

VARIOUS ROUTES	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	D7 BRIDGE REPAIRS 2024-3	MACON	35*	1
		ILLINOIS	CONTRACT NO. 74B29	

* 35 + 1 = 36 TOTAL SHEETS

D-97-050-22



LOCATION OF SECTION INDICATED THUS: - [Dashed Box Symbol]

II-17-2023 LETTING ITEM 075

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**PROPOSED
HIGHWAY PLANS**

FAI 72 (I-72)
SECTION D7 BRIDGE REPAIRS 2024-3
PROJECT NHPP-86ZI(269)
BRIDGE REPAIR
MACON COUNTY

C-97-097-22

FOR INDEX OF SHEETS, SEE SHEET NO. 2
FOR SUMMARY OF QUANTITIES, SEE SHEET NO. 4 THROUGH 7

SN 058-0060
ADT (2020) = 50 (SOUTH ACOM ROAD)
ADT (2019) = 16,300 (I-72)

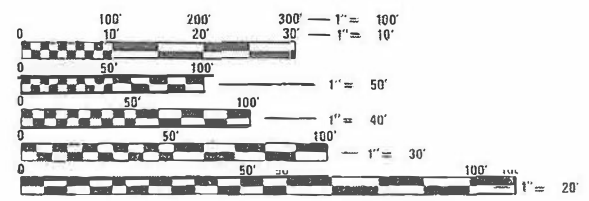
SN 058-0062
ADT (2020) = 300 (LINCOLN MEMORIAL PARKWAY)
ADT (2021) = 14,900 (I-72)

SN 058-0065
ADT (2020) = 250 (TWIN LAKES ROAD)
ADT (2021) = 14,900 (I-72)

SN 058-0065 - PR STRUCTURE REPAIRS
STA 7100+00.00 (TWIN LAKES ROAD)/401+23.00 (F.A.I. 72)
TWIN LAKES ROAD OVER F.A.I. 72 (I-72)
262'-10" BK-BK APPR. BENTS

SN 058-0062 - PR STRUCTURE REPAIRS
STA 1100+00.00 (CH 27)/321+14.00 (F.A.I. 72)
CH 27 (LINCOLN MEMORIAL PARKWAY) OVER F.A.I. RTE. 72 (I-72)
260'-0" BK-BK APPR. BENTS

SN 058-0060 - PR STRUCTURE REPAIRS
STA 2200+00.52 (TR 4)/52+47.46 (F.A.I. 72)
TR 4 (SOUTH ACOM ROAD) OVER F.A.I. RTE. 72 (I-72)
258'-6" BK-BK APPR. BENTS



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 EXCAVATORS
1-800-892-0123
OR 811



PROJECT ENGINEER: MATT BOWER
PROJECT MANAGER: ALBERT NIEMERG
PHONE NUMBER: 217-342-8359
CONTRACT NO. 74B29



R1E, 3RD PM

R1E, 3RD PM

LOCATION MAP



SCALE IN MILES
GROSS LENGTH = 781.34 FT. = 0.148 MILE
NET LENGTH = 781.34 FT. = 0.148 MILE



K. S. Cummins 8/24/23

ILLINOIS PROFESSIONAL NO. 56816
(Expires 11/30/23)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUBMITTED August 25 2023
Jeffrey P. Myers REGIONAL ENGINEER
October 13, 2023
Steph M. Smith
ENGINEER OF DESIGN AND ENVIRONMENT
October 13, 2023
DIRECTOR OF HIGHWAYS PROJECT IMPLEMENTATION

PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS

INDEX OF SHEETS

1	COVER SHEET
2	INDEX OF SHEETS, HIGHWAY STANDARDS, AND GENERAL NOTES
3-3A	SUMMARY OF QUANTITIES
4	SCHEDULE OF QUANTITIES
5-8	LOCATION MAPS WITH SIGNAGE
9-16	STRUCTURE PLANS S.N. 058-0060
17-25	STRUCTURE PLANS S.N. 058-0062
26-35	STRUCTURE PLANS S.N. 058-0065

GENERAL NOTES

1. PLAN DIMENSIONS AND DETAILS RELATIVE TO THE EXISTING STRUCTURE HAVE BEEN TAKEN FROM EXISTING PLANS AND ARE SUBJECT TO NOMINAL CONSTRUCTION VARIATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY DIMENSIONS AND DETAILS IN THE FIELD AND MAKE NECESSARY APPROVED ADJUSTMENTS PRIOR TO CONSTRUCTION OR ORDERING OF MATERIAL. SUCH VARIATIONS SHALL NOT BE THE CAUSE FOR ADDITIONAL COMPENSATION FOR A CHANGE IN THE SCOPE OF THE WORK. THE CONTRACTOR WILL BE PAID FOR THE QUANTITY FURNISHED AT THE UNIT PRICE BID FOR THE WORK.

LIST OF ILLINOIS DOT HIGHWAY STANDARDS

STANDARD NO.	DESCRIPTION
000001-08	STANDARD SYMBOLS ABBREVIATIONS AND PATTERNS
001001-02	AREAS OF REINFORCEMENT BARS
001006	DECIMAL OF AN INCH AND OF A FOOT
420001-10	PAVEMENT JOINTS
701001-02	OFF-ROAD OPERATIONS, 2L, 2W, MORE THAN 15' AWAY
701006-05	OFF-ROAD OPERATIONS, 2L, 2W, 15' TO 24" FROM EDGE OF PAVEMENT
701011-04	OFF-ROAD MOVING OPERATIONS, 2L, 2W, DAY ONLY
701101-05	OFF-ROAD OPERATIONS MULTILANE, 15' TO 24" FROM PAVEMENT EDGE
701106-02	OFF-ROAD OPERATIONS, MULTILANE, MORE THAN 15' AWAY
701400-11	APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY
701406-13	LANE CLOSURE, FREEWAY/EXPRESSWAY, DAY OPERATIONS ONLY
701901-08	TRAFFIC CONTROL DEVICES
780001-05	TYPICAL PAVEMENT MARKINGS
BLR 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

COMMITMENTS

ALL LANES SHALL BE OPEN TO TRAFFIC DURING THE 2024 SOLAR ECLIPSE FROM 7:00 AM ON SATURDAY APRIL 6, 2024, THROUGH 10:00 PM ON MONDAY APRIL 8, 2024.

REV. - MS

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PLOT DATE = 8/24/2023	DATE - 7/03/2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**INDEX OF SHEETS, HIGHWAY STANDARDS,
AND GENERAL NOTES**

SCALE: SHEET OF SHEETS STA. TO STA.

VARIOUS ROUTES	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	D7 BRIDGE REPAIRS 2024-3	MACON	35	2
			CONTRACT NO. 74B29	
		ILLINOIS	FED. AID PROJECT	

SUMMARY OF QUANTITIES

90% FED
10% STATE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	0059	
				URBAN	RURAL
				SN 058-0065	SN 058-0060 SN 058-0062
50102400	CONCRETE REMOVAL	CU YD	20.6	6.2	14.4
50157300	PROTECTIVE SHIELD	SQ YD	924	306	618
50300225	CONCRETE STRUCTURES	CU YD	2.9	1.3	1.6
50300255	CONCRETE SUPERSTRUCTURE	CU YD	24.6	7.2	17.4
50300260	BRIDGE DECK GROOVING	SQ YD	2,340	768	1,572
50300300	PROTECTIVE COAT	SQ YD	2,537	834	1,703
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	2,010	2,010	
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	4,360	1,460	2,900
52000110	PREFORMED JOINT STRIP SEAL	FOOT	190	63	127
52100010	FURNISHING ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	10	10	
52100510	ANCHOR BOLTS, 3/4"	EACH	20	20	
67100100	MOBILIZATION	L SUM	1	0.33	0.67
70100700	TRAFFIC CONTROL AND PROTECTION, STANDARD 701406	L SUM	1	0.33	0.67
70107025	CHANGEABLE MESSAGE SIGN	CAL DA	84	28	56
78001110	PAINT PAVEMENT MARKING - LINE 4"	FOOT	1,046	526	520
* X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1	0.33	0.67
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	10	10	

* SPECIALTY ITEM

REV. - MS

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUMMARY OF QUANTITIES

SCALE: SHEET OF SHEETS STA. TO STA.

VARIOUS ROUTES	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	D7 BRIDGE REPAIRS 2024-3	MACON	35	3
			CONTRACT NO. 74B29	
		ILLINOIS FED. AID PROJECT		

SUMMARY OF QUANTITIES

90% FED
10% STATE

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	0059	
				URBAN	RURAL
				SN 058-0065	SN 058-0060 SN 058-0062
Z0004556	HOT-MIX ASPHALT SURFACE REMOVAL (DECK)	SQ YD	2,519	828	1,691
Z0012111	BRIDGE DECK FLY ASH OR GGBF SLAG CONCRETE OVERLAY, 2 1/2"	SQ YD	1,652		1,652
Z0012112	BRIDGE DECK FLY ASH OR GGBF SLAG CONCRETE OVERLAY, 2 3/4"	SQ YD	810	810	
Z0012130	BRIDGE DECK SCARIFICATION 3/4"	SQ YD	2,462	810	1,652
Z0012754	STRUCTURAL REPAIR OF CONCRETE (DEPTH EQUAL TO OR LESS THAN 5 INCHES)	SQ FT	35	8	27
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	21	5	16
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	16		16

* SPECIALTY ITEM

REV. - MS

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	PLOT DATE = 9/7/2023	DATE - 9/07/2023	REVISED -							SCALE:	SHEET	OF	SHEETS	STA.
							ILLINOIS		FED. AID PROJECT					

78001110 PAINT PAVEMENT MARKING - LINE 4"

LOCATION	TOTAL
	FOOT
SN 058-0062	
SOLID YELLOW CENTERLINE	
LT STA 1098+70.00 TO STA 1101+30.00	260.00
RT STA 1098+70.00 TO STA 1101+30.00	260.00
SN 058-0065	
SOLID YELLOW CENTERLINE	
LT STA 7098+68.58 TO STA 7101+31.42	262.84
RT STA 7098+68.58 TO STA 7101+31.42	262.84
TOTAL	1,045.68
USE	1,046

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DESIGNED - CGF	REVISED -
DRAWN - CGF	REVISED -
CHECKED - THF	REVISED -
DATE - 7/03/2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SCHEDULE OF QUANTITIES

SCALE: SHEET OF SHEETS STA. TO STA.

VARIOUS ROUTES	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	D7 BRIDGE REPAIRS 2024-3	MACON	35	4
			CONTRACT NO. 74B29	
		ILLINOIS	FED. AID PROJECT	

LOCATION MAP



NOTE
SN 058-0062 AND SN 058-0065 SHALL NOT BE CLOSED AT THE SAME TIME.

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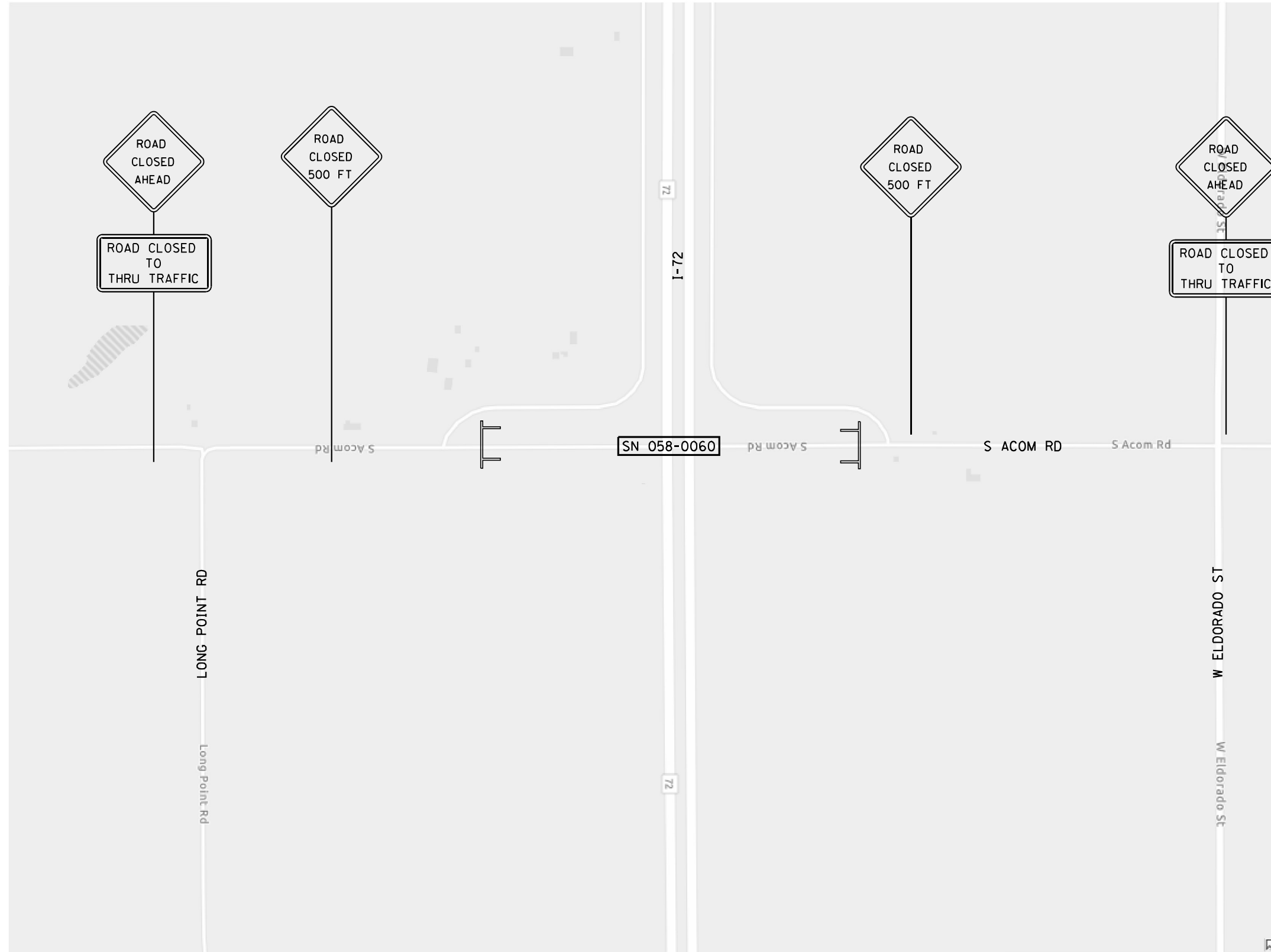
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

LOCATION MAP WITH SIGNAGE DETAIL

SCALE: SHEET OF SHEETS STA. TO STA.

VARIOUS ROUTES	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
			D7 BRIDGE REPAIRS 2024-3	MACON
			CONTRACT NO. 74B29	
		ILLINOIS FED. AID PROJECT		

LOCATION MAP WITH SIGNAGE DETAIL - SN 058-0060



SIGN LEGEND	
	R11-4
	W20-3(0)-48
	W20-3(0)-48

NOTE:
SIGNAGE SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21 AND AS SPECIFIED.

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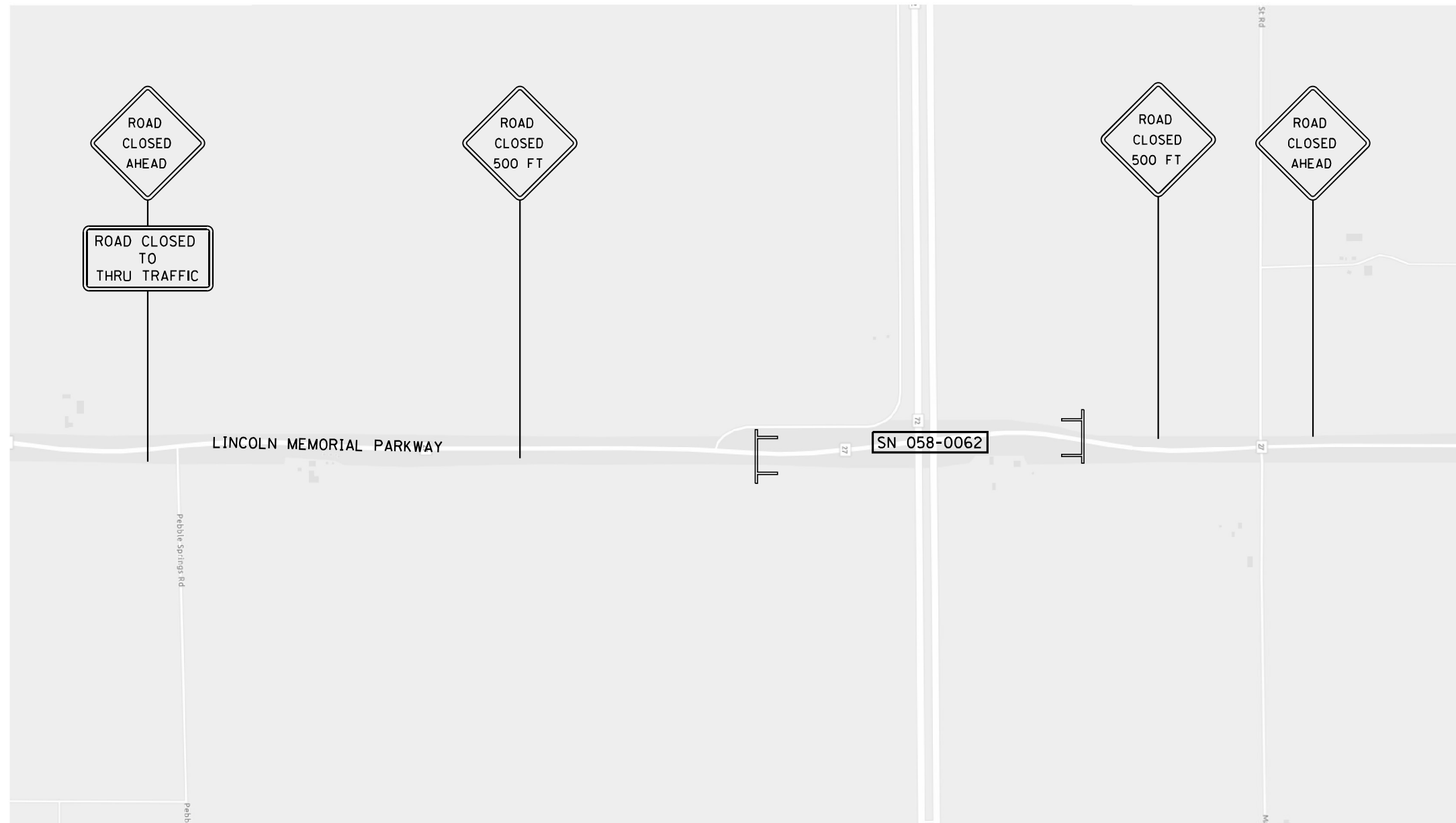
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LOCATION MAP WITH SIGNAGE DETAIL

SCALE: SHEET OF SHEETS STA. TO STA.

VARIOUS ROUTES	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D7 BRIDGE REPAIRS 2024-3		MACON	35	6
CONTRACT NO. 74B29			ILLINOIS FED. AID PROJECT	

LOCATION MAP WITH SIGNAGE DETAIL - SN 058-0062



SIGN LEGEND

	R11-4
	W20-3(O)-48
	W20-3(O)-48

NOTE:
SIGNAGE SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21 AND AS SPECIFIED.

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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

LOCATION MAP WITH SIGNAGE DETAIL

SCALE: SHEET OF SHEETS STA. TO STA.

VARIOUS ROUTES	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
D7 BRIDGE REPAIRS 2024-3		MACON	35	7
ILLINOIS FED. AID PROJECT			CONTRACT NO. 74B29	

LOCATION MAP WITH SIGNAGE DETAIL - SN 058-0065



SIGN LEGEND

	R11-4
	W20-3(O)-48
	W20-3(O)-48

NOTE:
SIGNAGE SHALL BE IN ACCORDANCE WITH TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21 AND AS SPECIFIED.

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PLOT DATE = 8/24/2023	DATE - 7/03/2023	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

LOCATION MAP WITH SIGNAGE DETAIL

SCALE: SHEET OF SHEETS STA. TO STA.

VARIOUS ROUTES	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	D7 BRIDGE REPAIRS 2024-3	MACON	35	8
CONTRACT NO. 74B29				
ILLINOIS FED. AID PROJECT				

Existing Structure: S.N. 058-0060 was originally constructed in 1975 as Section 58-61HB consisting of a two span web welded box girder superstructure on a pile supported single-column trapezoidal pier and pile supported vaulted abutments. New overlay, expansion joints and other repairs to be completed under road closure.

SCOPE OF WORK

1. Remove HMA surface and perform bridge deck scarification.
2. Remove and replace expansion joints at abutments.
3. Perform full-depth patching of bridge deck.
4. Plug drains at parapet joints near pier.
5. Place concrete overlay.
6. Modify ends of wingwalls.

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated. 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.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when deck is poured at an ambient temperature other than 50° F.

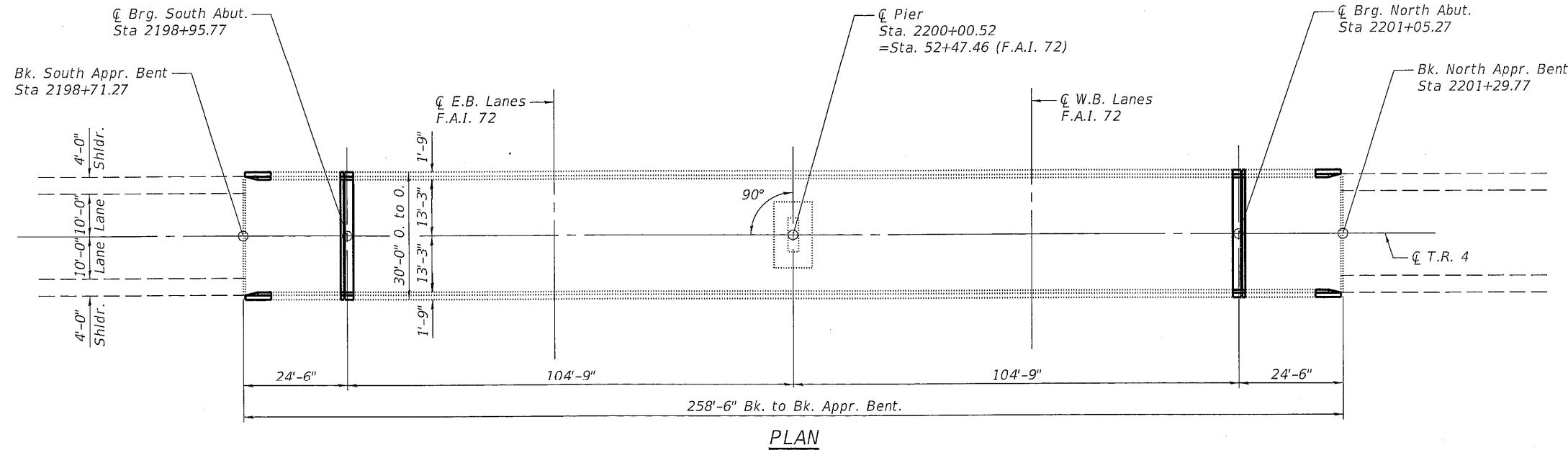
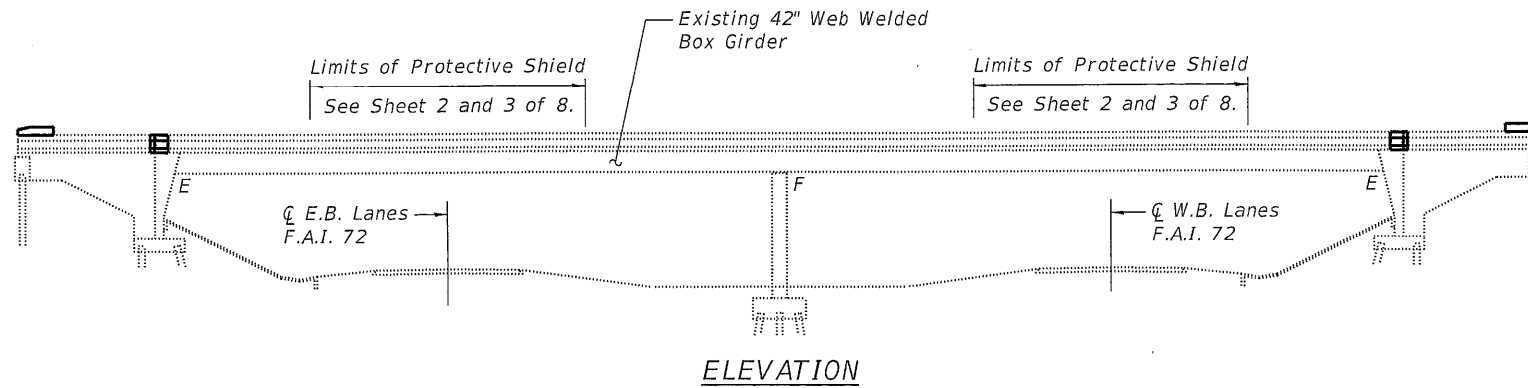
Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

Protective Coat shall be applied to concrete wearing surface and new concrete at parapets and joints.

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

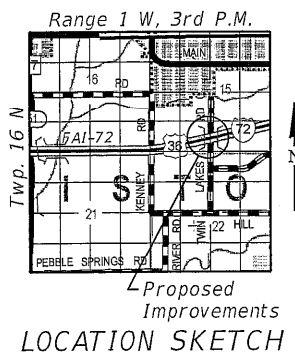
Existing reinforcement bars extending into the removal areas shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included in Concrete Removal.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to address the presence of lead on this project.



