A75-SheC-SoQ.dgn

REV - MS

SUMMARY OF QUANTITIES 5
(BRIDGES 1-8)

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	COUNTY:	FRANKLIN		HARDIN	JACKSON		MASSAC		
				ROUTE:	CNIC RR/ I-57	IL 14/ BIG MUDDY RIVER	IL 34/ HICKS BRANCH	IL 149-FAP 873/ BEAUCOUP CREEK	IL 4/ BEAUCOUP CREEK	TR 9 RICE HILL RD/ I-24	FAS 957 BIG BAY/ I-24	I-24 RAMP 259/ NEW COLUMBIA DITCH
				FUNDING:	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE
				LOCATION:	URBAN	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL
					BRIDGE NO. 1 SN 028-0010	BRIDGE NO. 2 SN 028-0020	BRIDGE NO. 3 SN 035-0006	BRIDGE NO. 4 SN 039-0064	BRIDGE NO. 5 SN 039-0074	BRIDGE NO. 6 SN 064-0013	BRIDGE NO. 7 SN 064-0016	BRIDGE NO. 8 SN 064-0038
					0047	0047	0047	0047	0047	0047	0047	0047
Z0010516	CLEANING AND PAINTING STEEL BRIDGE NO. 16	L SUM	1									
Z0010517	CLEANING AND PAINTING STEEL BRIDGE NO. 17	L SUM	1									
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM	1	1								

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MODEL: SOQ 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 = 10/17/2024	DATE -	REVISED -	

SUMMARY OF QUANTITIES 5
BRIDGES 1-8

SCALE: | SHEET 9 OF 10 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	12
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

SUMMARY OF QUANTITIES 5
(BRIDGES 9-17)

CODE NUMBER	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	COUNTY:	PERRY			PULASKI	SALINE	UNION	WHITE	WILLIAMSON	
				ROUTE:	IL 127/ SWANWICK CREEK	IL 127/ SWANWICK CR OVERFLOW	IL 14/ LITTLE MUDDY RIVER	FAS 939-CH8/ FAI 57 & US 51	IL 34/ SPRING VALLEY CREEK	FAP 885-IL 127/146 /GREEN CREEK	FAP-332 (IL 1)/ LITTLE WABASH RIVER	I-57 NB/ LAKE CREEK BRANCH	I-57 SB/ LAKE CREEK BRANCH
				FUNDING:	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE	100% STATE
				LOCATION:	RURAL	RURAL	RURAL	RURAL	RURAL	RURAL	URBAN	RURAL	RURAL
					BRIDGE NO. 9 SN 073-0025	BRIDGE NO. 10 SN 073-0026	BRIDGE NO. 11 SN 073-0038	BRIDGE NO. 12 SN 077-0027	BRIDGE NO. 13 SN 083-0070	BRIDGE NO. 14 SN 091-0072	BRIDGE NO. 15 SN 097-0008	BRIDGE NO. 16 SN 100-0010	BRIDGE NO. 17 SN 100-0011
					0047	0047	0047	0047	0047	0047	0047	0047	0047
Z0010516	CLEANING AND PAINTING STEEL BRIDGE NO. 16	L SUM										1	
Z0010517	CLEANING AND PAINTING STEEL BRIDGE NO. 17	L SUM											1
Z0048665	RAILROAD PROTECTIVE LIABILITY INSURANCE	L SUM											

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/17/2024	DATE -	REVISED -	

SUMMARY OF QUANTITIES 5
BRIDGES 9-17

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	13
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

MODEL: SOQ 10 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d0983530\D978A75-SheC-SoQ.dgn

REV - MS

TEMPORARY CONCRETE BARRIER/ RELOCATE TEMPORARY CONCRETE BARRIER

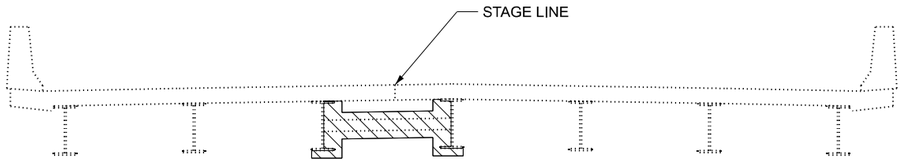
BRIDGE NUMBER	STRUCTURE NUMBER	TEMPORARY CONCRETE BARRIER (FT)	RELOCATE TEMPORARY CONCRETE BARRIER (FT)
1	028-0010	475	475
6	064-0013	425	425
7	064-0016	425	425
12	077-0027	475	475
TOTAL		1800	1800

AREAS OF CLEANING AND PAINTING

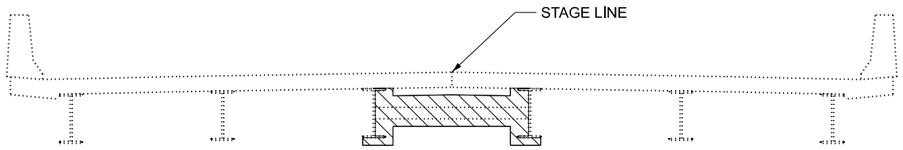
BRIDGE NUMBER	STRUCTURE NUMBER	LEAD PRESENT	ALL STRUCTURAL STEEL	10 FT. AT BEAM ENDS	5FT. AT BEAM ENDS AND FASCIA	*OTHER
1	028-0010	YES	X			
2	028-0020	YES	X			
3	035-0006	NO				X
4	039-0064	NO		X		
5	039-0074	NO		X		
6	064-0013	YES	X			
7	064-0016	YES	X			
8	064-0038	YES	X			
9	073 0025	NO			X	
10	073-0026	NO			X	
11	073-0038	NO				X
12	077-0027	YES	X			
13	083-0070	NO				X
14	091-0072	NO		X		
15	097-0008	NO		X		
16	100-0010	NO				X
17	100-0011	NO				X

*OTHER

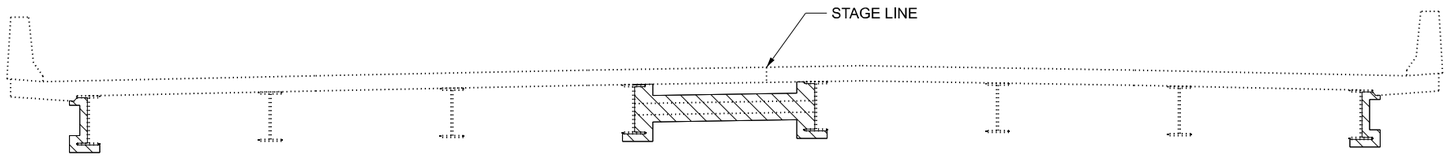
SN 035-0006: 5FT BEAM ENDS AND EAST FASCIA
SN 073-0038: INTERIOR FACE, BOTTOM AND DIAPHRAGM BELOW STAGE LINE
SN 083-0070: INTERIOR FACE, BOTTOM AND DIAPHRAGM BELOW STAGE LINE
SN 100-0010: INTERIOR FACE, BOTTOM AND DIAPHRAGM BELOW STAGE LINE AND FASICA
SN 100-0011: INTERIOR FACE, BOTTOM AND DIAPHRAGM BELOW STAGE LINE AND FASICA



SN 073-0038
(NOT TO SCALE)



SN 083-0070
(NOT TO SCALE)



SN 100-0010 & SN 100-0011
(NOT TO SCALE)

AREAS OF CLEANING AND PAINTING
ON BEAMS AND DIAPHRAGMS

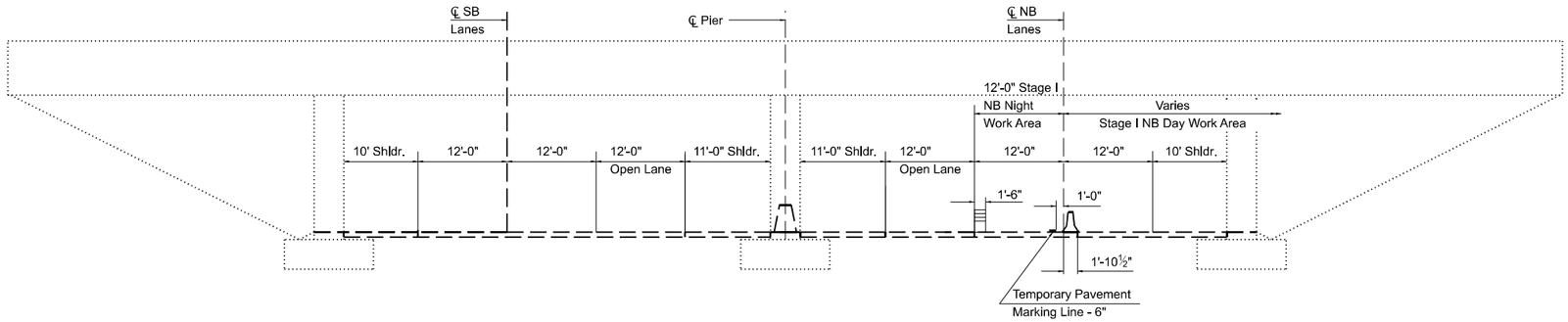
MODEL: Areas of Cleaning and Painting [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d0983530\D978A75-SheD-Typicals.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/17/2024	DATE -	REVISED -	

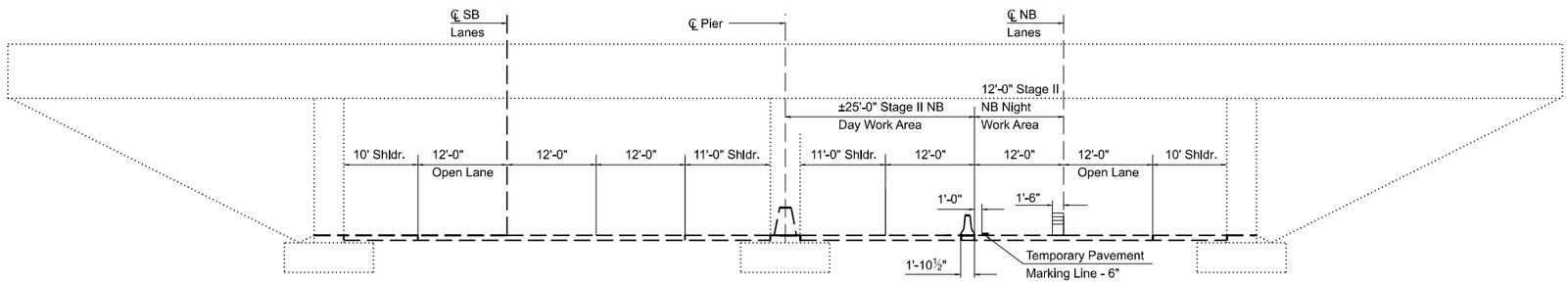
AREAS OF CLEANING AND PAINTING

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	14A
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			



TYPICAL BRIDGE
STAGE I CONSTRUCTION
SHOWING NB LANES
SB LANES SIMILAR BY 180° ROTATION
(SN 028-0010 LOOKING NORTH)



TYPICAL BRIDGE
STAGE II CONSTRUCTION
SHOWING NB LANES
SB LANES SIMILAR BY 180° ROTATION
(SN 028-0010 LOOKING NORTH)

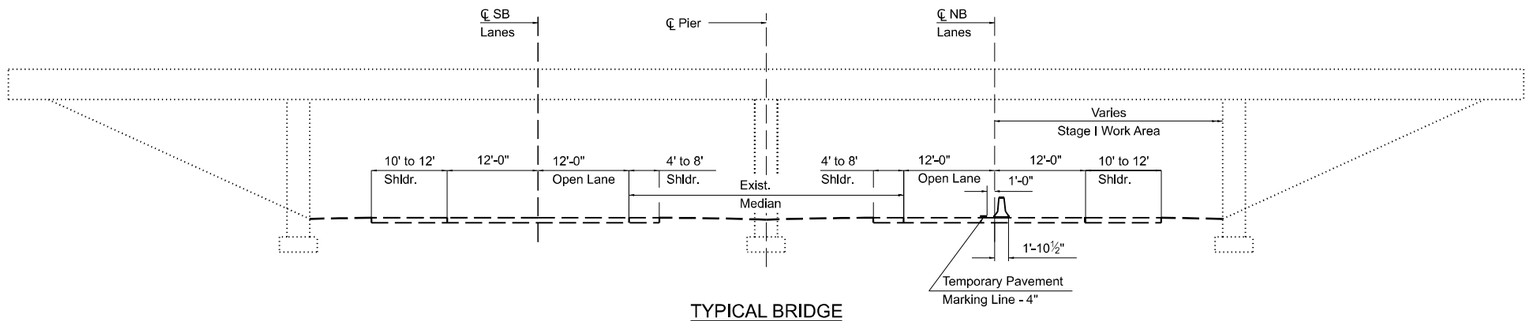
MODEL: SN 028-0010 Stage Construction Details [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d0983530\D979A75-ShtD-Typicals.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION**
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/18/2024	DATE -	REVISED -	

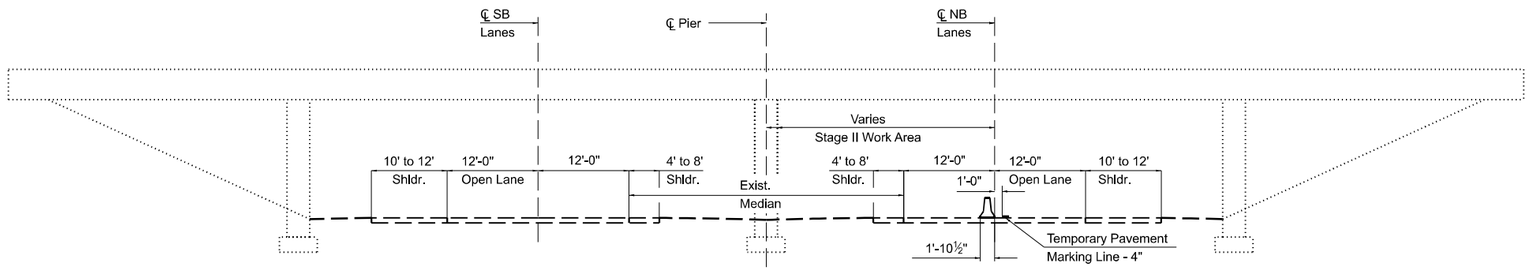
SN 028-0010
STAGE CONSTRUCTION DETAILS

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	15
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			



TYPICAL BRIDGE
STAGE I CONSTRUCTION
SHOWING NB LANES
SB LANES SIMILAR BY 180° ROTATION
(SN 064-0013, SN 064-0016, SN 077-0027
LOOKING NORTH)



TYPICAL BRIDGE
STAGE II CONSTRUCTION
SHOWING NB LANES
SB LANES SIMILAR BY 180° ROTATION
(SN 064-0013, SN 064-0016, SN 077-0027
LOOKING NORTH)

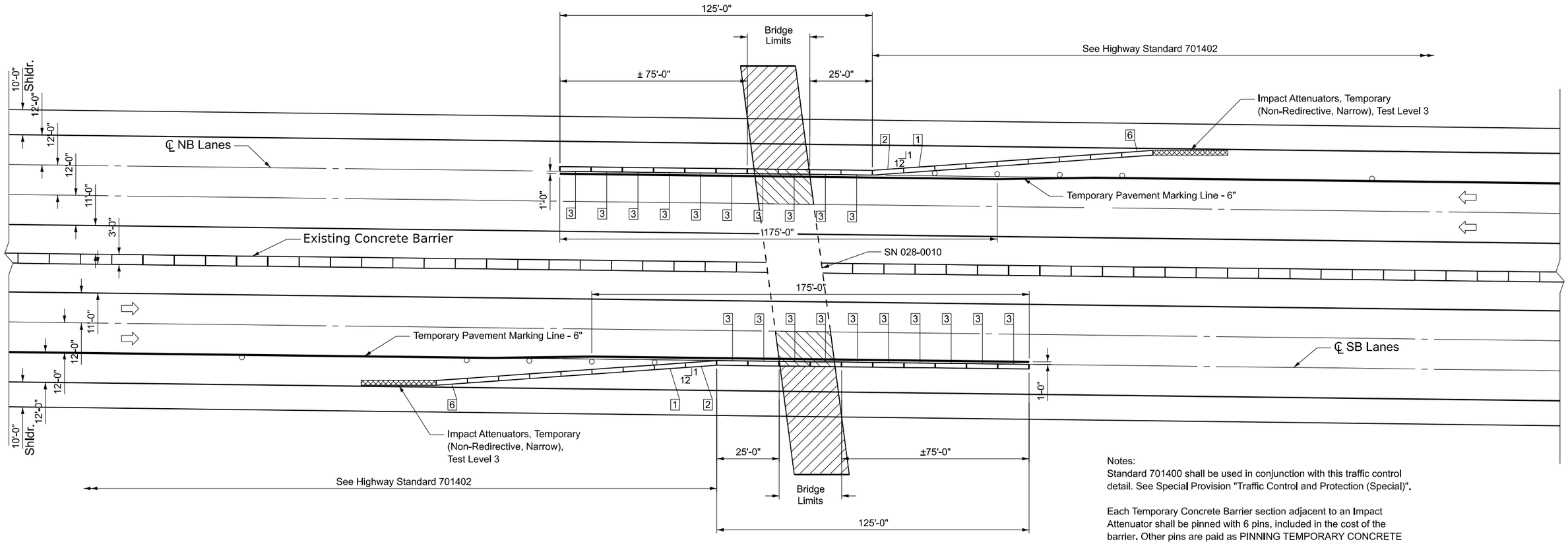
MODEL: 2 Lane Stage Construction Details [Sheet]
FILE NAME: c:\pw_work\pwidotwilsonda\d0983530\D978A75-StHD-Typicals.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	**STATE OF ILLINOIS**
	DRAWN -	REVISED -	**DEPARTMENT OF TRANSPORTATION**
	CHECKED -	REVISED -	
PLOT DATE = 10/17/2024	DATE -	REVISED -	

SN 064-0013, SN 064-0016, SN 077-0027
STAGE CONSTRUCTION DETAILS

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	16
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			



TYPICAL STAGE I LANE/ SHOULDER CLOSURE - PLAN VIEW

Notes:
Standard 701400 shall be used in conjunction with this traffic control detail. See Special Provision "Traffic Control and Protection (Special)".

Each Temporary Concrete Barrier section adjacent to an Impact Attenuator shall be pinned with 6 pins, included in the cost of the barrier. Other pins are paid as PINNING TEMPORARY CONCRETE BARRIER.

SYMBOLS

[X]	Number of pins in Temporary Concrete Barrier
	Day Work Area
	Night Work Area
	Temporary Concrete Barrier. See Standard 704001
○	Type II Barricade, Drum, or Vertical Barricade With Steady Burn Monodirectional Light. See Standard 701901.
	Temporary Pavement Marking Tape.

MODEL: Stage 1 Typical Shoulder Closure [Sheet]
FILE NAME: c:\pw_work\pwdot\wilsonda\d0983530\D978A75-SheetD-Typicals.dgn

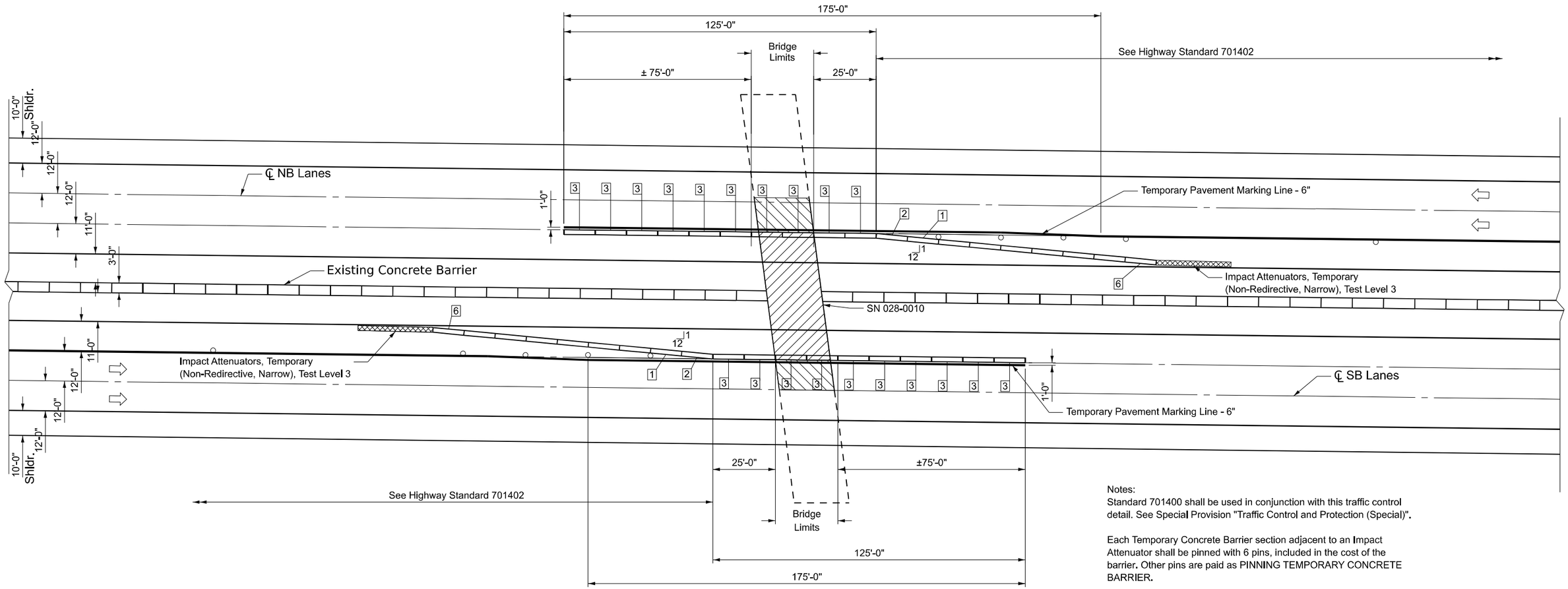
USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/22/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 028-0010
STAGE I TYPICAL LANE CLOSURE

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	17
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			



TYPICAL STAGE II LANE/ SHOULDER CLOSURE - PLAN VIEW

Notes:
Standard 701400 shall be used in conjunction with this traffic control detail. See Special Provision "Traffic Control and Protection (Special)".

Each Temporary Concrete Barrier section adjacent to an Impact Attenuator shall be pinned with 6 pins, included in the cost of the barrier. Other pins are paid as PINNING TEMPORARY CONCRETE BARRIER.

SYMBOLS

[X]	Number of pins in Temporary Concrete Barrier
	Day Work Area
	Night Work Area
	Temporary Concrete Barrier. See Standard 704001
○	Type II Barricade, Drum, or Vertical Barricade With Steady Burn Monodirectional Light. See Standard 701901.
	Temporary Pavement Marking Tape.

MODEL: Stage 2 Typical Shoulder Closure [Sheet]
FILE NAME: c:\pw_work\pwdot\wilsondald\d0983530\D978A75-SheD-Typicals.dgn

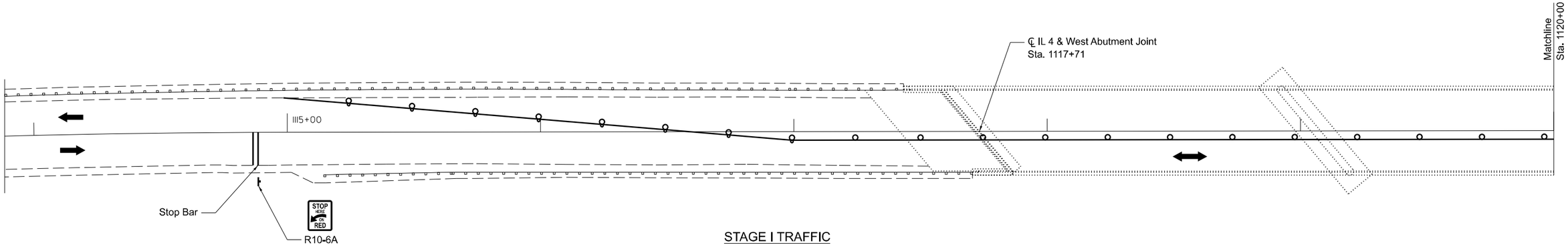
USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/22/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

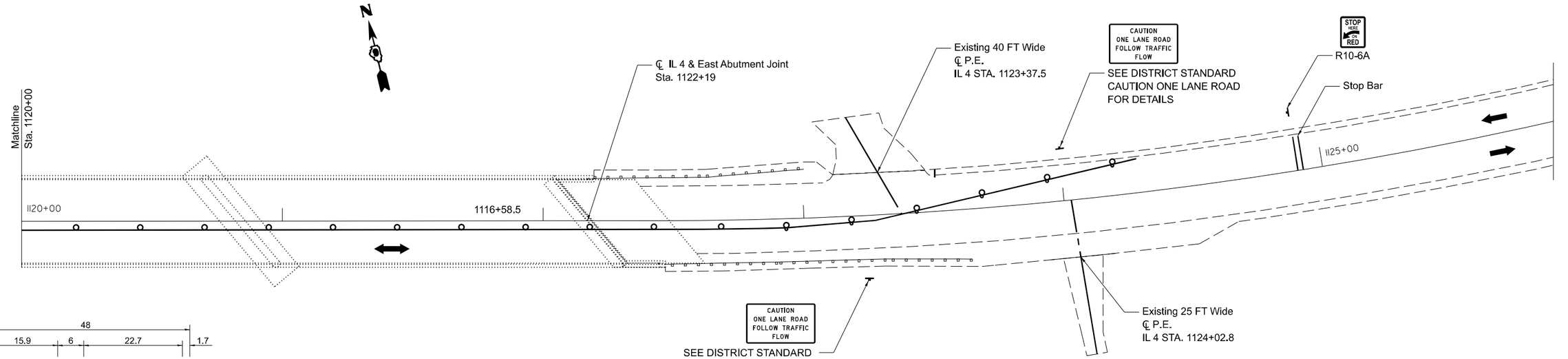
SN 028-0010
STAGE II TYPICAL LANE CLOSURE

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

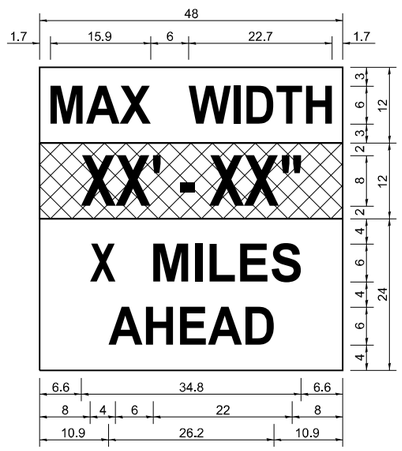
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	18
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			



STAGE I TRAFFIC



STAGE I TRAFFIC



W12–I103

W12-I103 (WIDTH IS 80)
NO BORDER, BLACK ON WHITE:
[MAX WIDTH] D:

NO BORDER, BLACK ON ORANGE:
[XX' - XX"] D:

NO BORDER, BLACK ON WHITE:
[X MILES] D: [AHEAD] D:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

Notes for Max Width Sign:

1. Install a Max Width Sign each direction on IL 4 to give traffic approaching work zone enough advance notice to change routes if needed. Exact locations as directed by the Engineer.

2. The Contractor shall furnish the posts and erect the signs at the locations directed by the Engineer. All signs shall be post mounted.

3. The noted work, including signs, posts, hardware and labor shall be included in the contract unit price, Each, for Traffic Control and Protection, Std. 701316. No other compensation will be allowed.

4. The width shown on the W12-I103 sign shall be 18" less than what is shown in the staged lane widths or as directed by the Engineer.

5. The "X" MILES AHEAD will be determined by the Engineer.

MODEL: 039-0074 Stage I [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsondad\d0983530\D978A75-SheD-Typicals.dgn

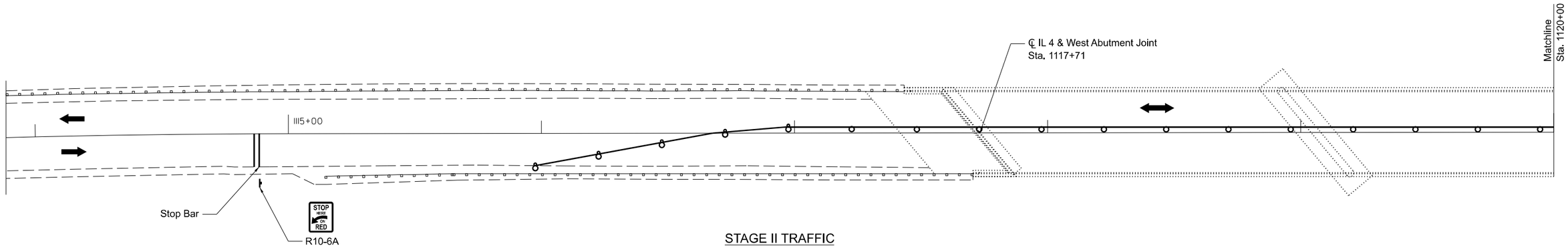
USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

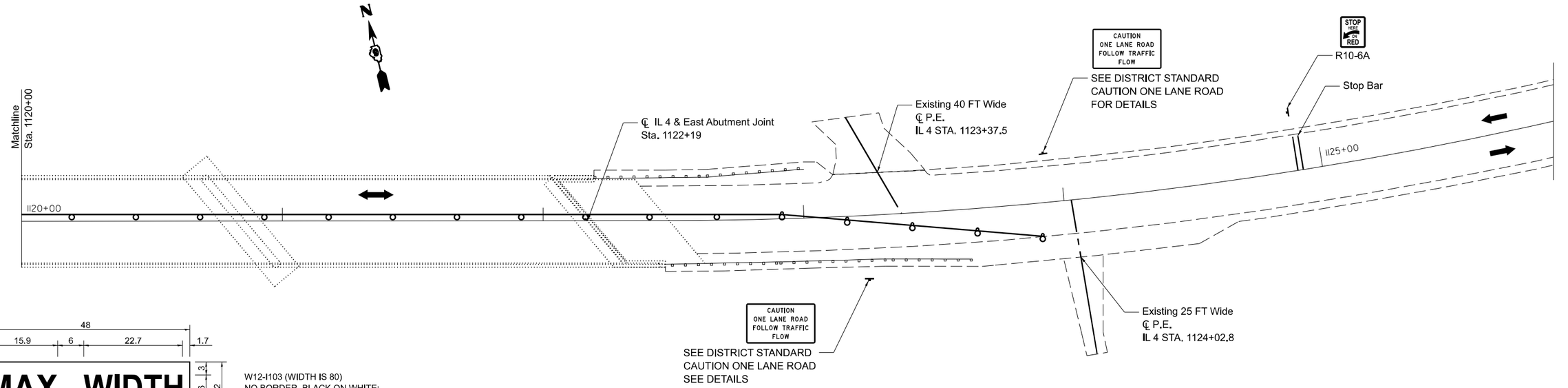
SN 039-0074
STAGE I DETAILS

SCALE: | SHEET 1 OF 2 SHEETS | STA. | TO STA.

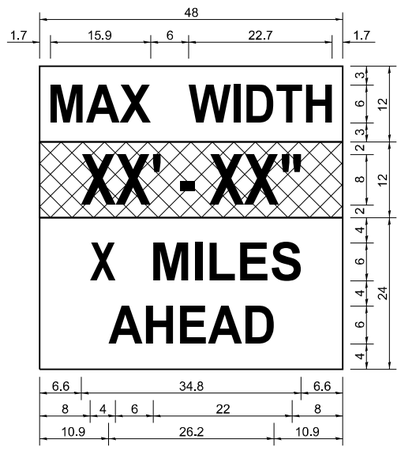
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	19
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			



STAGE II TRAFFIC



STAGE II TRAFFIC



W12–I103

W12-I103 (WIDTH IS 80)
NO BORDER, BLACK ON WHITE:
[MAX WIDTH] D:

NO BORDER, BLACK ON ORANGE:
[XX' - XX"] D:

NO BORDER, BLACK ON WHITE:
[X MILES] D: [AHEAD] D:

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.

Notes for Max Width Sign:

1. Install a Max Width Sign each direction on IL 4 to give traffic approaching work zone enough advance notice to change routes if needed. Exact locations as directed by the Engineer.

2. The Contractor shall furnish the posts and erect the signs at the locations directed by the Engineer. All signs shall be post mounted.

3. The noted work, including signs, posts, hardware and labor shall be included in the contract unit price, Each, for Traffic Control and Protection, Std. 701316. No other compensation will be allowed.

4. The width shown on the W12-I103 sign shall be 18" less than what is shown in the staged lane widths or as directed by the Engineer.

5. The "X" MILES AHEAD will be determined by the Engineer.

MODEL: 039-0074 Stage II [Sheet]
FILE NAME: c:\pw_work\pwidotwilsonad\d0983530\D0978A75-SheD-Typicals.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

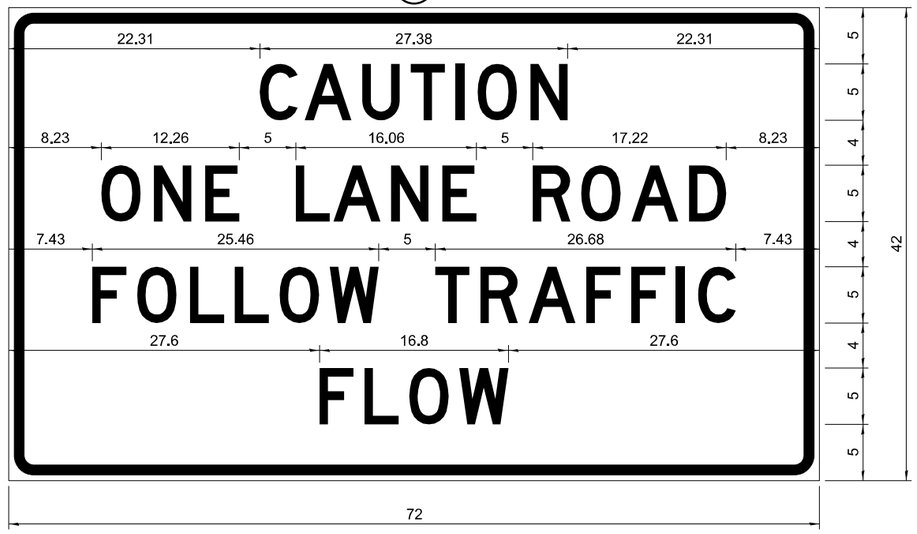
SN 039-0074
STAGE II DETAILS

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	20
		CONTRACT NO. 78A75		
		ILLINOIS	FED. AID PROJECT	

ENTRANCE SIGN FOR USE WITH TEMPORARY SIGNALS

(2)



COLOR	LEGEND AND BORDER	BLACK	NON-REFLECTORIZED
	BACKGROUND	ORANGE	REFLECTORIZED

2.25" Radius, 0.88" Border, 0.50" IndenT;
[CAUTION] D; [ONE LANE ROAD] D;
[FOLLOW TRAFFIC] D; [FLOW] D

(2) This sign shall be installed at entrances located between the temporary signals as shown in the staging plans.

Table Of Widths And Spaces

22.31	C 3.36	0.62	A 4.18	0.94	U 3.36	0.94	T 3.04	0.94	I 0.78	1.17	O 3.52	1.17	N 3.36	22.31

8.23	O 3.51	1.17	N 3.36	1.18	E 3.04	

5.00	L 3.05	0.31	A 4.18	0.94	N 3.36	1.17	E 3.05	

5.00	R 3.36	0.93	O 3.52	0.94	A 4.18	0.93	D 3.36	8.23

7.43	F 3.04	0.94	O 3.52	1.17	L 3.04	0.94	L 3.05	0.94	O 3.51	0.94	W 4.37

5.00	T 3.05	0.94	R 3.36	0.94	A 4.18	0.93	F 3.05	0.94	F 3.04	0.94	I 0.78	1.18	C 3.35	7.43

27.60	F 3.05	0.94	L 3.04	0.94	O 3.52	0.93	W 4.38	27.60

Sign not to scale

GENERAL NOTES

All work to furnish and install these signs shall be included in the cost of the specified traffic control standards and shall not be paid separately.

All Illinois Standard signs shall conform to the latest edition of the "Illinois Standard Highway Signs Book" in effect on the date of invitation for bids.

Signs shall meet the applicable portions of Sections 701 and 720 of the Standard Specifications.

All dimensions are in inches unless otherwise noted.

STD. 9-34

DRAWN	3-2-16 D2
REVISED	03-12-24
REVISED	
REVISED	

MODEL: Caution One Lane Road [Sheet]
FILE NAME: c:\pw_work\pwdot\wilsonda\d0983530\D978A75-SheID-Typicals.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

DISTRICT STANDARD
CAUTION ONE LANE ROAD

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

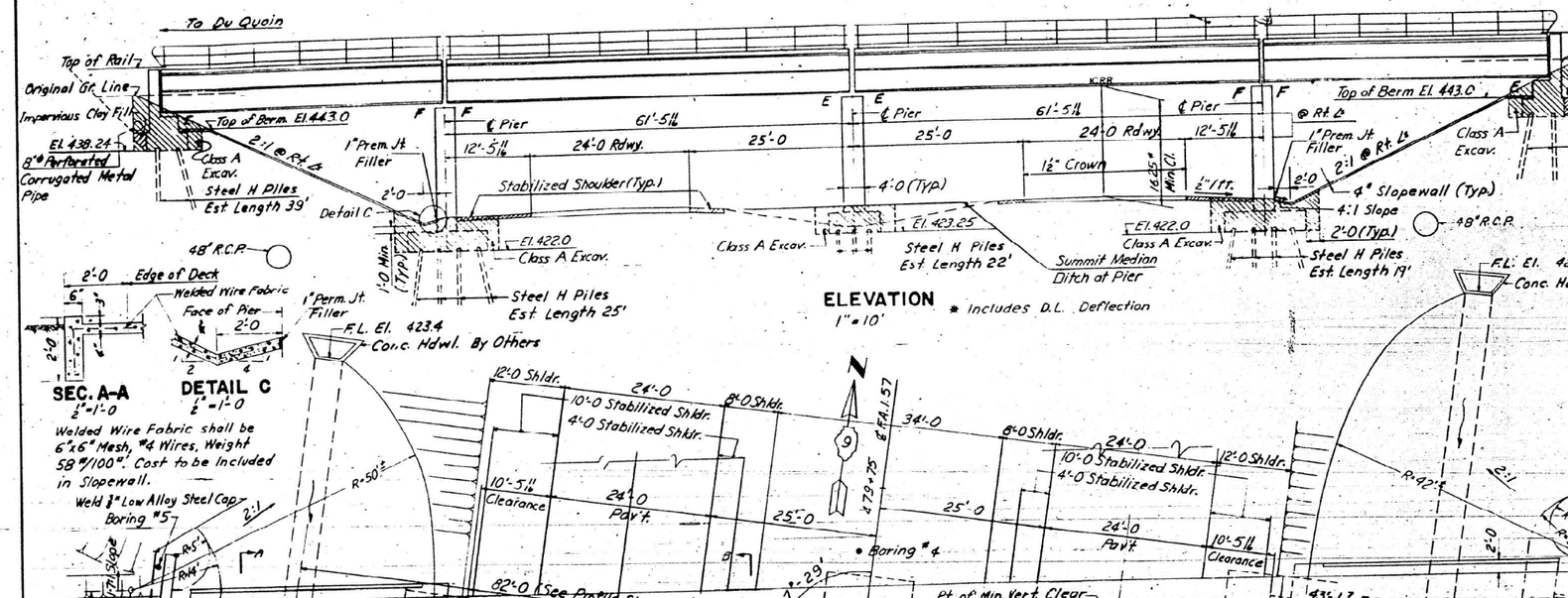
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	21
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

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

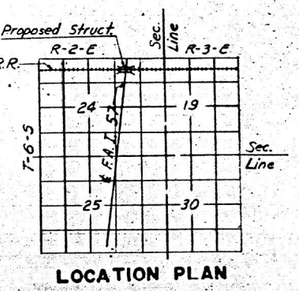
ROUTE NO.	DISTRICT	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-57	28-338	FRANKLIN	32	9
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT IG-57-2(53)71		

SHEET NO. 1
12 SHEETS

B.M. Concrete Monument 150' Rt Sta. 483+38
El. 447.45



ELEVATION
1" = 10'
* Includes D.L. Deflection



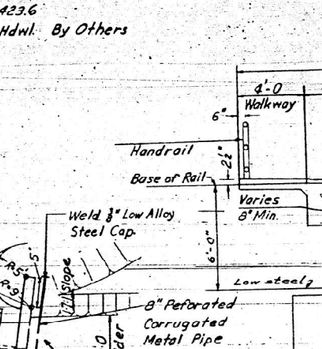
LOCATION PLAN

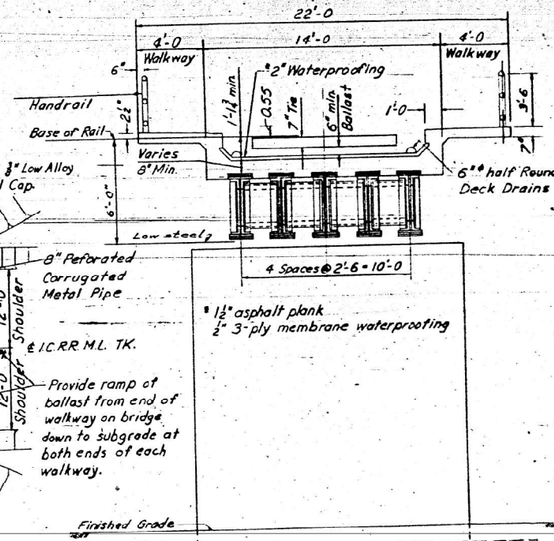
SEC. A-A
2"=1'-0

DETAIL C
2"=1'-0

Welded Wire Fabric shall be 6"x6" Mesh, #4 Wires, Weight 58 #/100'. Cost to be Included in Slopewall.

PLAN
1" = 10'





SECTION B-B
1"=1'-0

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
[signature] 3/1/63
Engineer of Bridges & Traffic Construction

FOR INFORMATION ONLY
SN 028-0010

1 of 12

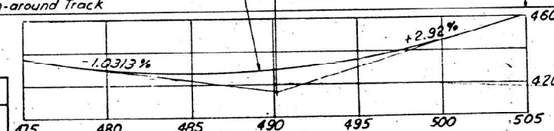
ILLINOIS CENTRAL RAILROAD
BRIDGE NO. G.E. 88-8 BENTON, ILL.
I.C.R.R. OVER F.A.I. 57

GENERAL PLAN AND ELEVATION

F.A.I. 57 STA. 480+01.00
F.A.I. ROUTE 57
SECTION 28-338
SCALE: As Noted
CONSULTING ENGINEERS
DRAWING NO. 38044
PROJECT IG-57-2(53)71
FRANKLIN COUNTY
DATE: Sept. 26, 1962
WESTENHOFF AND NOVICK, INC.
CHICAGO, ILLINOIS
FILE NO. 248-60

Prepared and recommended by
Westenhoff and Novick Inc.
[signature]
Registered Structural Engineer

Revised: 3-11-63 R.R. revision A.H.W.



PROFILE F.A.I. 57
Scale: Horiz: 1" = 400'
Vert: 1" = 40'

PROFILE I.C.R.R.
Scale: Horiz: 1" = 100'
Vert: 1" = 10'

Note: Proposed top of rail elevation represents a 2.64' track raise over the existing top of rail elevation at Sta. 994+23.

DESIGNED	D. S.
CHECKED	R. H. W.
DRAWN	G. C. C.
CHECKED	R. H. W.

MODEL: SN 028-0010 1 [Sheet]
FILE NAME: c:\pw_work\pwidot\illinoisdata\d0983530\D978A75-Sht-FortInfoOnly.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 028-0010
STRUCTURE INFORMATION

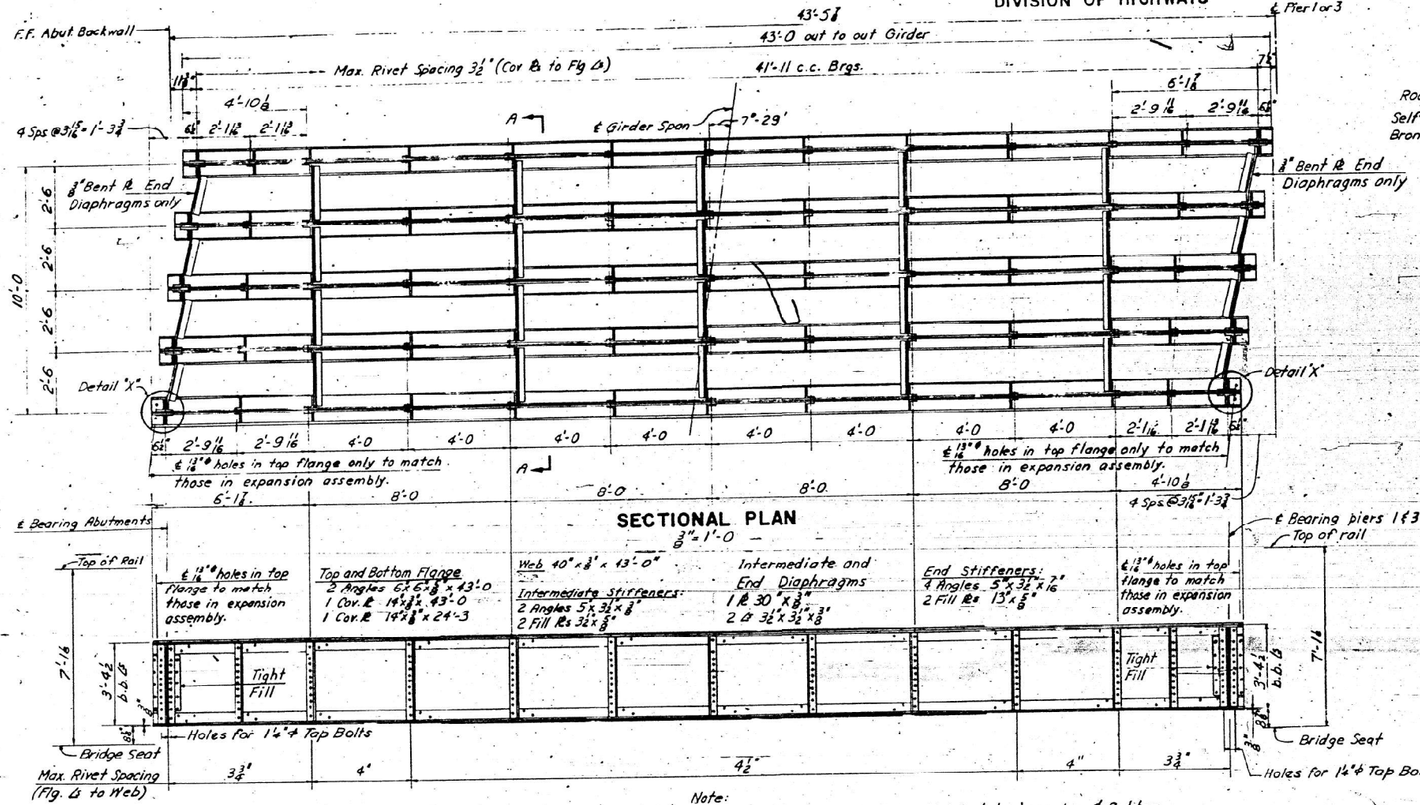
SCALE: | SHEET 1 OF 4 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	22
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

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

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-57	28-358	FRANKLIN	32	16
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

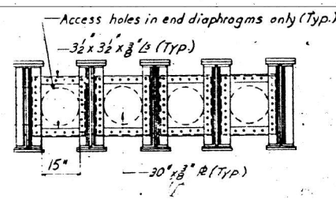
SHEET NO. 8
12 SHEETS



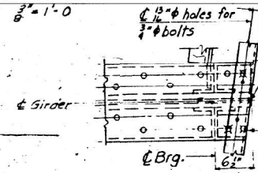
SECTIONAL PLAN
⅜" = 1'-0

Note:
End Stiffeners shall be finished to bear top & Bottom.
Intermediate Stiffeners shall be finished to bear top only.

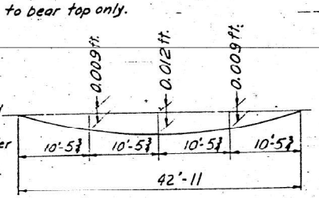
ELEVATION
⅜" = 1'-0



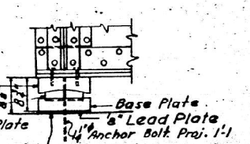
SECTION A-A
⅜" = 1'-0



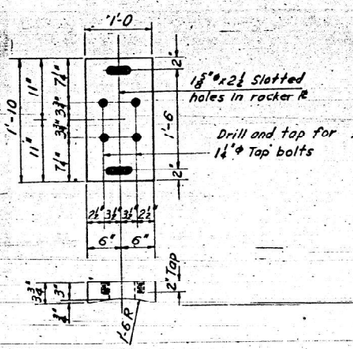
DETAIL — X
Typical for all girders
1" = 1'-0



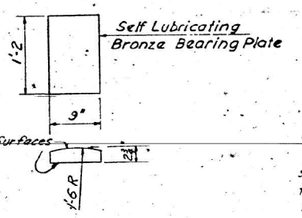
DEAD LOAD DEFLECTION
Above deflection is due to weight of concrete deck, ballast and track
Not to Scale



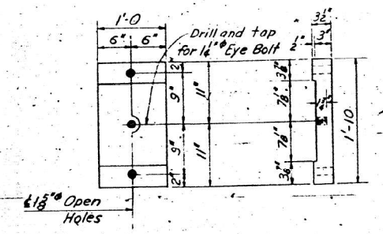
EXPANSION BEARING
20 Required
1" = 1'-0



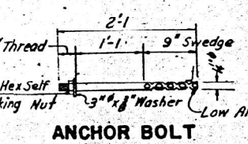
ROCKER PLATE
20 Required
1" = 1'-0



SELF LUBRICATING BRONZE BEARING PLATE
20 Required
1" = 1'-0



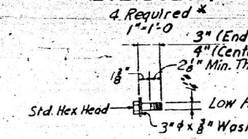
BASE PLATE
20 Required
1" = 1'-0



ANCHOR BOLT
80 Required *
1" = 1'-0



EYE BOLT
4 Required *
1" = 1'-0



TAP BOLT
3" - 80 Required *
4" - 80 Required *
1" = 1'-0

* Number of Anchor Bolts, Eye Bolts, and Tap Bolts required includes those for both Exp. & Fixed Brgs.

Quantity of material on this sheet only.

Structural Steel

Girders	123,270 lbs
Bearings incl. bolts	11,450 lbs
Self lubricating Bronze Bearing Plates	2,000 lbs
Lead Pls.	260 lbs
Total	136,980 lbs
Approx. Weight of 3-girder unit	18 Tons
Approx. Weight of 2-girder unit	12 Tons

CONSTRUCTION NOTES - STEEL

Material:
Structural Steel ASTM A7 or A36 unless otherwise noted.

Rivets:
¾" ϕ, open holes 15/16" ϕ unless otherwise noted.

Except as otherwise provided, all structural steel shall receive one shop coat of red lead paint and two field coats of aluminum paint. See Article 56.1 to 56.5 inclusive of the Standard Specifications, and Special Provisions.

FOR INFORMATION ONLY
SN 028-0010

8 of 12

ILLINOIS CENTRAL RAILROAD
BRIDGE NO. G.E. 88-8 BENTON, ILL.
I.C.R.R. OVER F.A.I. 57

GIRDERS - END SPANS
EXPANSION BEARINGS

F.A.I. 57 STA. 480 + 01.00

F.A.I. ROUTE 57
SECTION 28-358
SCALE: As Noted
CONSULTING ENGINEERS
WESTENHOFF AND NOVICK, INC.
CHICAGO, ILLINOIS
DRAWING NO. 38051
FILE NO. 248-67
FRANKLIN COUNTY
DATE: Sept. 26, 1962

Revised: 3-11-63 R.R. revision A.P.W.

DESIGNED	D. S.
CHECKED	R.H.W.
DRAWN	G.C.C.
CHECKED	R. H. W.

MODEL: SN 028-0010 2 [Sheet]
FILE NAME: c:\pw_work\pwdot\wilsondad\d0983530\D978A75\Sht-FortInfoOnly.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 028-0010
STRUCTURE INFORMATION

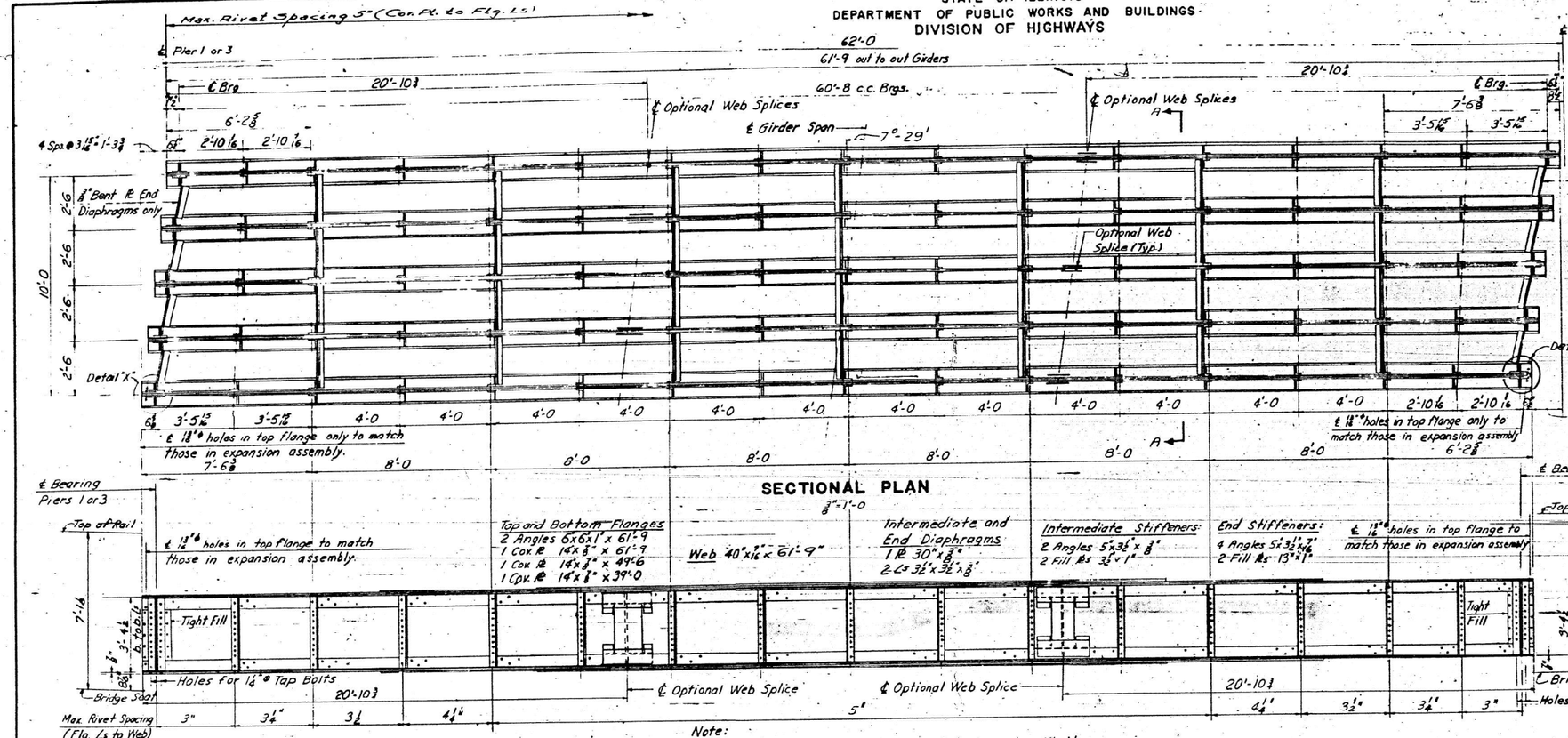
SCALE: | SHEET 2 OF 4 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	23
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

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

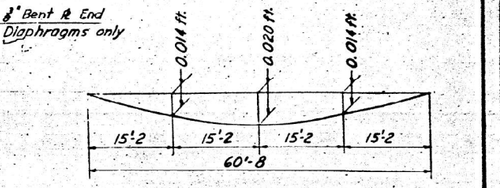
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-57	28-3SB	FRANKLIN	32	17
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET NO. 9
12 SHEETS



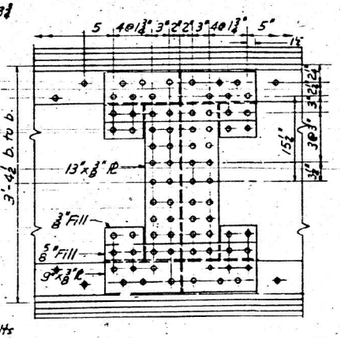
Note:
End Stiffeners shall be finished to bear top & bottom.
Intermediate Stiffeners shall be finished to bear top only.

SECTIONAL PLAN



DEAD LOAD DEFLECTION

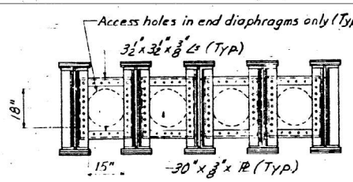
Above deflection is due to weight of concrete deck, ballast and track.
Not to Scale



WEB SPLICE

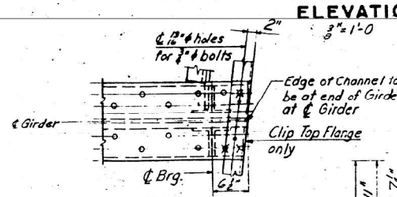
1"=1'-0

Use of Web Splice is optional with fabricator



SECTION A-A

⅜"=1'-0

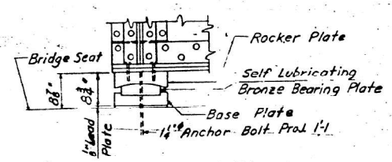


DETAIL X

Typical for all girders
1"=1'-0

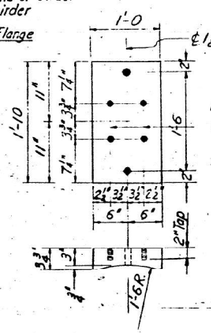
ELEVATION

⅜"=1'-0



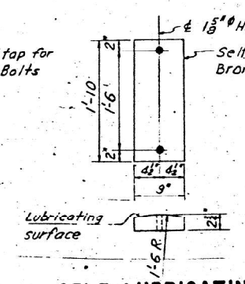
FIXED BEARING

20 Required
1"=1'-0



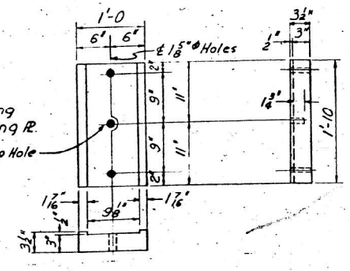
ROCKER PLATE

20 Required
1"=1'-0



SELF LUBRICATING BRONZE BEARING PLATE

20 Required
1" = 1'-0"



BASE PLATE

20 Required
1"=1'-0

FOR INFORMATION ONLY
SN 028-0010

Quantity of material on this sheet only:

Structural Steel	
Girders	310,190 lbs
Bearings incl. bolts	11,450 lbs
Self lubricating Bronze Bearing Plates	3,120 lbs
Lead lbs	260 lbs
Total	325,020 lbs
Approx. Weight of 3-girder unit	46 Tons.
Approx. Weight of 2-girder unit	31 Tons

For details of anchor bolts, eye bolts, and tap bolts see Dwg. No. 38051.
For construction notes see Dwg. No 38051.

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ILLINOIS CENTRAL RAILROAD
BRIDGE NO. G.E. 88-8 BENTON, ILL.
I.C.R.R. OVER F.A.I. 57

GIRDERS - CENTER SPANS FIXED BEARINGS

F.A.I. 57 STA. 480 + 01.00

F.A.I. ROUTE 57
SECTION 28-3SB
SCALE: As Noted
CONSULTING ENGINEERS
DRAWING NO. 38052

FRANKLIN COUNTY
DATE: Sept. 26, 1962
WESTENHOFF AND NOVICK, INC.
CHICAGO, ILLINOIS
FILE NO. 248-68

Revised: 3-11-63 R.R. revision A.P.W.

DESIGNED	D. S.
CHECKED	R. H. W
DRAWN	G. C. C
CHECKED	R. H. W.

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 028-0010
STRUCTURE INFORMATION

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

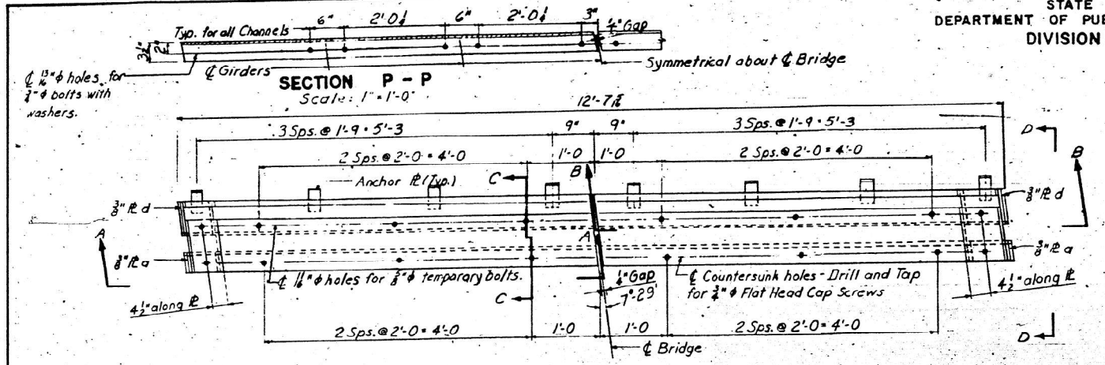
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	24
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

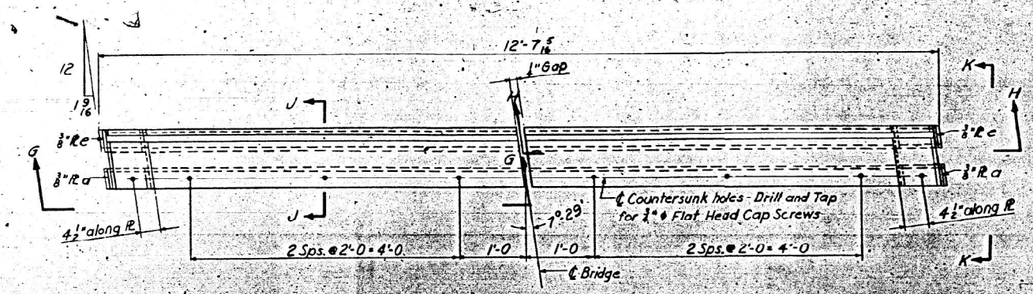
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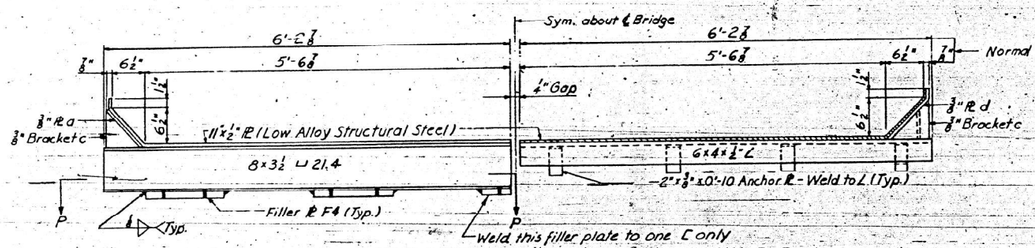
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS AND BUILDINGS
DIVISION OF HIGHWAYS

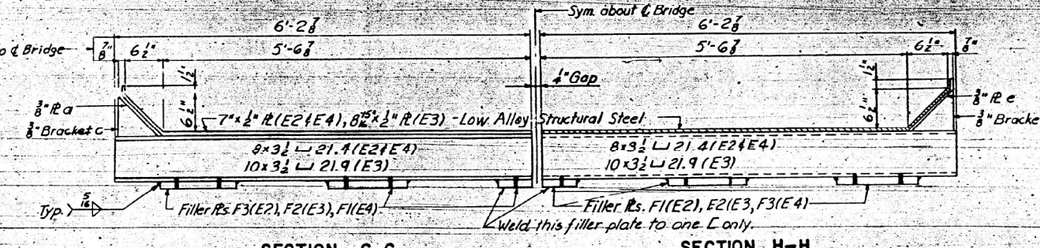
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-57	28-3SB	FRANKLIN	32	18
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

SHEET NO. 10
12 SHEETS



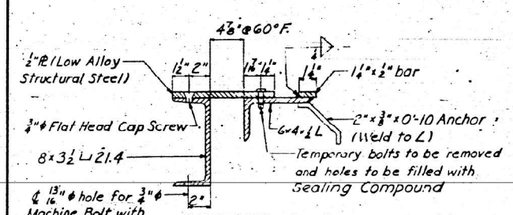


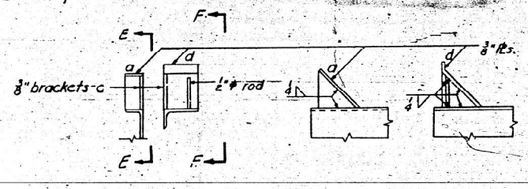


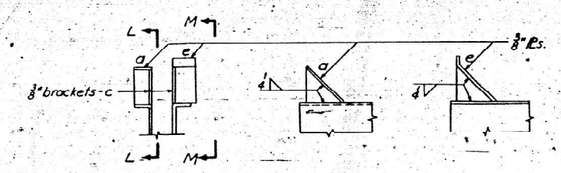


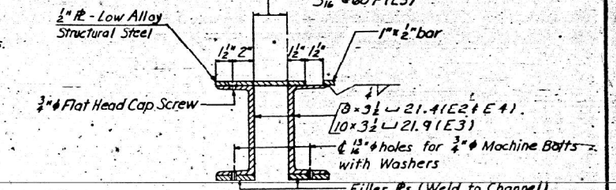
EXPANSION ASSEMBLIES E1 & E5

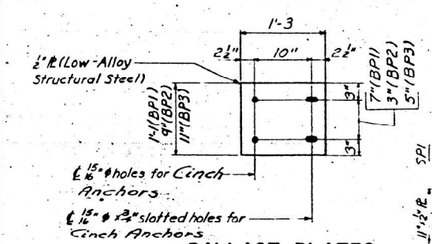
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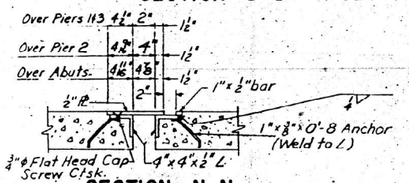


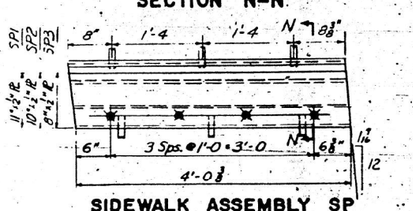


BALLAST PLATES

BP1 - 4 Required
BP2 - 2 Required
BP3 - 4 Required

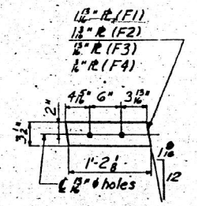
DESIGNED	D. S.
CHECKED	R.H.W.
DRAWN	D. S.
CHECKED	R.H.W.





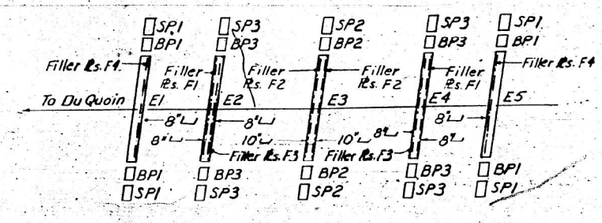
SIDEWALK ASSEMBLY SP

SP1 - 4 Required
SP2 - 2 Required
SP3 - 4 Required



FILLER PLATES

F1 - 10 Required
F2 - 10 Required
F3 - 10 Required
F4 - 10 Required



LOCATION PLAN

Not to Scale

FOR INFORMATION ONLY
SN 028-0010

Quantity of material on this sheet only.

Structural Steel	5,240 lbs
Low Alloy Structural Steel	1360 lbs
Total	6600 lbs

Surfaces in contact with sealing compound shall not be painted.
For construction notes, see Dwg. No. 38051.

10 of 12

ILLINOIS CENTRAL RAILROAD
BRIDGE NO. G.E. 88-8 BENTON, ILL.
I.C.R.R. OVER F.A.I. 57

EXPANSION ASSEMBLIES

F.A.I. 57 STA. 480 + 01.00
F.A.I. ROUTE 57
SECTION 28-3SB — FRANKLIN COUNTY
SCALE: 1"=1'-0 and As Noted — DATE: Sept. 26, 1962
WESTENHOFF AND NOVICK, INC.
CONSULTING ENGINEERS — CHICAGO, ILLINOIS
DRAWING NO. 38053 — FILE NO. 24A-69

Revised: 3-11-63 R.R. revision A.P.W.

MODEL: SN 028-0010 4 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 028-0010
STRUCTURE INFORMATION

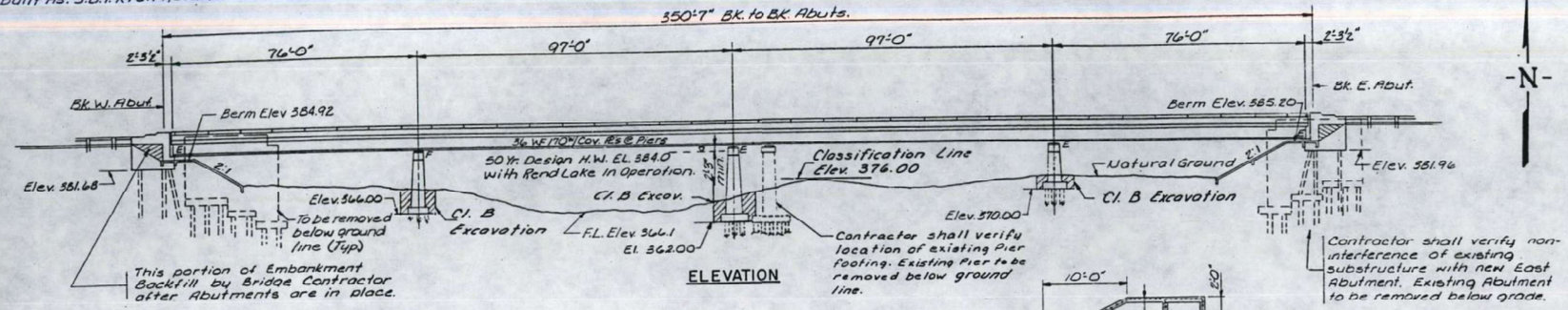
SCALE: | SHEET 4 OF 4 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	25
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 14	48-2	FRANKLIN	35	10
FED. ROAD DIST. NO. 7	ILLINOIS	PROJECT		

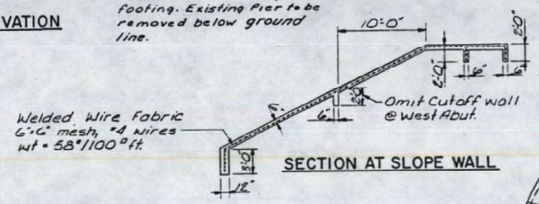
Sheet 1 of 11

B.M. "C" Cut on So. End W. Abut. Big Muddy Bridge. - Elev. 388.93
Existing Structure: 2-150' Penn. Truss with R.C. Closed abutments to be removed by Contractor after Traffic is Diverted to Detour Road. The existing Trusses to become the property of the Contractor.
Built As: S.B.I. Rte. 14, Sta. 771+00, Sec. 48C in 1923

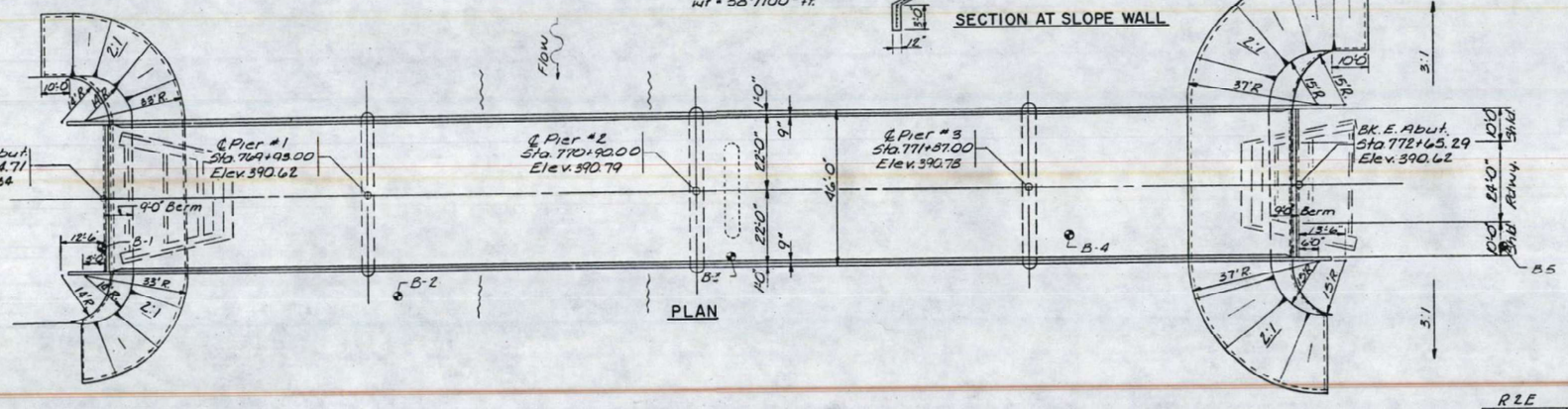


ELEVATION

-N-



SECTION AT SLOPE WALL



PLAN

GENERAL NOTES

1. All reinforcement bars shall be lapped 24 diameters unless otherwise shown.
2. Field connections shall be bolted using high strength bolts. Bolts ⅞" Ø, open holes 15/16" Ø, unless otherwise noted.
3. Diaphragm connections may be adopted to shop welding subject to appoval by the Engineer.
4. The Basic Lead Silico Chromate paint system shall be used for shop and field painting of Structural steel.
5. 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.
6. Anchor bolts shall be set before riveting diaphragms (bolting cross frames) over supports.
7. Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58# per 100 sq ft.
8. Layout of slope walls may be varied in the field to suit ground condition as directed by the Engineer.
9. The contractor shall drive two concrete test piles (one each at a permanent location at the West & East abuts) & 3 untreated timber piles (1 ea. at a permanent location at piers 1, 2 & 3) as directed by the engineer before ordering the remainder of piles.
10. Class A Excavation for structures includes excavation for slope wall.
11. The embankment configuration shown shall be the minimum embankment that must be constructed prior to construction of the abutments.
12. 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.
13. Roadway expansion guards shall be assembled in the proper position with the ends in place and shall be left assembled for shop inspection.
14. Calculated plan weight of Structural Steel, 520,519 lbs.

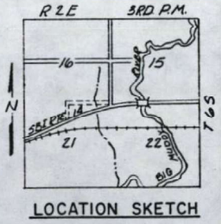
TOTAL BILL OF MATERIAL

ITEM		SUPER	SUB	TOTAL
Removal of Existing Structures	Each	—	—	1
Class A Excavation for Structures	Cu. Yds.	—	457	457
Class B Excav. for Structures	Cu. Yds.	—	509	509
Protective Coat	Sq. Yds.	1937	—	1937
Class X Concrete	Cu. Yds.	458.3	379.9	838.2
Furnishing & Erecting Structural Steel	Lump Sum	1	—	1
Stud Shear Connectors	Each	4914	—	4914
Aluminum Railing	Lin. Ft.	694	—	694
Reinforcement Bars	Lbs.	111,905	22,510	134,415
Furnishing Untreated Piles 30'-45'	Lin. Ft.	—	4522	4522
Furnishing Concrete Piles	Lin. Ft.	—	1160	1160
Driving Timber Piles	Lin. Ft.	—	4522	4522
Driving Concrete Piles	Lin. Ft.	—	1160	1160
Test Piles, Timber	Each	—	3	3
Test Piles, Concrete	Each	—	2	2
Name Plates	Each	1	—	1
Slope Wall - 6 inch	Sq. Yds.	—	950	950
① Bridge Seat Sealant	Lump Sum	—	1	1
Preformed Joint Sealer	Lin. Ft.	44	—	44

① East Abutment only

STATION 770+90
BUILT 197 BY
STATE OF ILLINOIS
F.A. RT. 15 SEC. 48-2
LOADING HS 20-44

LETTERING FOR NAME PLATE
(See Standard 2113-1)



LOCATION SKETCH

PI STA. 771+00
Elev. 391.44
+0.57% -0.45%
VC = 500'
PROFILE S.B.I. RTE. 14

WATERWAY INFORMATION

Drainage Area	498 Sq. mi.
Character - Rolling, Clay, Wood, Cultivated	
Required Opening (50yr. Flood)	3400 Sq. Ft.
Present Opening	3212 Sq. Ft.
*Proposed Opening at structure	3345 Sq. Ft.
Ordinary Water Elev	375±
Low Water Elev.	368±

*Existing overflow structure to remain in place with an opening of 324 sq. ft.
Q (50yr.) 17,000 cfs with Rend Lake in operation.

DESIGN STRESSES

fc =	1200 psi	(Deck Slab)
fc =	1400 psi	(Curb, Parapet, Sub)
fs =	20000 psi	(Reinforcement)
fs =	20000 psi	(Struct)
Vc =	75 psi	(Flgs)
n =	10	

Allowable ¼ Deflection L/1200 (comp.)

Loading HS 20-44

FOR INFORMATION ONLY
SN 028-0020

JOHN C. CALHOUN 2529 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS 2-26-70

GENERAL PLAN & ELEVATION
F.A. RT. 15 SEC. 48-2
OVER BIG MUDDY RIVER
FRANKLIN COUNTY

STATION 770+90.00

WALTER E. HANSON COMPANY
ENGINEERS - CONSULTANTS

DESIGNED DAM DRAWN CRW DATE 3-31-70
CHECKED GL CHECKED DAM NO. 64070

Rev. Cofferdam Excav. changed to Cl. B Excav. for Structures.
Cofferdam Each - 3 dated 4-1-70 D.D

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 028-0020
STRUCTURE INFORMATION

SCALE: SHEET 1 OF 3 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	26
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

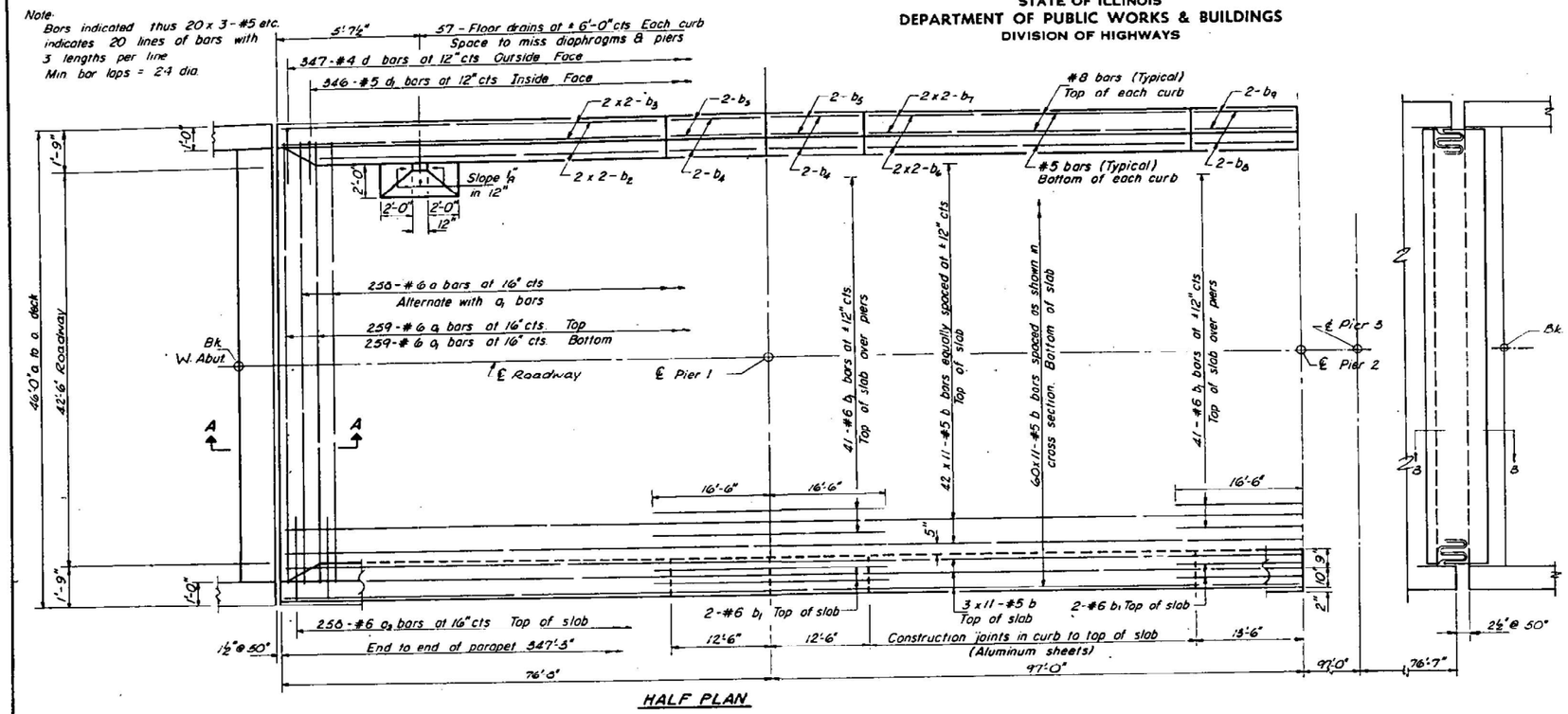
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ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
S.B.I. 14	48-2	FRANKLIN	35	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

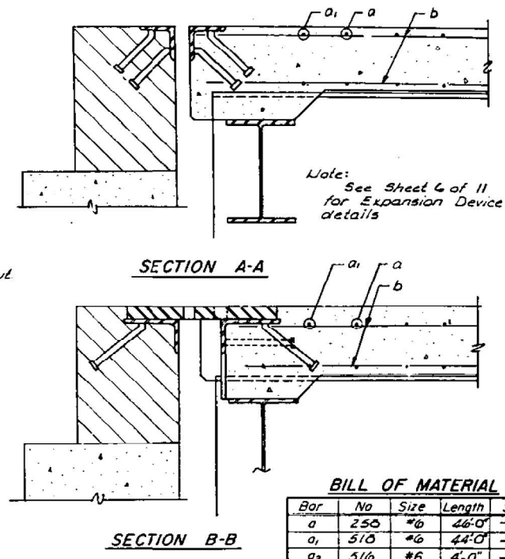
SHEET NO. 3
11 SHEETS

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

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



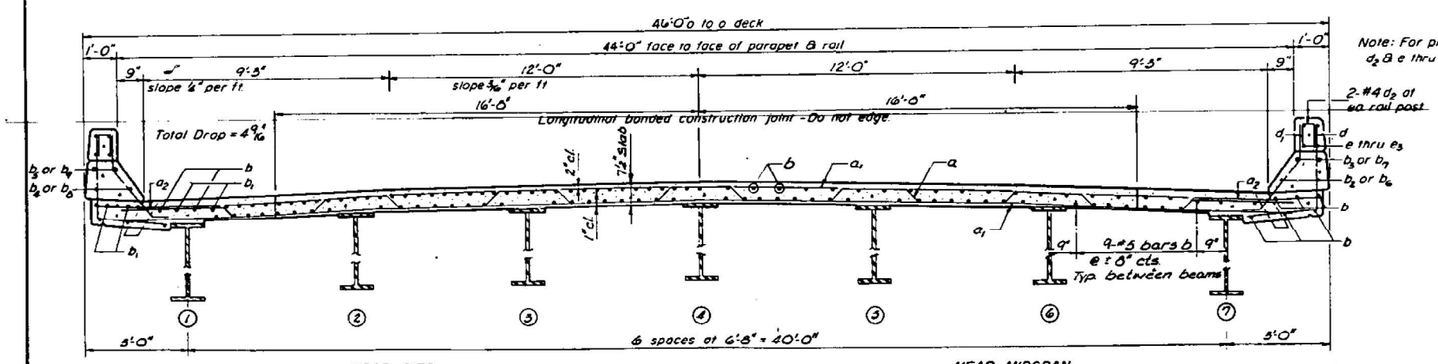
SECTION A-A

SECTION B-B

BILL OF MATERIAL

Bar	No	Size	Length	Shape
a	250	#6	46'-0"	
a1	518	#6	44'-0"	
a2	516	#6	4'-0"	
b	1122	#5	32'-6"	
b1	135	#6	35'-0"	
b2	16	#5	32'-7"	
b3	16	#8	32'-11"	
b4	16	#5	12'-2"	
b5	16	#8	12'-2"	
b6	16	#5	33'-11"	
b7	16	#8	34'-6"	
b8	8	#5	13'-2"	
b9	8	#8	13'-2"	
d	694	#4	4'-7"	⌋
d1	692	#5	5'-5"	⌋
Reinforcement Bars			Lbs.	109880
* Structural Steel			Lump Sum	1
Class X Concrete			Cu Yds	435.9
Stud Shear Connectors			Each	4914

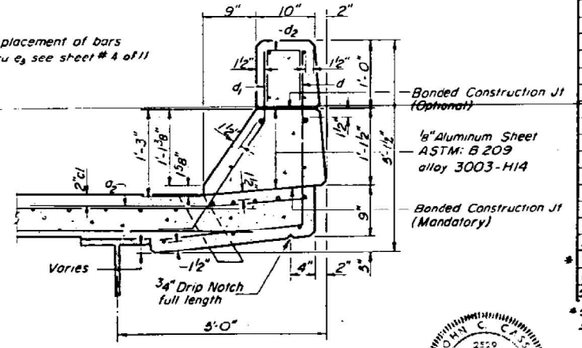
*See Sheet 1 of 11 For Structural Steel Quantities



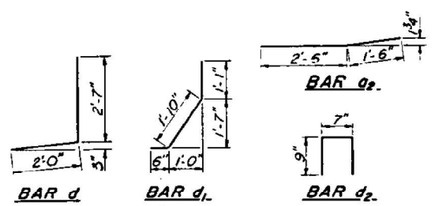
NEAR PIER — NEAR MIDSPAN

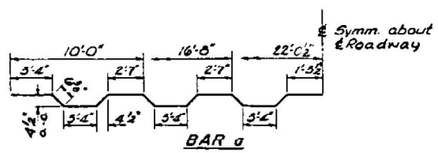
CROSS SECTION
LOOKING EAST

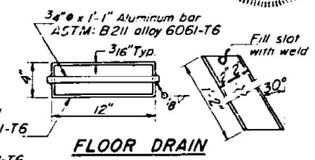
Note: For placement of bars d2 & e thru e3 see sheet # 4 of 11



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







Aluminum Sheets Welded ASTM: B209 alloy 6061-T6 or Aluminum Extrusions ASTM: B221 alloy 6061-T6

FLOOR DRAIN



The lengths and quantities of longitudinal reinforcement and Class X Concrete in parapets are not included in above quantities. See sheet 4 of 11.

