

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**PLANS FOR PROPOSED
SURFACE TRANSPORTATION
PROGRAM – BRIDGE**

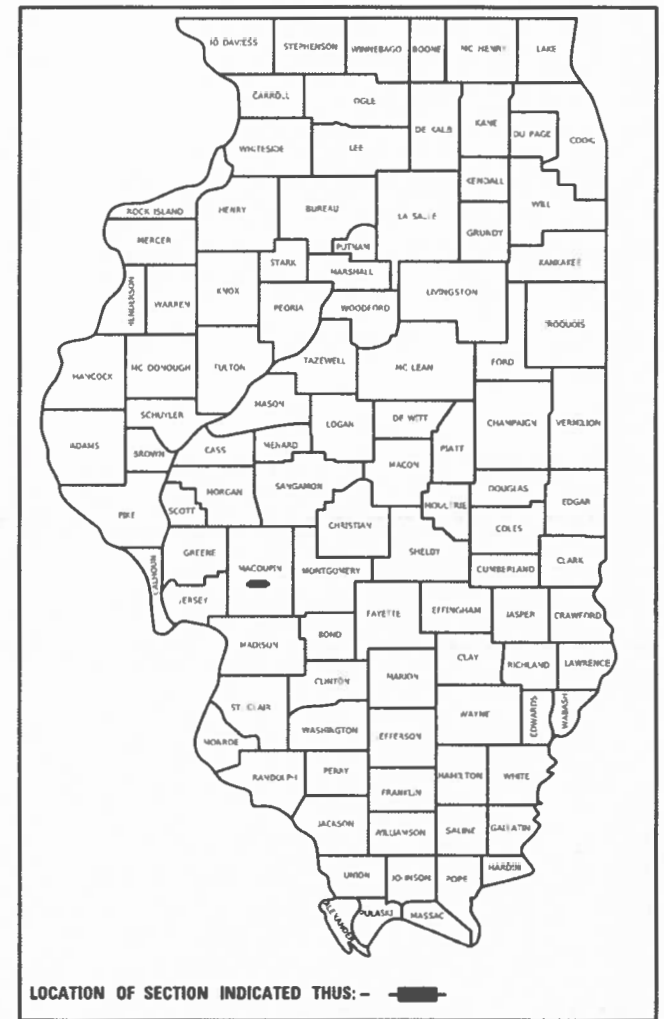
**F.A.S. 736 (STAUNTON BUNKER HILL RD.)
OVER W. FORK CAHOKIA CR.
SECTION 19-00102-00-BR
PROJECT YW4V(072)
BRIDGE REHABILITATION
MACOUPIN COUNTY
C-96-067-21**

INDEX OF SHEETS

- 1 - COVER SHEET
- 2 - GENERAL PLAN & ELEVATION
- 3 - GENERAL DATA
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- 5-6 - SUPERSTRUCTURE DETAILS
- 7 - PREFORMED JOINT STRIP SEAL
- 8-9 - STRUCTURAL STEEL REPAIR DETAILS
- 10 - BEARING DETAILS
- 11 - DECK SLAB REPAIR DETAILS
- 12-13 - ABUTMENT REPAIR (EPOXY CRACK INJ.)
- 14-20 - ABBREVIATED EXISTING BRIDGE PLANS

HIGHWAY STANDARDS

STANDARD 701901-08
STANDARD BLR 21-9

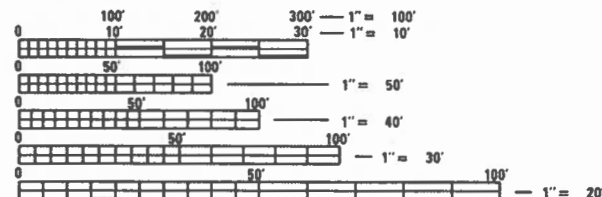


LOCATION OF SECTION INDICATED THIS: - [Symbol]

EXISTING STRUCTURE: 3 SPAN STEEL BEAMS ON OPEN CONCRETE
ABUTMENTS AND PILE BENT PIERS.
151'-2" BACK TO BACK ABUTMENTS.
18 DEGREE SKEW LT. FORWARD
EXISTING SN 059-3235