TOTAL BILL OF MATERIAL

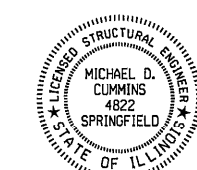
ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	6.8
Protective Shield	Sq. Yd.	280
Concrete Superstructure	Cu. Yd.	8.8
Bridge Deck Grooving	Sq. Yd.	698
Protective Coat	Sq. Yd.	763
Reinforcement Bars, Epoxy Coated	Pound	1300
Preformed Joint Strip Seal	Foot	57
Hot-Mix Asphalt Surface Removal (Deck)	Sq. Yd.	757
Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2 1/2"		738
Bridge Deck Scarification 3/4"	Sq. Yd.	738
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	1
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	-



DESIGN STRESSES

FIELD UNITS (New Construction)
 $f'_c = 3,500$ psi (Substructure)
 $f'_c = 4,000$ psi (Superstructure)
 $f_y = 60,000$ psi (Reinforcement)

FIELD UNITS (Existing Construction)
 $f_c = 1,200$ psi (Super-Main Span)
 $f_c = 1,400$ psi (Substructure)
 $f_s = 20,000$ psi (Structural/Reinforcement)



Michael D. Cummins 10/3/23
 (Expires 11/30/24)

GENERAL PLAN AND ELEVATION
T.R. 4 OVER F.A.I. 72
SECTION D7 BRIDGE REPAIRS 2024-3
MACON COUNTY
STA 2200+00.52 (T.R. 4)
STA 52+47.46 (F.A.I. 72)
STRUCTURE NO. 058-0060

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CEC Cummins Engineering Corporation
 ENGINEERS & SURVEYORS

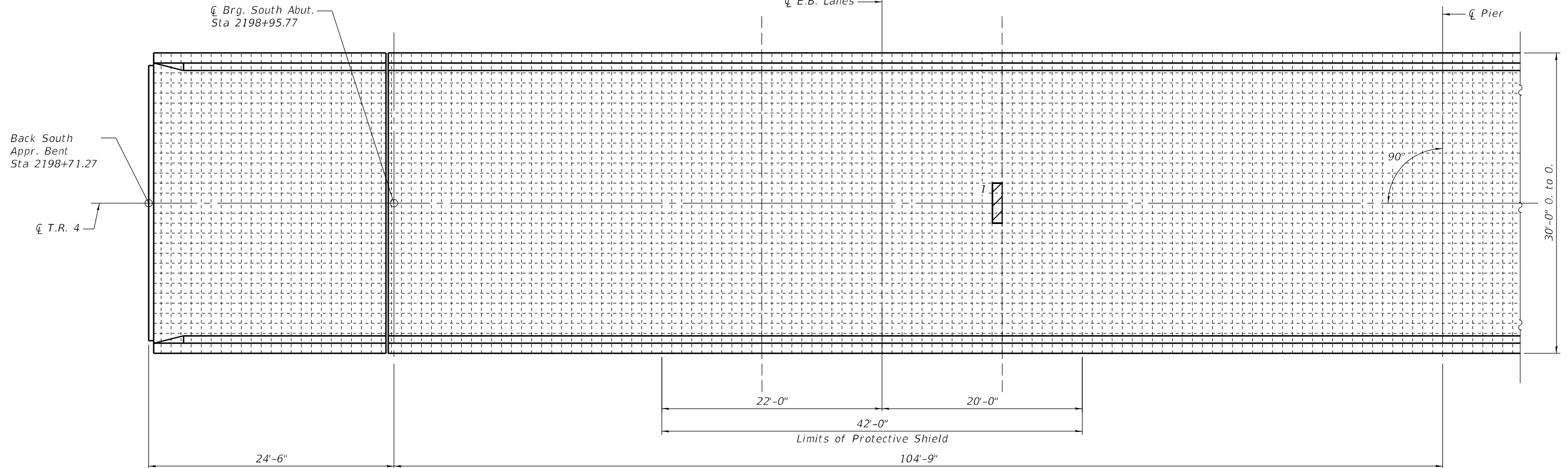
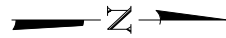
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DRAWN - SJS	REVISED -
CHECKED - MDC	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
 STRUCTURE NO. 058-0060
 SHEET 1 OF 8 SHEETS

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	D7 BRIDGE REPAIRS 2024-3	MACON	35	9
CONTRACT NO. 74B29				
ILLINOIS FED. AID PROJECT				



BRIDGE DECK PATCHING PLAN

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
1	4x1	0.44			
2					
3					
4					
5					
6					
7					
8					
9					
10					
TOTAL		0.44			

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
TOTAL					

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
TOTAL					

MODEL: Default
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FILE NAME = 2732.2-0060-02-03-DeckRepair.dgn
PLOT DATE = 10/4/2023

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CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

REVISED -
REVISED -
REVISED -
REVISED -

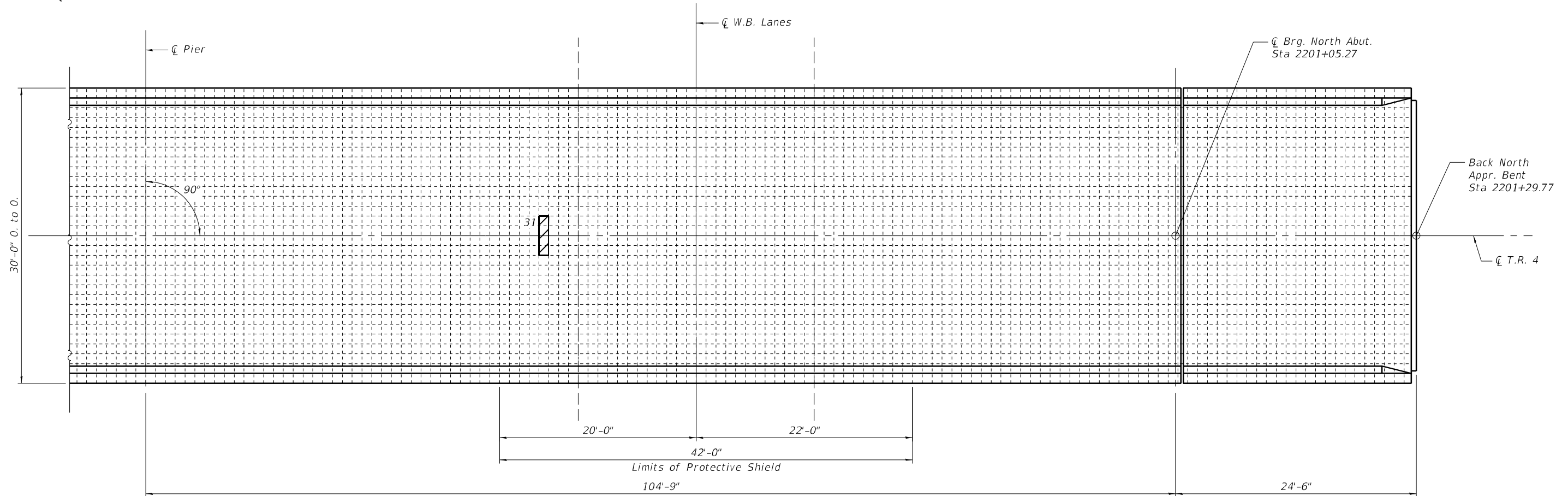
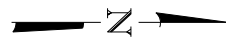
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE DECK PATCHING PLAN
STRUCTURE NO. 058-0060**

SHEET 2 OF 8 SHEETS

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	D7 BRIDGE REPAIRS 2024-3	MACON	35	10
CONTRACT NO. 74B29				

ILLINOIS FED. AID PROJECT



BRIDGE DECK PATCHING PLAN

LEGEND

Deck Slab Repair Full Depth

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	1
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	-

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
31	4x1	0.44			
32					
33					
34					
35					
36					
37					
38					
39					
40					
TOTAL		0.44			

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					
TOTAL					

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
TOTAL					

MODEL: Default
FILE NAME: 2732.2-0060-02-03-DeckRepair.dgn



JOB = 2732.2
FILE NAME = 2732.2-0060-02-03-DeckRepair.dgn
PLOT DATE = 10/4/2023

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

REVISED -
REVISED -
REVISED -
REVISED -

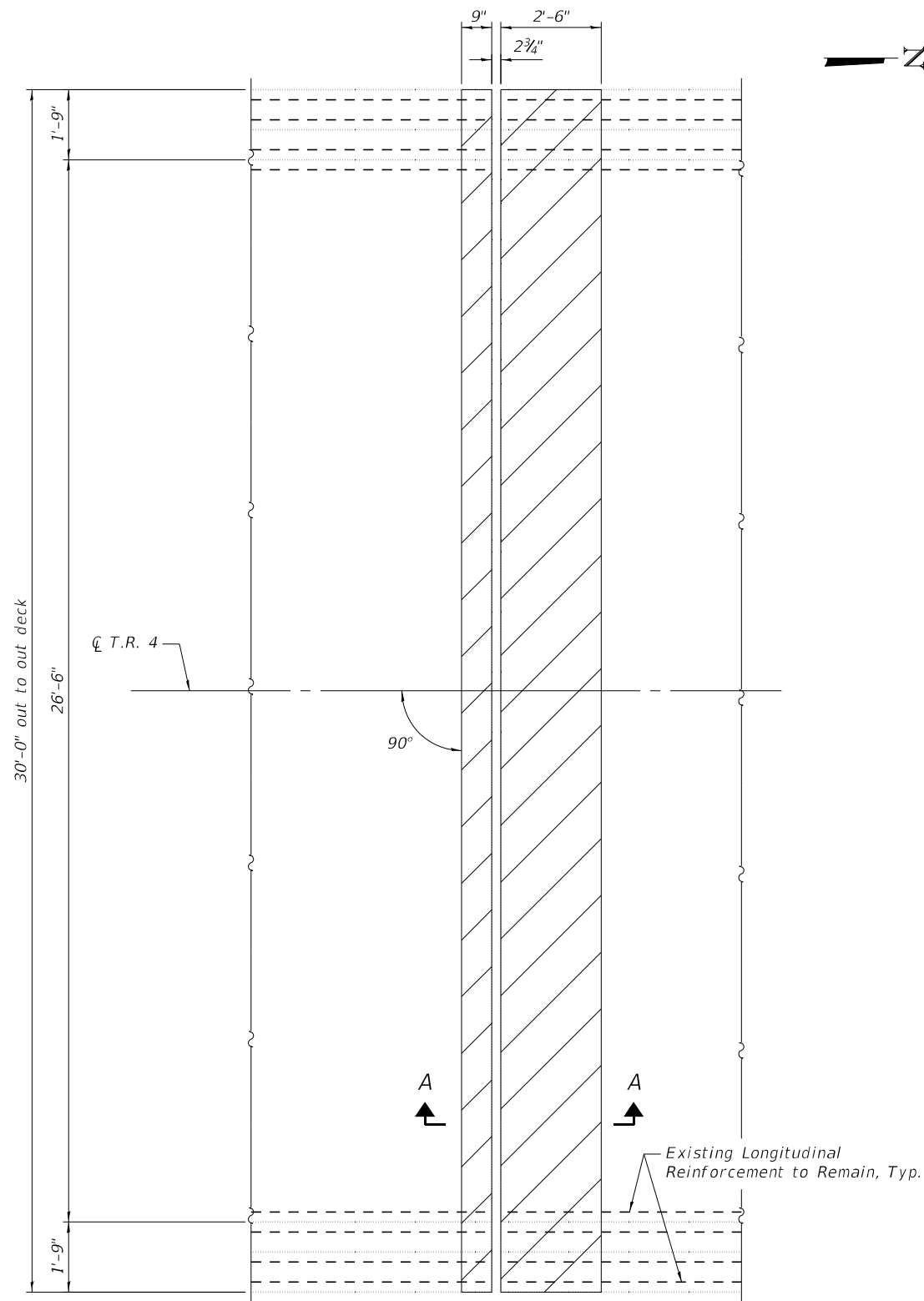
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE DECK PATCHING PLAN
STRUCTURE NO. 058-0060**

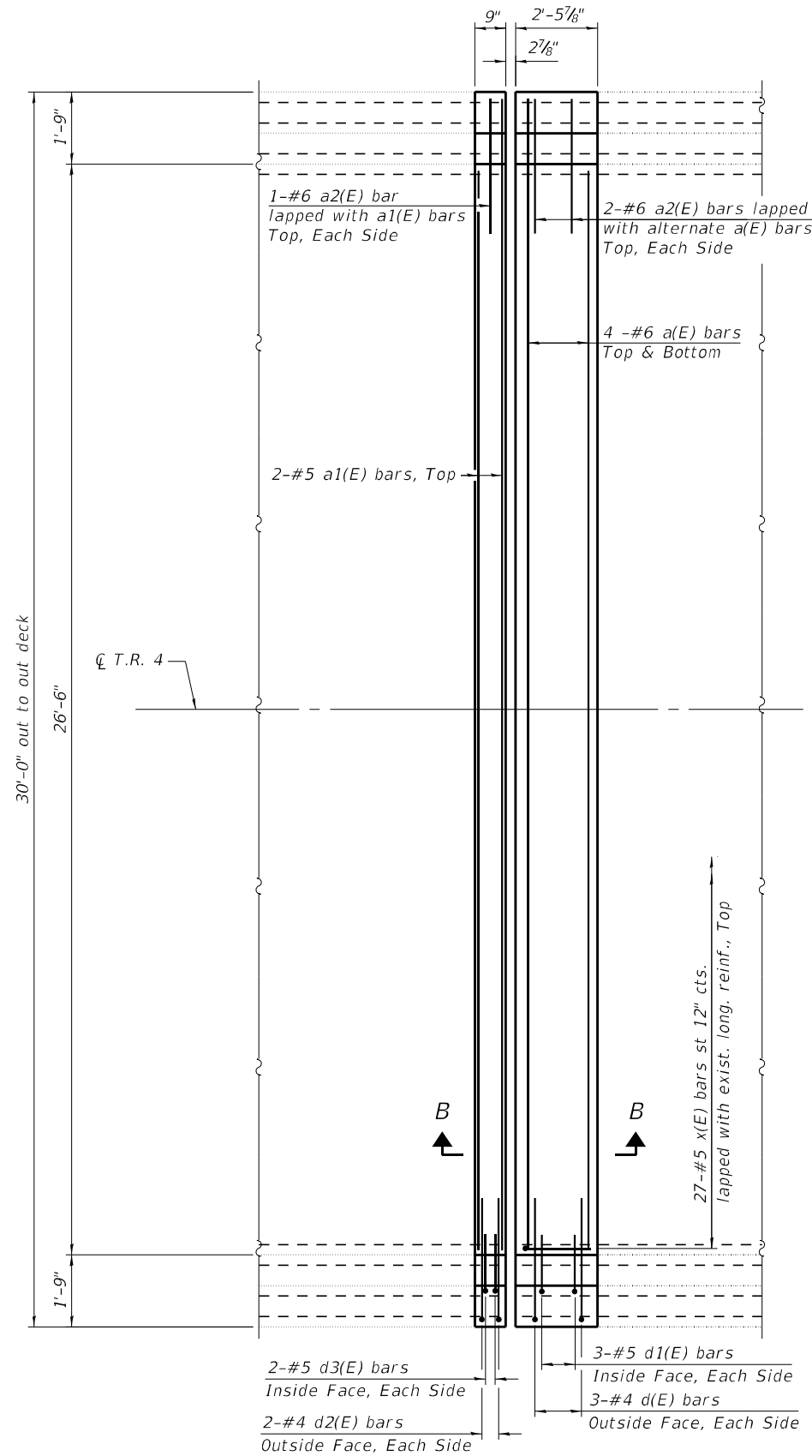
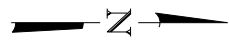
SHEET 3 OF 8 SHEETS

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	D7 BRIDGE REPAIRS 2024-3	MACON	35	11
CONTRACT NO. 74B29				

ILLINOIS FED. AID PROJECT



EXISTING PLAN AT EXPANSION JOINT
(South Abutment shown; North Abutment similar)



PROPOSED PLAN AT EXPANSION JOINT
(South Abutment shown; North Abutment similar)

Notes:
 Hatched areas indicate limits of Concrete Removal.
 Existing longitudinal reinforcement to remain shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
 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.
 For Section A-A and B-B, see sheet 5 of 8.

MODEL: \$MODELNAME\$
FILE NAME: \$FILEL\$



JOB #	= 2732.2
FILE NAME	= \$FILEL\$
PLOT DATE	= \$DATE\$

DESIGNED	- AAN
CHECKED	- MDC
DRAWN	- SJS
CHECKED	- MDC

REVISED	-
REVISED	-
REVISED	-
REVISED	-

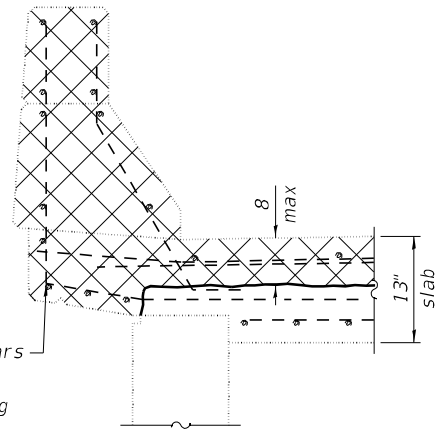
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT REPLACEMENT DETAILS
STRUCTURE NO. 058-0060

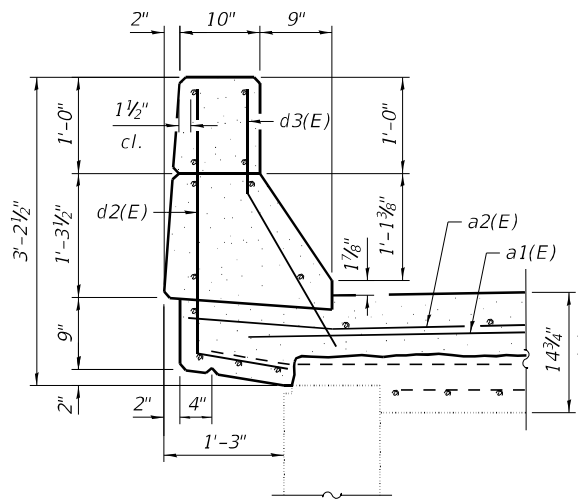
SHEET 4 OF 8 SHEETS

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	D7 BRIDGE REPAIRS 2024-3	MACON	35	12
CONTRACT NO. 74B29				
ILLINOIS FED. AID PROJECT				

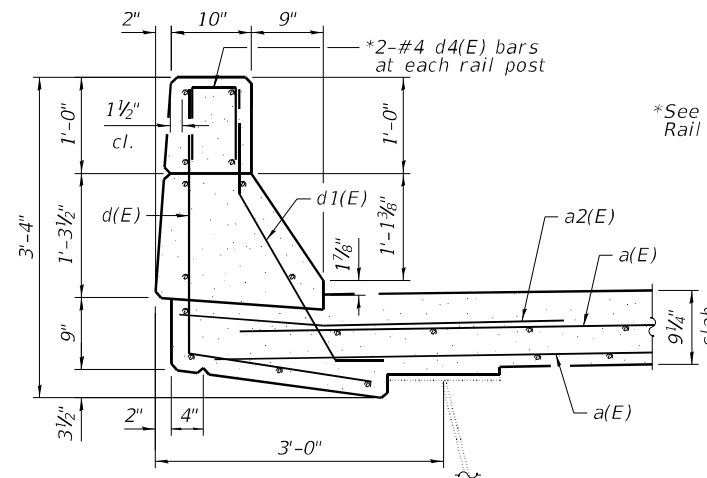
Cut existing d bars in exterior face at this point and lap horizontal leg with proposed d2(E) bars



SECTION THRU APPROACH PARAPET
(Showing Removal)

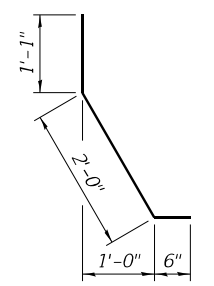
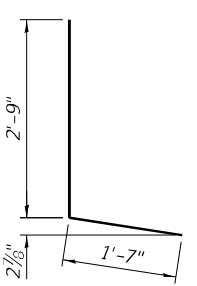
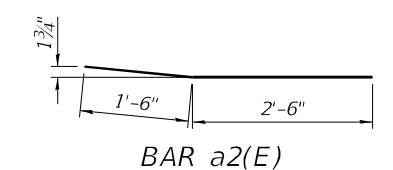


SECTION THRU APPROACH PARAPET
(Showing Proposed)



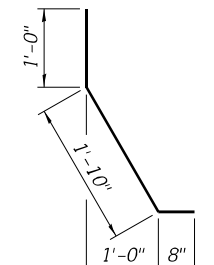
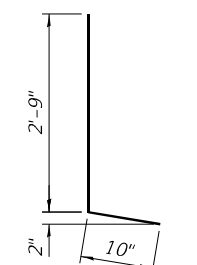
SECTION THRU DECK PARAPET
(Showing Proposed)

*See Sheet 7 of 8 for Rail Post Anchor Details



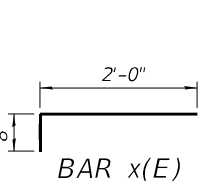
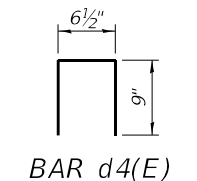
BAR d(E)

BAR d1(E)



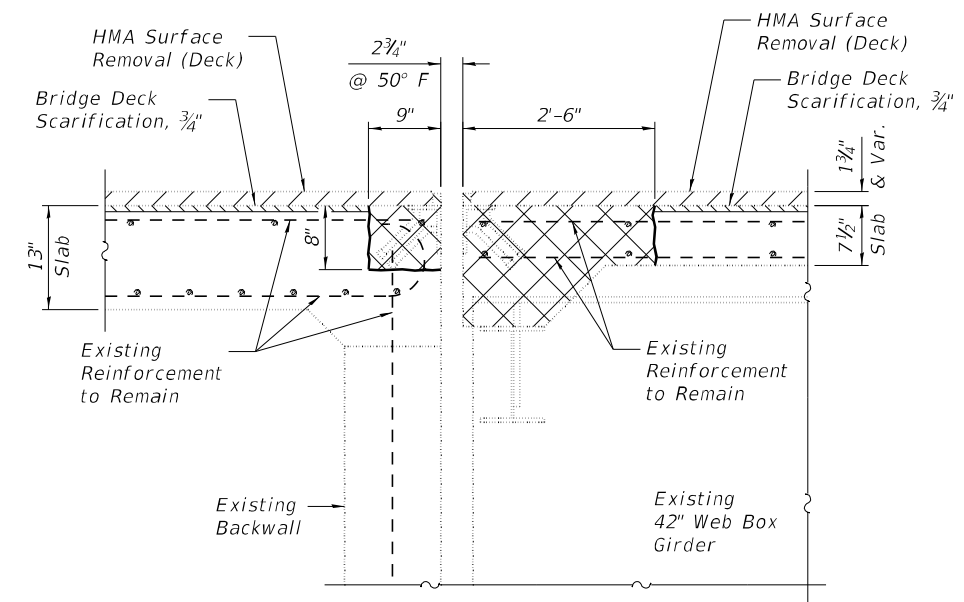
BAR d2(E)

BAR d3(E)

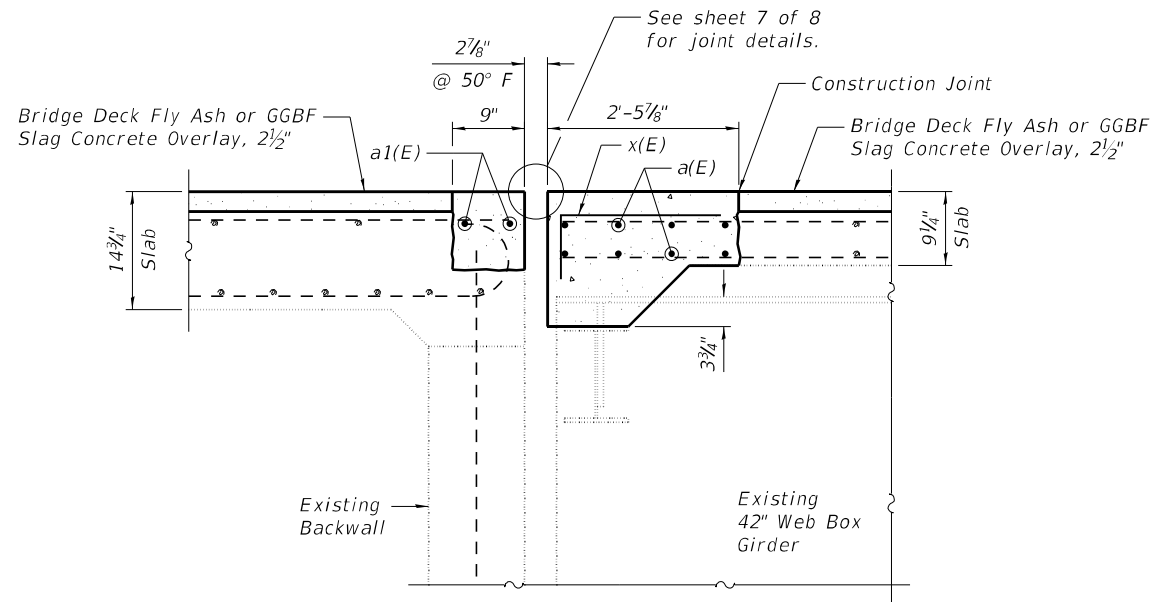


BAR d4(E)

BAR x(E)



SECTION A-A
(Showing Removal)
(Horiz. Dim. at Rt. L's to end of deck)



SECTION B-B
(Showing Proposed)
(Horiz. Dim. at Rt. L's to end of deck)

Notes:
Cross hatched areas indicate limits of Concrete Removal.

**SUPERSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	16	#6	28'-0"	—
a1(E)	4	#5	27'-6"	—
a2(E)	8	#6	4'-0"	—
d(E)	12	#4	4'-4"	L
d1(E)	12	#5	3'-7"	\
d2(E)	8	#5	3'-7"	L
d3(E)	8	#5	3'-6"	\
d4(E)	8	#4	2'-1"	n
x(E)	54	#5	2'-8"	—
Reinforcement Bars, Epoxy Coated			Lbs.	1140
Concrete Removal			Cu. Yds.	6.8
Concrete Superstructure			Cu. Yds.	7.8

MODEL: \$MODELNAMES
FILE NAME: \$FILELS



JOB = 2732.2
FILE NAME = \$FILELS
PLOT DATE = \$DATES

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

REVISED -
REVISED -
REVISED -
REVISED -

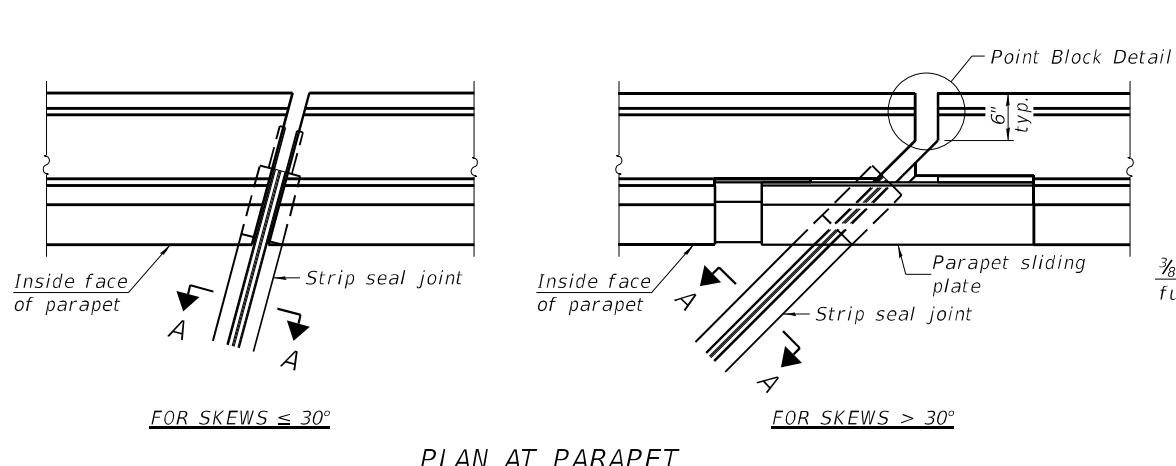
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT REPLACEMENT DETAILS
STRUCTURE NO. 058-0060

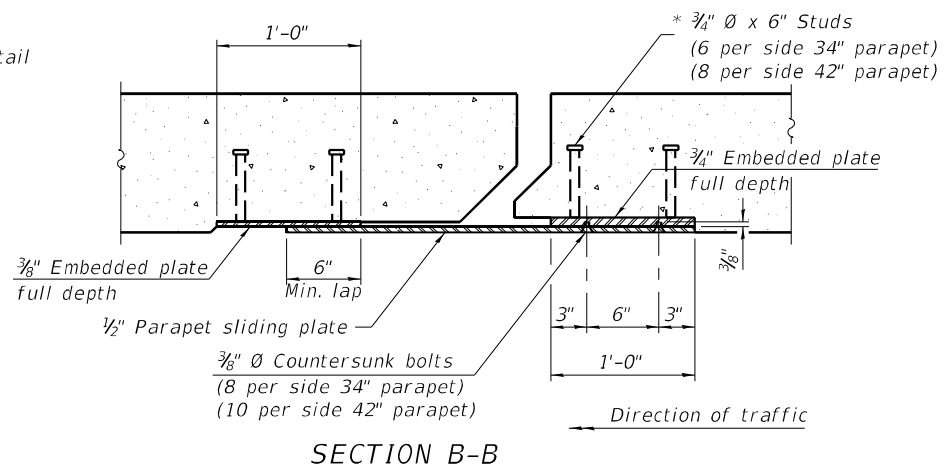
SHEET 5 OF 8 SHEETS

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	D7 BRIDGE REPAIRS 2024-3	MACON	35	13
CONTRACT NO. 74B29				

ILLINOIS FED. AID PROJECT

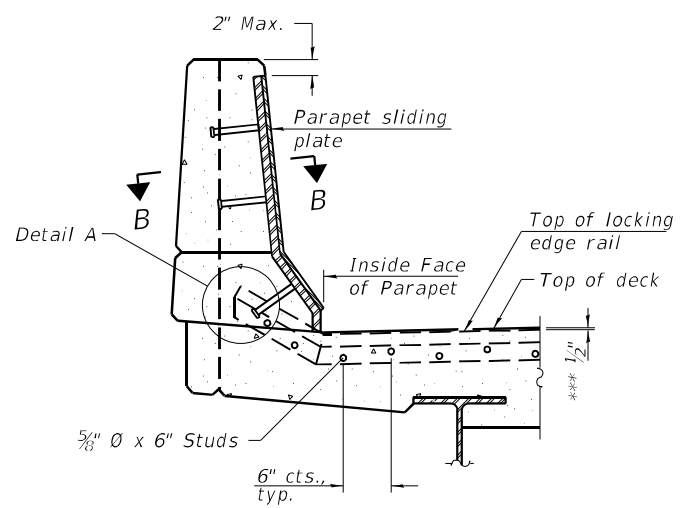


PLAN AT PARAPET



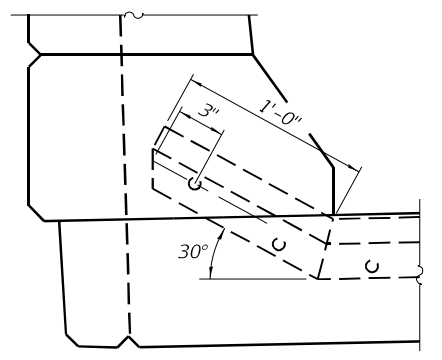
SECTION B-B

Notes:
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
 The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.
 The manufacturer's recommended installation methods shall be followed.
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
 The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.



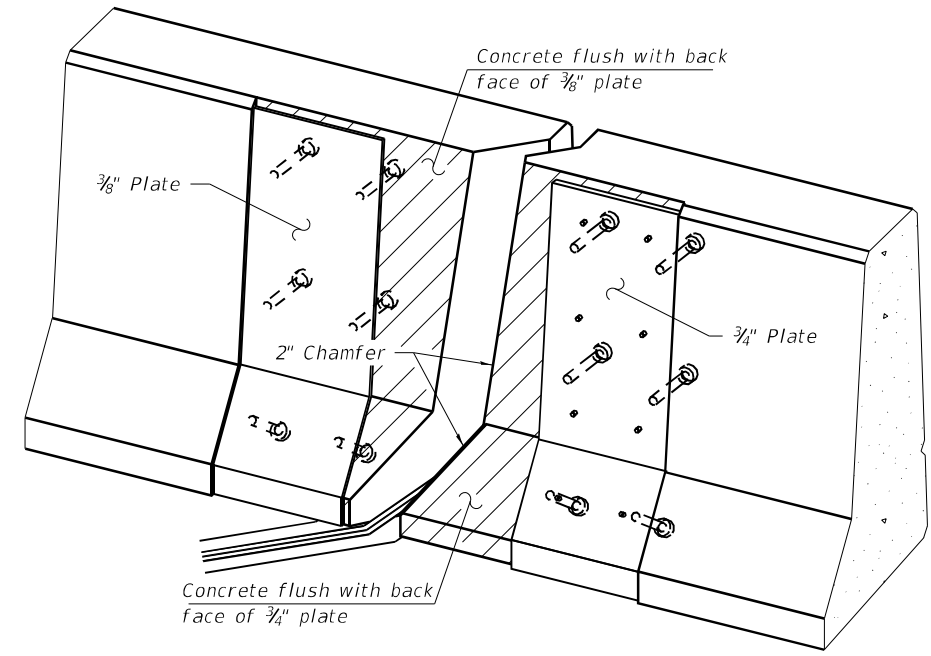
ELEVATION AT PARAPET

(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)

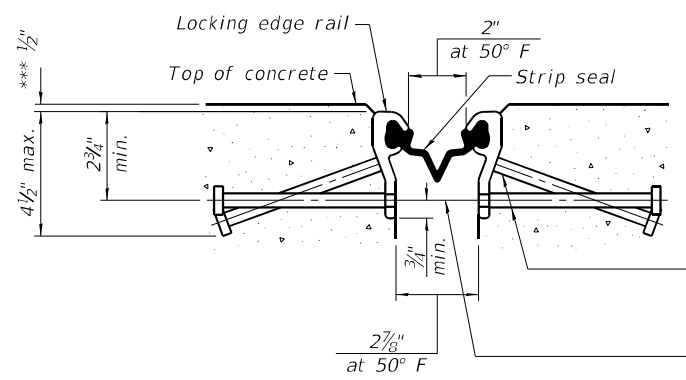


DETAIL A

*** Prior to 1/4" Grinding

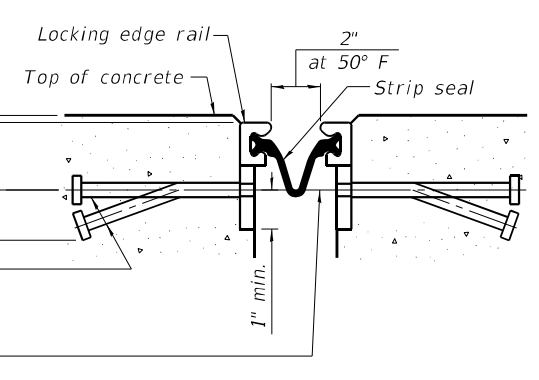


TRIMETRIC VIEW
 (Showing embedded plates only)

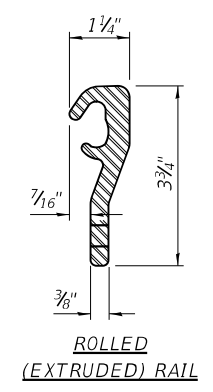


SHOWING ROLLED RAIL JOINT

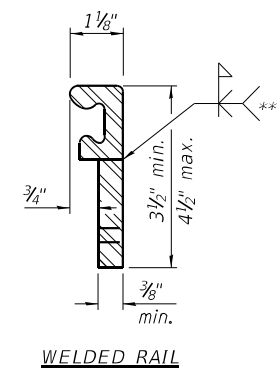
* 5/8" ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)
 3/8" ϕ threaded rods in 7/16" ϕ holes at $\pm 4'-0"$ cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.



SHOWING WELDED RAIL JOINT



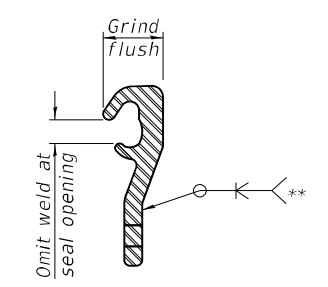
ROLLED (EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	57

MODEL: \$MODELNAME\$
 FILE NAME: \$FILES



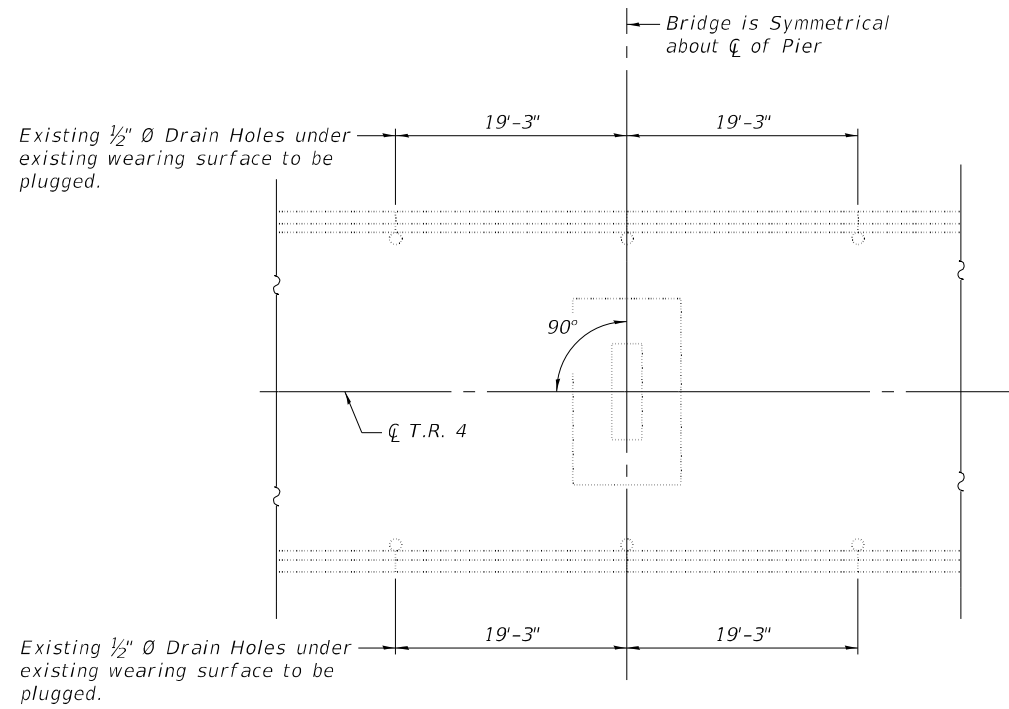
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FILE NAME = \$FILEL\$	CHECKED - MDC	REVISED -
PLOT DATE = \$DATE\$	DRAWN - SJS	REVISED -
	CHECKED - MDC	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

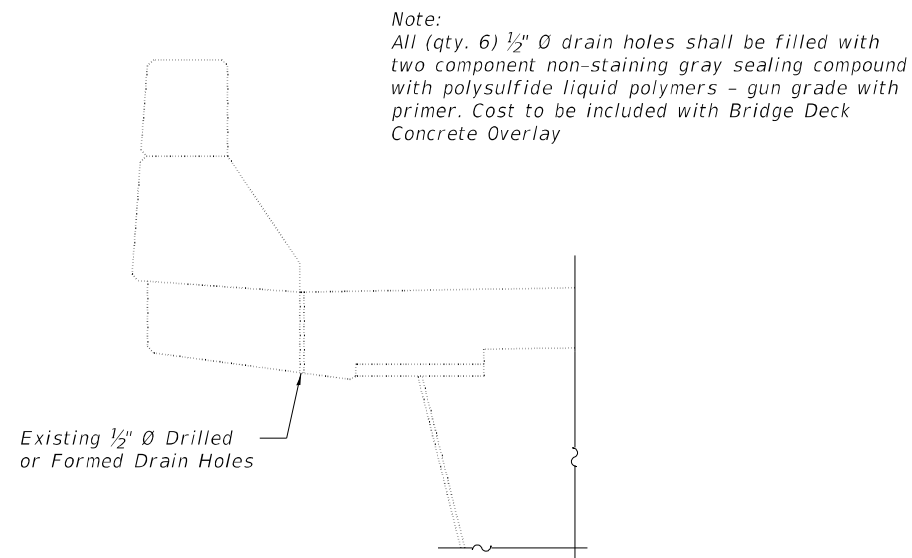
MODIFIED PREFORMED JOINT STRIP SEAL
 STRUCTURE NO. 058-0060

SHEET 6 OF 8 SHEETS

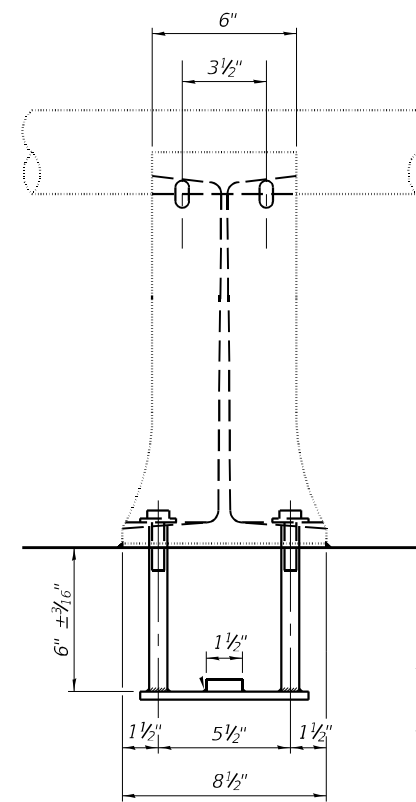
T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	D7 BRIDGE REPAIRS 2024-3	MACON	35	14
CONTRACT NO. 74B29				
ILLINOIS FED. AID PROJECT				



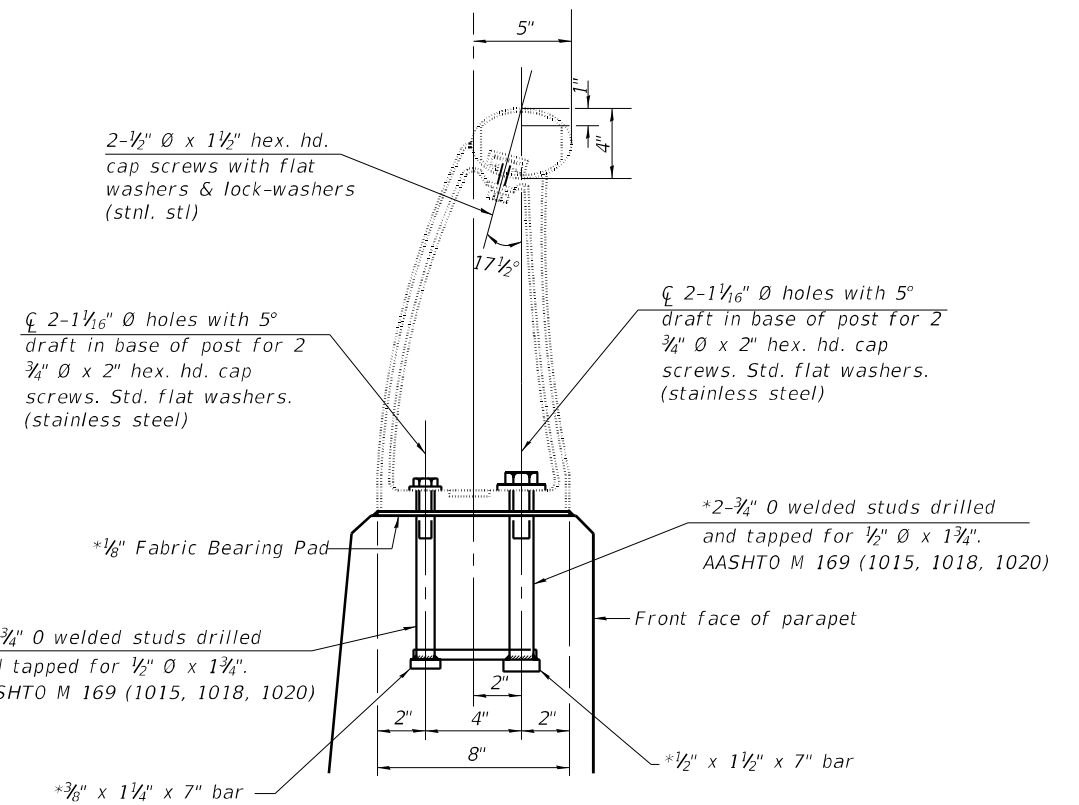
PLAN



DETAIL OF DRAIN HOLES
(To be plugged)



ELEVATION AT RAILPOST



RAIL POST ANCHOR DETAILS

*New Rail Post anchorage devices will be required at each location where posts are connected to new construction. Cost included with Concrete Superstructure.

MODEL: SMODELNAMES
FILE NAME: \$FILES



JOB #	2732.2
FILE NAME	= \$FILEL\$
PLOT DATE	= \$DATE\$

DESIGNED	- AAN	REVISED	-
CHECKED	- MDC	REVISED	-
DRAWN	- SJS	REVISED	-
CHECKED	- MDC	REVISED	-

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PLUGGING DRAINS
STRUCTURE NO. 058-0060**

SHEET 7 OF 8 SHEETS

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	D7 BRIDGE REPAIRS 2024-3	MACON	35	15
CONTRACT NO. 74B29				

ILLINOIS FED. AID PROJECT

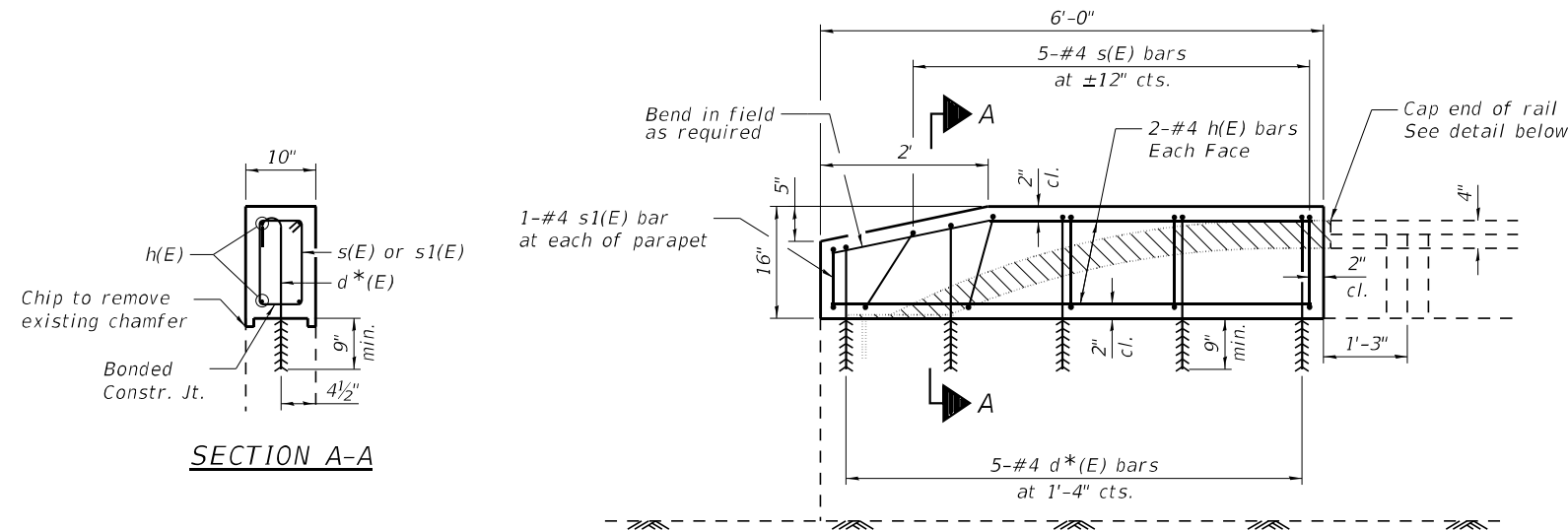
**FOUR PARAPETS
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
h(E)	16	#4	5'-8"	—
s(E)	20	#4	3'-9"	⊠
s1(E)	4	#4	2'-11"	⊠
d*(E)	20	#4	2'-5"	⊠
Concrete Superstructure			Cu. Yd.	1.0
Reinforcement Bars, Epoxy Coated			Lbs.	160

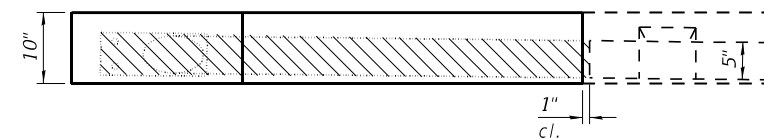
GENERAL NOTES

Hatched areas indicated limits of Handrail Removal. The existing handrail shall be cut short of the new concrete by 1" to allow for placement of forms. Cost included with Concrete Superstructure.

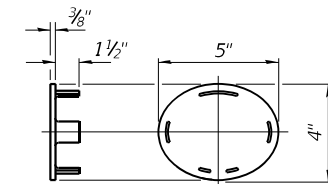
Bars designated d*(E) shall be drilled and grouted into the existing concrete parapet. Epoxy grouting shall be done in accordance with Section 584 of the Standard Specifications. the cost of the epoxy grouting and drilling shall be included in the cost of Reinforcement Bars, Epoxy Coated.



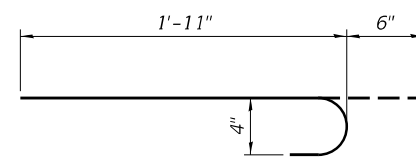
ELEVATION



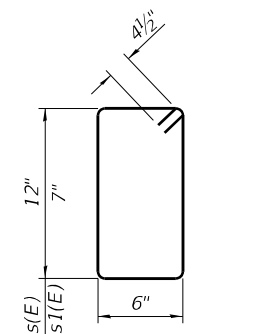
PLAN



**CAST END CAP
DRIVE FIT TYPE
(Cost included with Handrail Removal)**



BAR d(E)



BAR s(E) or s1(E)

MODEL: \$MODELNAME\$
FILE NAME: \$FILEL\$

CEC Cummins
Engineering
Corporation
ENGINEERS & SURVEYORS

JOB = 2732.2
FILE NAME = \$FILEL\$
PLOT DATE = \$DATE\$

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WINGWALL MODIFICATION DETAILS
STRUCTURE NO. 058-0060

SHEET 8 OF 8 SHEETS

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	D7 BRIDGE REPAIRS 2024-3	MACON	35	16
CONTRACT NO. 74B29				

ILLINOIS FED. AID PROJECT

Existing Structure: S.N. 058-0062 was originally constructed in 1975 as Section 58-61HB-2 consisting of a two span plate girder superstructure on a pile supported multi-column trapezoidal pier and pile supported vaulted abutments. New overlay, expansion joints and other repairs to be completed under road closure.

SCOPE OF WORK

1. Remove HMA surface and perform bridge deck scarification.
2. Remove and replace expansion joints at abutments.
3. Perform full-depth patching of bridge deck.
4. Plug drains at parapet joints near pier.
5. Place concrete overlay.
6. Modify pier crash wall.
7. Structural repair of concrete at abutments.

GENERAL NOTES

Reinforcement bars designated (E) shall be epoxy coated. 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.

Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when deck is poured at an ambient temperature other than 50° F.

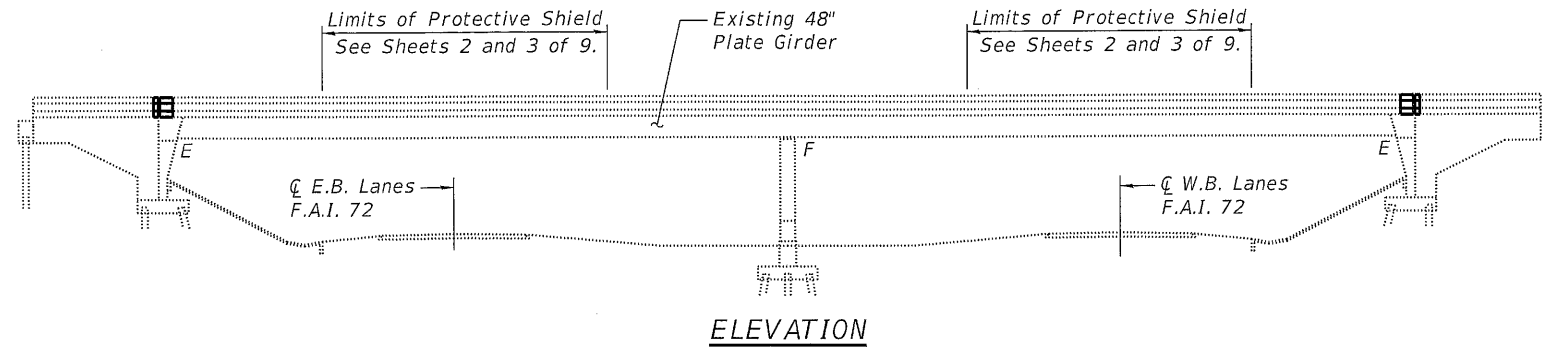
Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall be removed from the surfaces in contact with concrete. Tightly adhered paint may remain unless otherwise noted. Removal shall be accomplished by methods that will not damage the steel and the cost will be included in the pay item covering removal of the existing concrete.

Protective Coat shall be applied to concrete wearing surface and new concrete at parapets and joints.