SUPERSTRUCTURE
S.B.I. RT. 14 SEC. 48-2
FRANKLIN COUNTY
STATION 770+90.00

DESIGNED	DAM
CHECKED	GL
DRAWN	GWF
CHECKED	DAM

19
EXAMINED — ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED — ENGINEER OF BRIDGES AND STRUCTURES
APPROVED — CHIEF HIGHWAY ENGINEER

I-4106-0 3-1-68, 12-3-69

FOR INFORMATION ONLY
SN 028-0020

MODEL: SN 028-0020 2 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

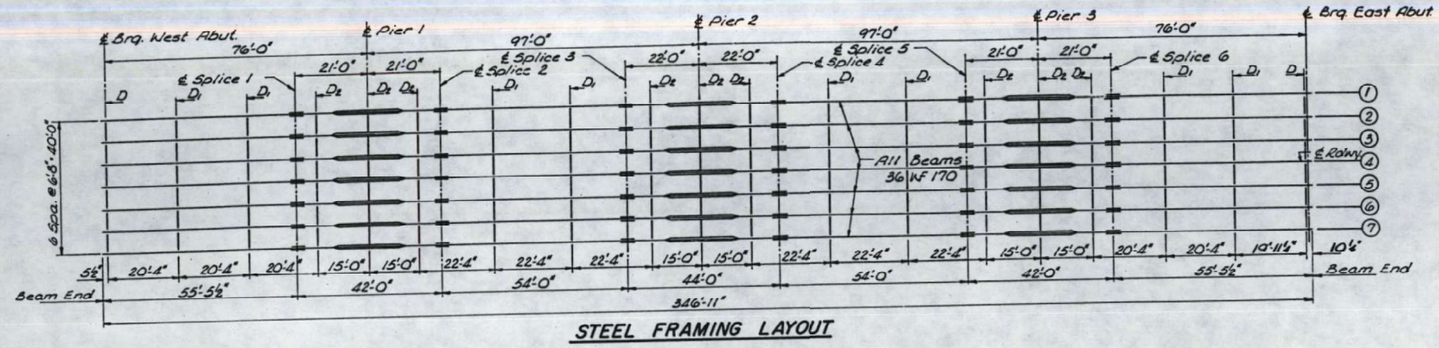
SN 028-0020
STRUCTURE INFORMATION
SCALE: SHEET 2 OF 3 SHEETS STA. TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	27
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

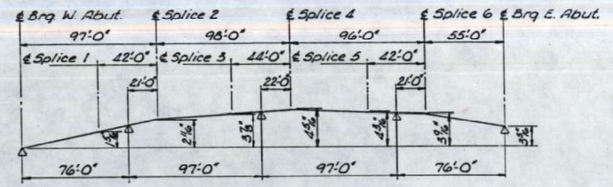
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
S.B.I. 14	4B-2	FRANKLIN	35	14
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 5
11 SHEETS

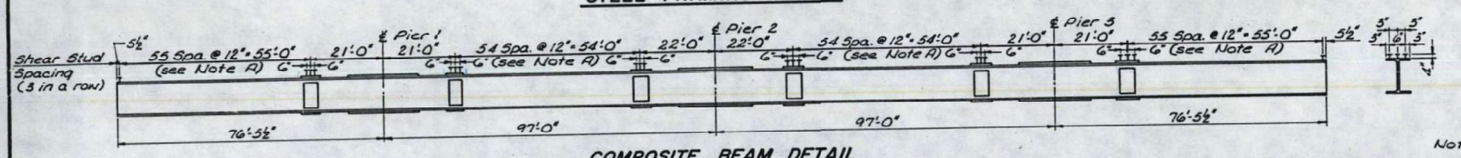


STEEL FRAMING LAYOUT



FABRICATION DIAGRAM

NOTE:
1) Space studs on splice Rs to miss bolts.
2) Diaphragm connections may be adapted to shop welding subject to approval by the Engineer.



COMPOSITE BEAM DETAIL

¾"ϕ x 4" CR1020 S.T.L. Granular or solid flux filled headed stud's automatically end welded.
4,914 Req'd.

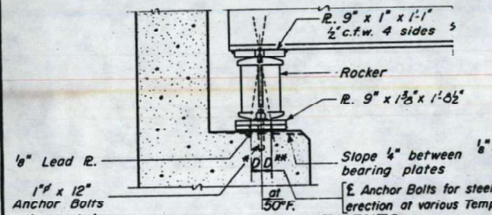
Note A: 2 extra rows. Space to miss bolts.

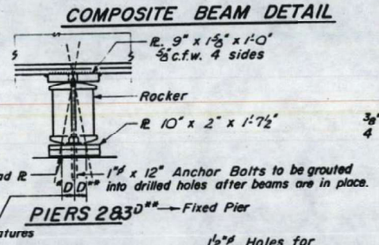
INTERIOR GIRDER MOMENT TABLE

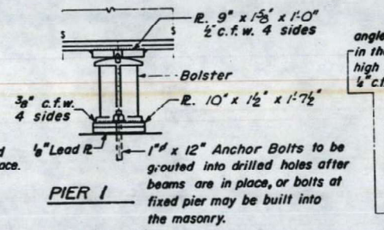
	0.4 Sp.1	Pier 1	0.5 Sp.2	Pier 2
Is (in⁴)	10,470	20,097	10,470	20,097
Ic (in⁴)	24,808		24,808	
Ss (in³)	579	1040	579	1040
Sc_s (in³)	814	–	814	–
w (K/l.)	0.900	0.900	0.900	0.900
M_LL (1K)	341	715	335	751
f_s LL (Ksi)	7.0	8.2	6.9	8.6
S_LL (K/l.)	0.319	0.319	0.319	0.319
M_S.I. (1K)	121	254	119	267
M_LL (1K)	534	537	551	595
M_IMP (1K)	128	129	132	143
Total (1K)	783	920	802	1005
f_s LL (Ksi)	11.4	10.6	11.8	11.5
f_s Total (Ksi)	18.4	18.8	18.7	20.1
VR_max (K)	22.5 50%		47.8 50%	

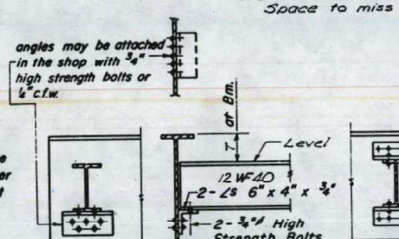
INTERIOR GIRDER REACTION TABLE

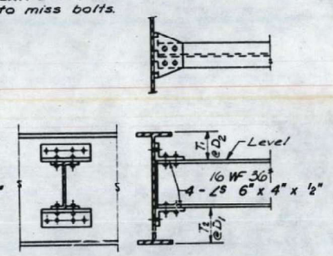
	W. Abut.	Pier 1	Pier 2	
R_LL (K)	33.0	115.0	118.0	
R_L (K)	37.1	56.7	59.0	
R_IMP. (K)	8.9	13.6	14.2	
R Total (K)	79.0	185.3	191.2	





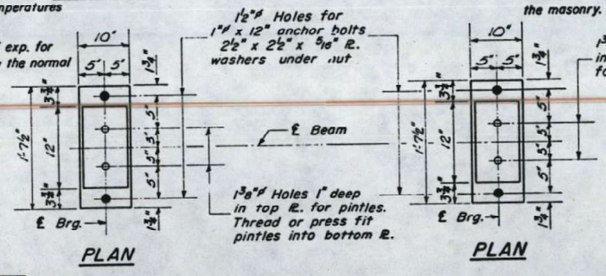


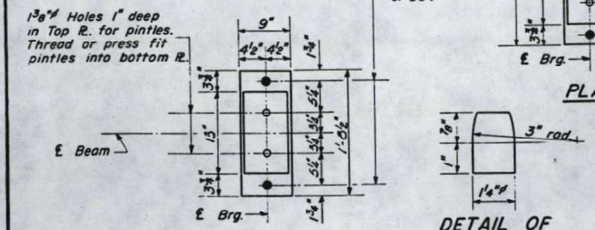


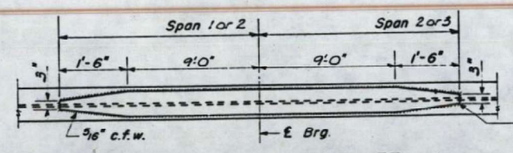


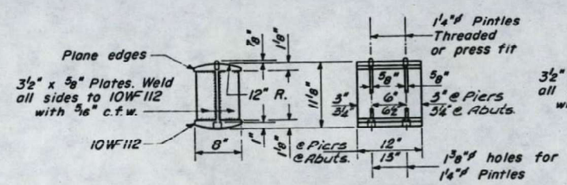
ELEVATION TOP OF WF

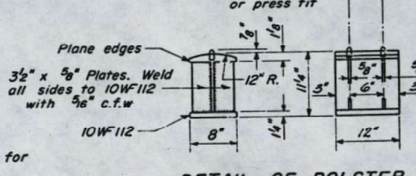
PT Bms.	℄ BRG W. ABUT.	SPLICE #1	℄ PIER 1	SPLICE #2	SPLICE #3	℄ PIER 2	SPLICE #4	SPLICE #5	℄ PIER 3	SPLICE #6	℄ BRG. E. ABUT.
1 & 7	389.33	389.42	389.50	389.55	389.65	389.67	389.69	389.64	389.65	389.65	389.61
2 & 6	389.47	389.50	389.63	389.69	389.79	389.81	389.83	389.82	389.79	389.77	389.75
3 & 5	389.58	389.69	389.75	389.80	389.90	389.92	389.96	389.95	389.90	389.86	389.86
4	389.66	389.79	389.85	389.91	390.00	390.02	390.06	390.03	390.01	389.98	389.96











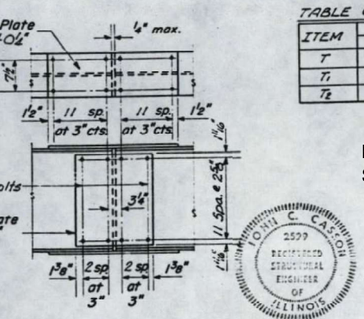


TABLE OF DIMENSIONS T, T1 & T2

ITEM	BEAMS 187	286	345	4
T	3"	4¾"	6"	7½"
T1	6"	7½"	9"	10½"
T2	10½"	8½"	7½"	6"

FOR INFORMATION ONLY
SN 028-0020

STRUCTURAL STEEL
S.B.I. RT. 14 SEC. 4B-2
FRANKLIN COUNTY
STATION 770+90.00

DESIGNED	DAM
CHECKED	GL
DRAWN	GWF
CHECKED	DAM

EXAMINED 19
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

I-2-C 7-2-62 Rev. 11-9-62 Rev. 8-16-63 Rev. 12-10-63

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 028-0020
STRUCTURE INFORMATION

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	28
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

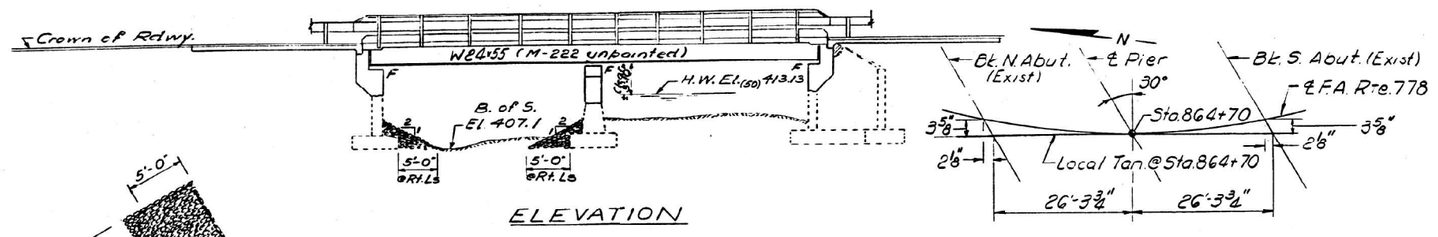
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B.M.: R.R. Spike in Power Pole 28' Rt. Sta. 869+35 Elev. 423.27.
Existing structure Nº 035-0006, built as S.B.I. Rt. 34, Sec. 3B in 1924, 2 spans R.C. slab on R. C. closed abutments & pier. The contractor shall remove the existing superstructure in stages and provide a new superstructure with 24" W Flange Beams. Repair and rebuild the pier & abutments as required. One way traffic shall be maintained at all times using stage construction.
No salvage.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

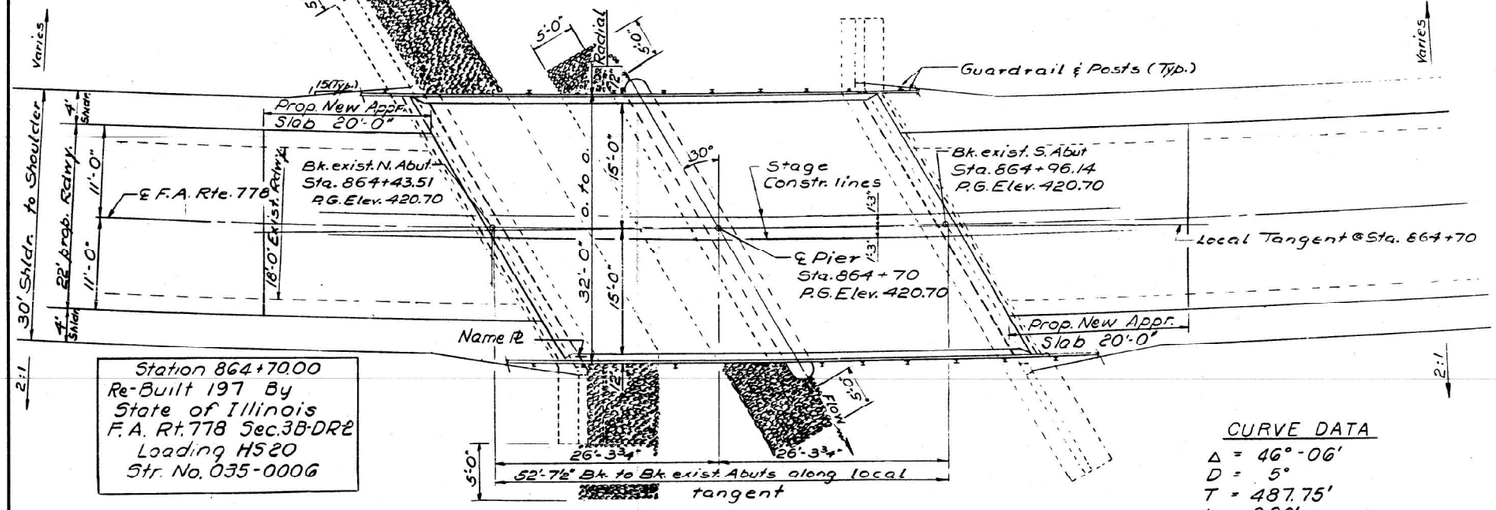
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. RTE. 778	3B-DR-2	Hardin	18	6
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1
10 SHEETS



ELEVATION

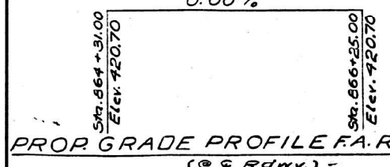
OFFSET SKETCH



PLAN

Station 864+70.00
Re-Built 197 By
State of Illinois
F.A. Rt. 778 Sec. 3B-DR-2
Loading HS20
Str. No. 035-0006

NAME PLATE



PROP. GRADE PROFILE F.A. RTE. 778 (℄ Rdwy.)

DESIGNED P.M.W. Balliet
CHECKED Paul S. McCreary
DRAWN Mercado V.H.
CHECKED P.S.M. MB
EXAMINED Feb. 23 1978 Carl E. Hammerschmidt
PASSED
APPROVED

WATERWAY INFORMATION

Drainage Area	1.95 Sq. Miles
Existing Opening	169 Sq. Ft.
Required Opening	169 Sq. Ft.
Proposed Opening (below 50 yr H.W.E.)	169 Sq. Ft.

H.W.E. (50) = 413.13'
Q (50) = 1090 cfs
Created Head - Negligible

H.W.E (100) = 413.5'
Q (100) = 1260 cfs
Created Head - Negligible

CURVE DATA

Δ = 46°-06'
D = 5°
T = 487.75'
L = 922'
R = 1146.28'
E = 99.42'
Prop. S.E. = 0.08 Ft/Ft.
Attain S.E. Sta 862+15 to Sta. 864+31
Trans. from .08 to Exist. S.E. - Sta. 866+25 to Sta. 867+25

DESIGN STRESSES

f'c = 3,500 psi
** fy = 60,000 psi (Reinf.)
fy = 50,000 psi (Struct.) M-222 Gr. 50
fy = 36,000 psi M-183

Loading HS20-44

Allow 25 #/s' for Future W. S.
Design Specifications: 1973 AASHTO, 1974, 1975, 1976 and 1977 Interim Specifications.
** Epoxy Coated Reinf. Bars shall be used in the top layer of the slab.

GENERAL NOTES

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

Calculated weight of Structural Steel = 17560 Lbs.

All structural steel shall be AASHTO: M 222 unpainted except expansion joint angles and attached bars which shall be AASHTO: M 183 and shop painted with two coats of basic lead silico chromate paint.

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 bolting diaphragms over supports.

It shall be the responsibility of the Contractor to verify all dimensions and conditions existing in the field prior to construction and ordering of materials.

Expansion bolts shall consist of self drilling expansion anchors and 3/4" ø x 12" hooked bolts.

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.

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 tension flanges, webs and all splice plate material of the steel girders or wide flange beams.

Protective coat shall be applied to deck surface, inside faces and top faces of curb.

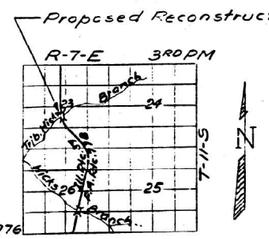
Reinforcement bars shall conform to the requirements of AASHTO M-31 Grade 60

TOTAL BILL OF MATERIALS

Item	Unit	Super	Sub	Total
Removal of Existing Superstructure	Each	1		1
Class X Concrete	Cu. Yds.	453	431	884
Reinforcement Bars	Lbs.	5960	3320	9280
Reinforcement Bars (Epoxy Coated)	Lbs.	10280		10280
Structural Steel	L.S.			0.26
Protective Coat	Sq. Yds.	201		201
Temporary Guardrail	Lin. Ft.	55		55
Concrete Removal	Cu. Yds.		23.2	23.2
Expansion Bolts 3/4" ø	Each		33	33
Steel Railing Ty. T	Lin. Ft.	110		110
Name Plate	Each	1		1

Note: Adequate struts shall be placed at the abutments before existing superstructure is removed and shall remain in place until new superstructure has been erected to prevent damage to abutments from unrestrained earth pressure. Cost incidental

FOR INFORMATION ONLY
SN 035-0006



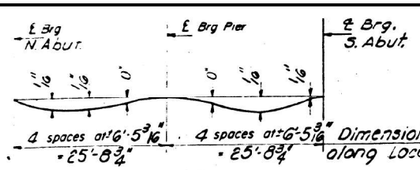
LOCATION SKETCH

GENERAL PLAN & ELEVATION
F.A. RTE. 778 OVER TRIB. HICKS BRANCH
F.A. RTE. 778 SEC. 3B-DR-2
HARDIN COUNTY
STA. 864+70.00

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN 035-0006 STRUCTURE INFORMATION	
	DRAWN -	REVISED -		SCALE:	SHEET 1 OF 4 SHEETS STA. TO STA.
	CHECKED -	REVISED -			
PLOT DATE = 10/15/2024	DATE -	REVISED -			

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	29
		CONTRACT NO. 78A75		
		ILLINOIS	FED. AID PROJECT	

MODEL: SN 035-0006 1 [Sheet]
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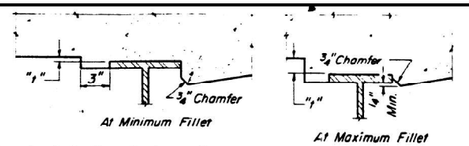


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 778	SEC. 3B-DR-2	Hardin	18	-

SHEET NO 2
10 SHEETS

BEAM #1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
℄ Brg. N. Abut.	86433.859	-12.436	419.705	419.705
℄ Brg. N. Abut.	86436.388	-12.513	419.699	419.699
A	86446.456	-12.762	419.679	419.685
B	86455.508	-12.923	419.666	419.669
℄ Pier	86462.408	-12.975	419.662	419.662
C	86472.523	-12.997	419.660	419.665
D	86482.637	-12.931	419.666	419.670
℄ Brg. S. Abut.	86488.437	-12.853	419.672	419.672
Bk. S. Abut.	86490.967	-12.810	419.675	419.675

BEAM #2

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	86439.152	-3.920	420.386	420.386
℄ Brg. N. Abut.	86441.662	-3.984	420.381	420.381
A	86451.695	-4.186	420.365	420.371
B	86461.732	-4.304	420.356	420.358
℄ Pier	86467.489	-4.331	420.354	420.354
C	86477.527	-4.309	420.355	420.360
D	86487.563	-4.199	420.364	420.369
℄ Brg. S. Abut.	86493.318	-4.057	420.372	420.372
Bk. S. Abut.	86495.928	-4.043	420.377	420.377

EDGE OF STAGE I CONSTRUCTION

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	86441.016	-0.894	420.629	420.629
℄ Brg. N. Abut.	86443.518	-0.944	420.624	420.624
A	86453.552	-1.132	420.609	420.615
B	86463.586	-1.232	420.601	420.604
℄ Pier	86469.278	-1.250	420.600	420.600
C	86479.288	-1.212	420.603	420.608
D	86489.298	-1.068	420.613	420.618
℄ Brg. S. Abut.	86495.037	-0.977	420.622	420.622
Bk. S. Abut.	86497.560	-0.919	420.626	420.626

℄ RDWY.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	86441.769	0.348	420.728	420.728
℄ Brg. N. Abut.	86444.269	0.289	420.723	420.723
A	86454.265	0.108	420.709	420.715
B	86464.265	0.014	420.701	420.704
℄ Pier	86470.000	0.0	420.700	420.700
C	86480.000	0.044	420.703	420.708
D	86489.998	0.174	420.714	420.719
℄ Brg. S. Abut.	86495.731	0.289	420.723	420.723
Bk. S. Abut.	86498.231	0.348	420.728	420.728

EDGE OF STAGE II CONSTRUCTION

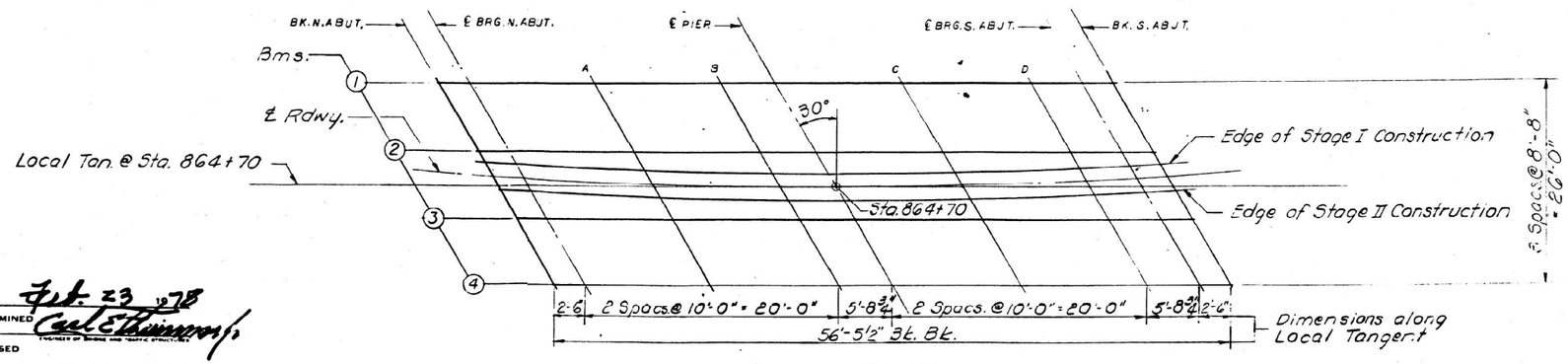
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	86442.520	1.580	420.826	420.826
℄ Brg. N. Abut.	86445.018	1.523	420.822	420.822
A	86455.004	1.348	420.838	420.814
B	86464.392	1.261	420.801	420.803
℄ Pier	86470.721	1.250	420.800	420.800
C	86480.710	1.300	420.809	420.809
D	86490.847	1.437	420.815	420.820
℄ Brg. S. Abut.	86496.423	1.555	420.824	420.824
Bk. S. Abut.	86498.921	1.615	420.829	420.829

BEAM #3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	86444.326	4.621	421.070	421.070
℄ Brg. N. Abut.	86446.857	4.569	421.065	421.065
A	86456.817	4.409	421.053	421.059
B	86466.779	4.338	421.047	421.050
℄ Pier	86472.462	4.336	421.047	421.047
C	86482.454	4.401	421.052	421.057
D	86492.414	4.553	421.064	421.069
℄ Brg. S. Abut.	86498.125	4.690	421.074	421.074
Bk. S. Abut.	86500.616	4.744	421.080	421.080

BEAM #4

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. N. Abut.	86443.503	13.165	421.755	421.755
℄ Brg. N. Abut.	86451.476	13.143	421.751	421.751
A	86461.843	13.029	421.742	421.748
B	86471.751	13.001	421.740	421.743
℄ Pier	86477.421	13.024	421.742	421.742
C	86487.304	13.132	421.751	421.755
D	86497.192	13.320	421.766	421.771
℄ Brg. S. Abut.	86502.854	13.476	421.778	421.778
Bk. S. Abut.	86504.331	13.551	421.784	421.784



PLAN

Note: Bms. are parallel to local Tangent.

FOR INFORMATION ONLY
SN 035-0006

TOP OF SLAB ELEVATIONS
F.A.I. 778 SEC. 3B-DR-2
HARDIN COUNTY
STA. 864+70.00

DESIGNED	Duane Bolin	
CHECKED	Ralph S. McCreary	
DRAWN	Mercado P.G. Barnett	
CHECKED	P.S. McCreary	
E-S	8-1-65	

EXAMINED Oct. 23 '78 Carl E. Bunnyfield
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED
ENGINEER OF DESIGN
APPROVED
DIRECTOR OF HIGHWAYS

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

SN 035-0006
STRUCTURE INFORMATION

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	30
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

MODEL: SN 035-0006 2 [Sheet]
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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 778	3B-DR-2	Hardin	18	9
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		

SHEET NO. 2
10 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Note: Bars indicated thus 40#2 - 5 etc. indicates 40 lines of bars with 2 lengths per line

54'-8⅝" End to end of Curb (measured along inside face)

16'-6" — 9 Floor drains @ ± 6'-0" cts. @ East curb only

2-2-#5b (E) Top of Slab (under curb) Typ. Ea. curb

1-#5b2(E) (Typ. Ea. curb)

1-#5b2(Typ. Ea. curb)

1-#5b2(E) Typ. Ea. curb

1-#5b2(Typ. Ea. curb)

1-#5b2(E) Typ. Ea. curb

54-#5d(E) bars @ 12" cts.

5'-0" — 5'-0"

25-#5a(E) bars @ 4½" cts. Top

18-#5a bars @ 6½" cts. Bott.

120-#5a(E) bars @ 4½" cts. Top

83-#5a bars @ 6½" cts. Bottom

STAGE I CONSTRUCTION

30°

14-2-#5b(E) 1'-8" Min lap

1-#5a2(E) Top & Bott. (ea. end)

℄ Rdwy.

℄ Pier Sta. 864+70

STAGE III CONSTRUCTION

32-2-#5b(E) 1'-8" Min. lap

39-2-#5b bars spaced as shown in Cross Section (150 ft. of Slab) 1'-8" Min lap

Bk. So. Abut.

Local Tan. @ Sta. 864+70

Bk. No. Abut.

25-#5a(E) bars @ 4½" cts. Top

18-#5a bars @ 6½" cts. Bott.

120-#5a(E) bars @ 4½" cts. Top

83-#5a bars @ 6½" cts. Bottom

STAGE II CONSTRUCTION

52-#6a1(E) bars @ 12" cts. Top of slab over Piers 14-2-#5b(E) 1'-8" Min lap

1-#5a2(E) Top & Bott (ea. end)

*Order a(E) & a bars full length, according to Stage Construction & use remainder in opposite end.

73-#6a1(E) bars @ 9" cts. Top Ea. curb

54-#5d(E) bars @ 12" cts

13'-8¼" — 13'-8⅜" — 13'-8⅜" — 13'-8¼"

54'-9¼" End to end of Curb (measured along inside face)

For detail see sh. #5

51-#6a(E) bars @ 6" cts. (Btwn. Brms) Typical Ea End

15'-0" — 15'-0"

32'-0" o. to o. Dimensions along Radii

14'-9" Stage I Construction — 2'-6" — 14'-9" Stage II Construction

Stage III Construction

6" — 6" — 6" — 6"

Constr. Jt in curb to top of slab (Aluminum sheet) (Typ. Ea curb)

Note: For corner detail, curb detail, Sec. A-A detail of bars, floor drain details & bill of material see sheet #5

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

PLAN

14'-9" Stage I Construction — 2'-6" Stage III Construction — 14'-9" Stage II Construction

32'-0" o. to o.

12" — 15'-0" — 15'-0" — 12"

3" — 3"

Local Tan. to ℄ F.A. Rt. 778 at Sta. 864+70

Bonded Constr. Jt Do not edge

1'-3" — 1'-3"

Type "T" Railing

Total Drop = 2'-4¾"

2¼" Cl. ± ¼"

7½" Slab

P.G.

b(E) — 0.08 ft/ft Slope — a(E) — a1(E) — b2(E) — b(E) — be — d(E)

be — be2(E) — b1(E) — b(E) — a1(E) — a(E) — d(E) — b

La — 3" (Typ.) — La

11-#5b bars @ 9" cts. (Typ.)

New W24 Brms.

3'-3⅝" Max. ℄ Varies

3 Spcs. @ 8'-8" = 26'-0" Brms. are parallel to local tangent

2'-8⅜" Min. ℄ Varies

NEAR MIDSPAN — NEAR PIER

CROSS SECTION Looking South

FOR INFORMATION ONLY
SN 035-0006

SUPERSTRUCTURE

F.A. RT. 778 SEC. 3B-DR-2

HARDIN COUNTY

STA. 864+70.60

DESIGNED Brian Bolser
CHECKED Paul S McCreary
DRAWN Mercado
CHECKED P.S.M.

EXAMINED Feb. 23 1978 Carl E Thompson
PASSED
APPROVED

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 035-0006
STRUCTURE INFORMATION

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

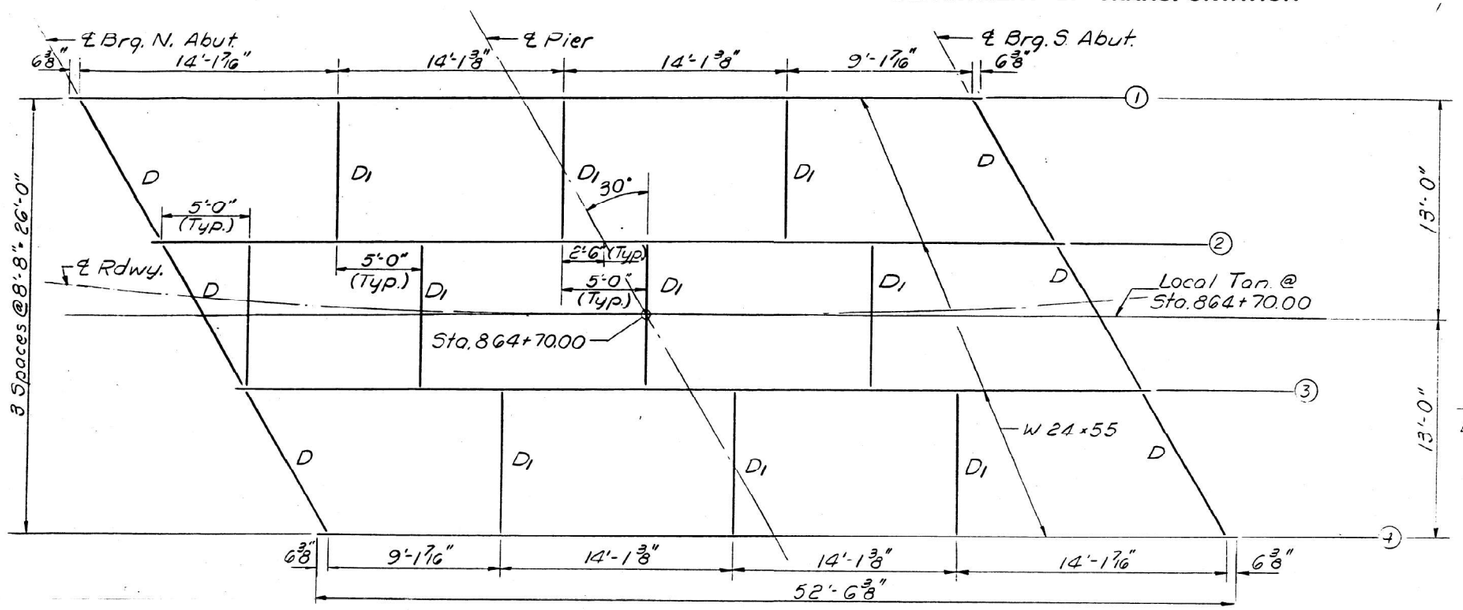
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	31
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

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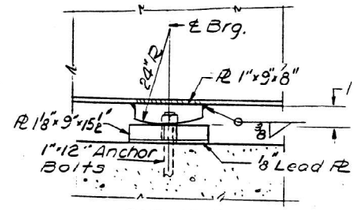
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. F.A.I.778	38-DR-2	Hardin	18	12
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 7
10 SHEETS

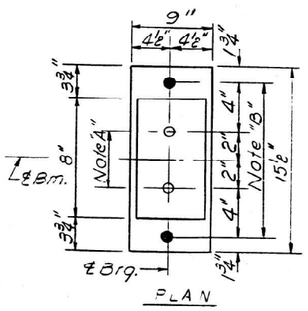
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FRAMING PLAN
Bms. are parallel to local tangent



ELEVATION



PLAN

FIXED PIER

MOMENT TABLE

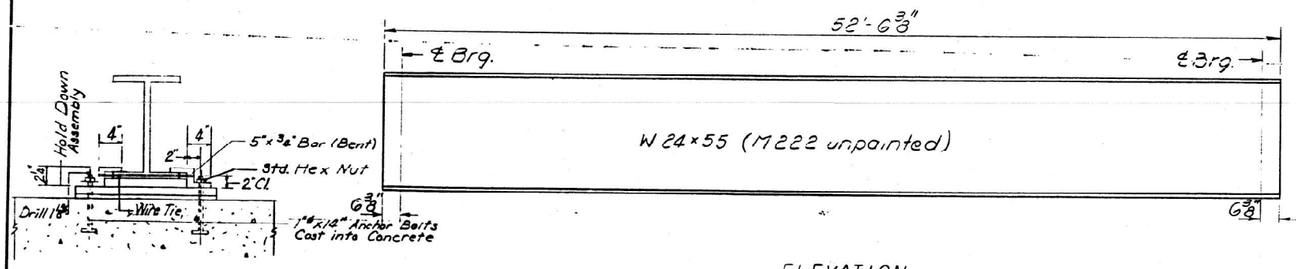
	4 Span 1 or 6 Span 2	Pier
I (in⁴)	1340	1340
S (in³)	114	114
ℛ (k/1)	1.18	1.18
Mℛ (1-k)	54.5	97.4
M℄ (1-k)	142.2	126.8
IMP (1-k)	42.7	38.1
* fs	49.6	50.9

*Ultimate Stress in Girder
fs = 1.3[fs ℛ + 5/3 (fs ℄ + Imp)]

INTERIOR GIRDER REACTION TABLE

	Abut.	Pier
R ℛ (k)	11.4	37.8
R ℄ (k)	34.3	47.4
IMP (k)	10.3	14.2
R Total (k)	56.0	99.4

Note "A"
1 3/8" ϕ Holes - 1" deep in top ℛ for 1 1/4" pintles
Thread or press fit pintles in bottom ℛ



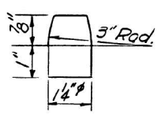
ELEVATION

BEAM HOLD DOWN DETAIL

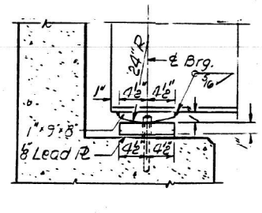
Note:
Beams shall be held down at the Abutment on the opposite end of Bridge from which the deck pour is commenced. After pouring is completed the Hold Down Assembly shall be removed and Nuts placed on Anchor Bolts.
Cost incidental to Class X Concrete.

Note: Hardened washers shall be required over 15/16" ϕ holes in angles.

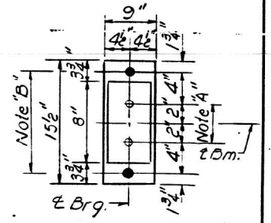
Note "B"
1 2" ϕ Holes for 1" ϕ Anchor Bolts - 2 1/2" x 2 1/2" x 5/16" ℛ washers under nut.



DETAIL OF PINTLE

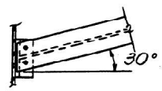


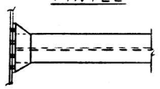
ELEVATION



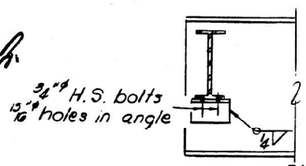
PLAN

NORTH & SOUTH ABUTMENTS
FIXED

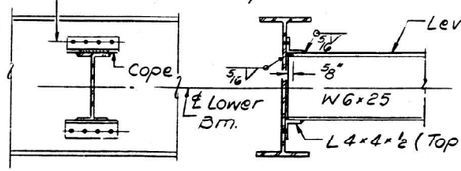




3 3/4" ϕ High Strength Bolts 15/16" ϕ holes in angles



END DIAPHRAGM D (6 Req'd.)



INTERIOR DIAPHRAGM D1 (9 Req'd)

DESIGNED	Dario Balsis	EXAMINED	Feb. 23 '78
CHECKED	Paul S. McCoy	PASSED	
DRAWN	Mercado	APPROVED	
CHECKED	PSM		

FOR INFORMATION ONLY
SN 035-0006

STRUCTURAL STEEL
F.A.RT. 778 SEC. 38-DR-2
HARDIN COUNTY
STA. 864+70.00

MODEL: SN 035-0006 4 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 035-0006
STRUCTURE INFORMATION

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	32
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

Bench Mark: Square cut in SE wingwall of S.N. 039-0030. Elev. 115.752.

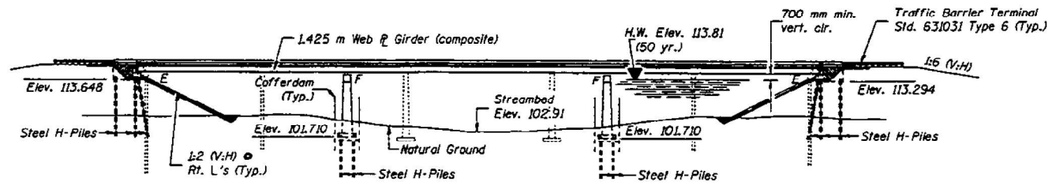
Existing Structure: S.N. 039-0030 built in 1938 as S.A. Route 21, Sec. 27-B at Sta. 16+754.41. The structure is a five-span continuous steel wide flange. The abutments are spill-thru type. piers 1 and 4 are pile bents, and piers 2 and 3 are solid wall on timber piling. The structure length is 130.835 m bk. to bk. abutments, and the width is 8.534 m out to out deck. The contractor shall remove and replace the existing structure as required. Traffic shall be maintained on a 1 lane temporary runaround bridge, to be provided by the contractor.

No salvage

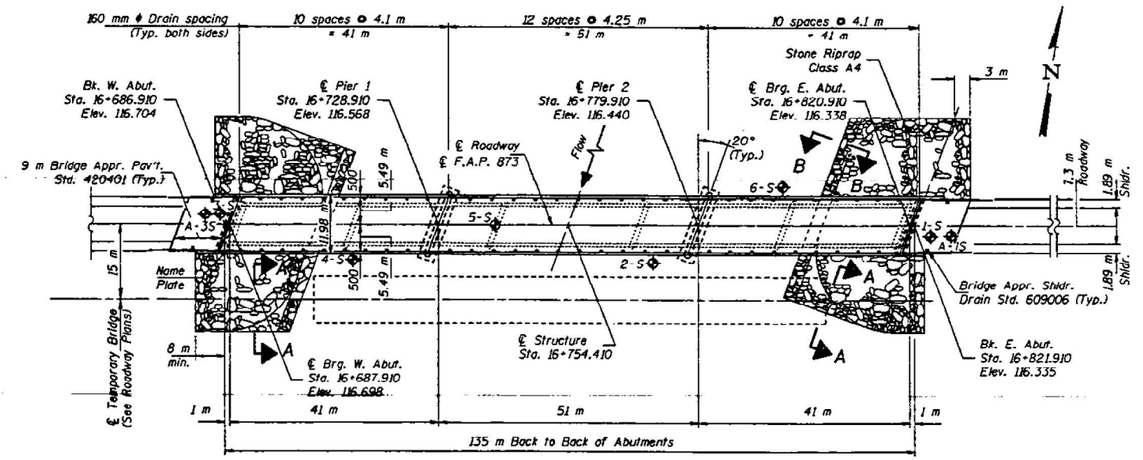
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 873	27B-1	JACKSON	52	27
PROJECT DESCRIPTION		PROJECT		

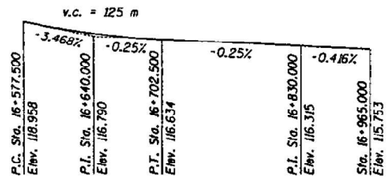
SHEET NO. 1 OF 26 SHEETS



ELEVATION



PLAN



PROFILE GRADE
(along ℄ roadway)

DESIGNED	Jeff Laird	March 22, 2000
CHECKED	Fassika Tekleberhan	EXAMINED
DRAWN	P.W. SWEET	PASSED
CHECKED	SDS GEH	ENGINEER OF BRIDGES AND STRUCTURES

STATE OF ILLINOIS — 081-004625 — REGISTERED STRUCTURAL ENGINEER

EXPIRES 11-30-2000

WATERWAY INFORMATION

Drainage Area = 1484.1 km² | Low Grade Elev. 115.719 @ Sta. 16+981

Flood	Freq. Yr.	Q m³/s	Opening m² Exist.	Opening m² Prop.	Nat. H.W.E.	Head - m Exist.	Head - m Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	50	526	589	640	113.81	0.03	0.00	113.84	113.81
Base	100	583	543	698	114.26	0.03	0.00	114.29	114.26
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	713	698	718	115.27	0.06	0.00	115.33	115.27

LOADING MS18
Allow 2.4 kN/m² for future wearing surface.

DESIGN SPECIFICATIONS
1996 AASHTO with 1997 and 1998 Interims

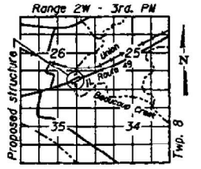
DESIGN STRESSES

FIELD UNITS
f'_c = 24 MPa
f_y = 400 MPa (reinforcement)
f_y = 345 MPa (M270 M Grade 345)
f_y = 250 MPa (M270 M Grade 250)

SEISMIC DATA
Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 12.6% g
Site Coefficient (S) = 2.0

STATION 16+754.410
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RT. 873 SEC. 27B-1
PROJECT BRF-873(27)
LOADING MS18
STR. NO. 039-0064

NAME PLATE
See Std. 515001



LOCATION SKETCH

GENERAL PLAN
ILLINOIS ROUTE 149 OVER
BEAUCOUP CREEK
F.A.P. ROUTE 873 - SECTION 27B-1
JACKSON COUNTY
STATION 16+754.410
STRUCTURE NO. 039-0064

FOR INFORMATION ONLY
SN 039-0064

MODEL: SN 039-0064 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 = 10/15/2024	DATE -	REVISED -	

SN 039-0064
STRUCTURE INFORMATION

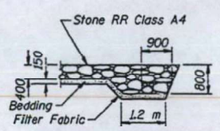
SCALE: | SHEET 1 OF 9 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	33
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

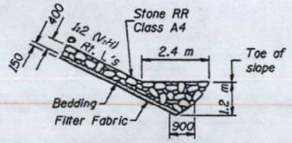
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOTAL BILL OF MATERIAL

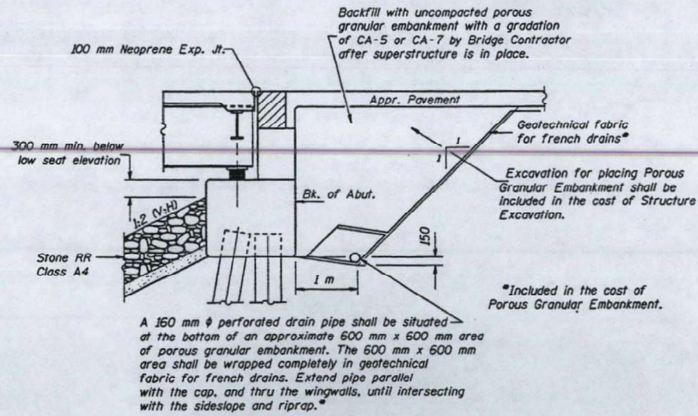
ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each		1	1
Structure Excavation	m^3		327	327
Cofferdam Excavation	m^3		1385	1385
Cofferdam (Pier 1)	Each		1	1
Cofferdam (Pier 2)	Each		1	1
Concrete Superstructure	m^3	409.7		409.7
Protective Coat	m^2	1790		1790
Elastomeric Bearing Assembly, Type II	Each	12		12
Floating Bearings, Fixed-1500 kN	Each	12		12
Concrete Structures	m^3		718.7	718.7
Stud Shear Connectors	Each	3690		3690
Reinforcement Bars, Epoxy Coated	kg	60080	50660	110740
Name Plates	Each	1		1
Bridge Seat Sealer	m^2		25.0	25.0
Porous Granular Embankment	m^3		151	151
Neoprene Expansion Joint 100 mm	m	24.6		24.6
Bridge Deck Grooving	m^2	1385		1385
Stone Riprap Class A4	m^2		1494	1494
Filter Fabric for use with Riprap	m^2		1494	1494
Floor Drains	Each	58		58
Furnishing and Erecting Structural Steel	L. Sum	1		1
Furnishing Steel Piles HP360x132	m		913.5	913.5
Driving Steel Piles	m		913.5	913.5
Test Pile Steel HP360x132	Each		4	4
Bar Splicers	Each		78	78



SECTION A-A



SECTION B-B



SECTION THRU ABUTMENT
(Dimensions ⊙ Rt. L's)

DESIGNED	SDS
CHECKED	CEH FT
DRAWN	P.W. SWEET
CHECKED	SDS CEH

March 22, 2000
EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 873	27B-1	JACKSON	52	28
FED.ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

SHEET NO. 2
OF 26 SHEETS

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts M 22, open holes 24 mm ϕ, unless otherwise noted.

Calculated mass of Structural Steel = 232180 kg (M 270M Gr. 345)
Calculated mass of Structural Steel = 17060 kg (M 270M Gr. 250)

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 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 and bottom flange of the fascia beams shall be Interstate Green, Munsell No. 7.5 G 4/8. See Special Provision for "Cleaning and Painting New Metal Structures".

Field welding of construction accessories will not be permitted to the bottom flange of 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 bolting bolting cross frames over supports.

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

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 tension flanges, webs and all splice plates material except fill plates.

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

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

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.

Bridge Seat Sealer shall be applied to the seat area of the abutments.

In addition to all other requirements of section 512 of the Standard Specifications, splices for steel H-Piles shall develop the full capacity of the steel's cross sectional area of the pile for tension, shear and bending forces. One approved method of achieving this requirement is full penetration butt welding of the entire cross section. Other types of splices meeting the full capacity requirement may be allowed subject to the approval of the Engineer. Any proposal by the contractor to use an alternate splice method must include adequate documentation demonstrating that the full tension, shear and bending capacities will be met. Appropriate welder qualifications will be required for the positions and processes used in splicing all piles. Nondestructive testing of completed welds will be limited to visual inspection.

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

The contractor shall drive one steel test pile in a permanent location at each pier and abutment as directed by the Engineer before ordering the remainder of piles.

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

FOR INFORMATION ONLY
SN 039-0064

GENERAL DATA
F.A.P. ROUTE 873 - SECTION 27B-1
JACKSON COUNTY
STATION 16+754.410

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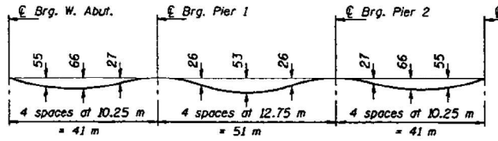
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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 039-0064
STRUCTURE INFORMATION

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	34
		CONTRACT NO. 78A75		
		ILLINOIS	FED. AID PROJECT	



DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown below.

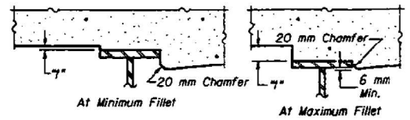
All dimensions are in millimeters (mm) except as noted.

All offsets are in meters.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 873	27B-1	JACKSON	52	29
PROJ. FINAL CONST. NO.	SUPPLEMENTAL PROJECT NO.			

SHEET NO. 3 OF 26 SHEETS



To determine "T": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "T" above top flange of girders.

FILLET HEIGHTS

℄ GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK W. ABUT	16688.730	-5.000	116.611	116.611
CL BRG W. ABUT	16689.730	-5.000	116.605	116.605
A	16692.730	-5.000	116.588	116.605
B	16695.730	-5.000	116.575	116.607
C	16698.730	-5.000	116.563	116.611
D	16701.730	-5.000	116.554	116.611
E	16704.730	-5.000	116.546	116.606
F	16707.730	-5.000	116.539	116.602
G	16710.730	-5.000	116.531	116.595
H	16713.730	-5.000	116.524	116.576
I	16716.730	-5.000	116.516	116.557
J	16719.730	-5.000	116.509	116.539
K	16722.730	-5.000	116.501	116.522
L	16725.730	-5.000	116.494	116.507
M	16728.730	-5.000	116.486	116.491
CL BRG PIER 1	16730.730	-5.000	116.481	116.481
N	16733.730	-5.000	116.474	116.480
O	16736.730	-5.000	116.466	116.478
P	16739.730	-5.000	116.459	116.477
Q	16742.730	-5.000	116.451	116.476
R	16745.730	-5.000	116.444	116.474
S	16748.730	-5.000	116.436	116.473
T	16751.730	-5.000	116.429	116.472
U	16754.730	-5.000	116.421	116.471
V	16757.730	-5.000	116.414	116.463
W	16760.730	-5.000	116.406	116.450
X	16763.730	-5.000	116.399	116.436
Y	16766.730	-5.000	116.391	116.422
Z	16769.730	-5.000	116.384	116.408
A1	16772.730	-5.000	116.376	116.395
B1	16775.730	-5.000	116.369	116.381
C1	16778.730	-5.000	116.361	116.367
CL BAC PIER 2	16781.730	-5.000	116.354	116.354
D1	16784.730	-5.000	116.346	116.354
E1	16787.730	-5.000	116.339	116.354
F1	16790.730	-5.000	116.331	116.356
G1	16793.730	-5.000	116.324	116.357
H1	16796.730	-5.000	116.316	116.361
I1	16799.730	-5.000	116.309	116.365
J1	16802.730	-5.000	116.301	116.367
K1	16805.730	-5.000	116.294	116.366
L1	16808.730	-5.000	116.286	116.365
M1	16811.730	-5.000	116.279	116.334
N1	16814.730	-5.000	116.271	116.314
O1	16817.730	-5.000	116.264	116.291
P1	16820.730	-5.000	116.256	116.267
CL BAC E. ABUT	16822.730	-5.000	116.251	116.251
BK E. ABUT	16823.730	-5.000	116.249	116.249

℄ GIRDER 2

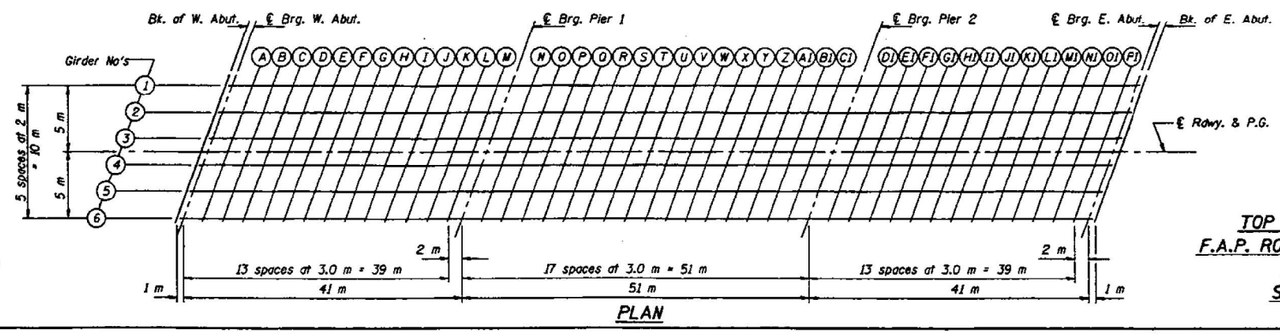
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK W. ABUT	16688.002	-3.000	116.652	116.652
CL BRG W. ABUT	16689.002	-3.000	116.646	116.646
A	16692.002	-3.000	116.629	116.645
B	16695.002	-3.000	116.615	116.647
C	16698.002	-3.000	116.603	116.651
D	16701.002	-3.000	116.593	116.650
E	16704.002	-3.000	116.585	116.645
F	16707.002	-3.000	116.577	116.641
G	16710.002	-3.000	116.570	116.634
H	16713.002	-3.000	116.562	116.625
I	16716.002	-3.000	116.555	116.596
J	16719.002	-3.000	116.547	116.577
K	16722.002	-3.000	116.540	116.561
L	16725.002	-3.000	116.532	116.546
M	16728.002	-3.000	116.525	116.530
CL BRG PIER 1	16730.002	-3.000	116.520	116.520
N	16733.002	-3.000	116.512	116.519
O	16736.002	-3.000	116.505	116.517
P	16739.002	-3.000	116.497	116.516
Q	16742.002	-3.000	116.490	116.514
R	16745.002	-3.000	116.482	116.513
S	16748.002	-3.000	116.475	116.512
T	16751.002	-3.000	116.467	116.511
U	16754.002	-3.000	116.460	116.510
V	16757.002	-3.000	116.452	116.502
W	16760.002	-3.000	116.445	116.488
X	16763.002	-3.000	116.437	116.475
Y	16766.002	-3.000	116.430	116.461
Z	16769.002	-3.000	116.422	116.447
A1	16772.002	-3.000	116.415	116.433
B1	16775.002	-3.000	116.407	116.420
C1	16778.002	-3.000	116.400	116.406
CL BAG PIER 2	16781.002	-3.000	116.392	116.392
D1	16784.002	-3.000	116.385	116.393
E1	16787.002	-3.000	116.377	116.393
F1	16790.002	-3.000	116.370	116.394
G1	16793.002	-3.000	116.362	116.396
H1	16796.002	-3.000	116.355	116.400
I1	16799.002	-3.000	116.347	116.404
J1	16802.002	-3.000	116.340	116.405
K1	16805.002	-3.000	116.332	116.395
L1	16808.002	-3.000	116.325	116.384
M1	16811.002	-3.000	116.317	116.373
N1	16814.002	-3.000	116.310	116.353
O1	16817.002	-3.000	116.302	116.329
P1	16820.002	-3.000	116.295	116.306
CL BRG E. ABUT	16822.002	-3.000	116.290	116.290
BK E. ABUT	16823.002	-3.000	116.287	116.287

℄ GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
BK W. ABUT	16687.274	1.000	116.687	116.687
CL BRG W. ABUT	16688.274	-1.000	116.680	116.680
A	16691.274	-1.000	116.663	116.679
B	16694.274	-1.000	116.648	116.680
C	16697.274	-1.000	116.635	116.684
D	16700.274	-1.000	116.625	116.682
E	16703.274	-1.000	116.617	116.677
F	16706.274	-1.000	116.609	116.673
G	16709.274	-1.000	116.602	116.666
H	16712.274	-1.000	116.594	116.647
I	16715.274	-1.000	116.587	116.628
J	16718.274	-1.000	116.579	116.609
K	16721.274	-1.000	116.572	116.593
L	16724.274	-1.000	116.564	116.577
M	16727.274	-1.000	116.557	116.562
CL BRG PIER 1	16729.274	-1.000	116.552	116.552
N	16732.274	-1.000	116.544	116.550
O	16735.274	-1.000	116.537	116.549
P	16738.274	-1.000	116.529	116.548
Q	16741.274	-1.000	116.522	116.546
R	16744.274	-1.000	116.514	116.545
S	16747.274	-1.000	116.507	116.544
T	16750.274	-1.000	116.499	116.543
U	16753.274	-1.000	116.492	116.542
V	16756.274	-1.000	116.484	116.534
W	16759.274	-1.000	116.477	116.520
X	16762.274	-1.000	116.469	116.506
Y	16765.274	-1.000	116.462	116.493
Z	16768.274	-1.000	116.454	116.479
A1	16771.274	-1.000	116.447	116.465
B1	16774.274	-1.000	116.439	116.452
C1	16777.274	-1.000	116.432	116.438
CL BRG PIER 2	16780.274	-1.000	116.424	116.424
D1	16783.274	-1.000	116.417	116.425
E1	16786.274	-1.000	116.409	116.425
F1	16789.274	-1.000	116.402	116.426
G1	16792.274	-1.000	116.394	116.428
H1	16795.274	-1.000	116.387	116.432
I1	16798.274	-1.000	116.379	116.436
J1	16801.274	-1.000	116.372	116.437
K1	16804.274	-1.000	116.364	116.437
L1	16807.274	-1.000	116.357	116.436
M1	16810.274	-1.000	116.349	116.405
N1	16813.274	-1.000	116.342	116.385
O1	16816.274	-1.000	116.334	116.361
P1	16819.274	-1.000	116.327	116.338
CL BRG E. ABUT	16821.274	-1.000	116.322	116.322
BK E. ABUT	16822.274	-1.000	116.319	116.319

FOR INFORMATION ONLY
SN 039-0064

Note: Work this sheet with sheet 4 of 26.



PLAN

TOP OF SLAB ELEVATIONS
F.A.P. ROUTE 873 - SECTION 27B-1
JACKSON COUNTY
STATION 16+754.410

DESIGNED	SDS
CHECKED	CEH FT
DRAWN	P.W. SWEET
CHECKED	SDS CEH

March 22, 2000

EXAMINED Thomas J. Domagalski
BUREAU OF BRIDGE DESIGN

PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

E-S (M) 4-30-99

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 039-0064
STRUCTURE INFORMATION

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

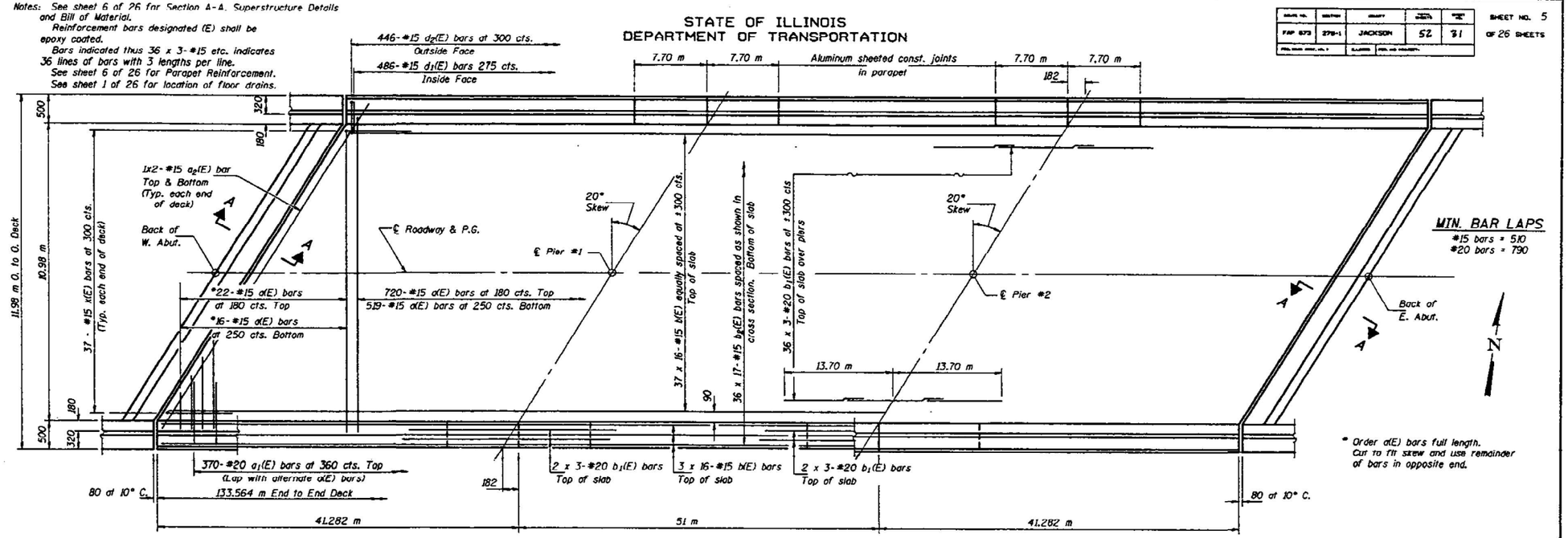
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	35
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

MODEL: SN 039-0064 3 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsondad\d0983530\D978A75-Sht-FortInfoOnly.dgn

					SHEET NO. 5 OF 26 SHEETS
FAP 873	278-1	JACKSON	52	31	

Notes: See sheet 6 of 26 for Section A-A, Superstructure Details and Bill of Material.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 36 x 3-#15 etc. indicates 36 lines of bars with 3 lengths per line.
See sheet 6 of 26 for Parapet Reinforcement.
See sheet 1 of 26 for location of floor drains.

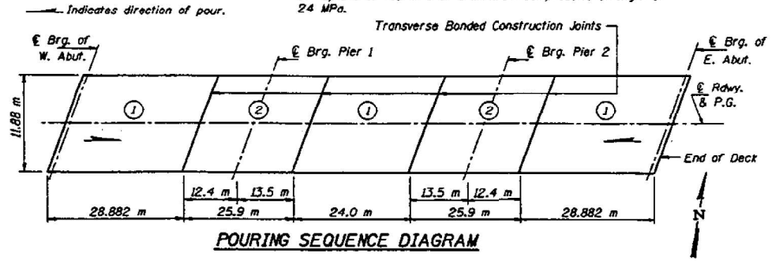
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



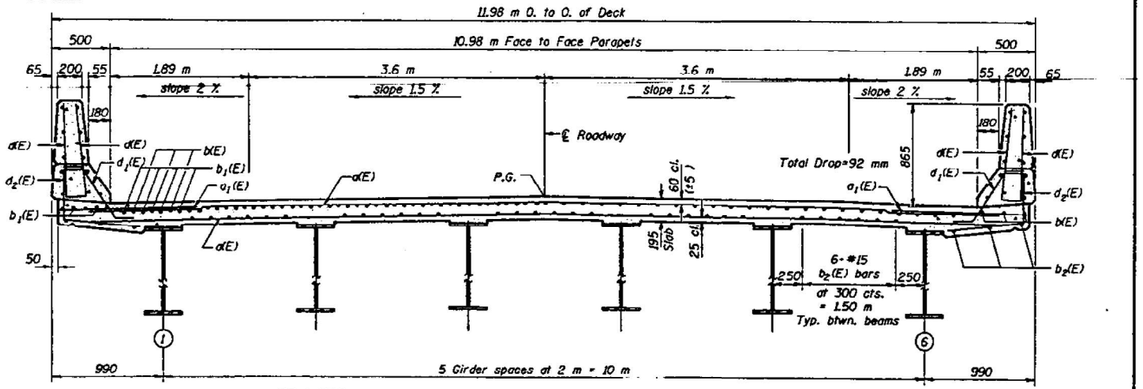
PLAN

Note:
When the deck pour is stopped for the day at one or more of the Transverse Bonded Construction Joints in the deck Pouring Sequence as shown, the next pour shall not be made until both of the following requirements are met:

1. At least 72 hours shall have elapsed from the end of the previous pour.
2. The concrete strength shall have attained a minimum modulus of rupture of 4.5 MPa or a minimum compressive strength of 24 MPa.



POURING SEQUENCE DIAGRAM



CROSS SECTION
(Looking East)

DESIGNED	SDS
CHECKED	CEH FT
DRAWN	P.W. SWEET
CHECKED	SDS CEH

March 22, 2000
EXAMINED Thomas J. Domagalski
CHIEF OF BUREAU OF BRIDGE DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

S-1-L(>15°) (M) 4-30-99

FOR INFORMATION ONLY
SN 039-0064

SUPERSTRUCTURE
F.A.P. ROUTE 873 - SECTION 27B-1
JACKSON COUNTY
STATION 16+754.410

MODEL: SN 039-0064 4 [Sheet]
FILE NAME: c:\pw_work\pwdot\wilsonda\d0983530\D978A75-Shl-ForInfoOnly.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 039-0064
STRUCTURE INFORMATION

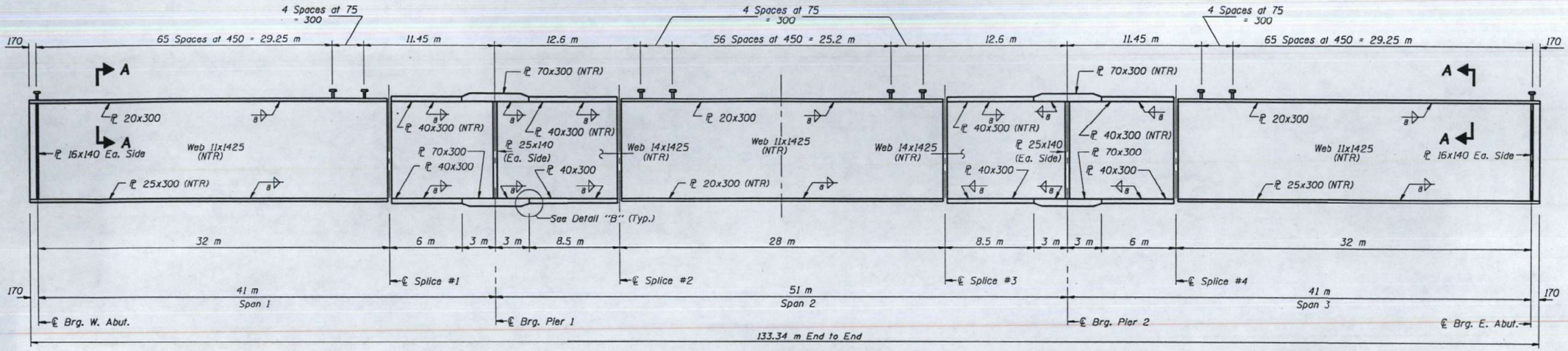
SCALE: | SHEET 4 OF 9 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	36
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 873	27B-1	JACKSON		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 8 OF 26 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

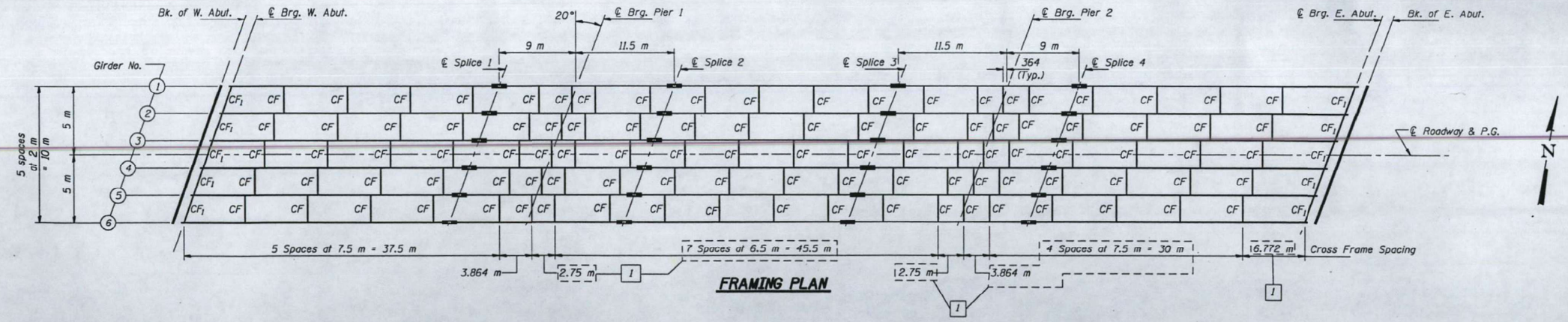


GIRDER ELEVATION

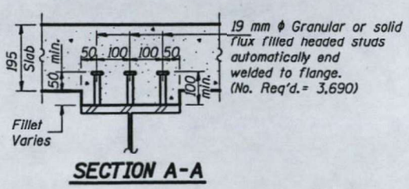
"NTR" denotes plates to which notch toughness requirements are applicable.

All plates of the girders, including bearing stiffeners, shall be AASHTO M270 M Grade 345.

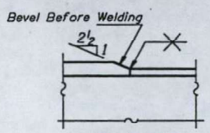
Notes: See Sheet 9 & 10 of 26 for Structural Steel details.



FRAMING PLAN



SECTION A-A



DETAIL "B"

DESIGNED	SDS
CHECKED	CEH FT
DRAWN	P.W. SW66T
CHECKED	SDS CEH

March 22, 2000

EXAMINED Thomas J. Domagalski
ENGINEER OF BRIDGE DESIGN

PASSED Robert E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

FOR INFORMATION ONLY
SN 039-0064

FRAMING PLAN - GIRDER ELEVATION
F.A.P. ROUTE 873 - SECTION 27B-1
JACKSON COUNTY
STATION 16+754.410

1 Revised 6/14/2000. SDS

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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 039-0064
STRUCTURE INFORMATION

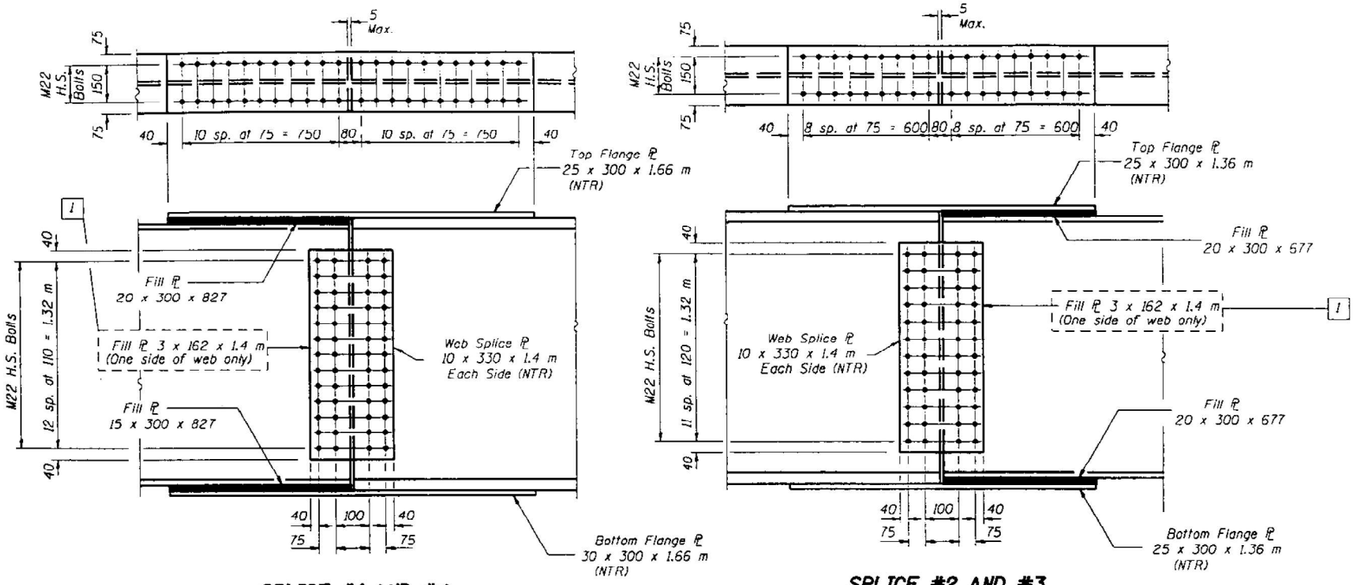
SCALE: | SHEET 5 OF 9 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	37
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

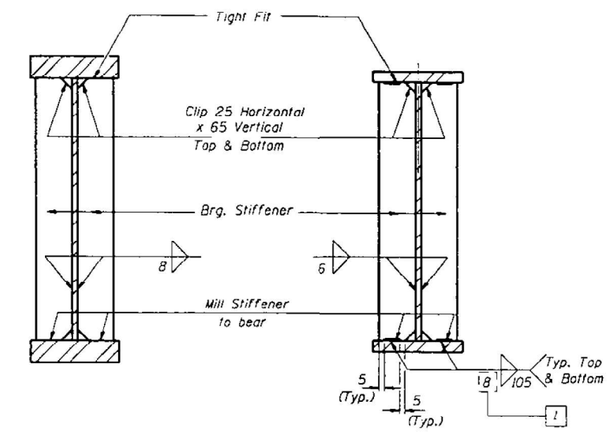
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 873	27B-1	JACKSON		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 9 OF 26 SHEETS



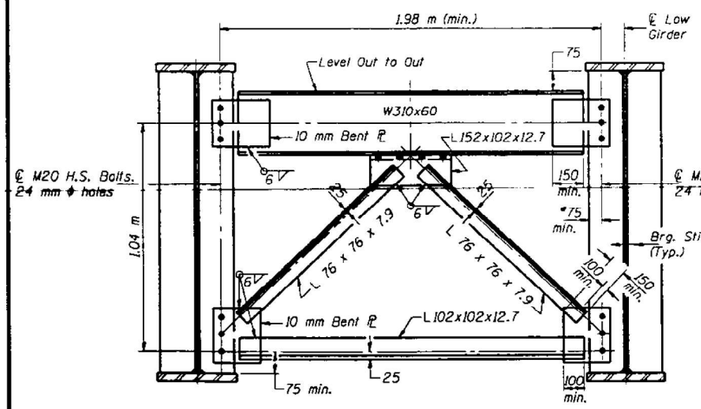
SPLICE #1 AND #4

SPLICE #2 AND #3



SECTION AT PIER

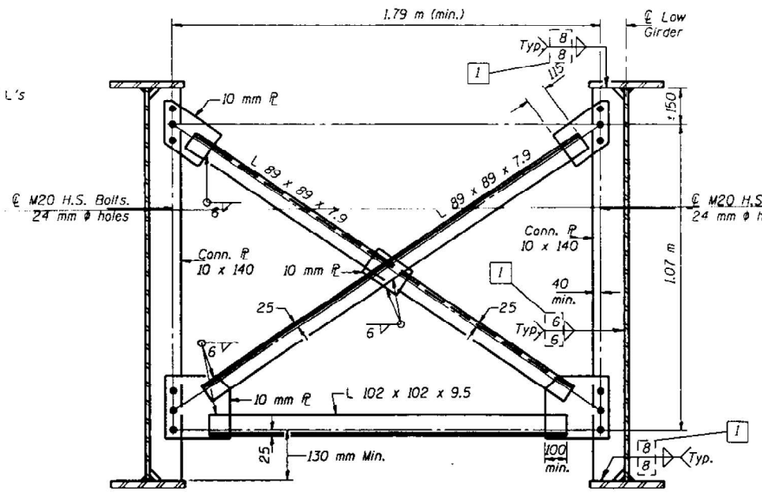
SECTION AT ABUTMENT



* Measured at right L's to ℄ Girder

TYPICAL END CROSS FRAME (CF_1)

(All dimensions are along skew, unless otherwise noted)



TYPICAL INTERIOR CROSS FRAME (CF)

(All dimensions are measured at right L's to ℄ Girder)

Note:
Two hardened washers shall be required over all oversized holes for ~~diaphragms~~.
All Splice Plates except filler plates shall be AASHTO M270 M Grade 345.
"NTR" denotes splice plates to which Notch Toughness Requirements are applicable.
Use M20 H.S. Bolts with 24 mm ϕ holes in Cross Frames.