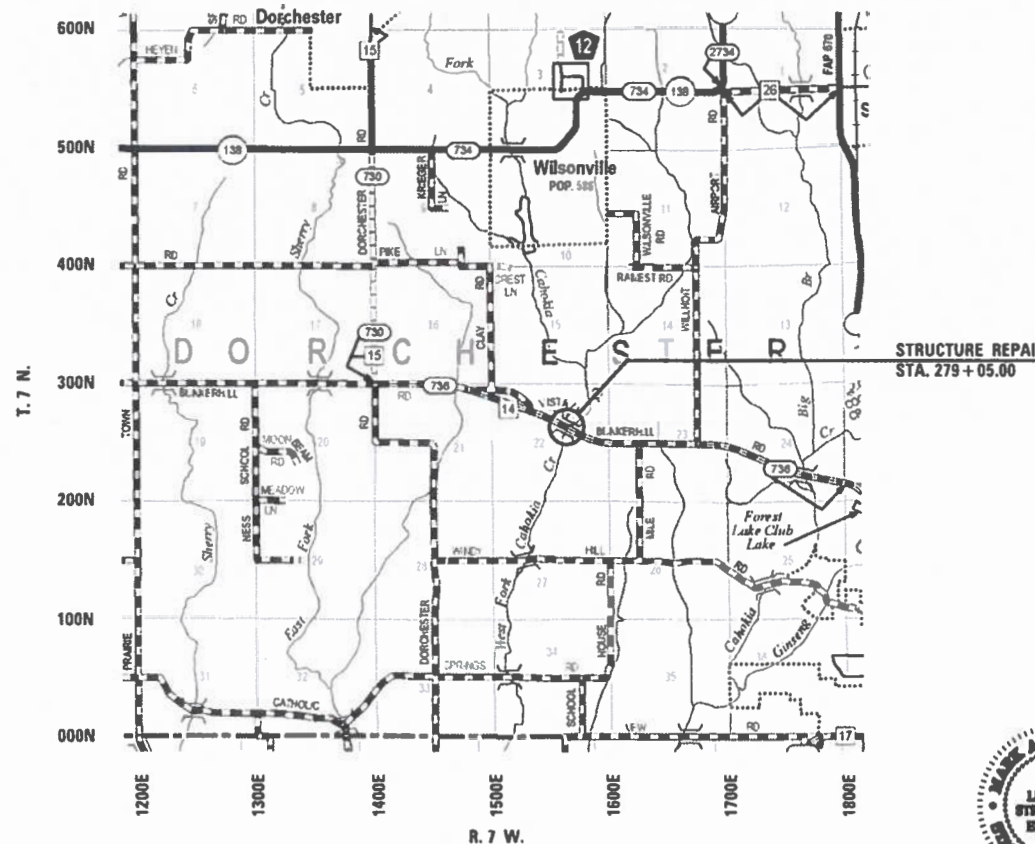
PROPOSED IMPROVEMENT: THE EXISTING STRUCTURE WILL BE REPAIRED WITH THE
REPLACEMENT OF NEW BEARINGS AND JOINTS AT BOTH
ABUTMENTS, PARTIAL DECK PATCHES, SUBSTRUCTURE CONCRETE
REPAIRS AND STRUCTURAL STEEL REPAIR AT BOTH ABUTMENTS.

LAND SECTION - 22
LAND QUARTER SECTION - N.E.
FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR
A.D.T. - 900 (2016)
A.D.T. - 1108 (2032)
55 M.P.H. DESIGN SPEED



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



LOCATION PLAN

NET LENGTH OF PROJECT = 155.00 FT. = 0.029 MILE



Ma O Henderson 2-22-2022
Expires: 11/30/2022

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

APPROVED 3-8 2022
Thomas A. Penland
COUNTY ENGINEER

APPROVED _____, 20__

PASSED 3/29/2022
David L. Smith
DISTRICT SIX ENGINEER OF
LOCAL ROADS & STREETS

Releasing For
Bid Based on
Limited Review 3/29/2022
Jeff P. Hester
REGION FOUR ENGINEER