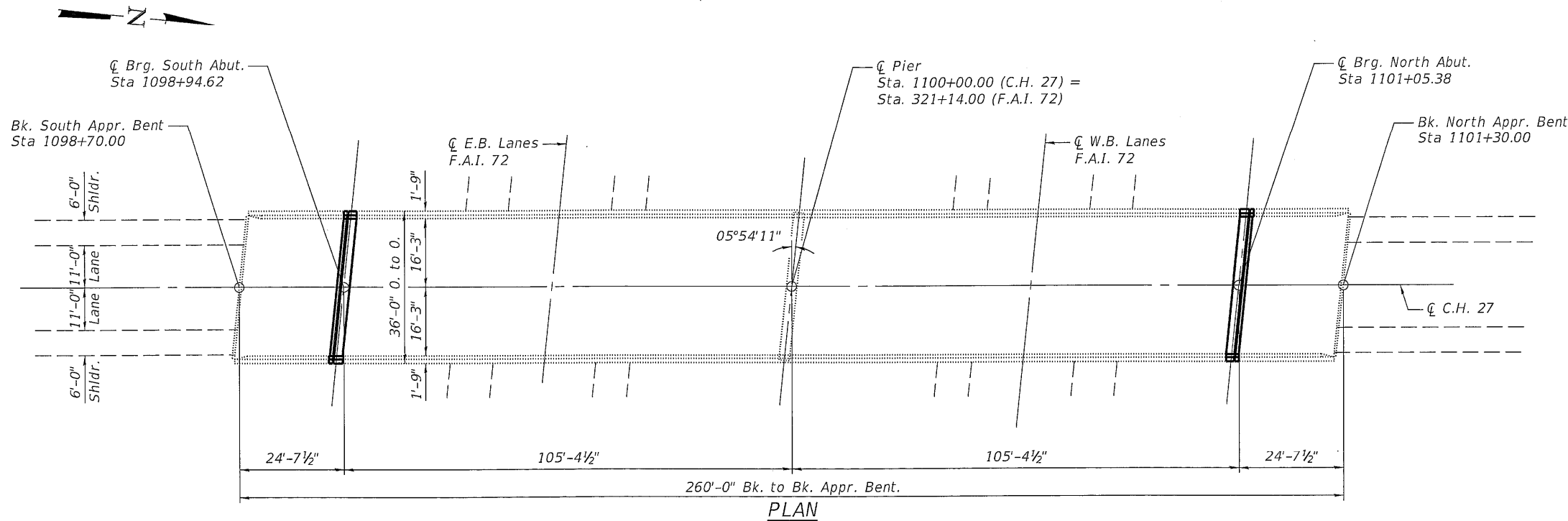
Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

Existing reinforcement bars extending into the removal areas shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included in Concrete Removal.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to address the presence of lead on this project.



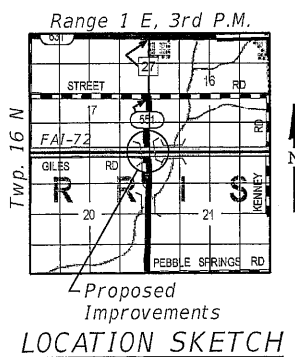
ELEVATION



PLAN

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	7.6
Protective Shield	Sq. Yd.	338
Concrete Structures	Cu. Yd.	1.6
Concrete Superstructure	Cu. Yd.	8.6
Bridge Deck Grooving	Sq. Yd.	874
Protective Coat	Sq. Yd.	940
Reinforcement Bars, Epoxy Coated	Pound	1600
Preformed Joint Strip Seal	Foot	70
Hot-Mix Asphalt Surface Removal (Deck)	Sq. Yd.	934
Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2 1/2"	Sq. Yd.	914
Bridge Deck Scarification 3/4"	Sq. Yd.	914
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	15
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	16
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	27



LOCATION SKETCH

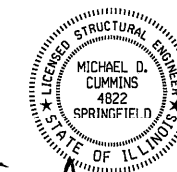
DESIGN STRESSES

FIELD UNITS (New Construction)

f'c = 3,500 psi (Substructure)
 f'c = 4,000 psi (Superstructure)
 fy = 60,000 psi (Reinforcement)

FIELD UNITS (Existing Construction)

fc = 1,200 psi (Deck)
 fc = 1,400 psi (Curb, Parapet, Substructure)
 fs = 20,000 psi (Structural/Reinforcement)



Michael D. Cummins 10/3/23
 (Expires 11/30/24)

**GENERAL PLAN AND ELEVATION
 C.H. 27 OVER F.A.I. 72
 SECTION D7 BRIDGE REPAIRS 2024-3**

**MACON COUNTY
 STA 1100+00.00 (C.H. 27)
 STA 321+14.00 (F.A.I. 72)
 STRUCTURE NO. 058-0062**

MODEL: Default
 FILE NAME: 2732.2-0062-00-GPE.dgn

CEC Cummins
 Engineering
 Corporation
 ENGINEERS & SURVEYORS

JOB #	2732.2
FILE NAME	= \$FILES\$
PLOT DATE	= 10/3/2023

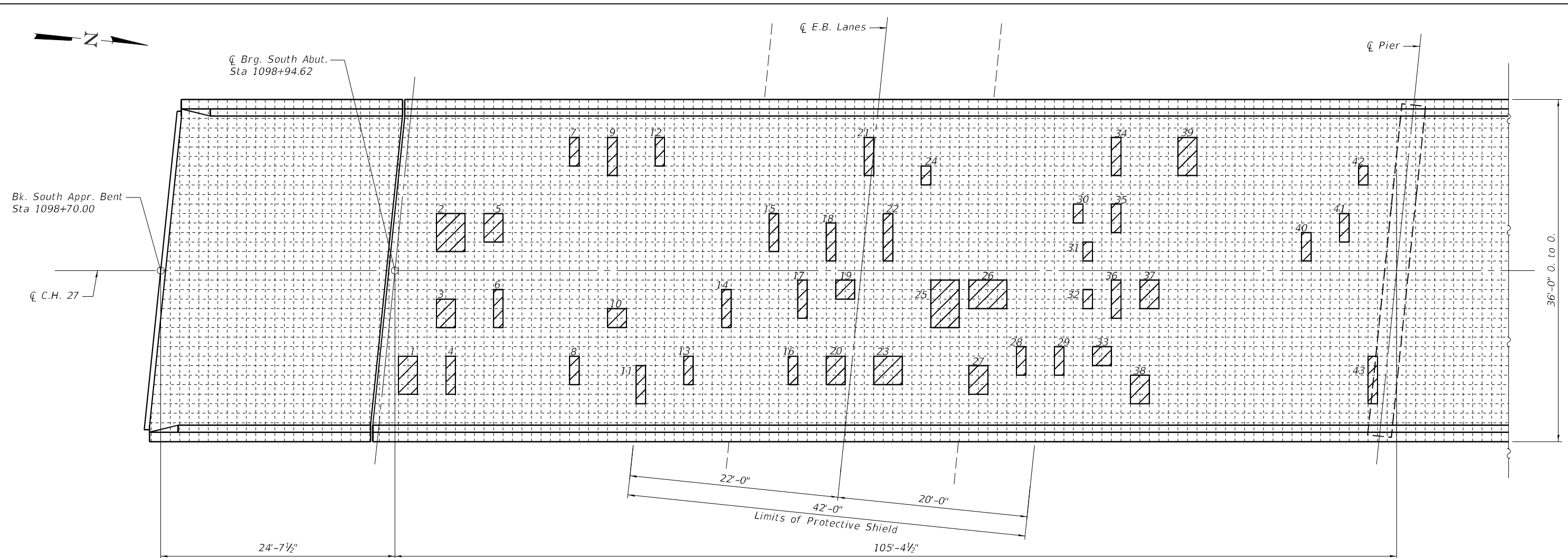
DESIGNED	- AAN	REVISED	-
CHECKED	- MDC	REVISED	-
DRAWN	- SJS	REVISED	-
CHECKED	- MDC	REVISED	-

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION
 STRUCTURE NO. 058-0062**

SHEET 1 OF 9 SHEETS

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	D7 BRIDGE REPAIRS 2024-3	MACON	35	17
CONTRACT NO. 74B29				
ILLINOIS FED. AID PROJECT				



BRIDGE DECK PATCHING PLAN

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
1	2x4		0.89		
2	3x4		1.33		
3	2x3		0.67		
4	1x4	0.44			
5	2x3		0.67		
6	1x4	0.44			
7	1x3	0.33			
8	1x3	0.33			
9	1x4	0.44			
10	2x2	0.44			
TOTAL		2.42	3.56		

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
11	1x4	0.44			
12	1x3	0.33			
13	1x3	0.33			
14	1x4	0.44			
15	1x4	0.44			
16	1x3	0.33			
17	1x4	0.44			
18	1x4	0.44			
19	2x2	0.44			
20	2x3		0.67		
TOTAL		3.63	0.67		

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
21	1x4	0.44			
22	1x5		0.56		
23	3x3		1.00		
24	1x2	0.22			
25	3x5		1.67		
26	4x3		1.33		
27	2x3		0.67		
28	1x3	0.33			
29	1x3	0.33			
30	1x2	0.22			
TOTAL		1.54	5.23		

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
31	1x2	0.22			
32	1x2	0.22			
33	2x2	0.44			
34	1x4	0.44			
35	1x3	0.33			
36	1x4	0.44			
37	2x3		0.67		
38	2x3		0.67		
39	2x4		0.89		
40	1x3	0.33			
TOTAL		2.42	2.23		

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
41	1x3	0.33			
42	1x2	0.22			
43	1x5		0.56		
44					
45					
46					
47					
48					
48					
50					
TOTAL		0.55	0.56		

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
TOTAL					

MODEL: \$MODELNAMES
FILE NAME: \$FILES



JOB = 2732.2
FILE NAME = \$FILES
PLOT DATE = \$DATES

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

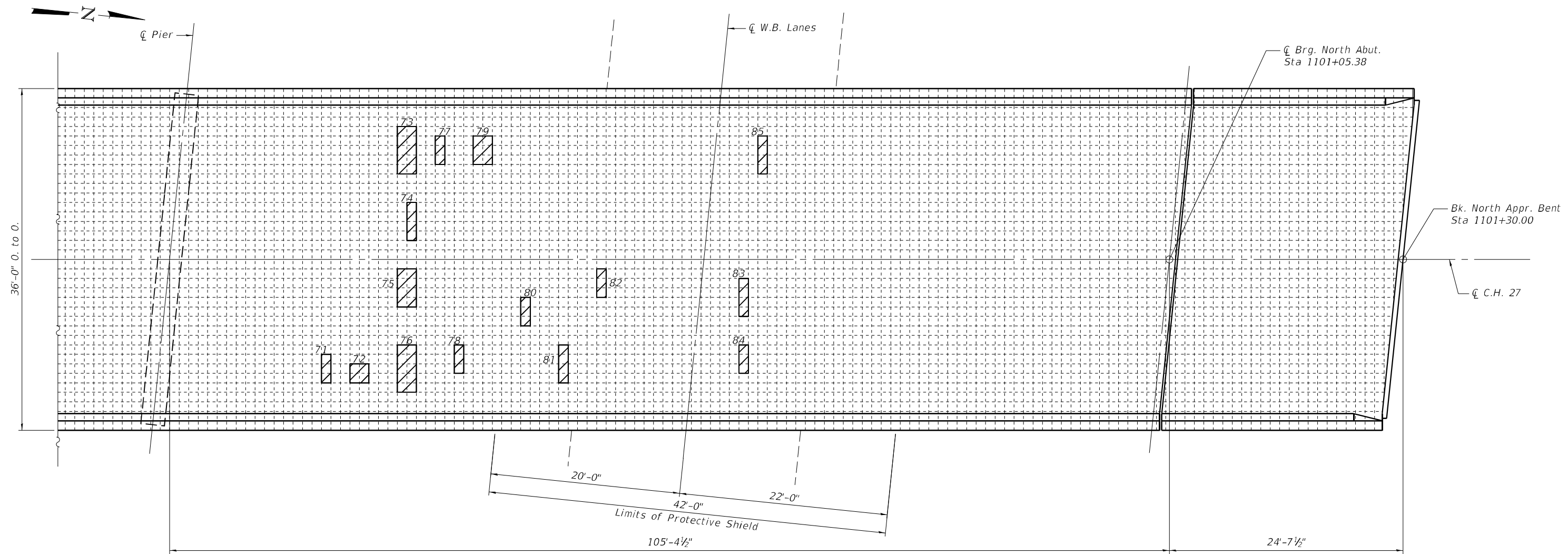
REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE DECK PATCHING PLAN
STRUCTURE NO. 058-0062**

SHEET 2 OF 9 SHEETS

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	D7 BRIDGE REPAIRS 2024-3	MACON	35	18
CONTRACT NO. 74B29				
ILLINOIS FED. AID PROJECT				



BRIDGE DECK PATCHING PLAN

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	
		SQ. YD.	SQ. YD.
71	1x3	0.33	
72	2x2	0.44	
73	2x5		1.11
74	1x4	0.44	
75	2x4		0.89
76	2x5		1.11
77	1x3	0.33	
78	1x3	0.33	
79	2x3		0.67
80	1x3	0.33	
TOTAL		2.2	3.78

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
81	1x4	0.44			
82	1x3	0.33			
83	1x4	0.44			
84	1x3	0.33			
85	1x4	0.44			
86					
87					
88					
89					
90					
TOTAL		1.98			

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
91					
92					
93					
94					
95					
96					
97					
98					
99					
100					
TOTAL					

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
101					
102					
103					
104					
105					
106					
107					
108					
109					
110					
TOTAL					

LEGEND

Deck Slab Repair Full Depth

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	15
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	16

Note:
Full depth deck slab repairs performed in the exterior bays of the bridge deck (between the parapet walls and the first interior beams) shall be limited to individual lengths no greater than 10 ft. In these portions of the deck, repair areas longer than 10 ft. shall be divided into segments not greater than 10 ft. in length, and the segments shall be poured in alternating sequence. Subsequent segments repaired in sequence shall not be removed until 72 hours shall have elapsed from the end of the previous, adjacent pour, and the adjacent pour shall have attained a minimum modulus of rupture of 650 psi.

MODEL: \$MODELNAME\$
FILE NAME: \$FILELS



JOB = 2732.2
FILE NAME = \$FILELS
PLOT DATE = \$DATES

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

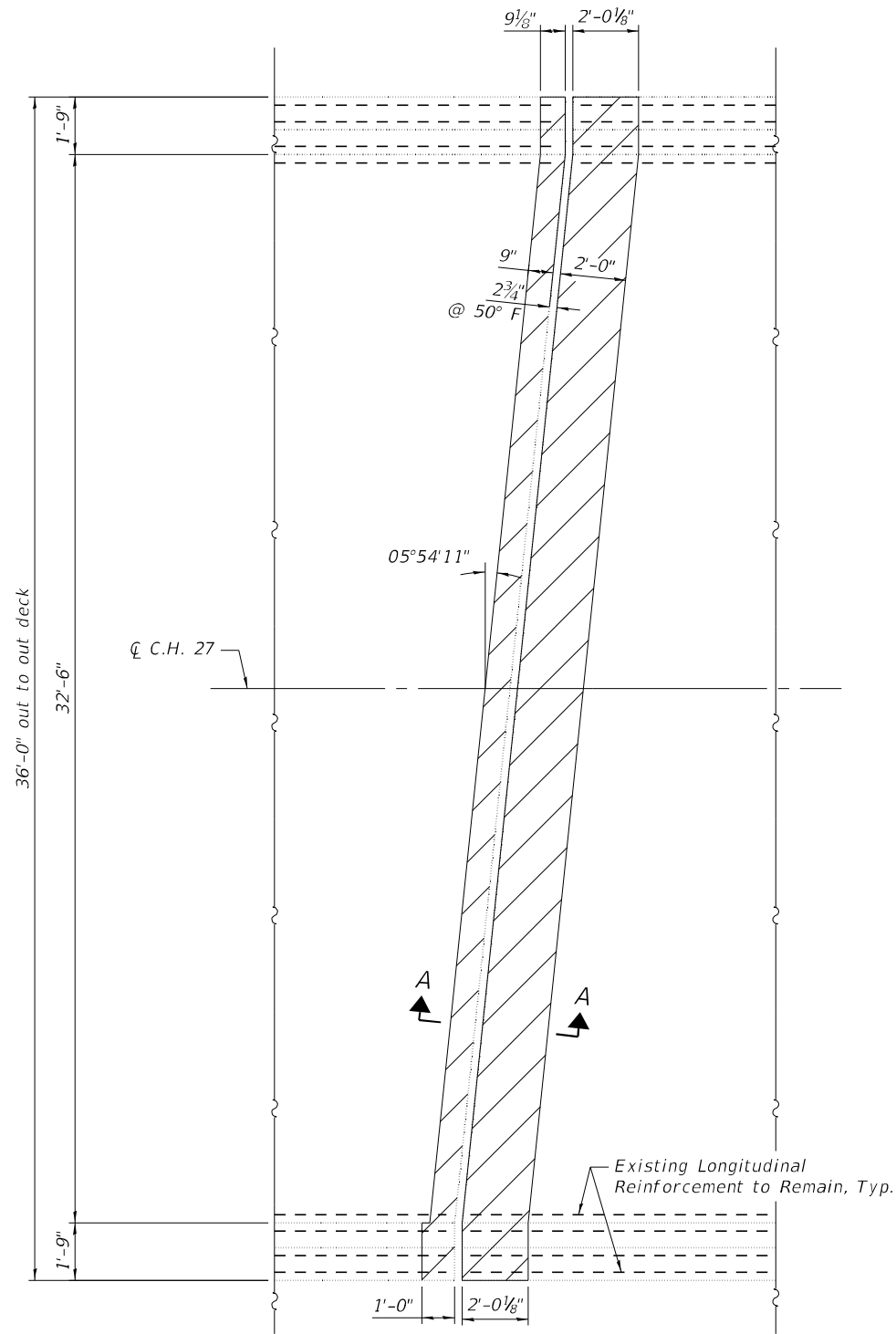
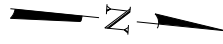
**BRIDGE DECK PATCHING PLAN
STRUCTURE NO. 058-0062**

SHEET 3 OF 9 SHEETS

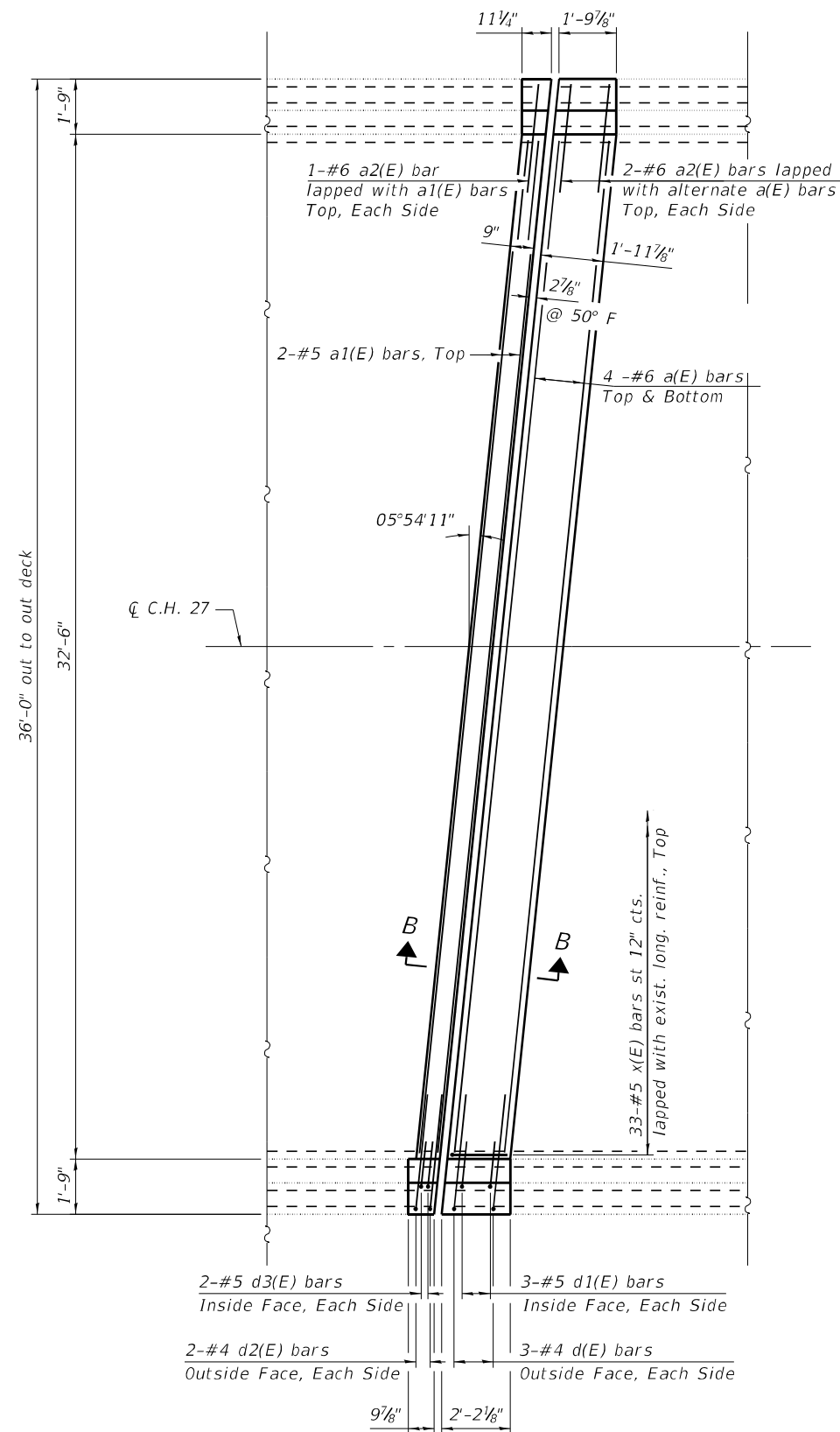
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	D7 BRIDGE REPAIRS 2024-3	MACON	35	19

CONTRACT NO. 74B29

ILLINOIS FED. AID PROJECT



EXISTING PLAN AT EXPANSION JOINT
(South Abutment shown; North Abutment similar)



PROPOSED PLAN AT EXPANSION JOINT
(South Abutment shown; North Abutment similar)

Notes:
Hatched areas indicate limits of Concrete Removal.
Existing longitudinal reinforcement to remain shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.
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.
For Section A-A and B-B, see sheet 5 of 9.

MODEL: \$MODELNAME\$
FILE NAME: \$FILEL\$

CEC Cummins
Engineering
Corporation
ENGINEERS & SURVEYORS

JOB = 2732.2
FILE NAME = \$FILEL\$
PLOT DATE = \$DATE\$

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

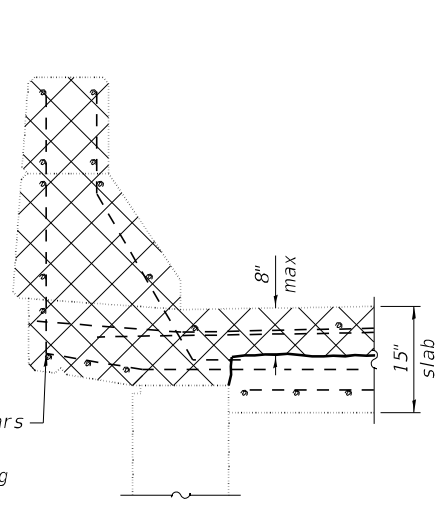
JOINT REPLACEMENT DETAILS
STRUCTURE NO. 058-0062

SHEET 4 OF 9 SHEETS

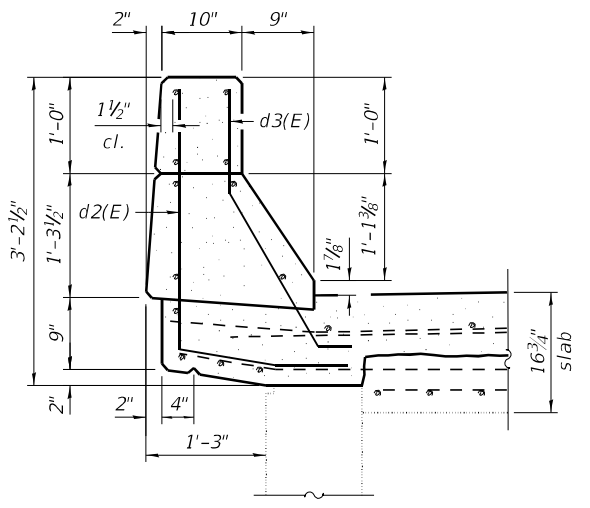
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	D7 BRIDGE REPAIRS 2024-3	MACON	35	20
CONTRACT NO. 74B29				

ILLINOIS FED. AID PROJECT

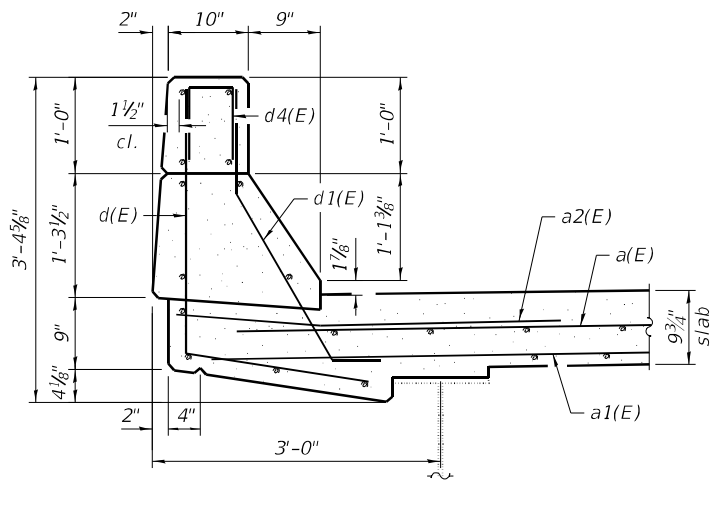
Cut existing d bars in exterior face at this point and lap horizontal leg with proposed d2(E) bars



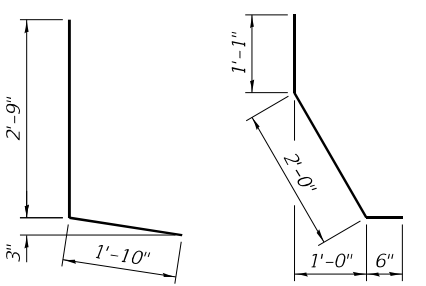
SECTION THRU APPROACH PARAPET
(Showing Removal)