FOR INFORMATION ONLY
SN 039-0064

DESIGNED	SDS
CHECKED	CEH FT
DRAWN	P.W. SWEET
CHECKED	SDS CEH

March 22, 2000
EXAMINED Thomas J. Domagalski, ENGINEER OF BRIDGE DESIGN
PASSED Robert E. Arndt, ENGINEER OF BRIDGES AND STRUCTURES

STRUCTURAL STEEL DETAILS
F.A.P. ROUTE 873 - SECTION 27B-1
JACKSON COUNTY
STATION 16+754.410

1 Revised 6/14/2000, SDS

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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 039-0064
STRUCTURE INFORMATION

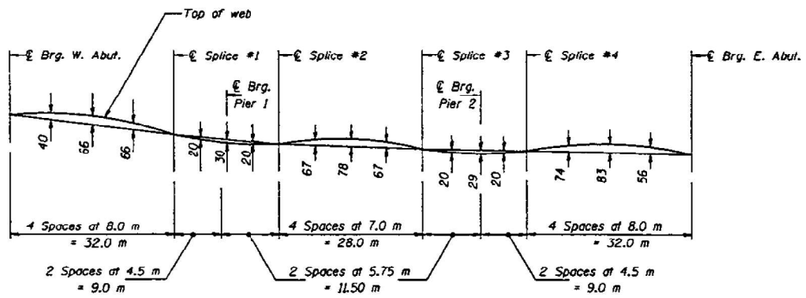
SCALE: | SHEET 6 OF 9 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	38
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

FAP 873	27B-1	JACKSON	52	36	

SHEET NO. 10 OF 26 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



CAMBER DIAGRAM

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Piers	0.5 Sp. 2
Is	(10^6 mm^4)	9686	26861	8917
Ic (n)	(10^6 mm^4)	22953		20689
Ic (3n)	(10^6 mm^4)	17007		15501
Ss	(10^3 mm^3)	12574	34327	12173
Sc (n)	(10^3 mm^3)	18840		16698
Sc (3n)	(10^3 mm^3)	17230		15240
Z	(10^3 mm^3)			
wℓ	(kN/m)	12.23	21.98	12.09
Mℓ	(kN·m)	1248	4505	953
sℓ	(kN/m)	6.86		6.86
Msℓ	(kN·m)	798		765
Mℓ	(kN·m)	1437	1736	1446
M (Imp)	(kN·m)	273	312	246
5/3[Mℓ+M(Imp)]	(kN·m)	2850	3413	2820
Ma	(kN·m)	6366	10294	5899
Mu	(kN·m)	6927		7940
fsℓ non-comp	(MPa)	99	131	78
fsℓ (comp)	(MPa)	46		50
fs 5/3(ℓ+Imp)	(MPa)	151	99	169
fs (Overload)	(MPa)	297	231	297
fs (Total)	(MPa)		300	
VR	(kN)	238		287

INTERIOR GIRDER REACTION TABLE			
		Abut.	Pier
Rℓ	(kN)	280	1016
Rℓ	(kN)	175	371
Imp.	(kN)	53	67
R (Total)	(kN)	488	1454

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

$I_{C(n)}$ and $S_{C(n)}$ are the moment of inertia and section modulus of the composite section used in computing stresses due to Live Load.

$I_{C(3n)}$ and $S_{C(3n)}$ are the moment of inertia and section modulus of the composite section used in computing stresses due to superimposed dead loads. (see AASHTO 10.38)

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

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

Ma (Applied Moment)=1.3[Mℓ + Msℓ +5/3(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 Mℓ + Msℓ +5/3(Mℓ + M_{Imp}).

fs (Total) (Non-compact section) is the sum of the stresses due to 1.3[Mℓ + Msℓ +5/3(Mℓ + M_{Imp})].

TOP OF WEB ELEVATIONS

Location	℄ Brg. W. Abut.	℄ Splice #1	℄ Pier 1	℄ Splice #2	℄ Splice #3	℄ Pier 2	℄ Splice #4	℄ Brg. E. Abut.
Girder 1	116.370	116.249	116.195	116.195	116.125	116.068	116.076	116.016
Girder 2	116.411	116.287	116.234	116.234	116.164	116.107	116.115	116.055
Girder 3	116.445	116.319	116.266	116.266	116.196	116.139	116.147	116.087
Girder 4	116.445	116.319	116.266	116.266	116.196	116.139	116.147	116.087
Girder 5	116.425	116.293	116.240	116.240	116.170	116.113	116.120	116.060
Girder 6	116.392	116.258	116.205	116.205	116.135	116.078	116.085	116.025

Note: Top of Web Elevations are given for fabrication only. Elevations at Splices have been adjusted for dead load deflection.

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

DESIGNED	SDS
CHECKED	CEH FT
DRAWN	P.W. SWEET
CHECKED	SDS CEH

March 22, 2000
EXAMINED Thomas J. Domagalski
BUREAU OF BRIDGES AND STRUCTURES
PASSED Robert F. Olson
ENGINEER OF BRIDGES AND STRUCTURES

FOR INFORMATION ONLY
SN 039-0064

STRUCTURAL STEEL DETAILS
F.A.P. ROUTE 873 - SECTION 27B-1
JACKSON COUNTY
STATION 16+754.410

MODEL: SN 039-0064 7 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 039-0064
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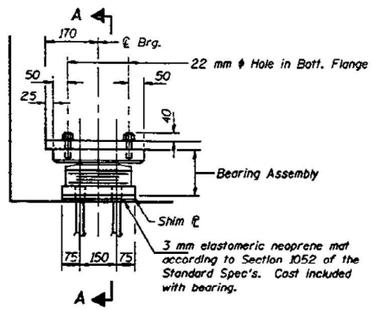
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F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	39
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

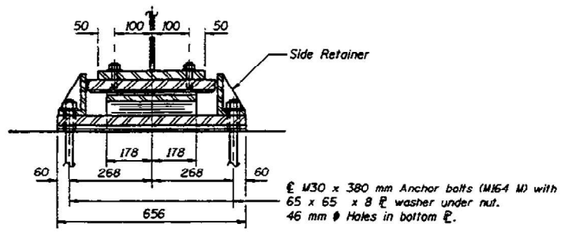
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO.	SECTION	COUNTY	TOTAL SHEET NO.	SHEET NO.
FAP 873	27B-1	JACKSON	52	37

SHEET NO. 11 OF 26 SHEETS



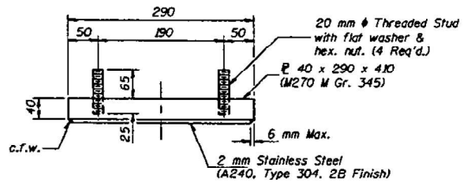
ELEVATION AT ABUT.



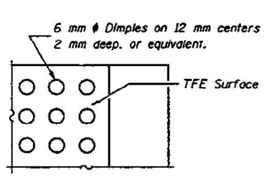
SECTION A-A

Notes:
See Sheet 13 of 26 for Anchor Bolt installation.
All dimensions are in millimeters (mm) except as noted.

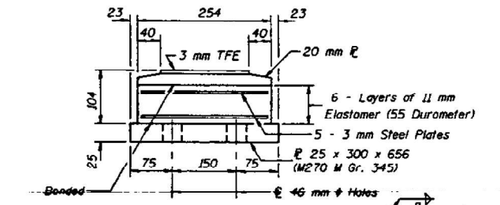
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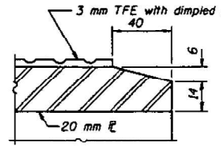


TOP BEARING ASSEMBLY



PLAN-TFE SURFACE



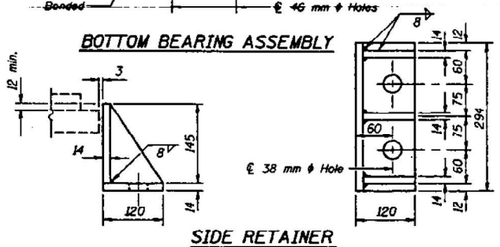


SECTION THRU TFE

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.

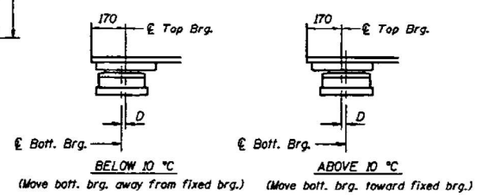
Bonding of 3 mm TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

BOTTOM BEARING ASSEMBLY



SIDE RETAINER

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



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

ABOVE 10 °C (Move bott. brg. toward 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.

DESIGNED	SDS
CHECKED	CEH FT
DRAWN	P.W. SWEET
CHECKED	SDS CEH

March 22, 2000
EXAMINED Thomas J. Domagalski
DIRECTOR OF HIGHWAYS, DESIGN
PASSED Ralph E. Anderson
ENGINEER OF BRIDGES AND STRUCTURES

I-2-E2 (M) 4-30-99

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	12

FOR INFORMATION ONLY
SN 039-0064

BEARING DETAILS
ABUTMENTS
F.A.P. ROUTE 873 - SECTION 27B-1
JACKSON COUNTY
STATION 16+754.410

MODEL: SN 039-0064 8 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 039-0064
STRUCTURE INFORMATION

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

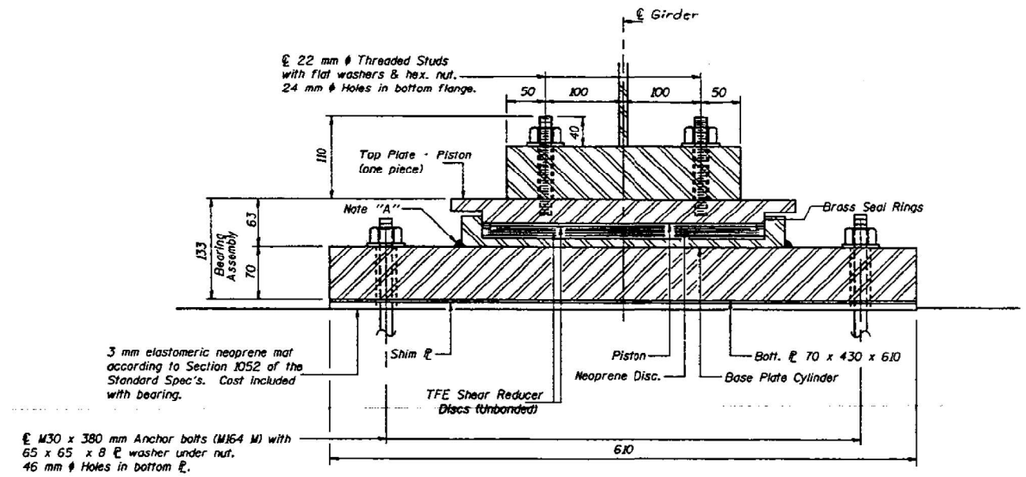
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	40
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 873	27B-1	JACKSON	52	48
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT	

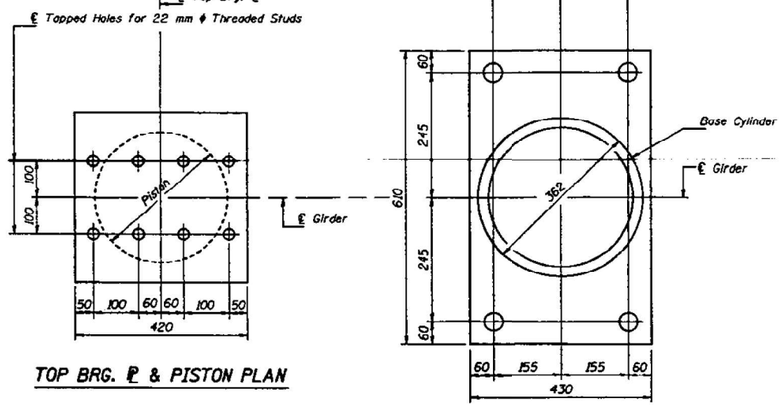
SHEET NO. 12 OF 26 SHEETS

Note "A":
Weld may be omitted if Base Cylinder is recessed into Bottom Plate.



BEARING ASSEMBLY

BEARING DATA		
R_{TOTAL}	(kN)	1387
Lateral Load	(kN)	576



TOP BRG. ℄ & PISTON PLAN

BOTT. BRG. ℄ & BASE CYLINDER PLAN

Notes: All plates of the Bearing Assembly shall be AASHTO M 270M, Grade 345.
~~Base plate thickness was determined by using~~ a pot diameter of 362 mm.
For Anchor Bolt installation details See Sheet 13 of 26.

BILL OF MATERIAL

Item	Unit	Total
Floating Bearings. Fixed 1500 kN	Each	12

DESIGNED	SDS
CHECKED	CEH FT
DRAWN	P.W. SWEET
CHECKED	SDS CEH

March 22, 2000
EXAMINED Thomas J. Domagalski
DIRECTOR OF HIGHWAYS
PASSED Robert E. Arlinghaus
ENGINEER OF BRIDGES AND STRUCTURES

FOR INFORMATION ONLY
SN 039-0064

BEARING DETAILS
PIERS
F.A.P. ROUTE 873 - SECTION 27B-1
JACKSON COUNTY
STATION 16+754.410

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 039-0064
STRUCTURE INFORMATION

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	41
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

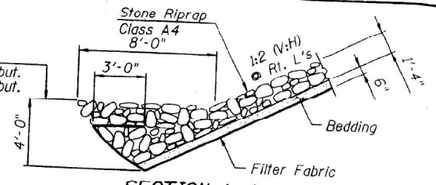
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Bench Mark: Chiseled square in N.E. corner of SN 039-0042, approx. 0.5 miles west from intersection of Rte. 4/Rte. 127 "88" Elev. = 384.28

Existing Structure: SN 039-0042 was originally built in 1931. The structure consisted of 2-160' Penn trusses with 2 40' RCDG approach spans, 21' roadway on RC spill-thru abutments and solid concrete piers supported on timber piles. In 1983, the superstructure and part of substructure was replaced and four new wall piers were constructed to create an 8 simple-span PPC deck beam bridge. The structure is approximately 415'-6" back to back abutments and 35'-0" out to out deck width. The structure is to be removed and replaced. Traffic is to be detoured. No salvage.

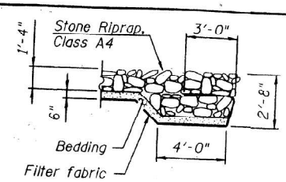
DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	379.8	355.4	362.5	380.7



SECTION A-A

Typical at edges of Abutment Riprap Protection

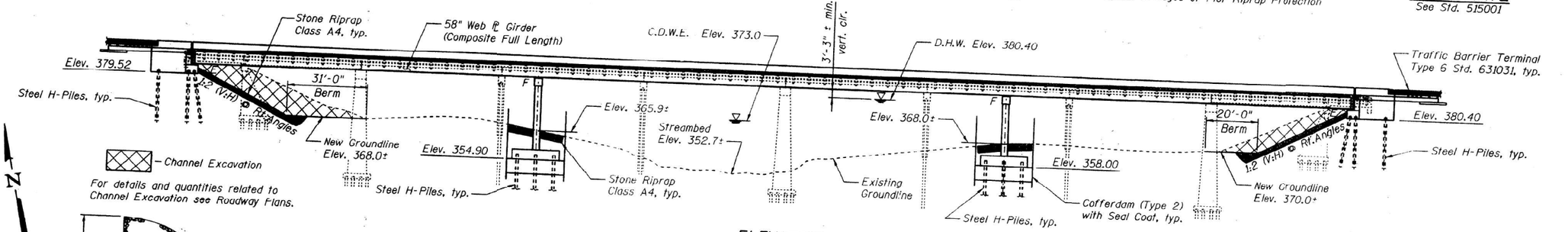


SECTION B-B

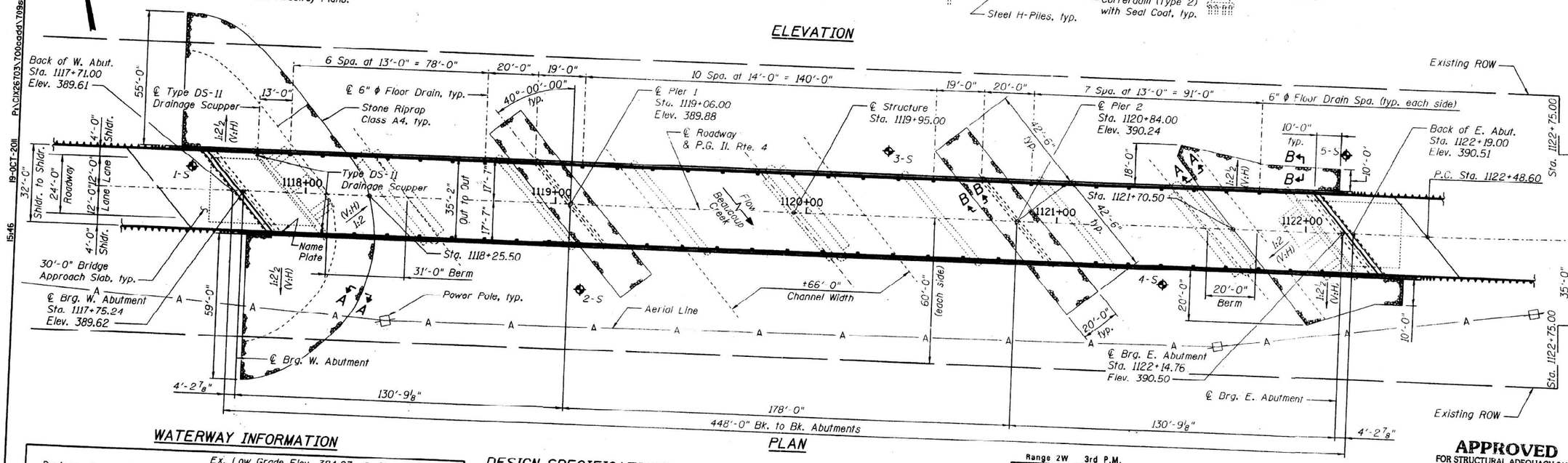
Typical at edges of Pier Riprap Protection

STATION 1119+95
BUILT 201_ BY
STATE OF ILLINOIS
F.A.P. ROUTE 686 SEC. 114B-1
LOADING HL-93
STRUCTURE NO. 039-0074

NAME PLATE
See Std. 515001



ELEVATION



PLAN

WATERWAY INFORMATION

Drainage Area = 517 Sq Mi
Ex. Low Grade Elev. 384.07 ℄ Sta. 1105+50
Pr. Low Grade Elev. 384.07 ℄ Sta. 1105+50

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.
	10	14900	3410.0	3937.0	377.5	0.8	0.8	378.3	378.3
Design	50	22100	4192.0	4843.0	380.4	1.0	0.9	381.4	381.3
Base	100	25100	4642.0	5357.0	382.0	0.9	0.9	382.9	382.9
Overtopping		31880	5075.0	5847.0	383.5	1.3	0.9	384.8	384.4

10 Year Velocity through Existing Bridge = 4.37 fps.
10 Year Velocity through Proposed Bridge = 3.8 fps.

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications,
Customary U.S. Units, 5th Edition

SEISMIC DATA

Seismic Performance Zone (SPZ) = 3
Design Spectral Acc. at 1.0 sec (S_{D1}) = 0.334g
Design Spectral Acc. at 0.2 sec (S_{DS}) = 0.780g
Soil Site Class D

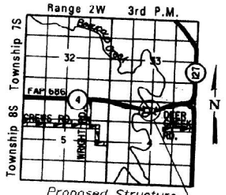
LOADING HL 93

Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M270 Grade 50) (Pile)
fy = 50,000 psi (M270 Grade 50W) (Girders)

Note: See Sheet No. 2 of 35 for Curve Data and Protie Grade Along ℄ Roadway.



Proposed Structure
LOCATION SKETCH

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

BENJAMIN J. ERSCHEN
ST. LOUIS, MISSOURI
ILLINOIS LICENSED STRUCTURAL ENGINEER NO. 081-007057
EXPIRES NOV. 30, 2012

GENERAL PLAN AND ELEVATION
IL ROUTE 4 OVER BEAUCOUP CREEK
FAP ROUTE 686 - SECTION 114B-1
JACKSON COUNTY
STATION 1119+95.00
STRUCTURE NO. 039-0074

JACOBS

USER NAME =	DESIGNED - B. ERSCHEN	REVISED -
	CHECKED - R. NIEMIETZ	REVISED -
PLOT DATE = 19-OCT-2011	DRAWN - C. SALLADE	REVISED -
FILE NAME=039-0074978049-Plan & Elevation.dgn	CHECKED - B. ERSCHEN	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 039-0074
SHEET NO. 1 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
686	114B-1	JACKSON	80	114
		CONTRACT NO. 78049		
		ILLINOIS FED. AID PROJECT		

FOR INFORMATION ONLY
SN 039-0074

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

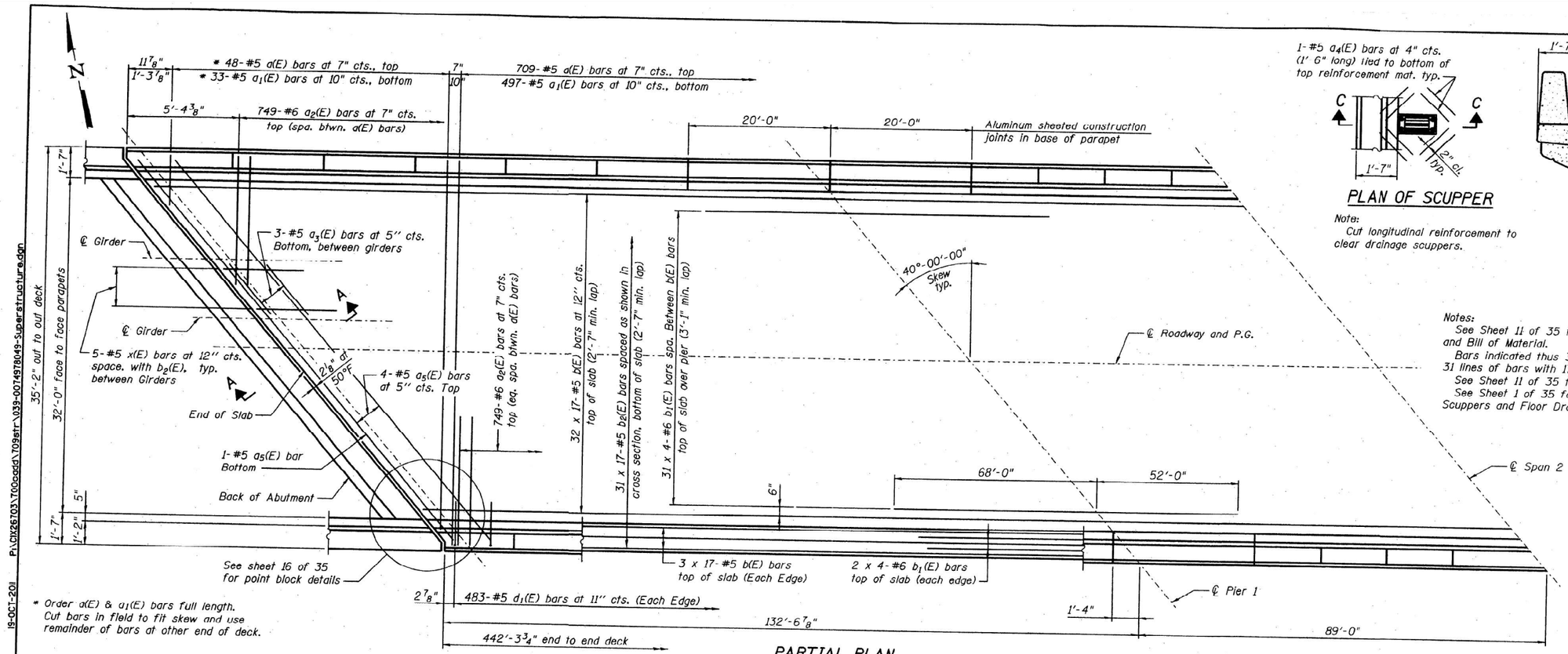
SN 039-0074
STRUCTURE INFORMATION

SCALE: SHEET 1 OF 7 SHEETS STA. TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	42
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

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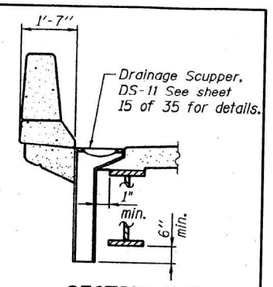
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PARTIAL PLAN

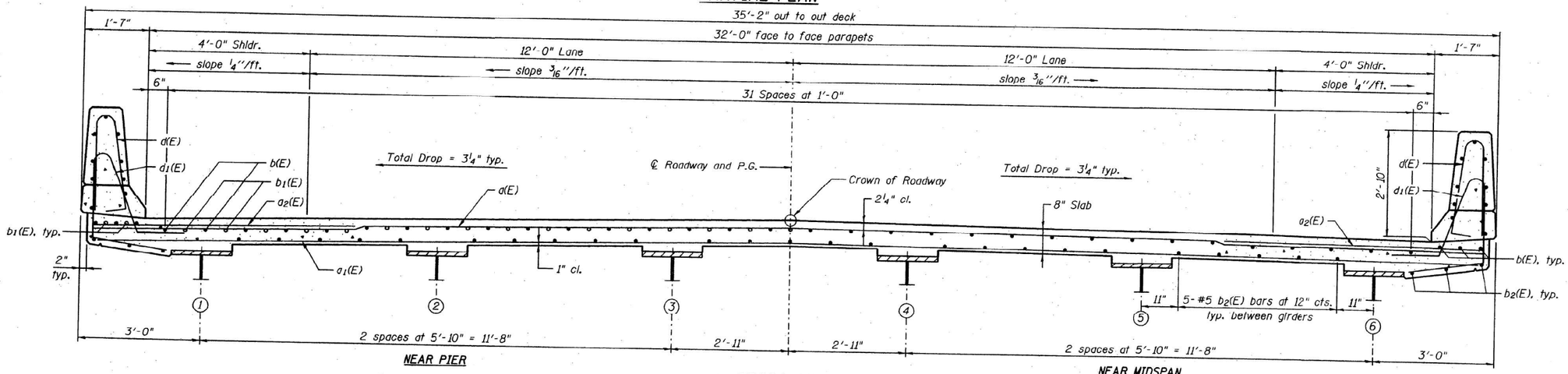
PLAN OF SCUPPER

Note:
Cut longitudinal reinforcement to clear drainage scuppers.



SECTION C-C

Notes:
See Sheet 11 of 35 for superstructure details and Bill of Material.
Bars indicated thus 31 x 17-#5 etc. indicates 31 lines of bars with 17 lengths per line.
See Sheet 11 of 35 for parapet reinforcement.
See Sheet 1 of 35 for spacing of Drainage Scuppers and Floor Drains.



NEAR PIER

NEAR MIDSPAN

CROSS SECTION

(Looking East/Ahead Station)

JACOBS	USER NAME =	DESIGNED - B. ERSCHEN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE PLAN AND SECTION STRUCTURE NO. 039-0074 SHEET NO. 10 OF 35 SHEETS
	PLOT DATE = 19-OCT-2018	CHECKED - M. CRONIN	REVISED -		
FILE NAME = 039-0074978049-Superstructure.dgn		DRAWN - C. SALLADE	REVISED -		
		CHECKED - F. CAMBA	REVISED -		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 78049		
		ILLINOIS FED. AID PROJECT		

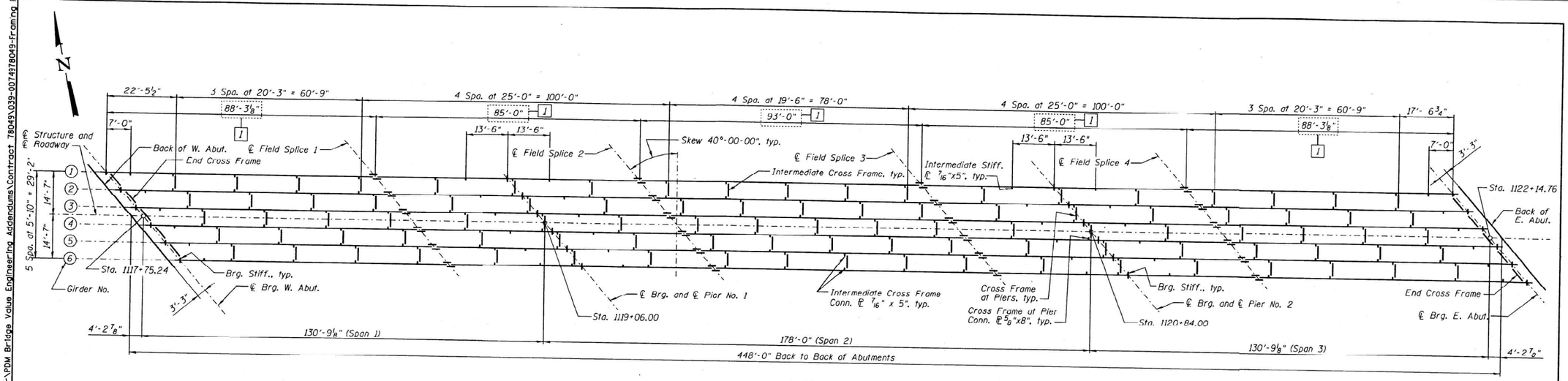
FOR INFORMATION ONLY
SN 039-0074

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		DRAWN -	REVISED -		
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F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	43
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

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19-OCT-2018
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FRAMING PLAN

INTERIOR GIRDER MOMENT TABLE				
		0.4 Sp. 1 or 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s	(in^4)	23941	59937	24957
$I_c(n)$	(in^4)	56037	67269	58529
$I_c(3n)$	(in^4)	41584	67269	43041
S_s	(in^3)	805	1868	839
$S_c(n)$	(in^3)	1115	2255	1180
$S_c(3n)$	(in^3)	1013	2255	1063
DC1	(k/')	0.78	0.93	0.79
M_{DC1}	('k)	685	2427	834 [1]
DC2	(k/')	0.15	0.15	0.15
M_{DC2}	('k)	137	428	166
DW	(k/')	0.27	0.27	0.27
M_{DW}	('k)	244	763	296
M_{LL+IM}	('k)	1588	2267	1661
M_u(Strength I)	('k)	4173 [1]	8681 [1]	4601 [1]
$\phi_f M_n$, $\phi_f M_{nc}$	('k)	5540	9191	5747
f_s DC1	(ksi)	10.2	15.6	11.9
f_s DC2	(ksi)	1.6	2.3	1.9
f_s DW	(ksi)	2.9	4.1	3.3
f_s 1.3(LL+IM)	(ksi)	22.2	15.7	22.0
f_s (Service II)	(ksi)	36.9	37.7	39.1 [1]
Vr	(k)	33.4	30.4	30.4

INTERIOR GIRDER REACTION TABLE HL93 Loading (Unfactored)			
		Abut.	Pier
R_{DC1}	(k)	35.5	151.2
R_{DC2}	(k)	6.5	26.4
R_{DW}	(k)	11.6	47.1
R_{LL+IM}	(k)	96.1	174.3
R_{Total}	(k)	149.7	399.0 [1]

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) due to short-term composite live loads in positive moment region. Composite moment of inertia and section modulus of the steel and deck reinforcing based on cracked composite section in negative moment region. ($in.^4$ and $in.^3$).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads in positive moment region. Composite moment of inertia and section modulus of the steel and deck reinforcing based on cracked composite section in negative moment region. ($in.^4$ and $in.^3$)

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{LL+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{LL+IM}

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

$\phi_f M_{nc}$: Compact composite negative moment capacity computed according to Article A6.1.1 (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).
M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_{LL+IM}

Vr: Maximum factored shear range in composite portion of span computed according to Article 6.10.10.

Notes:

All cross frames or diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames or diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

Diaphragms and connecting plates and angles shall conform to the requirements of AASHTO M270 Grade 50W.

NOTE:

Structural steel was furnished in Contract 78283 and is shown for information only. Erection is included in Contract 78049.

FOR INFORMATION ONLY
SN 039-0074

JACOBS	USER NAME =	DESIGNED - B. ERSCHEN	REVISED - [1] 1/11/2012 B.J.E.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN AND DESIGN DATA STRUCTURE NO. 039-0074
	PLOT DATE = 17-JAN-2012	CHECKED - M. CRONIN	REVISED -		SHEET NO. 17 OF 35 SHEETS
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		CHECKED - J. SMITH	REVISED -		

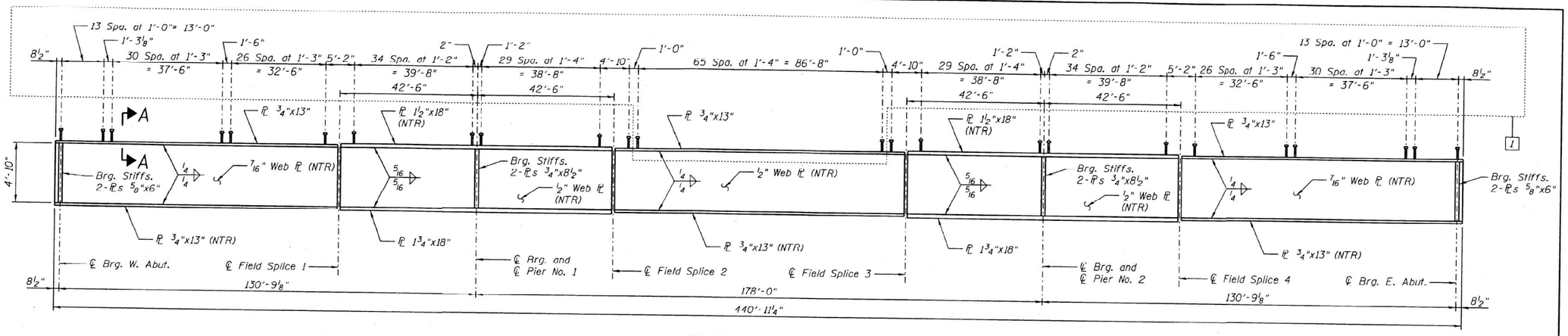
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
686	114B-1	JACKSON	96	114
		CONTRACT NO. 78049		
		ILLINOIS FED. AID PROJECT		

	USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN 039-0074 STRUCTURE INFORMATION
		DRAWN -	REVISED -		
		CHECKED -	REVISED -		
	PLOT DATE = 10/15/2024	DATE -	REVISED -		SCALE: SHEET 3 OF 7 SHEETS STA. TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	44
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

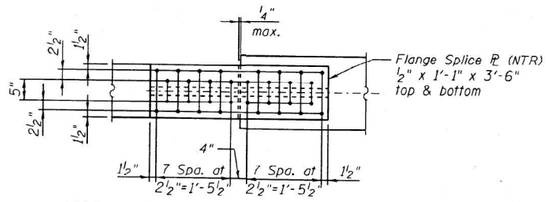
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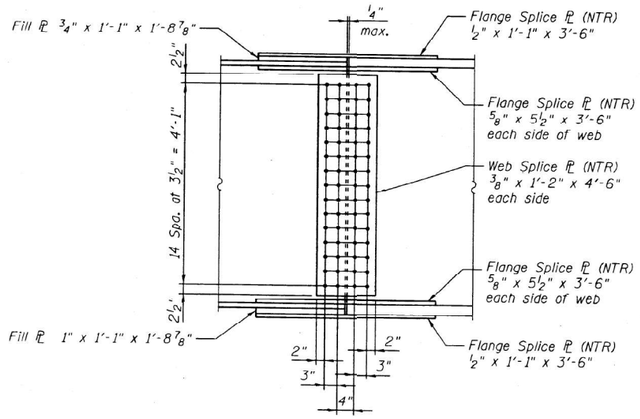


GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.

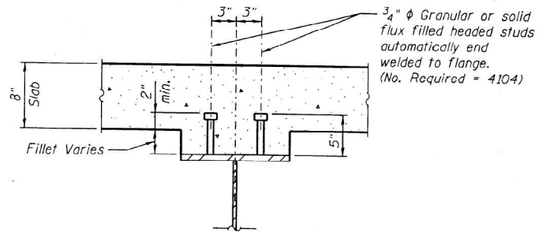


TOP AND BOTTOM SPLICE PLATES



SPLICE DETAIL

(24 Required)



SECTION A-A

NOTE:
Structural steel was furnished in Contract 78283 and is shown for information only. Stud Shear Connectors and erection are included in Contract 78049.

Notes:
Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
Structural steel shall conform to the requirements of AASHTO M270 Grade 50W except as noted.
All bolts are ⅞" ϕ ASTM A325 high strength bolts in 15/16" ϕ holes.

FOR INFORMATION ONLY
SN 039-0074

JACOBS	USER NAME =	DESIGNED - B. ERSCHEN	REVISED - 1 1/11/2012 B.J.E.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GIRDER DETAILS STRUCTURE NO. 039-0074
	PLOT DATE = 17-JAN-2012	CHECKED - M. CRONIN	REVISED -		SHEET NO. 18 OF 35 SHEETS
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		CHECKED - J. SMITH	REVISED -		

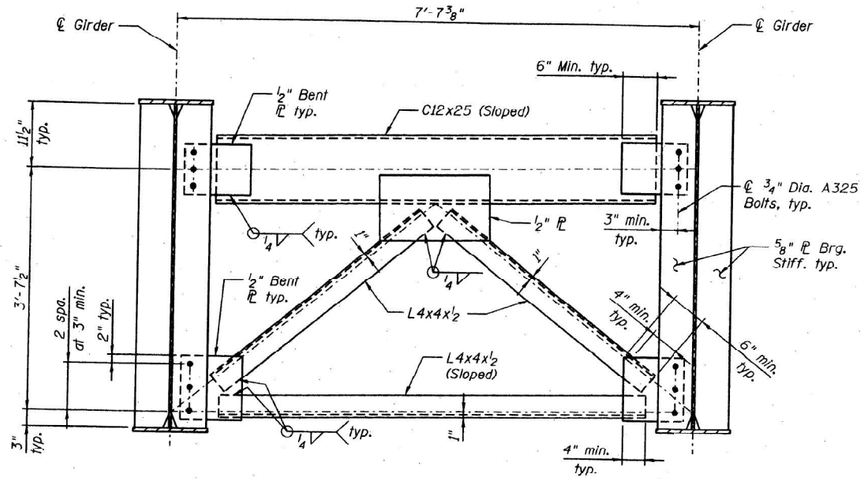
F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
686	114B-1	JACKSON	97	114
		CONTRACT NO. 78049		
		ILLINOIS FED. AID PROJECT		

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN 039-0074 STRUCTURE INFORMATION	
	DRAWN -	REVISED -			
	CHECKED -	REVISED -			
PLOT DATE = 10/15/2024	DATE -	REVISED -		SCALE:	SHEET 4 OF 7 SHEETS STA. TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	45
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

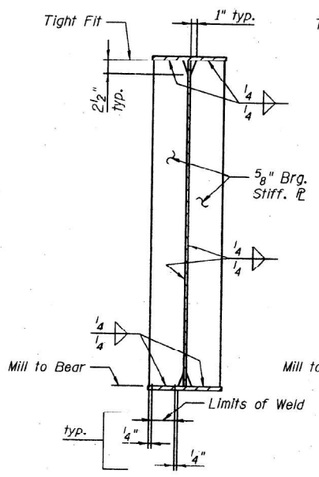
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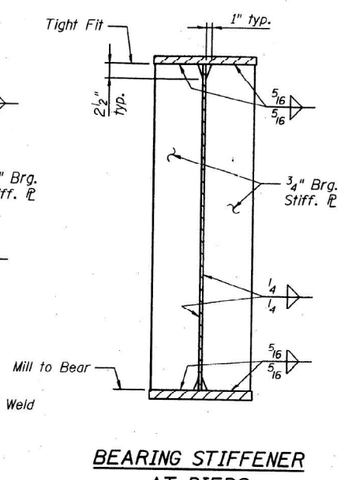


END CROSS FRAME AT ABUTMENTS

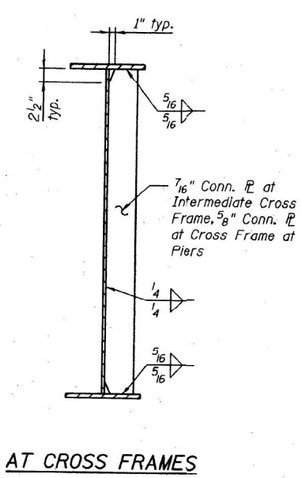
Two hardened washers shall be required for all oversized holes.



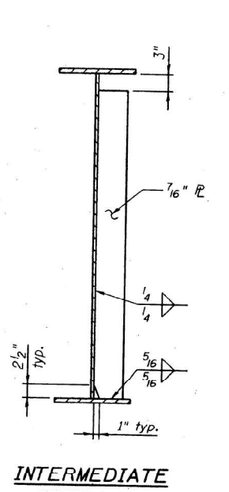
BEARING STIFFENER AT ABUTMENTS



BEARING STIFFENER AT PIERS



AT CROSS FRAMES



INTERMEDIATE STIFFENER

(Detail of Intermediate stiffener is shown near pier. Intermediate stiffener near abutment shall have a 3" gap at bottom flange)

CONNECTION PLATE DETAILS

TYPICAL INTERMEDIATE CROSS FRAME

Two hardened washers shall be required for all oversized holes.

CROSS FRAME AT PIERS

Two hardened washers shall be required for all oversized holes.

STRUCTURAL STEEL NOTES

All structural steel shall be AASHTO M270, Grade 50W unless otherwise noted.

Fasteners shall be 3/4" diameter high strength bolts with 15/16" diameter open holes unless otherwise noted.

High strength bolts are designed for a Class A contact surface in a standard hole for a slip-critical connection.

The contact surface of joints with oversized holes shall be free of paint or lacquer.

All bearing stiffeners shall be vertical in the completed structure.

NOTE:
Structural steel was furnished in Contract 78283 and is shown for information only. Erection is included in Contract 78049.

FOR INFORMATION ONLY
SN 039-0074

JACOBS	USER NAME =	DESIGNED - B. ERSCHEN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	PLOT DATE = 19-OCT-2011	CHECKED - M. CRONIN	REVISED -	CROSS FRAME DETAILS STRUCTURE NO. 039-0074
FILE NAME = 039-0074978049-Cross Frame.dgn		DRAWN - E. KRACK	REVISED -	SHEET NO. 19 OF 35 SHEETS
		CHECKED - J. SMITH	REVISED -	

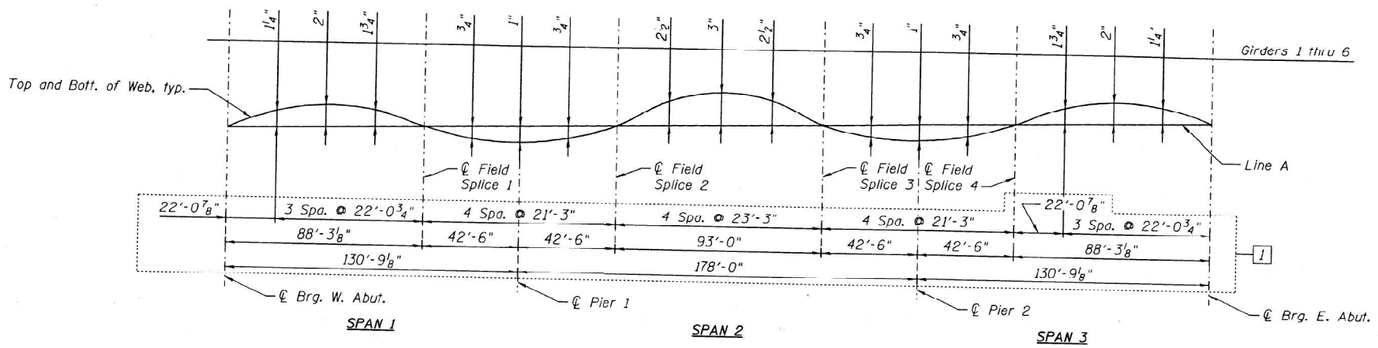
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686	114B-1	JACKSON	98	114
		CONTRACT NO. 78049		
	ILLINOIS FED. AID PROJECT			

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN 039-0074 STRUCTURE INFORMATION
	DRAWN -	REVISED -		
	CHECKED -	REVISED -		
PLOT DATE = 10/15/2024	DATE -	REVISED -		SCALE: SHEET 5 OF 7 SHEETS STA. TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	46
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

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CAMBER DIAGRAM

* TOP OF GIRDER WEB ELEVATIONS

Location / Girder	℄ Brg. West Abut.	℄ Field Splice 1	℄ Brg. and ℄ Pier 1	℄ Field Splice 2	℄ Field Splice 3	℄ Brg. and ℄ Pier 2	℄ Field Splice 4	℄ Brg. East Abut.
Girder 1	388.56	388.72	388.76	388.96	389.15	389.11	389.24	389.44
Girder 2	388.68	388.83	388.87	389.07	389.26	389.22	389.35	389.56
Girder 3	388.78	388.93	388.97	389.17	389.36	389.32	389.45	389.66
Girder 4	388.79	388.94	388.98	389.18	389.37	389.33	389.46	389.67
Girder 5	388.71	388.86	388.89	389.10	389.29	389.25	389.38	389.59
Girder 6	388.61	388.77	388.81	389.01	389.20	389.16	389.29	389.49

* For fabrication only. [1]

[1] 1/11/2012 B.J.E.

Notes:
Line A is a straight line at the top of web plates between ℄ bearing and ℄ field splice or from ℄ field splice to ℄ field splice.
Camber dimensions include correction for cross slope and vertical curve in addition to the correction for dead load.

NOTE:
Structural steel was furnished in Contract 78283 and is shown for information only. Erection is included in Contract 78049.

FOR INFORMATION ONLY
SN 039-0074

JACOBS	USER NAME =	DESIGNED - B. ERSCHEN	REVISED - [1] 1/11/2012 B.J.E.	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION
	PLOT DATE = 17-JAN-2012	CHECKED - M. CRONIN	REVISED -	
FILE NAME = 039-0074978049-Girder Camber(Addl).dgn		DRAWN - C. SALLADE	REVISED -	
		CHECKED - J. SMITH	REVISED -	

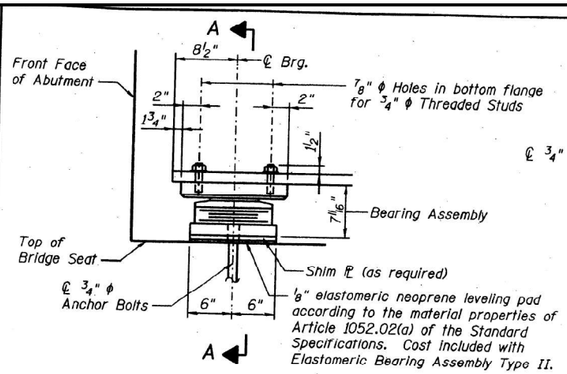
GIRDER DETAILS
STRUCTURE NO. 039-0074
SHEET NO. 20 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 78049		
	ILLINOIS FED. AID PROJECT			

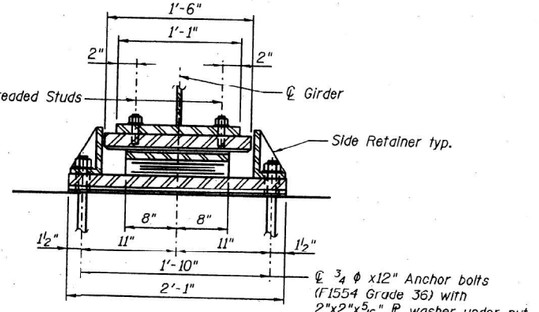
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	CHECKED -	REVISED -		
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F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

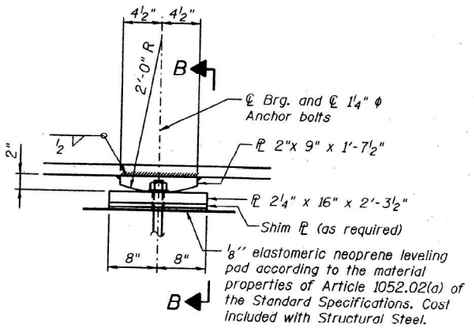
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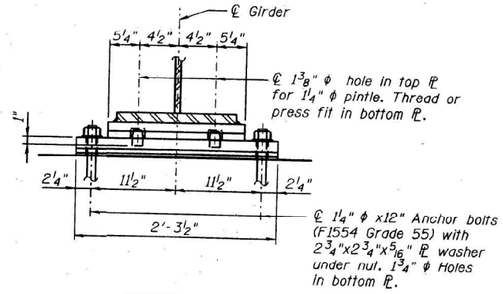
ELEVATION AT ABUTMENT



SECTION A-A



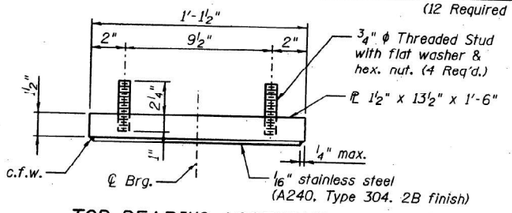
ELEVATION AT PIER



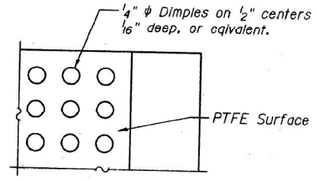
SECTION B-B

TYPE II ELASTOMERIC EXPANSION BEARING AT WEST AND EAST ABUTMENTS

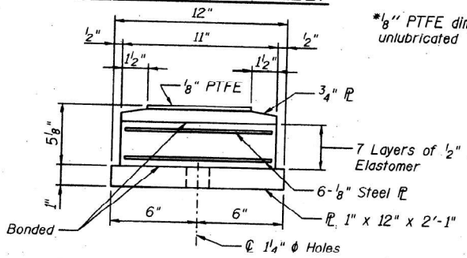
(12 Required Total)



TOP BEARING ASSEMBLY

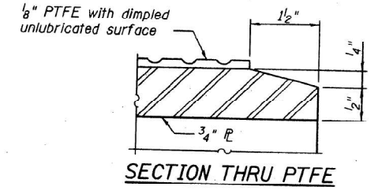


PLAN-PTFE SURFACE

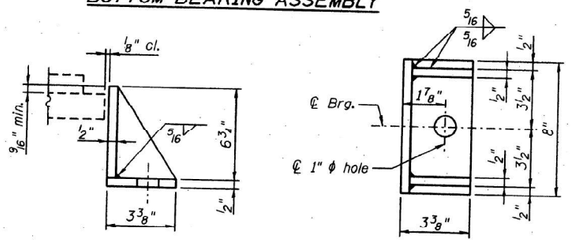


*⅛" PTFE dimpled, unlubricated

BOTTOM BEARING ASSEMBLY

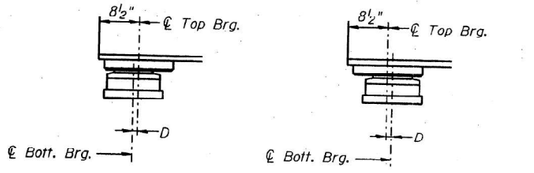


SECTION THRU PTFE



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



BELOW 50°F.
(Move bott. brg. away from fixed brg.)

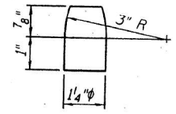
ABOVE 50°F.
(Move bott. brg. toward fixed brg.)

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.

FIXED BEARING AT PIER 1 AND PIER 2

(12 Required Total)



PINTLE

PLANNED SHIMS TABLE

Location	G1	G2	G3	G4	G5	G6
West Abutment	-	-	-	⅛"	-	-
Pier 1	-	-	-	⅛"	-	-
Pier 2	-	-	-	⅛"	-	-
East Abutment	-	-	-	⅛"	-	-

NOTE:
Structural steel was furnished in Contract 78283 and is shown for information only. Anchor Bolts and bearing erection are included in Contract 78049.

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified.

The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

Side retainers and other steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.

The ⅛'' PTFE 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'' PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

The anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.

The structural steel of the bearing assembly shall conform to the requirements of AASHTO M270 Grade 50W.

Two ⅛" adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	12
Anchor Bolts, ¾"	Each	24
Anchor Bolts, 1¼"	Each	24

FOR INFORMATION ONLY
SN 039-0074

JACOBS	USER NAME =	DESIGNED - B. ERSCHEN	REVISED
		CHECKED - M. CRONIN	REVISED -
	PLOT DATE = 19-OCT-2011	DRAWN - E. KRACK	REVISED -
FILE NAME=039-0074978049-Bearing Details.dgn		CHECKED - F. CAMBA	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 039-0074
SHEET NO. 21 OF 35 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
686	114B-1	JACKSON	100	114
		CONTRACT NO. 78049		
	ILLINOIS	FED. AID PROJECT		

	USER NAME = david.a.wilson	DESIGNED -	REVISED -
		DRAWN -	REVISED -
		CHECKED -	REVISED -
	PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 039-0074
STRUCTURE INFORMATION
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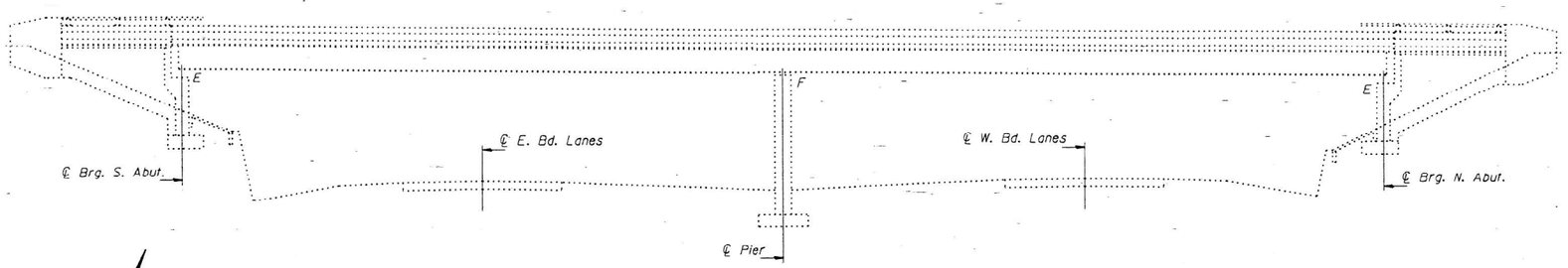
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VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	48
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

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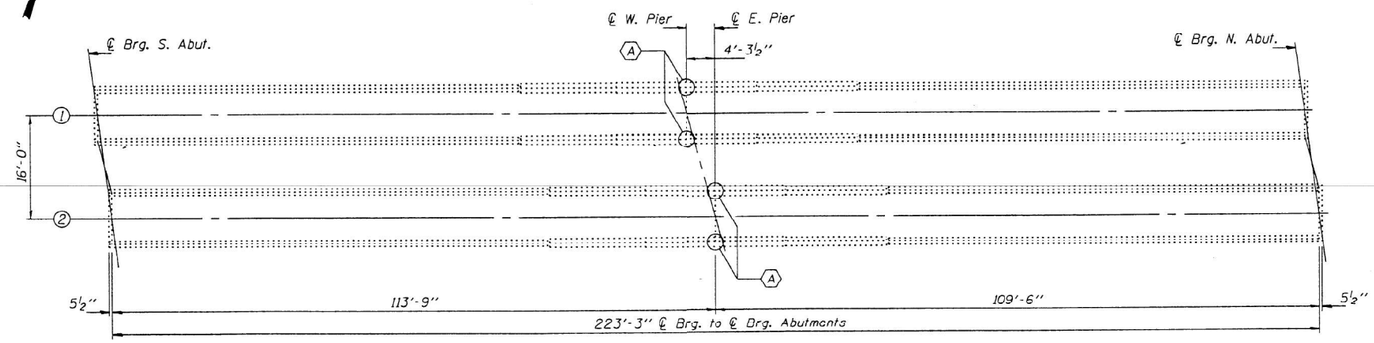
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		MASSAC		
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT:	

SHEET NO. 1
4 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



PLAN

(A) Repair existing gusset plates at Pier.

GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 36.

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 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.

All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type I. Cost included with Structural Steel Repair.

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

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

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	2.8
Concrete Superstructure	Cu. Yd.	2.8
Structural Steel Repair	Pound	220
Reinforcement Bars, Epoxy Coated	Pound	610
Mechanical Splice	Each	164
Stud Shear Connectors	Each	28

DESIGNED	VHV
CHECKED	PSJ
DRAWN	John F. Schneller Jr.
CHECKED	VHV PSJ

JANUARY 13, 2003

EXAMINED John A. Morris
ENGINEER OF STRUCTURAL SERVICES

PASSED
ENGINEER OF BRIDGES AND STRUCTURES

FOR INFORMATION ONLY
SN 064-0013

PLAN & ELEVATION
TR 9 OVER F.A.I. RT. 24
MASSAC COUNTY
S.N. 064-0013

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PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 064-0013
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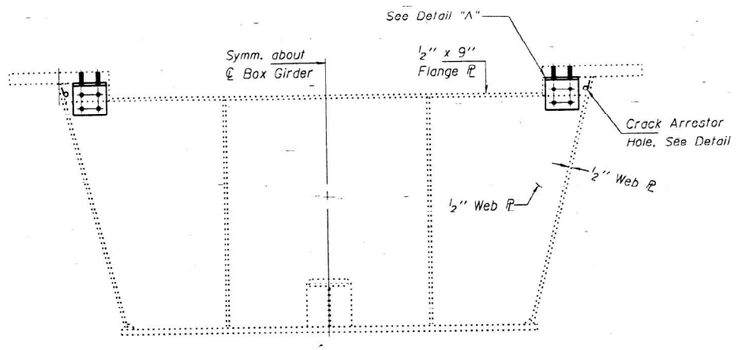
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F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	49
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

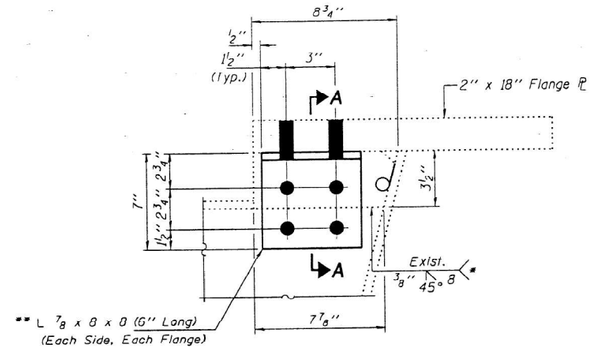
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		MASSAC		
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 3
4 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

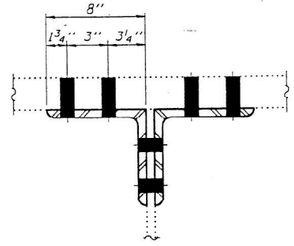


SECTION THRU BOX GIRDER AT PIER

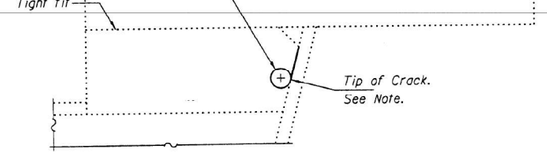


DETAIL "A"

* Weld may need to be ground to properly place the new angle.
** Cut vertical leg to 7".



SECTION A-A



CRACK ARRESTOR HOLE DETAIL

Note:
Locate crack tip using liquid dye penetrant or magnetic particle testing. Drill 1½"ϕ Crack Arrestor hole at the crack tip. After crack arrestor hole has been drilled, dye penetrant or magnetic particle testing shall be used to verify that the drilled hole has captured the crack tip.
If crack tip not captured, remove material between crack arrestor hole and crack tip by grinding with carbide tools and a dye grinder. Cost included with Structural Steel Repair.

Notes:
Fasteners shall be high strength bolts. Bolts 7/8"ϕ, open holes 15/16"ϕ, unless otherwise noted.
The cost of all field drilling required for installation of the steel members is included with Structural Steel Repair.

DESIGNED	VHV
CHECKED	PSJ
DRAWN	John F. Schneller Jr.
CHECKED	VHV PSJ

JANUARY 13, 2003
EXAMINED John A. Morris
ENGINEER OF STRUCTURAL SERVICES
PASSED
ENGINEER OF BRIDGES AND STRUCTURES

FOR INFORMATION ONLY
SN 064-0013

STRUCTURAL STEEL
TR 9 OVER F.A.I. RT. 24
MASSAC COUNTY
S.N. 064-0013

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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 064-0013
STRUCTURE INFORMATION

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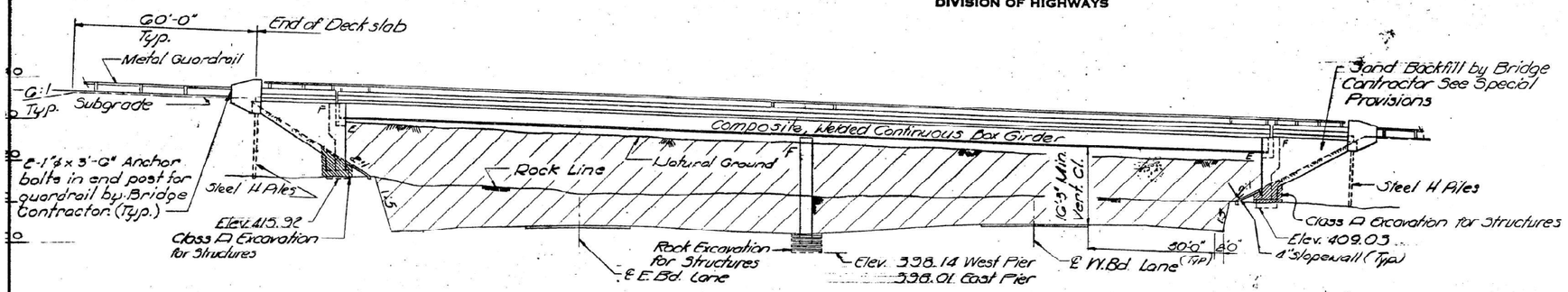
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VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	50
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

B.M. RR. Spike in east root 24" hard maple
175' Rt. F.A.I. 24 Sta. 91+40 Elev. 409.05

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

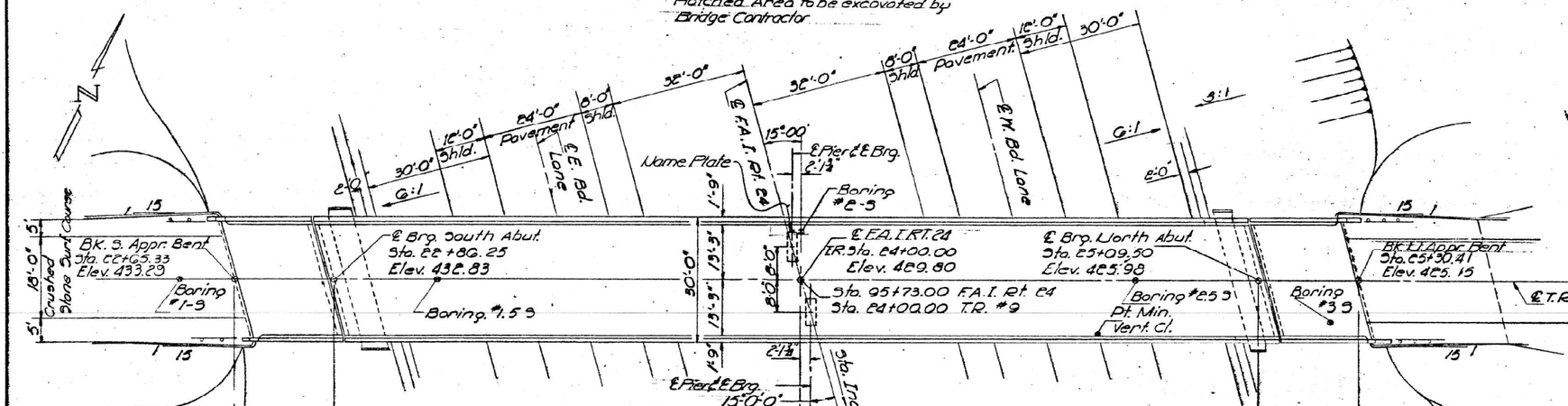
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 24	64-1HB	Massac	47	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 1
12 SHEETS

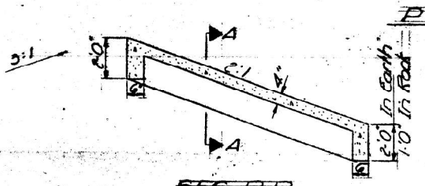


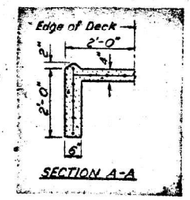
ELEVATION

Hatched Area to be excavated by Bridge Contractor



PLAN





STATION 95+73.00
BUILT IN BY
STATE OF ILLINOIS
F.D.I. RT. 24 SEC. 64-1HB
F.A. PROJ. I-24-1(53)
LOADING H S15

NAME PLATE
(See Std. 2113-1)

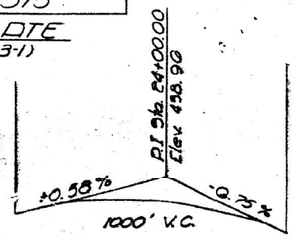
DESIGN STRESSES

f_c = 1200 psi Deck Slab
f_c = 1400 psi Curb, Parapet, Sub ; Intro. Slab
f_s = 20,000 psi Reinf.
f_s = 20,000 psi Struct. Stl. Fftgs.
v_c = 75 psi
n = 10
Allowable ℄ Deflection — L/1200 Composite
Allow 65% for future W. Surf.

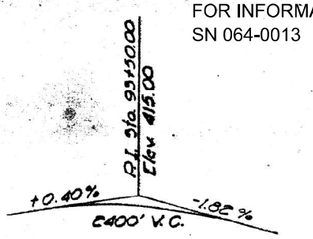
LOADING H S 15-44

DESIGNED	A.Y. Khayyat
CHECKED	Rao. G.K
DRAWN	J.D. Schuetter
CHECKED	Rao. G.K

EXAMINED March 30 1970
PASSED W.E. Baumann
APPROVED Richard H. Gutterman



PROFILE T.R. #9



PROFILE F.A.I. RT. 24

GENERAL NOTES

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

All fasteners shall be high strength bolts. Bolts ⅞" ϕ, open holes 15/16" ϕ, unless otherwise noted.

The Basic Lead Silico Chromate paint system shall be used for shop and field painting of structural steel.

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.

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

The Contractor shall drive Two Steel test piles in a permanent location one at the South Appr. Bent and one at the North Appr. Bent as directed by the Engineer before ordering the remainder of piles.

Class A & Rock Excavation for structures includes excavation for slope wall.

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

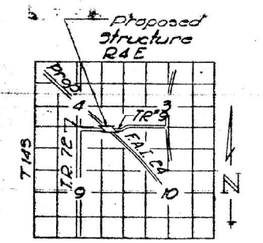
Calculated weight of Structural Steel = 203940 Lbs.

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.

All interior surfaces of Box Girders shall be given two shop coats of paint and spot painted in the field after erection is completed. No additional field coat will be reqd for interior surfaces.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub.	Total
Class A Exc. for Structures	Cu. Yd.			130
Rock Exc. for Structures	Cu. Yd.			22
Protective Coat	Sq. Yd.			985
Class X Concrete	Cu. Yd.	258.8	179.0	437.8
Structural Steel	L.S.	1		1
Stud Shear Connectors	Each	1596		1596
Aluminum Railing	Lin. Ft.	319		319
Reinforcement Bars	Lbs.	62890	15890	78780
Steel Piles (BBP36)	Lin. Ft.			96
Test Pile Steel (BBP36)	Each		2	2
Name Plate	Each			1
Slope Wall 4"	Sq. Yd.			110
2" Neoprene Expansion Joint	Lin. Ft.	61		61
Sand Backfill	Cu. Yd.			170



LOCATION SKETCH

FOR INFORMATION ONLY
SN 064-0013

GENERAL PLAN & ELEVATION
PROJ. I 24-1 (53) 24
T.R. #9 OVER F.A.I. RT. 24
F.A.I. RT. 24 SEC. 64-1HB
MASSAC COUNTY
STA. 95+73.00 F.A.I. RT. 24

9-75

9-75

9

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 064-0013
STRUCTURE INFORMATION

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

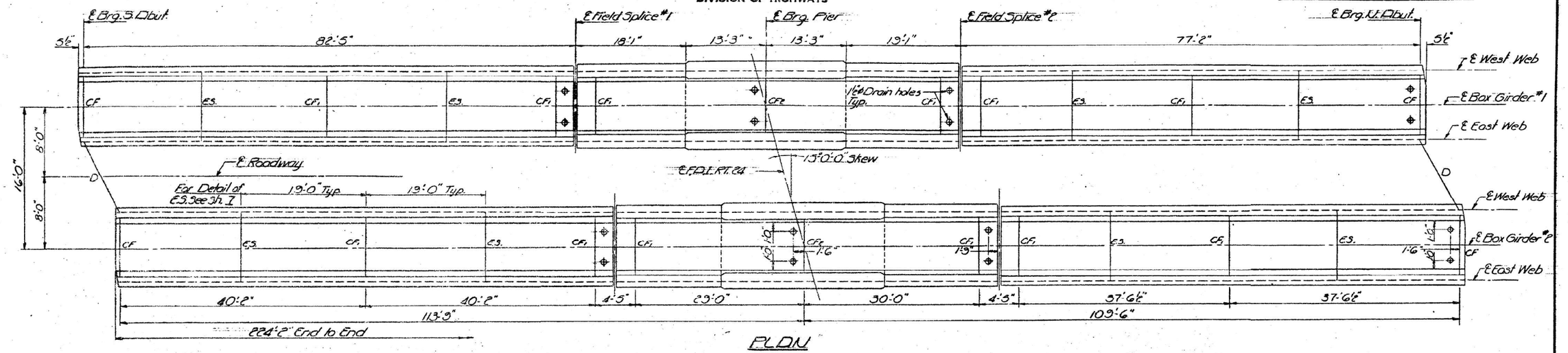
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	51
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

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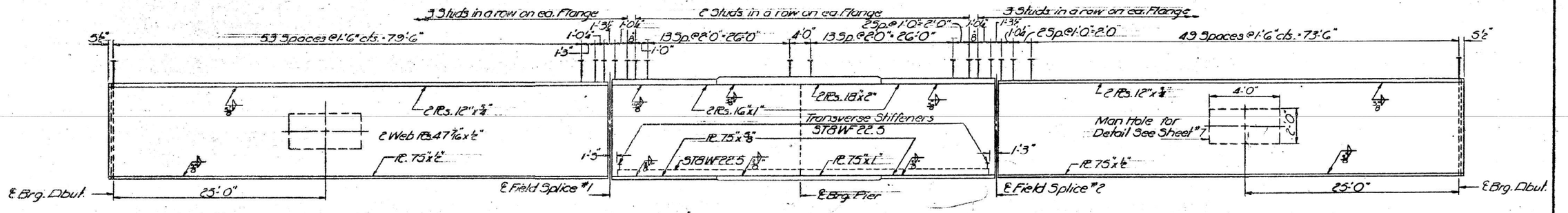
SHEET NO. 6
12 SHEETS

SHEET NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. RTE. 24	64IHB	Massac	47	25
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

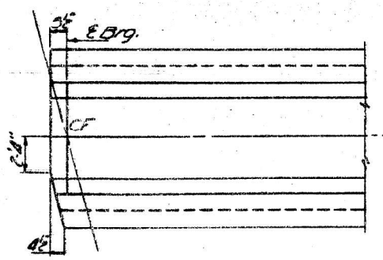
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



PLAN



ELEVATION



SOUTH END DETAIL OF BOX GIRDER
North end similar by rotation of 180°

DESIGNED	A. Y. Khayyat
CHECKED	Rao · G. K
DRAWN	J.D.
CHECKED	Rao · G. K

EXAMINED — March 30, 1970
PASSED
APPROVED — Richard H. Mutterman, Chief Highway Engineer

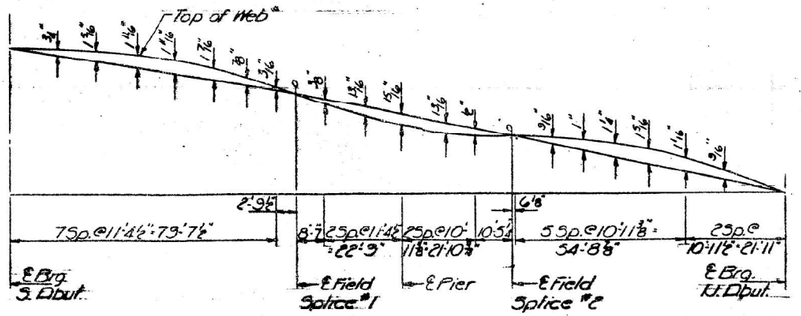
BOX GIRDER MOMENT TABLE		0.45 Span 1	Pier
Is	(in⁴)	30432.2	31277.9
Ic	(in⁴)	32513.3	31277.9
Ss	(in³)	1380.9	3625.3
Sc	(in³)	2557.8	3625.3
℄	(k/i)	1865	1865
M ℄	(k)	1490.26	3513.73
fs ℄	(ksi)	9.368	11.630
S ℄	(k/i)	718	718
Ms @	(k)	634.30	1049.82
M ℄	(k)	1216.33	1081.94
M imp.	(k)	854.26	828.29
Total	(k)	2165.69	2360.05
fs (℄+Sc)	(ksi)	10.160	7.811
fs Total	(ksi)	13.328	13.441
VR	(k)	72.03	

Is and Ss are the moment of inertia and section modulus of the steel section.
Ic and Sc are the moment of inertia and section modulus of the composite section used in computing fs.
VR is the maximum ℄ + Impact shear range.

TOP OF WEB ELEVATIONS
(For Fabrication only)

	Box Girder #1 W. Web	Box Girder #1 E. Web	Box Girder #2 W. Web	Box Girder #2 E. Web
℄ Brg. S. Abut.	432.08	432.08	431.98	431.98
℄ Field Splice #1	430.00	430.00	429.87	429.87
℄ Brg. Pier	428.94	428.94	428.81	428.81
℄ Field Splice #2	428.01	428.01	427.87	427.87
℄ Brg. N. Abut.	425.26	425.26	425.09	425.09

BOX GIRDER REACTION TABLE		Abut.	Pier
R D	(k)	73.18	271.16
S.D.L.	(k)	31.61	98.36
R ℄	(k)	34.09	95.34
Imp.	(k)	11.30	20.12
R Total	(k)	172.18	485.58



CAMBER DIAGRAM

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

FOR INFORMATION ONLY
SN 064-0013

STRUCTURAL STEEL
F.A.I. RT. 24 SEC. 64-1HB
MASSAC COUNTY
STA. 95+73.00

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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

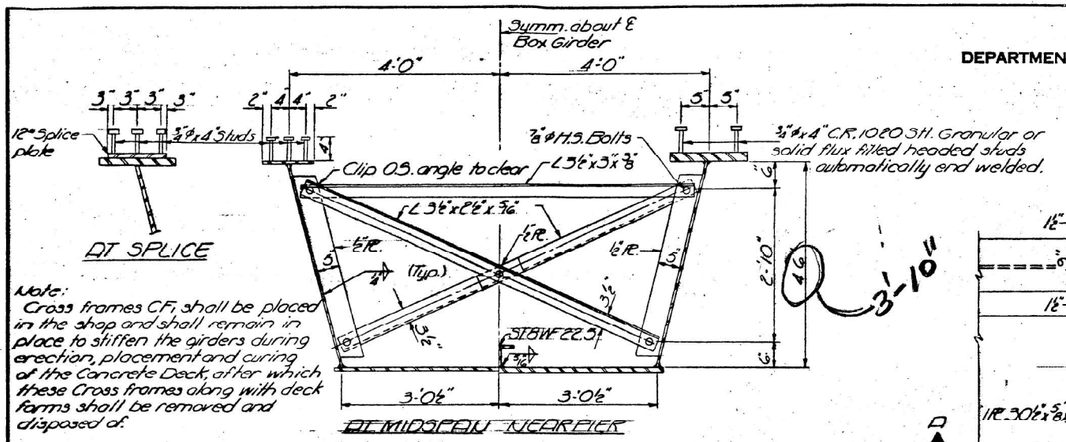
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STRUCTURE INFORMATION
SCALE: | SHEET 4 OF 6 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	52
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

DISTRICT NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D.B.B. P.A.P. 24	64-1HB	Massac	47	26
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 7
12 SHEETS

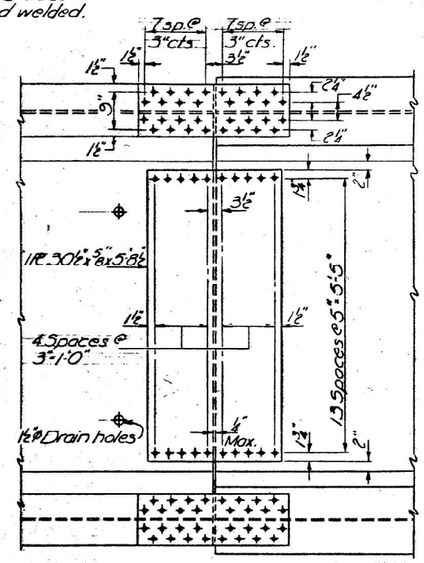
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



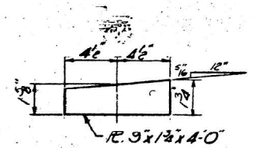
TYPICAL CROSS SECTION ℄ CF1

AT SPLICE

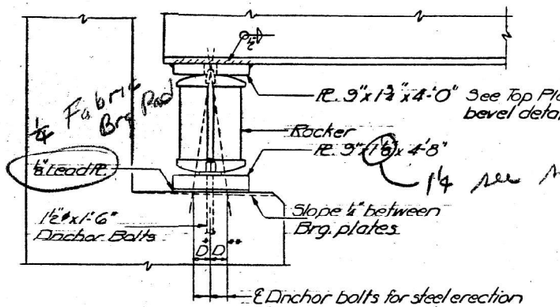
Note:
Cross frames CF1 shall be placed in the shop and shall remain in place to stiffen the girders during erection, placement and curing of the Concrete Deck, after which these Cross frames along with deck forms shall be removed and disposed of.



PLAN FIELD SPLICE
(Use ⅞"ø High Strength Bolts)



TOP PLATE
BEVEL DETAIL

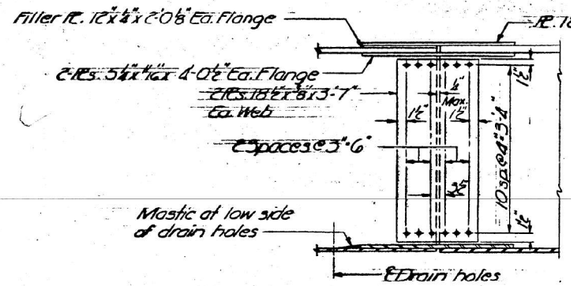


SECTION OF ABUTMENT

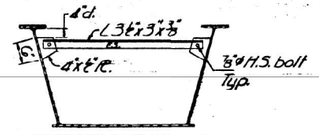
NOTES ON SETTING OF ANCHOR BOLTS AT EXP. BRG.

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

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



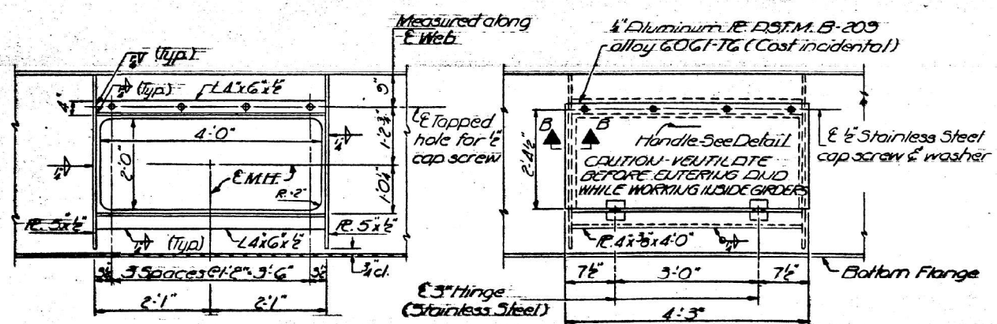
SEC. D-D



DETAIL OF E.S.
Shipment and erection stays to be removed after deck is in place. Cost incidental
Total Required 8

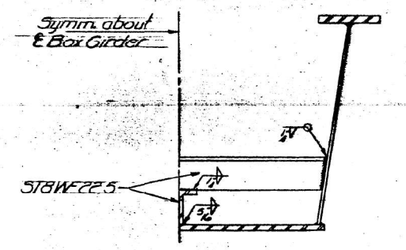


HANDEE DETAIL



INSIDE VIEW

OUTSIDE VIEW

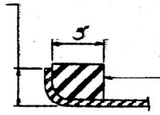


SEC. OF TRANSVERSE STIFFENER

DESIGNED	A.Y. Mhaygat
CHECKED	Rao · G. K
DRAWN	JD
CHECKED	Rao · G. K

EXAMINED — MARCH 30 1990
PASSED
APPROVED

℄ Turned edge all sides



SEC. B-B

Neoprene gasket cemented to inside of door plate.

DETAIL OF MANHOLES
(Manholes shall be put in inside Web of each Bar Girder)

Warning Note shall be stenciled on door using approved paint and two inch high letters.

FOR INFORMATION ONLY
SN 064-0013

STRUCTURAL STEEL DETAILS
FAP RT. 24 SEC. 64-1HB
MASSAC COUNTY
STA. 95+73.00

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 064-0013
STRUCTURE INFORMATION

SCALE: | SHEET 5 OF 6 SHEETS | STA. | TO STA.

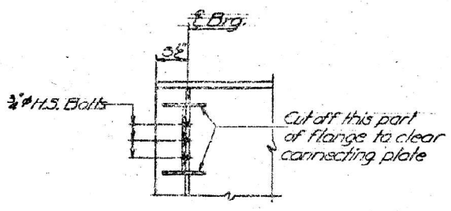
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	53
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

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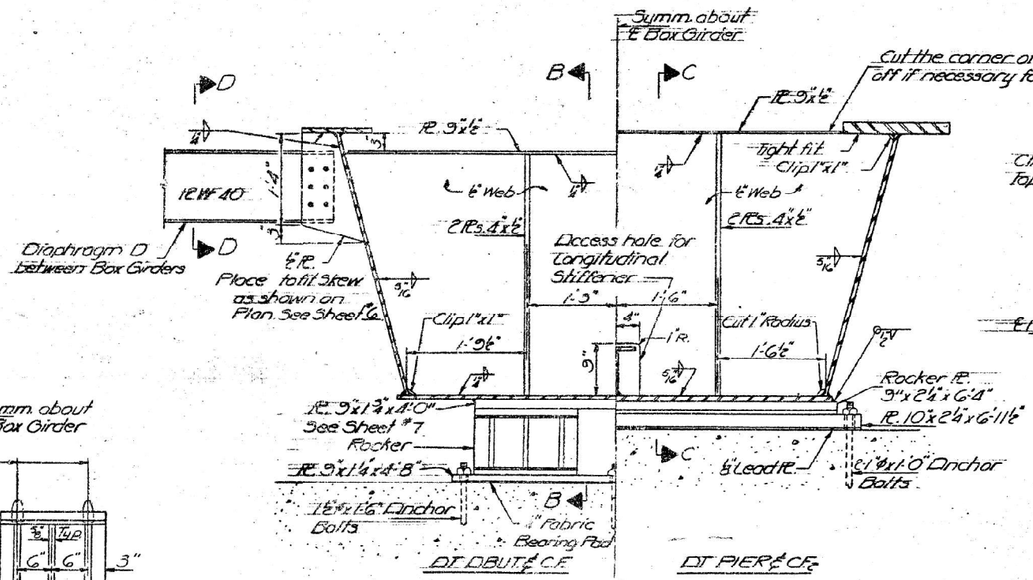
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE NO.	DESCRIPTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 24	G4-11HB	Massac	47	27
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

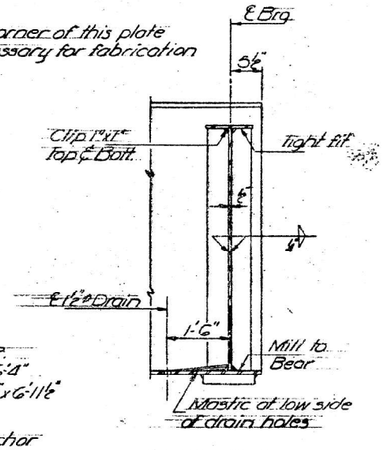
SHEET NO. 6
12 SHEETS



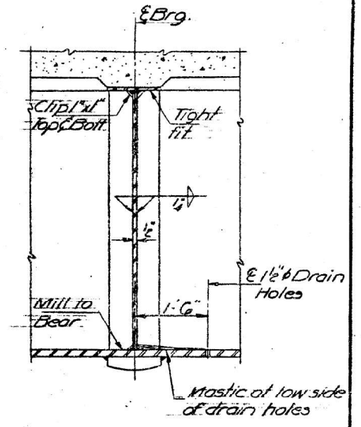
SEC. D-D



SEC. AT BEARINGS

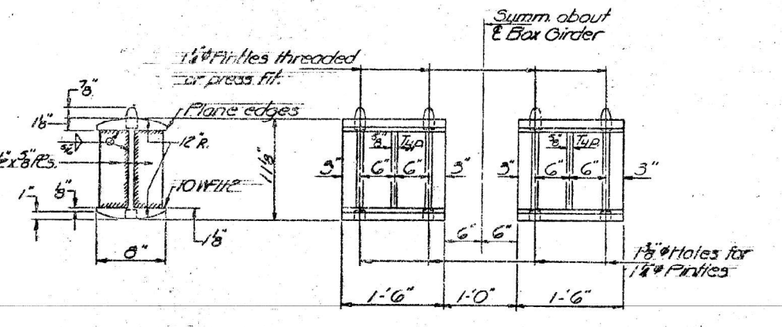


SEC. B-B

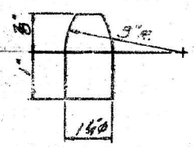


SEC. C-C

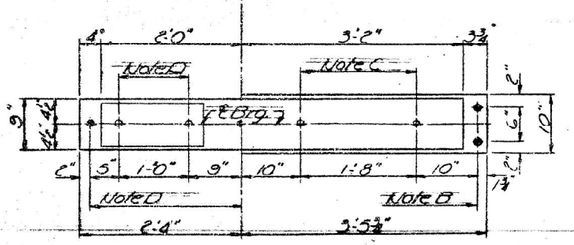
Mastic shall be placed in field after erection & painting.



ROCKER AT ABUT

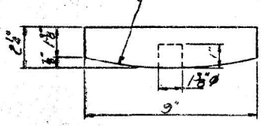


PINTLE



AT ABUT AT PIER

PEDU



ROCKER PLATE AT PIER

FOR INFORMATION ONLY
SN 064-0013

DESIGNED	A.Y. Khayyat
CHECKED	Rao. G.K
DRAWN	JD
CHECKED	Rao. G.K

March 30 1970
EXAMINED
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

NOTE A
1⅜"ø Holes – 1" deep in top PL for pintles. Thread or press fit pintles into bottom PL.

NOTE B
1½"ø Holes for 1"ø anchor bolts 2½" x 2½" x 5/16" PL. Washers under nut.

NOTE C
1⅜"ø Holes – 1" deep in Rocker PL for 1¼ø pintles. Thread or press fit pintles into bottom PL.

NOTE D
2"ø Holes for 1"ø anchor bolts 3½" x 3½" x 5/16" PL. Washers under nut.

BEARING DETAILS
F.A.I. RT. 24 SEC. G4-11HB
MASSAC COUNTY
STA. 35+73.00

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 064-0013
STRUCTURE INFORMATION

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	54
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

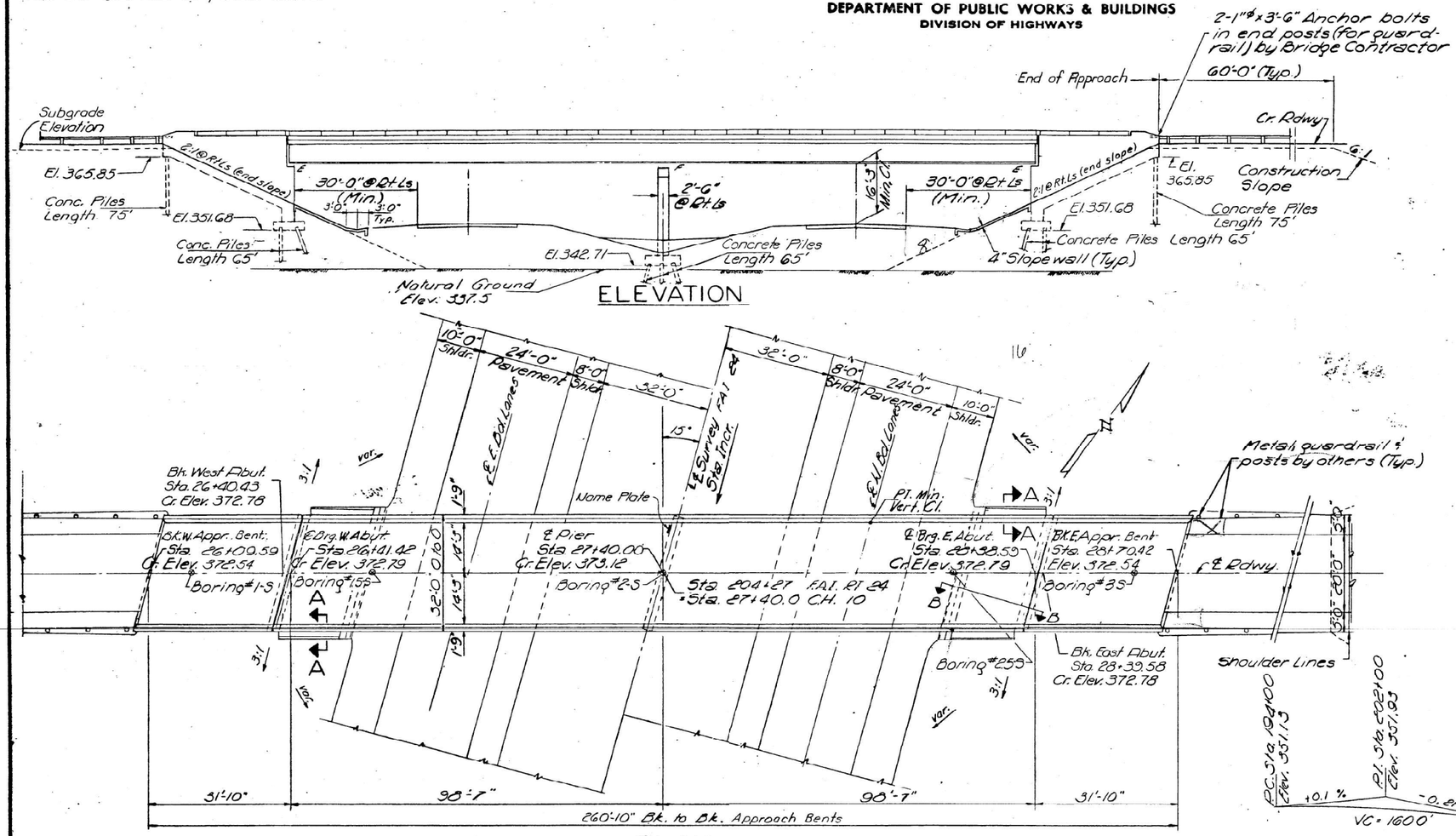
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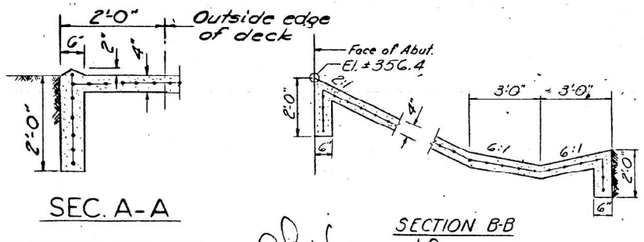
B.M. RR Spike in power pole 260' Lt.
FAI Rt 24 Sta. 190+07, Elev. 341.78

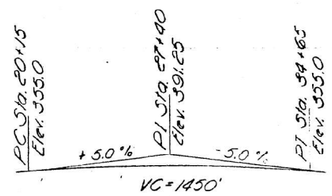
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

ROUTE SEC.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 24	64-1HB (1, 16)	MASSAC	66	40
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 1
16 SHEETS







DESIGNED	I. Kaspar
CHECKED	R.A.O. G.K
DRAWN	D.K. Williams Sr.
CHECKED	R.A.O. G.K

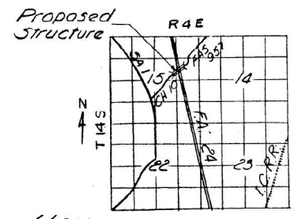
EXAMINED April 3 1969
PASSED W.E. Baumann
APPROVED Richard L. Gottschman

DESIGN STRESSES

PRECAST PRESTRESSED UNITS
- f'_c = 5,000 psi.
- f'_{ci} = 4,000 psi.
- f_s = 248,000 psi. (Strands 7/16")
- f_{si} = 173,600 psi. (Strands 7/16")

FIELD UNITS
- f'_c = 1,200 psi. Deck Slab
- f'_c = 1,400 psi. Sub, Curb, Parapet
- f_s = 20,000 psi. Reinf. & Struct.
- v_c = 75 psi. Ftgs
- n = 10 Allowable ℄ Deflection = L/1800

LOADING HS 15-44



LOCATION SKETCH

GENERAL NOTES

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

Fasteners shall be high strength bolts. Bolts ⅞"ø; open holes 15/16"ø, unless otherwise noted.

Calculated weight of Structural Steel. = 205,140 Lbs.

The Basic Lead Silico Chromate paint system shall be used for shop and field painting of structural steel.

Field welding of construction accessories will not be permitted to the bottom flange of 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 bolting diaphragms over supports.

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

Concrete piles at abutments shall be driven in holes precored through the embankment in accordance with Article 513.09(c) of the Standard Specifications.

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

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 Contractor shall drive three Concrete test piles in permanent locations, One at West Abutment, One at the Pier and One at East Appr. Bent, as directed by the Engineer before ordering the remainder of piles.

STATION 204+27
BUILT IN BY
STATE OF ILLINOIS
F.A.I. RT. 24 SEC. 64-1HB-1
F.A. PROJ. I-24-1(39)
LOADING HS 15

NAME PLATE
(See Std. 2113)

FOR INFORMATION ONLY
SN 064-0016

TOTAL BILL OF MATERIAL

Item	Unit	Super.	Sub.	Total
Protective Coat	Sq. Yds.	1020		1020
Class X Concrete	Cu. Yds.	269.1	219.3	488.4
P.P.C. I-Beams 36"	Lin. ft.	297		297
Structural Steel	L.S.	0.98		0.98
Stud Shear Connectors	Each	1530		1530
Aluminum Railing	Lin. ft.	479		479
Reinforcement Bars	Lbs.	54,930	18,110	73,040
Concrete Piles	Lin. ft.		3880	3880
Test Piles (Concrete)	Each		3	3
Name Plates	Each		1	1
Slopewall 4"	Sq. Yds.		210	210
Preformed Joint Sealer	Lin. ft.	66.0		66.0

9-76

F.A. PROJ. I-24-1(39)25
GENERAL PLAN & ELEVATION
CH. 10 (F.A.S. 957) OVER F.A.I. RT. 24
F.A.I. RT. 24 SEC. 64-1HB-1
MASSAC COUNTY
STATION 204+27

Rev. 1-21-71 GKR

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

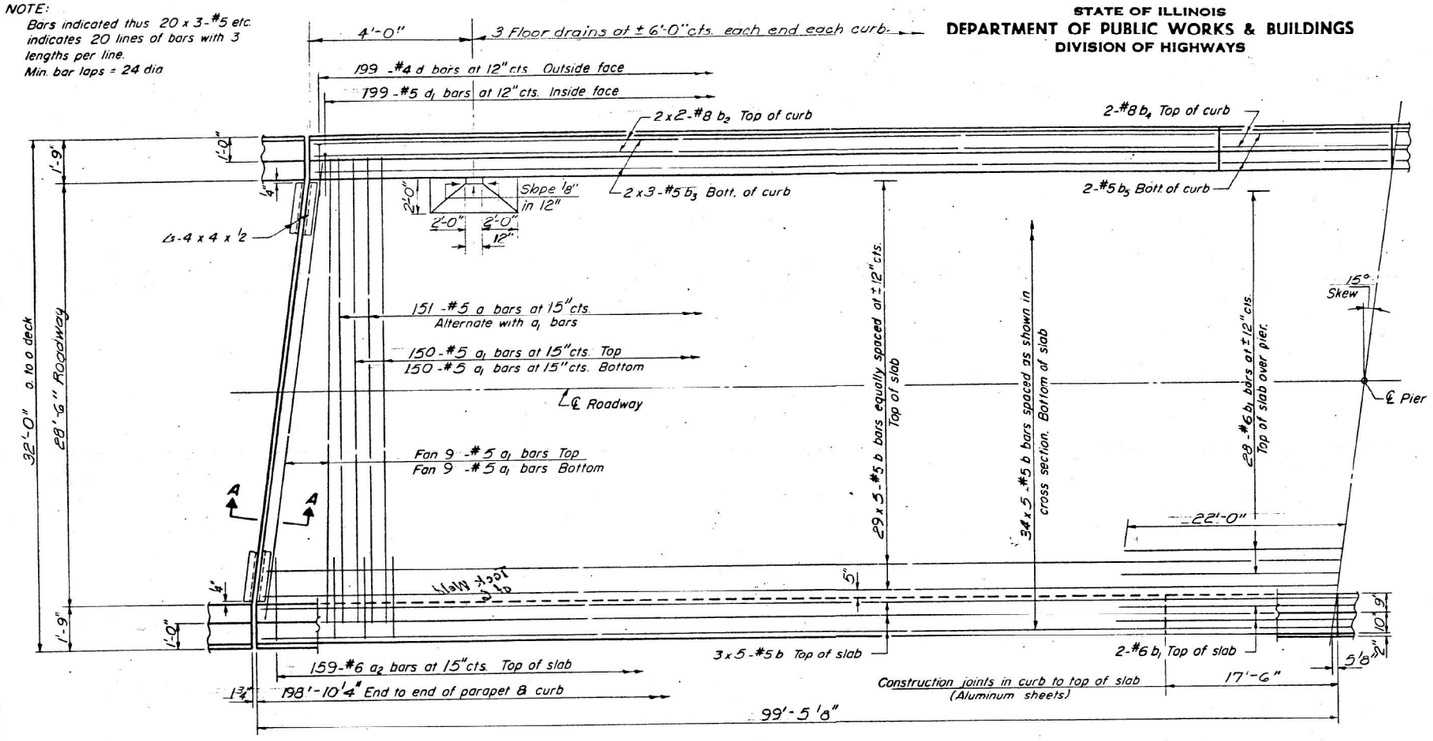
SN 064-0016
STRUCTURE INFORMATION
SCALE: | SHEET 1 OF 6 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	55
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

MODEL: SN 064-0016 1 [Sheet]
FILE NAME: c:\pw_work\pwdot\wilsonda\d0983530\D978A75-Shl-FortInfOnly2.dgn.dgn

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

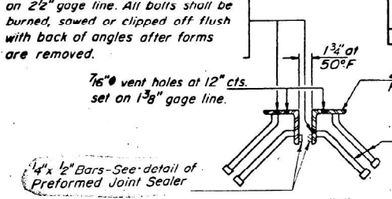
STATE OF ILLINOIS
DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS



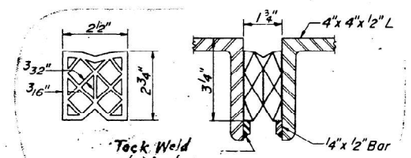
HALF PLAN

7/16"ø holes at 12" cts. for 3/8" bolts set on 2 1/2" gage line. All bolts shall be burned, sowed or clipped off flush with back of angles after forms are removed.

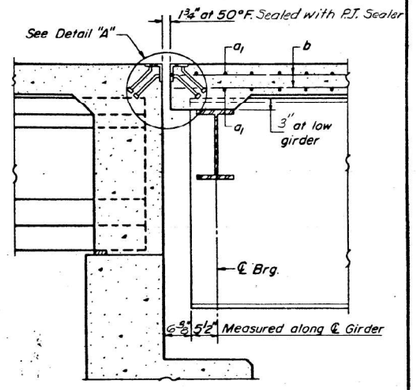
7/16"ø vent holes at 12" cts. set on 1 3/8" gage line.



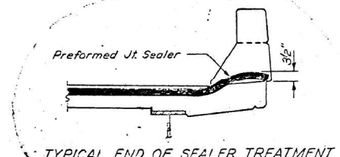
DETAIL "A"



PREFORMED JOINT SEALER



SECTION A-A



TYPICAL END OF SEALER TREATMENT

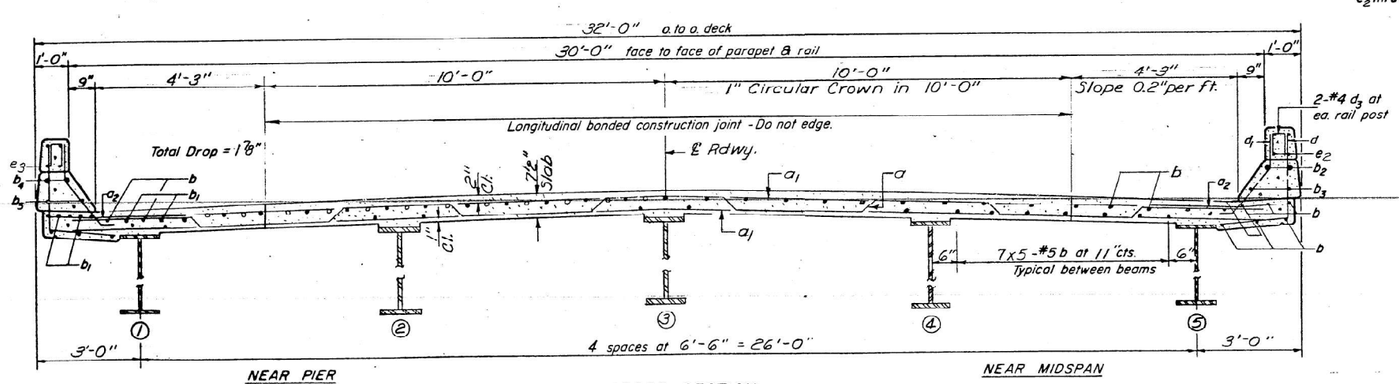
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	151	#5	32'-0"	
a1	336	#5	30'-8"	
a2	318	#6	4'-0"	
b	345	#5	40'-9"	
b1	32	#6	44'-0"	
b2	16	#8	42'-0"	
b3	24	#5	28'-3"	
b4	8	#8	17'-3"	
b5	8	#5	17'-3"	
d	398	#4	1'-8"	J
d1	398	#5	3'-5"	J
Reinforcement Bars			Lbs.	40,150
Class X Concrete			Cu. Yds.	177.0
* Structural Steel			Lbs.	805,140
Preformed Joint Sealer			Lin. Ft.	66.0
Stud Shear Connectors			Each	1530

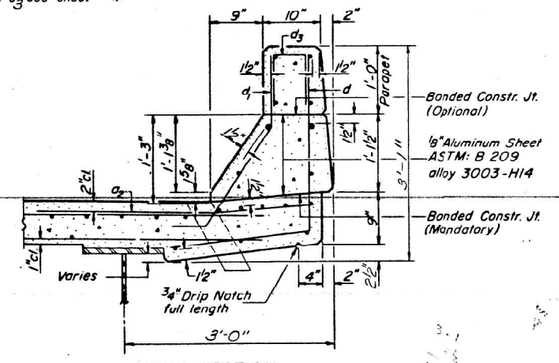
*Weight of bearing assemblies with lead plates and anchor bolts are included as Structural Steel. Est. Wt. = 5,000 Lbs.

Parapet Reinforcement and Class X Concrete are billed on sheet #4

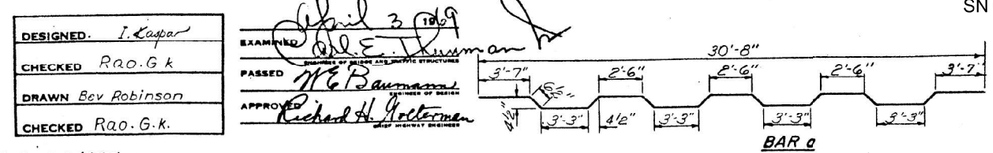
NOTE: For placement of bars d_3 and e_2 thru e_3 see sheet # 4



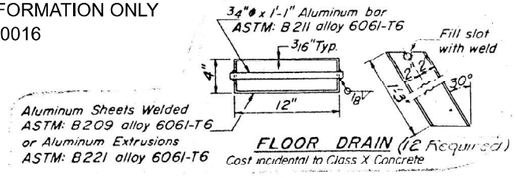
CROSS SECTION
Looking East



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

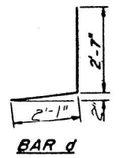


BAR a

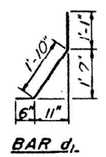


Aluminum Sheets Welded ASTM: B 209 alloy 6061-T6 or Aluminum Extrusions ASTM: B 221 alloy 6061-T6

FLOOR DRAIN (12 Required)
Cost incidental to Class X Concrete



BAR d



BAR d_1



BAR a2

FOR INFORMATION ONLY
SN 064-0016

DESIGNED	I. Kaspar
CHECKED	Rao. G. k
DRAWN	Bev Robinson
CHECKED	Rao. G. k.

April 3 1969
EXAMINED Carl E. Bauman
PASSED M E Bauman
APPROVED Richard H. Gutterman

S-5 8 6-L (≤15°)

SUPERSTRUCTURE
MAIN SPANS
F.A.I. RT. 24 SEC. 64-1HB-1
MASSAC COUNTY
STA. 204+27

SHEET NO. 2
16 SHEETS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 24	64-1HB -1,1B	MASSAC	66	41
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 064-0016
STRUCTURE INFORMATION

SCALE: | SHEET 2 OF 6 SHEETS | STA. | TO STA.

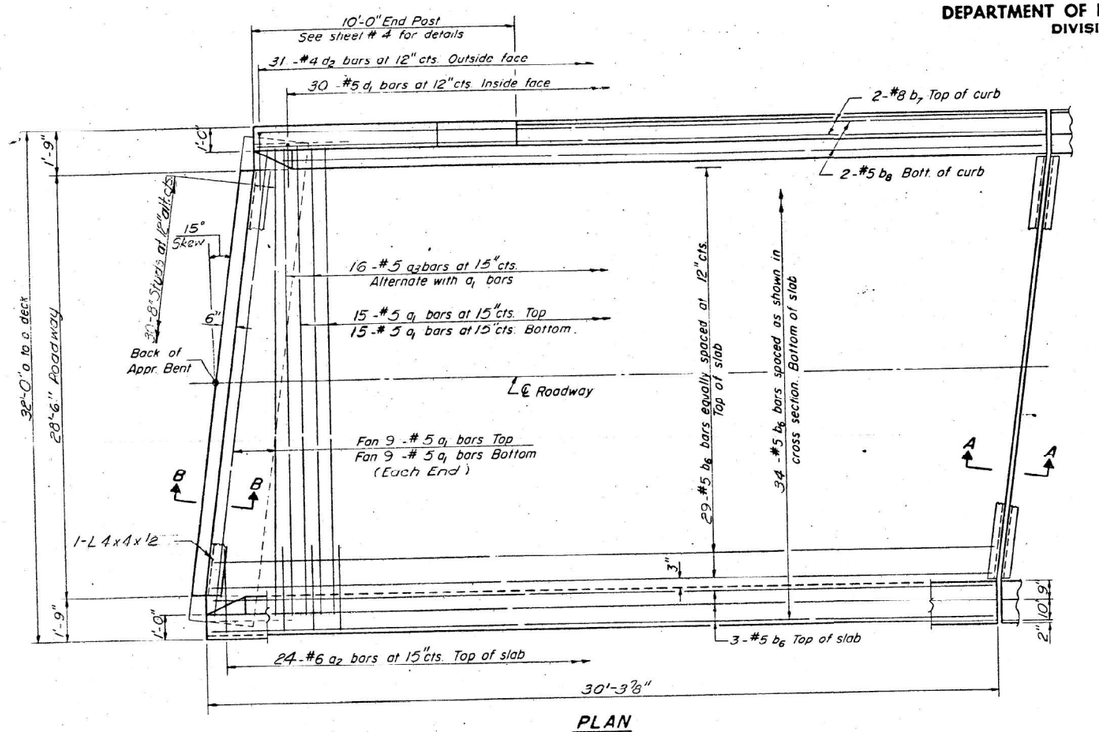
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	56
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

MODEL: SN 064-0016 2 [Sheet]
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ROUTE SEC.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RTE. 24	64-1 HB (-1, 1B)	MASSAC	66	42
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

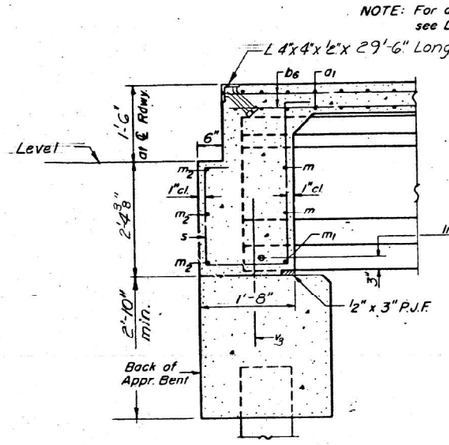
SHEET NO. 3
16 SHEETS

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

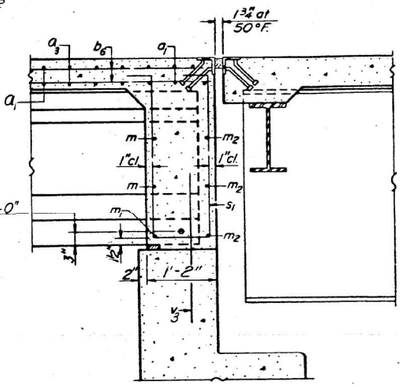


PLAN

NOTE: For details of expansion angles see Detail "A" sheet # 2

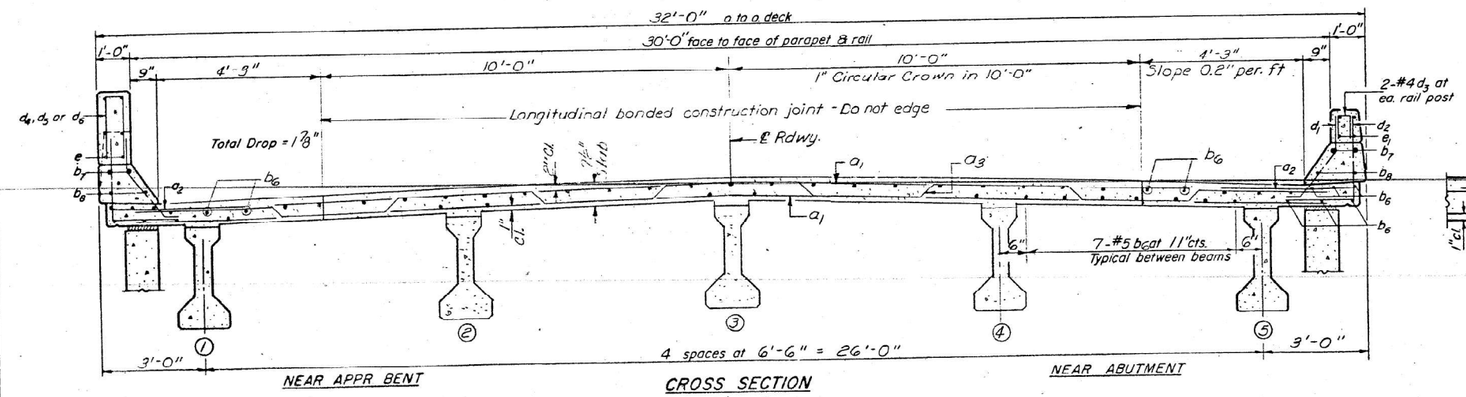


SECTION B-B

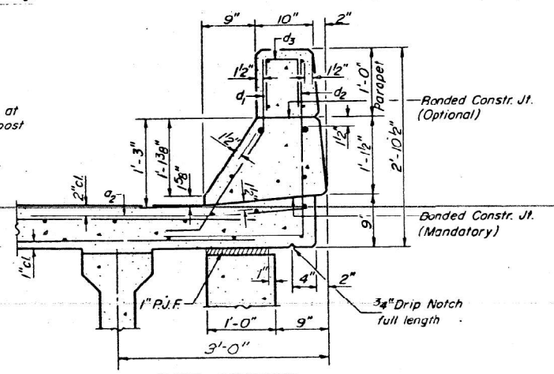


SECTION A-A

NOTE: For placement of bars d_3 thru d_6, e and e_1 see sheet # 4



NEAR APPR BENT — CROSS SECTION Looking East — NEAR ABUTMENT



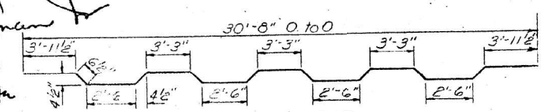
CURB SECTION

TWO APPR. SPANS
BILL OF MATERIAL

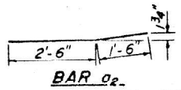
Bar	No.	Size	Length	Shape
a_3	32	#5	32'-0"	
a_1	132	#5	30'-8"	
a_2	96	#6	4'-0"	
b_6	138	#5	30'-0"	
b_7	8	#8	29'-0"	
b_8	8	#5	28'-3"	
d_1	120	#5	3'-5"	
d_2	124	#4	4'-7"	
m	32	#4	6'-0"	
m_1	16	#5	5'-0"	
m_2	12	#5	29'-3"	
m_3	16	#4	5'-9"	
m_4	16	#4	4'-9"	
s	40	#4	7'-6"	
s_1	40	#4	0'-6"	
s_2	32	#4	7'-0"	
Reinforcement Bars		Lbs.	13,110	
Class X Concrete		Cu. Yds.	74.0	

Parapet Reinforcement and Class X Concrete are billed on sheet # 4

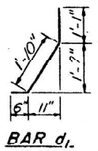
For placement and details of bars m thru m_4 and s thru s_2 see sheet # 9



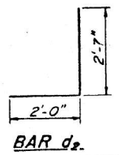
BAR a_3



BAR a_2



BAR d_1



BAR d_2

DESIGNED	I. Kaspar
CHECKED	Rao. G. K
DRAWN	Bev Robinson
CHECKED	Rao. G. K

EXAMINED — April 3, 1969
PASSED — H. E. Baumann, ENGINEER OF DESIGN
APPROVED — Richard H. Holterman, STATE HIGHWAY ENGINEER

SA-5a6-L(=15°)

FOR INFORMATION ONLY
SN 064-0016

SUPERSTRUCTURE
APPROACH SPANS
FAI. RT. 24 SEC. 64-1HB-1
MASSAC COUNTY
STA. 204+27

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 064-0016
STRUCTURE INFORMATION

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

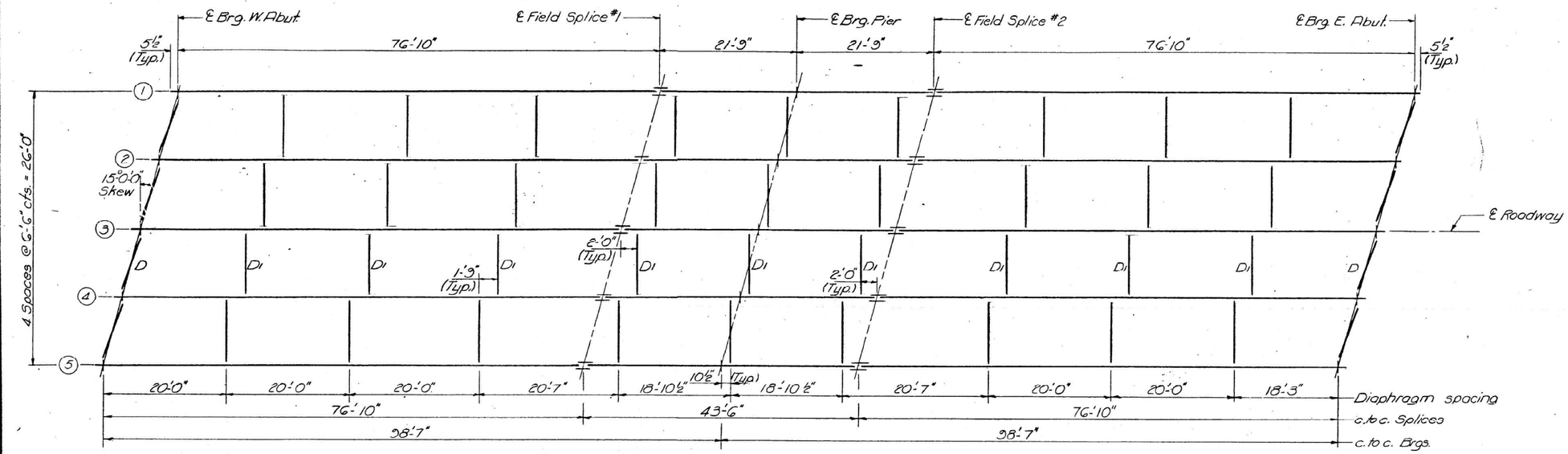
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	57
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

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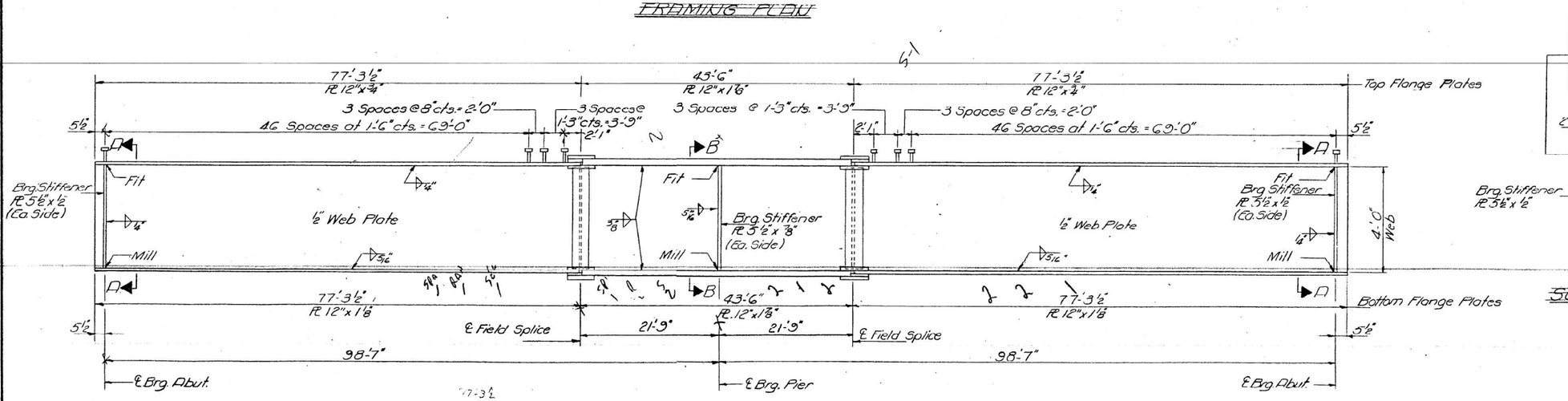
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RTE. 24	24(1HB-1, 1B)	MASSAC	66	45
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 6
16 SHEETS

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

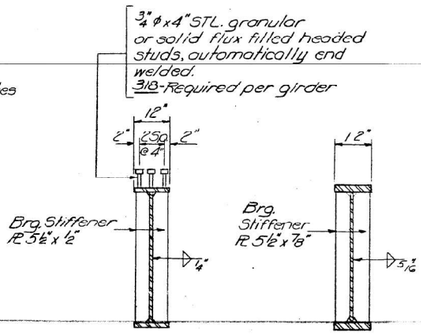


FRAMING PLAN



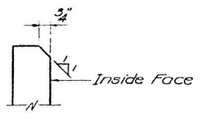
GIRDER ELEVATION

Top & Bottom of girder web shall be cut to camber curve. See Sheet #7



SEC. AA

SEC. BB



BRG. STIFFENER END CUT

FOR INFORMATION ONLY
SN 064-0016

STRUCTURAL STEEL
F.A.I. RT. 24 SEC. 6A-1HB-1
MASSAC COUNTY
STA. 204+27

DESIGNED	I. Kapar	
CHECKED	Rao. G. K	
DRAWN	J.T. Downing	J.T.
CHECKED	Rao. G. K	

EXAMINED April 3 1984
PASSED H.E. Baumann ENGINEER OF DESIGN
APPROVED Richard H. Gutterman CHIEF HIGHWAY ENGINEER

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 064-0016
STRUCTURE INFORMATION

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

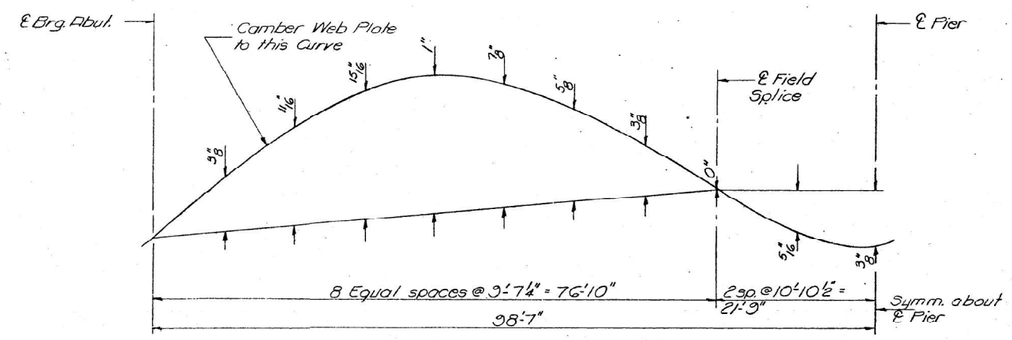
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	58
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

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ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.S. 24	64-1 HB (1, 1 B)	MASSAC	66	46
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 7
16 SHEETS

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



CAMBER DIAGRAM

STRESS TABLE

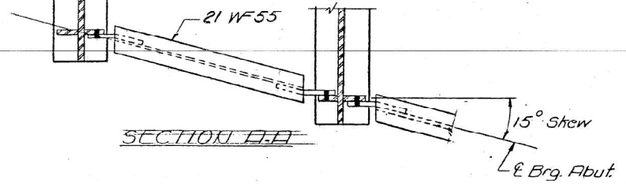
MOMENTS & REACTIONS ~ INTERIOR GIRD.

	Moments - Ft. Kips		Reactions - Kips	
	#0 Sp. 1	Pier	Abut	Pier
D.L.	435.6	1207.2	29.1	107.2
S.D.L.	224.3	351.8	11.9	38.0
L.L.	546.8	457.8	28.2	46.0
Imp.	122.5	102.5	6.3	10.3
Total	1389.2	2119.3	75.5	201.5

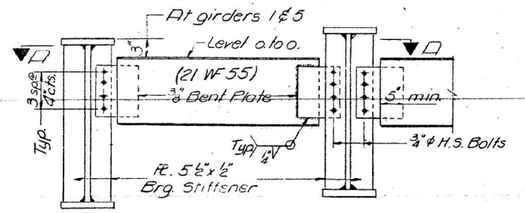
Max. Shear Range (LL+Imp.) = 34.5 Kips
S.D.L. = Superimposed Dead Load

Properties
0-78 Span: Non. Comp: I_S=17,830 in^4, S_{BS}=785.1 in^3, S_{TS}=656.4 in^3
Composite: I_C=41,670 in^4, S_{BC}=1061 in^3; S_{TC}=3930 in^3

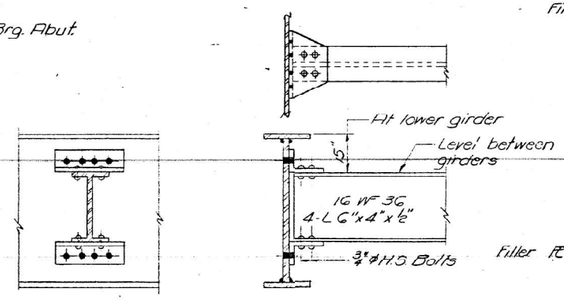
.78 Span - Pier: I_S=32,593 in^4 ; S_{BFT}=1260 in^3



SECTION A-A

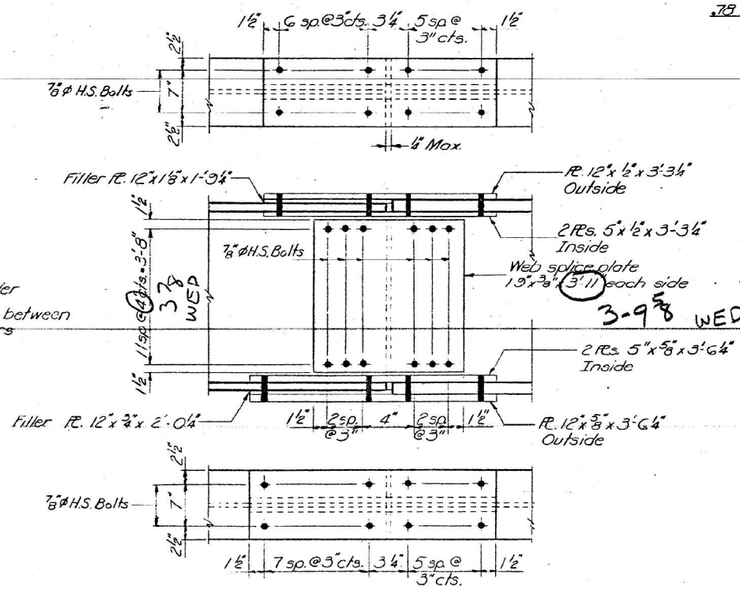


DIAPHRAGM D
8 Required



DIAPHRAGM D1
36 Required

Note: Diaphragm connections may be adapted to shop welding subject to approval by the Engineer.



FIELD SPLICE
10 Required

TOP OF GIRDER WEB ELEVATIONS

Location \ Girder	1	2	3	4	5
℄ Brg. W. Abut.	371.94	372.04	372.08	372.04	371.94
℄ Field Splice #1	372.20	372.30	372.34	372.30	372.20
℄ Brg. Pier	372.17	372.27	372.31	372.27	372.17
℄ Field Splice #2	372.20	372.30	372.34	372.30	372.20
℄ Brg. E. Abut.	371.94	372.04	372.08	372.04	371.94

FOR INFORMATION ONLY
SN 064-0016

DESIGNED	I. Kaspar
CHECKED	Rao G.K
DRAWN	J.T Downing
CHECKED	Rao G.K

EXAMINED April 3 1969
PASSED M.E. Baumann
APPROVED Richard H. Gotterman
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
ENGINEER OF DESIGN
CHIEF HIGHWAY ENGINEER

STRUCTURAL STEEL DETAILS
F.A.I. RT 24 SEC. 64-1HB-1
MASSAC COUNTY
STA. 204+27

MODEL: SN 064-0016 5 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d0983530\D978A75-Sht-FortnfoOnly2.dgn.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

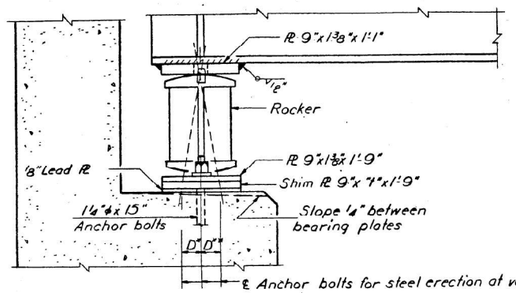
SN 064-0016
STRUCTURE INFORMATION
SCALE: | SHEET 5 OF 6 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	59
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. RTE. 24	64(1HB)-1, 1B	MASSAC	66	47
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

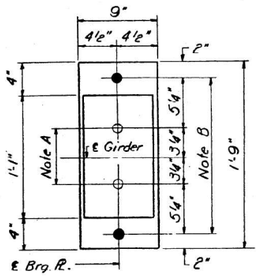
SHEET NO. 8
16 SHEETS

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



SECTION

Note: 1"= 1'-0" @ Girder 3 only.

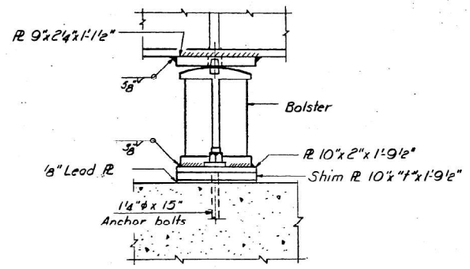


PLAN

AT ABUTMENT

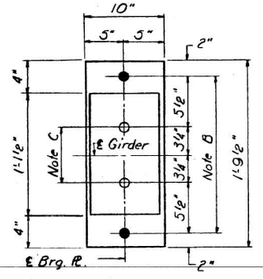
Note A
1⅜"ϕ Holes - 1" deep in top PL for pintles. Thread or press fit pintles into bottom PL.

Note B
1¾"ϕ Holes for 1¼"ϕ anchor bolts. 2½"x 2½"x ⅜" PL. Washers under nut.



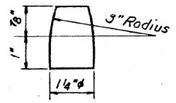
ELEVATION

Note "1"= 1'-0" @ Girder 3 only.



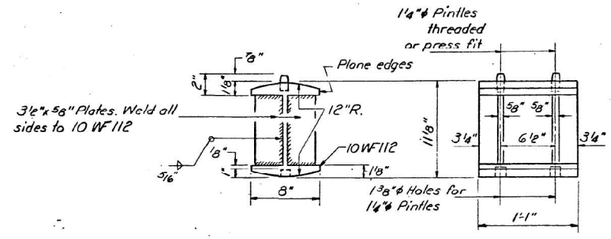
PLAN

AT PIER

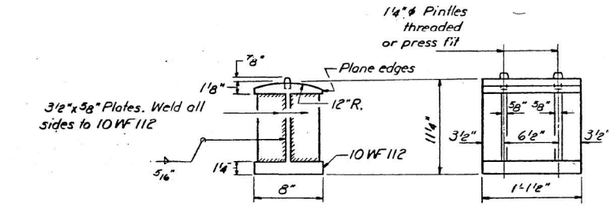


PINTLE

Note C
1⅜" Holes 1" deep in top PL only for 1¼"ϕ pintles.



ROCKER



BOLSTER

NOTES ON SETTING OF ANCHOR BOLTS AT EXP BRGS.

a) D* (Side of brg. away from fixed brg.)
D* = ⅛" per each 100' of expansion for every 15° fall below the normal temp. of 50° F.
D** (Side of brg. toward fixed brg.)
D** = ⅛" per each 100' of expansion for every 15° rise above the normal temp. of 50° F.

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

BEARING ASSEMBLY DETAILS

FOR INFORMATION ONLY
SN 064-0016

DESIGNED	I. Kaspar
CHECKED	Rao. G. k
DRAWN	S.E. Lindsey
CHECKED	Rao G.k

EXAMINED April 3 1969
ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES
PASSED W E Baumann
ENGINEER OF DESIGN
APPROVED Richard A. Gotterman
CHIEF HIGHWAY ENGINEER

BEARING DETAILS
F.A.I. RT. 24 SEC. 64-1HB-1
MASSAC COUNTY
STA. 204 + 27

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

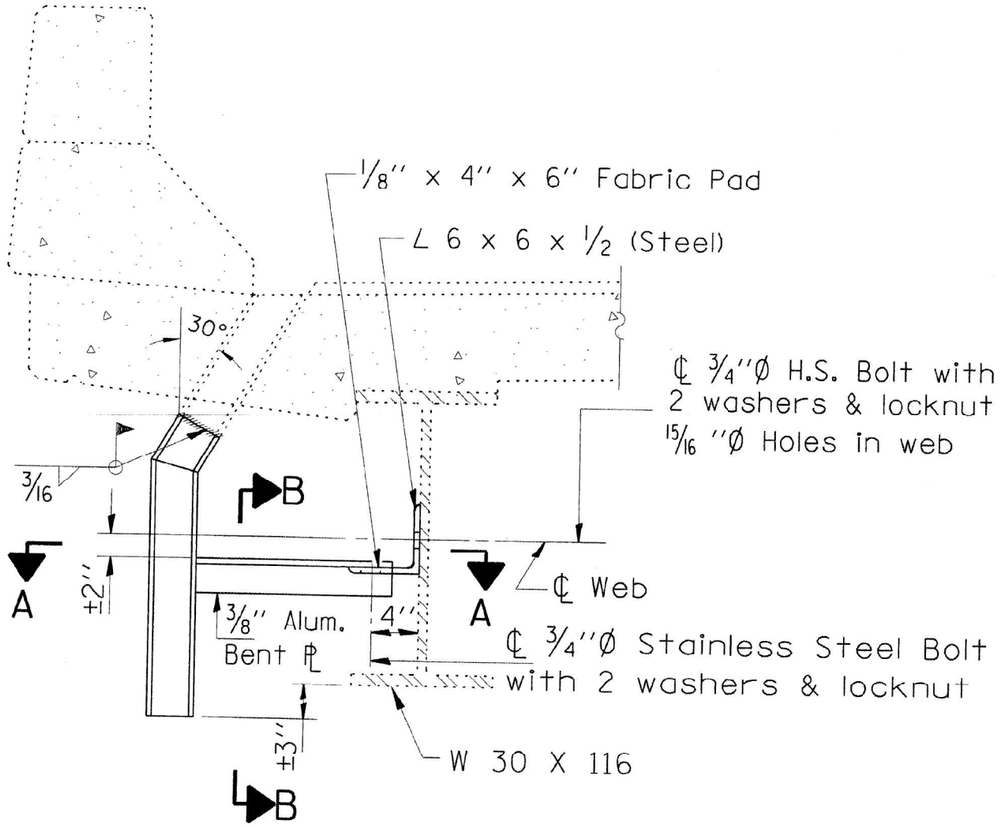
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 064-0016
STRUCTURE INFORMATION

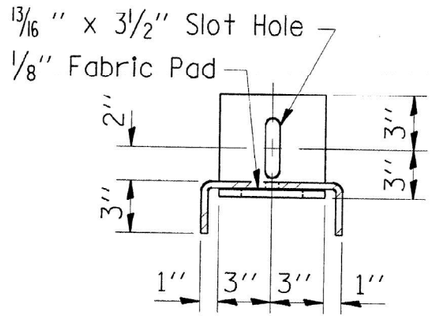
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F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	60
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

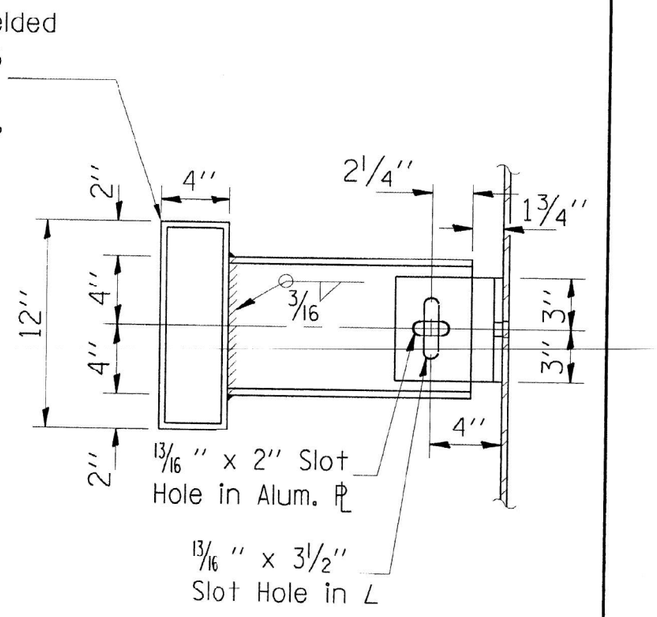
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SECTION AT DRAIN



SECTION B-B



SECTION A-A

FLOOR DRAIN EXTENSION DETAIL
10 Locations

FOR INFORMATION ONLY
SN 064-0038

FLOOR DRAIN EXTENSION
064-0038

FILE NAME = G:\Program Development\Studies and Plans\Downstairs Design\ZBRIDGE MAINT\CONTRACT MAINS\78109 DRAINS.dgn	USER NAME = gautreyk	DESIGNED - ---	REVISED - ---
		DRAWN - ---	REVISED - ---
	PLOT SCALE = 5.2953 '/ IN.	CHECKED - ---	REVISED - ---
	PLOT DATE = 12/22/2009	DATE - ---	REVISED - ---

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SCALE: --- SHEET NO. -- OF --- SHEETS STA. --- TO STA. ---

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24	D9 CW DECK DRAIN EXT FY09-1	JOHNSON MASSAC	16	16
			CONTRACT NO. 78109	
FED. ROAD DIST. NO. -	ILLINOIS	FED. AID PROJECT		

MODEL: SN 064-0038 1 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 064-0038
STRUCTURE INFORMATION

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

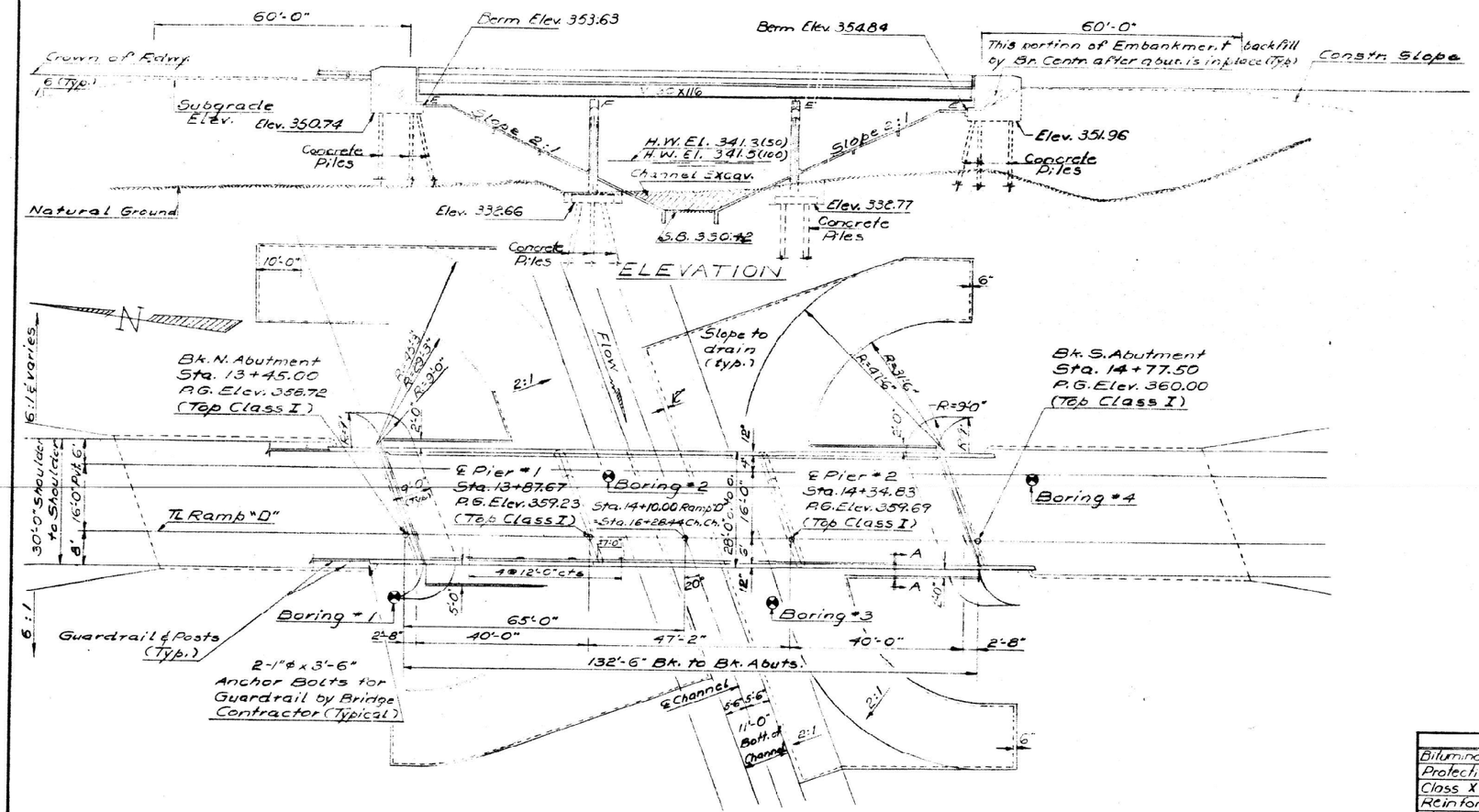
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VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	61
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

B.M. Survey marker - ℄ Eastbound Lanes (West Lanes) Sta. 199+00 - Elev. 351.54

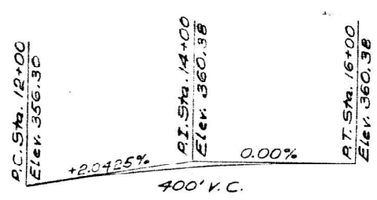
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 24	64B-4	MASSAC	117	25
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

SHEET NO. 1
12 SHEETS



PLAN



PROPOSED GRADE PROFILE RAMP "D" (along ℄)

DESIGNED	
CHECKED	Gerald F. Jacobs
DRAWN	K. Doty
CHECKED	F.F.J.

EXAMINED — April 2 1976
PASSED — ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
APPROVED — DIRECTOR OF HIGHWAYS

WATERWAY INFORMATION

Drainage Area	3915 Acres
Design Discharge (50 yr.)	1785 c.f.s.
Existing Opening (below 50 yr. HWE)	Sq. Ft.
Required Opening (below 50 yr. HWE)	323 Sq. Ft.
Proposed Opening (below 50 yr. HWE)	321 Sq. Ft.
Created Head for Design Flood	Ft.
100-Year Discharge	2268 c.f.s.
Created Head for 100-Year Flood	Ft.

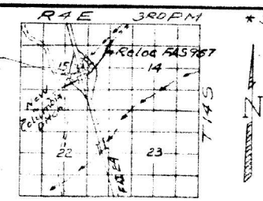
FOR INFORMATION ONLY
SN 064-0038

DESIGN STRESSES

Proposed Structure

fc	=	1200	psi (Deck Slab)
fc	=	1400	psi (Curb, parapet, sub)
fs	=	20000	psi (Reinf.)
fs	=	20000	psi (Struct., M 183)
Vc	=	75	psi (Ftg.)
n	=	10	

Loading M 320-44 & Alt.
1973 AASHTO, 1974 and 1975 Interim Specifications.
Allow 2.5" D for Future W.S.



LOCATION SKETCH

GENERAL NOTES

Fasteners shall be high strength bolts. Bolts ⅞"ø; open holes 15/16ø, unless otherwise noted.

See Special Provisions for Boring Data.

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

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.

Anchor bolts shall be set before bolting diaphragms over supports.

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

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

The Contractor shall drive one concrete test pile in a permanent location at Pier 2 as directed by the Engineer before ordering the remainder of piles.

Calculated weight of Structural Steel = 74,290 Lbs.

Concrete piles at abutments shall be driven in holes preaored through the embankment in accordance with Article 513.09(c) of the Standard Specifications.

Backfill shall be placed behind the abutment after the superstructure has been poured and the falsework removed. See Article 502.11 of the Standard Specifications.

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

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.

Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.

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.

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 tension flanges, webs and all splice plate material of the wide flange beams.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub	Total
Bituminous Concrete Surface Course, Class I	Tons	20		20
Protective Coat	Sq. Yd.	100	19	119
Class X Concrete	Cu. Yd.	122.3	156.8	279.1
Reinforcement Bars	Pound	29170	12980	42150
Structural Steel	Lump Sum	1		1
Name Plates	Each	1		1
Concrete Piles	Lin. Ft.		1680	1680
Test Piles Concrete	Each		1	1
Slope Wall (6")	Sq. Yd.		1606	1606
* Waterproofing Membrane System	Sq. Yd.	352		352
Preformed Joint Sealer (2⅝")	Lin. Ft.	60		60
Cofferdam Excavation	Cu. Yd.		55	55
Cofferdam (Pier 1)	Each		1	1
Cofferdam (Pier 2)	Each		1	1

* See Special Provisions.

GENERAL PLAN & ELEVATION
PROJECT: I-24-1(66)25
RAMP "D" OVER NEW COLUMBIA DITCH
F.A.I. RTE. 24 SECTION 64-1S-4
MASSAC COUNTY
STA. 14+10.00

25130

MODEL: SN 064-0038 2 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 064-0038
STRUCTURE INFORMATION

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

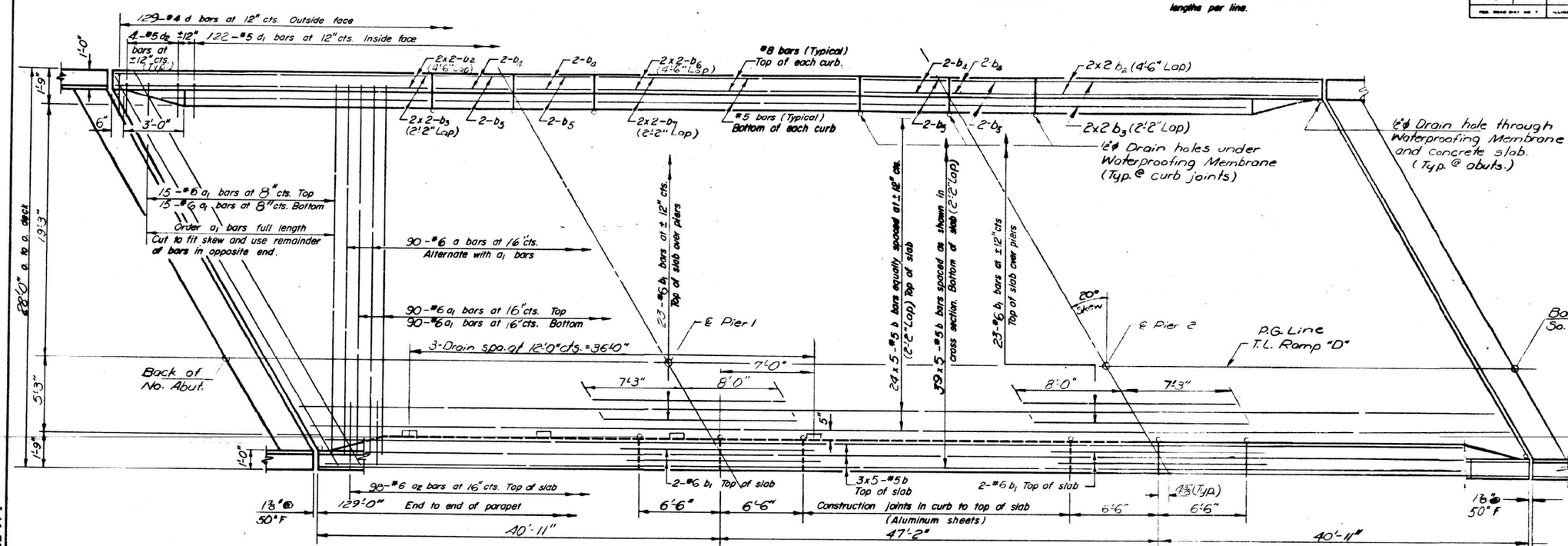
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VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	62
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

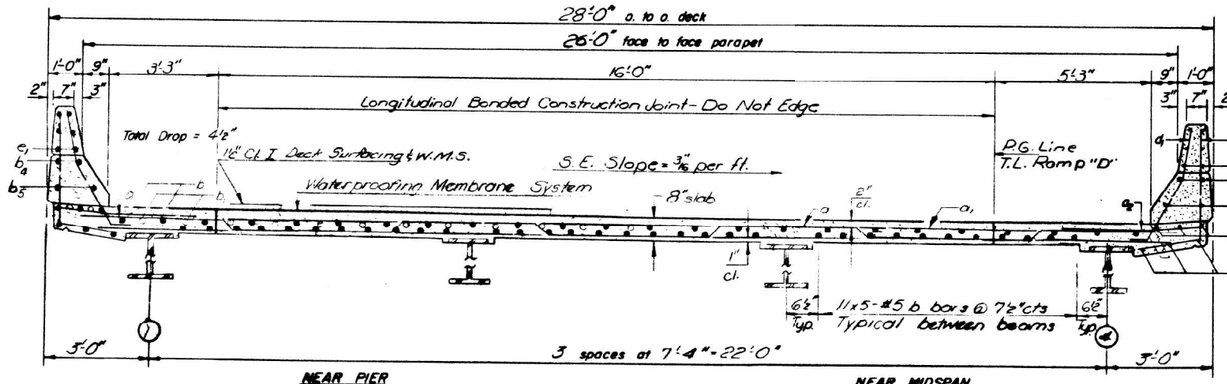
Note: Bars indicated thus 20x3-#5 etc. indicates 20 lines of bars with 3 lengths per line.

ROUTE NO	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
... 24	64 18 4	MASSAC	17	5 2
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 5
12 SHEETS



HALF PLAN



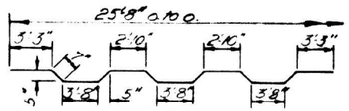
NEAR PIER **NEAR MIDSPAN**

CROSS SECTION
LOOKING SOUTH

DESIGNED		
CHECKED		
DRAWN		
CHECKED		

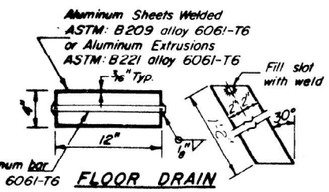
PI-5-R (>15°) 7-15-75

EXAMINED
PASSED
APPROVED
DIRECTOR OF HIGHWAYS

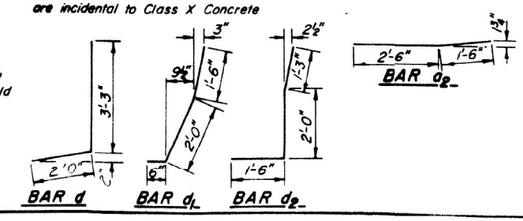


BAR a
(For Skews ≤ 30°)

FOR INFORMATION ONLY
SN 064-0038



FLOOR DRAIN



CURB SECTION
Cost of Aluminum Sheets and Drains are incidental to Class X Concrete

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	90	#6	26'8"	
a_1	210	#6	25'9"	
a_2	196	#6	4'0"	
D	345	#5	27'6"	
b_1	54	#6	15'3"	
b_2	16	#3	13'6"	
b_3	16	#5	18'3"	
b_4	16	#8	6'3"	
b_5	16	#5	6'3"	
b_6	8	#8	13'3"	
b_7	8	#5	18'0"	
d	258	#4	5'3"	⌋
d_1	244	#5	4'0"	⌋
d_2	16	#5	4'9"	⌋
Reinforcement Bars		Lbs.	28110	
Class X Concrete		Cu. Yds.	112.1	

Parapet reinforcement and Class X Concrete are billed on sheet #6.

SUPERSTRUCTURE
FAI RT. 24 - SEC. 64-18 4
MASSAC COUNTY
STA. 14 + 10.00

1/4.35

MODEL: SN 064-0038 3 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 064-0038
STRUCTURE INFORMATION

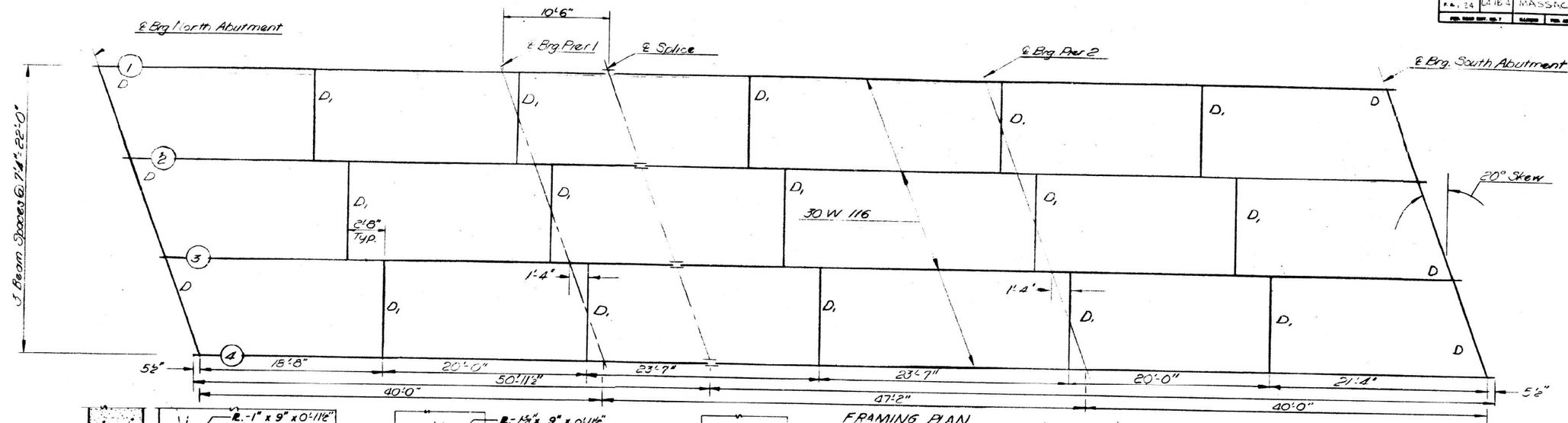
SCALE: | SHEET 3 OF 4 SHEETS | STA. | TO STA.

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	63
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

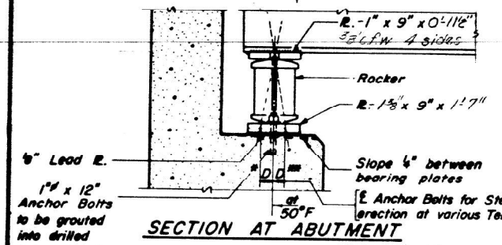
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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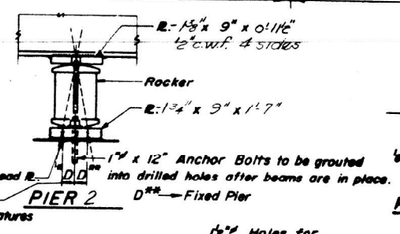
SHEET NO. 7
12 SHEETS



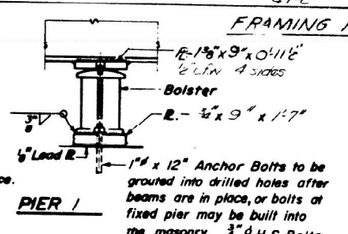
FRAMING PLAN



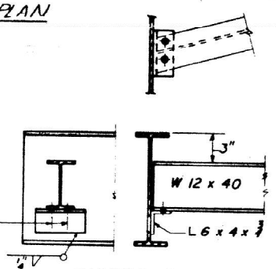
SECTION AT ABUTMENT



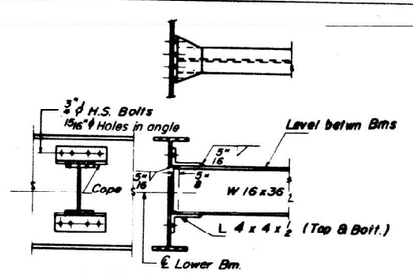
PIER 2



PIER 1



DIAPHRAGM D
6 Required

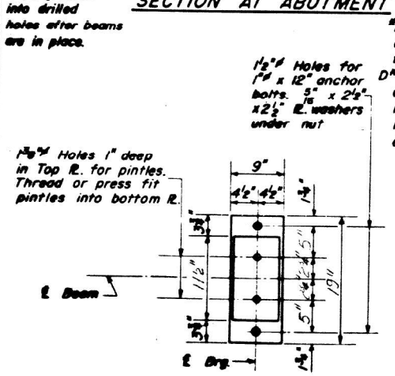


DIAPHRAGM D
15 - Required

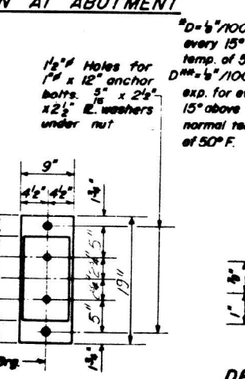
Note: Hardened washers shall be required over 15/16" ϕ holes in angles.

ELEVATION TOP OF WF

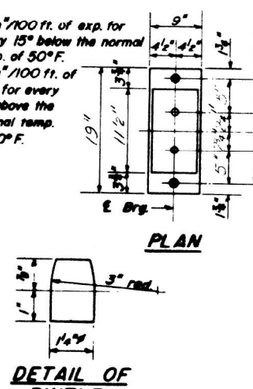
Location	Brg. 1	Brg. 2	Brg. 3	Brg. 4
℄ Brg. N. Abut.	358.12	358.04	357.96	357.88
℄ Brg. Pier 1	358.54	358.45	358.37	358.28
℄ Splice	358.25	358.56	358.47	358.39
℄ Brg. Pier 2	359.00	358.91	358.82	358.72
℄ Brg. S. Abut.	359.38	359.29	359.19	359.09



PLAN

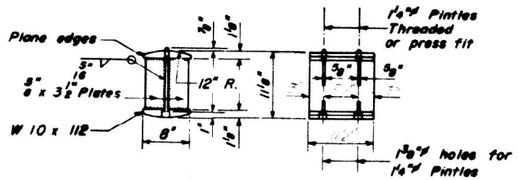


PLAN

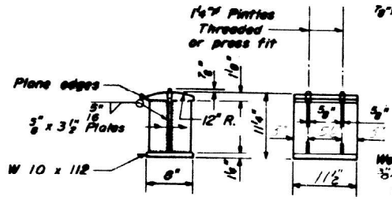


PLAN

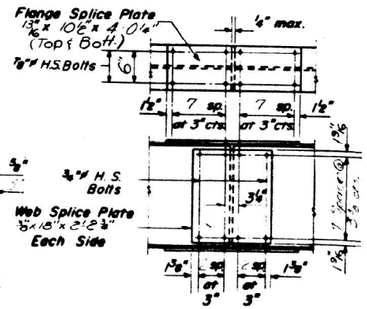
DETAIL OF PINTLE



DETAIL OF ROCKER AT Abutment 2



DETAIL OF BOLSTER AT PIER 1



DETAIL OF SPLICE

FOR INFORMATION ONLY
SN 064-0038

STRUCTURAL STEEL
F.A.I. RT. 24 - SEC. 64-1B-4
MASSAC COUNTY
STA. 14 + 10.00

DESIGNED	[illegible]	
CHECKED	Donald F. Jacobs	
DRAWN	[illegible]	RD
CHECKED	J. F. J.	

EXAMINED
PASSED
APPROVED
DIRECTOR OF HIGHWAYS

I-2 4-15-73

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 064-0038
STRUCTURE INFORMATION

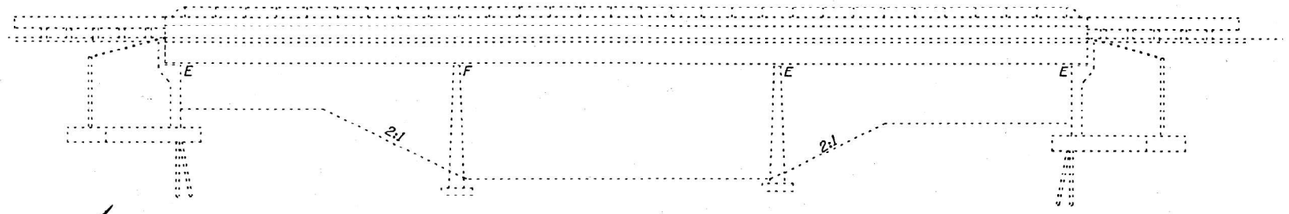
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F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	64
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

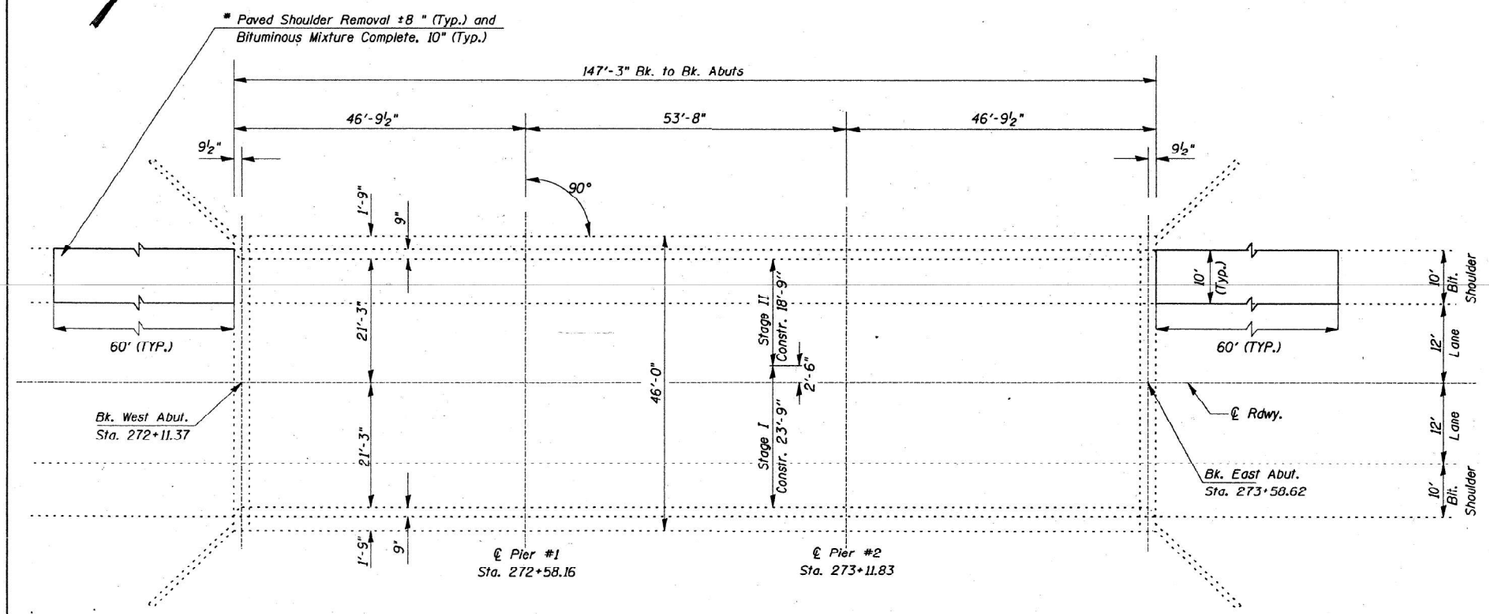
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F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	BSMART FY04	PERRY	12	3

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION



PLAN

Sequence of Construction

1. Remove Stage I Areas
2. Perform Stage I Repairs and Overlay
3. Remove Stage II Areas
4. Perform Stage II Repairs and Overlay

DESIGNED	J. Wayne Halstead
CHECKED	MAS
DRAWN	Luann Dickerson
CHECKED	JWH MAS

Design Stresses (New Construction)

fy = 36,000 psi (structural steel)

Scope of Work

Removal of existing bituminous surface & WMS
Scarify existing deck surface
Partial depth patching
Microsilica concrete overlay
Bearing removal and replacement at both abutments

GENERAL NOTES

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.

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

All new structural steel shall conform to AASHTO Classification M-270 Gr. 36.

All new structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, type 1.

Protective coat shall be applied to the bridge deck Microsilica Concrete Overlay in accordance with article 503.19 of the Standard Specifications. The seasonal exception shall not apply. The rate of application for each coat on saw cut grooved areas shall be 25 Sq. Yds. per gallon of mixture.

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

* The contractor will be allowed the option of placing P.C.C. Pavement in lieu of the Bituminous concrete used in preparing shoulders for staged traffic. There will be no additional compensation if the P.C.C. Pavement is used.

FOR INFORMATION ONLY
SN 073-0025

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANITY
Bituminous Concrete Removal (Deck)	Sq. Yd.	661
Concrete Bridge Deck Scarification (3/4 Inch)	Sq. Yd.	661
Deck Slab Repair (Partial Depth)	Sq. Yd.	19
Jack and Remove Existing Bearings	Each	12
Elastomeric Bearing Assembly, Type I	Each	6
Elastomeric Bearing Assembly, Type II	Each	6
Furnishing and Erecting Structural Steel	Pound	2150
Bridge Deck Microsilica Concrete Overlay 2¼"	Sq. Yd.	661
Bridge Deck Grooving	Sq. Yd.	630
Protective Coat	Sq. Yd.	661

BRIDGE REPAIRS
IL 127 OVER SWANWICK CREEK
PERRY COUNTY
STA. 272+85.0
S.N. 073-0025

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	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 073-0025
STRUCTURE INFORMATION

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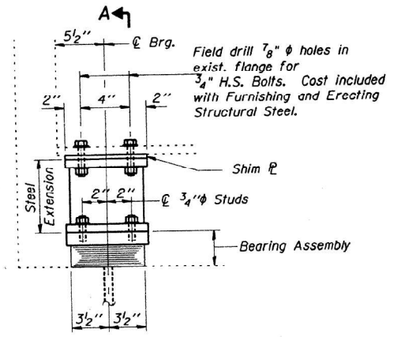
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	65
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

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42	BSMART FY04	PERRY	12	6

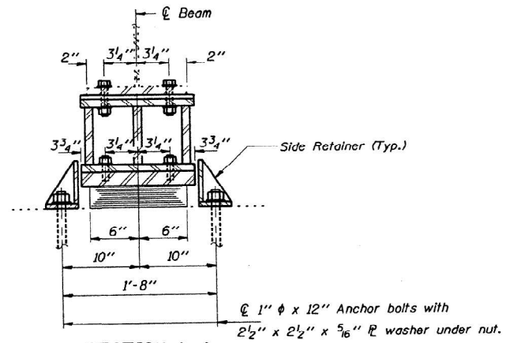
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER REACTIONS

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R℄	(K)	39.7
Imp.	(K)	11.5
R (Total)	(K)	74.2



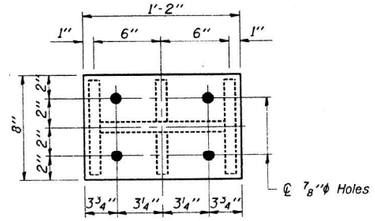
ELEVATION AT WEST ABUTMENT



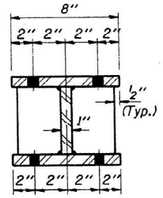
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

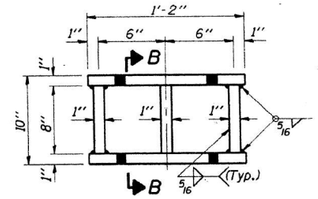
Notes: Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost shall be included with Furnishing and Erecting Structural Steel.
New steel extensions, side retainers, shim ℙ's, connection bolts, and anchor bolts are included with Furnishing and Erecting Structural Steel.
See Sheet 12 of 12 for Anchor Bolt installation.
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
Min. jack capacity = 40 Tons.