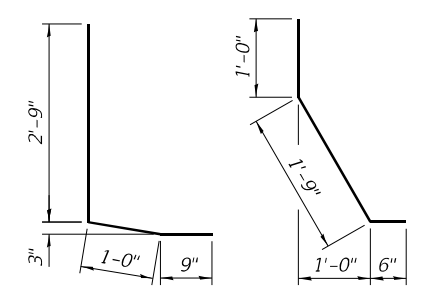
SECTION THRU APPROACH PARAPET
(Showing Proposed)



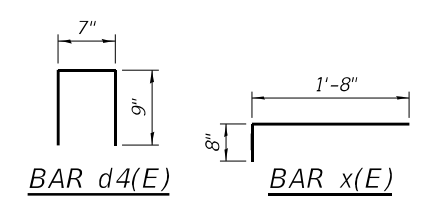
SECTION THRU DECK PARAPET
(Showing Proposed)



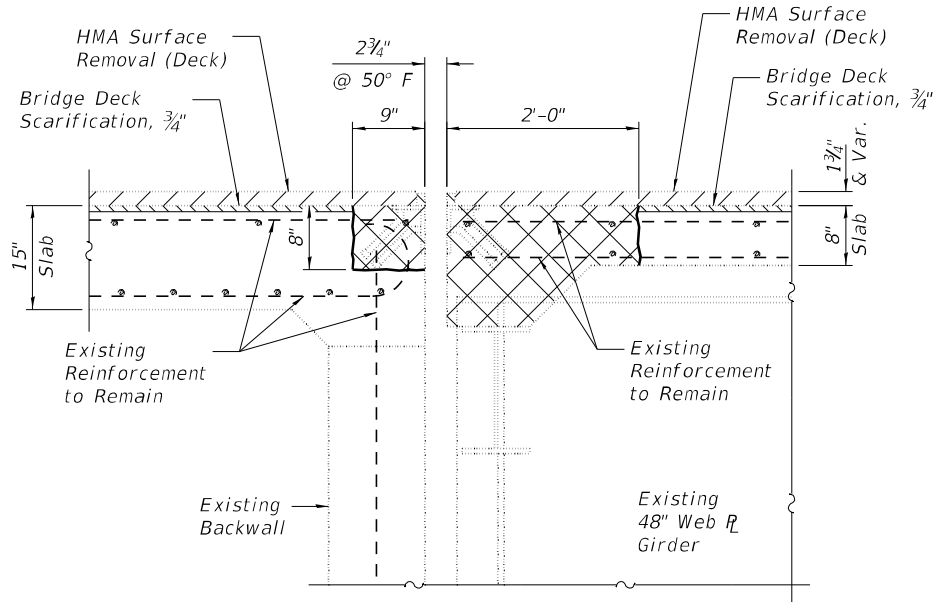
BAR d(E) **BAR d1(E)**



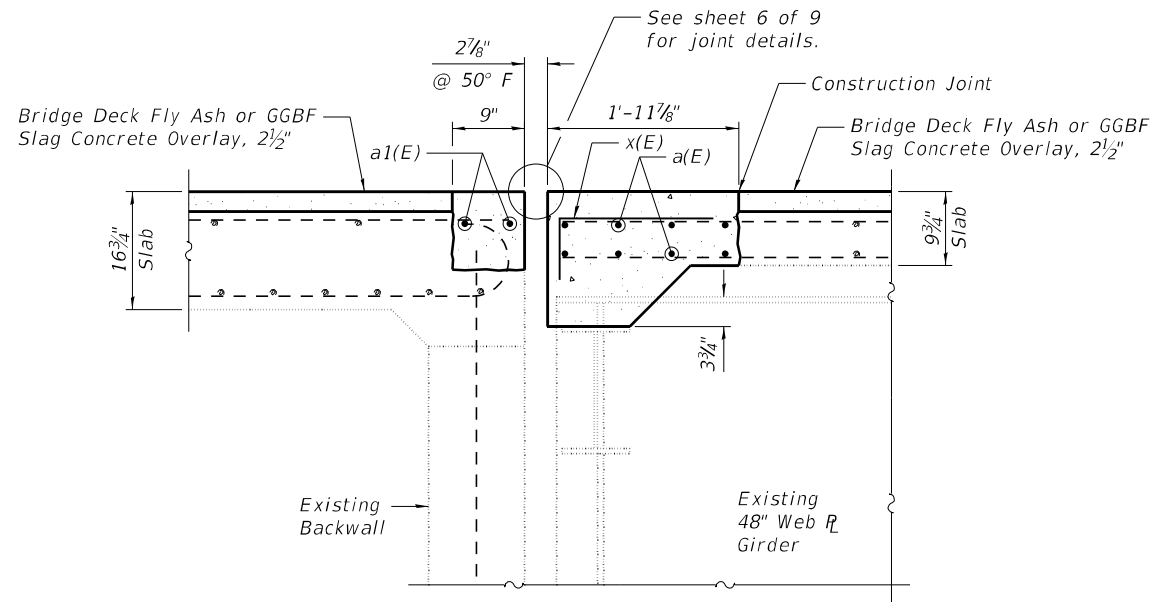
BAR d2(E) **BAR d3(E)**



BAR d4(E) **BAR x(E)**



SECTION A-A
(Showing Removal)
(Horiz. Dim. at Rt. L's to end of deck)



SECTION B-B
(Showing Proposed)
(Horiz. Dim. at Rt. L's to end of deck)

Notes:
Cross hatched areas indicate limits of Concrete Removal.

**SUPERSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	16	#6	34'-2"	—
a1(E)	4	#5	33'-9"	—
a2(E)	8	#6	4'-0"	—
d(E)	12	#4	4'-7"	L
d1(E)	12	#5	3'-7"	L
d2(E)	8	#5	4'-6"	L
d3(E)	8	#5	3'-3"	L
d4(E)	8	#4	2'-1"	n
x(E)	66	#5	2'-4"	—
Reinforcement Bars, Epoxy Coated			Lbs.	1330
Concrete Removal			Cu. Yds.	7.6
Concrete Superstructure			Cu. Yds.	8.6

MODEL: \$MODELNAMES
FILE NAME: \$FILELS



JOB =	2732.2
FILE NAME =	\$FILELS
PLOT DATE =	\$DATES

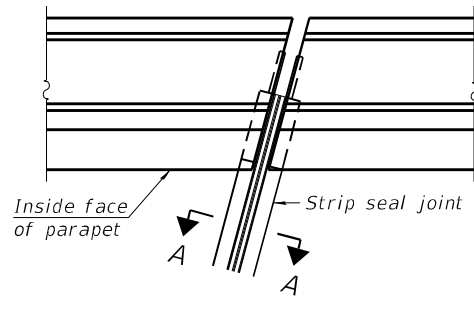
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CHECKED -	MDC	REVISED -	
DRAWN -	SJS	REVISED -	
CHECKED -	MDC	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

JOINT REPLACEMENT DETAILS
STRUCTURE NO. 058-0062

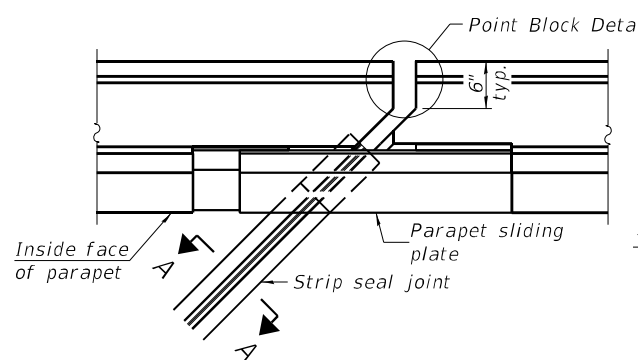
SHEET 5 OF 9 SHEETS

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	D7 BRIDGE REPAIRS 2024-3	MACON	35	21
CONTRACT NO. 74B29				
ILLINOIS FED. AID PROJECT				

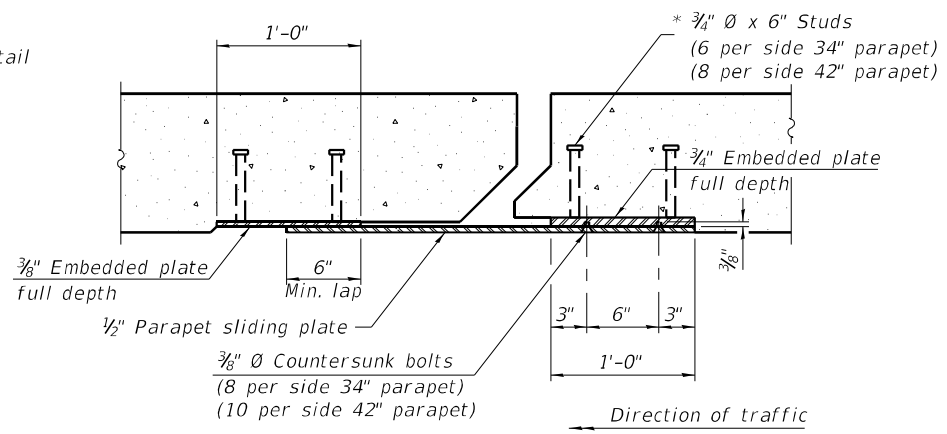


FOR SKEWS ≤ 30°

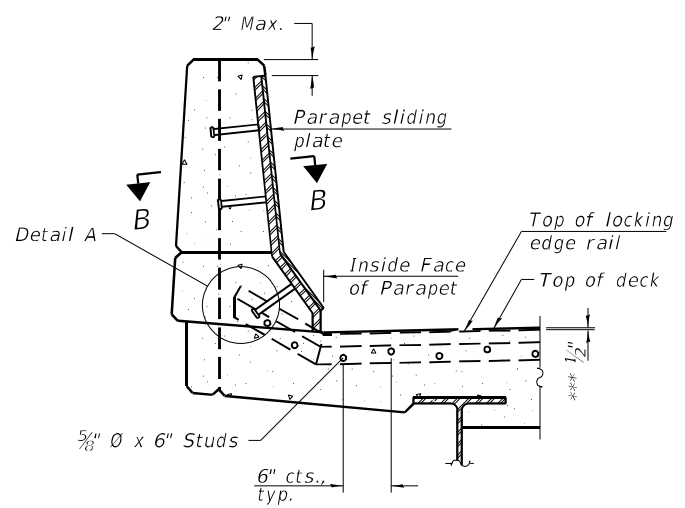
PLAN AT PARAPET



FOR SKEWS > 30°

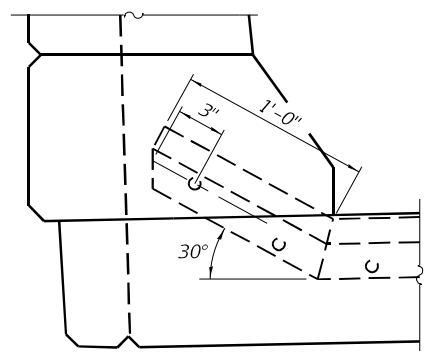


SECTION B-B



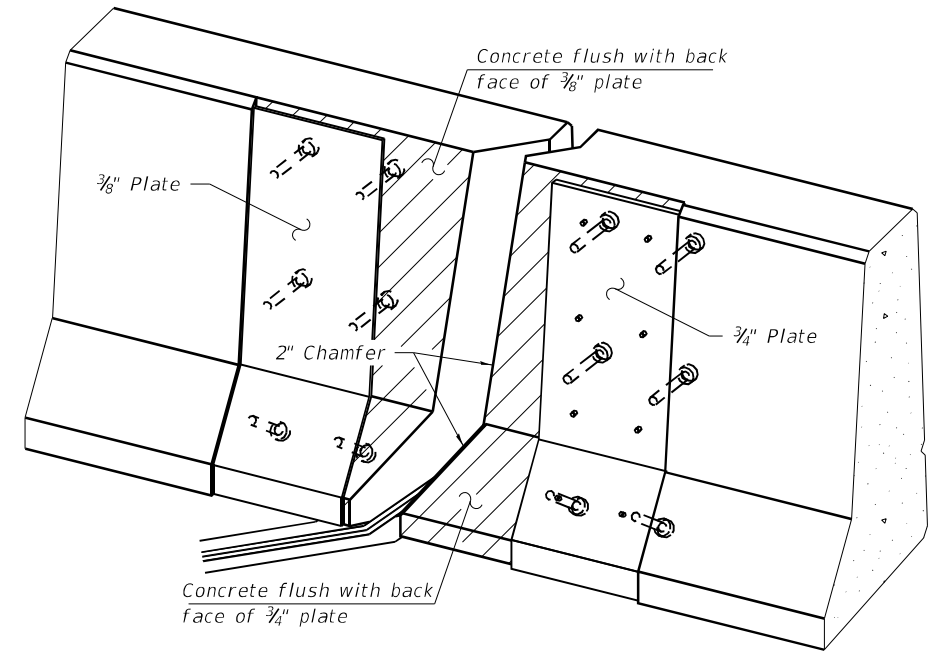
ELEVATION AT PARAPET

(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



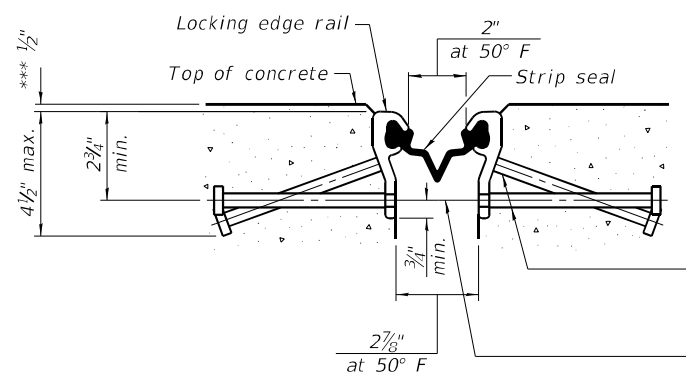
DETAIL A

*** Prior to 1/4 inch Grinding



TRIMETRIC VIEW

(Showing embedded plates only)



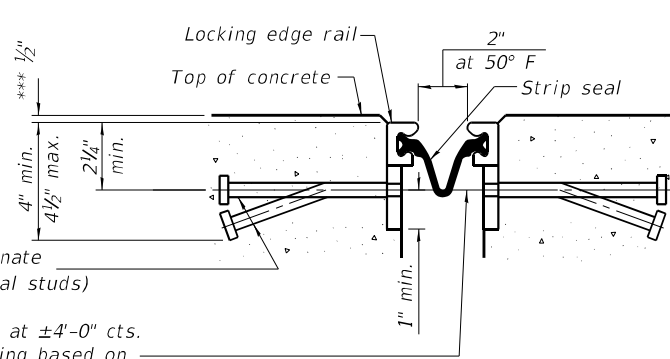
SHOWING ROLLED RAIL JOINT

* 5/8 inch diameter x 6 inch studs @ 6 inch cts. (alternate angled/bent studs with horizontal studs)

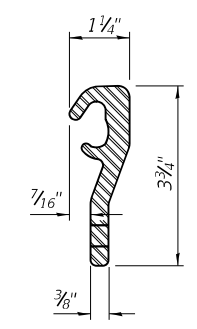
3/8 inch diameter threaded rods in 7/16 inch diameter holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

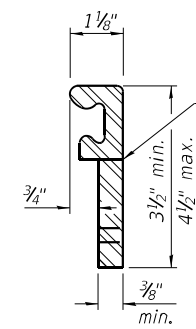
* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.



SHOWING WELDED RAIL JOINT



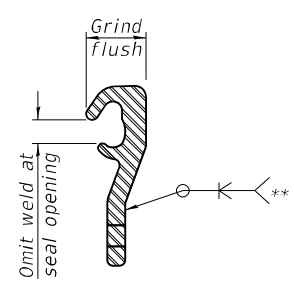
ROLLED (EXTRUDED) RAIL



WELDED RAIL

LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	70

Notes:
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4". The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
 The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2" maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.
 The manufacturer's recommended installation methods shall be followed.
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
 The Maximum space between locking edge rail segments shall be 3/16" and sealed with a suitable sealant; however, any rail joint within 10' measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.
 Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.
 34" F-shape barrier shown, 42" F-shape similar as noted.
 The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

MODEL: SMODELNAMES
 FILE NAME: \$FILES



JOB = 2732.2
 FILE NAME = \$FILES
 PLOT DATE = \$DATES

DESIGNED - AAN
 CHECKED - MDC
 DRAWN - SJS
 CHECKED - MDC

REVISED -
 REVISED -
 REVISED -
 REVISED -

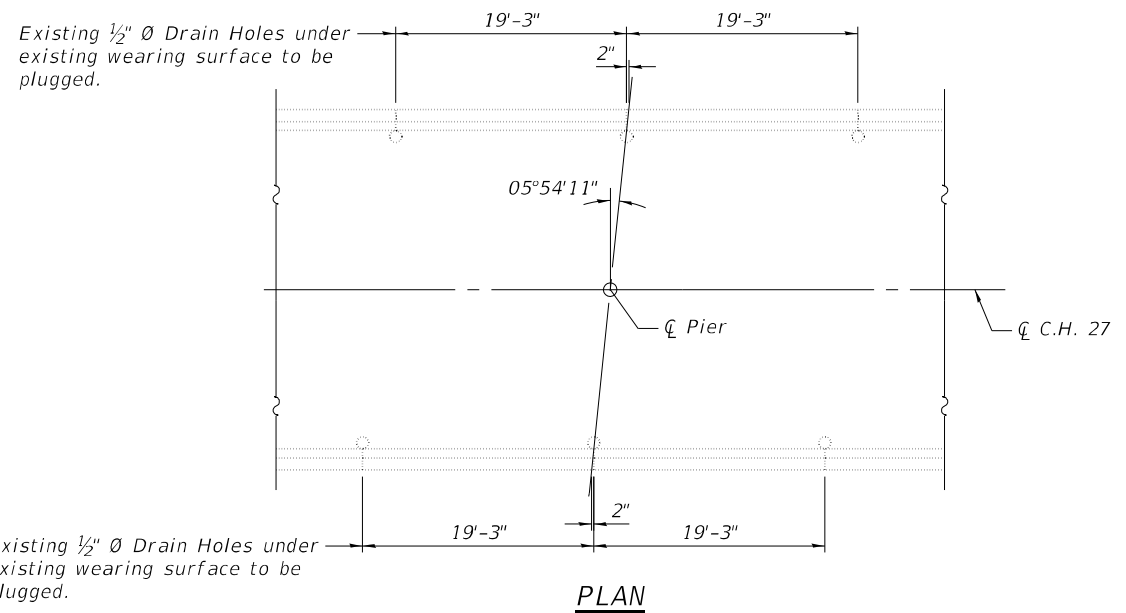
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MODIFIED PREFORMED JOINT STRIP SEAL
 STRUCTURE NO. 058-0062

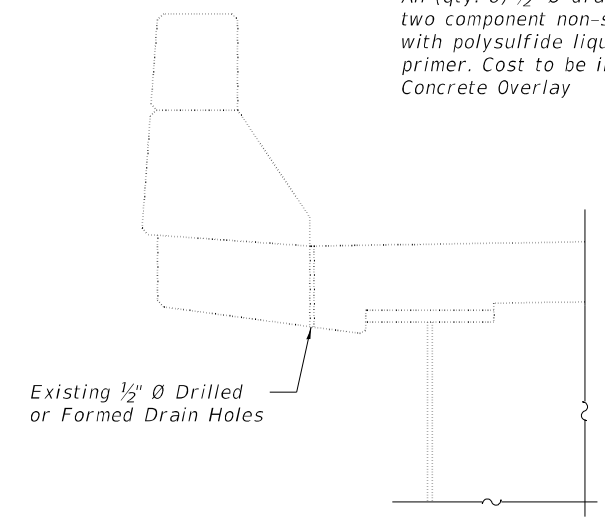
SHEET 6 OF 9 SHEETS

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	D7 BRIDGE REPAIRS 2024-3	MACON	35	22

CONTRACT NO. 74B29
 ILLINOIS FED. AID PROJECT



Note:
 All (qty. 6) 1/2" Ø drain holes shall be filled with two component non-staining gray sealing compound with polysulfide liquid polymers - gun grade with primer. Cost to be included with Bridge Deck Concrete Overlay



DETAIL OF DRAIN HOLES
 (To be plugged)

MODEL: \$MODELNAME\$
 FILE NAME: \$FILEL\$



JOB #	2732.2
FILE NAME	= \$FILEL\$
PLOT DATE	= \$DATE\$

DESIGNED	-	AAN
CHECKED	-	MDC
DRAWN	-	SJS
CHECKED	-	MDC

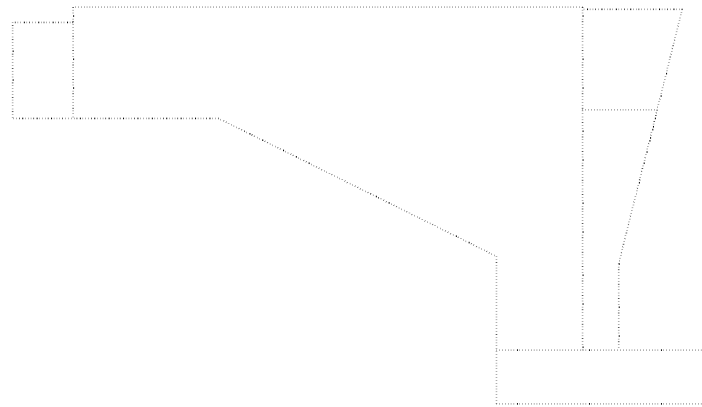
REVISED	-
REVISED	-
REVISED	-
REVISED	-

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

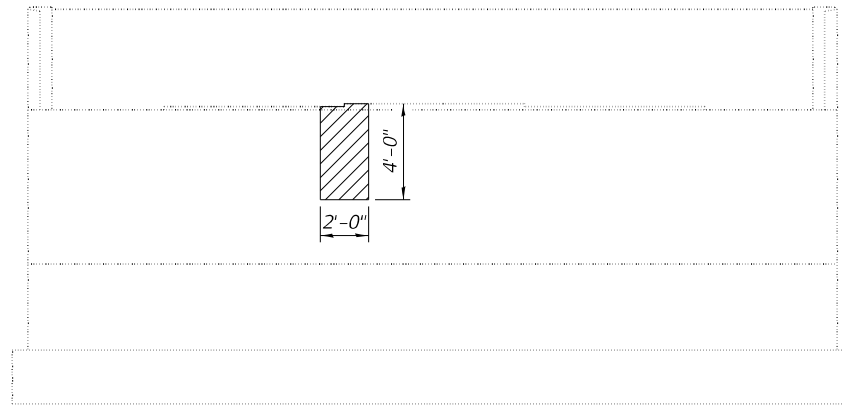
PLUGGING DRAINS
 STRUCTURE NO. 058-0062

SHEET 7 OF 9 SHEETS

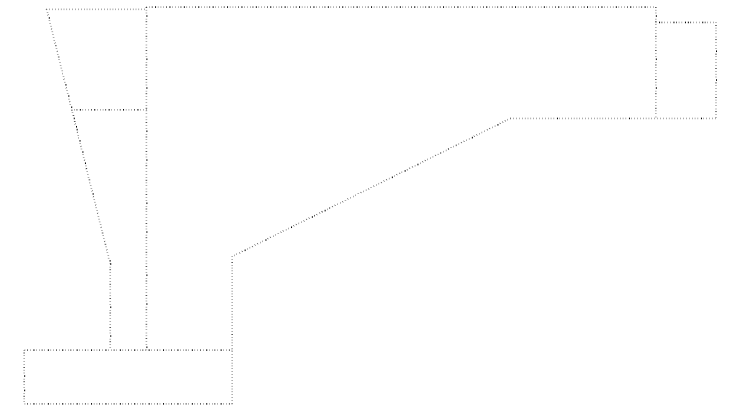
C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	D7 BRIDGE REPAIRS 2024-3	MACON	35	23
			CONTRACT NO. 74B29	
		ILLINOIS	FED. AID PROJECT	



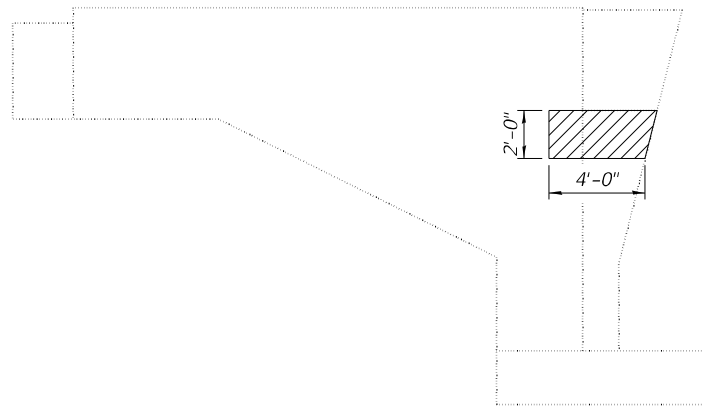
SOUTHEAST WINGWALL



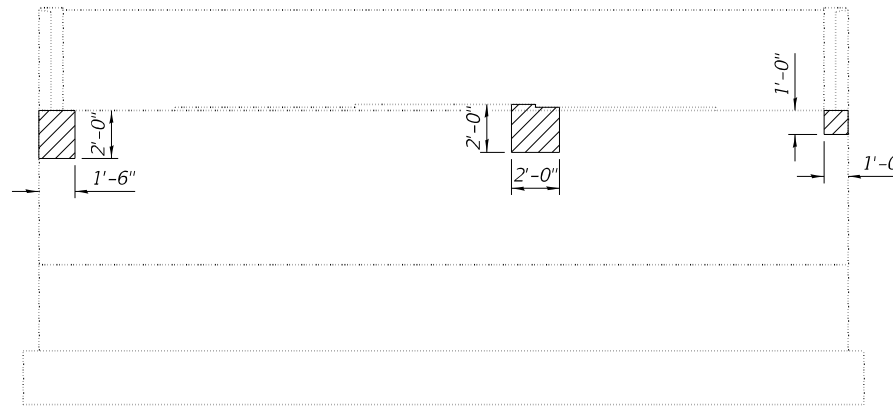
SOUTH ABUTMENT ELEVATION
(Looking South)



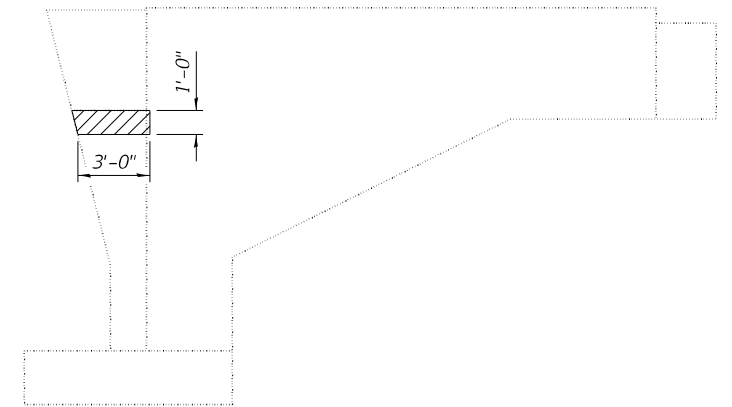
SOUTHWEST WINGWALL



NORTHWEST WINGWALL



NORTH ABUTMENT ELEVATION
(Looking North)



NORTHEAST WINGWALL

LEGEND



Structural Repair of Concrete
(Depth Equal to or Less Than 5 Inches)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Equal to or less than 5 Inches)	Sq. Ft.	27

Note:
Quantities and locations are approximated.
Actual quantities and locations to be determined
in the field by the Engineer.

MODEL: \$MODELNAME\$
FILE NAME: \$FILEL\$

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JOB # = 2732.2
FILE NAME = \$FILEL\$
PLOT DATE = \$DATE\$

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

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REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STRUCTURAL REPAIR OF CONCRETE
STRUCTURE NO. 058-0062

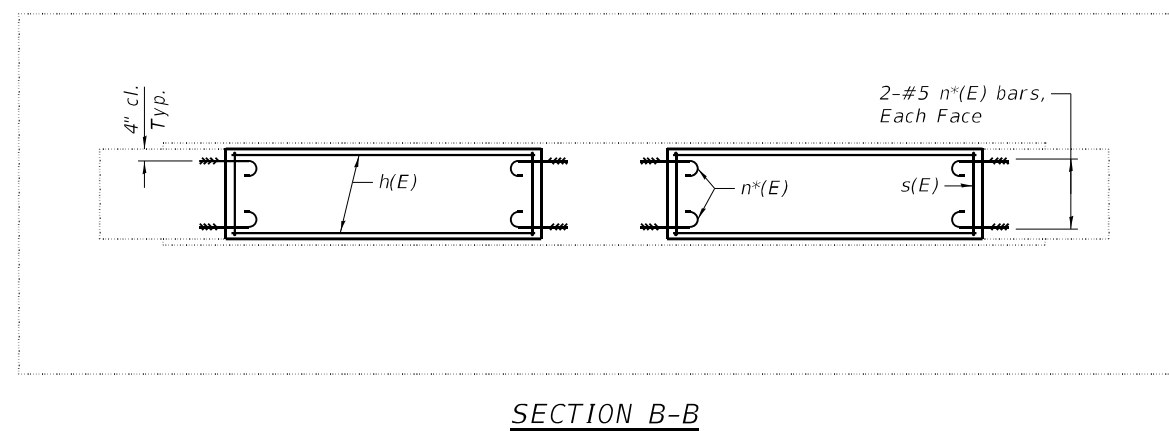
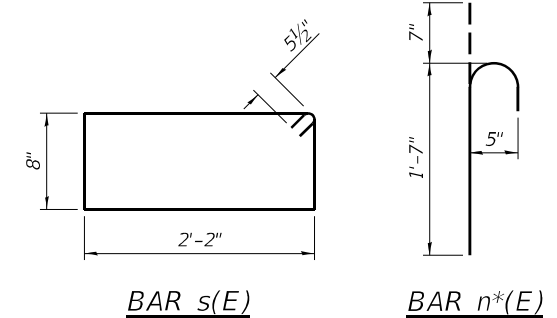
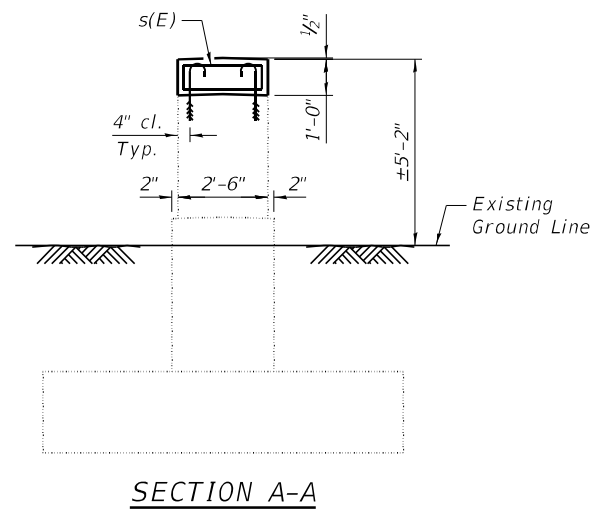
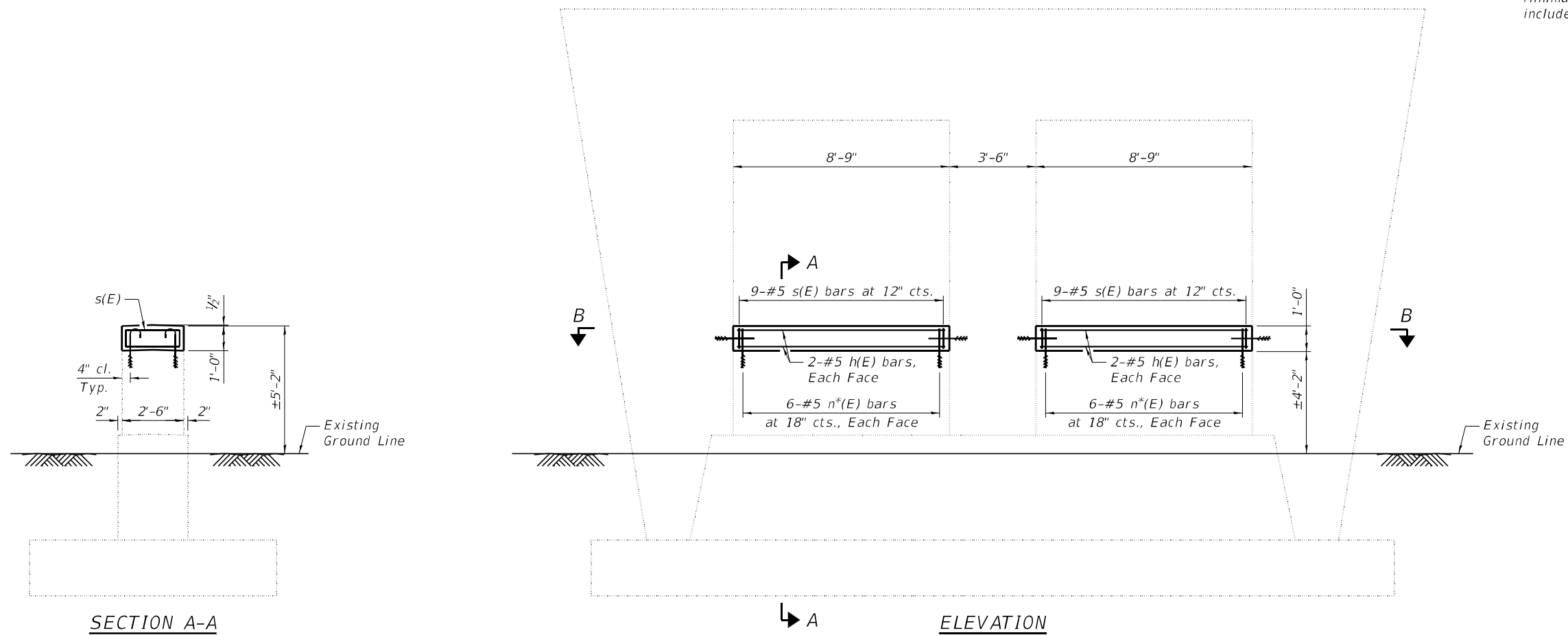
SHEET 8 OF 9 SHEETS

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	D7 BRIDGE REPAIRS 2024-3	MACON	35	24
CONTRACT NO. 74B29				

ILLINOIS FED. AID PROJECT

NOTES

Bars designated with an asterisk (ie.: n*(E)) shall be epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment = 9". Cost of epoxy grouting and drilling shall be included with Reinforcement Bars, Epoxy Coated.



BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
h(E)	8	#5	8'-5"	—	
n*(E)	32	#5	2'-2"	┘	
s(E)	18	#5	6'-7"	□	
Concrete Structures				Cu. Yds.	1.6
Reinforcement Bars, Epoxy Coated				Lbs.	270

MODEL: \$MODELNAME\$
FILE NAME: \$FILEL\$



JOB = 2732.2
FILE NAME = \$FILEL\$
PLOT DATE = \$DATE\$

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER CRASHWALL EXTENSION
STRUCTURE NO. 058-0062

SHEET 9 OF 9 SHEETS

C.H.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	D7 BRIDGE REPAIRS 2024-3	MACON	35	25
CONTRACT NO. 74B29				
ILLINOIS FED. AID PROJECT				

Existing Structure: S.N. 058-0065 was originally constructed in 1975 as Section 58-61HB-3 consisting of a two span plate girder superstructure on a pile supported multi-column trapezoidal pier and pile supported vaulted abutments. New overlay, expansion joints and other repairs to be completed under road closure.

SCOPE OF WORK

1. Remove HMA surface and perform bridge deck scarification.
2. Remove and replace expansion joints at abutments.
3. Perform full-depth patching of bridge deck.
4. Plug drains at parapet joints near pier.
5. Place concrete overlay.
6. Modify pier crash wall.
7. Structural repair of concrete at abutments.
8. Remove and replace bearings at abutments.

GENERAL NOTES

Fasteners shall be ASTM A325 Type 1, mechanically galvanized bolts (in painted areas and ASTM A325 Type 3 in unpainted areas). Bolts 3/4 in. Ø, holes 15/16 in. Ø, unless otherwise noted.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to address the presence of lead on this project. Reinforcement bars designated (E) shall be epoxy coated.

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.

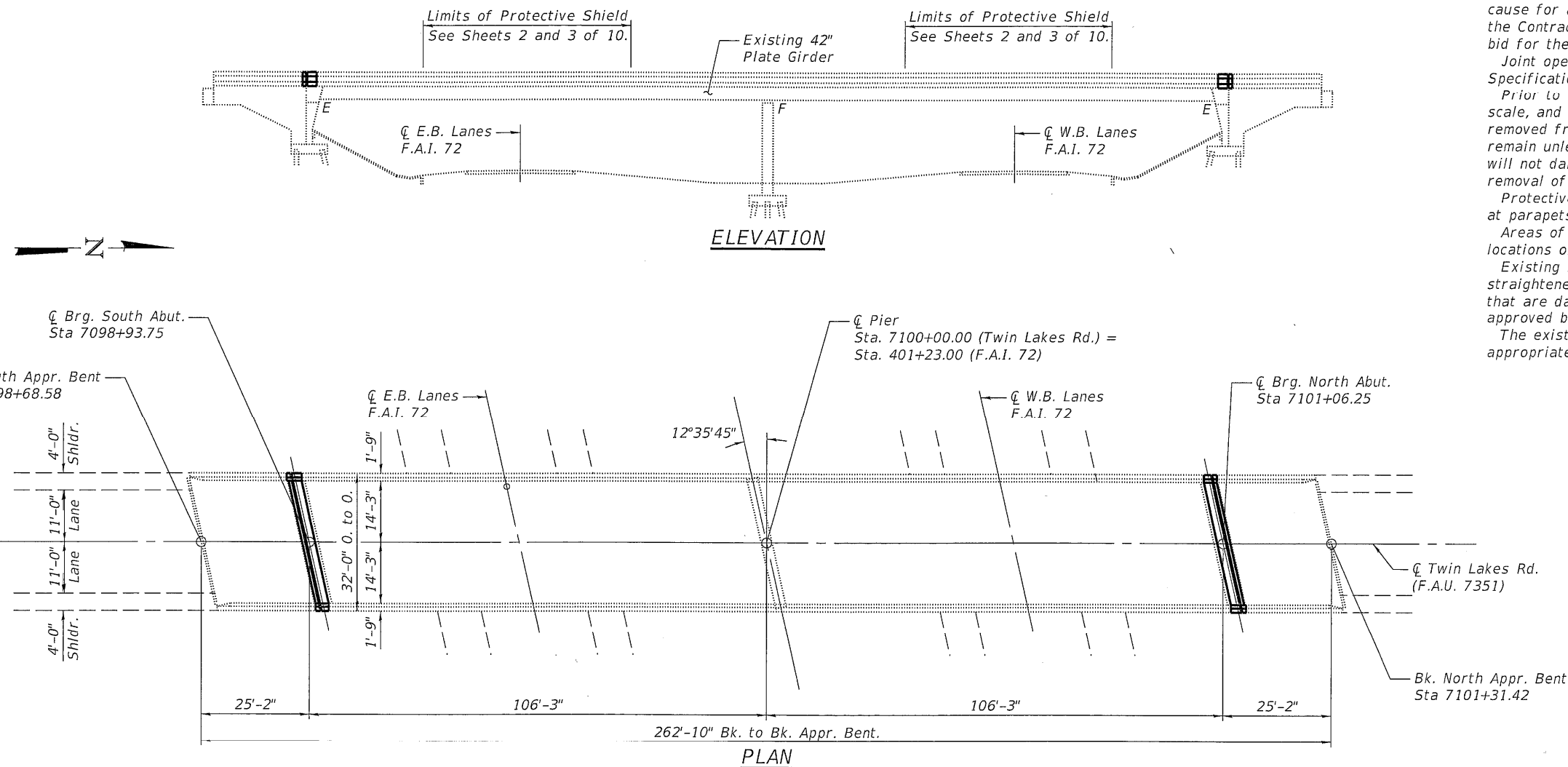
Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when deck is poured at an ambient temperature other than 50° F. Prior to pouring the new concrete deck, all heavy or loose rust, loose mill scale, and other loose or potentially detrimental foreign material shall 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.

Protective Coat shall be applied to concrete wearing surface and new concrete at parapets and joints.

Areas of deck repairs shown are estimated. The Engineer shall show actual locations of deck repairs on as-built plans.

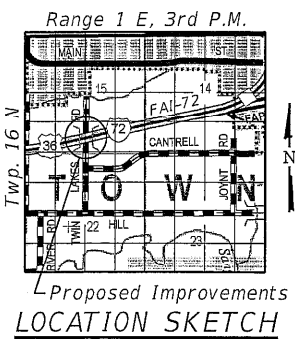
Existing reinforcement bars extending into the removal areas shall be cleaned, straightened and incorporated into the new construction. Any reinforcement bars that are damaged during concrete removal operations shall be replaced using an approved bar splicer or anchorage system. Cost included in Concrete Removal.

The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to address the presence of lead on this project.



TOTAL BILL OF MATERIAL

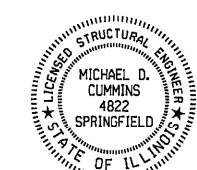
ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	6.2
Protective Shield	Sq. Yd.	306
Concrete Structures	Cu. Yd.	1.3
Concrete Superstructure	Cu. Yd.	7.2
Bridge Deck Grooving	Sq. Yd.	768
Protective Coat	Sq. Yd.	834
Furnishing and Erecting Structural Steel	Pound	2010
Reinforcement Bars, Epoxy Coated	Pound	1460
Preformed Joint Strip Seal	Foot	63
Elastomeric Bearing Assembly, Type I	Each	10
Anchor Bolts, 1"	Each	20
Jack and Remove Existing Bearings	Each	10
Hot-Mix Asphalt Surface Removal (Deck)	Sq. Yd.	828
Bridge Deck Fly Ash or GGBF Slag Concrete Overlay, 2 3/4"	Sq. Yd.	810
Bridge Deck Scarification 3/4"	Sq. Yd.	810
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	5
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq. Ft.	8



DESIGN STRESSES

FIELD UNITS (New Construction)
 $f'_c = 3,500$ psi (Substructure)
 $f'_c = 4,000$ psi (Superstructure)
 $f_y = 60,000$ psi (Reinforcement)

FIELD UNITS (Existing Construction)
 $f_c = 1,200$ psi (Deck)
 $f_c = 1,400$ psi (Curb, Parapet, Substructure)
 $f_s = 20,000$ psi (Reinforcement)
 $f_s = 27,000$ psi (Structural)

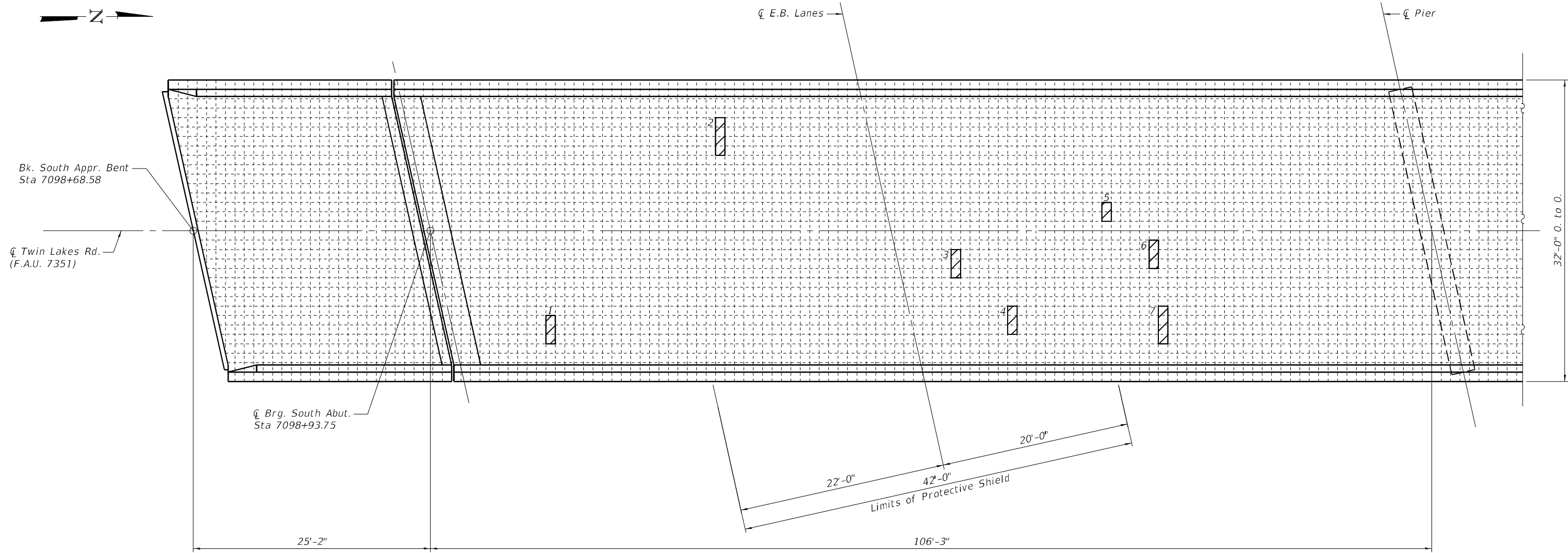
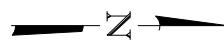


Michael D. Cummins 10/3/23
 (Expires 11/30/24)

GENERAL PLAN AND ELEVATION
TWIN LAKES RD. (F.A.U. 7351)
OVER F.A.I. 72
SECTION D7 BRIDGE REPAIRS 2024-3
MACON COUNTY
STA 7100+00.00 (TWIN LAKES RD.)
STA 401+23.00 (F.A.I. 72)
STRUCTURE NO. 058-0065

MODEL: Default
 FILE NAME: 2732.2-0065-00-GPE.dgn

CEC Cummins Engineering Corporation ENGINEERS & SURVEYORS	JOB = 2732.2	DESIGNED - AAN	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION STRUCTURE NO. 058-0065 SHEET 1 OF 10 SHEETS	F.A.U.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	FILE NAME = 2732.2-0065-00-GPE.dgn	CHECKED - MDC	REVISED -			7351	D7 BRIDGE REPAIRS 2024-3	MACON	35	26
	PLOT DATE = 10/3/2023	DRAWN - SJS	REVISED -			CONTRACT NO. 74B29				
		CHECKED - MDC	REVISED -			ILLINOIS FED. AID PROJECT				



BRIDGE DECK PATCHING PLAN

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
1	1x3	0.33			
2	1x4	0.44			
3	1x3	0.33			
4	1x3	0.33			
5	1x2	0.22			
6	1x3	0.33			
7	1x4	0.44			
8					
9					
10					
TOTAL		2.42			

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
TOTAL					

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
TOTAL					

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
31					
32					
33					
34					
35					
36					
37					
38					
39					
40					
TOTAL					

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
41					
42					
43					
44					
45					
46					
47					
48					
48					
50					
TOTAL					

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)		DECK SLAB REPAIR (FULL DEPTH, TYPE II)	
		SQ. YD.	SQ. YD.	SQ. YD.	SQ. YD.
51					
52					
53					
54					
55					
56					
57					
58					
59					
60					
TOTAL					

MODEL: \$MODELNAMES
FILE NAME: \$FILELS



JOB = 2732.2
FILE NAME = \$FILELS
PLOT DATE = \$DATES

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

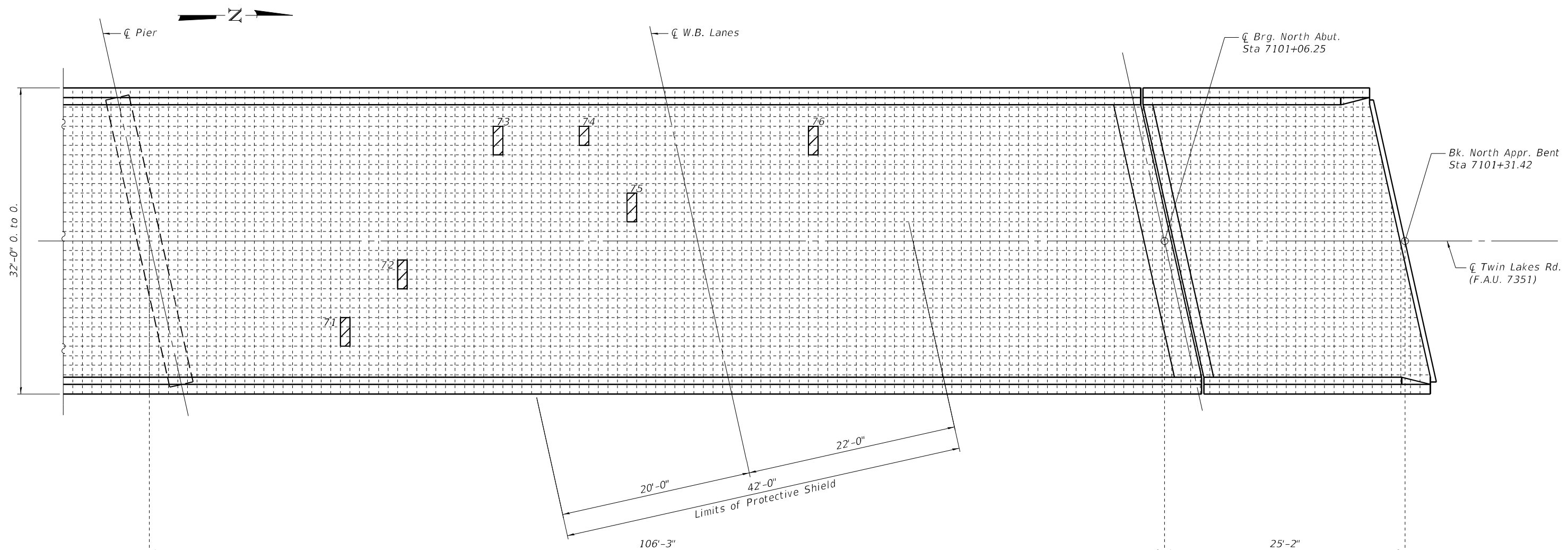
REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BRIDGE DECK PATCHING PLAN
STRUCTURE NO. 058-0065**

SHEET 2 OF 10 SHEETS

F.A.U.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7351	D7 BRIDGE REPAIRS 2024-3	MACON	35	27
CONTRACT NO. 74B29				
ILLINOIS FED. AID PROJECT				



BRIDGE DECK PATCHING PLAN

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	DECK SLAB REPAIR (FULL DEPTH, TYPE II)
		SQ. YD.	SQ. YD.
71	1x3	0.33	
72	1x3	0.33	
73	1x3	0.33	
74	1x2	0.22	
75	1x3	0.33	
76	1x3	0.33	
77			
78			
79			
80			
TOTAL		1.87	

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	DECK SLAB REPAIR (FULL DEPTH, TYPE II)
		SQ. YD.	SQ. YD.
81			
82			
83			
84			
85			
86			
87			
88			
89			
90			
TOTAL			

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	DECK SLAB REPAIR (FULL DEPTH, TYPE II)
		SQ. YD.	SQ. YD.
91			
92			
93			
94			
95			
96			
97			
98			
99			
100			
TOTAL			

PATCH NO.	SIZE (FOOT)	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	DECK SLAB REPAIR (FULL DEPTH, TYPE II)
		SQ. YD.	SQ. YD.
101			
102			
103			
104			
105			
106			
107			
108			
109			
110			
TOTAL			

LEGEND

Deck Slab Repair Full Depth

BILL OF MATERIAL

Item	Unit	Total
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	5
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	-

Note:
Full depth deck slab repairs performed in the exterior bays of the bridge deck (between the parapet walls and the first interior beams) shall be limited to individual lengths no greater than 10 ft. In these portions of the deck, repair areas longer than 10 ft. shall be divided into segments not greater than 10 ft. in length, and the segments shall be poured in alternating sequence. Subsequent segments repaired in sequence shall not be removed until 72 hours shall have elapsed from the end of the previous, adjacent pour, and the adjacent pour shall have attained a minimum modulus of rupture of 650 psi.