PLAN TOP AND BOTTOM PLATE



SECTION B-B



STEEL EXTENSION DETAIL

BEARING ASSEMBLY

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

EXISTING BEARING REMOVAL DETAIL

* Cost is included with Jack and Remove Existing Bearings

FOR INFORMATION ONLY
SN 073-0025

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	6

SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

TYPE I BEARING REPLACEMENT
WEST ABUTMENT
PERRY COUNTY
S.N. 073-0025

DESIGNED	J. Wayne Halstead
CHECKED	MAS
DRAWN	J. Wayne Halstead
CHECKED	JWH MAS

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USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 073-0025
STRUCTURE INFORMATION

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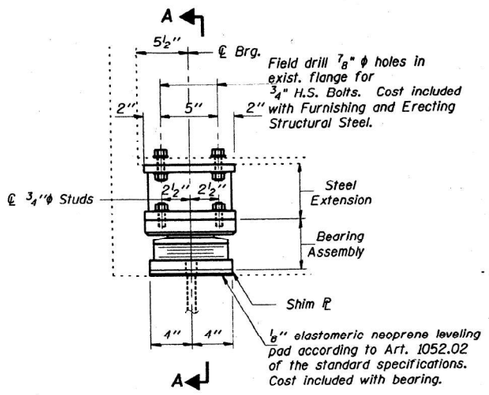
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VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	66
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

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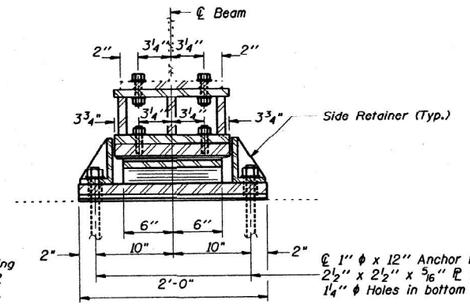
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GIRDER REACTIONS

RP	(K)	23.0
Rt	(K)	39.7
Imp.	(K)	11.5
R (Total)	(K)	74.2



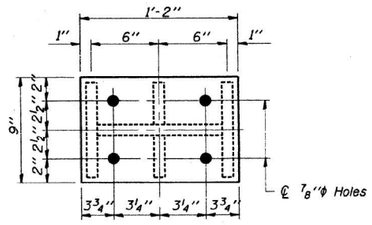
ELEVATION AT EAST ABUTMENT



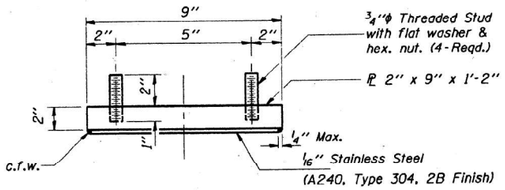
SECTION A-A

TYPE II TFE ELASTOMERIC EXP. BRG.

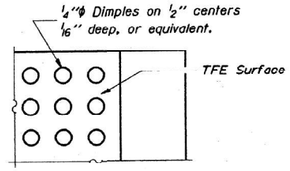
Notes: Diaphragm removal and replacement may be required to facilitate drilling holes. Cost shall be included with Furnishing and Erecting Structural Steel.
New steel extensions, side retainers, shim ℄'s, connection bolts, and anchor bolts are included with Furnishing and Erecting Structural Steel.
See Sheet 12 of 12 for Anchor Bolt installation.
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
Min. jack capacity = 40 Tons.



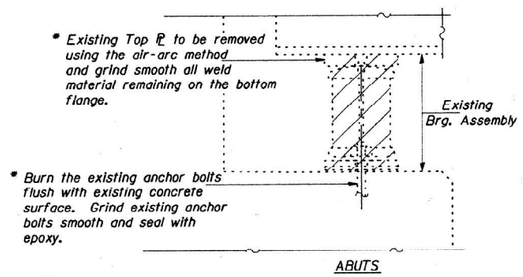
PLAN TOP AND BOTTOM PLATE



TOP BEARING ASSEMBLY

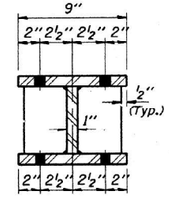


PLAN-TFE SURFACE

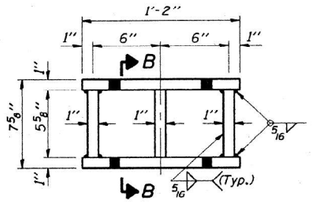


EXISTING BEARING REMOVAL DETAIL

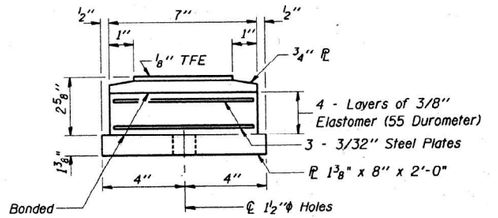
* Cost is included with Jack and Remove Existing Bearings



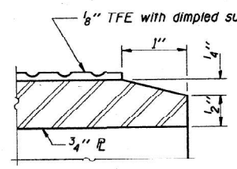
SECTION B-B



STEEL EXTENSION DETAIL



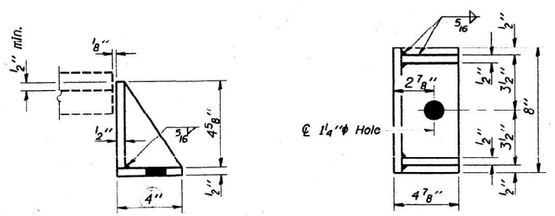
BOTTOM BEARING ASSEMBLY



SECTION THRU TFE

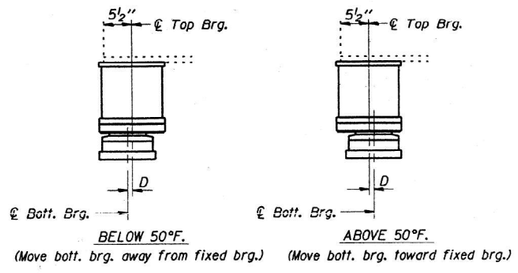
Note: The ⅛" TFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

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

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



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.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	6

FOR INFORMATION ONLY
SN 073-0025

TYPE II BEARING REPLACEMENT
EAST ABUTMENT
PERRY COUNTY
S.N. 073-0025

DESIGNED	J. Wayne Halstead	
CHECKED	MAS	
DRAWN	J. Wayne Halstead	
CHECKED	JWH MAS	

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	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 073-0025
STRUCTURE INFORMATION

SCALE: | SHEET 3 OF 5 SHEETS | STA. | TO STA.

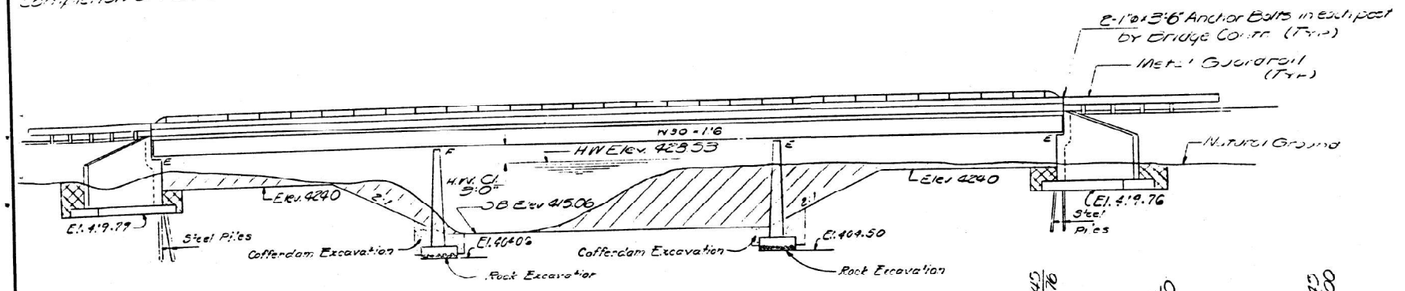
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VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	67
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

Drill Hole Spike in PP Sta 272+96 Elev 425.39
Existing Structure. Built as FA 128, Sec 8B1C Sta 272+33.38
in 1926 Superstructure RC Slab on Steel Girders. Substructure
Plant Contractor shall remove existing structure after
completion of new structure.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

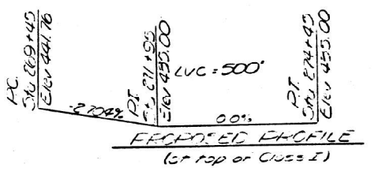
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FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT:		

SHEET NO. 1
12 SHEETS

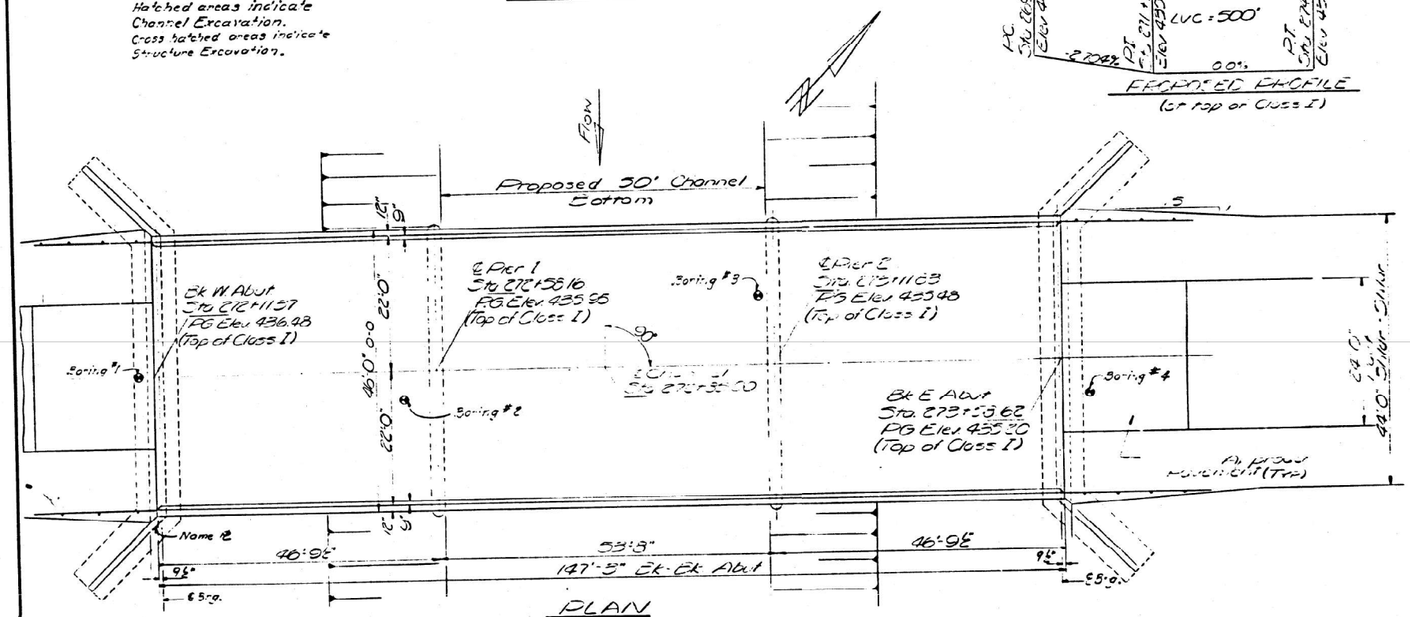


ELEVATION

Note:
Hatched areas indicate Channel Excavation.
Cross hatched areas indicate Structure Excavation.



PROPOSED PROFILE
(of top of Class I)



PLAN

STATION 272+85.00
BUILT 19 BY
STATE OF ILLINOIS
F.A. RT. 128 SEC. 8-1-B
PROJ. NO. 237(33)
LOADING HS 20

NAME PLATE
(See Std. 2113)

DESIGNED	R. Wolfrum
CHECKED	James Rivet
DRAWN	Fortunato
CHECKED	JP

EXAMINED October 12 1973
PASSED W. G. Bamesberger
APPROVED Harry R Hanley
DIRECTOR OF HIGHWAYS

DESIGN STRESSES

f'c 1200 psi Deck Slab f'c 1000 psi Abutments
f'c 1400 psi Curb, Parapet & Piers
fs 20000 psi Rein.
fs 21000 psi Structural
vc 75 psi Ftgs n=10
Allow E=3*/30 Ft for Ft. W.S.
Design Specifications 1969
AASHO (as applicable)

LOADING HS20-44

WATERWAY INFORMATION

Drainage Area	530.30 Miles
Present Opening	3845.30 Ft
Proposed Opening	2247.30 Ft
Proposed Opening (Main Structure)	1185.30 Ft
Qdes	11,000 cfs.
Created Head	0.77'

GENERAL NOTES

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

Fasteners shall be high strength bolts. Bolts ⅞" ϕ; open holes 1⅛" ϕ, unless otherwise noted.

Calculated weight of Structural Steel = 130,480 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 bolting diaphragms over supports.

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

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.

Protective Coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.

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.

The Contractor shall drive one steel test pile in a permanent location, at East Abutment as directed by the Engineer before ordering the remainder of piles.

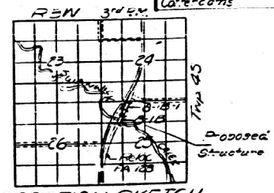
All structural steel shall be AASHTO M222 and shall not be painted, except as noted.

The main load carrying member components subject to the Supplemental Requirements for Notch Toughness are the flanges, webs, and splice plates of the steel girders on wide flange beams.

FOR INFORMATION ONLY
SN 073-0025

TOTAL BILL OF MATERIAL

Item	Unit	Struc.	Sub	Total
Bituminous Conc. Surface Crse Class I	Ton	57		57
Structure Excavation	Cu. Yds.		307	307
Class A Concrete	Cu. Yds.		243.7	243.7
Waterproofing Membrane System	Sq. Yds.	704		704
Class X Concrete	Cu. Yds.	210.5	174.9	385.4
Reinforcement Bars	Lbs.	52,510	35,040	87,610
Structural Steel	L. S.	L.S.		0.36
Aluminum Railing	Lin. Ft.	290		290
Protective Coat	Sq. Yds.	111		111
Steel Piles HP10x42	Lin. Ft.		526	526
Test Piles (Steel)	Each		1	1
Rock Excavation for Structures	Cu. Yds.		11	11
Preformed Joint Sealer (2½")	Lin. Ft.	92		92
Name Plates	Each	1		1
Removal of Existing Structures	Each		1	1
Cofferdam Excavation	Cu. Yds.		491	491
Cofferdams	Each		2	2



LOCATION SKETCH

PROJECT F-237
GENERAL PLAN & ELEVATION
FA 128 over SWANWICK CREEK
FA RTE 128 SEC. 8-1 B
PERRY COUNTY
STA 272+85.00

DIETZGEN

USER NAME = david.a.wilson	DESIGNED -	REVISED -	**STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION**	**SN 073-0025 STRUCTURE INFORMATION**	
	DRAWN -	REVISED -			
	CHECKED -	REVISED -			
PLOT DATE = 10/15/2024	DATE -	REVISED -		SCALE: SHEET 4 OF 5 SHEETS STA. TO STA.	

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	68
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

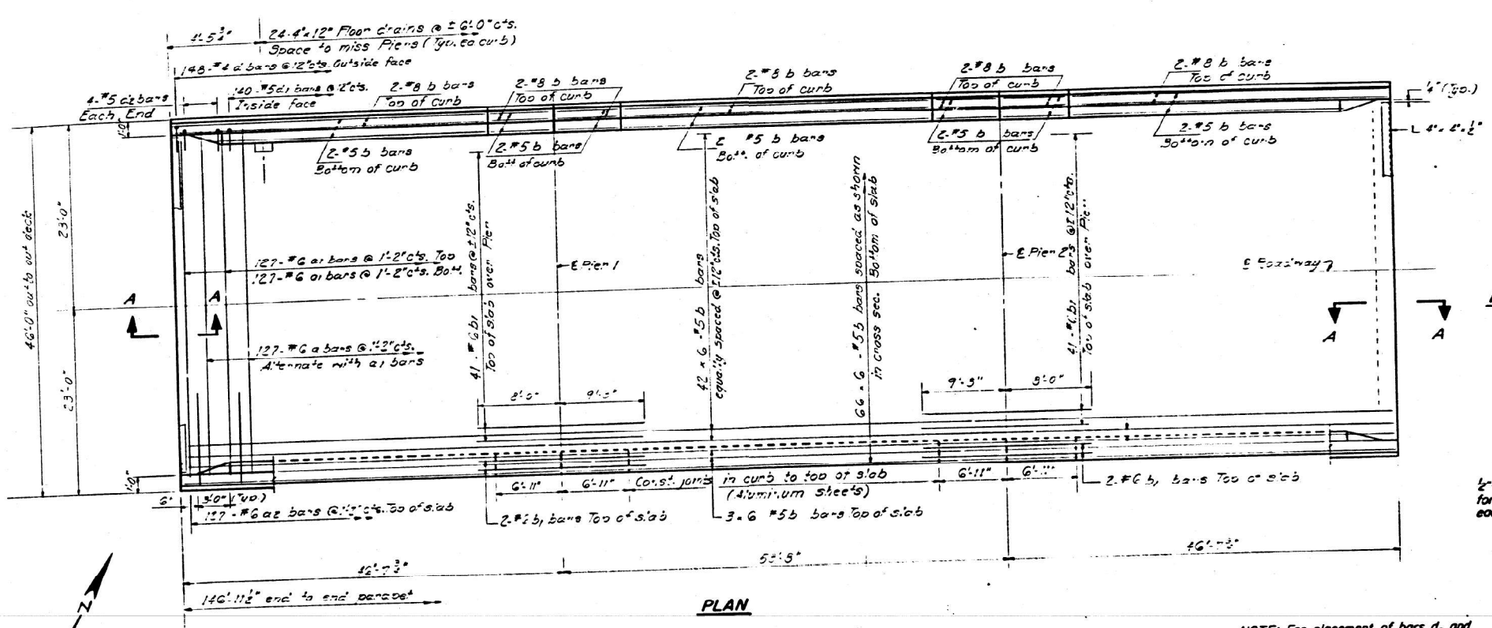
NOTE:
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
Min. bar laps = 24 dia.

Note A:
Angles & bars shall be A.S.T.M. A36 steel and shall receive 2 shop coats of the Basic Lead Silico Chromate paint.

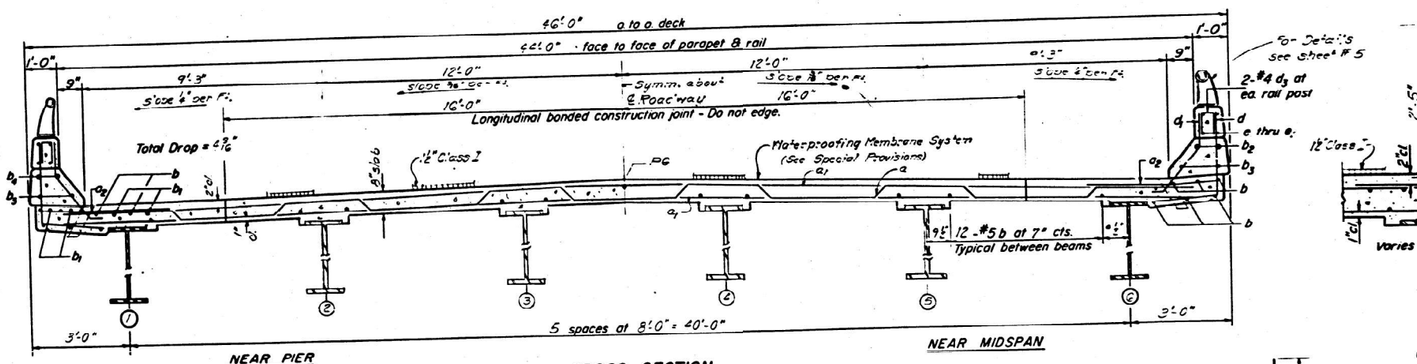
7/16"ø holes at 12" cts. for 3/8" bolts set on 2½" gage line. All bolts shall be burned, sawed or clipped off flush with back of angles after forms are removed.

DRAWN NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D.B.'s 128		Perry	81	10
FED. ROAD DIST. NO. 9	PLANNING	FED. AID PROJECT		

SHEET NO. 4
12 SHEETS

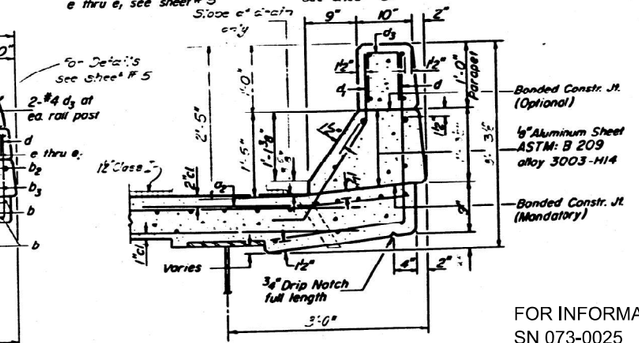


PLAN



CROSS SECTION
(Looking East)

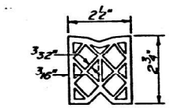
NOTE: For placement of bars d_3 and e thru e, see sheet # 5



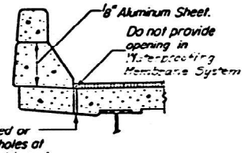
CURB SECTION
Cost of Aluminum Sheets shall be incidental to Class X Concrete.

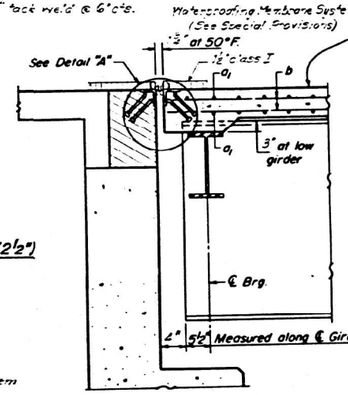
SECTION AT CURB JOINTS

Notes:
For Drain detail and Deck Syntactic Detail see sheet # 3
For end of Sealer Treatment detail see sheet # 5.



PREFORMED JOINT SEALER (2½")



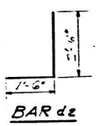


SECTION A-A

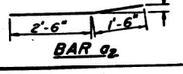
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	127	#6	45'-6"	
a_1	254	#6	44'-0"	
a_2	254	#6	4'-0"	
b	684	#5	25'-6"	
b_1	90	#6	17'-3"	
b_2	12	#8	3'-1.5"	
b_3	12	#5	3'-1.5"	
b_4	16	#8	6'-8"	
b_5	16	#5	6'-8"	
d	596	#4	2'-0"	
e	280	#5	3'-5"	
e_2	16	#5	6'-0"	
Reinforcement Bars		Lbs.	5,170	
Class X Concrete		Cu. Yds.	20.0	

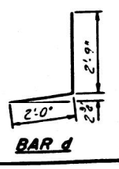
Parapet Reinforcement and Class X Concrete are billed on sheet # 5



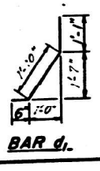
BAR d_2



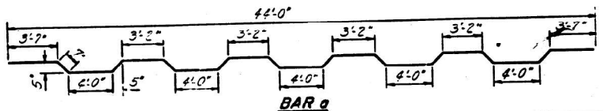
BAR a_2



BAR d



BAR d_1



BAR a

DESIGNED	R. W. Miller	
CHECKED	James Perry	
DRAWN	Simon Stamile	
CHECKED	JP	

EXAMINED Oct. 12 1973
PASSED W. P. Summers
APPROVED Harry R. Hanley DIRECTOR OF HIGHWAYS

S-586-0 4-22-68, 12-3-69

FOR INFORMATION ONLY
SN 073-0025

SUPERSTRUCTURE
F.A.RT. 128 SEC. 8-1 S
PERRY COUNTY
STA. 272+85.00

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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

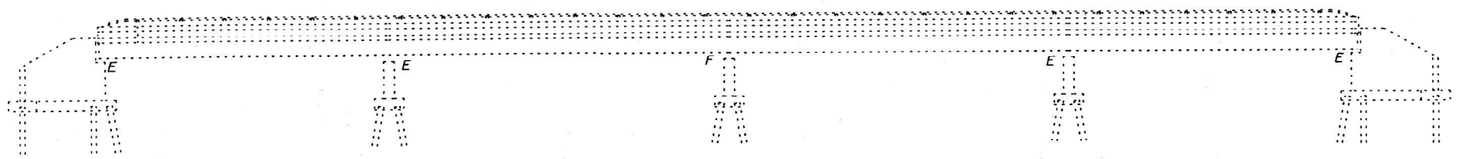
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 073-0025
STRUCTURE INFORMATION
SCALE: SHEET 5 OF 5 SHEETS STA. TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	69
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	BSMART FY04	PERRY	12	8

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION

GENERAL NOTES

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.

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 conform to AASHTO Classification M-270 Gr. 36.

All new structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, type 1.

Protective coat shall be applied to the bridge deck Microsilica Concrete Overlay in accordance with article 503.19 of the Standard Specifications. The seasonal exception shall not apply. The rate of application for each coat on saw cut grooved areas shall be 25 Sq. Yds. per gallon of mixture.

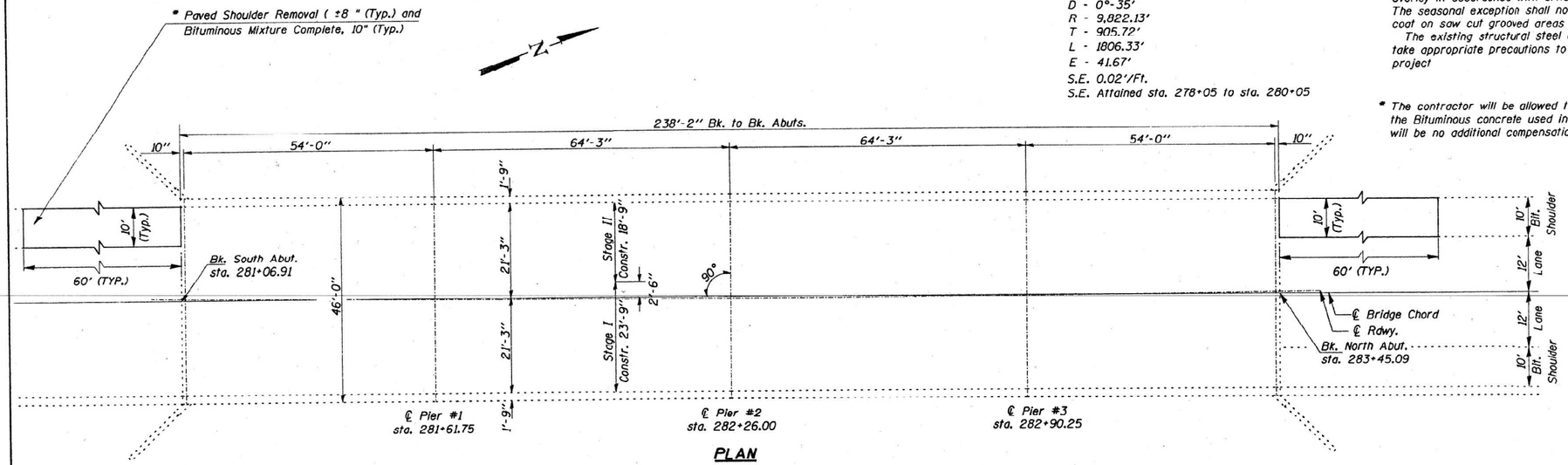
The existing structural steel coating contains lead. The contractor should take appropriate precautions to deal with the presence of lead on this project

* The contractor will be allowed the option of placing P.C.C. Pavement in lieu of the Bituminous concrete used in preparing shoulders for staged traffic. There will be no additional compensation if the P.C.C. Pavement is used.

CURVE DATA

Values from Existing plans

Δ - 10°-32'-13"
D - 0°-35'
R - 9,822.13'
T - 905.72'
L - 1806.33'
E - 41.67'
S.E. 0.02'/Ft.
S.E. Attained sta. 278+05 to sta. 280+05



PLAN

FOR INFORMATION ONLY
SN 073-0026

Sequence of Construction

1. Remove Stage I Areas
2. Perform Stage I Repairs and Overlay
3. Remove Stage II Areas
4. Perform Stage II Repairs and Overlay

Design Stresses (New Construction)

fy = 36,000 psi (structural steel)

Scope of Work

Removal of existing bituminous surface & WMS
Scarify existing deck surface
Partial depth patching
Microsilica concrete overlay
Bearing removal and replacement at both abutments

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANITY
Bituminous Concrete Removal (Deck)	Sq. Yd.	1090
Concrete Bridge Deck Scarification (3/4 inch)	Sq. Yd.	1090
Deck Slab Repair (Partial Depth)	Sq. Yd.	33
Jack and Remove Existing Bearings	Each	12
Elastomeric Bearing Assembly, Type 1	Each	12
Furnishing and Erecting Structural Steel	Pound	1445
Bridge Deck Microsilica Concrete Overlay 2¼"	Sq. Yd.	1090
Bridge Deck Grooving	Sq. Yd.	1039
Protective Coat	Sq. Yd.	1090

DESIGNED	J. Wayne Halstead
CHECKED	MAS
DRAWN	J. Wayne Halstead
CHECKED	JWH MAS

BRIDGE REPAIRS
IL 127 OVER SWANWICK CREEK OVERFLOW
PERRY COUNTY
STA. 282+26.00
S.N. 073-0026

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	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

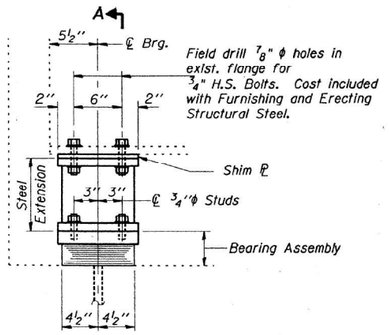
SN 073-0026
STRUCTURE INFORMATION

SCALE: | SHEET 1 OF 5 SHEETS | STA. | TO STA.

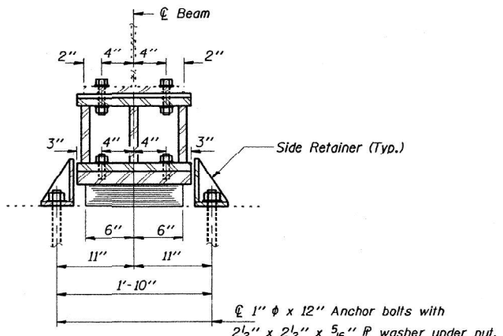
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	70
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
42	BSMART FY04	PERRY	12	11

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



ELEVATION AT ABUTMENTS



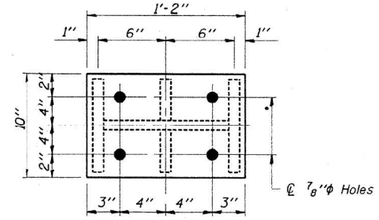
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.

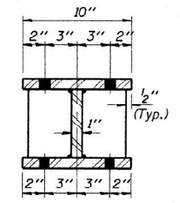
GIRDER REACTIONS

RP	(K)	30.7
RL	(K)	41.4
Imp.	(K)	12.5
R (Total)	(K)	84.6

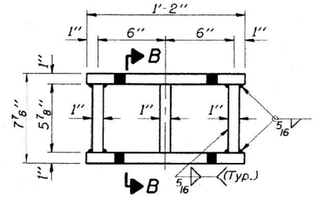
Notes: Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost shall be included with Furnishing and Erecting Structural Steel.
New steel extensions, side retainers, shim ℙ's, connection bolts, and anchor bolts are included with Furnishing and Erecting Structural Steel.
See Sheet 12 of 12 for Anchor Bolt Installation.
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
Min. jack capacity = 50 Tons.



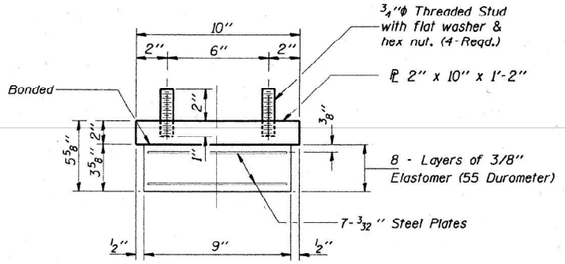
PLAN TOP AND BOTTOM PLATE



SECTION B-B

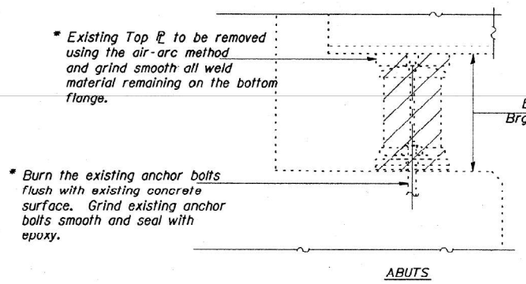


STEEL EXTENSION DETAIL



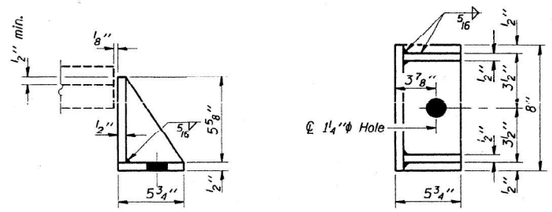
BEARING ASSEMBLY

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



EXISTING BEARING REMOVAL DETAIL

* Cost is included with Jack and Remove Existing Bearings



SIDE RETAINER

Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

FOR INFORMATION ONLY
SN 073-0026

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	12

TYPE I BEARING REPLACEMENT
ABUTMENTS
PERRY COUNTY
S.N. 073-0026

DESIGNED	J. Wayne Halstead
CHECKED	MAS
DRAWN	J. Wayne Halstead
CHECKED	JWH MAS

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	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 073-0026
STRUCTURE INFORMATION

SCALE: | SHEET 2 OF 5 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	71
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

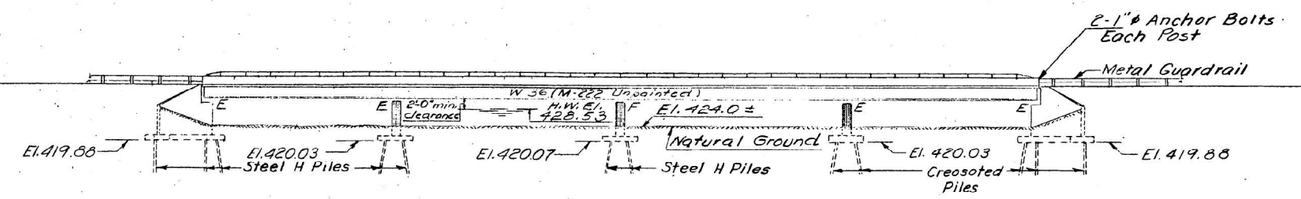
B.M.: R.R. Spike in P.P. 49' Rt. Sta. 290+91. Elev. 432.40
Existing structures built as F.A. Rte. 128, Sec. 6BCD, Sta. 281+00 & Sta. 287+00 in 19.36. Superstructure 24" WF with 6½" Conc. slab, Pile Bent Substructure. The Existing 26'-0" Wide x 213'-0" Long bridges to be removed by Contractor after new bridge is open to traffic.
No Salvage

0018
0019

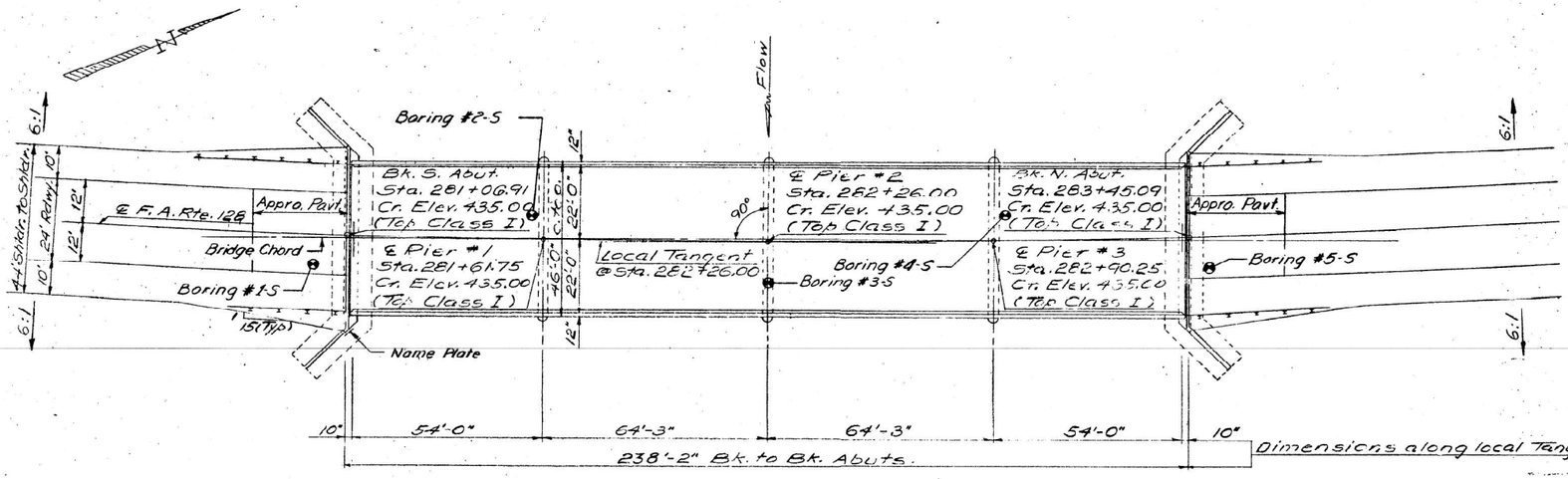
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.R.T. 128	8-1B-1	Perry	81	39
FED. ROAD DIST. NO. 7		ILLINOIS	FED. AID PROJECT: RF-237(33)	

SHEET NO. 1
12 SHEETS



ELEVATION



PLAN

GENERAL NOTES

All reinforcement bars shall be lapped 24 diameters unless otherwise noted.

Fasteners shall be high strength bolts. Bolts ¾"ø, open holes 13/16"ø, unless otherwise noted.

Calculated weight of Structural Steel = 235,150 lbs. ✓

All Structural Steel shall be AASHO: M 222 unpainted except as noted. ✓

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 bolting diaphragms over supports.

The main load carring member components subject to the Supplemental Requirements for Notch Toughness are the wide flange beams.

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.

Protective coat shall not be applied to surfaces which Waterproofing Membrane System is applied.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of ±⅛" 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.

The Contractor shall drive one timber test pile in a permanent location at Pier #3 and one steel test pile (HP12x53) in a permanent location at Pier #2 as directed by the Engineer before ordering the remainder of piles.

FOR INFORMATION ONLY
SN 073-0026

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Structure Excavation	Cu.Yds.		604	604
Class X Concrete	Cu.Yds.	337.2	197.4	534.6
Reinforcement Bars	Lbs.	79,930	20,120	100,050
Aluminum Railing ✓	Lin.Ft.	472		472
Bituminous Concrete Surface Course, Cl. I	Tons	93		93
Waterproofing Membrane System*	Sq.Yds.	1123		1123
Preformed Joint Sealer (4")	Lin.Ft.	92		92
Structural Steel ✓	L.S.	LS		0.64
Name Plates	Each		1	1
Protective Coat	Sq.Yds.	175		175
Class A Concrete	Cu.Yds.		135.3	135.3
Creosoted Piles (Over 38')	Lin.Ft.		2173	2173
Test Piles (Timber)	Each		1	1
Steel Piles (HP 12 x 53)	Lin.Ft.		3740	3740
Test Piles Steel (HP 12 x 53)	Each		1	1
Removal of Existing Structures	Each			2

*See Special Provisions

CURVE DATA

Δ = 10° +32' - 13"
D = 0° - 35'
R = 9822.13'
L = 1806.33'
T = 905.72'
E = 41.67'
S.E. = 0.021 Ft.
Aff. Sta. 278+05 to Sta. 220+05

STATION 282+26
BUILT 197 BY
STATE OF ILLINOIS
F.A. RT. 128 SEC. 8-1B-1
F.A. PROJ. RF-237(33)
LOADING HS20

See Standard 2113

NAME PLATE

WATERWAY INFORMATION

Drainage Area	5.5.0 Sq. mi.
Required Opening	1064 Sq. Ft.*
Proposed Opening	1064 Sq. Ft.**

Design H.W. El. 428.53
Q(50) = 5500 cfs
Crested Head = 0.77'

DESIGN STRESSES

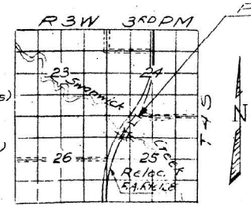
f'c = 1200 psi (Deck slab)
f'c = 1400 psi (Curb, parapet & piers)
f'c = 1000 psi (Abuts.)
fs = 20000 psi (Reinf.)
f's = 27000 psi (Struct.) (A-588)
Vc = 75 psi (Hogs)
n = 10

Loading HS20-44

Allow 25'/10' Future W. S.

DESIGNED	Fu-chung Chu
CHECKED	Sril Patani
DRAWN	P. Barnett
CHECKED	SF TCC

OCTOBER 5 1973
EXAMINED
PASSED
APPROVED
ENGINEER OF BRIDGES AND TUNNEL STRUCTURES
ENGINEER OF DESIGN
DIRECTOR OF HIGHWAYS



LOCATION SKETCH 9-92

GENERAL PLAN & ELEVATION
PROJECT: F-237(33)
F.A. RTE. 128 OVER SWANWICK CREEK OVERFLOW
F.A. RTE. 128 SECTION 8-1B-1
PERRY COUNTY
STA. 282+26.00

7-29-77

073-0026 * Including 6'x6' Box Culvert

MODEL: SN 073-0026 3 [Sheet]
FILE NAME: c:\pw_work\pwdot\wilsond\d0983530\D978A75-Sht-FortInfoOnly3.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 073-0026
STRUCTURE INFORMATION
SCALE: | SHEET 3 OF 5 SHEETS | STA. | TO STA.

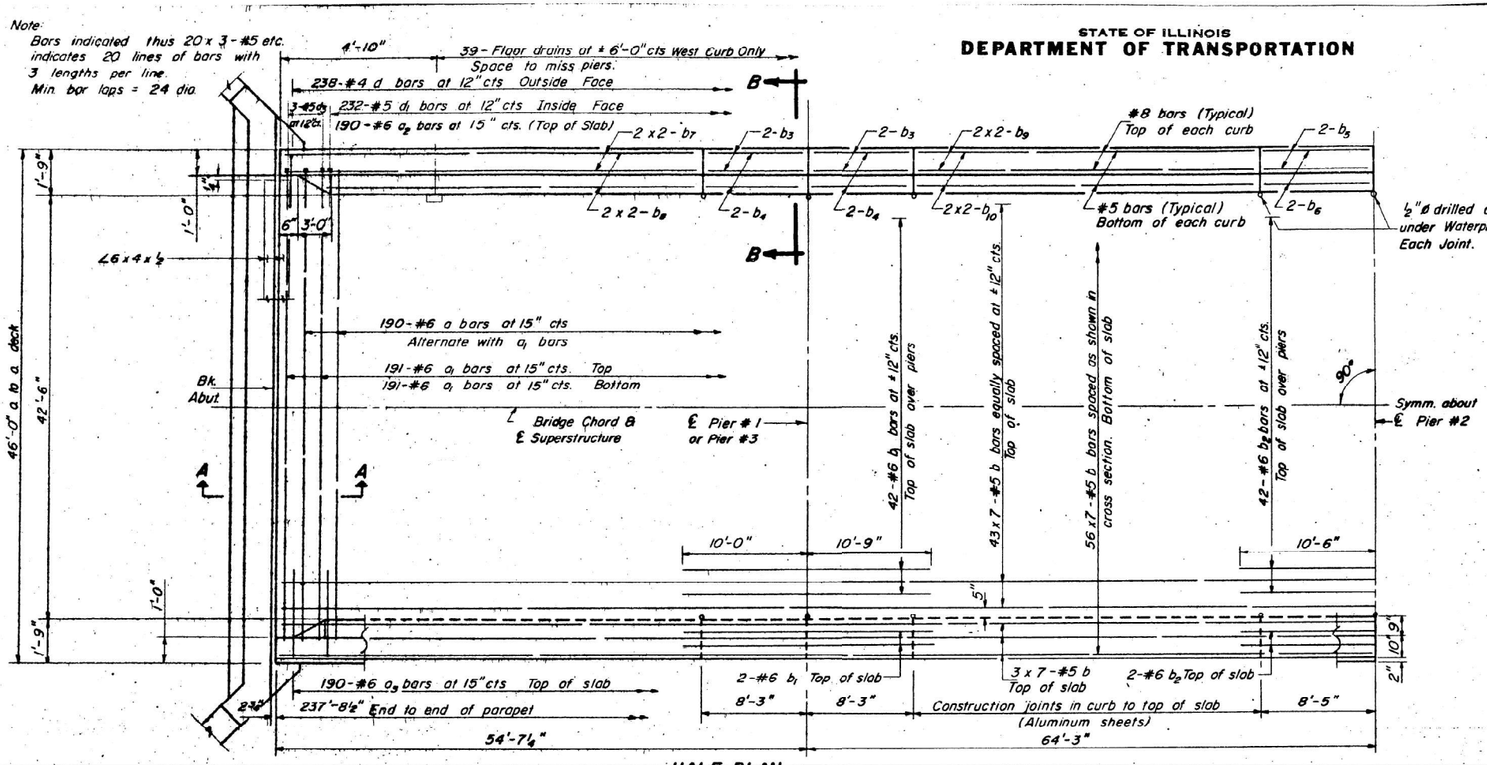
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	72
		CONTRACT NO. 78A75		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A. 128	8-18-1	Perry	81	41
FED. ROAD DIST NO. 7	ILLINOIS	FED. AID PROJECT-		

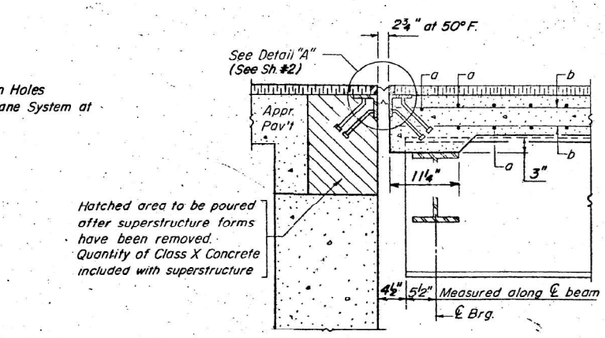
SHEET NO. 3
12 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

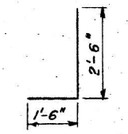
Note:
Bars indicated thus 20 x 3 - #5 etc. indicates 20 lines of bars with 3 lengths per line.
Min. bar laps = 24 dia.



HALF PLAN



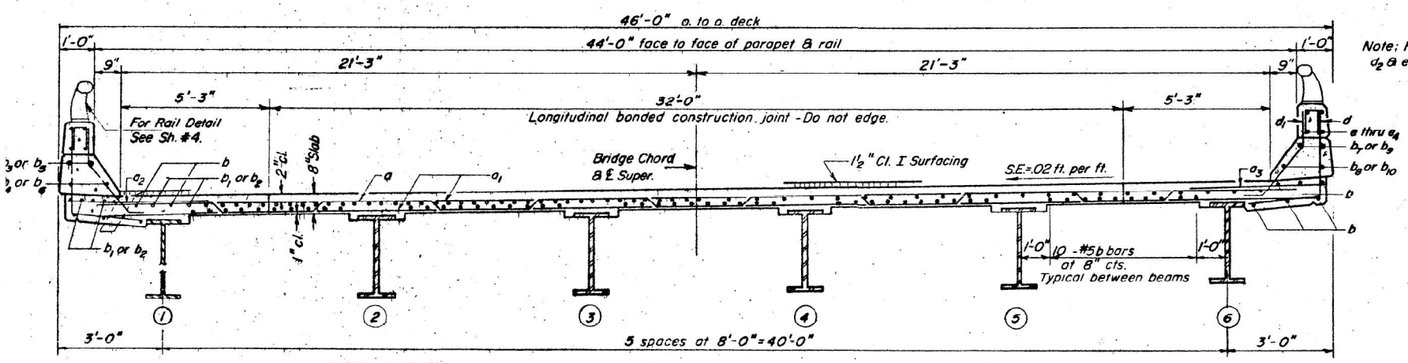
SECTION A-A



BAR d_3

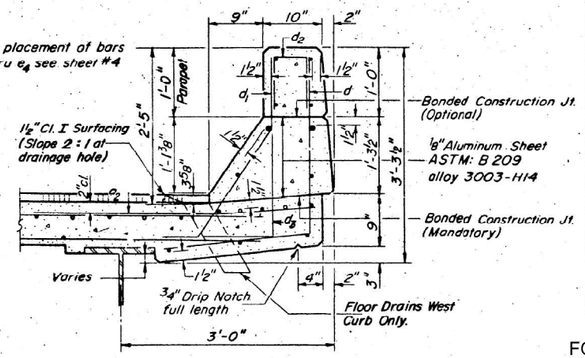
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	190	#6	45'-8"	
a_1	382	#6	44'-0"	
a_2	190	#6	4'-0"	
a_3	190	#6	4'-0"	
b	735	#5	35'-0"	
b_1	92	#6	20'-9"	
b_2	46	#6	21'-0"	
b_3	16	#8	8'-0"	
b_4	16	#5	8'-0"	
b_5	8	#8	8'-3"	
b_6	8	#5	8'-3"	
b_7	16	#8	24'-0"	
b_8	16	#5	23'-9"	
b_9	16	#8	24'-9"	
b_{10}	16	#5	24'-6"	
d	476	#4	4'-9"	
d_1	464	#5	3'-5"	
d_3	12	#5	4'-0"	
Reinforcement Bars			Lbs.	78,530
Class X Concrete			Cu Yds.	321.8



NEAR PIER — NEAR MIDSPAN

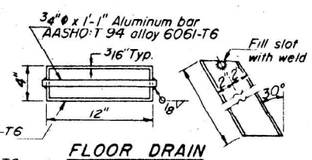
CROSS SECTION
LOOKING NORTH



CURB SECTION B-B
Cost of Aluminum Drains and Sheets shall be incidental to Class X Concrete



BAR a_2 & a_3



FLOOR DRAIN

FOR INFORMATION ONLY
SN 073-0026

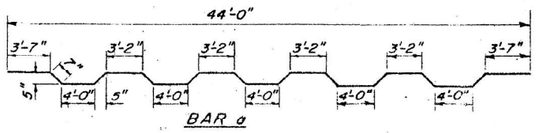
The lengths and quantities of longitudinal reinforcement and Class X Concrete in parapets are not included in above quantities. See sheet 4.

SUPERSTRUCTURE
F.A. RT. 128 SEC 8-18-1
PERRY COUNTY
STA 282+26

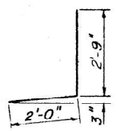
DESIGNED	Ru-chung Chi
CHECKED	Sal Fatau
DRAWN	P. Barnett
CHECKED	SF TCC

EXAMINED OCT. 15 1973
PASSED — ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
APPROVED — ENGINEER OF DESIGN
DIRECTOR OF HIGHWAYS

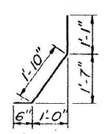
I-4106-0 3-1-68, 12-3-69



BAR a



BAR d



BAR d_1

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 073-0026
STRUCTURE INFORMATION

SCALE: | SHEET 4 OF 5 SHEETS | STA. | TO STA.

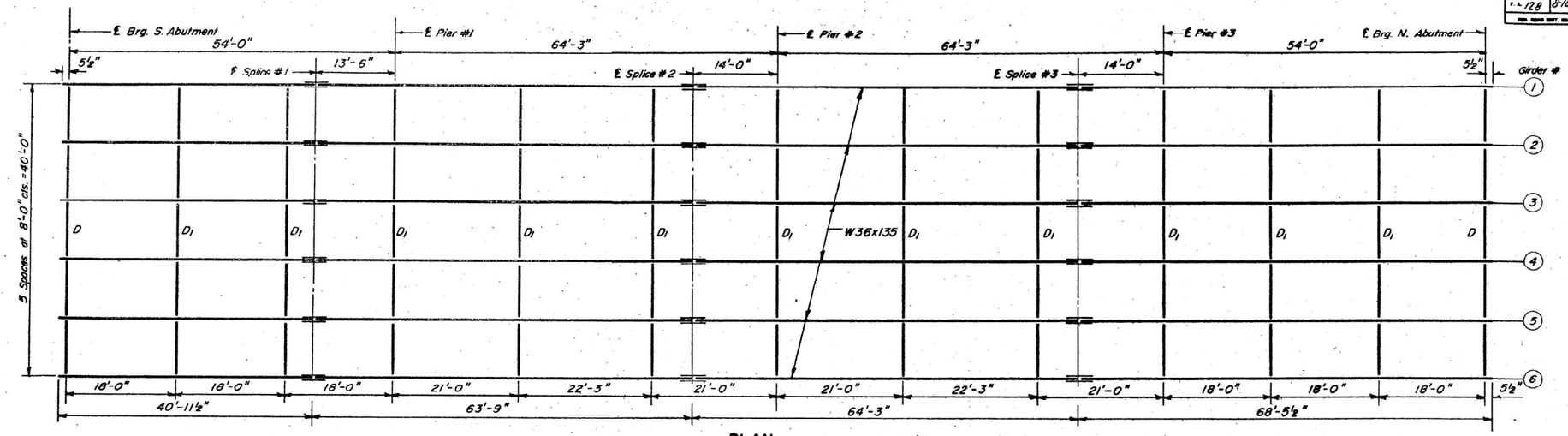
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	73
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

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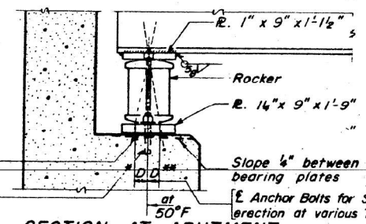
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I. 128	8-1B-1	Perry	61	43
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

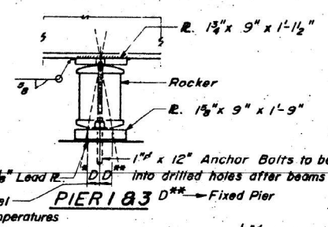
SHEET NO. 5
12 SHEETS

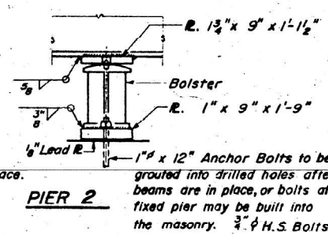


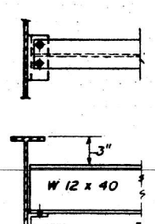
PLAN

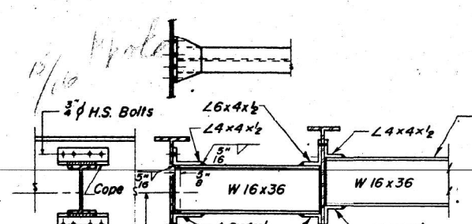


SECTION AT ABUTMENT





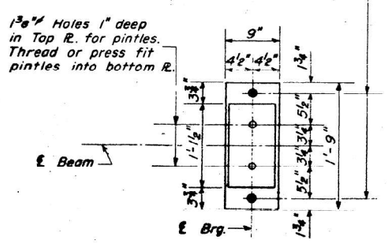


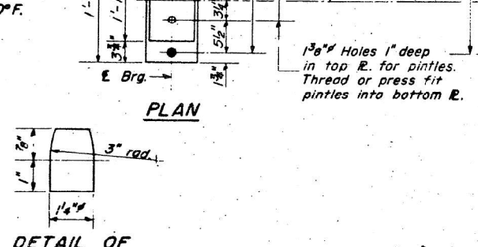


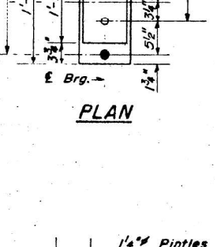
ELEVATION TOP OF W
(For Fabrication Only)

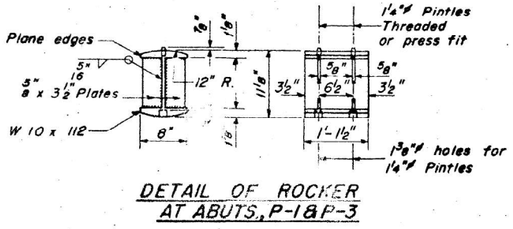
Beam #	1	2	3	4	5	6
* Elevation	433.71	433.87	434.03	434.19	434.35	434.51

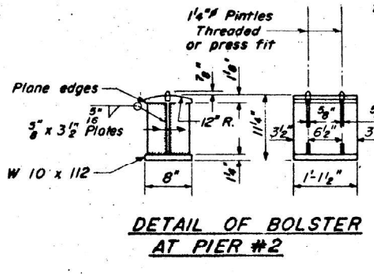
*All at Control Points.

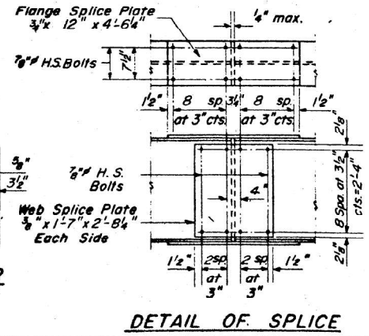












FOR INFORMATION ONLY
SN 073-0026

STRUCTURAL STEEL

F.A.RT. 128 SEC. 8-1B-1
PERRY COUNTY
STA. 282+26

DESIGNED	T.C. Chu	EXAMINED	OCT. 15 1973
CHECKED	Sal Falani		CHIEFS OF BRIDGE AND TRAFFIC STRUCTURES
PG Barnett DRAWN	W. A. Sousamen Jr.	PASSED	W. E. Baumann
CHECKED	SF		ENGINEER OF BRIDGES
		APPROVED	Harry R. Hanley
			DIRECTOR OF HIGHWAYS

I-2 7-2-62 Rev. 11-9-62 Rev. 8-16-63 Rev. 12-10-63 Rev. 8-1-70

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 073-0026
STRUCTURE INFORMATION

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

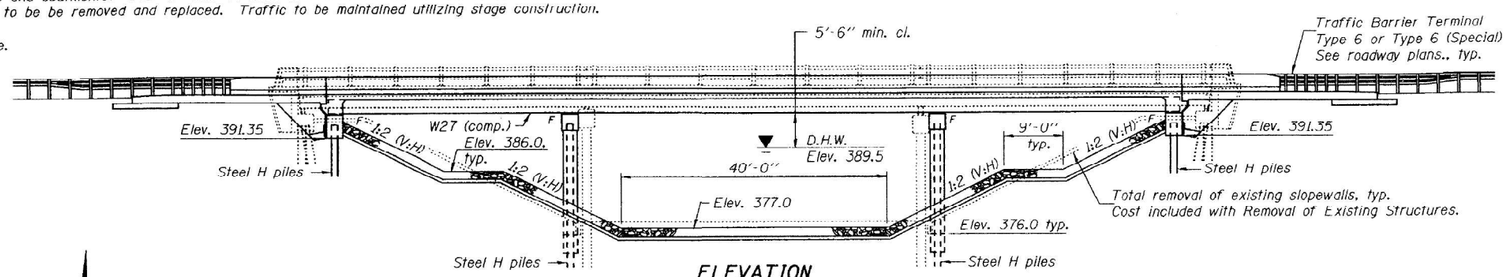
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	74
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

MODEL: SN 073-0026 5 [Sheet]
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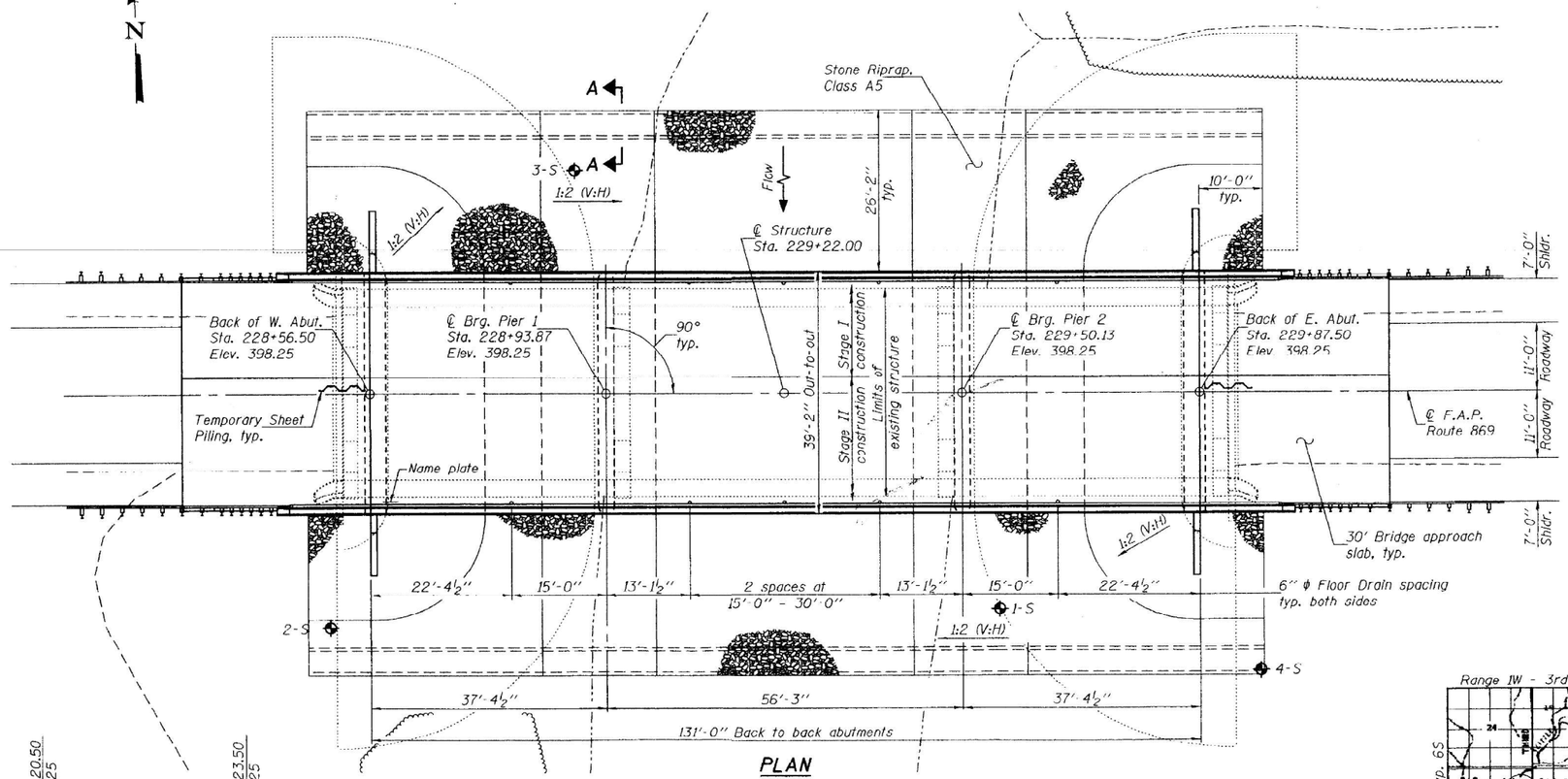
Bench Mark: Cut "□" on top of the NW wingwall of 028-0015; North side of Route 14 at Sta. 228+52 and 17 ft. left. Elev. 398.62.

Existing structure: Struct. No. 028-0015, originally built in 1955 as S.B.I. Rt. 14, Section 2B-2. The existing structure consists of a 3 span continuous steel superstructure supported by pile bent piers and abutments. 142'-0" back to back abutments and 33'-8" out to out of deck. Structure to be be removed and replaced. Traffic to be maintained utilizing stage construction.

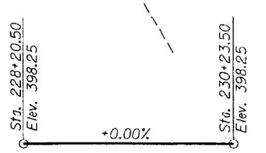
No salvage.



ELEVATION



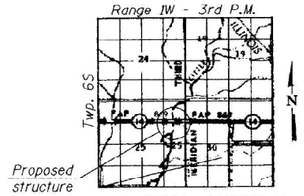
PLAN



PROFILE GRADE
(Along ℄ roadway)



Expires 11/30/2012



LOCATION SKETCH

INDEX OF SHEETS

1	General Plan & Elevation
2	General Data
3	Stage Construction & Temporary Sheet Piling Details
4	Temporary Concrete Barrier Details
5-7	Top of Slab Elevations
8	Top of West Approach Slab Elevations
9	Top of East Approach Slab Elevations
10	Superstructure
11	Superstructure Details
12	Diaphragm Details
13-14	Bridge Approach Slab Details
15	Structural Steel
16	Bearing Details
17	West Abutment
18	East Abutment
19	Piers 1 & 2
20	Bar Splicer Assembly Details
21	Steel H Pile Details
22	Cantilever Forming Brackets for Superstructures with W27 Beams and Smaller
23-26	Soil Boring Logs

FOR INFORMATION ONLY
SN 073-0038

STATION 229+22.00
BUILT 20 BY
STATE OF ILLINOIS
F.A.P. RTE. 869 SEC. 6B-2
LOADING HL93
STRUCTURE NO. 073-0038

NAME PLATE
See Std. 515001

LOADING HL-93
Allow 50#/sq. ft. for future wearing surface.

SEISMIC DATA
Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.325 g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.759 g
Soil Site Class = D

DESIGN SPECIFICATIONS
2007 AASHTO LRFD Bridge Design Specifications
with 2008 and 2009 Interims

DESIGN STRESSES
FIELD UNITS
f'_c = 3,500 psi
f_s = 60,000 psi (reinforcement)
f_y = 50,000 psi (M270 Grade 50W)

GENERAL PLAN & ELEVATION
IL. RTE. 14 OVER LITTLE MUDDY RIVER
F.A.P. RTE. 869 - SECTION 6B-2
PERRY/FRANKLIN COUNTY
STATION 229+22.00
STRUCTURE NO. 073-0038

*PERRY/FRANKLIN

DESIGNED -	Jessica C. Forrest	EXAMINED	Thomas J. Domagalski, ENGINEER OF BRIDGE DESIGN
CHECKED -	Nicholas R. Brandt	PASSED	Mark A. Bury, ENGINEER OF BRIDGES AND STRUCTURES
DRAWN -	h.t. duong	DATE	5/10/2011
CHECKED -	JCF / NRB		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
STRUCTURE NO. 073-0038
SHEET NO. 1 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
869	6B-2	*	223	131
		CONTRACT NO. 98797		
	ILLINOIS FED. AID PROJECT			

MODEL: SN 073-0038 1 [Sheet]
FILE NAME: c:\pw_work\pwdot\wilsonda\d0983535\D97\8A75-Sht-FortInfoOnly3.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 073-0038
STRUCTURE INFORMATION

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	75
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment (Special)	Cu. Yd.		95	95
Stone Riprap, Class A5	Sq. Yd.		1465	1465
Filter Fabric	Sq. Yd.		1465	1465
Removal of Existing Structures No. 2	Each	1		1
Structure Excavation	Cu. Yd.		250	250
Floor Drains	Each	10		10
Concrete Structures	Cu. Yd.		165.0	165.0
Concrete Superstructure	Cu. Yd.	297.0		297.0
Bridge Deck Grooving	Sq. Yd.	724.0		724.0
Concrete Encasement	Cu. Yd.		9.1	9.1
Protective Coat	Sq. Yd.	907		907
Furnishing and Erecting Structural Steel	L. Sum	0.5		0.5
Stud Shear Connectors	Each	2772		2772
Reinforcement Bars, Epoxy Coated	Pound	73950	15950	89900
Bar Splicers	Each	707	92	799
Furnishing Steel Piles HP12x53	Foot		1193	1193
Driving Piles	Foot		1193	1193
Test Pile Steel HP12x53	Each		4	4
Temporary Sheet Piling	Sq. Ft.		339	339
Name Plates	Each	1		1
Anchor Bolts, 1" ϕ	Each		28	28
Anchor Bolts, 1½" ϕ	Each		28	28
Geocomposite Wall Drain	Sq. Yd.		58	58
Pipe Underdrains for Structures, 4"	Foot		139	139
Underwater Structure Excavtion Protection, Location 1	Each		1	1
Underwater Structure Excavtion Protection, Location 2	Each		1	1
Mechanical Splicers	Each		84	84

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 3. Bolts $\frac{7}{8}$" ϕ, holes $\frac{15}{16}$" ϕ, unless otherwise noted.

Calculated weight of Structural Steel = 93120 lbs. (M 270 Gr. 50W).

All structural steel shall be AASHTO M 270 Grade 50W. All structural steel shall be cleaned as specified in the Special Provision for "Surface Preparation and Painting Requirements for Weathering Steel".

No field welding is permitted except as specified in the contract documents.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.

Reinforcement bars designated (E) shall be epoxy coated.

Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

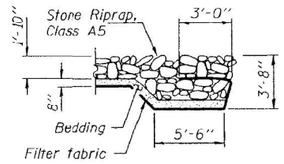
The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.

Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.

Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

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

Slipforming of parapets is not allowed.



SECTION A-A

WATERWAY INFORMATION

Drainage Area = 201.2 mi.²

Existing Low Grade Elev. 396.29 @ Sta. 238+00
Proposed Low Grade Elev. 396.39 @ Sta. 238+00

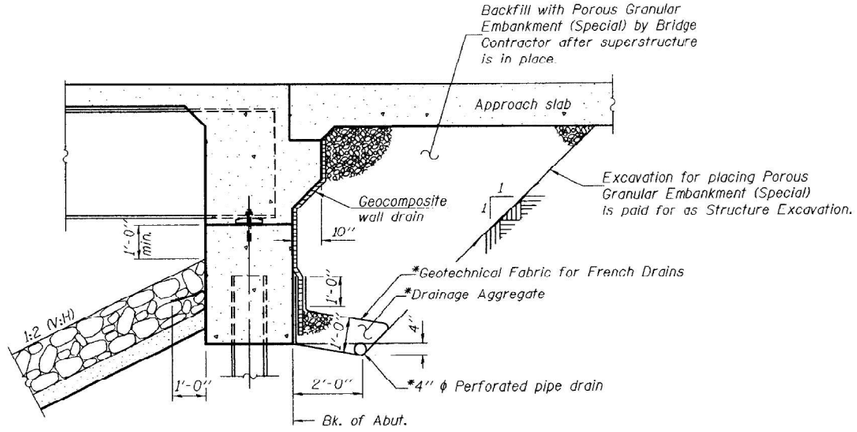
Flood	Freq. Yr.	Structure Number	Q - C.F.S. Exist.	Q - C.F.S. Prop.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
	10	028-0015 (E)	4500	4195	665	720	388.3	0.8	0.7	389.1	389.0
		073-0038 (P)									
		*Total	11130		1661.0	1768.0					
Design	50	028-0015 (E)	6550	6630	785	840	389.5	1.5	1.2	391.0	390.7
		073-0038 (P)									
		*Total	17010		1968.0	2076.0					
Base	100	028-0015 (E)	7315	7380	840	895	390.0	1.9	1.5	391.9	391.5
		073-0038 (P)									
		*Total	19540		2106.0	2211.0					
Max. Calc.	500	028-0015 (E)	9380	9265	955	1015	391.1	2.8	2.3	393.9	393.4
		073-0038 (P)									
		*Total	26040		2398.0	2511.0					

10 year velocity through existing bridge = 6.8 ft/s
10 year velocity through proposed bridge = 6.1 ft/s

*Three additional structures (SN 073-0013 (E), SN 073-2000 (E), and SN 028-2005 (E) contribute to the flow conveyance of this drainage area.

DESIGN SCOUR ELEVATION TABLE

Design scour elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	391.3	364.0	364.0	391.3



SECTION THRU INTEGRAL ABUTMENT

*Included in the cost of Pipe Underdrains for Structures.

Note: All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Std. Specs. & Highway Standard 601101).

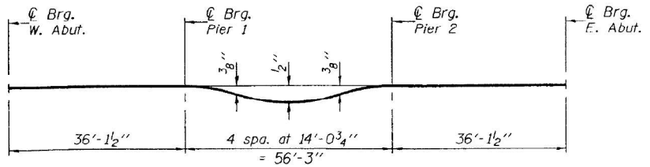
FOR INFORMATION ONLY
SN 073-0038

*PERRY/FRANKLIN

DESIGNED - Jessica C. Forrest	EXAMINED	ENGINEER OF BRIDGE DESIGN	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL DATA STRUCTURE NO. 073-0038	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett	PASSED	ENGINEER OF BRIDGES AND STRUCTURES				869	6R-2	*	299	132
DRAWN - h.t. duong								CONTRACT NO. 98797		
CHECKED - JCF/NRB					SHEET NO. 2 OF 26 SHEETS			ILLINOIS FED. AID PROJECT		

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN 073-0038 STRUCTURE INFORMATION	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -			VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	76
	CHECKED -	REVISED -					CONTRACT NO. 78A75		
PLOT DATE = 10/15/2024	DATE -	REVISED -		SCALE: SHEET 2 OF 6 SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		

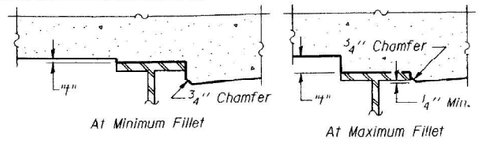
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DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

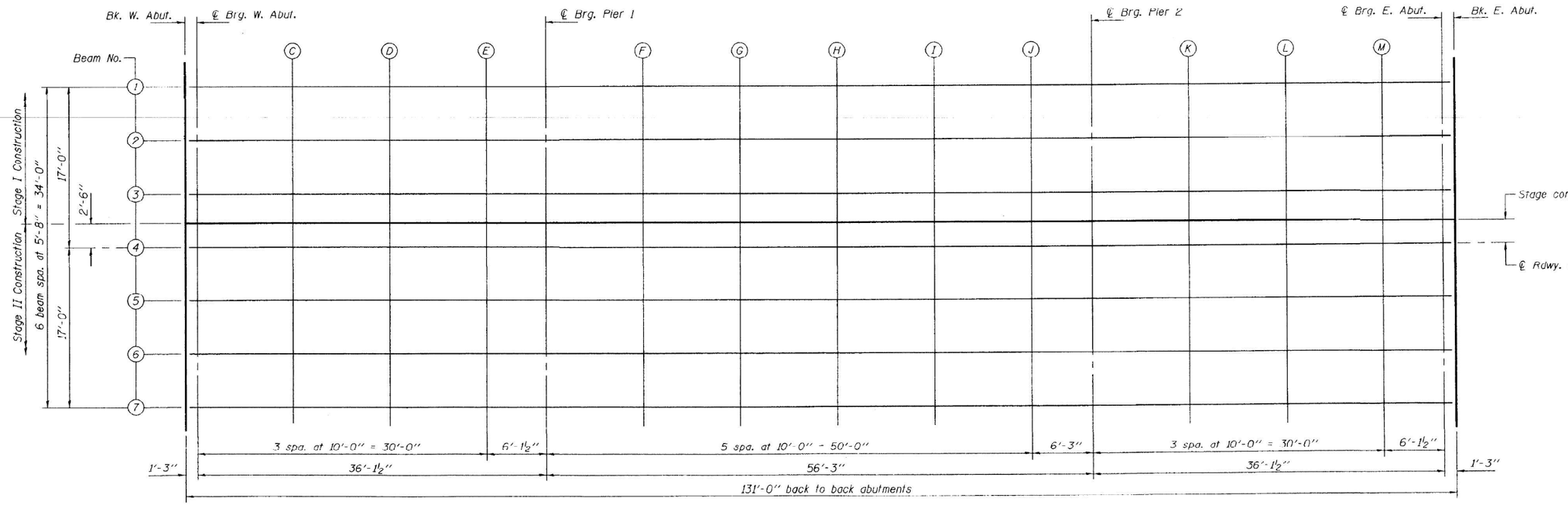
Note: The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 6 & 7 of 26.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 6 & 7 of 26, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

N



PLAN

FOR INFORMATION ONLY
SN 073-0038

*PERRY/FRANKLIN

DESIGNED -	Jessica C. Forrest	EXAMINED	Thomas J. Domagalski, ENGINEER OF BRIDGE DESIGN
CHECKED -	Nicholas R. Barnett	PASSED	Carl Puzey, ENGINEER OF BRIDGES AND STRUCTURES
DRAWN -	h.t. duong	DATE -	5/10/2011
CHECKED -	JCF/NRB		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

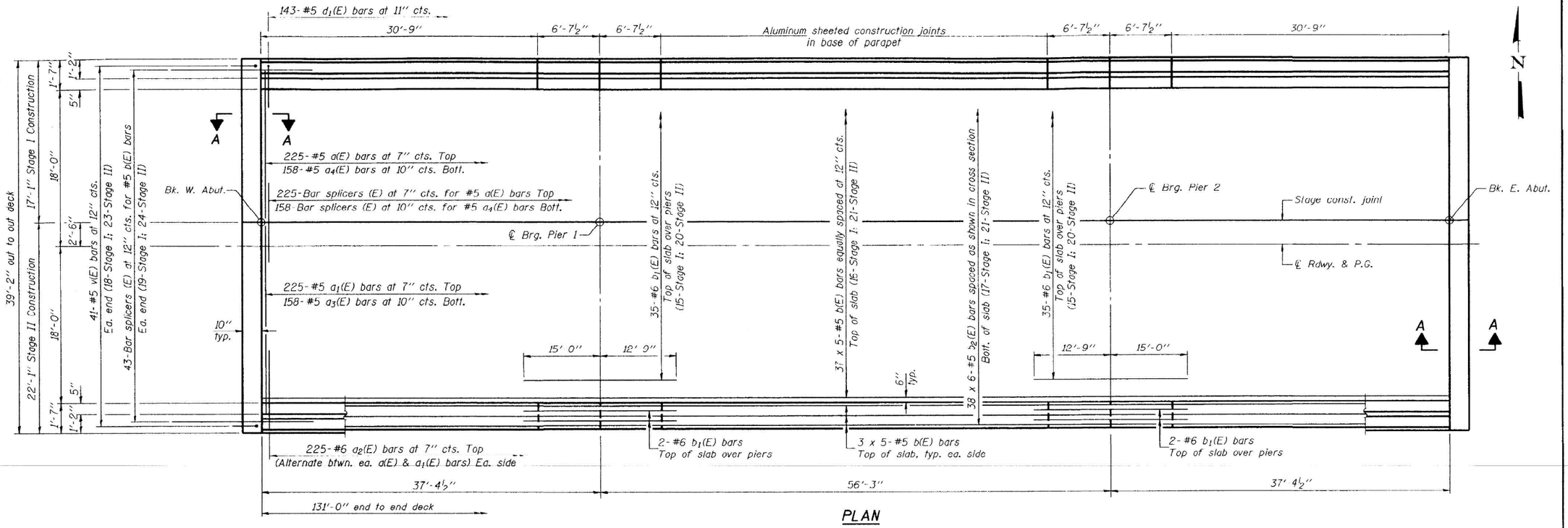
TOP OF SLAB ELEVATIONS
STRUCTURE NO. 073-0038
SHEET NO. 5 OF 26 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
859	6B-2	*	2593	130
		CONTRACT NO. 98797		
		ILLINOIS FED. AID PROJECT		

USER NAME = david.a.wilson	DESIGNED -	REVISED -	**STATE OF ILLINOIS** **DEPARTMENT OF TRANSPORTATION**	**SN 073-0038** **STRUCTURE INFORMATION**	
	DRAWN -	REVISED -			
	CHECKED -	REVISED -			
PLOT DATE = 10/15/2024	DATE -	REVISED -		SCALE: SHEET 3 OF 6 SHEETS STA. TO STA.	

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	77
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

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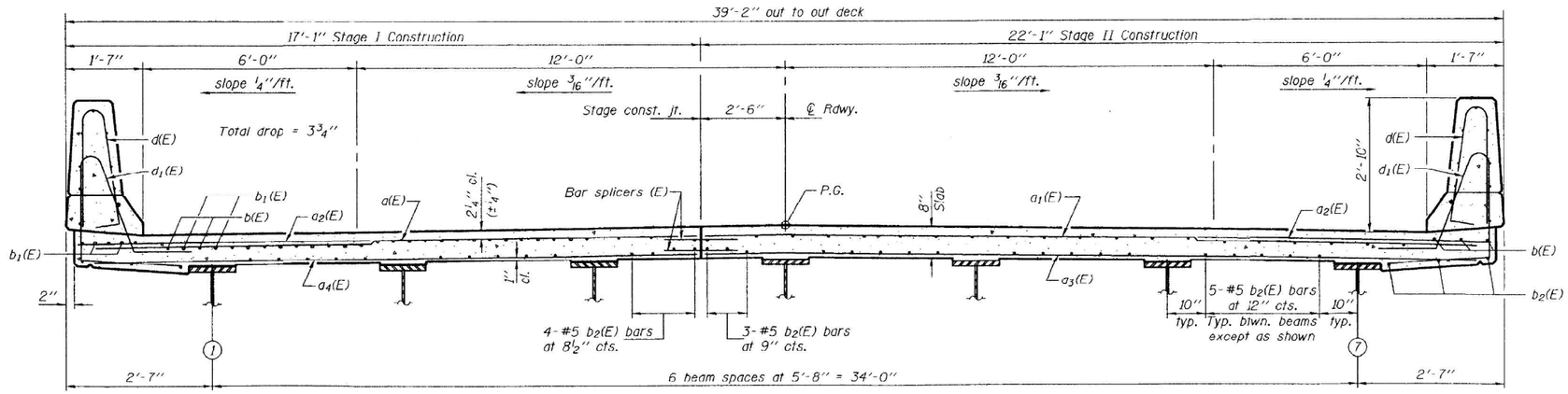


PLAN

MIN. BAR LAPS

#5 bar = 3'-3"

Notes: See sheet 11 of 26 for superstructure details and Bill of Material.
Bars indicated thus 36 x 5- #5 etc. indicates 36 lines of bars with 5 lengths per line.
See sheet 11 of 26 for parapet reinforcement.
See sheet 12 of 26 for Section A-A.
See sheet 20 of 26 for bar splicer details.