MODEL: \$MODELNAME\$
FILE NAME: \$FILELS



JOB # = 2732.2
FILE NAME = \$FILELS
PLOT DATE = \$DATES

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

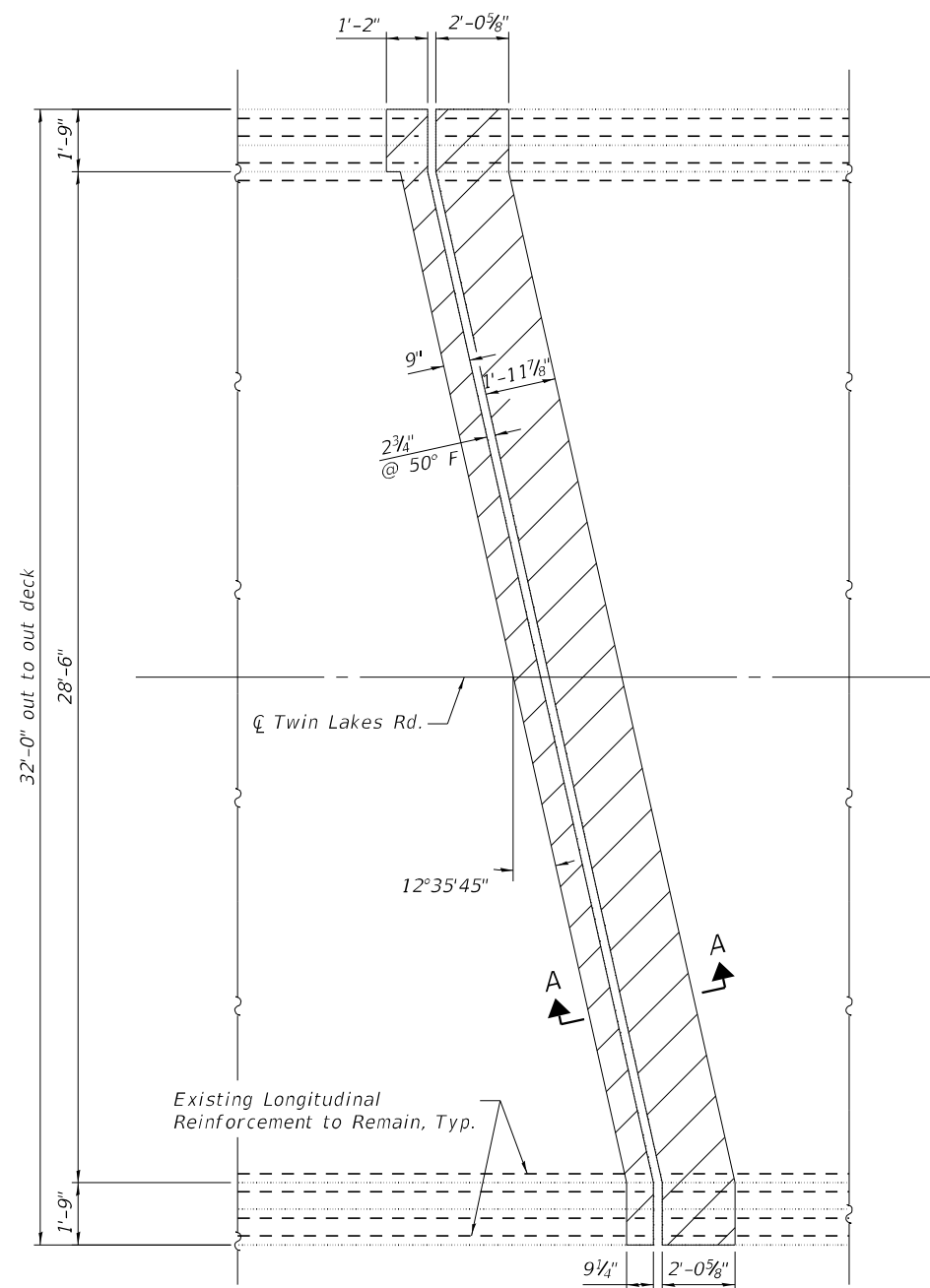
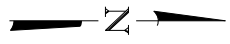
**BRIDGE DECK PATCHING PLAN
STRUCTURE NO. 058-0065**

SHEET 3 OF 10 SHEETS

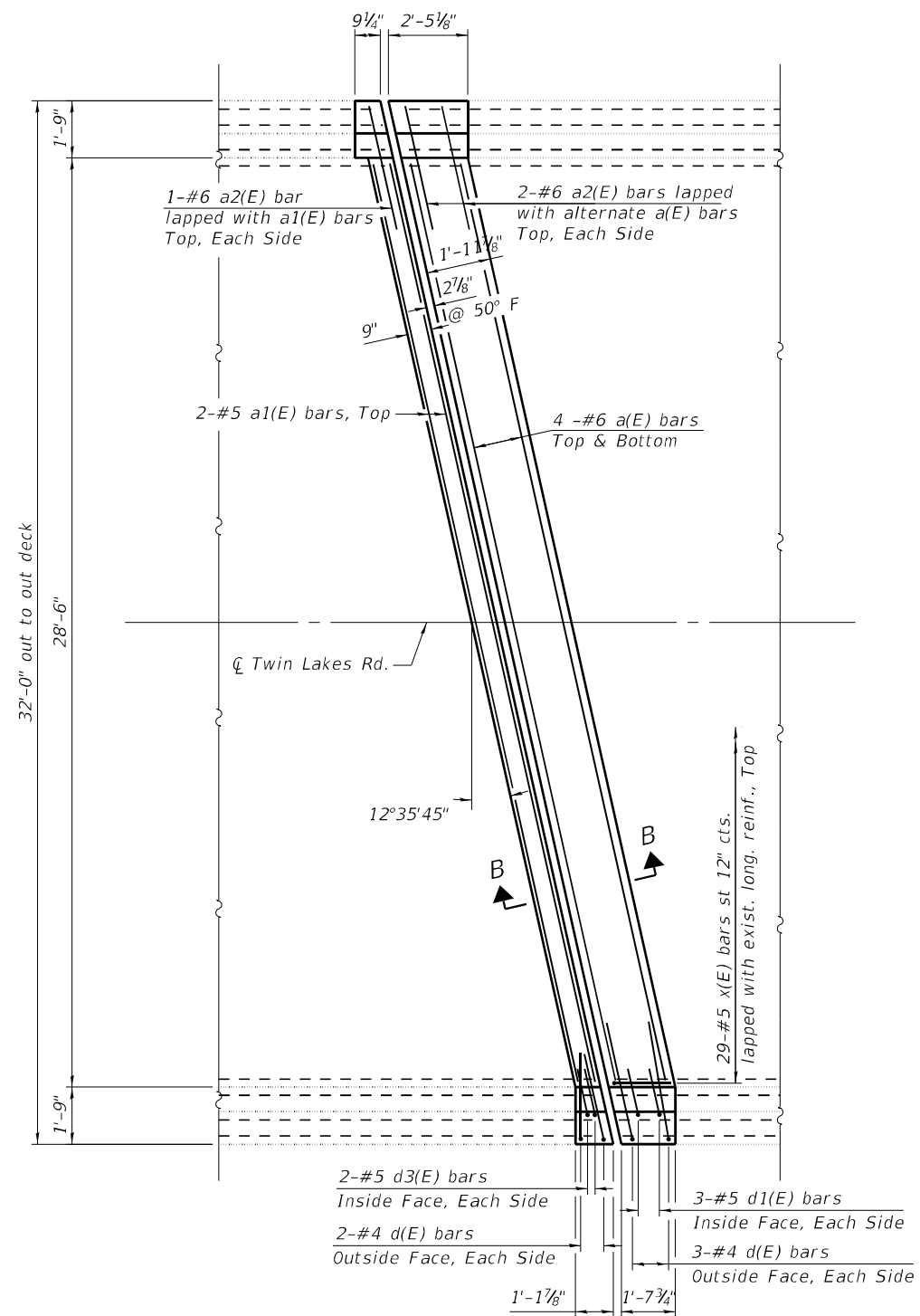
F.A.U.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7351	D7 BRIDGE REPAIRS 2024-3	MACON	35	28

CONTRACT NO. 74B29

ILLINOIS FED. AID PROJECT



EXISTING PLAN AT EXPANSION JOINT
(South Abutment shown; North Abutment similar)



PROPOSED PLAN AT EXPANSION JOINT
(South Abutment shown; North Abutment similar)

Notes:
 Hatched areas indicate limits of Concrete Removal.
 Existing longitudinal reinforcement to remain shall be cleaned and incorporated into the new construction.
 Cost included with Concrete Removal.
 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.
 For Section A-A and B-B, see sheet 5 of 10.

MODEL: \$MODELNAME\$
FILE NAME: \$FILEL\$



JOB = 2732.2
 FILE NAME = \$FILEL\$
 PLOT DATE = \$DATE\$

DESIGNED - AAN
 CHECKED - MDC
 DRAWN - SJS
 CHECKED - MDC

REVISED -
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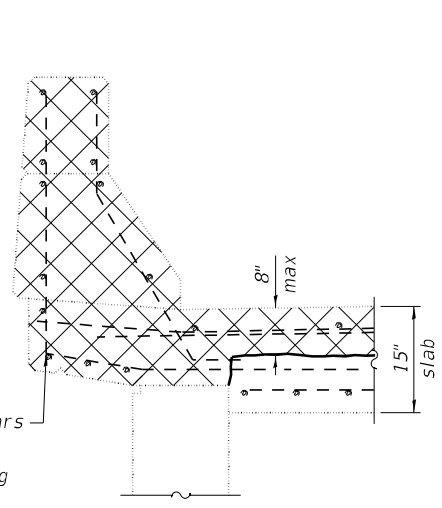
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

JOINT REPLACEMENT DETAILS
 STRUCTURE NO. 058-0065

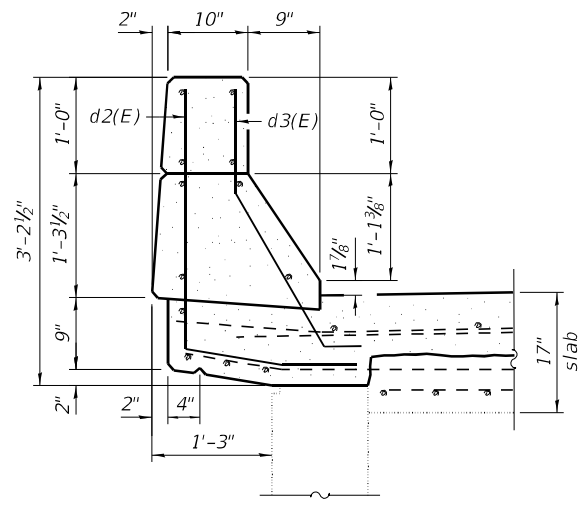
SHEET 4 OF 10 SHEETS

F.A.U.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7351	D7 BRIDGE REPAIRS 2024-3	MACON	35	29
CONTRACT NO. 74B29				
ILLINOIS FED. AID PROJECT				

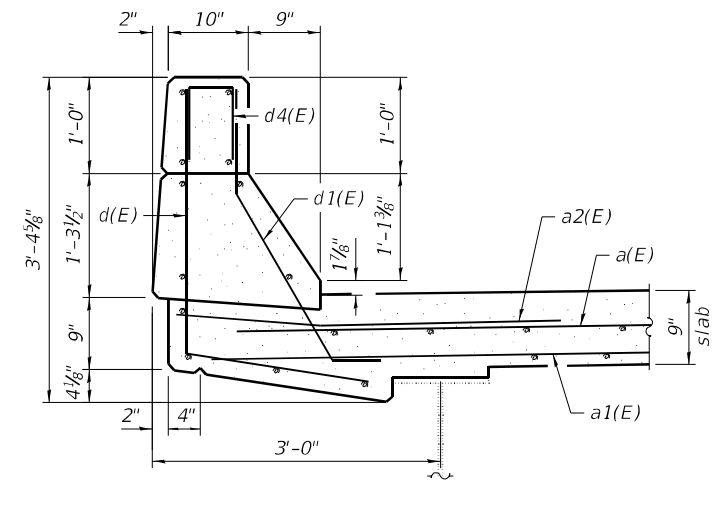
Cut existing d bars in exterior face at this point and lap horizontal leg with proposed d2(E) bars



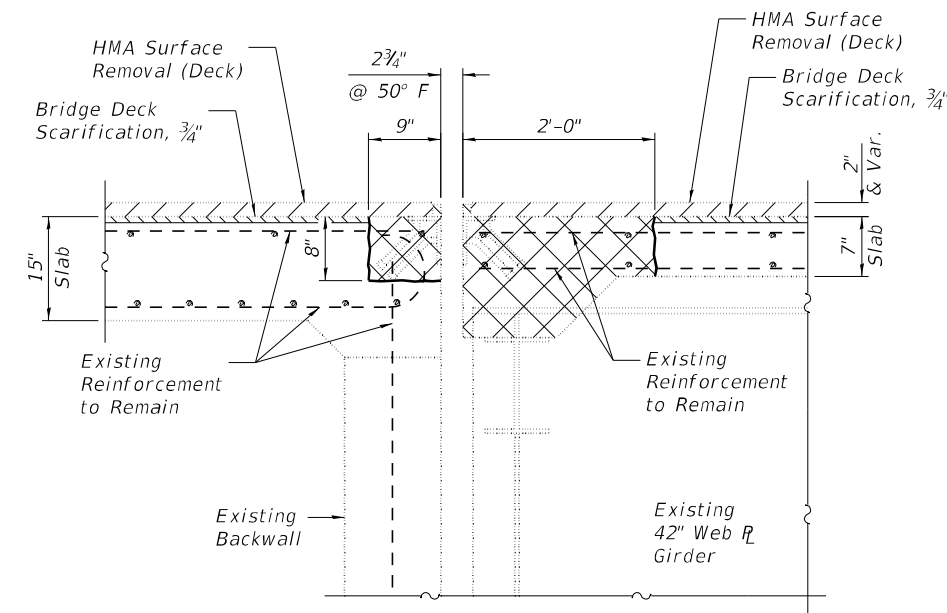
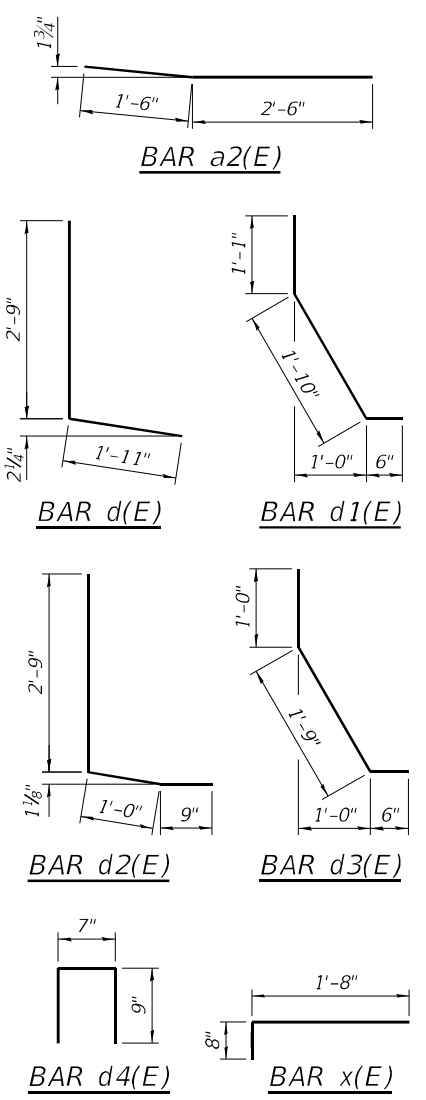
SECTION THRU APPROACH PARAPET
(Showing Removal)



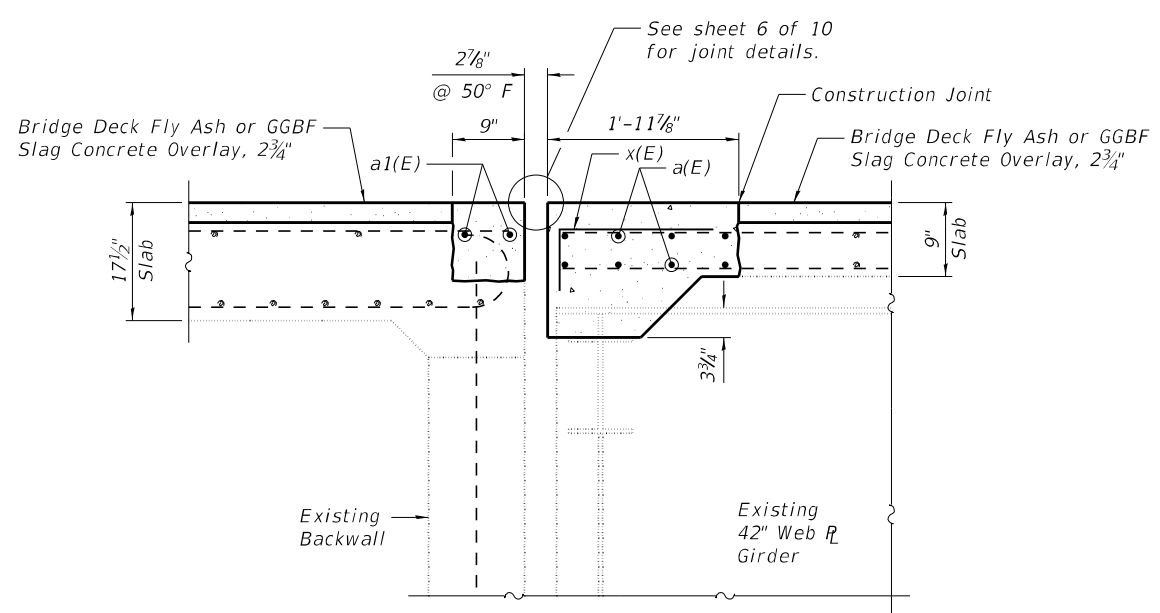
SECTION THRU APPROACH PARAPET
(Showing Proposed)



SECTION THRU DECK PARAPET
(Showing Proposed)



SECTION A-A
(Showing Removal)
(Horiz. Dim. at Rt. L's to end of deck)

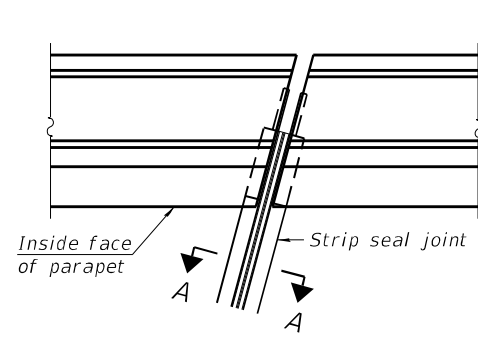


SECTION B-B
(Showing Proposed)
(Horiz. Dim. at Rt. L's to end of deck)

Notes:
Cross hatched areas indicate limits of Concrete Removal.

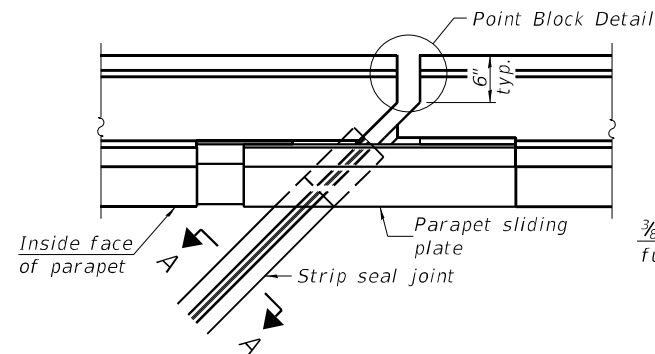
**SUPERSTRUCTURE
BILL OF MATERIAL**

Bar	No.	Size	Length	Shape
a(E)	16	#6	31'-4"	—
a1(E)	4	#5	30'-3"	—
a2(E)	8	#6	4'-0"	—
d(E)	12	#4	4'-8"	L
d1(E)	12	#5	3'-5"	\
d2(E)	8	#5	4'-6"	L
d3(E)	8	#5	3'-3"	\
d4(E)	8	#4	2'-1"	n
x(E)	58	#5	2'-4"	—
Reinforcement Bars, Epoxy Coated			Lbs.	1220
Concrete Removal			Cu. Yds.	6.2
Concrete Superstructure			Cu. Yds.	7.2

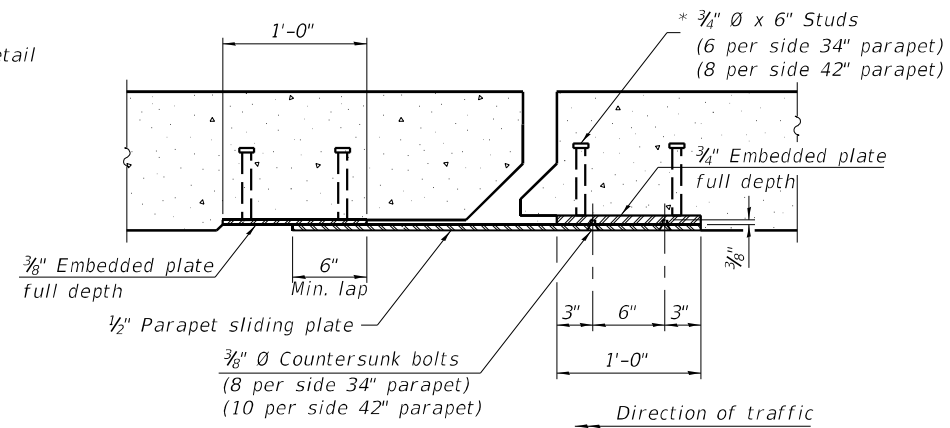


FOR SKEWS $\leq 30^\circ$

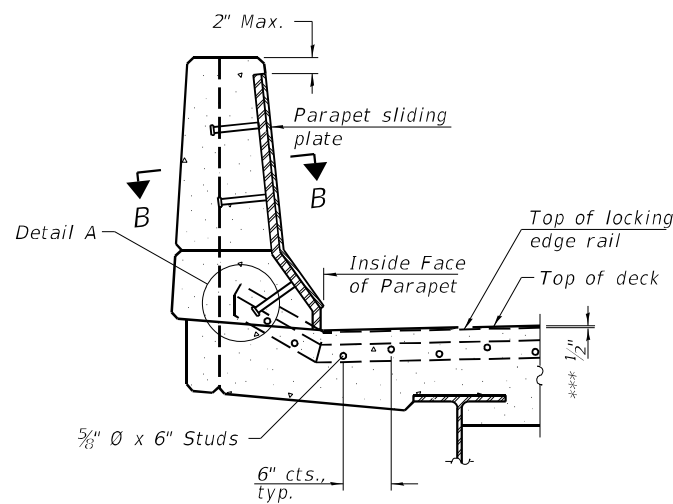
PLAN AT PARAPET



FOR SKEWS $> 30^\circ$

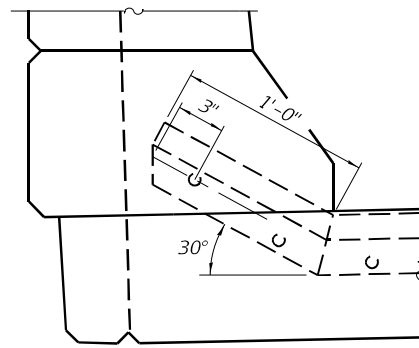


SECTION B-B

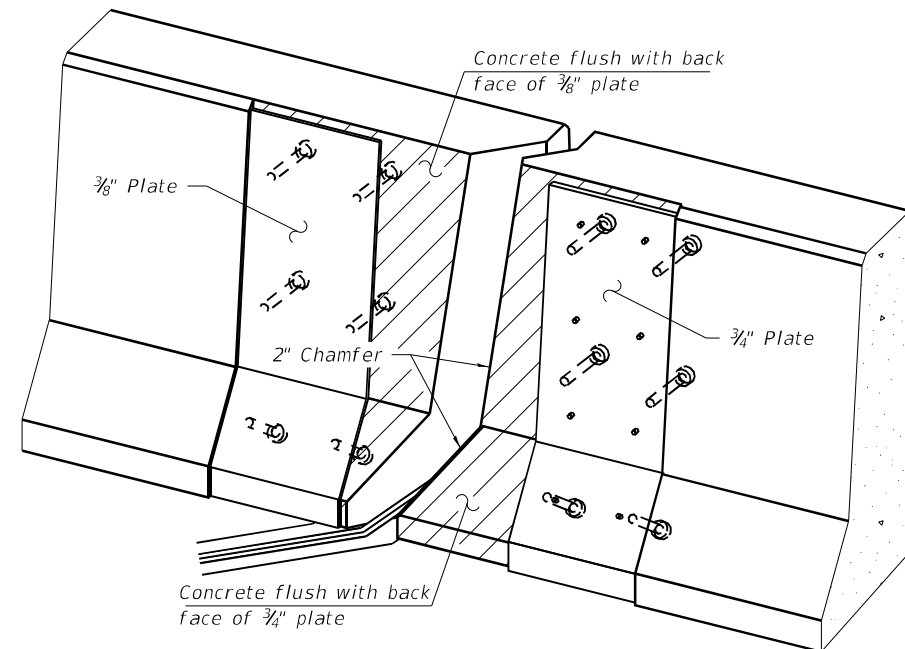


ELEVATION AT PARAPET

(Skews $> 30^\circ$ shown. Skews $\leq 30^\circ$ similar except as shown in plan view.)

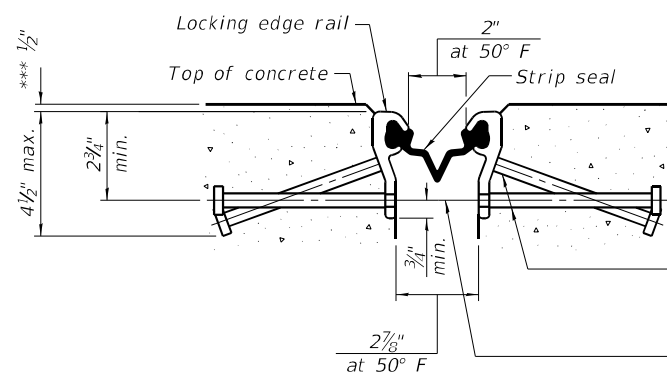


DETAIL A



TRIMETRIC VIEW
(Showing embedded plates only)

*** Prior to 1/4 inch Grinding



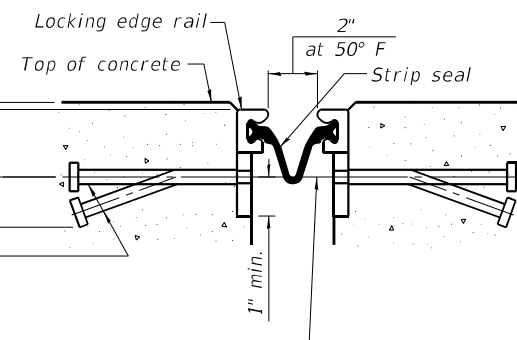
SHOWING ROLLED RAIL JOINT

* 5/8 inch diameter x 6 inch studs @ 6 inch centers. (alternate angled/bent studs with horizontal studs)

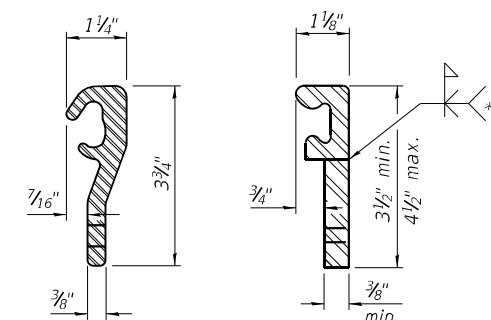
3/8 inch diameter threaded rods in 7/16 inch diameter holes at ± 4 -0 inch centers for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.

SECTION A-A

* Granular or solid flux filled headed studs conforming to Article 1006.32 of the Std. Specs., automatically end welded.

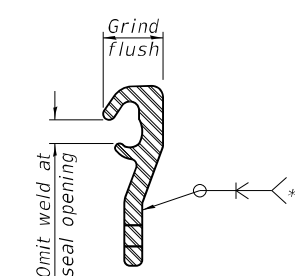


SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

** Back gouge not required if complete joint penetration is verified by mock-up.



LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue. Rolled rail shown, welded rail similar.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	63

Notes:
 The strip seal shall be made continuous and shall have a minimum thickness of 1/4 inch. The configuration of the strip seal shall match the configuration of the locking edge rails. Open or "webbed" strip seal gland configurations are not permitted. The gland shall be sized for a maximum rated movement of 4 inches.
 The locking edge rails depicted are configured for typical applications and are conceptual only. The actual configuration of the locking edge rails and matching strip seal may vary from manufacturer to manufacturer provided they fit the application and meet the minimum anchorage shown. Flanged edge rails, however, will not be allowed. Locking edge rails may exceed the 4 1/2 inch maximum depth provided the anchorage system is revised according to the manufacturer's recommendation.
 The manufacturer's recommended installation methods shall be followed.
 All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.
 The Maximum space between locking edge rail segments shall be 3/16 inch and sealed with a suitable sealant; however, any rail joint within 10 feet measured perpendicular to the face of the curb or parapet shall be welded as shown in the locking edge rail splice detail.
 Cost of parapet sliding plates, embedded plates, and anchorage studs included with Preformed Joint Strip Seal.
 34 inch F-shape barrier shown, 42 inch F-shape similar as noted.
 The concrete opening below the strip seal will vary based on the locking edge rail chosen by the Contractor. Deck and parapet lengths shown elsewhere in the plans are dimensioned to the concrete opening, not the joint opening, and are based on the rolled locking edge rail. If the Contractor elects to use a different locking edge rail, dimensional adjustments may be required. One exception to this would be the strip seal joint at the end of the precast bridge approach slab. For these cases the pavement connector length shall be adjusted, not the length of the bridge approach slab.

MODEL: SMODELNAMES
FILE NAME: \$FILES



JOB = 2732.2
 FILE NAME = \$FILES
 PLOT DATE = \$DATES

DESIGNED - AAN
 CHECKED - MDC
 DRAWN - SJS
 CHECKED - MDC

REVISED -
 REVISED -
 REVISED -
 REVISED -

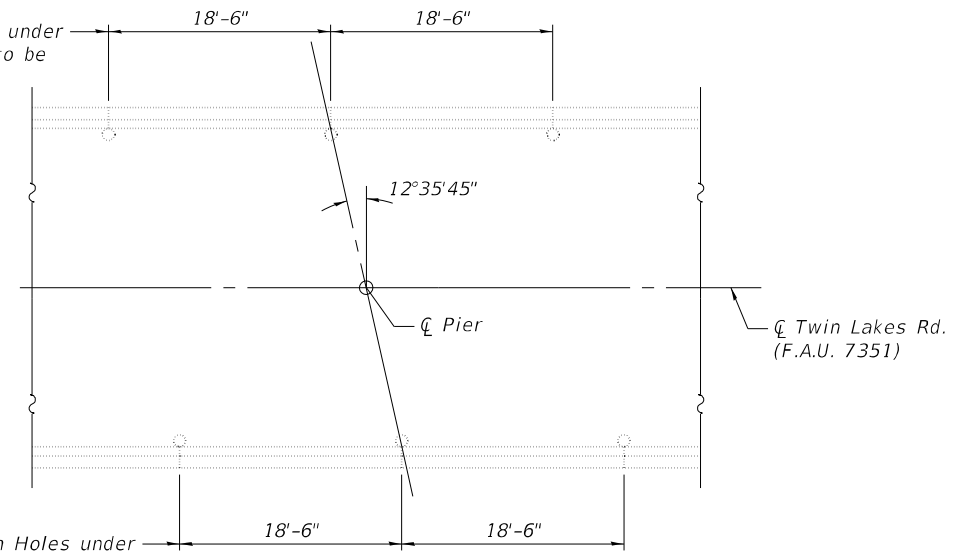
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

MODIFIED PREFORMED JOINT STRIP SEAL
 STRUCTURE NO. 058-0065

SHEET 6 OF 10 SHEETS

F.A.U.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7351	D7 BRIDGE REPAIRS 2024-3	MACON	35	31
CONTRACT NO. 74B29				
ILLINOIS FED. AID PROJECT				

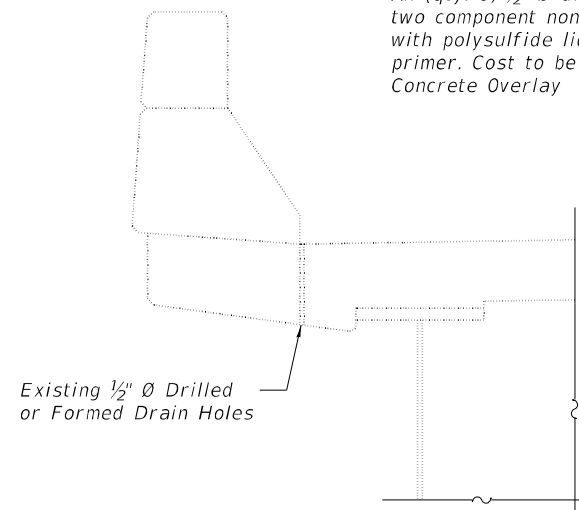
Existing 1/2" Ø Drain Holes under existing wearing surface to be plugged.



Existing 1/2" Ø Drain Holes under existing wearing surface to be plugged.

PLAN

Note:
All (qty. 6) 1/2" Ø drain holes shall be filled with two component non-staining gray sealing compound with polysulfide liquid polymers - gun grade with primer. Cost to be included with Bridge Deck Concrete Overlay



Existing 1/2" Ø Drilled or Formed Drain Holes

DETAIL OF DRAIN HOLES
(To be plugged)

MODEL: \$MODELNAME\$
FILE NAME: \$FILEL\$

CEC Cummins
Engineering
Corporation
ENGINEERS & SURVEYORS

JOB # = 2732.2
FILE NAME = \$FILEL\$
PLOT DATE = \$DATE\$

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

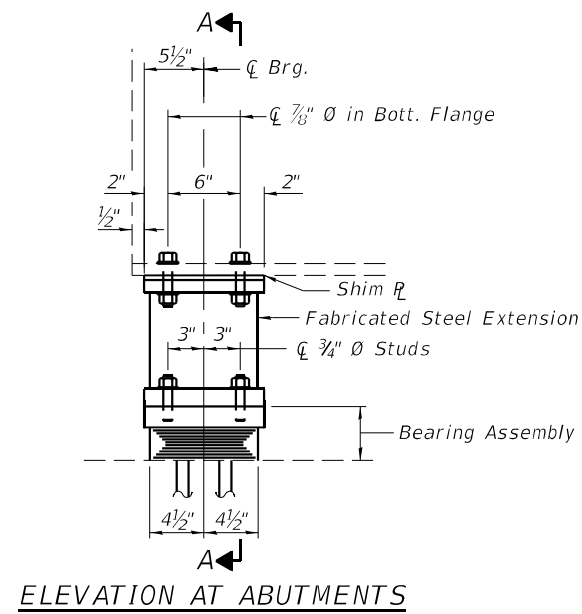
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

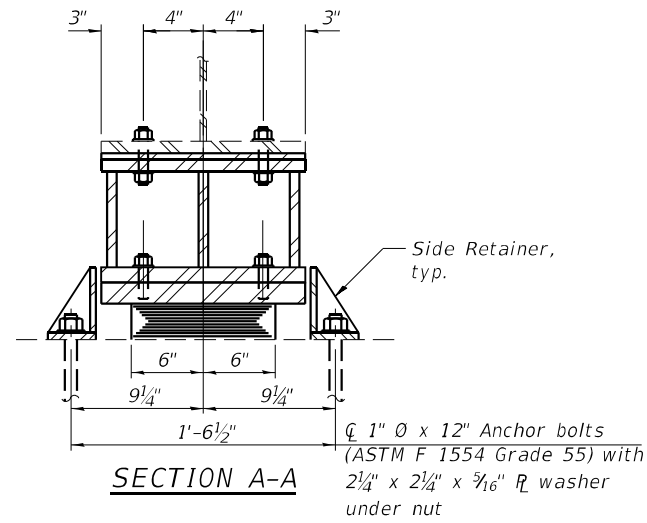
PLUGGING DRAINS
STRUCTURE NO. 058-0065

SHEET 7 OF 10 SHEETS

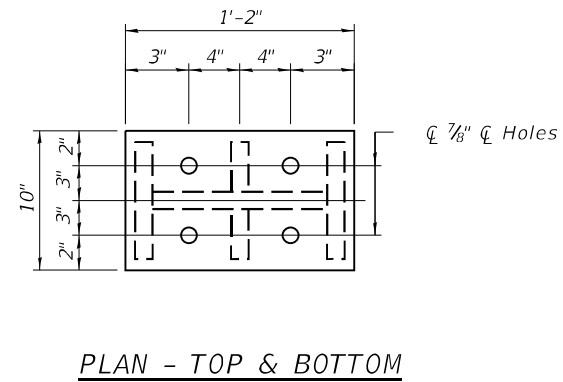
F.A.U.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7351	D7 BRIDGE REPAIRS 2024-3	MACON	35	32
CONTRACT NO. 74B29				
ILLINOIS FED. AID PROJECT				



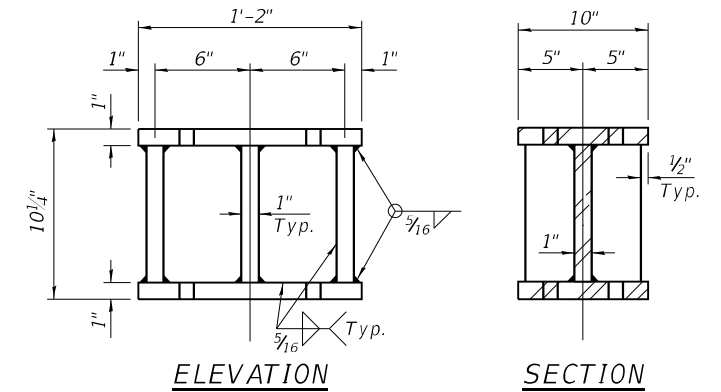
ELEVATION AT ABUTMENTS



SECTION A-A



PLAN - TOP & BOTTOM

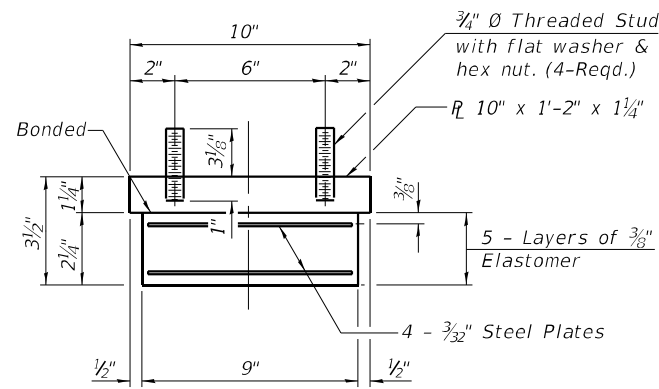


FABRICATED STEEL EXTENSION
(10 Required)

BEAM REACTIONS

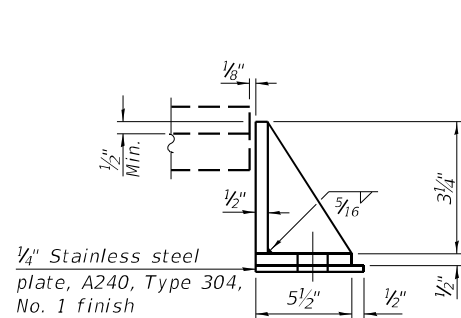
R _ℓ	(k)	46.08
R _⊥	(k)	28.54
Imp.	(k)	6.17
R _{Total}	(k)	80.79

TYPE I ELASTOMERIC EXPANSION BEARING WITH FABRICATED STEEL EXTENSION



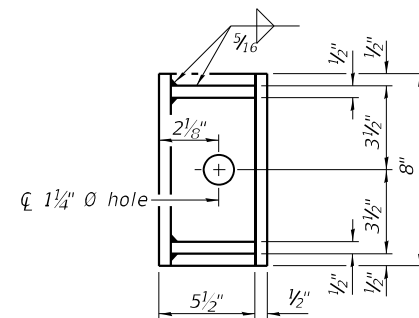
BEARING ASSEMBLY

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

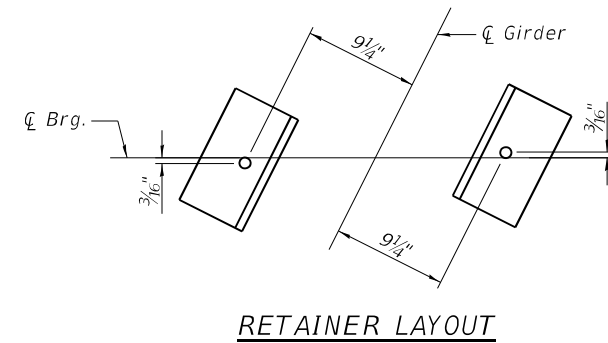


SIDE RETAINER

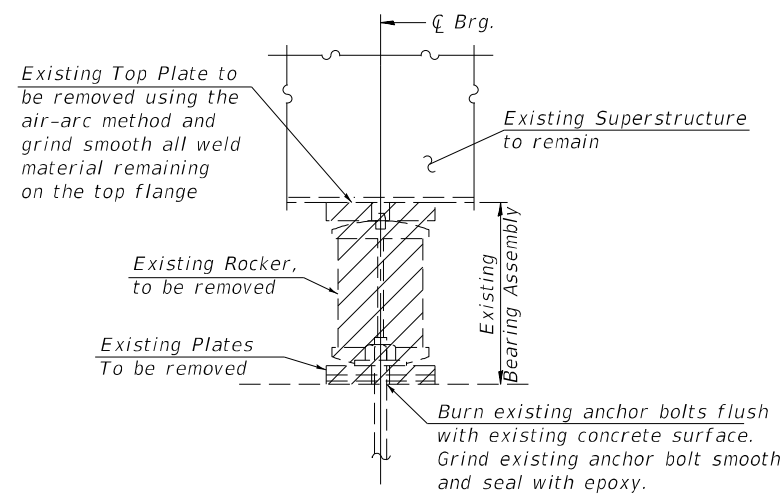
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



Notes:
Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.
Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.



RETAINER LAYOUT



EXISTING BEARING REMOVAL

Work is included with the cost for Jack and Remove Existing Bearings

Notes:
Side retainers and leveling pad required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
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.
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.
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications.
The structural steel plates of the bearing assembly, side retainers, tapered plates and steel extensions shall conform to the requirements of AASHTO M270 Grade 50W.
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.
Drilling holes in flange, steel extensions and connection bolts included with Furnishing and Erecting Structural Steel.
Diaphragm removal and reinstallation may be required to facilitate drilling holes. Cost included with Furnishing and Erecting Structural Steel.
Minimum jack capacity = 50 tons.

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	10
Anchor Bolts, 1"	Each	20
Furnishing and Erecting Structural Steel	Pound	2010
Jack and Remove Existing Bearings	Each	10

MODEL: \$MODELNAMES
FILE NAME: \$FILES



JOB = 2732.2
FILE NAME = \$FILEL\$
PLOT DATE = \$DATE\$

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

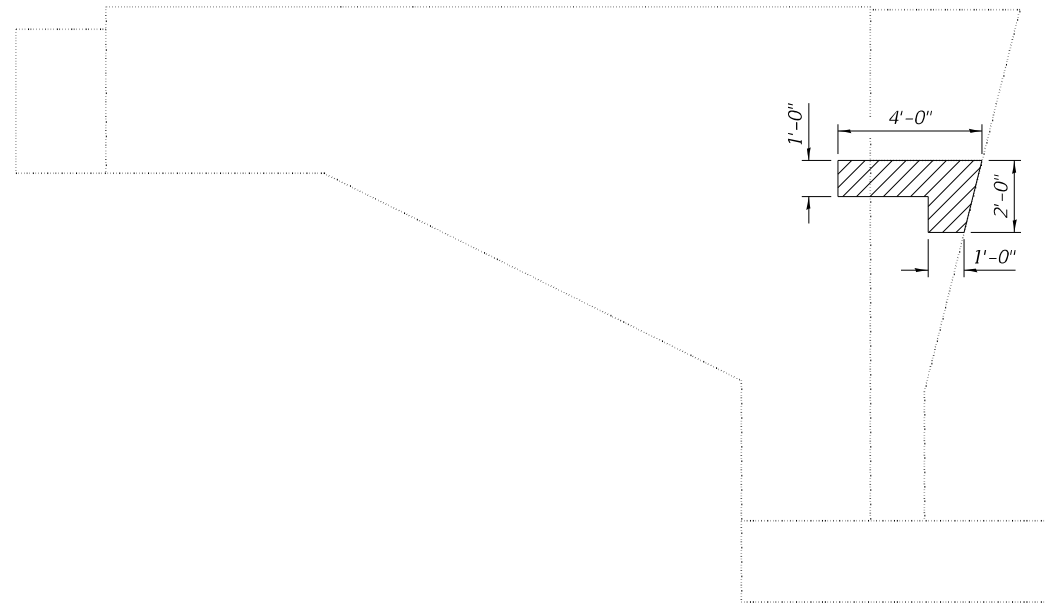
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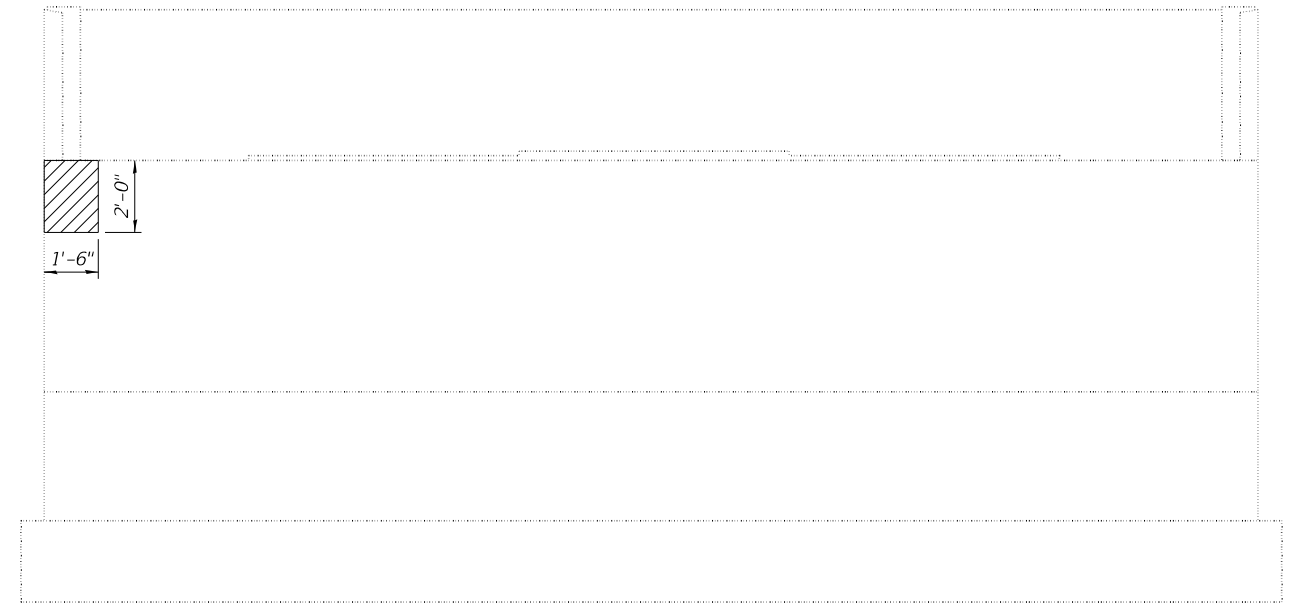
BEARING DETAILS
STRUCTURE NO. 058-0065

SHEET 8 OF 10 SHEETS

F.A.U.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7351	D7 BRIDGE REPAIRS 2024-3	MACON	35	33
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ILLINOIS FED. AID PROJECT				



NORTHWEST WINGWALL



NORTH ABUTMENT ELEVATION
(Looking North)

LEGEND



Structural Repair of Concrete
(Depth Equal to or Greater Than 5 Inches)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Structural Repair of Concrete (Depth Greater Than 5 Inches)	Sq. Ft.	8

Note:
Quantities and locations are approximated.
Actual quantities and locations to be determined
in the field by the Engineer.

MODEL: \$MODELNAME\$
FILE NAME: \$FILEL\$



JOB # 2732.2
FILE NAME = \$FILEL\$
PLOT DATE = \$DATE\$

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

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STRUCTURAL REPAIR OF CONCRETE
STRUCTURE NO. 058-0065

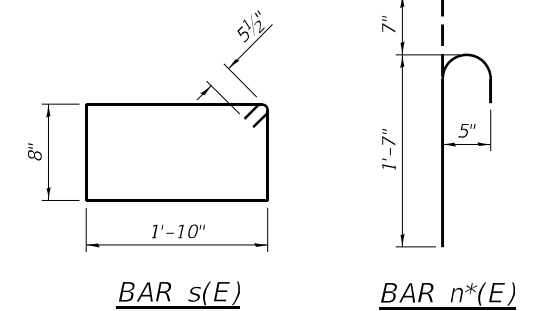
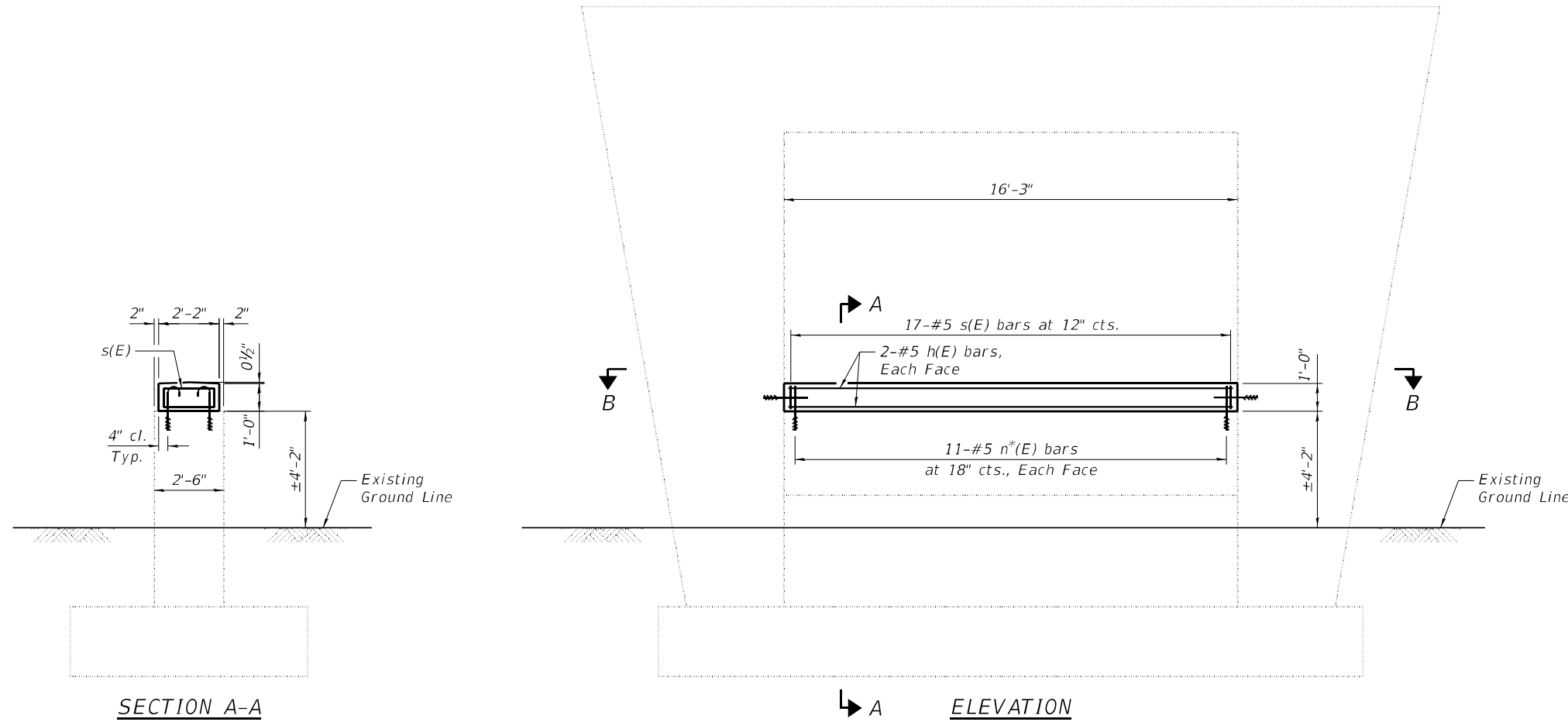
SHEET 9 OF 10 SHEETS

F.A.U.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7351	D7 BRIDGE REPAIRS 2024-3	MACON	35	34
CONTRACT NO. 74B29				

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NOTES

Bars designated with an asterisk (ie.: n*(E)) shall be epoxy grouted in accordance with Section 584 of the Standard Specifications. Minimum embedment = 9'. Cost of epoxy grouting and drilling shall be included with Reinforcement Bars, Epoxy Coated.



BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	4	#5	15'-11"	—
n*(E)	26	#5	2'-2"	U
s(E)	17	#5	5'-11"	□
Concrete Structures			Cu. Yds.	1.3
Reinforcement Bars, Epoxy Coated			Lbs.	240

MODEL: \$MODELNAME\$
FILE NAME: \$FILEL\$



JOB = 2732.2
FILE NAME = \$FILEL\$
PLOT DATE = \$DATE\$

DESIGNED - AAN
CHECKED - MDC
DRAWN - SJS
CHECKED - MDC

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PIER CRASHWALL EXTENSION
STRUCTURE NO. 058-0065

SHEET 10 OF 10 SHEETS

F.A.U.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7351	D7 BRIDGE REPAIRS 2024-3	MACON	35	35
CONTRACT NO. 74B29				
ILLINOIS FED. AID PROJECT				