NEAR PIER

CROSS SECTION
(Looking east)

NEAR MIDSPAN

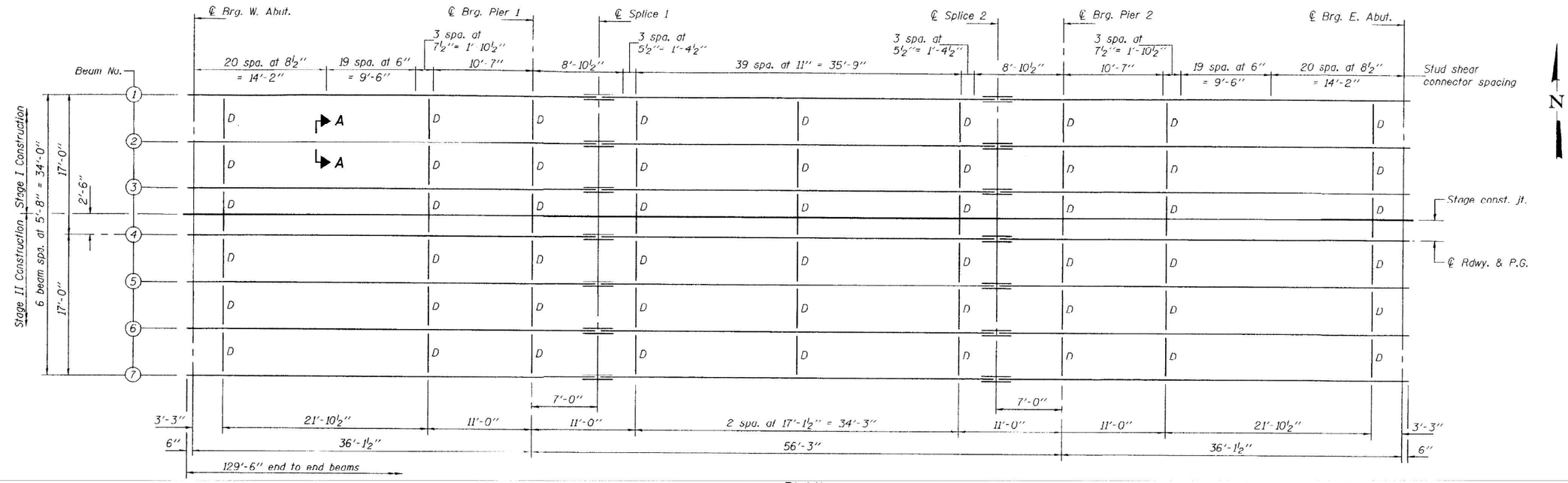
FOR INFORMATION ONLY
SN 073-0038

*PERRY/FRANKLIN

DESIGNED - Jessica C. Forrest	EXAMINED	Thomas J. Domagalski ENGINEER OF BRIDGE DESIGN	DATE 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE STRUCTURE NO. 073-0038 SHEET NO. 10 OF 26 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett	PASSED	J. Carl Hanneg ENGINEER OF BRIDGES AND STRUCTURES				869	68-2	*	249	140
DRAWN - h.t. duong									CONTRACT NO. 98797	
CHECKED - JCF/NRB								ILLINOIS	FED. AID PROJECT	

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN 073-0038 STRUCTURE INFORMATION	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -			VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	78
	CHECKED -	REVISED -							CONTRACT NO. 78A75
PLOT DATE = 10/15/2024	DATE -	REVISED -		SCALE: SHEET 4 OF 6 SHEETS STA. TO STA.			ILLINOIS	FED. AID PROJECT	

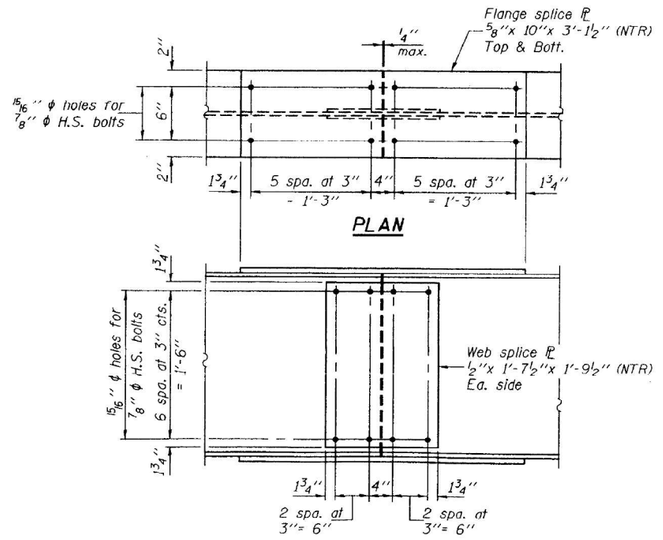
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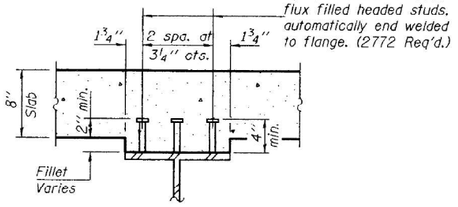
PLAN

All beams are W27x84 AASHTO M270 Grade 50W (NTR)

FOR INFORMATION ONLY
SN 073-0038

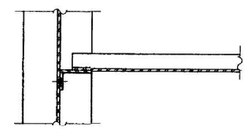


ELEVATION
SPLICE DETAIL
(14 Required)

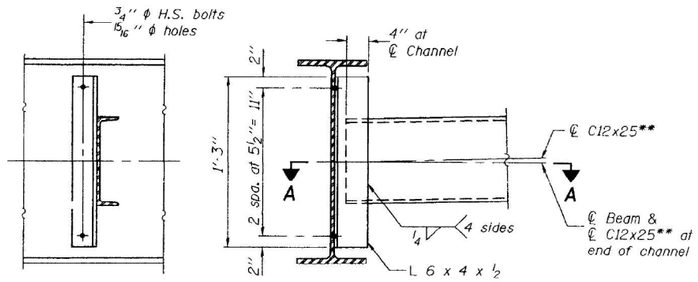


SECTION A-A

Notes: Load carrying components designated "NTR" shall conform to the Supplemental Requirements for Notch Toughness, Zone 2.
All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.
Two hardened washers required for each set of oversized holes.
All splice plates shall be AASHTO M 270 Grade 50W.



SECTION A-A



DIAPHRAGM D
(54 Required)

**Alternate channel C12x30 is permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no extra cost to the Department.

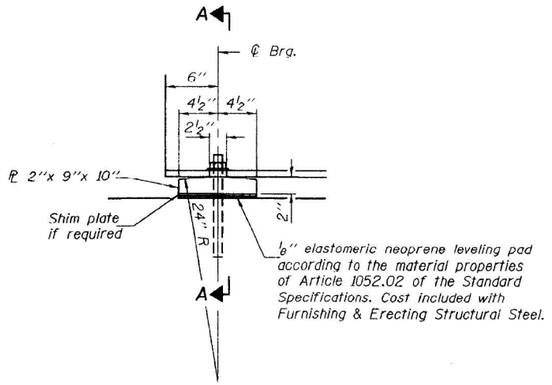
*PERRY/FRANKLIN

DESIGNED - Jessica C. Forrest	EXAMINED	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STRUCTURAL STEEL STRUCTURE NO. 073-0038	F.A.P. RTE. 869 | SECTION 6B-2 | COUNTY • | TOTAL SHEETS 299 | SHEET NO. 145
CHECKED - Nicholas R. Barnett	PASSED			SHEET NO. 15 OF 26 SHEETS	CONTRACT NO. 98797
DRAWN - h.t. duong	ENGINEER OF BRIDGE DESIGN				ILLINOIS FED. AID PROJECT
CHECKED - JCF/NRB	ENGINEER OF BRIDGES AND STRUCTURES				

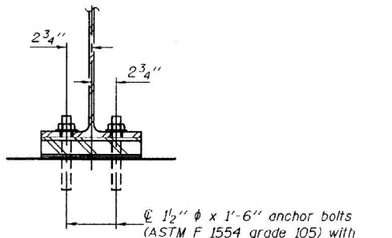
USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN 073-0038 STRUCTURE INFORMATION			
	DRAWN -	REVISED -					
	CHECKED -	REVISED -					
PLOT DATE = 10/15/2024	DATE -	REVISED -		SCALE:	SHEET 5 OF 6 SHEETS	STA.	TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	79
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

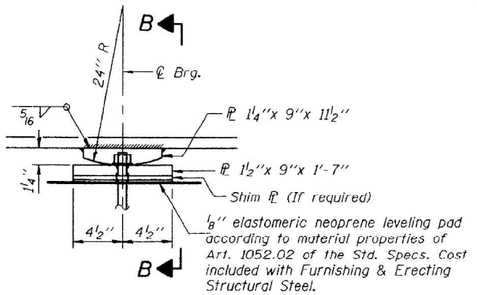
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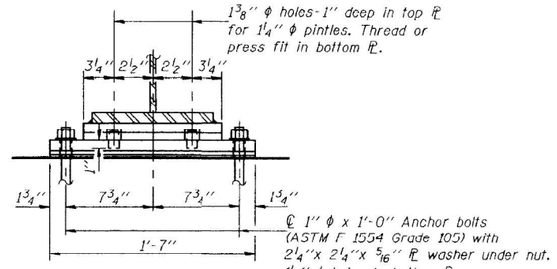
ELEVATION AT ABUTMENTS



SECTION A-A



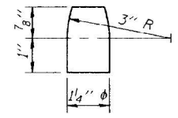
ELEVATION AT PIERS



SECTION B-B

FIXED BEARING
(14 Required)

FIXED BEARING
(14 Required)



PINTLE

*TOP OF BEAM ELEVATIONS

Location	℄ Brg. W. Abut.	℄ Brg. Pier 1	℄ Splice 1	℄ Splice 2	℄ Brg. Pier 2	℄ Brg. E. Abut.
Beam 1	397.25	397.21	397.20	397.20	397.21	397.25
Beam 2	397.36	397.32	397.31	397.31	397.32	397.36
Beam 3	397.45	397.41	397.40	397.40	397.41	397.45
Beam 4	397.54	397.50	397.49	397.49	397.50	397.54
Beam 5	397.45	397.41	397.40	397.40	397.41	397.45
Beam 6	397.36	397.32	397.31	397.31	397.32	397.36
Beam 7	397.25	397.21	397.20	397.20	397.21	397.25

*For fabrication use only.

SHIM PLATE TABLE

Location	W. Abut.	E. Abut.
Beam 1	——	——
Beam 2	——	——
Beam 3	⅜"	⅜"
Beam 4	——	——
Beam 5	⅜"	⅜"
Beam 6	——	——
Beam 7	——	——

INTERIOR BEAM MOMENT TABLE		0.4 Sp. 1 0.6 Sp. 3	Pier 1 or Pier 2	0.5 Sp. 2
I_s	(in^4)	2850	2850	2850
$I_c(n)$	(in^4)	8775	——	8775
$I_c(3n)$	(in^4)	6500	——	6500
S_s	(in^3)	213	213	213
$S_c(n)$	(in^3)	337	——	337
$S_c(3n)$	(in^3)	304	——	304
DC1	(k/')	0.67	0.67	0.67
M_{DC1}	('k)	42.5	157.2	109
DC2	(k/')	0.13	0.13	0.13
M_{DC2}	('k)	11.3	22.3	28.8
DW	(k/')	0.28	0.28	0.28
M_{DW}	('k)	24.8	48.8	63.1
M_{L+Imp}	('k)	300.6	211	424.4
M_u(Strength I)	('k)	629.7	668.6	1007.7
$\phi_f M_n$	('k)	1850.37	——	1850.37
f_s DC1	(ksi)	2.39	8.86	6.14
f_s DC2	(ksi)	0.45	1.26	1.14
f_s DW	(ksi)	0.98	2.75	2.49
f_s 1.3(L+I)	(ksi)	13.92	15.45	19.65
f_s (Service II)	(ksi)	17.74	28.32	29.42
f_s (Total)(Strength I)	(ksi)	——	37.57	——
V_f	(k)	17.3	——	16.7

INTERIOR BEAM REACTION TABLE HL93 Loading		Abutments	Piers
R_{DC1}	(k)	7.8	35.4
R_{DC2}	(k)	1.7	6.6
R_{DW}	(k)	3.8	14.4
R_{L+Imp}	(k)	50.9	78.7
R_{Total}	(k)	64.2	135.1

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I. and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I. and Service II) due to short-term composite live loads ($in.^4$ and $in.^3$).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I. and Service II) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+Imp}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

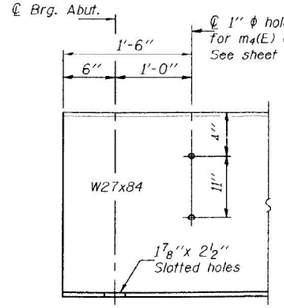
M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+Imp}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft.).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).
$M_{DC1} + M_{DC2} + M_{DW} + 1.3\ M_{L+Imp}$

f_s (Total)(Strength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+Imp}$

V_f: Factored shear range computed according to Article 6.10.10.



TYP. END OF BEAM ELEVATION

Notes:

Anchor bolts shall be ASTM F1554 Grade 105. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.

Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.

All bearing plates and pintles shall be AASHTO M270 Grade 50W.

Two ⅛ in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.

The anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts will not be allowed.

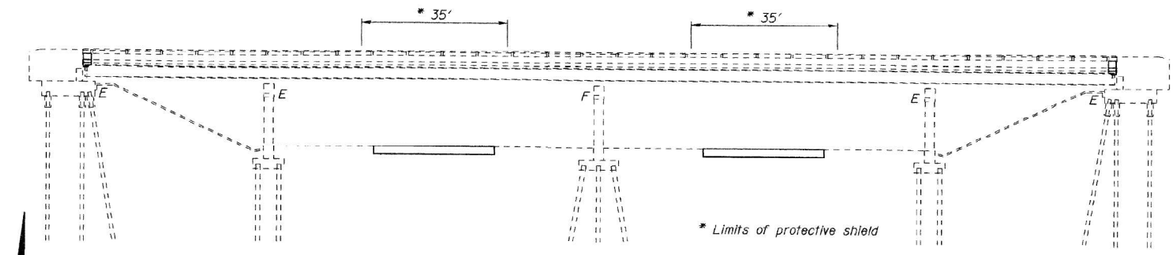
FOR INFORMATION ONLY
SN 073-0038

*PERRY/FRANKLIN

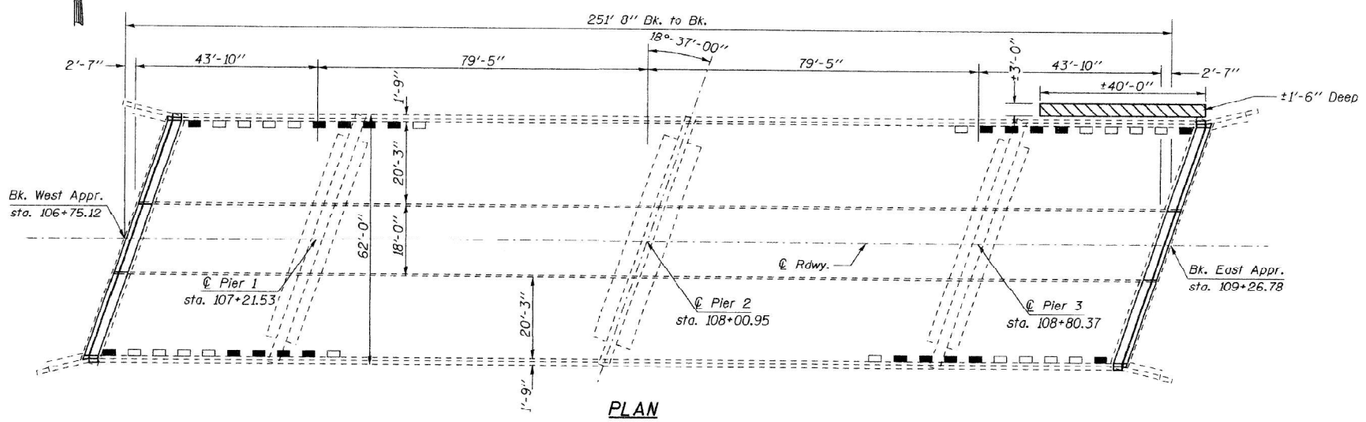
DESIGNED - Jessica C. Forrest	EXAMINED	Thomas J. Domagalski, ENGINEER OF BRIDGE DESIGN	DATE - 5/10/2011	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BEARING DETAILS STRUCTURE NO. 073-0038	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
CHECKED - Nicholas R. Barnett	PASSED	A. Carl Leong, ENGINEER OF BRIDGES AND STRUCTURES				869	6B-2	•	299	196
DRAWN - h.t. duong									CONTRACT NO. 98797	
CHECKED - JCF/NRB					SHEET NO. 16 OF 26 SHEETS			ILLINOIS	FED. AID PROJECT	

USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN 073-0038 STRUCTURE INFORMATION	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN -	REVISED -			VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	80
	CHECKED -	REVISED -							CONTRACT NO. 78A75
PLOT DATE = 10/15/2024	DATE -	REVISED -		SCALE: SHEET 6 OF 6 SHEETS STA. TO STA.			ILLINOIS	FED. AID PROJECT	

MODEL: SN 073-0038 6 [Sheet]
FILE NAME: c:\pw_work\pwdot\wilsonda\d0983530\D978A75-Sht-FnlnfoOnly3.dgn



ELEVATION



PLAN

Controlled Low-Strength Material

Design Stresses

FIELD UNITS (New Construction)

f'c = 3,500 psi
fy = 60,000 psi (reinforcement)
fy = 36,000 psi (AASHTO M270 Gr. 36))

FIELD UNITS (Existing Construction)

f'c = 1,400 psi
fy = 20,000 psi (reinforcement)

STATE OF ILLINOIS
KLAUS E. ANDERSEN
081-004625
SPRINGFIELD
LICENSED STRUCTURAL ENGINEER

Expires 11-30-2010

GENERAL NOTES

Fasteners shall be AASHTO M164 Type 1, mechanically galvanized bolts. Bolts - $\frac{3}{4}$" ϕ, holes - $\frac{15}{16}$" ϕ, unless otherwise noted.

All structural steel shall be AASHTO M 270 Grade 36 unless otherwise noted.

No field welding is permitted except as specified in the contract documents.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

Reinforcement bars designated (E) shall be epoxy coated.

Prior to pouring the new concrete deck section, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer.

Any cracks that cannot be removed by grinding $\frac{1}{4}$ inch deep shall be identified and reported to the Bureau of Bridges and Structures for further disposition. The cost of removing welded accessories, grinding and inspecting weld areas and grinding cracks will be paid for according to Article 109.04 of the Standard Specifications.

Plan dimensions and details relative to existing plans are subject to nominal construction 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.

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

Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal shall be replaced with an approved bar splicer or anchorage system. Cost included with Concrete Removal.

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

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 for "Cleaning and Painting New Metal Structures".

Deck Slab Repair (Partial Depth) quantity is estimated at 139.4 Sq. Yd. (info only).

Joint openings shall be adjusted according to Article 520.04 of the Std. Specs. when the deck is poured at an ambient temperature other than 50°F.

TOTAL BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	19.4
Concrete Superstructures	Cu. Yd.	20.8
Bridge Deck Grooving	Sq. Yd.	1018
Furnishing and Erecting Structural Steel	Pound	1920
Jack and Remove Existing Bearings	Each	18
Reinforcement Bars, Epoxy Coated	Pound	2550
Protective Shield	Sq Yd.	482
Silicone Joint Sealer	Foot	127
Elastomeric Bearing Assembly, Type II	Each	18
Anchor Bolts, 1"	Each	36
Controlled Low-Strength Material	Cu. Yd.	6.7
Bridge Deck Microsilica Concrete Overlay 2¼"	Sq. Yd.	1127
Bridge Deck Hydro-Scarification ½"	Sq. Yd.	1127
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	34
Floor Drains	Each	20
Protective Coat	Sq. Yd.	1156
Polymer Concrete	Cu. Ft.	9.9

FOR INFORMATION ONLY
SN 077-0027

BRIDGE REPAIRS
F.A.S. ROUTE 939 OVER FAI 57
PULASKI COUNTY
STA. 108+00.95
S.N. 077-0027

FILE NAME = $FILEL$	USER NAME = $USER$	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE = $SCALE$	CHECKED -	REVISED -
	PLOT DATE = $DATE$	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
SN 077-0027

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24/57	D9 BSMART FY09-1	JOHNSON/PULASKI	20	4
		CONTRACT NO. 78095		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		

044-0051 | 80 ton 50'/2509 10:23:45 AM

MODEL: SN 077-0027 1 [Sheet]
FILE NAME: c:\pw_work\pwdot\wilsonda\d0983530\D978A75-Sht-FortInfoOnly3.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

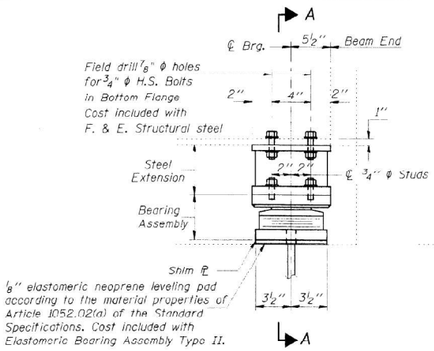
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 077-0027
STRUCTURE INFORMATION

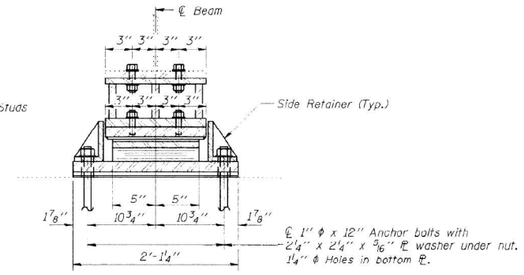
SCALE: | SHEET 1 OF 6 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	81
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

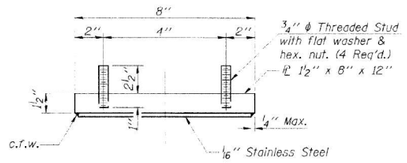


ELEVATION AT ABUTMENTS

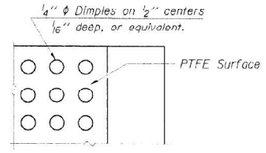


SECTION A-A

TYPE II ELASTOMERIC EXP. BRG.



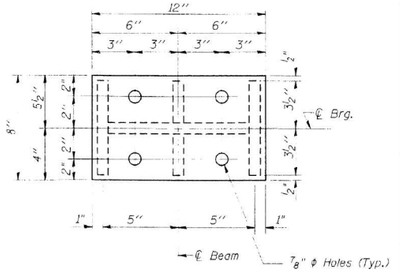
TOP BEARING ASSEMBLY



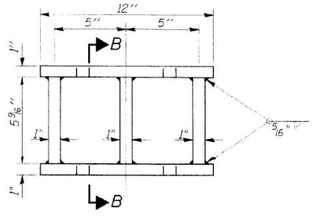
PLAN-PTFE SURFACE

*1/8" PTFE dimpled, unlubricated

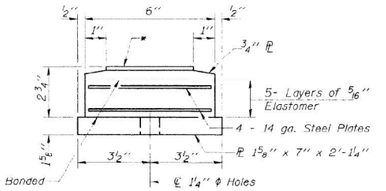
Notes:
Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy-36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
Anchor bolts for Type II bearings shall be placed in holes drilled in the concrete through holes in the bottom bearing plate after members are in place. Side retainers shall be placed after bolts are installed.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
Side retainers and other steel members required for the bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type II.
The 1/8" PTFE 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" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.
The minimum jack capacity required is 30 Tons.
Existing cross frame removal and reinstallation may be required to facilitate drilling holes, cost to be included with "Jack and Remove Existing Bearings".
Prior to ordering any material, the Contractor shall verify in the field all bearing height and shim thickness dimensions.
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
New steel extensions, connection bolts, Fill ℄'s and Shim ℄'s are included in "Furnishing and Erecting Structural Steel".



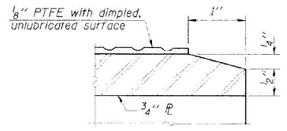
PLAN-TOP & BOTTOM PLATE



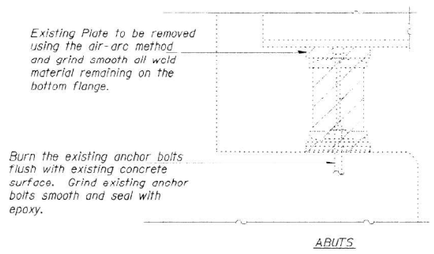
STEEL EXTENSION DETAIL



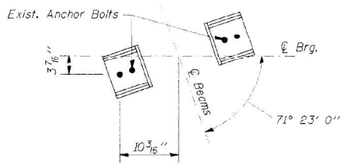
BOTTOM BEARING ASSEMBLY



SECTION THRU PTFE



EXISTING BEARING REMOVAL DETAIL
Cost is included with Jack and Remove Existing Bearings



ANCHOR BOLT LAYOUT

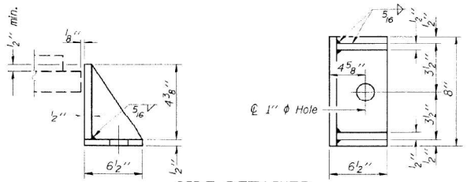


SECTION B-B

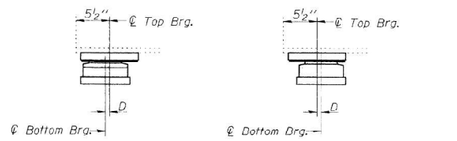
FOR INFORMATION ONLY
SN 077-0027

BILL OF MATERIAL (Both Abuts.)

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	18
Anchor Bolts, 1"	Each	36
Jack and Remove Existing Bearings	Each	18



SIDE RETAINER
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



SETTING ANCHOR BOLTS AT EXP. BRG.
D='/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.

GIRDER REACTIONS

R℄	(K)	14.8
R4	(K)	33.2
Imp.	(K)	10
R (Total)	(K)	58

BEARING DETAILS
STRUCTURE NO. 077-0027

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		DRAWN -	REVISED -
	PLOT SCALE =	CHECKED -	REVISED -
	PLOT DATE = 2/27/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
SN 077-0027

SCALE: | SHEET NO. OF SHEETS | STA. | TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
24/57	D9 BSMART FY09-1	JOHNSON/PULASKI	20	10
		CONTRACT NO. 78095		
FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT			

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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 077-0027
STRUCTURE INFORMATION

SCALE: | SHEET 2 OF 6 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	82
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.I.-57	77-4	PULASKI	217	63
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT.		

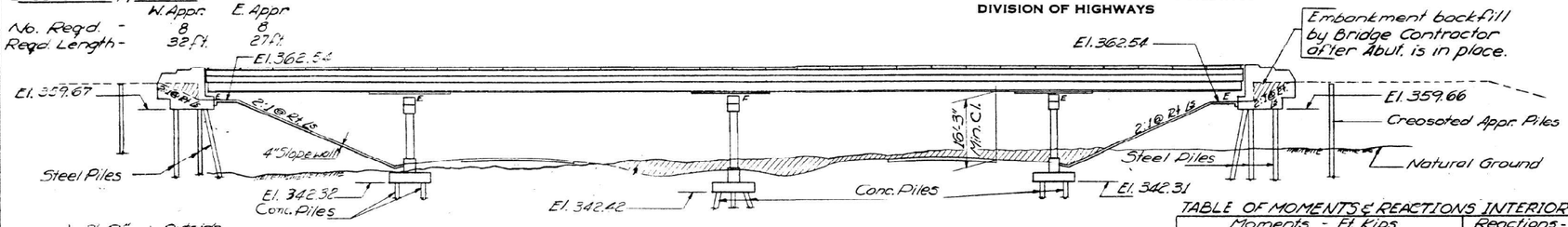
SHEET NO. 1
12 SHEETS

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

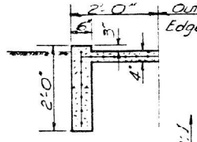
D.M: Square cut in N.W. end of N. headwall 16' Lt. Sta 105+51 (TL. F.A.S. 939.) Elev. 343.47

Creosoted Appr. Piles:

	W. Appr.	E. Appr.
No. Req'd. -	8	8
Reqd. Length -	32 Ft.	27 Ft.



ELEVATION

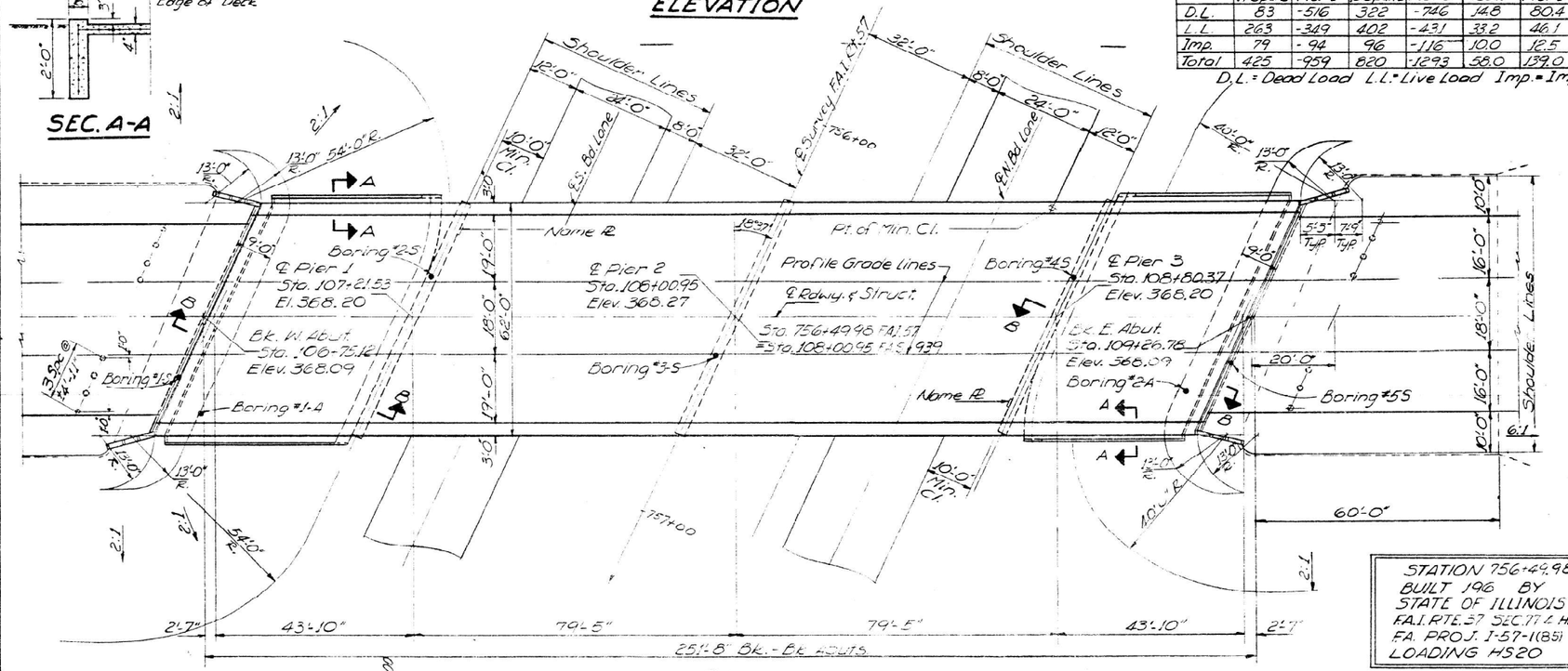


SEC. A-A

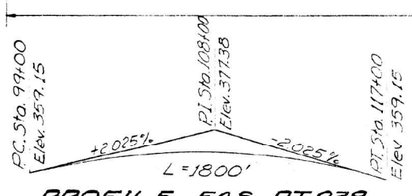
TABLE OF MOMENTS & REACTIONS INTERIOR BEAM

	Moments - Ft. Kips				Reactions - Kips		
	4 Span	Pier 1	5 Span 2	Pier 2	Abut.	Pier 1	Pier 2
D.L.	83	-516	322	-746	14.8	80.4	99.9
L.L.	263	-349	402	-431	33.2	46.1	50.9
Imp.	79	-94	96	-116	10.0	12.5	13.8
Total	425	-959	820	-1293	58.0	139.0	164.6

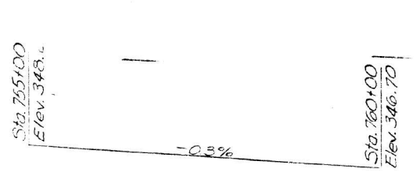
D.L. = Dead Load L.L. = Live Load Imp. = Impact



PLAN



PROFILE F.A.S. RT. 939

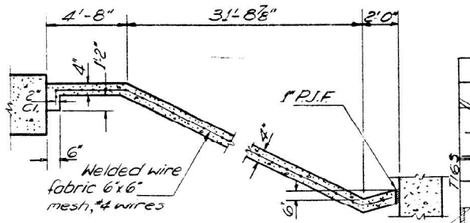


PROFILE F.A.I. RT. 57

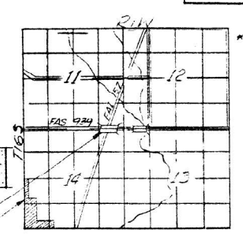
STATION 756+49.98
BUILT 196 BY
STATE OF ILLINOIS
F.A.I. RTE. 57 SEC. 77-4 HB-1
F.A. PROJ. 1-57-1(85)
LOADING HS20

NAME PLATE

See Sta. 2113-1



SECTION B-B



LOCATION PLAN

GENERAL NOTES

Class X Concrete shall be used throughout.

Coarse aggregate to be used in parapet handrails and end post must be absolutely free of chert, flint, limonite, lignite and soft sandstone.

The concrete floor slab shall be finished in accordance with Art. 51.19 of the Standard Specifications.

Slope wall shall be reinforced with welded wire fabric 6"x 6" mesh, #4 wires, weighing 58# per 100 Sq. Ft.

All reinforcement bars shall be lapped 20 dia. unless otherwise shown.

Rivets 3/4" ϕ. Open holes 13/16" ϕ, unless otherwise noted.

Anchor bolts shall be set before riveting diaphragms over supports.

The exposed surfaces of the expansion guards shall be given two shop coats of red lead paint, the contact surfaces shall be given one coat of red lead paint. Anchor studs shall not be painted.

Expansion guards are in the quantity of Struct. Steel. Est. Weight 2430 lbs.

Except as otherwise provided, all struct. steel shall receive one shop coat of red lead paint and two field coats of aluminum paint.

Permanent forms will not be permitted in forming the concrete floor.

All structural steel shall comply with the specification for structural steel ASTM Designation A-36

The Contractor shall drive three (3) test piles, 1 steel test pile at W. Ab. it and 2 concrete test piles, one each at Piers 1 & 3, in a permanent location as directed by the Engr. before ordering the remainder of piles.

Excavation for portions of structures in the embankments shall not be classified.

TOTAL BILL OF MATERIAL

ITEM		Super.	Sub.	Total
Class "A" Excavation	Cu. Yds.			336
Class X Concrete	Cu. Yds.	442.0	383.7	825.7
Structural Steel	Lbs.	424570		424570
Aluminum Handrail	Lin. Ft.	497		497
Reinforcement Bars	Lbs.	129,050	41,400	170,450
Creosoted Piles	Lin. Ft.			472
Concrete Piles	Lin. Ft.			4060
Test Piles (Concrete)	Ea.			2
Name Plates	Ea.		2	2
Slope Wall (4")	Sq. Yds.			682
Protective Coat	Sq. Yds.	1897		1897
Bridge Sent Sealant	Lump Sum			L.S.
Steel Piles (10BP42)	Lin. Ft.			4255
Test Piles (Steel 10BP42)	Ea.			1

* Includes Excavation for slope wall.
** Applied at Abutments.

FOR INFORMATION ONLY
SN 077-0027

GENERAL PLAN & ELEVATION

PROJ. I-57-1(85)4
F.A.S. RT. 939 OVER F.A.I. RTE. 57
F.A.I. RTE. 57 SEC. 77-4HB-1
PULASKI COUNTY
STA. 756+49.98

DESIGNED	A. Borrazo
CHECKED	
DRAWN	
CHECKED	

EXAMINED Paul E. Turner ENGINEER OF BRIDGE AND TRAFFIC STRUCTURES — July 16 1965
PASSED H. J. Nielsen ENGINEER OF DESIGN
APPROVED J. E. Gill CHIEF HIGHWAY ENGINEER

DESIGN STRESSES

fc = 1400 psi Super & Sub.
vc = 75 psi Flgs.
fs = 20,000 psi Reinf.
fs = 20,000 psi Struct.
n = 10
Allowable ℄ Deflection 1/1000
LOADING HS20-44

Rev. 6-3-66 J.L.A. In Total Bill: Reinf. Bars changed from 101,500 to 129,050# Super., 41,340 to 41,400# Sub., 142,840 to 170,450#.

MODEL: SN 077-0027 3 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsonda\d0998530\D978A75-Sht-FortnfoOnly3.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

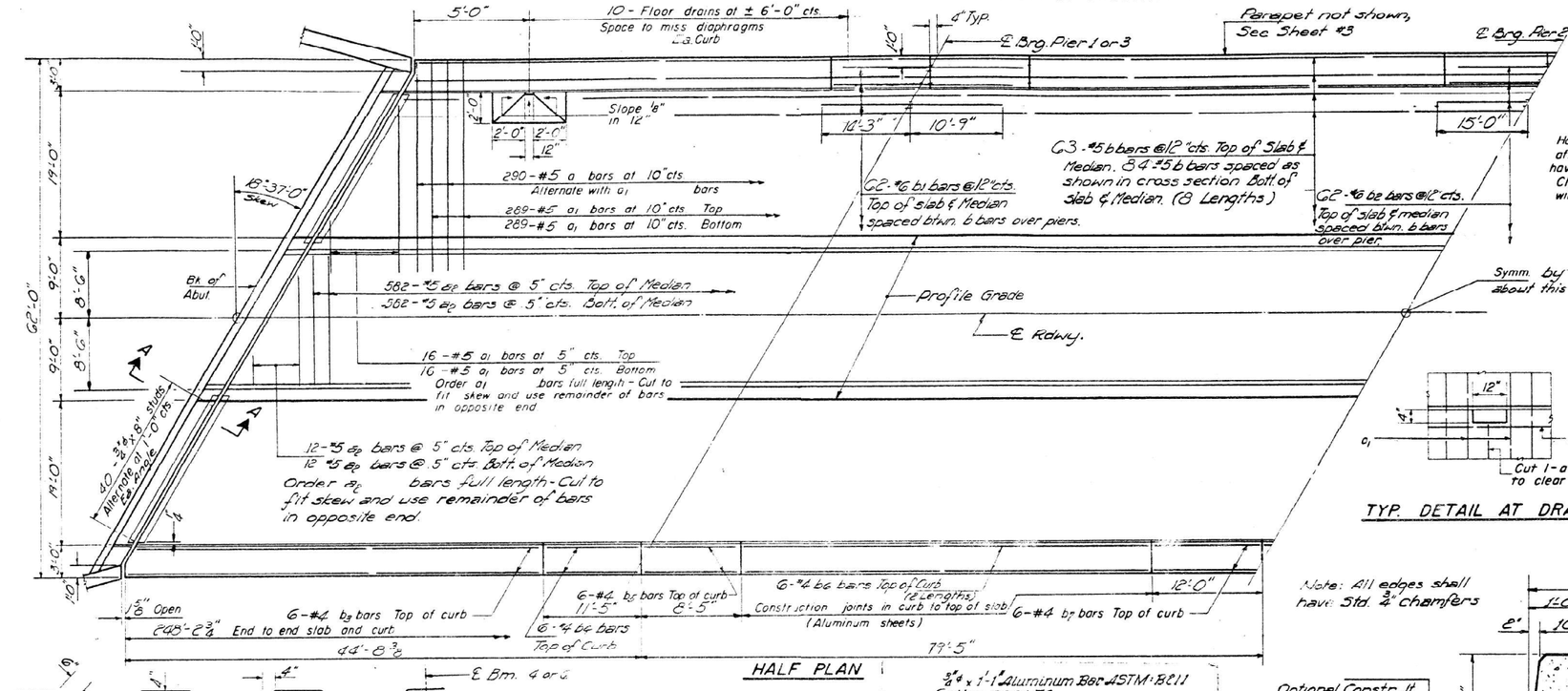
SN 077-0027
STRUCTURE INFORMATION

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	83
		CONTRACT NO. 78A75		
		ILLINOIS	FED. AID PROJECT	

DEPARTMENT OF PUBLIC WORKS & BUILDINGS
DIVISION OF HIGHWAYS

I.D.N. 1-44-37	77-1	PULASKI	217	64	12 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT			



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a	560	#5	24'-0"	
a1	1220	#5	22'-3"	
a2	1188	#5	16'-3"	
b	1176	#5	32'-0"	
b1	124	#6	85'-0"	
b2	GP	#6	30'-0"	
b3	24	#4	33'-0"	
b4	24	#4	11'-1"	
b5	24	#4	8'-1"	
b6	48	#4	29'-9"	
b7	24	#4	11'-8"	
c	496	#4	5'-7	
c1	2380	#5	3'-9"	
c2	248	#4	4'-5"	
Reinforcement Bars			Lbs.	123,530
* Structural Steel			Lbs.	43,570
Class X Concrete			Cu Yd	46.7

* Weight of bearing assemblies with lead plates and anchor bolts are included as structural steel. Est. Weight = 13,420

SUPERSTRUCTURE
F.A.I. RT. 57 SEC. 77-4 HB-1
PULASKI COUNTY
STA. 756+49.98

DESIGNED	A. Vahid-Mozafari	
CHECKED	A. Schneider	
DRAWN	A. Barrera	A.V.M. D.L. Beemer
CHECKED	R.E.P.	R.E.P.

EXAMINED: Earl E. Thurman — ENGINEER OF BRIDGE AND CULVERT SECTION
PASSED: H. J. Sexton — ENGINEER OF PLANS
APPROVED: [illegible] — ENGINEER OF PLANS

I-12-L (>15°)(L.B.) 7-2-62 Rev. 11-15-62

Rev. 8-2-66 Transverse bar spacing changed from 5½" to 5", Reinf. bar quantity changed from 97,540# to 123,530# J.L.A.

FOR INFORMATION ONLY
SN 077-0027

MODEL: SN 077-0027 4 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

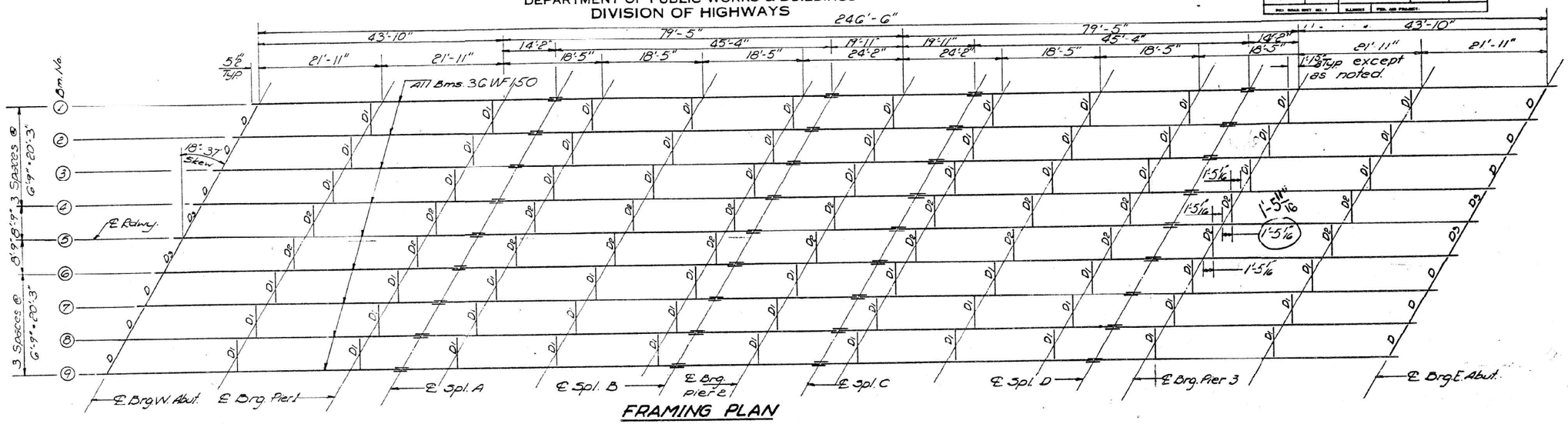
SN 077-0027
STRUCTURE INFORMATION
SCALE: | SHEET 4 OF 6 SHEETS | STA. | TO STA.

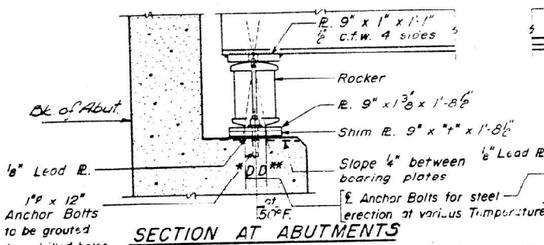
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	84
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

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

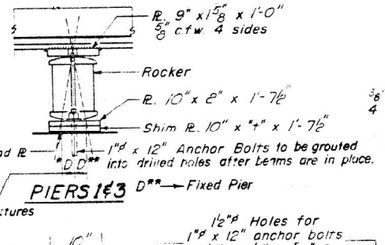
F.A.I. RTE.	SECTION	COUNTY	FED. AID PROJECT	SHEET NO.	TOTAL SHEETS
F.A.I.-57	77-4	PULASKI	217	66	12 SHEETS

FRAMING PLAN

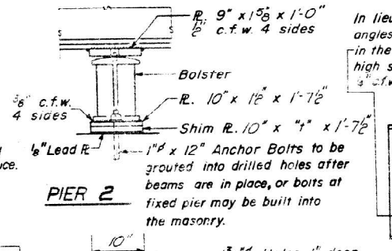




SECTION AT ABUTMENTS

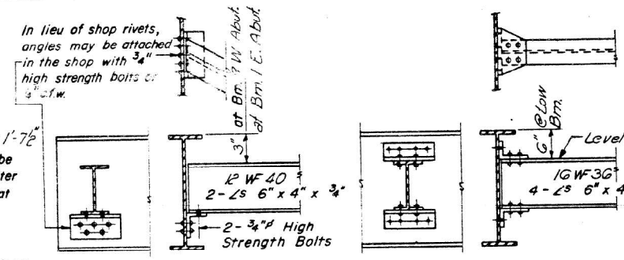


PIERS 1 & 3



PIER 2

D** → Fixed Pier



DIAPHRAGM D & D3

12 D Required 4 D3 Req'd.

DIAPHRAGM D1 & D2

6 D1 Required
22 D2 Req'd.

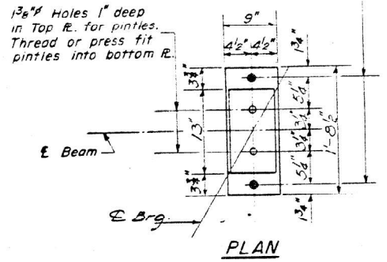
ELEVATION TOP OF 36 WF 150 BMS.

Loc / Bm No.	℄ Brg. W. Abut.	℄ Brg. Pier 1	℄ Spl. A	℄ Spl. B	℄ Brg. Pier 2
1	367.345	367.388	367.402	367.434	367.429
2	367.406	367.451	367.466	367.501	367.497
3	367.468	367.516	367.531	367.568	367.565
4	367.589	367.579	367.595	367.635	367.633
5	367.609	367.661	367.678	367.721	367.720
6	367.513	367.569	367.587	367.632	367.633
7	367.439	367.497	367.516	367.563	367.565
8	367.365	367.425	367.445	367.495	367.497
9	367.291	367.353	367.373	367.426	367.430

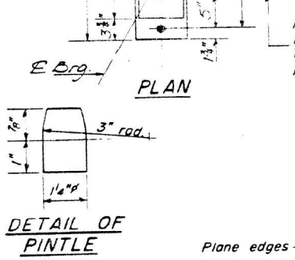
Loc / Bm No.	℄ Spl. C	℄ Spl. D	℄ Brg. Pier 3	℄ Brg. E. Abut.
1	367.424	367.370	367.349	367.285
2	367.493	367.441	367.487	367.359
3	367.568	367.513	367.491	367.434
4	367.631	367.584	367.565	367.508
5	367.720	367.676	367.658	367.603
6	367.634	367.598	367.575	367.528
7	367.567	367.528	367.512	367.463
8	367.500	367.464	367.449	367.401
9	367.434	367.399	367.385	367.340

SHIM "t" DIMENSIONS

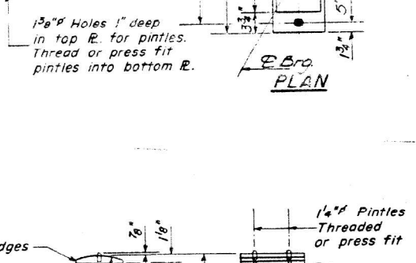
Loc / Bm No.	West Abut.	Pier 1	Pier 2	Pier 3	East Abut.
1			-	5/16	
2					
3					
4					
5					
6					
7					
8					
9		5/16			



PLAN

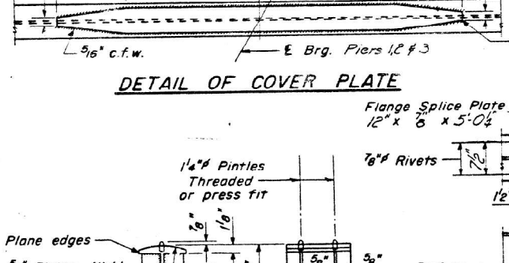


PLAN

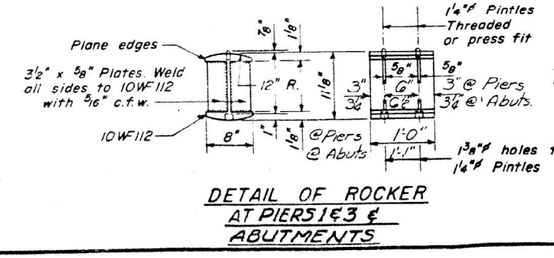


PLAN

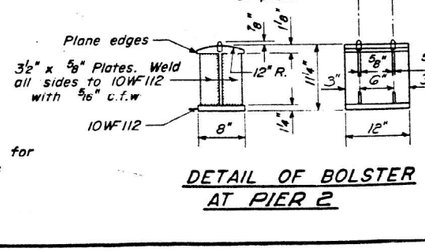
DETAIL OF PINTLE



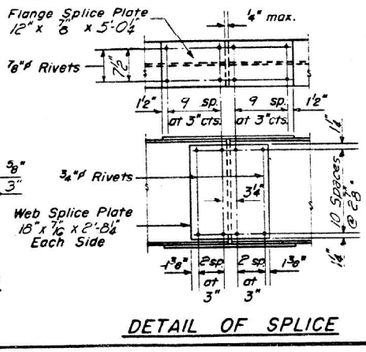
DETAIL OF COVER PLATE



DETAIL OF ROCKER AT PIERS 1 & 3 & ABUTMENTS



DETAIL OF BOLSTER AT PIER 2



DETAIL OF SPLICE

DESIGNED	A. Vahil-mozayani
CHECKED	H. Ebrahimi
P.G. Bomen	A. Barraza 8 A.T.M.
DRAWN	W. A. Sousomon Jr.
CHECKED	H.E. S.P.P.

EXAMINED: S.D.E. — ENGINEER OF BRIDGES AND TRAFFIC STRUCTURES
PASSED: — ENGINEER OF BRIDGES
APPROVED: W. E. Stoffel — CHIEF HIGHWAY ENGINEER

I-2-C 7-2-62 Rev. 11-9-62 Rev. 8-16-63 Rev. 12-10-63

STRUCTURAL STEEL
F.A.I. RT. 57 SEC. 77-4HB-1
PULASKI COUNTY
STA. 756+49.98

FOR INFORMATION ONLY
SN 077-0027

MODEL: SN 077-0027 5 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 077-0027
STRUCTURE INFORMATION

SCALE: | SHEET 5 OF 6 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	85
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

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

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	77-4	PULASKI	217	70

12 SHEETS

BK. OF W. ABUT.

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
A	10665.351	- 29.000	367.866	367.866
	10667.625	- 22.250	367.940	367.940
	10669.899	- 15.500	368.015	368.015
	10672.172	- 8.750	368.089	368.089
	10675.120	.000	368.185	368.185
	10676.066	- 8.750	368.105	368.105
	10680.341	- 15.500	368.044	368.044
	10682.615	- 22.250	367.982	367.982
	10684.889	- 29.000	367.921	367.921
B	10667.934	29.000	367.874	367.874
	10670.208	22.250	367.948	367.948
	10672.482	15.500	368.022	368.022
	10674.756	8.750	368.096	368.096
	10677.703	.000	368.192	368.192
	10680.651	- 8.750	368.112	368.112
	10682.925	- 15.500	368.051	368.051
	10685.198	- 22.250	367.989	367.989
	10687.472	- 29.000	367.928	367.928
C	10677.934	29.000	367.902	367.902
	10680.208	22.250	367.976	367.976
	10682.482	15.500	368.050	368.050
	10684.756	8.750	368.123	368.123
	10687.703	.000	368.218	368.218
	10690.651	- 8.750	368.138	368.138
	10692.925	- 15.500	368.076	368.076
	10695.198	- 22.250	368.014	368.014
	10697.472	- 29.000	367.952	367.952
D	10687.934	29.000	367.929	367.929
	10690.208	22.250	368.002	368.002
	10692.482	15.500	368.075	368.075
	10694.756	8.750	368.148	368.148
	10697.703	.000	368.242	368.242
	10700.651	- 8.750	368.161	368.161
	10702.925	- 15.500	368.099	368.099
	10705.198	- 22.250	368.036	368.036
	10707.472	- 29.000	367.974	367.974
E	10697.934	29.000	367.953	367.953
	10700.208	22.250	368.025	368.025
	10702.482	15.500	368.098	368.098
	10704.756	8.750	368.170	368.170
	10707.703	.000	368.264	368.264
	10710.651	- 8.750	368.183	368.183
	10712.925	- 15.500	368.120	368.120
	10715.198	- 22.250	368.057	368.057
	10717.472	- 29.000	367.993	367.993
	10707.934	29.000	367.975	367.975
	10710.208	22.250	368.047	368.047
	10712.482	15.500	368.119	368.119
	10714.756	8.750	368.191	368.191
	10717.703	.000	368.284	368.284
	10720.651	- 8.750	368.202	368.202
	10722.925	- 15.500	368.138	368.138
	10725.198	- 22.250	368.075	368.075
	10727.472	- 29.000	368.011	368.011

E BRG. W. ABUT

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
	10677.934	29.000	367.902	367.902
	10680.208	22.250	367.976	367.976
	10682.482	15.500	368.050	368.050
	10684.756	8.750	368.123	368.123
	10687.703	.000	368.218	368.218
	10690.651	- 8.750	368.138	368.138
	10692.925	- 15.500	368.076	368.076
	10695.198	- 22.250	368.014	368.014
	10697.472	- 29.000	367.952	367.952
	10687.934	29.000	367.929	367.929
	10690.208	22.250	368.002	368.002
	10692.482	15.500	368.075	368.075
	10694.756	8.750	368.148	368.148
	10697.703	.000	368.242	368.242
	10700.651	- 8.750	368.161	368.161
	10702.925	- 15.500	368.099	368.099
	10705.198	- 22.250	368.036	368.036
	10707.472	- 29.000	367.974	367.974
	10697.934	29.000	367.953	367.953
	10700.208	22.250	368.025	368.025
	10702.482	15.500	368.098	368.098
	10704.756	8.750	368.170	368.170
	10707.703	.000	368.264	368.264
	10710.651	- 8.750	368.183	368.183
	10712.925	- 15.500	368.120	368.120
	10715.198	- 22.250	368.057	368.057
	10717.472	- 29.000	367.993	367.993
	10707.934	29.000	367.975	367.975
	10710.208	22.250	368.047	368.047
	10712.482	15.500	368.119	368.119
	10714.756	8.750	368.191	368.191
	10717.703	.000	368.284	368.284
	10720.651	- 8.750	368.202	368.202
	10722.925	- 15.500	368.138	368.138
	10725.198	- 22.250	368.075	368.075
	10727.472	- 29.000	368.011	368.011

E BRG. PIER 1

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
	10711.768	29.000	367.982	367.982
	10714.041	22.250	368.054	368.054
	10716.315	15.500	368.126	368.126
	10718.589	8.750	368.198	368.198
	10721.537	.000	368.291	368.291
	10724.484	- 8.750	368.208	368.208
	10726.758	- 15.500	368.145	368.145
	10729.032	- 22.250	368.081	368.081
	10731.306	- 29.000	368.017	368.017
	10721.768	29.000	368.001	368.020
	10724.041	22.250	368.075	368.094
	10726.315	15.500	368.144	368.162
	10728.589	8.750	368.215	368.233
	10731.537	.000	368.307	368.326
	10734.484	- 8.750	368.224	368.243
	10736.758	- 15.500	368.160	368.178
	10739.032	- 22.250	368.096	368.114
	10741.306	- 29.000	368.031	368.050

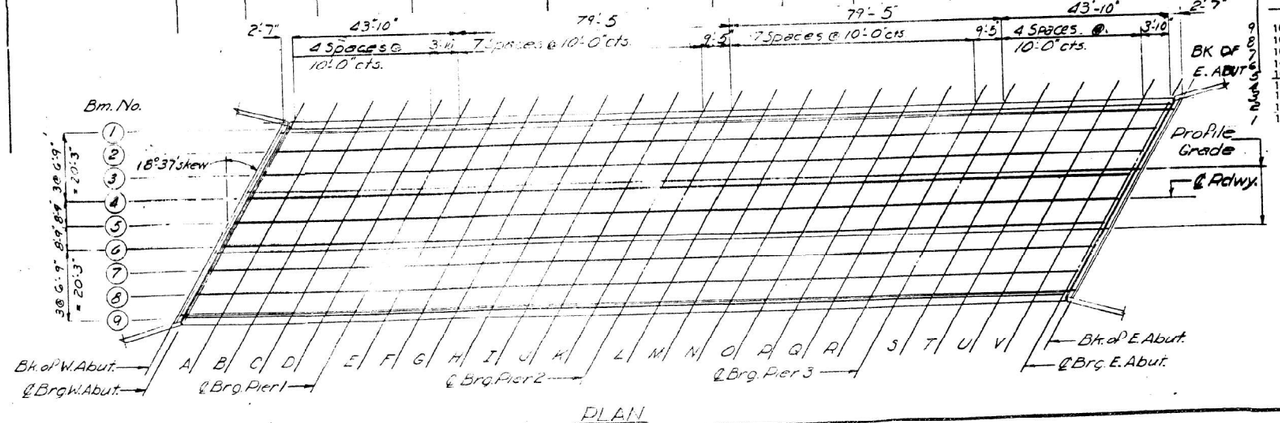
Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
F	10731.768	29.000	368.018	368.054
	10734.041	22.250	368.089	368.125
	10736.315	15.500	368.159	368.196
	10738.589	8.750	368.230	368.267
	10741.537	.000	368.322	368.358
	10744.484	- 8.750	368.238	368.274
	10746.758	- 15.500	368.173	368.210
	10749.032	- 22.250	368.108	368.145
	10751.306	- 29.000	368.043	368.080
G	10741.768	29.000	368.032	368.076
	10744.041	22.250	368.102	368.147
	10746.315	15.500	368.173	368.217
	10748.589	8.750	368.243	368.287
	10751.537	.000	368.334	368.378
	10754.484	- 8.750	368.249	368.294
	10756.758	- 15.500	368.184	368.228
	10759.032	- 22.250	368.119	368.163
	10761.306	- 29.000	368.053	368.098
H	10751.768	29.000	368.044	368.098
	10754.041	22.250	368.114	368.165
	10756.315	15.500	368.184	368.235
	10758.589	8.750	368.253	368.305
	10761.37	.000	368.343	368.395
	10764.484	- 8.750	368.258	368.310
	10766.758	- 15.500	368.193	368.244
	10769.032	- 22.250	368.127	368.176
	10771.306	- 29.000	368.061	368.112
I	10761.768	29.000	368.064	368.098
	10764.041	22.250	368.123	368.165
	10766.315	15.500	368.192	368.234
	10768.589	8.750	368.261	368.303
	10771.537	.000	368.351	368.393
	10774.484	- 8.750	368.268	368.309
	10776.758	- 15.500	368.199	368.241
	10779.032	- 22.250	368.132	368.174
	10781.306	- 29.000	368.066	368.107
J	10771.768	29.000	368.061	368.080
	10774.041	22.250	368.130	368.166
	10776.315	15.500	368.199	368.234
	10778.589	8.750	368.267	368.303
	10781.537	.000	368.356	368.392
	10784.484	- 8.750	368.270	368.296
	10786.758	- 15.500	368.205	368.228
	10789.032	- 22.250	368.139	368.162
	10791.306	- 29.000	368.069	368.095
K	10781.768	29.000	368.066	368.079
	10784.041	22.250	368.135	368.147
	10786.315	15.500	368.203	368.215
	10788.589	8.750	368.271	368.283
	10791.537	.000	368.359	368.372
	10794.484	- 8.750	368.272	368.285
	10796.758	- 15.500	368.207	368.217
	10799.032	- 22.250	368.141	368.150
	10801.306	- 29.000	368.070	368.082

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
L	10791.184	29.000	368.069	368.069
	10793.458	22.250	368.137	368.137
	10795.732	15.500	368.205	368.205
	10796.006	8.750	368.272	368.272
	10800.953	.000	368.360	368.360
	10803.901	- 8.750	368.272	368.272
	10806.175	- 15.500	368.205	368.205
	10808.448	- 22.250	368.137	368.137
	10810.722	- 29.000	368.069	368.069
M	10801.184	29.000	368.070	368.083
	10803.458	22.250	368.137	368.150
	10805.732	15.500	368.205	368.218
	10808.006	8.750	368.272	368.285
	10810.953	.000	368.359	368.372
	10813.901	- 8.750	368.270	368.283
	10816.175	- 15.500	368.202	368.215
	10818.448	- 22.250	368.134	368.147
	10820.722	- 29.000	368.065	368.078
N	10811.184	29.000	368.069	368.095
	10813.458	22.250	368.135	368.162
	10815.732	15.500	368.202	368.228
	10818.006	8.750	368.268	368.295
	10820.953	.000	368.358	368.381
	10823.901	- 8.750	368.266	368.292
	10826.175	- 15.500	368.197	368.223
	10828.448	- 22.250	368.128	368.155
	10830.722	- 29.000	368.059	368.086
O	10821.184	29.000	368.065	368.104
	10823.458	22.250	368.131	368.171
	10825.732	15.500	368.198	368.237
	10828.006	8.750	368.264	368.303
	10830.953	.000	368.349	368.389
	10833.901	- 8.750	368.260	368.299
	10836.175	- 15.500	368.190	368.230
	10838.448	- 22.250	368.121	368.160
	10840.722	- 29.000	368.051	368.091
P	10831.184	29.000	368.059	368.111
	10833.458	22.250	368.125	368.177
	10835.732	15.500	368.191	368.243
	10838.006	8.750	368.256	368.308
	10840.953	.000	368.341	368.393
	10843.901	- 8.750	368.251	368.303
	10846.175	- 15.500	368.181	368.233
	10848.448	- 22.250	368.111	368.163
	10850.722	- 29.000	368.041	368.093
Q	10841.184	29.000	368.051	368.095
	10843.458	22.250	368.116	368.160
	10845.732	15.500	368.181	368.226
	10848.006	8.750	368.247	368.291
	10850.953	.000	368.331	368.375
	10853.901	- 8.750	368.169	368.214
	10856.175	- 15.500	368.099	368.143
	10858.448	- 22.250	368.029	368.073
R	10851.184	29.000	368.041	368.076
	10853.458	22.250	368.105	368.141
	10855.732	15.500	368.170	368.206
	10858.006	8.750	368.235	368.270
	10860.953	.000	368.318	368.354
	10863.901	- 8.750	368.227	368.262
	10866.175	- 15.500	368.156	368.191
	10868.448	- 22.250	368.085	368.121
	10870.722	- 29.000	368.014	368.049

E BEG. PIER 2

E BRG E. ABUT

Beam	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
B	10861.184	29.000	368.028	368.045
	10863.458	22.250	368.092	368.110
	10865.732	15.500	368.156	368.174
	10868.006	8.750	368.220	368.238
	10870.953	.000	368.303	368.321
	10873.901	- 8.750	368.211	368.228
	10876.175	- 15.500	368.140	368.157
	10878.448	- 22.250	368.068	368.086
	10880.722	- 29.000	367.997	368.014
S	10870.601	29.000	368.014	368.014
	10872.875	22.250	368.078	368.078
	10875.149	15.500	368.141	368.142
	10877.422	8.750	368.205	368.205
	10880.370	.000	368.287	368.287
	10883.318	- 8.750	368.194	368.194
	10885.591	- 15.500	368.123	368.123
	10887.865	- 22.250	368.051	368.051
	10890.139	- 29.000	367.979	367.979
T	10880.601	29.000	367.997	367.997
	10882.875	22.250	368.060	368.060
	10885.149	15.500	368.123	368.123
	10887.422	8.750	368.187	368.187
	10890.370	.000	368.268	368.268
	10893.318	- 8.750	368.175	368.175
	10895.591	- 15.500	368.102	368.102
	10897.865	- 22.250	368.030	368.030
	10900.139	- 29.000	367.957	367.957
U	10890.601	29.000	367.978	367.978
	10892.875	22.250	368.040	368.040
	10895.149	15.500	368.103	368.103
	10897.422	8.750	368.166	368.166
	10900.370	.000	368.247	368.247
	10903.318	- 8.750	368.152	368.152
	10905.591	- 15.500	368.080	368.080
	10907.865	- 22.250	368.007	368.007
	10910.139	- 29.000	367.934	367.934
V	10900.601	29.000	367.956	367.956
	10902.875	22.250	368.018	368.018
	10905.149	15.500	368.081	368.081
	10907.422	8.750	368.143	368.143
	10910.370	.000	368.223	368.223
	10913.318	- 8.750	368.128	368.128
	10915.591	- 15.500	368.055	368.055
	10917.865	- 22.250	367.983	367.983
	10920.139	- 29.000	367.910	367.910
	10910.601	29.000	367.932	367.932
	10912.875	22.250	367.994	367.994
	10915.149	15.500	368.056	368.056
	10917.422	8.750	368.117	368.117
	10920.370	.000	368.197	368.197
	10923.318	- 8.750	368.101	368.101
	10925.591	- 15.500	368.028	368.028
	10927.865	- 22.250	367.954	367.954
	10930.139	- 29.000	367.879	367.879
	10914.434	29.000	367.923	367.923
	10916.708	22.250	367.984	367.984
	10918.982	15.500	368.046	368.046
	10921.256	8.750	368.107	368.107
	10924.203	.000	368.186	368.186
	10927.151	- 8.750	368.091	368.091
	10929.425	- 15.500	368.017	368.017
	10931.698	- 22.250	367.942	367.942
	10933.972	- 29.000	367.868	367.868
	10917.018	29.000	367.916	367.916
	10919.291	22.250	367.977	367.977
	10921.565	15.500	368.039	368.039
	10923.839	8.750	368.100	368.100
	10926.787	.000	368.179	368.179
	10929.734	- 8.750	368.083	368.083
	10932.008	- 15.500	368.009	368.009
	10934.282	- 22.250	367.935	367.935
	10936.556	- 29.000	367.860	367.860



PLAN

DESIGNED	A. Vakil-Mogaddam		
CHECKED	J.S.	EXAMINED	Sept 16 19 65
DRAWN	L. Wonless	PASSED	
CHECKED		APPROVED	

FOR INFORMATION ONLY
SN 077-0027

ELEVATIONS
FAI. RT. 57 SEC. 77-4HB-1
PULASKI COUNTY
STA. 756+49.98

MODEL: SN 077-0027 6 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 077-0027
STRUCTURE INFORMATION

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	86
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

Bench Mark: RR spike set in power pole along south side of IL 34, Sta. 405+03 ℄ 30' Rt., Elev. 376.50'

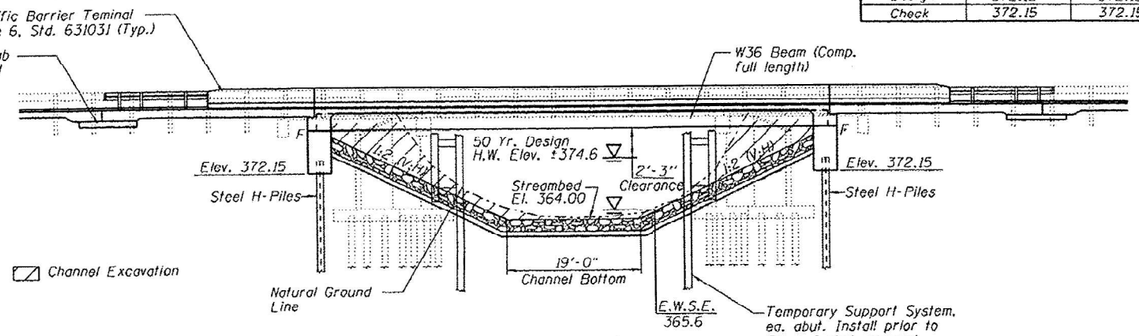
Existing Structure: Structure No. 083-0022(E) (Orig. Constr. 1924; Rehab. 1981) consists of a single span 17" P.P.C. deck beam bridge on closed abutments. Back to back abutments measures 43'-2½" on a 0° skew. Clear width is ±32'-11" between rails and the overall out to out width of the bridge deck is ±33'-5"

Salvage: None

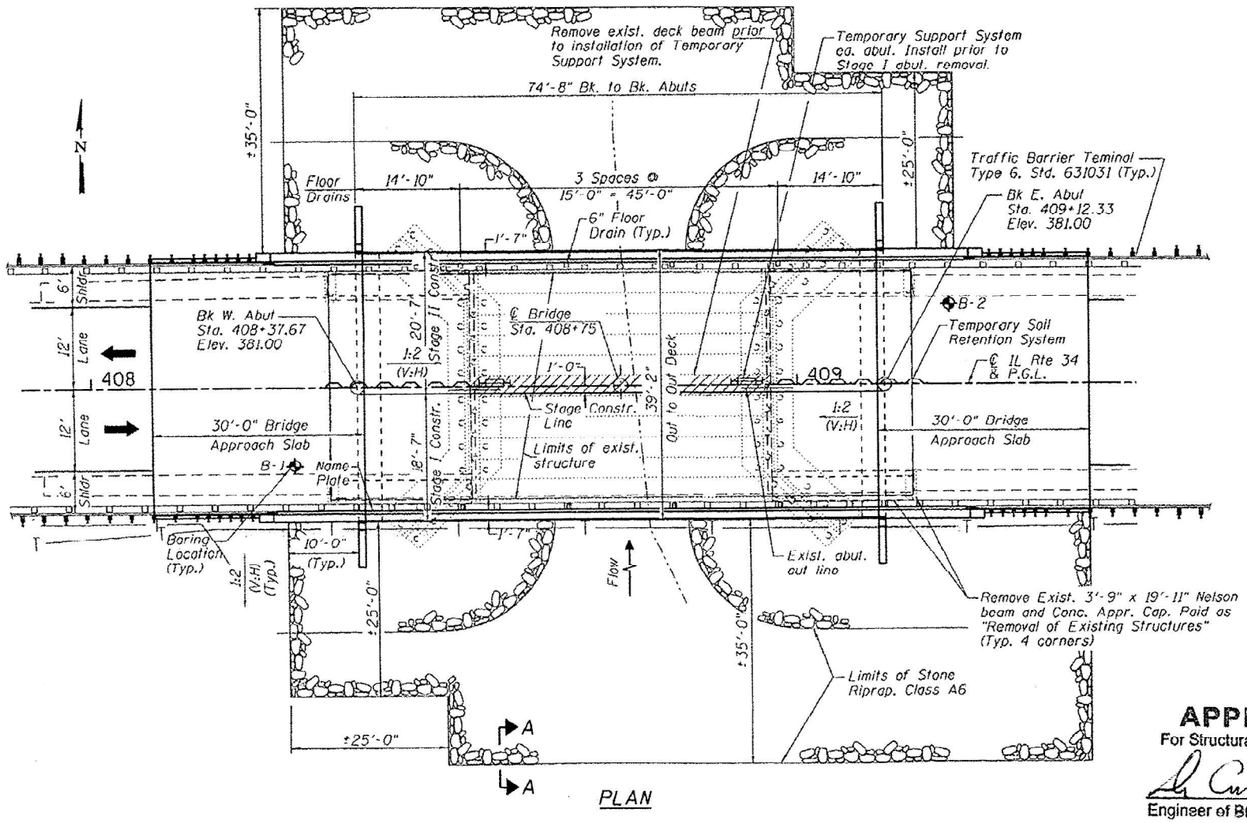
Maintain traffic using stage construction.

DESIGN SCOUR ELEVATION TABLE

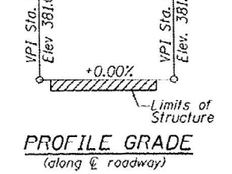
Event/ Limit State	Design Scour Elevations (ft.) W. Abut.	E. Abut.	Item 113
0.100	372.15	372.15	8
0.200	372.15	372.15	
Design	372.15	372.15	
Check	372.15	372.15	



ELEVATION



PLAN



LOCATION SKETCH

STATION 408+75.00
BUILT 201_ BY
STATE OF ILLINOIS
F.A.P. RT 778 SEC. 2B-3
LOADING HL-93
STR. NO. 083-0070

NAME PLATE

See Std. 515001

BORING DATA

BORING	LOCATION
B-1	Sta. 408+29, 12' Rt.
B-2	Sta. 409+22, 12' Lt.

PROFILE GRADE

(along ℄ roadway)

INDEX OF SHEETS

SHEET NO.	TITLE
1.	General Plan
2.	General Data
3.	Staging Details 1
4.	Staging Details 2
5.	Temporary Concrete Barrier
6.	Deck Elevations 1
7.	Deck Elevations 2
8.	Approach Slab Elevations
9.	Superstructure
10.	Superstructure Details
11.	Integral Abutment Diaphragm Details
12.	Approach Slab Details 1
13.	Approach Slab Details 2
14.	Framing Plan & Elevation
15.	Framing Details & Tables
16.	West Abutment
17.	East Abutment
18.	Bar Splicer Assembly Details
19.	HP Pile Details
20.	Boring Logs 1
21.	Boring Logs 2

DESIGN SPECIFICATIONS

2014 AASHTO LRFD
Bridge Design Specifications
w/2015 Interims

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

DESIGN STRESSES

FIELD UNITS (PROPOSED)

f'c = 3,500 psi
f'c = 4,000 psi (Superstructure Conc.)
fy = 60,000 psi (Reinf.)
fy = 50,000 psi (M270 Grade 50W)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec. (S_{DS}) = 0.344g
Design Spectral Acceleration at 0.2 sec. (S_{D1}) = 0.815g
Soil Site Class = D

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

01-05-2016
LICENSED STRUCTURAL ENGINEER
WILLIAM L. BAILEY, JR.
5087
STATE OF ILLINOIS
Exp. 11-30-2016

NOTES:

1. For Section A-A, see Sheet 2 of 21.

GENERAL PLAN
F.A.P. ROUTE 778 (IL 34)
OVER SPRING VALLEY CREEK
SECTION 2B-3
SALINE COUNTY
STATION 408+75.00
STRUCTURE NO. 083-0070

USER NAME = Marshall.Lachecki	DESIGNED M. LACHECKI	REVISED	
...\001-General Plan.dgn	CHECKED W. BAILEY	REVISED	
PLOT SCALE =	DRAWN G. DAVIS	REVISED	
PLOT DATE =	CHECKED M. LACHECKI	REVISED	

CMT

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
STRUCTURE NO. 083-0070
SHEET NO. 1 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	2B-3	SALINE	56	28
		CONTRACT NO. 78364		
	ILLINOIS FED. AID PROJECT			

FOR INFORMATION ONLY
SN 083-0070

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 083-0070
STRUCTURE INFORMATION
SCALE: SHEET 1 OF 5 SHEETS STA. TO STA.

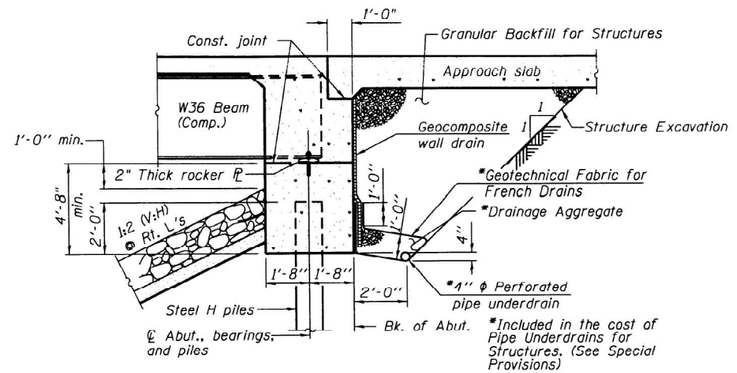
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	87
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

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GENERAL NOTES

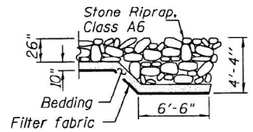
1. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts in painted areas and ASTM A325 Type 3 in unpainted areas. Bolts $\frac{3}{4}$ in. dia. holes $\frac{15}{16}$ in. dia. unless otherwise noted.
2. Calculated weight of Structural Steel = 72,540 lb. (AASHTO M270 Grade 50W)
3. All structural steel shall be AASHTO M 270 Grade 50W.
4. No field welding is permitted except as specified in the contract documents.
5. Reinforcement bars designated (E) shall be epoxy coated.
6. Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 1'-6" inches. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not be required.
7. Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
8. Slipforming of parapets is not allowed.
9. "Current Ratings on File for Existing Structure"
   Inventory: HS 10.2
   Operating: HS 17.0
   Live Load Restrictions: Only Legal Loads are Allowed

   Inventory and Operating Ratings and Live Load Restrictions are provided for information only. Inventory and Operating Ratings are based on HS loading and configuration. Live Load Restrictions are based on Illinois Legal Loads and configurations. The Ratings and Live Load Restrictions are not necessarily representative of capacities to support the Contractor's equipment."
10. The Contractor is advised the existing structure contains members that are in a deteriorated condition with reduced load caring capacity. It is the Contractor's responsibility to account for the condition of the existing structure when developing construction procedures for the complete or partial removal of the structure.
11. Prior to shifting traffic for Stage I construction, the Contractor and the Engineer shall inspect the existing deck beam keyways for the beams carrying Stage I traffic to ensure proper operation of existing keways or clamps previously installed. The Contractor shall coordinate with the Engineer if it is determined additional keyway repairs are needed prior to initiating Stage I construction.



SECTION THRU INTEGRAL ABUTMENT

Note: All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).



SECTION A-A

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Riprap, Class A6	Sq. Yd.			1,150
Filter Fabric	Sq. Yd.			1,150
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		280	280
Floor Drains	Each	8		8
Concrete Structures	Cu. Yd.		77.4	77.4
Concrete Superstructure	Cu. Yd.	118.7		118.7
Concrete Superstructure(Approach Slab)	Cu. Yd.	119.9		119.9
Bridge Deck Grooving	Sq. Yd.	504		504
Protective Coat	Sq. Yd.	596		596
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	1,674		1,674
Reinforcement Bars, Epoxy Coated	Pound	49,650	12,630	62,280
Bar Splicers	Each	379	116	495
Furnishing Steel Piles HP 12x53	Foot		462	462
Driving Piles	Foot		462	462
Test Pile Steel HP 12x53	Each		2	2
Pile Shoes	Each		16	16
Name Plates	Each	1		1
Anchor Bolts, 1"	Each	24		24
Geocomposite Wall Drain	Sq. Yd.		76	76
Temporary Soil Retention System	Sq. Ft.		607	607
Granular Backfill for Structures	Cu. Yd.		184	184
Asbestos Bearing Pad Removal	Each		38	38
Pipe Underdrains for Structures 4"	Foot		146	146
Temporary Support System	L. Sum		1	1

WATERWAY INFORMATION

Drainage Area = 4.87 Sq. Mi.

Existing Overtopping Elev. = 380.30 ℄
Sta. 399+47 to 407+90
Proposed overtopping Elev. = 380.30 ℄
Sta. 399+47 to 406+73

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.
	10	2350	271.6	341.7	373.1	0.7	0.7	373.8	373.8
Design	50	3980	331.2	430.5	374.6	1.6	1.5	376.2	376.1
Base	100	4730	347.1	455.6	375.0	2.4	1.8	377.4	376.8
S.D. Check	200	5555	363.0	481.5	375.4	3.2	2.2	378.6	377.6
Ovt. Exist.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ovt. Prop.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Max. Calc.	500	6740	386.9	521.5	376.0	4.2	2.8	380.2	378.8

10-YR Vel. Existing Bridge = 8.65 ft/s 10-YR Vel. Proposed Bridge = 6.98 ft/s

FOR INFORMATION ONLY
SN 083-0070

CMT	USER NAME = Marshall Lachecki	DESIGNED M. LACHECKI	REVISED
	...\002-General Data.dgn	CHECKED W. BAILEY	REVISED
	PLOT SCALE =	DRAWN G. DAVIS	REVISED
	PLOT DATE =	CHECKED M. LACHECKI	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 083-0070
SHEET NO. 2 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	2B-3	SALINE	56	29
		CONTRACT NO. 78364		
	ILLINOIS FED. AID PROJECT			

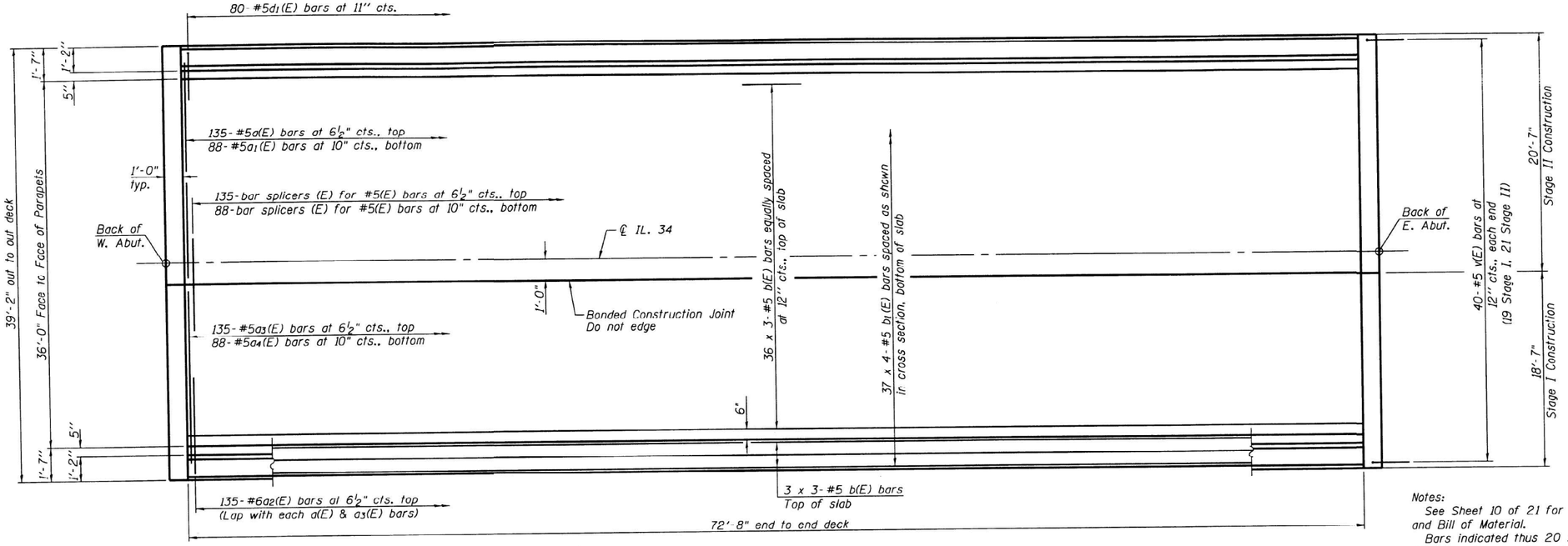
USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 083-0070
STRUCTURE INFORMATION
SCALE: | SHEET 2 OF 5 SHEETS | STA. | TO STA.

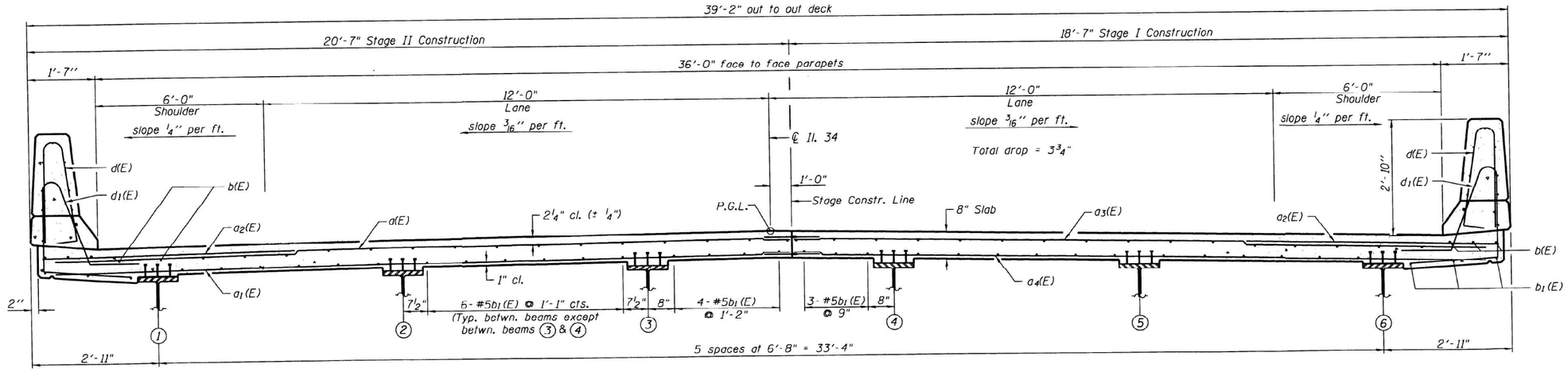
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	88
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

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PLAN

Notes:
See Sheet 10 of 21 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.
See Sheet 10 of 21 for parapet reinforcement.



CROSS SECTION
(Looking East)

MIN. BAR LAP

#5 bar = 3'-3"
#6 bar = 3'-10"

FOR INFORMATION ONLY
SN 083-0070

CMT	USER NAME = Brad Downen	DESIGNED M. LACHECKI	REVISED
	...\089-Superstructure.dgn	CHECKED W. BAILEY	REVISED
	PLOT SCALE =	DRAWN G. DAVIS	REVISED
	PLOT DATE =	CHECKED M. LACHECKI	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE
STRUCTURE NO. 083-0070
SHEET NO. 9 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	2B-3	SALINE	56	36
		CONTRACT NO. 78364		
	ILLINOIS FED. AID PROJECT			

	USER NAME = david.a.wilson	DESIGNED -	REVISED -
		DRAWN -	REVISED -
		CHECKED -	REVISED -
	PLOT DATE = 10/15/2024	DATE -	REVISED -

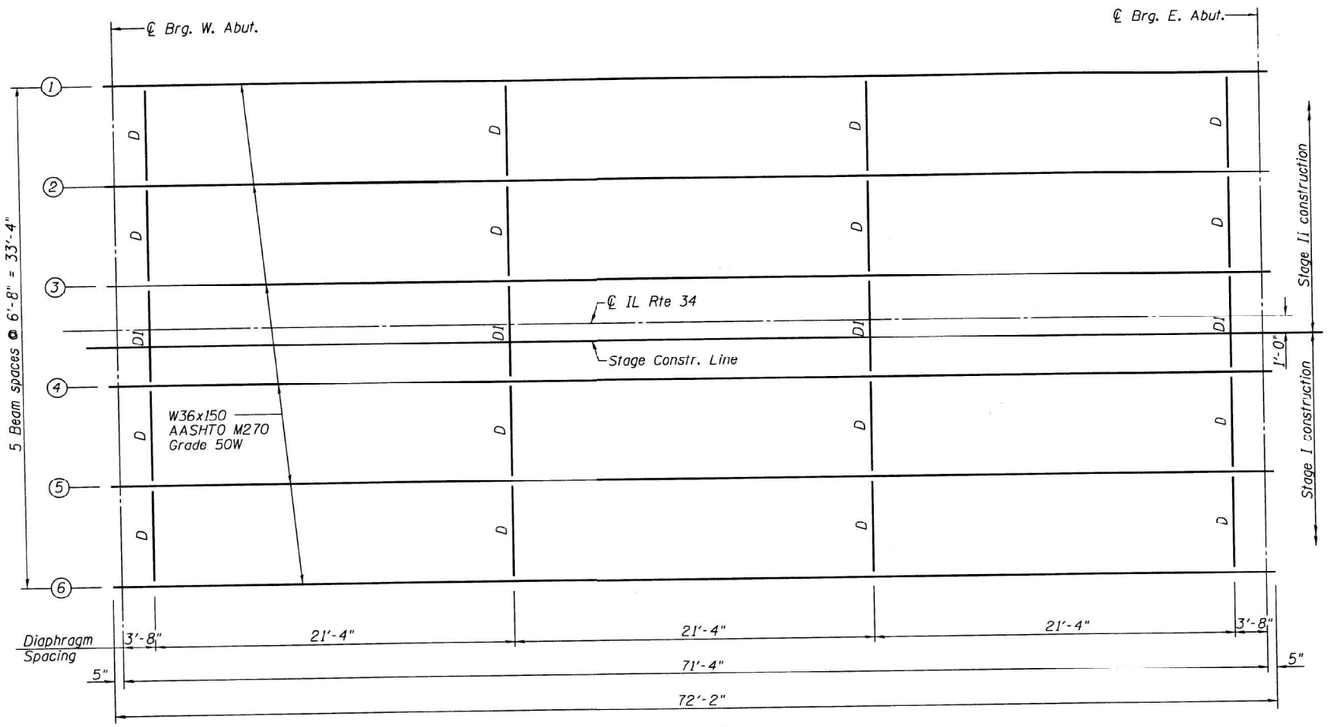
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 083-0070
STRUCTURE INFORMATION
SCALE: | SHEET 3 OF 5 SHEETS | STA. | TO STA.

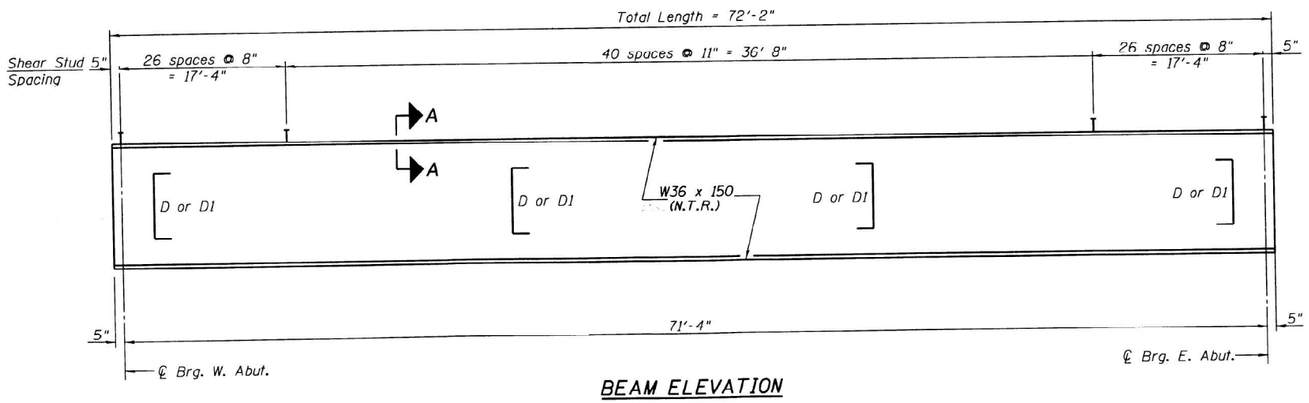
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VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	89
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

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FRAMING PLAN

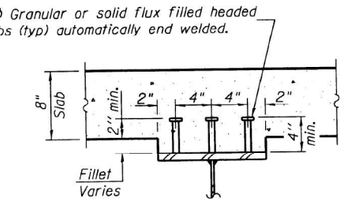


BEAM ELEVATION

TOP OF BEAM ELEVATIONS BEFORE DEFLECTIONS

(For Fabrication Only)

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
℄ Brg W. Abut.	380.01	380.14	380.24	380.24	380.14	380.01
℄ Brg E. Abut.	380.01	380.14	380.24	380.24	380.14	380.01



SECTION A-A

(Total no. of studs req'd. = 1,674)

NOTES:

1. All steel for beams, diaphragms, connection plates, and bearings shall be AASHTO M270 Grade 50W.
2. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.

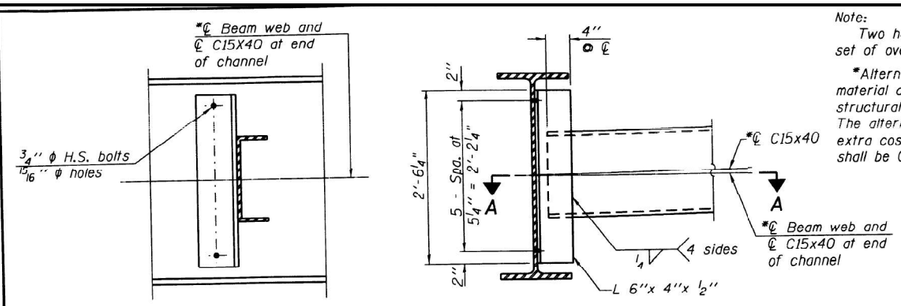
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CMT				STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	FRAMING PLAN AND ELEVATION STRUCTURE NO. 083-0070 SHEET NO. 14 OF 21 SHEETS	F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	...\014-Framing Plan.dgn	CHECKED W. BAILEY	REVISED					CONTRACT NO. 78364		
	PLOT SCALE =	DRAWN G. DAVIS	REVISED					ILLINOIS FED. AID PROJECT		
	PLOT DATE =	CHECKED M. LACHECKI	REVISED							

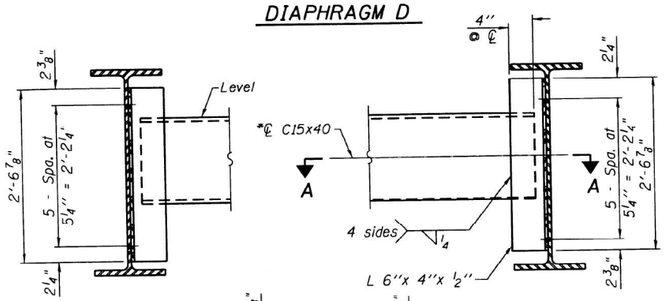
FOR INFORMATION ONLY
SN 083-0070

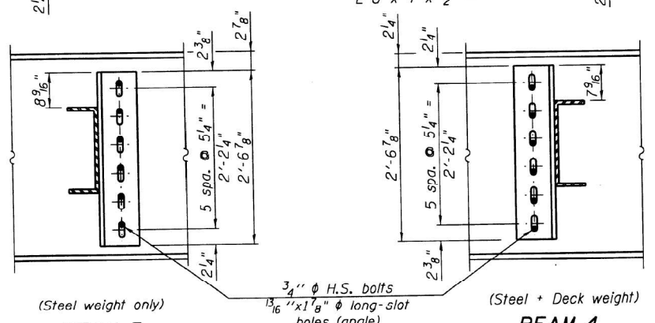
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	USER NAME = david.a.wilson	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SN 083-0070 STRUCTURE INFORMATION	F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -			VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	90
		CHECKED -	REVISED -					CONTRACT NO. 78A75		
	PLOT DATE = 10/15/2024	DATE -	REVISED -		SCALE: SHEET 4 OF 5 SHEETS STA. TO STA.			ILLINOIS FED. AID PROJECT		

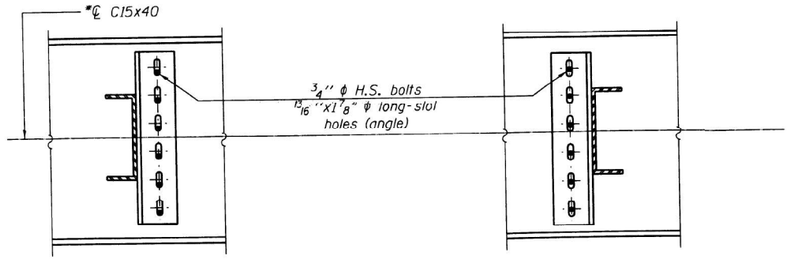


DIAPHRAGM D





PRIOR TO STAGE II DECK DEFLECTION

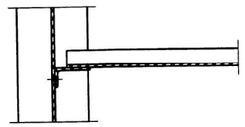


STAGE II DECK DEFLECTION

DIAPHRAGM D1

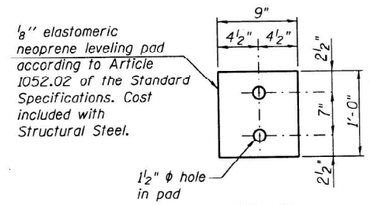
Note:
Two hardened washers required for each set of oversized holes.

*Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no extra cost to the department. Alternate channel shall be C15x50.



SECTION A-A

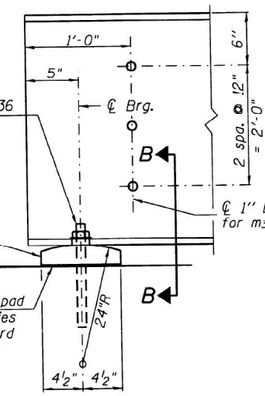
INTERIOR BEAM MOMENT TABLE		
		0.5 Span
I_s	(in^4)	9,040
$I_c(n)$	(in^4)	23,177
$I_c(3n)$	(in^4)	16,949
$I_c(cr)$	(in^4)	-
S_s	(in^3)	504
$S_c(n)$	(in^3)	729
$S_c(3n)$	(in^3)	658
$S_c(cr)$	(in^3)	-
DC1	(k/')	0.867
M_{DC1}	('k)	547
DC2	(k/')	0.150
M_{DC2}	('k)	95
DW	(k/')	0.333
M_{DW}	('k)	212
M_{L+IM}	('k)	963
M_u (Strength I)	('k)	2,806
$\phi_f M_n$	('k)	3,775
f_s DC1	(ksi)	13.08
f_s DC2	(ksi)	1.68
f_s DW	(ksi)	3.84
f_s (L+IM)	(ksi)	15.85
f_s (Service II)	(ksi)	39.21
$0.95R_hF_{yf}$	(ksi)	47.5
f_s (Total)(Strength I)	(ksi)	-
$\phi_f F_n$	(ksi)	-
V_r	(k)	23.19



PLAN ELASTOMERIC NEOPRENE LEVELING PAD ABUTMENT

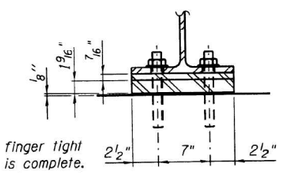
(12 Required)

INTERIOR BEAM REACTION TABLE		
		Abut.
R_{DC1}	(k)	31.46
R_{DC2}	(k)	5.35
R_{DW}	(k)	11.89
R_{L+IM}	(k)	76.28
R_{Total}	(k)	124.98



℄ 1" ϕ x 12" anchor bolts ASTM F1554 Grade 36 with $1\frac{3}{8}$"x 2" slotted hole in bottom flange (one each side of web). Contractor has the option of cast in place or drilled in installation. Provide $1\frac{1}{2}$" ϕ hole in bearing plate.

END OF BEAM ELEVATION



SECTION B-B

Diaphgram D1 Note:
Bolts in slots shall be finger tight until the second stage pour is complete. Position slots so bolts start at one end with no concrete load and finish near the opposite end under deck load.

BILL OF MATERIAL

Item	Unit	Total
Anchor Bolts, 1"	Each	24

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.^{4} and in.^{3}).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.^{4} and in.^{3}).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.^{4} and in.^{3}).

$I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.^{4} and in.^{3}).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).

M_u (Strength I): Factored design moment (kip-ft.).
$1.25\ (M_{DC1} + M_{DC2}) + 1.5\ M_{DW} + 1.75\ M_{L+IM}$

$\phi_f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft).

f_s DC1: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
M_{DC1} / S_{nc}

f_s DC2: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
$M_{DC2} / S_c(3n)$ or $M_{DC2} / S_c(cr)$ as applicable.

f_s DW: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
$M_{DW} / S_c(3n)$ or $M_{DW} / S_c(cr)$ as applicable.

f_s (L+IM): Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
$M_{L+IM} / S_c(n)$ or $M_{L+IM} / S_c(cr)$ as applicable.

f_s (Service II): Sum of stresses as computed below (ksi).
$f_{sDC1} + f_{sDC2} + f_{sDW} + 1.3\ f_s(L+IM)$

$0.95R_hF_{yf}$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).

f_s (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
$1.25\ (f_{sDC1} + f_{sDC2}) + 1.5\ f_{sDW} + 1.75\ f_s(L+IM)$

$\phi_f F_n$: Non-Compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).

V_r: Maximum factored shear range in span computed according to Article 6.10.10.

NOTES

1. All steel for beams, diaphragms, connection plates and bearings shall be AASHTO M270 Grade 50W.
2. Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.
3. Anchor bolts at fixed bearings may be either cast in place or installed in holes drilled after the supported member is in place.
4. Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
5. Two 1/8 inch adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
6. Anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade bolts will not be allowed.
7. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual diaphragms at supports may be temporarily disconnected to install bearing anchor rods.

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	PLOT SCALE =	DRAWN G. DAVIS	REVISED
	PLOT DATE =	CHECKED M. LACHECKI	REVISED

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FRAMING DETAILS AND TABLES
STRUCTURE NO. 083-0070
SHEET NO. 15 OF 21 SHEETS

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
778	2B-3	SALINE	56	42
		CONTRACT NO. 78364		
	ILLINOIS FED. AID PROJECT			

FOR INFORMATION ONLY
SN 083-0070

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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 083-0070
STRUCTURE INFORMATION
SCALE: SHEET 5 OF 5 SHEETS STA. TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	91
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

B.M. #29 - Chiseled square cut in southeast wingwall of existing Structure No. 091-0029 - Elev. 125.131

Existing Structure: S.N. 091-0029 built in 1931 and rebuilt in 1976 as a single span PPC deck beams & T- beam girder/slab bridge with closed abutments on pile supported footings. 16.41 m Bk./Bk. x 13.41 m wide.

Traffic to be maintained utilizing stage construction.

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

No salvage.

SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.15g
Site Coefficient (S) = 1.0

DESIGN SPECIFICATIONS

AASHTO - 1996 16th Edition
with 1997 thru 2000 Interims

LOADING MS18

Allow 2.4 kN/m² for future wearing surface.

DESIGN STRESSES

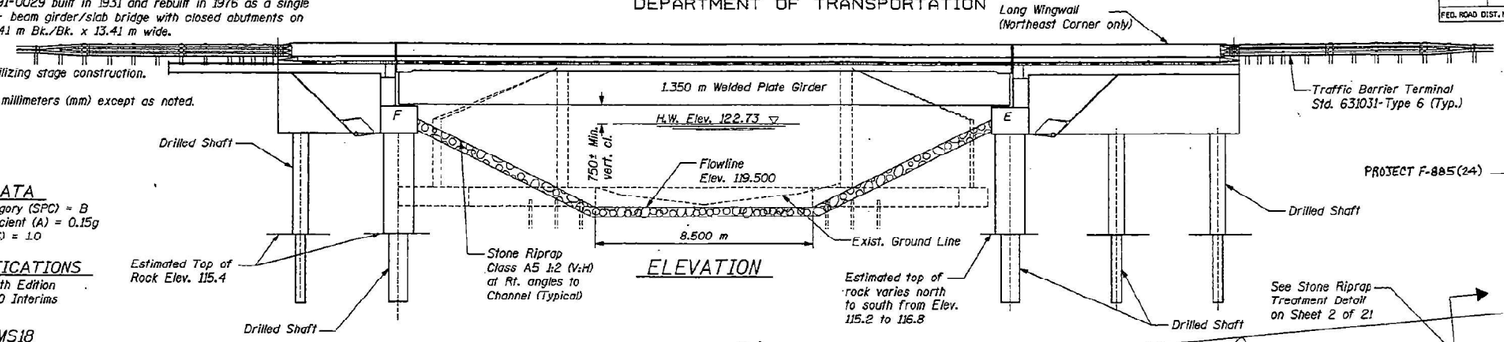
FIELD UNITS

f'c = 24 MPa
fy = 400 MPa (Reinf.)
fy = 345 MPa (M270M Grade 345W)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.P. 885	104BY-1	UNION	37	17
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 1
21 SHEETS



ELEVATION

STA. 15+288.500
BUILT 200_ BY
STATE OF ILLINOIS
F.A.P. 885 SECTION 104BY-1
LOADING MS18
STR. NO. 091-0072

PROJECT F-885(24)

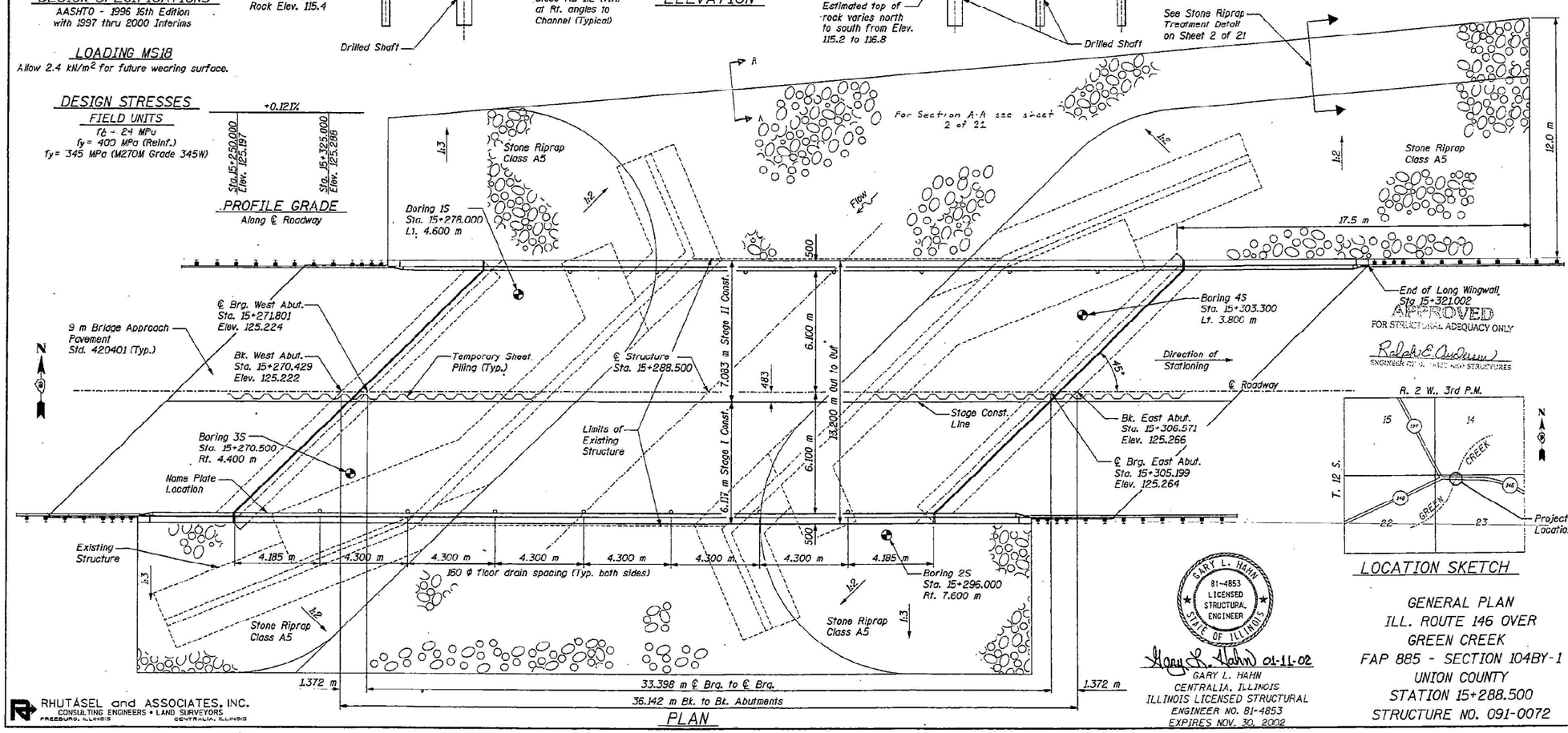
NAME PLATE

(See State Standard 515001 for details)

PROFILE GRADE

Along ℄ Roadway

+0.12%
Sta. 15+250.000 Elev. 125.197
Sta. 15+325.000 Elev. 125.266



PLAN

LOCATION SKETCH

GENERAL PLAN
ILL. ROUTE 146 OVER
GREEN CREEK
FAP 885 - SECTION 104BY-1
UNION COUNTY
STATION 15+288.500
STRUCTURE NO. 091-0072

APPROVED
FOR STRUCTURAL ADEQUACY ONLY
ENGINEER OF BRIDGES AND STRUCTURES

GARY L. HAHN
81-4853
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS

GARY L. HAHN 01-11-02
GARY L. HAHN
CENTRALIA, ILLINOIS
ILLINOIS LICENSED STRUCTURAL ENGINEER NO. 81-4853
EXPIRES NOV. 30, 2002

RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
FREEBURG, ILLINOIS CENTRALIA, ILLINOIS

01/11/2002

FOR INFORMATION ONLY
SN 091-0072

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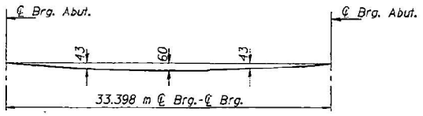
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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0072
STRUCTURE INFORMATION

SCALE: | SHEET 1 OF 7 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	92
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

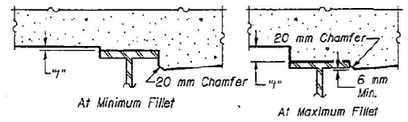


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

Note: The above deflections are not to be used in the field if the Engineer is working from the Theoretical Grade Elevations Adjusted for Dead Load Deflections as shown below.
All dimensions are in millimeters (mm) except as noted.
All offsets are in meters.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown below, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 885	104BY-1	UNION	37	28
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 4
21 SHEETS

GIRDER 1

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	15+276.129	5.700 Lt.	125.133	125.133
℄ Brg. W. Abut.	15+277.501	5.700 Lt.	125.135	125.135
A	15+280.501	5.700 Lt.	125.138	125.155
B	15+283.501	5.700 Lt.	125.142	125.174
C	15+286.501	5.700 Lt.	125.145	125.191
D	15+289.501	5.700 Lt.	125.149	125.204
E	15+292.501	5.700 Lt.	125.153	125.212
F	15+295.501	5.700 Lt.	125.156	125.216
G	15+298.501	5.700 Lt.	125.160	125.216
H	15+301.501	5.700 Lt.	125.164	125.211
I	15+304.501	5.700 Lt.	125.167	125.202
J	15+307.501	5.700 Lt.	125.171	125.190
℄ Brg. E. Abut.	15+310.899	5.700 Lt.	125.175	125.175
Bk. E. Abut.	15+312.271	5.700 Lt.	125.177	125.177

GIRDER 2

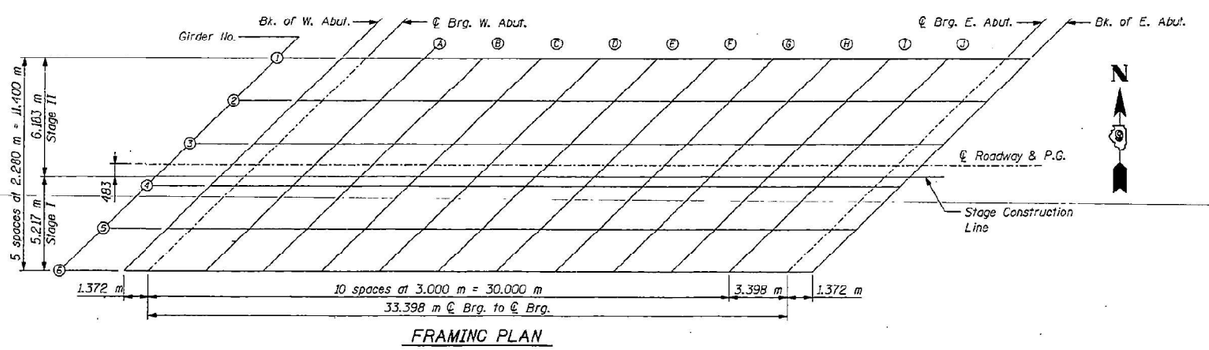
Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	15+273.849	3.420 Lt.	125.175	125.175
℄ Brg. W. Abut.	15+275.221	3.420 Lt.	125.177	125.177
A	15+278.221	3.420 Lt.	125.180	125.197
B	15+281.221	3.420 Lt.	125.184	125.216
C	15+284.221	3.420 Lt.	125.187	125.233
D	15+287.221	3.420 Lt.	125.191	125.246
E	15+290.221	3.420 Lt.	125.195	125.254
F	15+293.221	3.420 Lt.	125.198	125.258
G	15+296.221	3.420 Lt.	125.202	125.257
H	15+299.221	3.420 Lt.	125.206	125.252
I	15+302.221	3.420 Lt.	125.209	125.244
J	15+305.221	3.420 Lt.	125.213	125.232
℄ Brg. E. Abut.	15+308.619	3.420 Lt.	125.217	125.217
Bk. E. Abut.	15+309.991	3.420 Lt.	125.219	125.219

GIRDER 3

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	15+271.569	1.140 Lt.	125.206	125.206
℄ Brg. W. Abut.	15+272.941	1.140 Lt.	125.208	125.208
A	15+275.941	1.140 Lt.	125.211	125.228
B	15+278.941	1.140 Lt.	125.215	125.247
C	15+281.941	1.140 Lt.	125.218	125.264
D	15+284.941	1.140 Lt.	125.222	125.277
E	15+287.941	1.140 Lt.	125.226	125.285
F	15+290.941	1.140 Lt.	125.229	125.289
G	15+293.941	1.140 Lt.	125.233	125.288
H	15+296.941	1.140 Lt.	125.237	125.283
I	15+299.941	1.140 Lt.	125.240	125.275
J	15+302.941	1.140 Lt.	125.244	125.263
℄ Brg. E. Abut.	15+306.339	1.140 Lt.	125.248	125.248
Bk. E. Abut.	15+307.711	1.140 Lt.	125.250	125.250

℄ ROADWAY & P. G.

Location	Station	Offset	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection
Bk. W. Abut.	15+270.429	0	125.222	125.222
℄ Brg. W. Abut.	15+271.801	0	125.224	125.224
A	15+274.801	0	125.227	125.244
B	15+277.801	0	125.231	125.263
C	15+280.801	0	125.234	125.280
D	15+283.801	0	125.238	125.293
E	15+286.801	0	125.242	125.301
F	15+289.801	0	125.245	125.305
G	15+292.801	0	125.249	125.305
H	15+295.801	0	125.253	125.300
I	15+298.801	0	125.256	125.291
J	15+301.801	0	125.260	125.279
℄ Brg. E. Abut.	15+305.199	0	125.264	125.264
Bk. E. Abut.	15+306.571	0	125.266	125.266



FRAMING PLAN

TOP OF SLAB ELEVATIONS
ILL. ROUTE 146 OVER
GREEN CREEK
FAP 885 - SECTION 104BY-1
UNION COUNTY
STATION 15+288.500
STRUCTURE NO. 091-0072

01/09/2002

FOR INFORMATION ONLY
SN 091-0072

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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0072
STRUCTURE INFORMATION

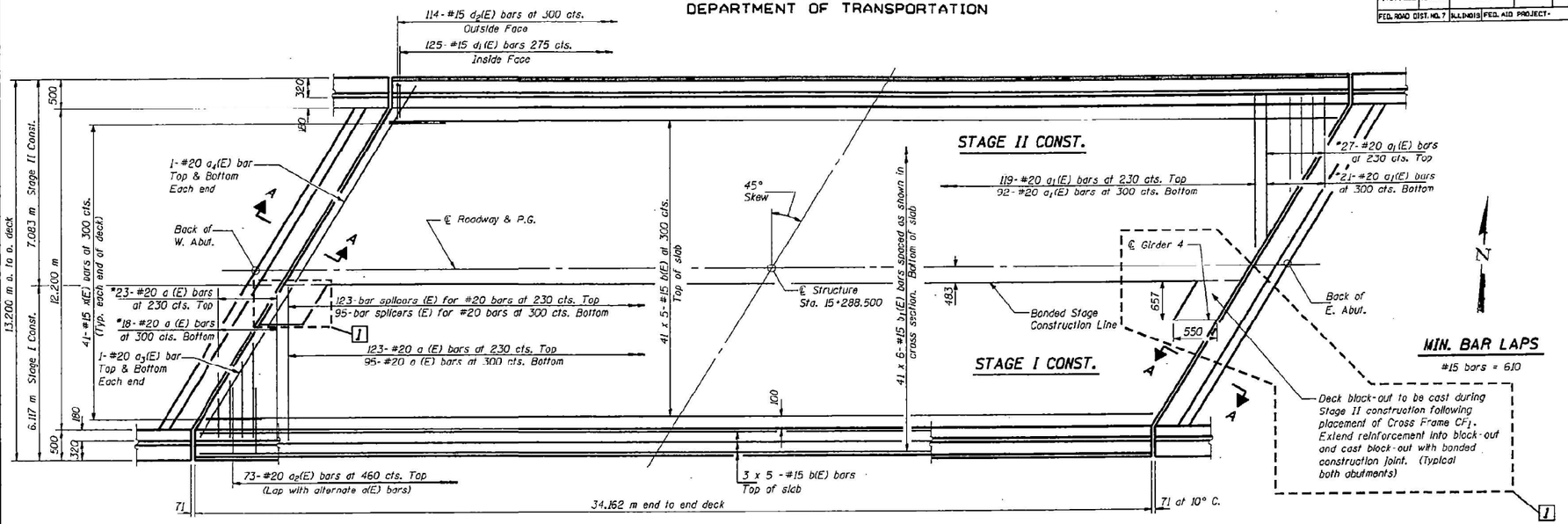
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F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	93
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 885	104BY-1	UNION	37	22
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

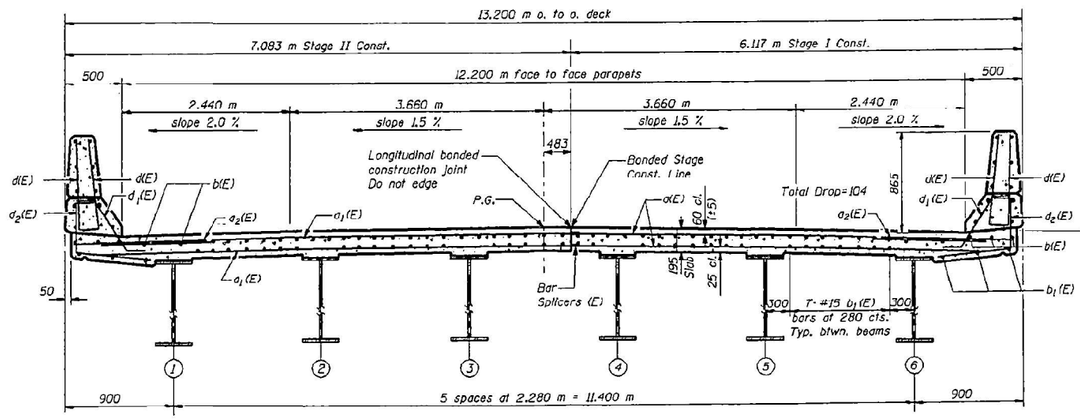
SHEET NO. 6
21 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

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



CROSS SECTION
(Looking East)

Notes:

See Sheet 7 of 21 for Section A-A, superstructure details, and Bill of Material.

Reinforcement bars designated (E) shall be epoxy coated.

Bars indicated thus 20 x 3-#15 etc. indicates 20 lines of bars with 3 lengths per line.

See Sheet 1 of 21 for location of floor drains.

See Sheet 7 of 21 for parapet reinforcement.

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

See Sheet 16 of 21 for Bar Splicer details.

SUPERSTRUCTURE
ILL. ROUTE 146 OVER
GREEN CREEK
FAP 885 - SECTION 104BY-1
UNION COUNTY
STATION 15+288.500
STRUCTURE NO. 091-0072

1 Revised 6/4/2002 GLH

01/11/2002

FOR INFORMATION ONLY
SN 091-0072

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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0072
STRUCTURE INFORMATION

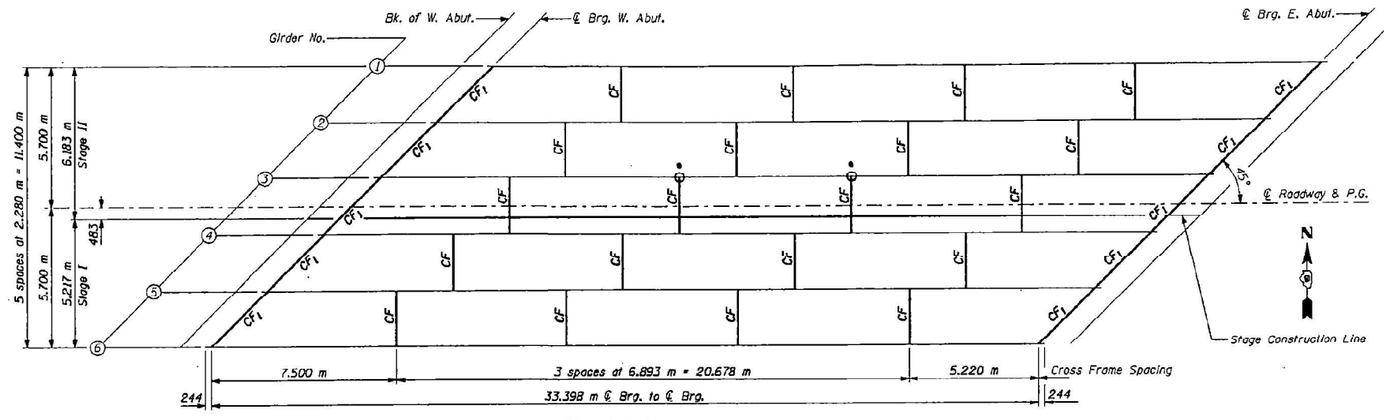
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F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	94
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 885	104BY-1	UNION	37	25
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

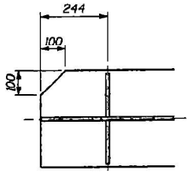
SHEET NO. 9
21 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

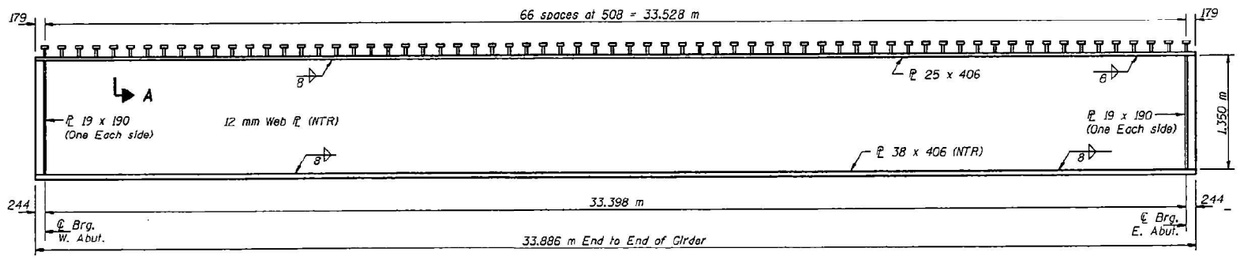


FRAMING PLAN

O- Location of temporary bracing for Stage Construction. See Sheet 10 of 21.

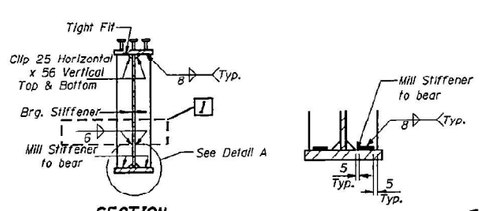


END OF GIRDER PLAN
Top and Bottom Flanges



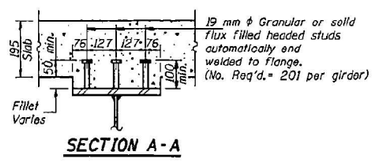
GIRDER ELEVATION

"NTR" denotes plates to which notch toughness requirements are applicable.



SECTION AT ABUTMENT

DETAIL A



SECTION A-A

Note:
See Sheet 12 of 21 for Bearing Details

FRAMING PLAN - GIRDER ELEVATION
ILL. ROUTE 146 OVER
GREEN CREEK
FAP 885 - SECTION 104BY-1
UNION COUNTY
STATION 15+288.500
STRUCTURE NO. 091-0072

1 Revised 6/4/2002 GLH

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SN 091-0072

01/09/2002

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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

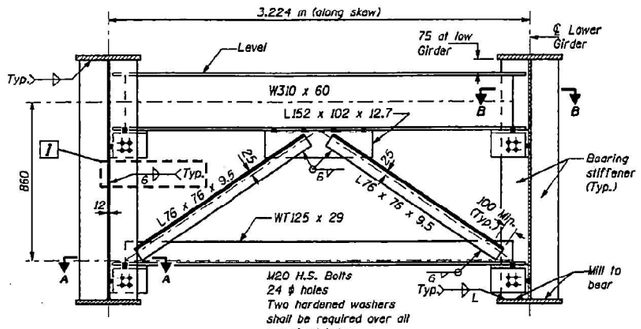
SN 091-0072
STRUCTURE INFORMATION

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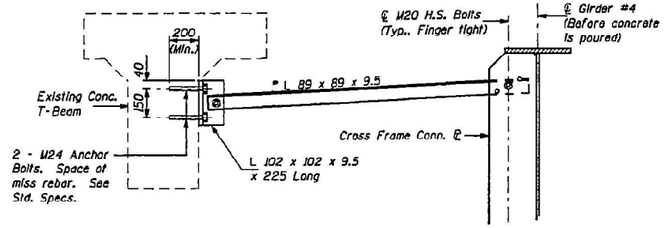
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VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	95
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	SHEET NO. 18
F. A. P. 885	104BY-1	UNION	37	26	21 SHEETS
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

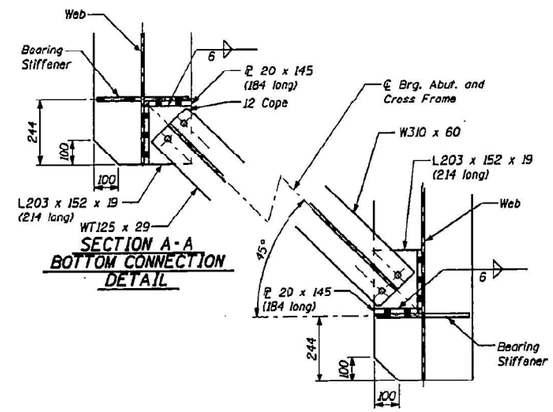


CROSS FRAME CF
(All dimensions are along skew, unless otherwise noted)
(No. Required = 10)



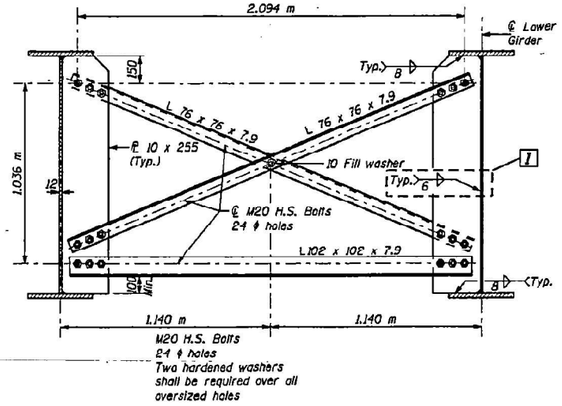
TEMPORARY BRACING FOR STAGE I CONSTRUCTION
(No. Required = 2)

The horizontal dimension between the holes in the Cross Frame Connection Plate and the L 102 x 102 shall be measured in the field. The holes in the L 89 x 89 shall be field drilled at this dimension. Included in the cost of "Structural Steel".

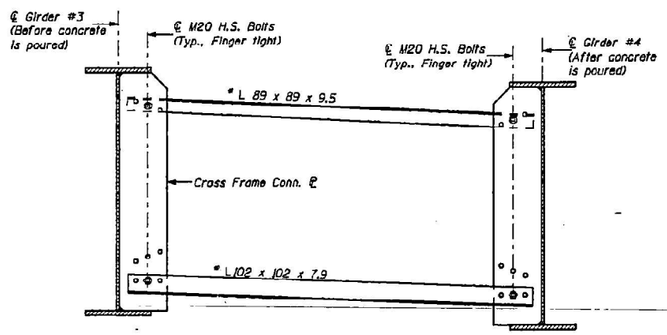


SECTION A-A
BOTTOM CONNECTION DETAIL

SECTION B-B
TOP CONNECTION DETAIL



CROSS FRAME CF
(All dimensions are measured at right L's to ℄ Girder)
(No. Required = 20)



TEMPORARY BRACING FOR STAGE II CONSTRUCTION
(No. Required = 4)

* L's shown to be used as temporary bracing during Stage I & Stage II deck pour. Remove and replace with Cross Frame CF after Stage II deck pour is completed. Use between girders 3 and 4 only. Included in the cost of "Structural Steel".

01/09/2002

STRUCTURAL STEEL DETAILS
ILL. ROUTE 146 OVER
GREEN CREEK
FAP 885 - SECTION 104BY-1
UNION COUNTY
STATION 15+288.500
STRUCTURE NO. 091-0072

1 Revised 6/4/2002 GLH

FOR INFORMATION ONLY
SN 091-0072

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0072
STRUCTURE INFORMATION

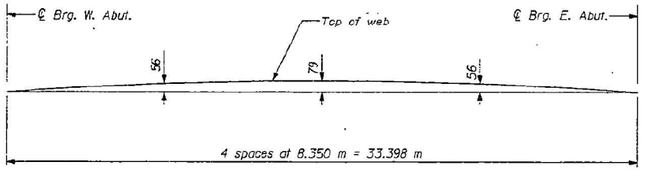
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F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	96
		CONTRACT NO. 78A75		
		ILLINOIS	FED. AID PROJECT	

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F. A. P. 885	104BY-1	UNION	37	27
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 11
21 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



CAMBER DIAGRAM

INTERIOR GIRDER MOMENT TABLE		0.5 Span
Is	(10^6 mm^4)	14549
Ic (n)	(10^6 mm^4)	33804
Ic (3n)	(10^6 mm^4)	24442
Ss	(10^3 mm^3)	23220
Sc (n)	(10^3 mm^3)	30398
Sc (3n)	(10^3 mm^3)	27891
w	(kN/m)	14.32
MD	(kN·m)	1995
sD	(kN/m)	7.60
MsD	(kN·m)	1060
ML	(kN·m)	1568
M (Imp)	(kN·m)	345
$\frac{5}{3}$(ML+M(Imp))	(kN·m)	3188
Ma	(kN·m)	6117
Mu	(kN·m)	12305
fsD (non-comp)	(MPa)	86.0
fsD (comp)	(MPa)	38.0
fs$\frac{5}{3}$(L+Imp)	(MPa)	104.8
fs (Overload)	(MPa)	228.8
fs (Total)	(MPa)	297.5
VR	(kN)	244

INTERIOR GIRDER REACTION TABLE		W. Abut.	E. Abut.
RD	(kN)	367	367
R$\frac{5}{3}$	(kN)	200	200
Imp.	(kN)	44	44
R (Total)	(kN)	611	611

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. (see AASHTO 10.38)

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

Ma (Applied Moment)=1.3[MD + Ms℄ + $\frac{5}{3}$(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 MD + Ms℄ + $\frac{5}{3}$(ML + M(Imp)).

MD - Moment due to dead loads on non-composite section.

Ms℄ - Moment due to dead loads on composite section.

ML - Moment due to live loads on composite section.

Imp - Live load impact.

TOP OF WEB ELEVATIONS

Location	℄ Brg. W. Abut.	℄ Brg. E. Abut.
Girder 1	124.895	124.935
Girder 2	124.937	124.977
Girder 3	124.958	125.008
Girder 4	124.956	125.006
Girder 5	124.929	124.969
Girder 6	124.881	124.921

Note: Top of Web Elevations are given for fabrication only.

STRUCTURAL STEEL DETAILS
ILL. ROUTE 146 OVER
GREEN CREEK
FAP 885 - SECTION 104BY-1
UNION COUNTY
STATION 15+288.500
STRUCTURE NO. 091-0072

01/15/2002

FOR INFORMATION ONLY
SN 091-0072

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	DRAWN -	REVISED -
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0072
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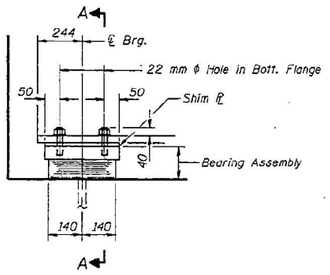
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F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

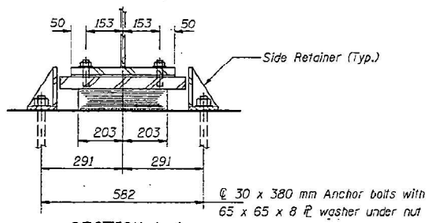
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F. A. P. 885	104BY-1	UNION	37	20
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT-		

SHEET NO. 12
21 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

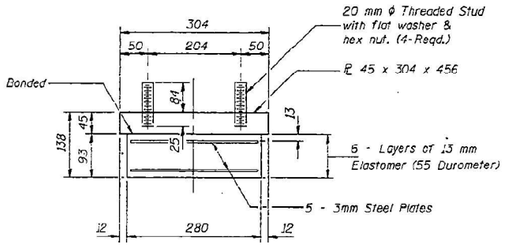


ELEVATION AT ABUT.



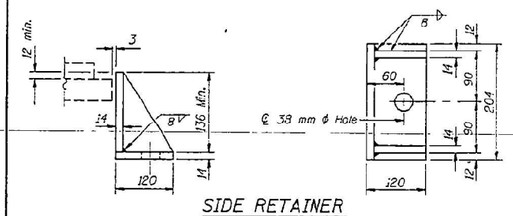
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY

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



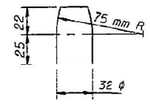
SIDE RETAINER

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

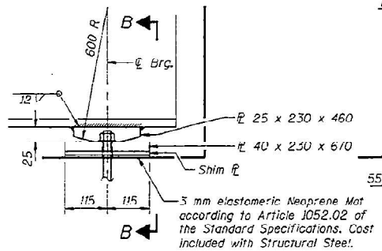
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	6

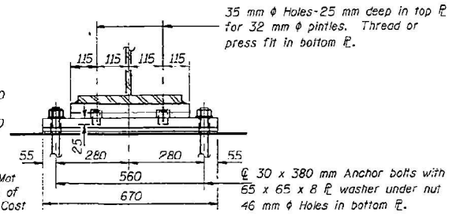
Notes:
Anchor bolts at fixed bearings may be built into the masonry.
See Sheet 13 of 21 for Anchor Bolt Installation.
All dimensions are in millimeters (mm) except as noted.



PINTLE



ELEVATION AT ABUT.



SECTION B-B

FIXED BEARING

BEARING DETAILS
ILL. ROUTE 146 OVER
GREEN CREEK
FAP 885 - SECTION 104BY-1
UNION COUNTY
STATION 15+288.500
STRUCTURE NO. 091-0072

01/09/2002

FOR INFORMATION ONLY
SN 091-0072

USER NAME = david.a.wilson	DESIGNED -	REVISED -
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PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 091-0072
STRUCTURE INFORMATION

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	98
		CONTRACT NO. 78A75		
		ILLINOIS	FED. AID PROJECT	

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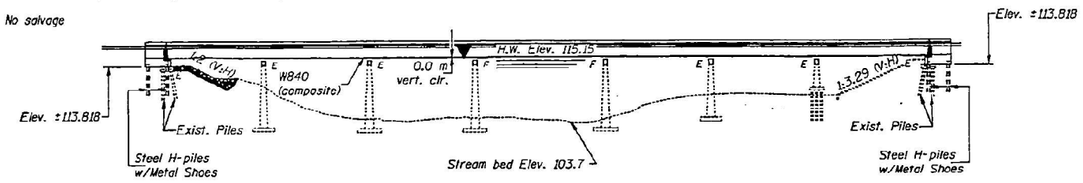
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FAP 332	4BR-2	WHITE	66	19	44 SHEETS
PROJECT DESIGNATION		ILLINOIS	FED. AID PROJECT		

Bench Mark: USGS marker SW corner of bridge. Elevation = 116.451 m

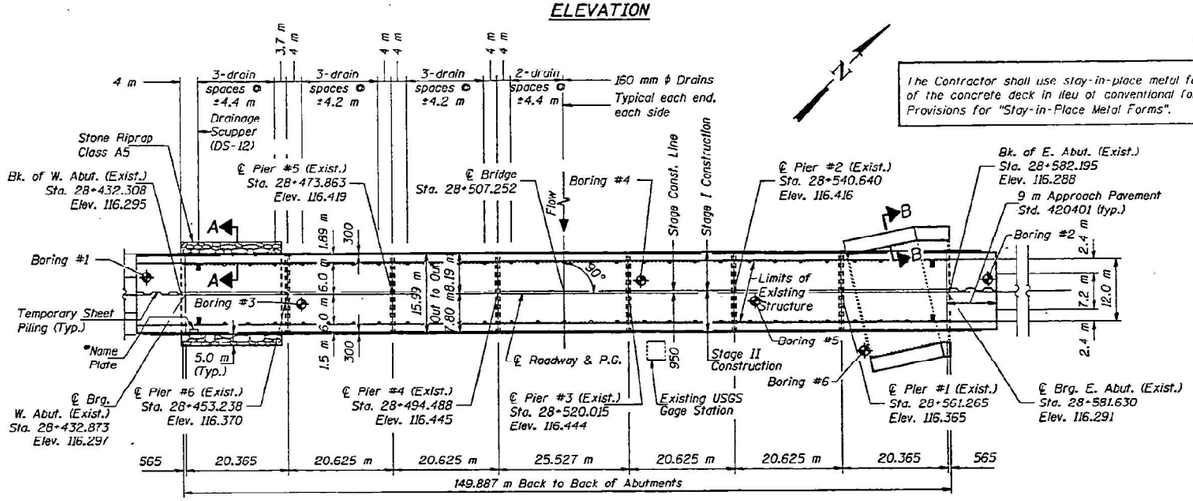
Existing Structure: The existing bridge, S.N. 097-0008, was originally built in 1948 as part of F.A. Rte. 1, Section 4-2B over the Little Wabash River. Repairs were made to the superstructure and an overlay placed on the deck in 1984. The Contractor shall remove the existing 7-span steel wide flange superstructure consisting of 3-continuous units and replace it as shown in the plans.
Two lanes of traffic will be maintained at all times during construction. The substructure will be modified as shown in the plans to carry a new wider, superstructure.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

No salvage



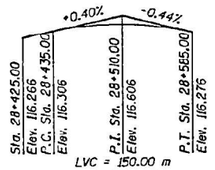
ELEVATION



The Contractor shall use stay-in-place metal forms in the construction of the concrete deck in lieu of conventional forming. See Special Provisions for "Stay-in-Place Metal Forms".

PLAN

For Sections A-A and B-B see sheet 2 of 44.



PROFILE GRADE
(along ℄ roadway)

STATION 28+507.25
REBUILT 199 BY
STATE OF ILLINOIS
F.A.P. RTE. 332 SEC. 4BR-2
PROJ. BHF-332 (40)
LOADING MS18
STR. NO. 097-0008

NAME PLATE

See Std. 515001

*Existing name plate to be cleaned and relocated next to the new name plate. Cost included with "Name Plates".

WATERWAY INFORMATION

Drainage Area = 7997.9 km² Low Grade Elev. 114.5 ○ Sta. 28+680

Flood	Freq. Yr.	Q m³/s	Opening m² Exist.	Opening m² Prop.	Nat. H.W.E.	Head - m Exist.	Head - m Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	50	1270.0	968.0	968.0	115.15	0.00	0.00	115.15	115.15
Base	100	1414.0	968.0	968.0	115.45	0.00	0.00	115.45	115.45
Overtopping	10	962.0	929.0	929.0	114.48	0.00	0.00	114.48	114.48
Max. Calc.	500								

LOADING MS18

Allow 1.2 kN/m² for future wearing surface.

DESIGN SPECIFICATIONS

1996 AASHTO w/1997 Interims
1995 Seismic Retrofitting Manual for Highway Bridges (FHWA-RD-94-052)

DESIGN STRESSES

FIELD UNITS (New Construction)
f'_c = 24 MPa
f_y = 345 MPa (M 270M Grade 345)
f_y = 250 MPa (M 270M Grade 250)
f_y = 400 MPa (reinforcement)

FIELD UNITS (Existing Structure)
f_c = 5.5 MPa
f_s = 137 MPa (reinforcement)

SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 0.096g
Site Coefficient (S) = 1.2

GENERAL NOTES

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

Calculated mass of Structural Steel = 32800 kg (M 270M Gr. 250)
Calculated mass of Structural Steel = 217980 kg (M 270M Gr. 345)

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.

Anchor bolts shall be set before bolting diaphragms over supports.

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 dimension 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.

Bridge Seat Sealer shall be applied to the seat area of the abutments.

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

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 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 and bottom flange at the fascia beams shall be Interstate Green, Munsell No. 7.5G 4/8. See Special Provision "Cleaning and Painting New Metal Structures".

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.

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

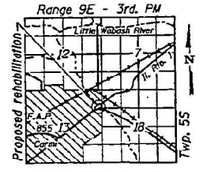
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

The Contractor shall obtain a construction permit from the Illinois Department of Natural Resources (IDNR), Office of Water Resources for any temporary construction activity placed in the water except cofferdams. This shall include the placement of material for run-arounds, causeways, etc.

In addition to all other requirements of section 512 of the Standard Specifications, splices for steel piles shall develop the full capacity of the steel's cross sectional area of the pile for tension, shear and bending forces. One approved method of achieving this requirement is full penetration butt welding of the entire cross section. Other types of splices meeting the full capacity requirement may be allowed subject to the approval of the Engineer. Any proposal by the Contractor to use an alternate splice method must include adequate documentation demonstrating that the full tension, shear and bending capacities will be met. Appropriate welder qualifications will be required for the positions and processes used in splicing all piles. Nondestructive testing of completed welds will be limited to visual inspection.

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

Slope wall shall be reinforced with welded wire fabric, 152 x 152 - MW25.8 x MW25.8, with a mass of 2.91 kg/m².



LOCATION SKETCH

GENERAL PLAN
ILLINOIS ROUTE 1 OVER
LITTLE WABASH RIVER
PUBLIC WATER
F.A.P. ROUTE 332 - SECTION 4BR-2
WHITE COUNTY
STATION 28+507.25
STRUCTURE NO. 097-0008

DESIGNED	Scott D. Lorfeld	November 19, 1998
CHECKED	John Ciccone	EXAMINED Sanjiv D. Kanpur ENGINEER OF BRIDGE DESIGN
DRAWN	Alice M. Coulter, W.D. Collins	PASSED Ralph E. Anderson ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	SDS JLC	

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

EXPIRES 11-30-2000

5-13-98

D-97-039-94

FOR INFORMATION ONLY
SN 097-0008

MODEL: SN 097-0008 1 [Sheet]
FILE NAME: c:\pw_work\pwidot\illinoisdata\d0983530\D978A75-Sht-FoInfoOnly4.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 097-0008
STRUCTURE INFORMATION

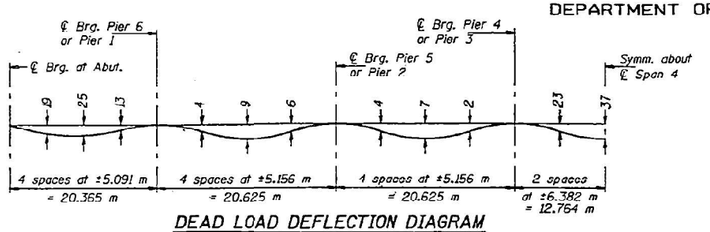
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F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	99
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 332	4BR-2	WHITE	66	19
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. 6
44 SHEETS

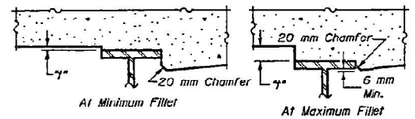


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only)

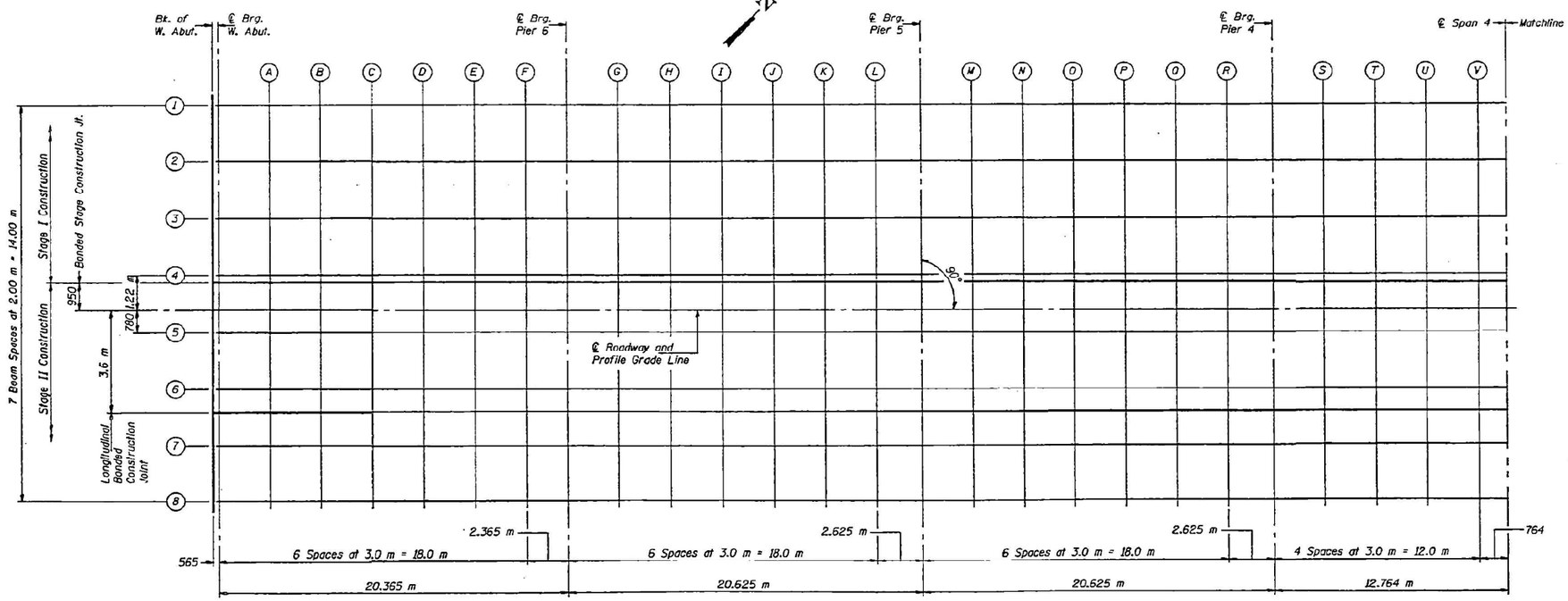
Note: The above deflections are not to be used in the field if the engineer is working from the grade elevations adjusted for dead load deflections as shown on sheets 8 thru 10 of 44.

All elevations and offsets are in meters.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at intervals shown below and on sheet 7 of 44. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on sheets 8 thru 10 of 44, minus slab thickness, equals the fillet heights "t" above top flange of beams.

FILLET HEIGHTS



PLAN

Work this sheet with sheets 7 thru 10 of 44.

DESIGNED	S. Sanford
CHECKED	J. Ciccone
DRAWN	Alice M. Coulter
CHECKED	SDS JLC

November 19, 19 98

EXAMINED Engineer of Bridge Design

PASSED Engineer of Bridges and Structures

FOR INFORMATION ONLY
SN 097-0008

TOP of SLAB ELEVATIONS - PLAN VIEW
F.A.P. RT. 332 - SECTION 4BR-2
WHITE COUNTY
STATION 28+507.25

MODEL: SN 097-0008 2 [Sheet]
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 097-0008
STRUCTURE INFORMATION

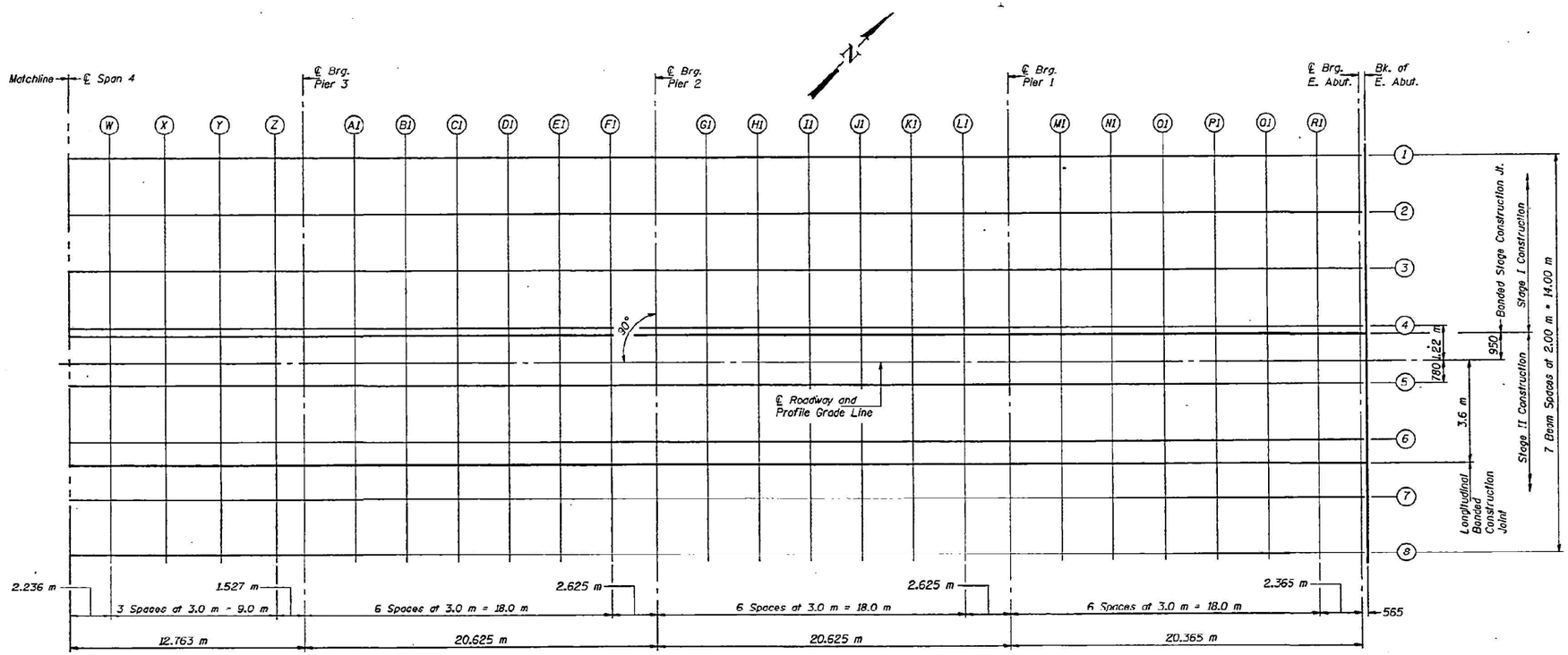
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VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	100
		CONTRACT NO. 78A75		
		ILLINOIS	FED. AID PROJECT	

FAP 332	4BR-2	WHITE	66	20

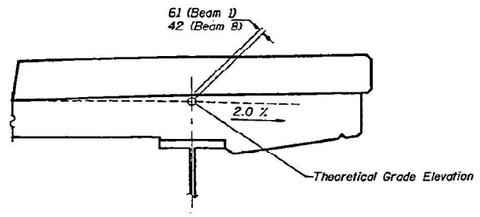
SHEET NO. 7
44 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN

Work this sheet with sheets 6 and 8 thru 10 of 44.



SECTION THRU SIDEWALK

FOR INFORMATION ONLY
SN 097-0008

TOP of SLAB ELEVATIONS - PLAN VIEW
F.A.P. RT. 332 - SECTION 4BR-2
WHITE COUNTY
STATION 28+507.25

DESIGNED	S. Sanford
CHECKED	J. Ciccone
DRAWN	Alice M. Coulter
CHECKED	SDS JLC

November 19, 19 98

EXAMINED _____ ENGINEER OF BRIDGE DESIGN

PASSED _____ ENGINEER OF BRIDGES AND STRUCTURES

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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 097-0008
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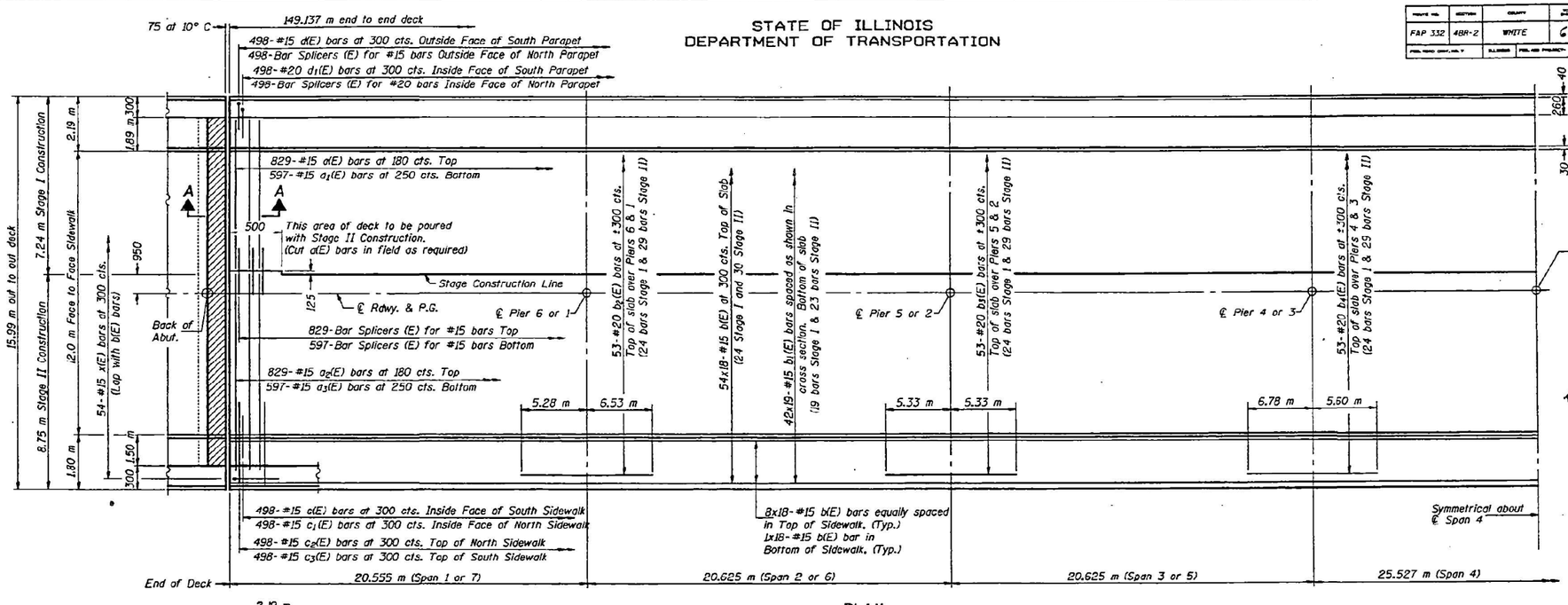
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		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

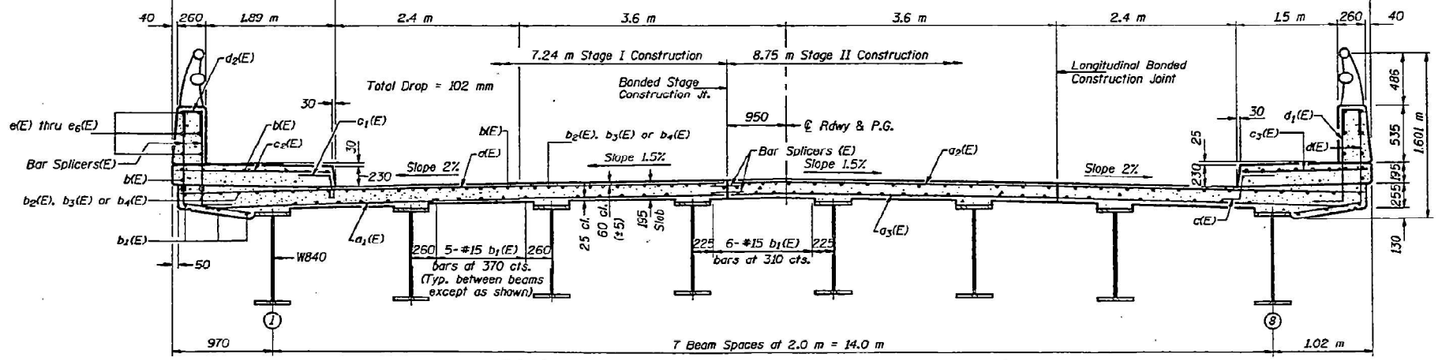
FAP 332	4BR-2	WHITE	66	24

SHEET NO. 11
44 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



PLAN



NEAR PIER — **CROSS SECTION** (Looking East) — NEAR MIDSPAN

Notes: See sheet 1 of 44 for drain spacing.
See sheet 12 of 44 for Superstructure Details.
See sheet 13 of 44 for Drainage Scupper Details.
See sheet 14 of 44 for parapet reinforcement.
See sheet 15 of 44 for Section A-A, Bill of Material and Bar Details.
See sheet 16 of 44 for Bar Splicer Details.
Reinforcement bars designated (E) shall be epoxy coated.
Bars indicated thus 20 x 3-#15 etc. indicates 20 lines of bars with 3 lengths per line.

MIN. BAR LAPS
#15 bars = 510
#20 bars = 790

DESIGNED	S. Sanford
CHECKED	J. Ciccone
DRAWN	Alice M. Coulter
CHECKED	SDS JLC

November 19, 19 98
EXAMINED Engineer of Bridge Design
PASSED Engineer of Bridges and Structures

FOR INFORMATION ONLY
SN 097-0008

SUPERSTRUCTURE
F.A.P. RT. 332 - SECTION 4BR-2
WHITE COUNTY
STATION 28+507.25

MODEL: SN 097-0008 4 [Sheet]
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	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 097-0008
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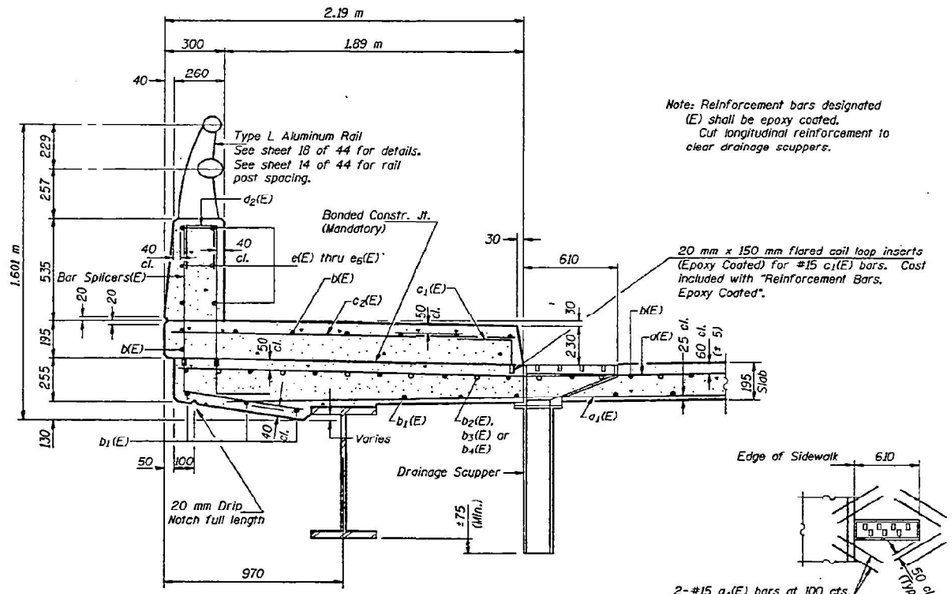
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F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

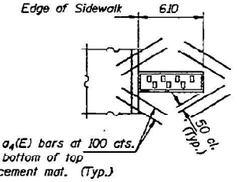
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 332	4BR-2	WHITE	66	25
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		

SHEET NO. 12
44 SHEETS

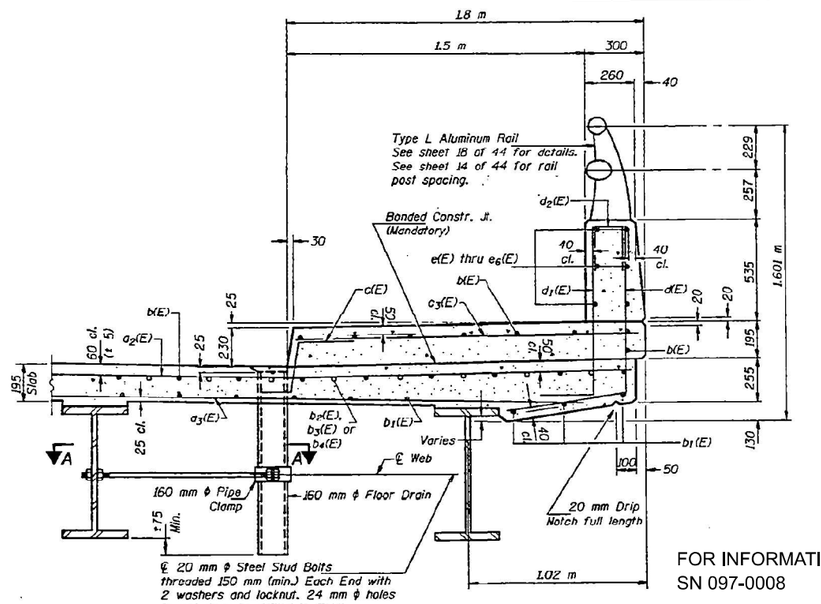


SECTION THRU NORTH SIDEWALK
(Looking East - Showing Drainage Scupper)

Note: Reinforcement bars designated (E) shall be epoxy coated. Cut longitudinal reinforcement to clear drainage scuppers.

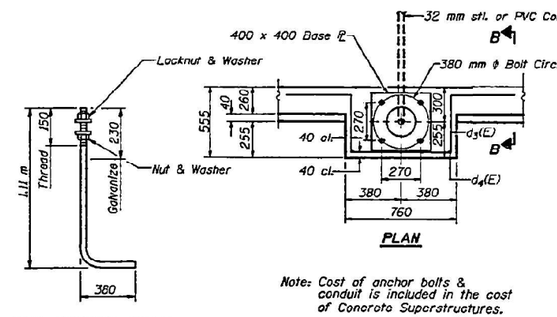


PLAN
(Drainage Scupper Type DS-12)



SECTION THRU SOUTH SIDEWALK
(Looking East - Showing Floor Drain)

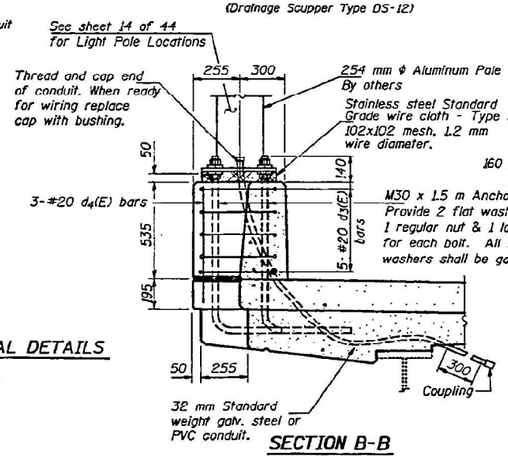
FOR INFORMATION ONLY
SN 097-0008



M30 ANCHOR BOLT

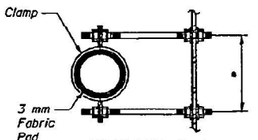
PLAN

Note: Cost of anchor bolts & conduit is included in the cost of Concrete Superstructures.

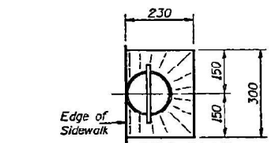


LIGHT POLE PEDESTAL DETAILS

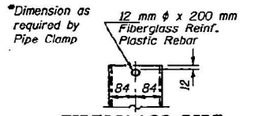
SECTION B-B



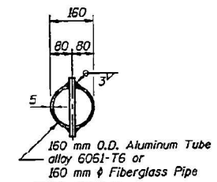
SECTION A-A



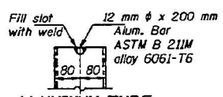
TOP PLAN



FIBERGLASS PIPE



TOP PLAN
(Showing Aluminum Tube)



ALUMINUM TUBE

Notes: The exterior surfaces of the floor drains shall be painted with the finish coat as specified in the special provisions for Cleaning and Painting New Metal Structures. The exterior surfaces of the drain shall be cleaned and given a washcoat pretreatment according to Steel Structures Painting Council's Spec. SSPC-SP1 & SSPC-Paint 27 prior to painting.

Fiberglass pipe shall conform to ASTM D 2996, with short-time rupture strength hoop tensile stress of 200 MPa minimum. The surface of the Fiberglass pipe shall be free of bond inhibiting agents.

DESIGNED	S. Sanford
CHECKED	J. Ciccone
DRAWN	Alice M. Coulter
CHECKED	SDS JLC

November 19, 19 98

EXAMINED Engineer of Bridge Design

PASSED Engineer of Bridges and Structures

SUPERSTRUCTURE DETAILS
F.A.P. RT. 332 - SECTION 4BR-2
WHITE COUNTY
STATION 28+507.25

MODEL: SN 097-0008 5 [Sheet]
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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

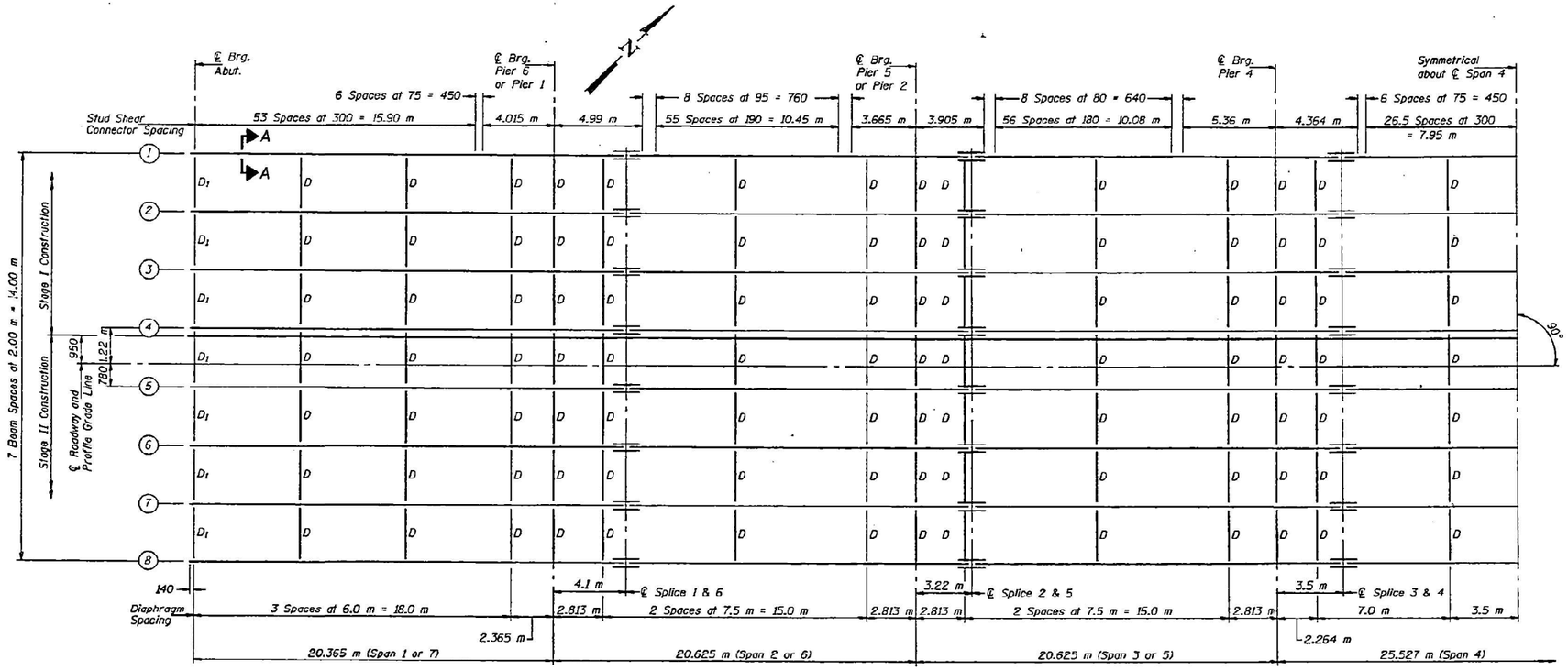
SN 097-0008
STRUCTURE INFORMATION

SCALE: | SHEET 5 OF 10 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

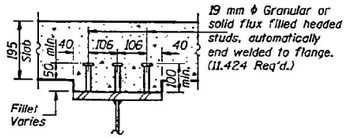
					SHEET NO. 19
FAP 332	4BR-2	WHITE	66	32	44 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FRAMING PLAN

All beams are W840x176 AASHTO M 270M Gr. 345 and shall meet Notch Toughness requirements.



19 mm ϕ Granular or solid flux filled headed studs, automatically end welded to flange. (11.424 Req'd.)

SECTION A-A

TOP OF BEAM ELEVATIONS

Beam No.	℄ Brg. W. Abut.	℄ Brg. Pier 6	℄ Splice 1	℄ Brg. Pier 5	℄ Splice 2	℄ Brg. Pier 4	℄ Splice 3	℄ Splice 4	℄ Brg. Pier 3	℄ Splice 5	℄ Brg. Pier 2	℄ Splice 6	℄ Brg. Pier 1	℄ Brg. E. Abut.
Beam 1	115.961	116.015	116.026	116.063	116.070	116.094	116.099	116.099	116.094	116.068	116.060	116.021	116.010	115.954
Beam 2	116.001	116.055	116.066	116.103	116.110	116.134	116.139	116.139	116.134	116.108	116.100	116.061	116.050	115.994
Beam 3	116.039	116.093	116.104	116.141	116.148	116.173	116.178	116.177	116.172	116.146	116.138	116.099	116.088	116.032
Beam 4	116.069	116.123	116.134	116.171	116.178	116.203	116.208	116.207	116.202	116.176	116.168	116.129	116.118	116.062
Beam 5	116.069	116.123	116.134	116.171	116.178	116.203	116.208	116.207	116.202	116.176	116.168	116.129	116.118	116.062
Beam 6	116.046	116.100	116.111	116.148	116.155	116.179	116.184	116.183	116.178	116.152	116.144	116.106	116.095	116.039
Beam 7	116.010	116.064	116.075	116.112	116.119	116.143	116.148	116.147	116.142	116.116	116.108	116.070	116.059	116.003
Beam 8	115.970	116.024	116.035	116.072	116.079	116.103	116.108	116.107	116.102	116.076	116.068	116.030	116.019	115.963

Top of Beam Elevations are given for fabrication only.
Elevations at splices have been adjusted for dead load deflection.

DESIGNED	S. Sanford
CHECKED	J. Ciccone
DRAWN	Alice M. Coulter
CHECKED	SDS JLC

November 19, 19 98

EXAMINED _____ CHIEF ENGINEER OF BRIDGE DESIGN

PASSED _____ ENGINEER OF BRIDGES AND STRUCTURES

FOR INFORMATION ONLY
SN 097-0008

STRUCTURAL STEEL
F.A.P. RT. 332 - SECTION 4BR-2
WHITE COUNTY
STATION 28+507.25

MODEL: SN 097-0008 6 [Sheet]
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	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 097-0008
STRUCTURE INFORMATION

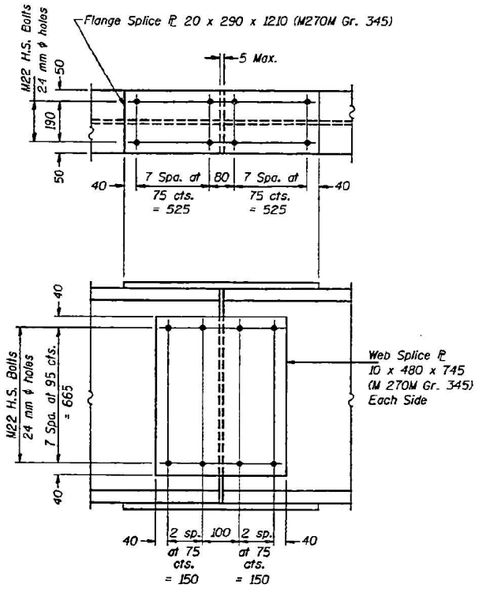
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F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	104
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

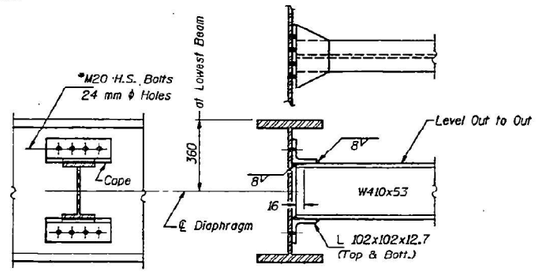
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44 SHEETS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

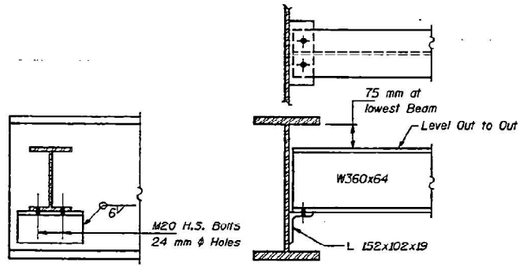


SPLICES
(48 Required)

*40 mm vertical x 22 mm slotted holes in top and bottom angles at north side of Beam 5 only except at the piers. Provide 8 mm plate washers for slotted holes.



DIAPHRAGM D
(196 Required)



END DIAPHRAGM D_1
(14 Required)

Note: Two hardened washers shall be required over all oversize holes for diaphragms.
All splice plates shall meet Notch Toughness Requirements.
The bolts for slotted holes in angles at Beam 5 shall only be finger tightened prior to the deck slab pouring of Stage II Construction and then be fully tightened after completion of the pouring.

INTERIOR BEAM MOMENT TABLE

		0.4 Sp. 1 or 0.6 Sp. 7	Pier 6 or Pier 1	0.5 Sp. 2 or 0.5 Sp. 6	Pier 5 or Pier 2	0.5 Sp. 3 or 0.5 Sp. 5	Pier 4 or Pier 3	0.5 Sp. 4
Is	(10^6 mm⁴)	2460	2460	2460	2460	2460	2460	2460
Ic (n)	(10^6 mm⁴)	6750		6750		6750		6750
Ic (3n)	(10^6 mm⁴)	4980		4980		4980		4980
Ss	(10^3 mm³)	5890	5890	5890	5890	5890	5890	5890
Sc (n)	(10^3 mm³)	8790		8790		8790		8790
Sc (3n)	(10^3 mm³)	7950		7950		7950		7950
Z	(10^3 mm³)		6810		6810		6810	
w	(kN/m)	11.4	17.9	11.4	17.9	11.4	17.9	11.4
MD	(kN·m)	364	732	180	508	159	805	374
sD	(kN/m)	6.5		6.5		6.5		6.5
MsD	(kN·m)	238		153		137		281
ML	(kN·m)	648	331	556	320	553	388	726
M (Imp)	(kN·m)	169	86	145	83	144	97	174
5/3(ML+M(Imp))	(kN·m)	1362	694	1168	672	1162	808	1501
Ma	(kN·m)	2556	1855	1955	1535	1899	2099	2806
Mu	(kN·m)	3714	2350	3736	2350	3739	2350	3713
fsD non-comp	(MPa)	62	124	31	86	27	137	63
fsD (comp)	(MPa)	30		19		17		35
fs5/3(L+Imp)	(MPa)	155	118	133	114	132	137	171
fs (Overload)	(MPa)	247	242	183	200	176	274	270
fs (Total)	(MPa)							
VR	(kN)	219		230		233		228

INTERIOR BEAM REACTION TABLE

		Abuts.	Pier 6 or Pier 1	Pier 5 or Pier 2	Pier 4 or Pier 3
RD	(kN)	147	414	344	428
RL	(kN)	161	201	196	212
Imp.	(kN)	42	52	51	53
R (Total)	(kN)	350	667	591	693

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. (see AASHTO 10.38)

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[MD + MsD + 5/3(ML + Mimp)].

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

fs (Overload) is the sum of the stresses due to MD + MsD + 5/3(ML + Mimp).

fs (Total) (Non-compact section) is the sum of the stresses due to 1.3[MD + MsD + 5/3(ML + Mimp)].

FOR INFORMATION ONLY
SN 097-0008

DESIGNED	S. Sanford	November 19, 19 98
CHECKED	J. Ciccone	EXAMINED Raj D. Kaspar, ENGINEER OF BRIDGE DESIGN
DRAWN	Alice M. Coulter	PASSED Ralph E. Anderson, ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	SDS JLC	

STRUCTURAL STEEL DETAILS
F.A.P. RT. 332 - SECTION 4BR-2
WHITE COUNTY
STATION 28+507.25

MODEL: SN 097-0008 7 [Sheet]
FILE NAME: c:\pw_work\pwidot\wilsondad\d0983530\D978A75-Sht-ForInfoOnly4.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 097-0008
STRUCTURE INFORMATION

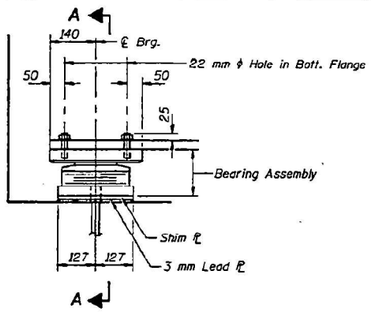
SCALE: | SHEET 7 OF 10 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	105
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

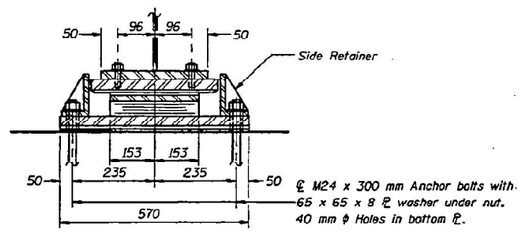
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FAP 332	4BR-2	WHITE	66	34
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT=		

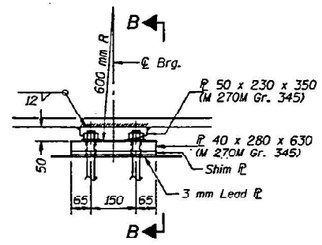
SHEET NO. 21
44 SHEETS



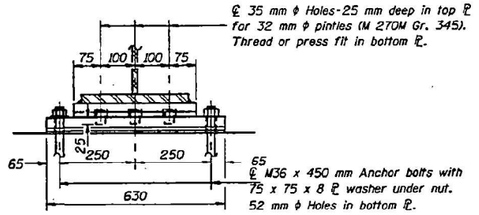
ELEVATION AT ABUTMENTS



SECTION A-A

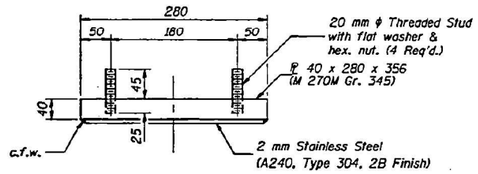


ELEVATION AT PIERS 3 AND 4

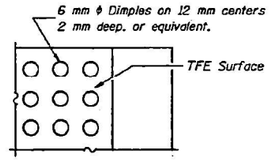


SECTION B-B

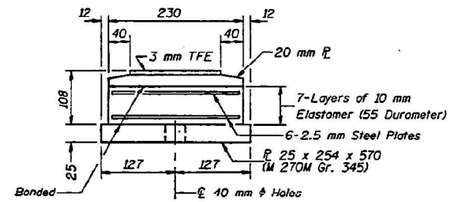
TYPE II ELASTOMERIC EXP. BRG.

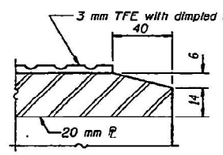


TOP BEARING ASSEMBLY



PLAN-TFE SURFACE



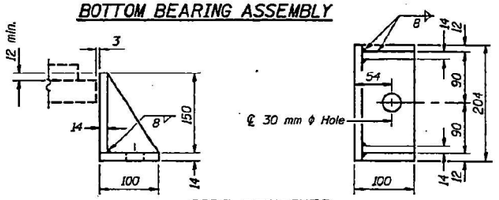


SECTION THRU TFE

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.

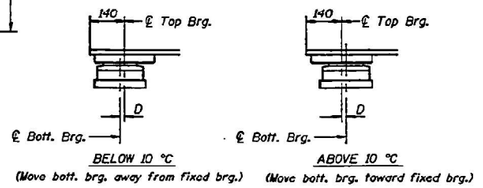
Bonding of 3 mm TFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

BOTTOM BEARING ASSEMBLY



SIDE RETAINER

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

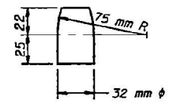


SETTING ANCHOR BOLTS AT EXP. BRG.

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

FIXED BEARING

(16 Required)



PINTLE

Notes: Anchor bolts at fixed bearings may be built into the masonry.
See sheet 23 of 44 for Anchor Bolt installation.

DESIGNED	S. Sanford
CHECKED	J. Ciccone
DRAWN	Alice M. Coulter
CHECKED	SDS JLC

November 19, 19 98

EXAMINED Engineer of Bridge Design

PASSED Engineer of Bridges and Structures

I-2-E2 (M) 4-30-97

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	16

FOR INFORMATION ONLY
SN 097-0008

BEARING DETAILS
F.A.P. RT. 332 - SECTION 4BR-2
WHITE COUNTY
STATION 28+507.25

MODEL: SN 097-0008 8 [Sheet]
FILE NAME: c:\pw_work\pwdot\wilsonda\d0983530\D978A75-Sht-FortnOnly4.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

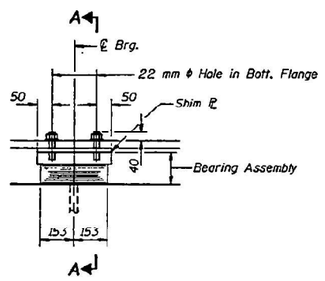
SN 097-0008
STRUCTURE INFORMATION

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

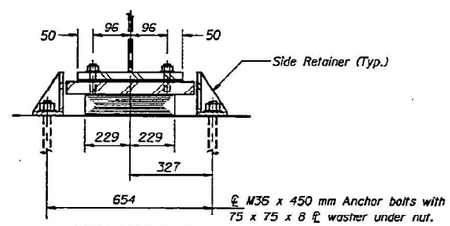
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	106
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

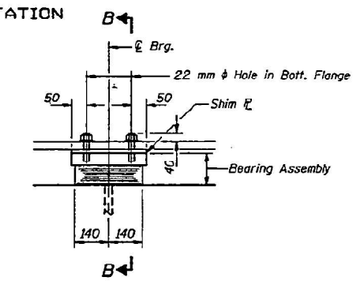
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F.A.P. 332	4BR-2	WHITE	66	35	44 SHEETS



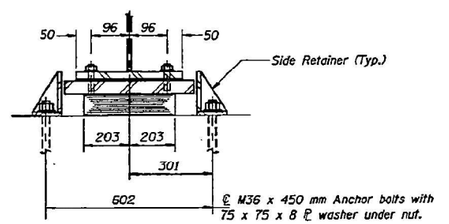
ELEVATION AT PIERS 1 AND 6



SECTION A-A



ELEVATION AT PIERS 2 AND 5

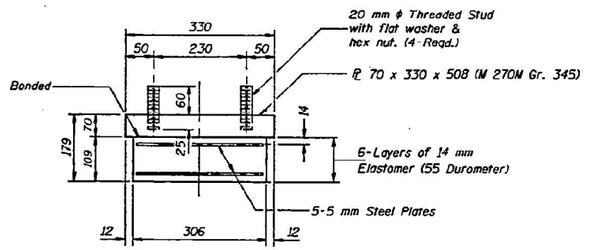


SECTION B-B

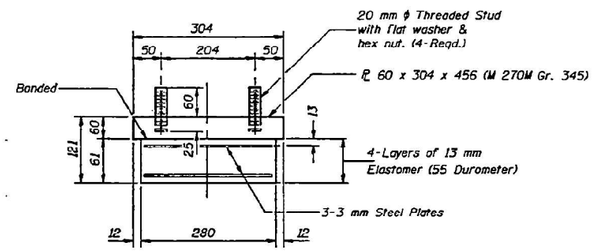
TYPE I ELASTOMERIC EXP. BRG.

Notes: See sheet 23 of 44 for Anchor Bolt installation.
Shim plates shall not be placed under Bearing Assembly.

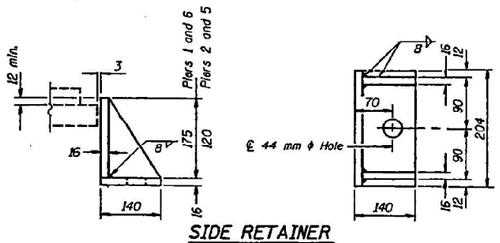
TYPE I ELASTOMERIC EXP. BRG.



BEARING ASSEMBLY



BEARING ASSEMBLY



SIDE RETAINER

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	32

FOR INFORMATION ONLY
SN 097-0008

BEARING DETAILS
F.A.P. RT. 332 - SECTION 4BR-2
WHITE COUNTY
STATION 28+507.25

DESIGNED	S. Sanford	November 19, 1998
CHECKED	J. Ciccone	EXAMINED ENGINEER OF BRIDGE DESIGN
DRAWN	Alice M. Coulter	PASSED ENGINEER OF BRIDGES AND STRUCTURES
CHECKED	SDS JLC	

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

MODEL: SN 097-0008 9 [Sheet]
FILE NAME: c:\pw_work\pwdot\wilsonda\d0983530\D978A75-Sht-ForInfoOnly4.dgn

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 097-0008
STRUCTURE INFORMATION

SCALE: | SHEET 9 OF 10 SHEETS | STA. | TO STA.

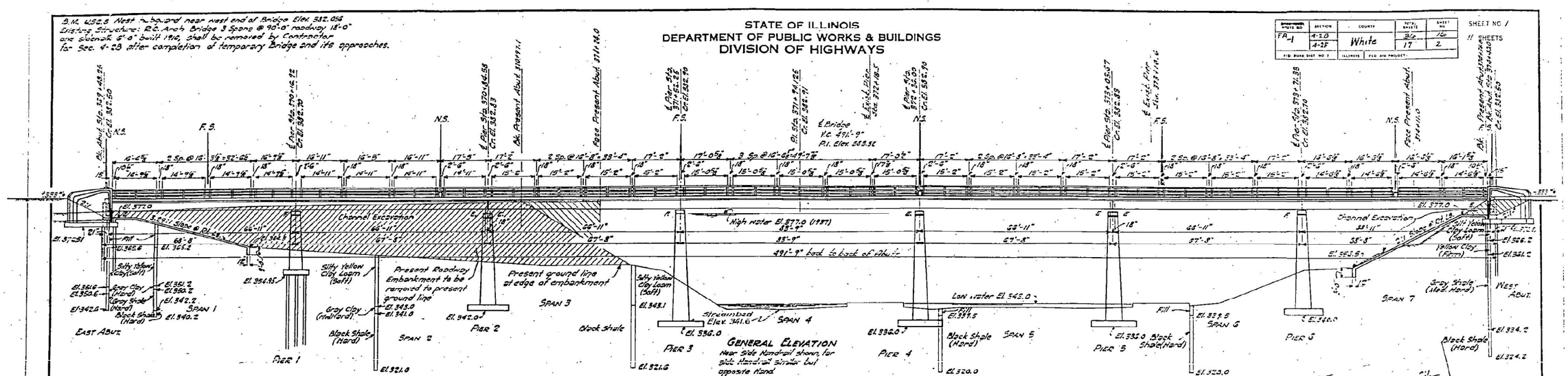
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	107
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

B.M. 452.6 Nail in inboard near west end of Bridge Elev. 332.056
Existing Structure: R.C. Arch Bridge 3 Spans @ 90'-0" roadway 18'-0"
one sidewalk 6'-0" built 1916, shall be removed by Contractor
for Sec. 4-2B after completion of temporary Bridge and its approaches.

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

ROAD SYSTEM ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
FR-1	4-2B	White	34	10
	4-2F		17	2
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

SHEET NO. / OF 11 SHEETS

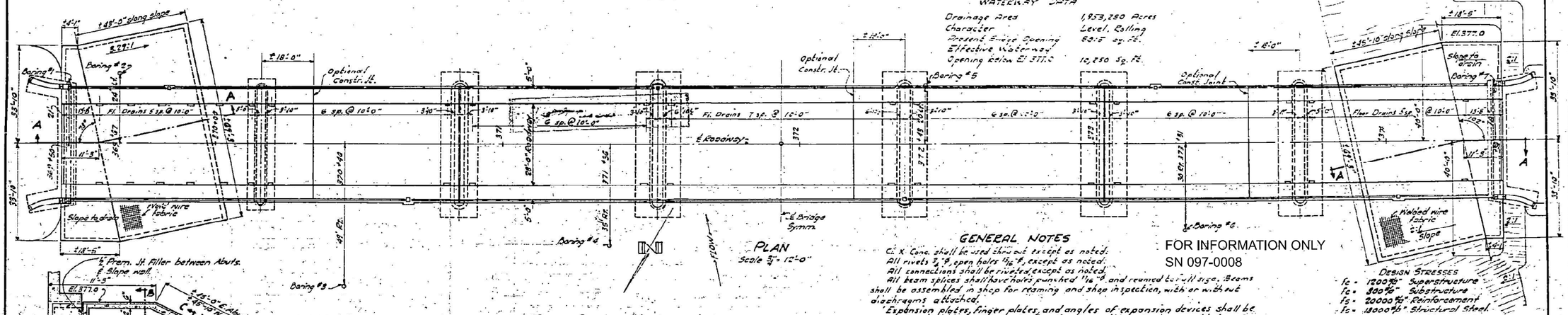


GENERAL ELEVATION

Near Side Handrail shown, far side Handrail Similar but opposite hand

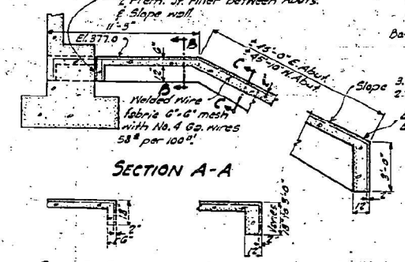
WATERWAY DATA

Drainage Area	1,953,280 Acres
Character	Level, Rolling
Present Bridge Opening	63.5 Sq. Ft.
Effective Waterway Opening Below El. 377.0	10,250 Sq. Ft.



PLAN

Scale 1/16" = 1'-0"



SECTION A-A

SEC B-B SEC. C-C

TOTAL BILL OF MATERIAL

ITEM	UNIT	Superstructure Sec 4-2F	Superstructure Sec 4-2B	Sec 4-2B Substructure Abuts.	Sec 4-2B Substructure Piers	Sec 4-2B Substructure Total	Grand Total
Handrail Concrete	Cu.Yds.			17.1		17.1	17.1
Class X Concrete	Cu.Yds.	974.9	596.8	123.4	1660.1	1783.5	2380.3
Reinforcement Bars	Lbs.	1025	7440	4900	61300	72200	156600
Structural Steel	Lbs.	5 Piles	3 Piles			167760	172965
Metal Handrail	Lin.Ft.	971	971				971
Name Plate	Ea.		One				One
Furnishing Steel Piles	Lbs.			52280	27720	79943	79943
Driving Steel Piles (8"-32#)	Lin.Ft.			1450		1450	1450
Driving Steel Piles (10"-42#)	Lin.Ft.				660	660	660
Test Piles	Ea.			2	1	3	3
Emergency Splices	Ea.					10	10
Lighting System Complete	Ea.		One				One
	Cu.Yds.						
Slope Walls	Sq.Yds.			949		949	949
Rock Excavations for Struct's.	Cu.Yds.					430	430
Removal of Exist. Struct.	Ea.					One	One

GENERAL NOTES

C. X Conc. shall be used throughout except as noted.
All rivets ⅞" ϕ, open holes 15/16" ϕ, except as noted.
All connections shall be riveted, except as noted.
All beam splices shall have holes punched 15/16" ϕ and reamed to full size. Beams shall be assembled in shop for reaming and shop inspection, with or without diaphragms attached.
Expansion plates, finger plates, and angles of expansion devices shall be copper bearing steel (A.S.T.M. Designation A-7) with 0.2% copper added.
Paint: All structural steel, except steel piles, shall be given one shop coat of red lead paint to be furnished & applied by the Contractor for Sec. 4-2F
All structural steel, except steel piles, shall be given two field coats of aluminum paint to be furnished and applied by Contr. for Sec. 4-2B. Red lead paint for spot painting shall be furnished and applied by Contractor for Sec. 4-2B
All rollers, rockers, bearing plates, lead plates, and anchor bolts shall be furnished, painted, and set in accordance with Art. 54.3(d) of the Std. Specs.
Boring Data are shown on the drawings only as a guide to bidders in estimating soil conditions which may be encountered in the work.
Channel Excavation shall be made by Contractor for Sec. 4-2B to the lines slopes, and grades shown on the plans.
The excavated material shall be deposited in the embankment, or disposed of as directed by the Engineer.
Slope walls shall be constructed in accordance with Section 42 of the Std. Specs.
Shop inspection of structural steel by Illinois Division of Highways will be made before painting.
For finishing concrete floor, See Art. 51.3(e) of Std. Specs.
Floor slab of a continuous unit shall be poured in one complete operation or in two operations with one construction joint as shown on the plans.
Anchor bolts shall be set before riveting diaphs. over Piers & Abuts.

FOR INFORMATION ONLY
SN 097-0008

DESIGN STRESSES
f_c = 1200 #/in² Superstructure
f_c = 900 #/in² Substructure
f_s = 20000 #/in² Reinforcement
f_c = 18000 #/in² Structural Steel
n = 10

STA. 371+94.13
BUILT 1948 BY
STATE OF ILLINOIS
F.A. RT. 1 SEC. 4-2B-F
F.A. PROJECT F52(5)
LOADING H 20 S 16

LETTERING FOR NAME PLATE

GENERAL ELEVATION
LITTLE WABASH RIVER BRIDGE
AT CARMI ILL.
PROJECT F 52 (5)
F.A. RT. 1 SEC. 4-2B-F
WHITE CO.
STA. 371+94.13

STANDARD	COMPUTED	M. G. Peters
	CHECKED	Hallyday Rudd
	DRAWN	M. G. Peters
	CHECKED	Adley
SPECIAL	ASSEMBLED	
	CHECKED	

EXAMINED 10-18 1948
BRIDGE ENGINEER
PASSED
ENGINEER OF DESIGN
APPROVED
CHIEF HIGHWAY ENGINEER

Sheet 3 Revised 5-19-48 MGR Quit Steel Piles

H-20-S16

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 097-0008
STRUCTURE INFORMATION

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

F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	108
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		

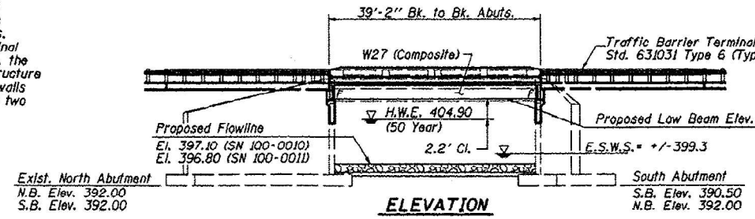
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Bench Mark:
B.M. #82 - Square cut in exist. S.W. winwall of S.N. 100-0010.
Elev. = 410.99

Existing Structure:
S.N. 100-0010 and S.N. 100-0011 built in 1961 under FAI 57, Section X1-4B-1 at station 228+25 as dual single span reinforced concrete T-beam bridges on closed abutments with spread footings bearing on soil. The bridges span 39'-2" Bk. to Bk. of abutments. The bridges have an out to out width of 44'-4". In 1979, the original concrete handrails were replaced with thrie beam rail and in 2004, the bituminous overlay was replaced with a microsilica overlay. Superstructure is to be removed and replaced, foundations widened and retaining walls are to be constructed between abutments. Stage construction, with two lanes open to traffic each direction, is to be utilized.

Salvage: No Salvage



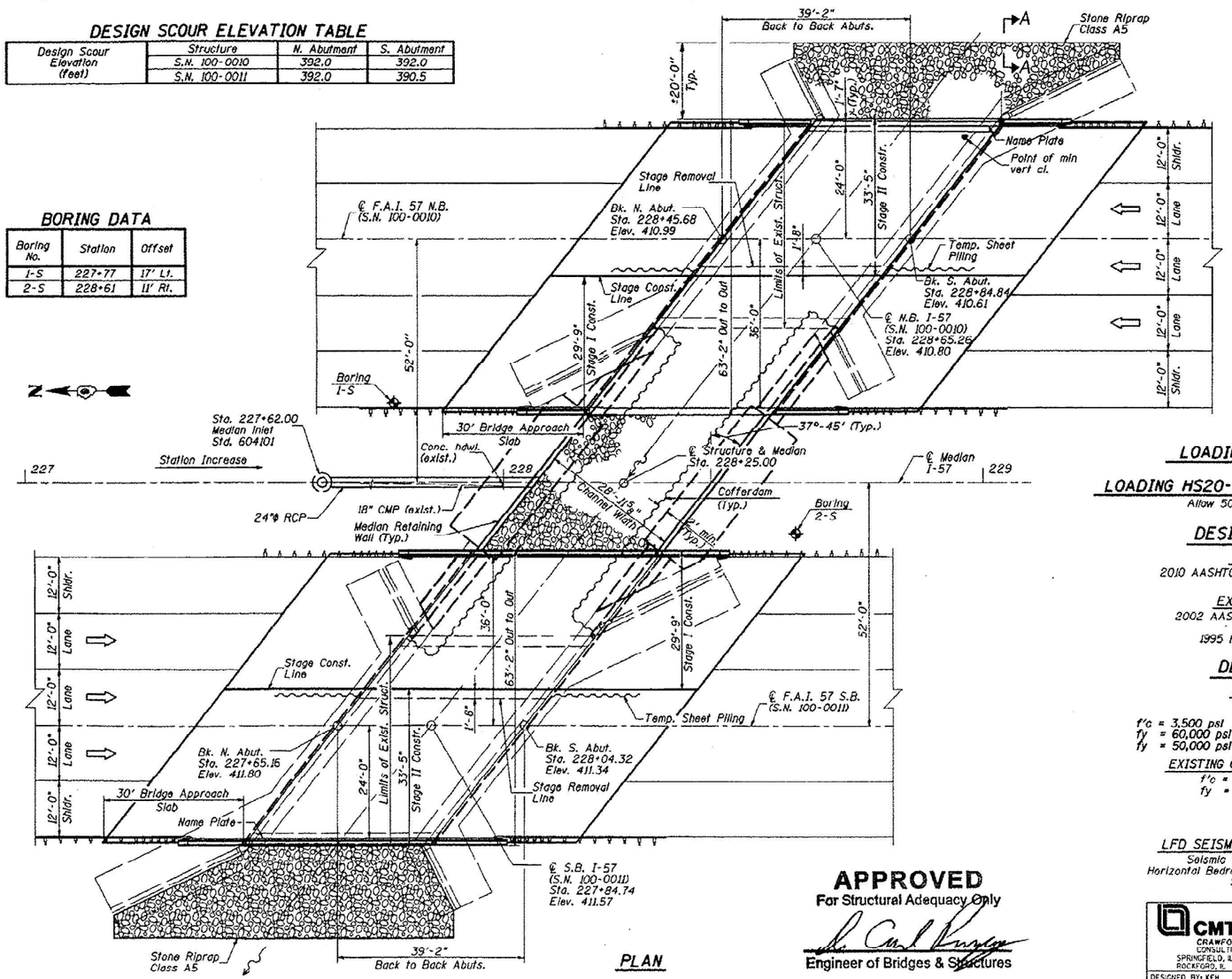
ELEVATION

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (feet)	Structure	N. Abutment	S. Abutment
	S.N. 100-0010	392.0	392.0
	S.N. 100-0011	392.0	390.5

BORING DATA

Boring No.	Station	Offset
1-S	227+77	17' Lt.
2-S	228+61	11' Rt.



PLAN

APPROVED
For Structural Adequacy Only
Engineer of Bridges & Structures

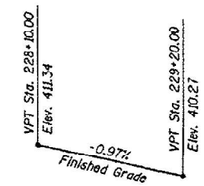
STATION 228+25.00 RE-BUILT 201_ BY STATE OF ILLINOIS F.A.I. RT 57 SEC. (X1-4-1) BR-1 LOADING HL-93 STR. NO. 100-0010 (N.B.)

NAME PLATE
See Std. 515001
(Locate Name Plate on South end of East hdwl.)

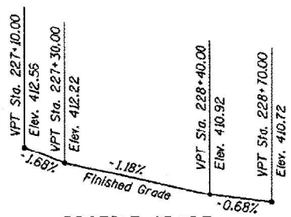
STATION 228+25.00 RE-BUILT 201_ BY STATE OF ILLINOIS F.A.I. RT 57 SEC. (X1-4-1) BR-1 LOADING HL-93 STR. NO. 100-0011 (S.B.)

NAME PLATE
See Std. 515001
(Locate Name Plate on North end of West hdwl.)

Existing Name Plate shall be cleaned and relocated next to new Name Plate. Cost included with Name Plates.



PROFILE GRADE
S.N. 100-0010 (N.B. I-57)
(Along ℄ Rdwy)



PROFILE GRADE
S.N. 100-0011 (S.B I-57)
(Along ℄ Rdwy)

FOR INFORMATION ONLY
SN 100-0010 & SN 100-0011

LOADING HL-93 (NEW CONST.)

LOADING HS20-44 & ALT. MIL. (EXIST. CONST.)

Allow 50 psf for future wearing surface.

DESIGN SPECIFICATIONS

NEW CONSTRUCTION
2010 AASHTO LRFD Bridge Design Specifications with 2010 Interims

EXISTING CONSTRUCTION
2002 AASHTO Standard Specifications for Highway Bridges
1995 FHWA Seismic Retrofit Manual

DESIGN STRESSES

NEW CONSTRUCTION
FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (reinforcement)
fy = 50,000 psi (structural steel) (AASHTO M270, Gr. 50W)

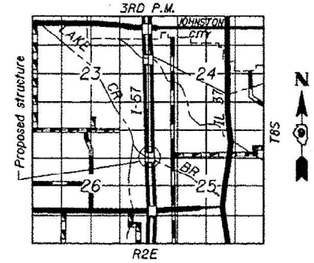
EXISTING CONSTRUCTION (SUBSTRUCTURE)
f'c = 2,500 psi
fy = 40,000 psi (reinforcement)

SEISMIC DATA

LFD SEISMIC DATA - EXISTING CONSTRUCTION
Seismic Performance Catagory (SPC) = B
Horizontal Bedrock Acceleration Coefficient (A) = 0.12g
Site Coefficient (S) = 1.0

INDEX OF SHEETS

SHEET NO.	TITLE
1.	General Plan and Elevation
2.	General Data
3.	Stage Construction Details
4.	Temporary Concrete Barrier
5.	Deck Elevations 1
6.	Deck Elevations 2
7.	Deck Elevations 3
8.	Approach Slab Elevations 1
9.	Approach Slab Elevations 2
10.	Superstructure (S.N. 100-0010)
11.	Superstructure Details (S.N. 100-0010)
12.	Curtain Wall Details (S.N. 100-0010)
13.	Superstructure (S.N. 100-0011)
14.	Superstructure Details (S.N. 100-0011)
15.	Curtain Wall Details (S.N. 100-0011)
16.	Approach Slab Details 1
17.	Approach Slab Details 2
18.	Framing Plan and Details
19.	Framing Details
20.	North Abutment 1
21.	North Abutment 2
22.	North Abutment 3
23.	South Abutment 1
24.	South Abutment 2
25.	South Abutment 3
26.	Abutment Details
27.	Bar Splicer Details
28.	Cantilever Forming Brackets
29.	Boring Logs



LOCATION SKETCH

LICENSED STRUCTURAL ENGINEER
WILLIAM L. BAILEY, JR. 5087
STATE OF ILLINOIS

William L. Bailey Jr., P.E. S.E.
Illinois Licensed Structural Engineer
License Number 081-005087
Expiration Date: November 30, 2014

GENERAL PLAN AND ELEVATION
F.A.I. RTE. 57 OVER LAKE CREEK BRANCH
STATION 228+25.00
STRUCTURE NO. 100-0010 (N.B.)
STRUCTURE NO. 100-0011 (S.B.)

CMT CRAWFORD MURPHY & TILLY, INC. CONSULTING ENGINEERS SPRINGFIELD, IL ■ AURORA, IL ■ ST. LOUIS, MO ROCKFORD, IL ■ PEORIA, IL ■ CHICAGO, IL	SHEET NO. 1	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DESIGNED BY: KEH CHECKED BY: WLB DRAWN BY: GLD DATE: 4/12/10	29 SHEETS	I-57	(X1-4-1) BR -1	WILLIAMSON	202	8
				CONTRACT NO. 7833		
		FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0010 & 100-0011
STRUCTURE INFORMATION

SCALE: | SHEET 1 OF 8 SHEETS | STA. | TO STA.

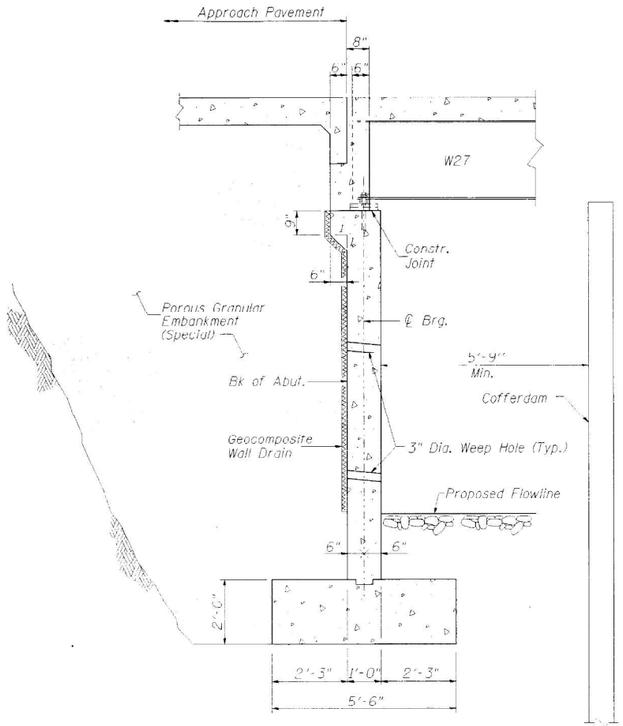
F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	109
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

MODEL: SN 100-0010 and SN 100-0011 [Sheet]
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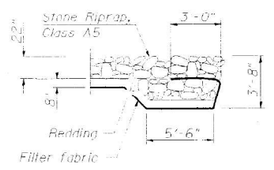
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

1. Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts in painted areas and M164 Type 3 in unpainted areas. Bolts $\frac{3}{4}$ in. ϕ, holes $\frac{13}{16}$ in. ϕ, unless otherwise noted.
2. Calculated weight of Structural Steel = 63,520 lb. (AASHTO M270 Grade 50W)
3. All structural steel shall be AASHTO M 270 Grade 50W.
4. No field welding is permitted except as specified in the contract documents.
5. Reinforcement bars designated (E) shall be epoxy coated.
6. If the Contractor elects to use cantilever forming brackets on the exterior beams, the brackets shall be placed at the same locations as required for the hardwood blocks in Article 503.06(b) of the Standard Specifications. If additional cantilever forming brackets are required, hardwood blocking shall be wedged between the exterior and first interior beam at each of these additional bracket locations.
7. Plan dimensions and details relative to existing plans are subject to nominal construction 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.
8. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of $\frac{1}{8}$ inch (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.
9. Structural steel shall only be painted for a distance equal to the depth of embedment into the concrete cap plus 3 inches. Painted areas shall be primed in the shop with a Department approved zinc rich primer. Field painting will not required.
10. Layout of slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
11. The embankment configuration shown shall be the minimum embankment that must be placed and compacted prior to construction of the abutments.
12. The concrete for bridge decks finished according to Article 503.16(a) of the Standard Specifications shall be placed and compacted parallel to the skew in uniform increments along centerline of bridge. The machine used for finishing shall be set parallel to the skew for striking off and screeding the concrete.
13. Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure. The Contractor shall sawcut the upper portion of the existing abutment at the stage removal line before Stage I removal to ensure the remaining portion will not be prematurely damaged.
14. Slipforming of parapets is not allowed.



SECTION THRU CLOSED ABUTMENT



SECTION A-A
(See Sheet 1 for Plan location)

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Porous Granular Embankment, Special	Cu. Yd.		5352	5352
Stone Riprap, Class A5	Sq. Yd.		885	885
Filter Fabric	Sq. Yd.		885	885
Removal of Existing Superstructures	Each	2		2
Concrete Removal	Cu. Yd.		87.0	87.0
Structure Excavation	Cu. Yd.	213	2760	2973
Cofferdam Excavation	Cu. Yd.		2450	2450
Cofferdam (Type 2) (Location-1)	Each		1	1
Cofferdam (Type 2) (Location-2)	Each		1	1
Concrete Structures	Cu. Yd.	96.5	246.6	343.1
Concrete Superstructure	Cu. Yd.	564.6		564.6
Bridge Deck Grooving	Sq. Yd.	1284		1284
Protective Coat	Sq. Yd.	1462		1462
Furnishing and Erecting Structural Steel	L. Sum	1		1
Stud Shear Connectors	Each	4560		4560
Reinforcement Bars, Epoxy Coated	Pound	143,690	39,220	182,910
Bar Splicers	Each	536	44	580
Temporary Sheet Piling	Sq. Ft.		2896	2896
Name Plates	Each	2		2
Anchor Bolts, 1"	Each	64		64
Geocomposite Wall Drain	Sq. Yd.		566	566

WATERWAY INFORMATION

Drainage Area = 2.87 sq. mi.
Exist. Low Grade Elev. 409.31 @ Sta. 231+50.00
Prop. Low Grade Elev. 409.64 @ Sta. 231+50.00

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.
	10	980	192.5	213.6	404.4	0.6	0.3	405.0	404.7
Design	50	1470	206.9	228.2	404.9	1.7	1.3	406.6	406.2
Base	100	1680	212.8	234.1	405.1	2.9	1.7	408.0	406.8
Overtopping	-	-	-	-	-	-	-	-	-
Max. Calc.	500	2170	221.5	242.9	405.4	3.4	3.5	408.8	408.9

Exist. 10-Year Velocity Through Bridge=5.0 fps Prop. 10-Year Velocity Through Bridge=4.6 fps

FOR INFORMATION ONLY
SN 100-0010 & SN 100-0011

GENERAL DATA
F.A.I. RTE. 57 OVER
LAKE CREEK BRANCH
STATION 228+25.00
STRUCTURE NO. 100-0010 (N.B.)
STRUCTURE NO. 100-0011 (S.B.)

CMT CRAWFORD, MURPHY & TILLY, INC.

SHEET NO. 2	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
29 SHEETS	I-57	(X)-4-1) BR -1	WILLIAMSON	202	85
			CONTRACT NO. 78334		
	FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		

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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

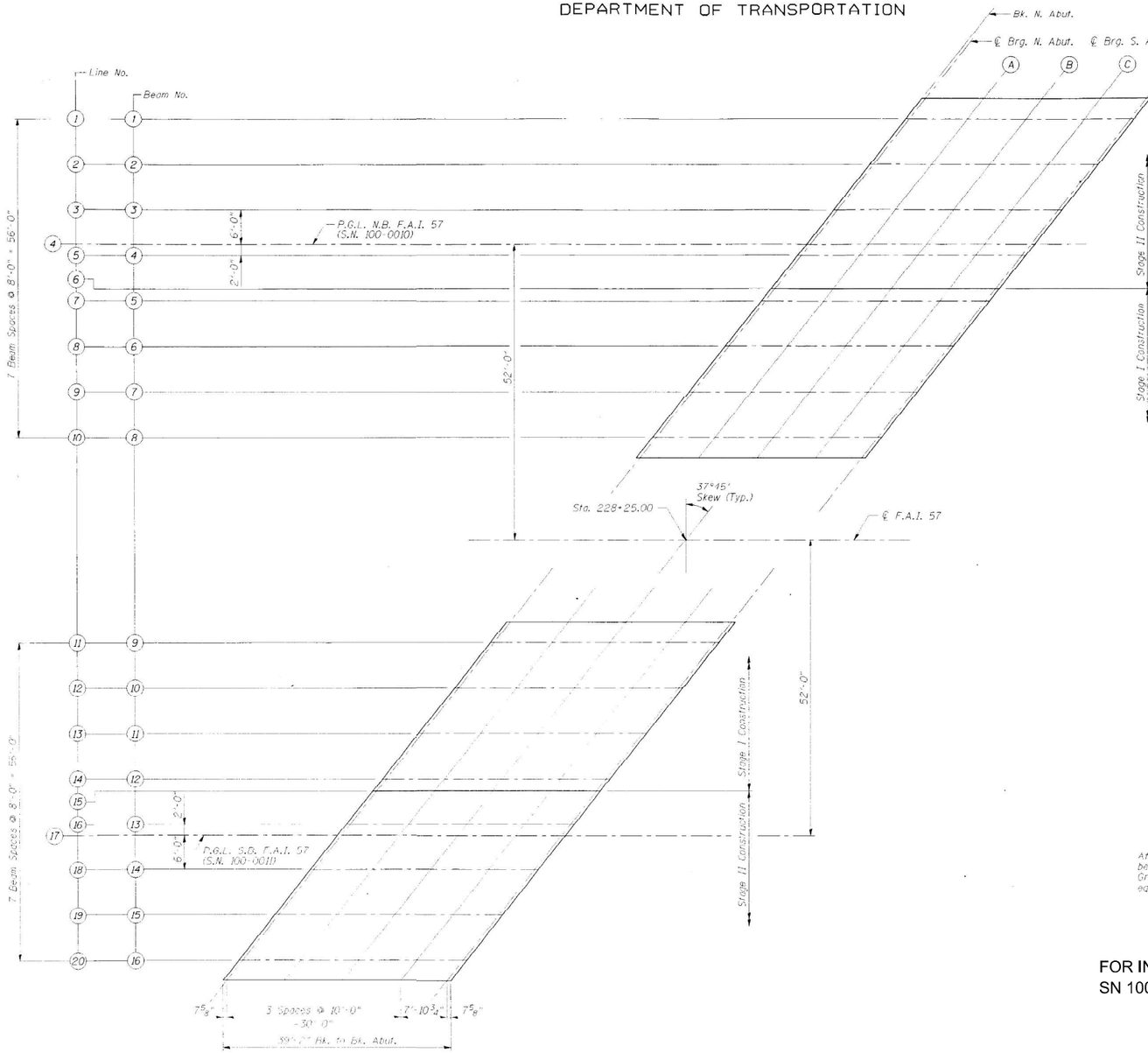
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0010 & 100-0011
STRUCTURE INFORMATION

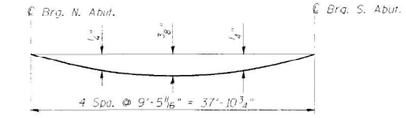
SCALE: | SHEET 2 OF 8 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	110
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



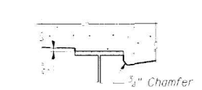
LAYOUT PLAN FOR DECK ELEVATIONS



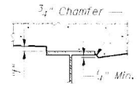
DEAD LOAD DEFLECTION DIAGRAM

(INCLUDES WEIGHT OF CONCRETE ONLY)

NOTE: The above deflections are not for use in the field if the engineer is working from the theoretical grade elevations adjusted for dead load deflection shown on Sheets 6 & 7.



AT MINIMUM FILLET



AT MAXIMUM FILLET

METHOD OF DETERMINING FILLET HEIGHTS "f"

After all structural steel has been erected, elevations of the top flanges of the beams shall be taken at the stations shown on Sheets 6 & 7. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection" shown on Sheets 6 & 7, minus slab thickness equals the fillet heights "f" above top flange of girders.

FOR INFORMATION ONLY
SN 100-0010 & SN 100-0011

DECK ELEVATIONS 1
F.A.I. RTE. 57 OVER
LAKE CREEK BRANCH
STATION 228+25.00
STRUCTURE NO. 100-0010 (N.B.)
STRUCTURE NO. 100-0011 (S.B.)

CMT
CRAWFORD MURPHY & TILLY, INC.
CIVIL ENGINEERS
SPRINGFIELD ■ AURORA, IL ■ ST. LOUIS, MO
CHAMPAIGN, IL ■ PEORIA, IL ■ MILWAUKEE, WI

DESIGNED - CMT	DRAWN BY CMT	CHECKED - CMT

SHEET NO. 5
29 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-57	(X1-4-1) BR -1	WILLIAMSON	202	88
		CONTRACT NO. 78334		

FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT

MODEL: SN 100-0010 and SN 100-0011 3 [Sheet]
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	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

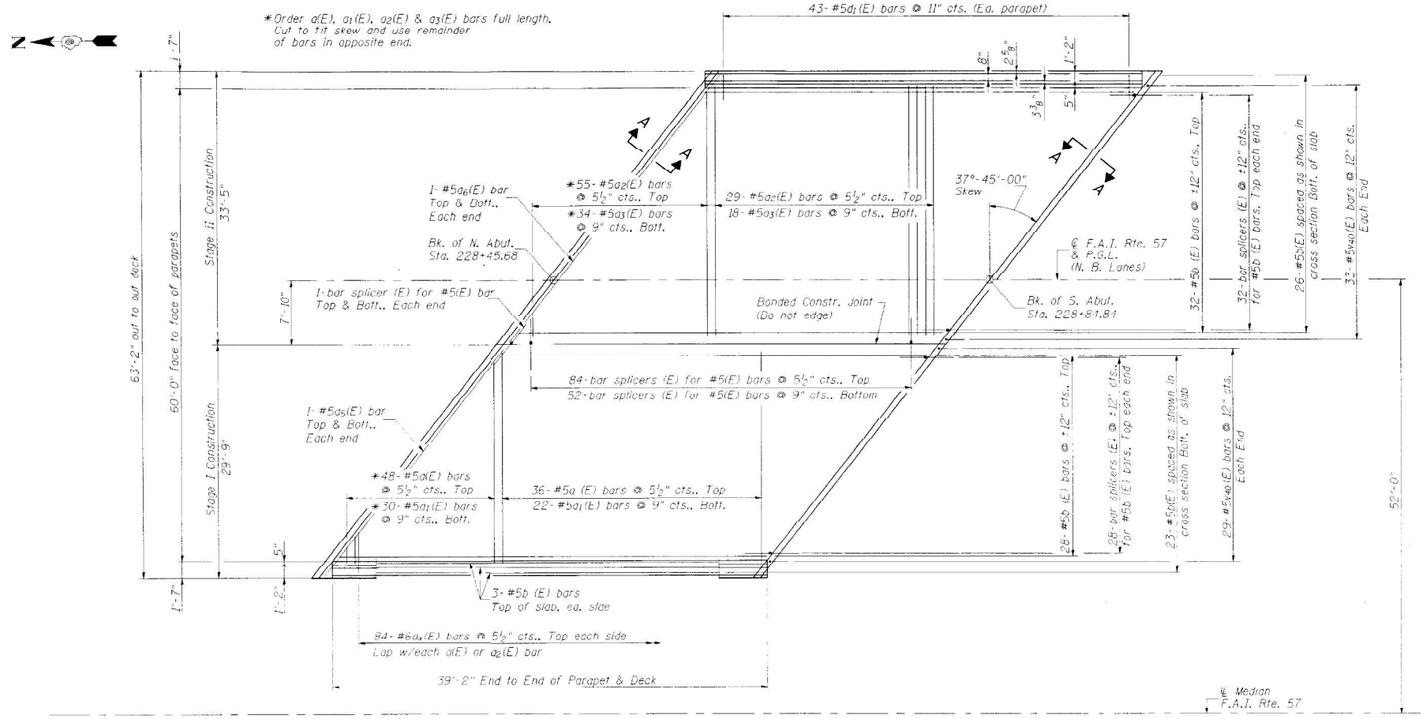
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0010 & 100-0011
STRUCTURE INFORMATION

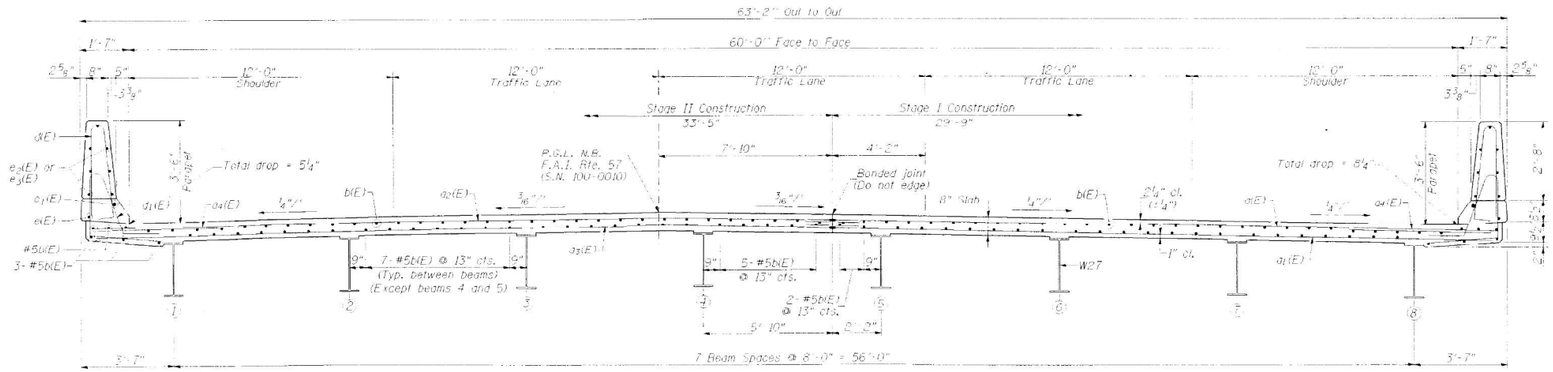
SCALE: | SHEET 3 OF 8 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	111
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DECK PLAN
(S.N. 100-0010 N.B.)



TYPICAL CROSS SECTION
(Looking South)

FOR INFORMATION ONLY
SN 100-0010 & SN 100-0011

NOTES:

1. See Sheet 11 of 29 for parapet details and S.N. 100-0010 Superstructure Bill of Material.
2. See Sheet 27 of 29 for bar splicer details.
3. For Section A-A see Sheet 12 of 29.

SUPERSTRUCTURE
F.A.I. RTE. 57 OVER
LAKE CREEK BRANCH
STATION 228+25.00
STRUCTURE NO. 100-0010 (N.B.)

CMT
CRAWFORD MURPHY & TILLY, INC.

SHEET NO. 10	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
29 SHEETS	I-57	(X1-4-1) BR -1	WILLIAMSON	202	93
			CONTRACT NO. 78334		
	FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		

MODEL: SN 100-0010 and SN 100-0011 4 [Sheet]
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PLOT DATE = 10/15/2024	DATE -	REVISED -

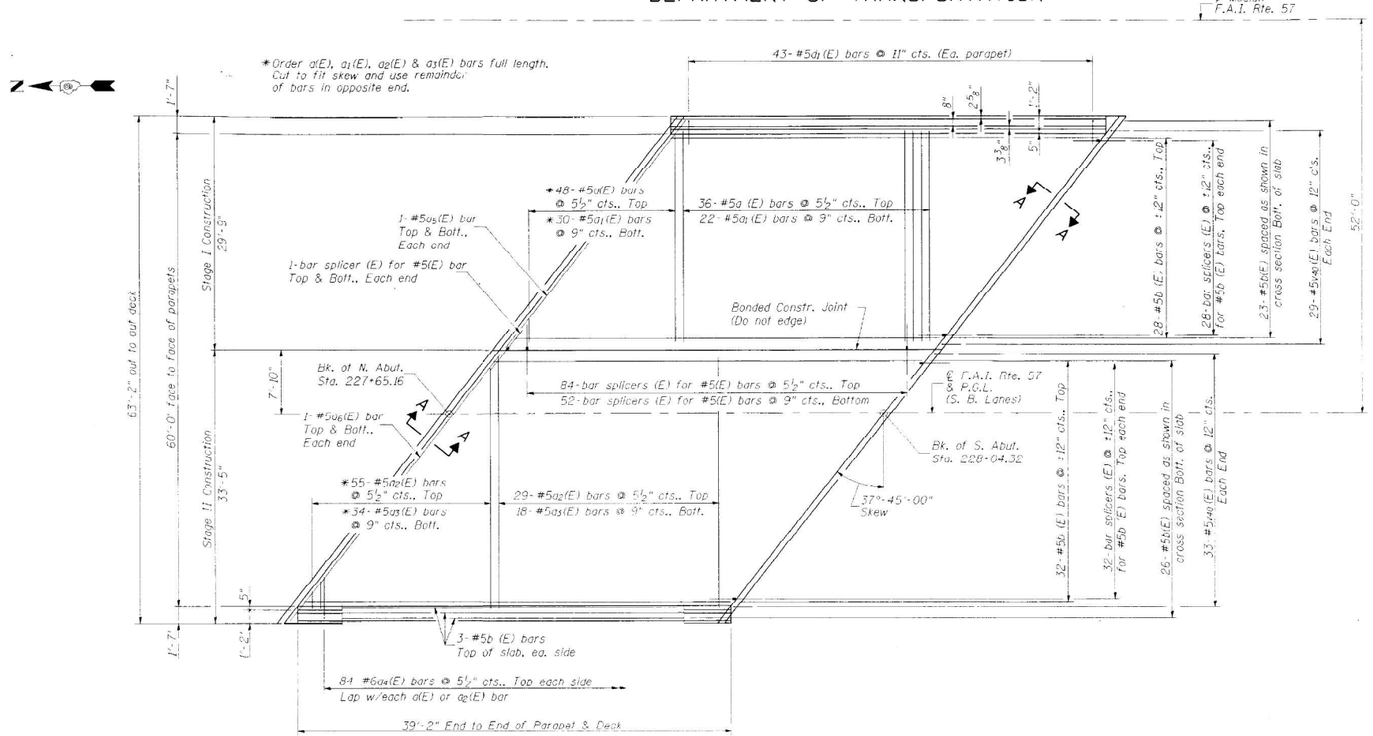
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0010 & 100-0011
STRUCTURE INFORMATION

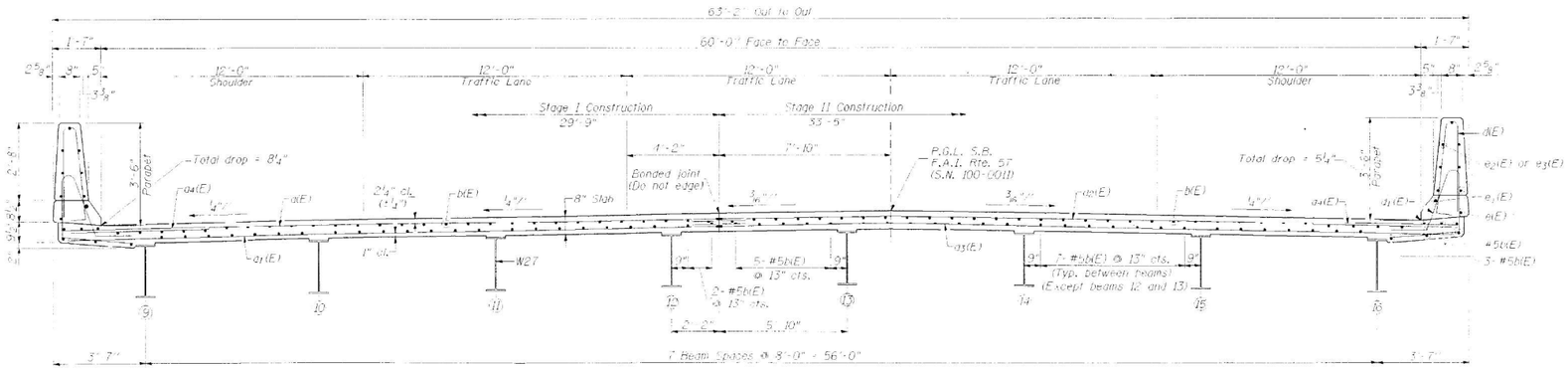
SCALE: | SHEET 4 OF 8 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	112
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



DECK PLAN
(S.N. 100-0011 S.B.)



TYPICAL CROSS SECTION
(Looking South)

FOR INFORMATION ONLY
SN 100-0010 & SN 100-0011

NOTES:

1. See Sheet 14 of 29 for parapet details and S.N. 100-0011 Superstructure Bill of Material.
2. See Sheet 27 of 29 for bar splicer details.
3. For Section A-A see Sheet 15 of 29.

SUPERSTRUCTURE
F.A.I. RTE. 57 OVER
LAKE CREEK BRANCH
STATION 228+25.00
STRUCTURE NO. 100-0011 (S.B.)

CMT
CRAWFORD MURPHY & TILLY, INC.

SHEET NO. 13	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
29 SHEETS	I-57	(X1-4-1) BR -1	WILLIAMSON	202	96
			CONTRACT NO. 78334		
	FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT				

USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

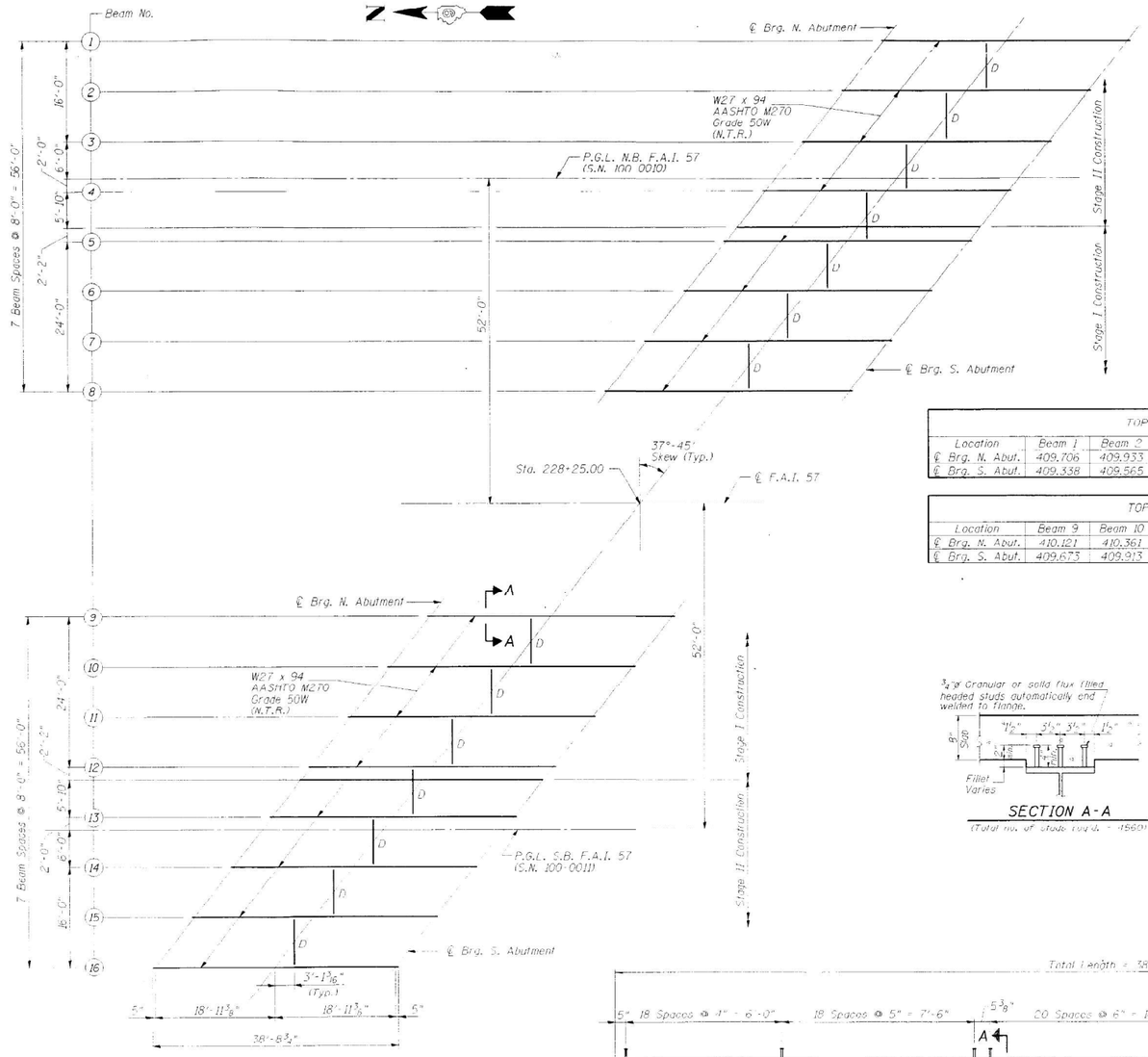
SN 100-0010 & 100-0011
STRUCTURE INFORMATION

SCALE: | SHEET 5 OF 8 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	113
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

MODEL: SN 100-0010 and SN 100-0011 5 [Sheet]
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



FRAMING PLAN

LRFD BEAM REACTION TABLE		
		Abut. 1 & 2
R_{DC1}	(k)	18.5
R_{DC2}	(k)	2.5
R_{DW}	(k)	7.6
R_{L+Imp}	(k)	79.4
R_{Total}	(k)	107.9

*** LFD BEAM REACTION TABLE		
		Abut. 1 & 2
R_D	(k)	28.5
R_L	(k)	44.2
R_I	(k)	13.3
R_{Total}	(k)	86.0

*** For use w/abutment design

TOP OF BEAM ELEVATIONS STR. NO. 100-0010								
Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6	Beam 7	Beam 8
℄ Brg. N. Abut.	409.706	409.933	410.129	410.252	410.187	410.091	409.985	409.878
℄ Brg. S. Abut.	409.338	409.565	409.760	409.883	409.818	409.722	409.616	409.510

TOP OF BEAM ELEVATIONS STR. NO. 100-0011								
Location	Beam 9	Beam 10	Beam 11	Beam 12	Beam 13	Beam 14	Beam 15	Beam 16
℄ Brg. N. Abut.	410.121	410.361	410.601	410.830	411.029	411.039	410.977	410.884
℄ Brg. S. Abut.	409.673	409.913	410.153	410.383	410.581	410.592	410.529	410.436

BEAM MOMENT TABLE		
		0.5 Span
I_s	(in^4)	3,270
$I_c(n)$	(in^4)	10,463
$I_c(3n)$	(in^4)	7,943
S_s	(in^3)	243
$S_c(n)$	(in^3)	388
$S_c(3n)$	(in^3)	352
DC1	(k/')	0.94
M_{DC1}	('k)	170
DC2	(k/')	0.13
M_{DC2}	('k)	23
DW	(k/')	0.40
M_{DW}	('k)	72
M_{L+Imp}	('k)	536
M_U (Strength I)	('k)	1,288
$\phi f M_n$	('k)	2134
f_s DC1	(ksi)	8.37
f_s DC2	(ksi)	0.80
f_s DW	(ksi)	2.46
f_s 1.3(+I)	(ksi)	21.58
f_s (Service II)	(ksi)	33.21
f_s (TotalNStrength I)	(ksi)	42.73
Vr	(k)	28.65

* Compact. Braced Section.
** Non-Compact Section.

NOTES:

I_s, S_s: Non-composite moment of inertia and section modulus of the steel section used for computing f_s(Total-Strength I, and Service II) due to non-composite dead loads ($in.^4$ and $in.^3$).

$I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s(Total-Strength I, and Service II) due to short-term composite live loads ($in.^4$ and $in.^3$).

$I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s(Total-Strength I, and Service II) due to long-term composite (superimposed) dead loads ($in.^4$ and $in.^3$).

DC1: Un-factored non-composite dead load (kips/ft.).

M_{DC1}: Un-factored moment due to non-composite dead load (kip-ft.).

DC2: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).

M_{DC2}: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).

DW: Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).

M_{DW}: Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).

M_{L+IM}: Un-factored live load moment plus dynamic load allowance (impact)(kip-ft.).

M_U (Strength I): Factored design moment (kip-ft.).
1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{L+IM}

$\phi f M_n$: Compact composite positive moment capacity computed according to Article 6.10.7.1 (kip-ft).

f_s (Service II): Sum of stresses as computed from the moments below (ksi).
M_{DC1} + M_{DC2} + M_{DW} + 1.3 M_{L+IM}

f_s (TotalNStrength I): Sum of stresses as computed from the moments below on non-compact section (ksi).
1.25 (M_{DC1} + M_{DC2}) + 1.5 M_{DW} + 1.75 M_{L+IM}

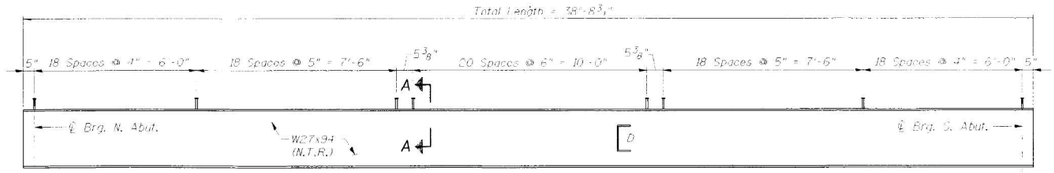
SECTION A-A
(Total no. of studs req'd. = 4560)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Anchor Bolts, 1"	Each	64

NOTES:

1. All steel for flanges, webs, diaphragms, connection plates, and bearings shall be AASHTO M270 Grade 50W.
2. Load carrying components designated "NTR" shall conform to the Impact Testing Requirements, Zone 2.



BEAM ELEVATION

FOR INFORMATION ONLY
SN 100-0010 & SN 100-0011

FRAMING PLAN & DETAILS
F.A.I. RTE. 57 OVER
LAKE CREEK BRANCH
STATION 228+25.00
STRUCTURE NO. 100-0010 (N.B.)
STRUCTURE NO. 100-0011 (S.B.)

CMT
CRAWFORD MURPHY & TILLY, INC.
SPRINGFIELD, IL

SHEET NO. 18 OF SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-57	(X)1-4-1) BR -1	WILLIAMSON	202	101
		CONTRACT NO. 78334		
FED. ROAD DIST. NO. 9	ILLINOIS FED. AID PROJECT			

DESIGNED - STATE OF ILLINOIS
CHECKED - DEPARTMENT OF TRANSPORTATION

MODEL: SN 100-0010 and SN 100-0011 6 (Sheet)
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USER NAME = david.a.wilson	DESIGNED -	REVISED -
	DRAWN -	REVISED -
	CHECKED -	REVISED -
PLOT DATE = 10/15/2024	DATE -	REVISED -

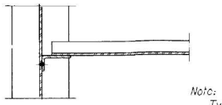
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0010 & 100-0011
STRUCTURE INFORMATION

SCALE: | SHEET 6 OF 8 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	114
		CONTRACT NO. 78A75		
	ILLINOIS FED. AID PROJECT			

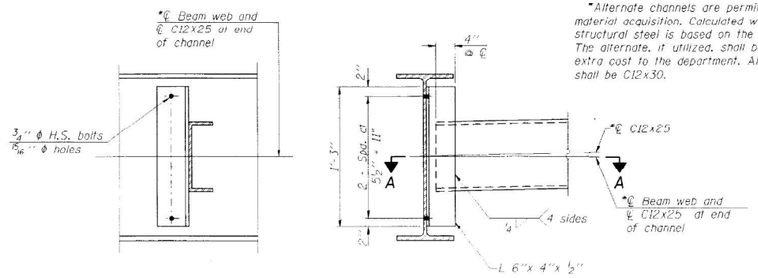
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



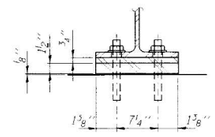
SECTION A-A

Note:
Two hardened washers required for each set of oversized holes.

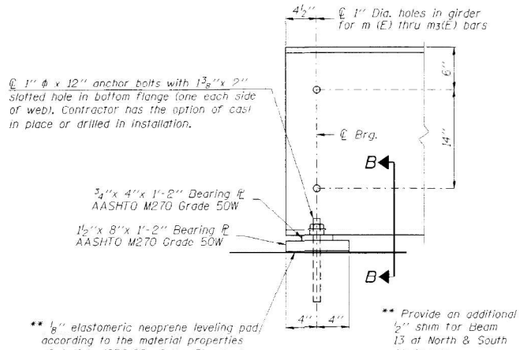
*Alternate channels are permitted to facilitate material acquisition. Calculated weight of structural steel is based on the lighter section. The alternate, if utilized, shall be provided at no extra cost to the department. Alternate channel shall be C12x30.



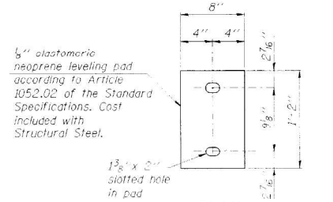
DIAPHRAGM D



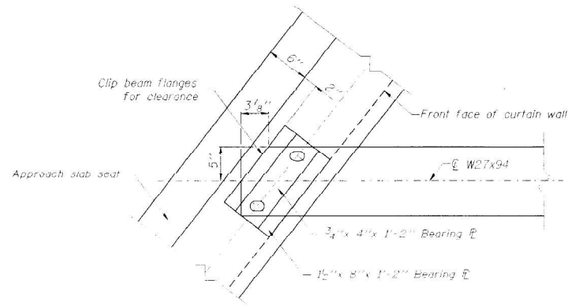
SECTION B-B



END OF BEAM ELEVATION



PLAN
ELASTOMERIC NEOPRENE
LEVELING PAD
(32 Required)



PLAN - END OF BEAM

NOTES:
1. All diaphragms shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted.

FOR INFORMATION ONLY
SN 100-0010 & SN 100-0011

FRAMING DETAILS
F.A.I. RTE. 57 OVER
LAKE CREEK BRANCH
STATION 228+25.00
STRUCTURE NO. 100-0010 (N.B.)
STRUCTURE NO. 100-0011 (S.B.)

CMT
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS
SPRINGFIELD ■ PEORIA ■ ILLINOIS
CHAMPAIGN

SHEET NO. 19
29 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-57	(X)-4-1) BR -1	WILLIAMSON	202	102
		CONTRACT NO. 78334		
FED. ROAD DIST. NO. 9	ILLINOIS	FED. AID PROJECT		

USER NAME = david.a.wilson	DESIGNED -	REVISED -	
	DRAWN -	REVISED -	
	CHECKED -	REVISED -	
PLOT DATE = 10/15/2024	DATE -	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0010 & 100-0011
STRUCTURE INFORMATION

SCALE: | SHEET 7 OF 8 SHEETS | STA. | TO STA.

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	115
		CONTRACT NO. 78A75		
	ILLINOIS	FED. AID PROJECT		

MODEL: SN 100-0010 and SN 100-0011 7 [Sheet]
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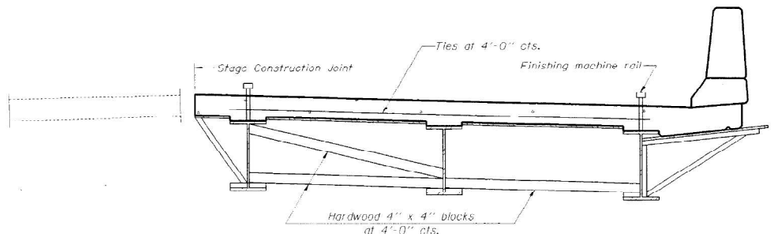
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

When cantilever forming brackets are used, the work shall be done according to Article 503.06(b) of the Standard Specifications, except as modified below and in the details shown on this sheet.

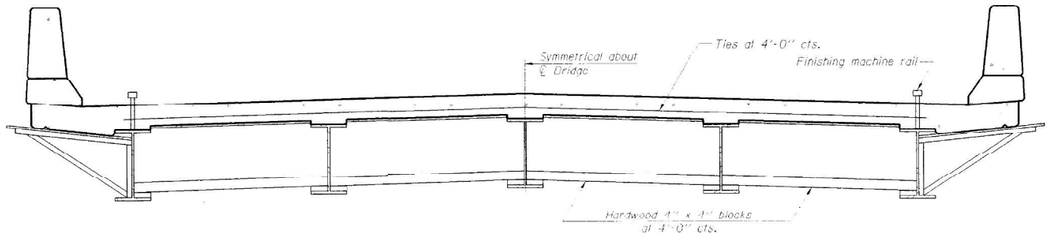
The finishing machine rails shall be placed on the top flange of the exterior beams.

The beams or girders, supporting cantilever forming brackets, shall be tied together at 4 foot intervals.

For Standard construction, or Stage Construction the Hardwood bracing materials shall be placed as shown between webs of beams in each bay.



FORM BRACES FOR
STAGE CONSTRUCTION



FORM BRACES FOR
STANDARD CONSTRUCTION

FOR INFORMATION ONLY
SN 100-0010 & SN 100-0011

CANTILEVER FORMING BRACKETS
F.A.I. RTE. 57 OVER
LAKE CREEK BRANCH
STATION 228+25.00
STRUCTURE NO. 100-0010 (N.B.)
STRUCTURE NO. 100-0011 (S.B.)

CMT CRAWFORD MURPHY & TILLY, INC.

SHEET NO. 28
29 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
I-57	(X1-4-1) BR -1	WILLIAMSON	202	111
		CONTRACT NO. 78334		
FED. ROAD DIST. NO. 9	ILLINOIS FED. AID PROJECT			

SB-1

MODEL: SN 100-0010 and SN 100-0011 8 [Sheet]
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PLOT DATE = 10/15/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SN 100-0010 & 100-0011
STRUCTURE INFORMATION

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

F.A.* RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D9 BRIDGE PAINT 2024-1	VARIOUS	116	116
		CONTRACT NO. 78A75		
		ILLINOIS FED. AID PROJECT		