MODEL: 001
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

COVER SHEET

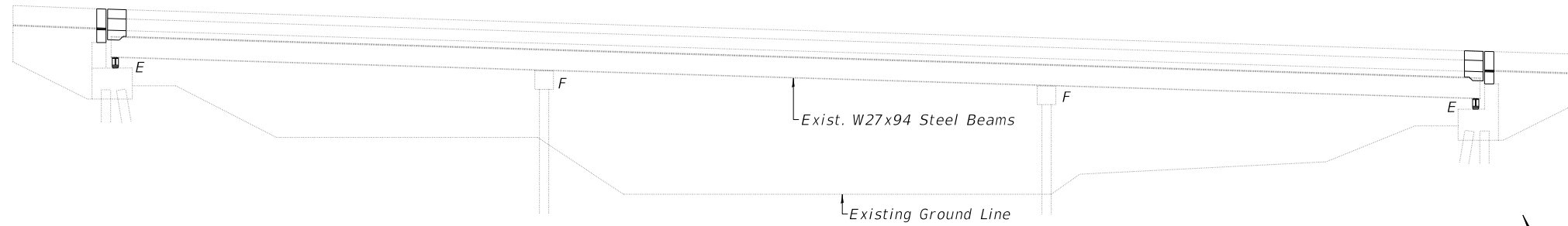
SHEET 1 OF 20 SHEETS

F.A.S. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
736	19-00102-00-BR	MACOUPIN	20	1
CONTRACT NO. 93786				
ILLINOIS FED. AID PROJECT				

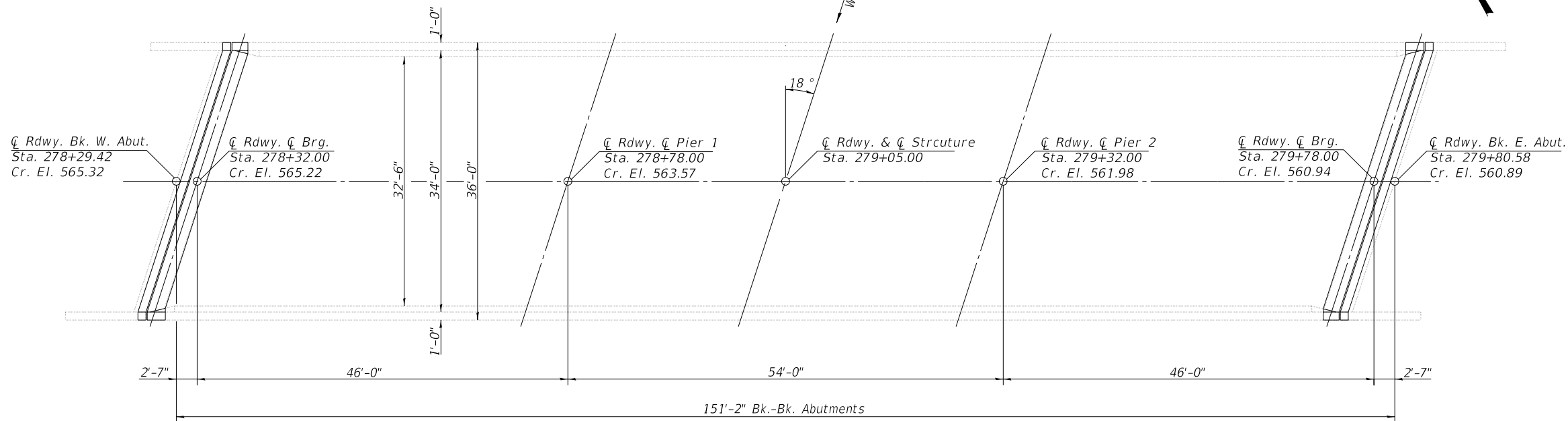
Existing Structure: S.N. 059-3235. Station 279+05. Three span continuous steel I-beam bridge with concrete deck on open reinforced concrete stub abutments and reinforced concrete pile bent piers. 151'-2" back to back abutments, 36'-0" out to out of deck and 32'-6" face to face of parapets. 18° left forward skew.

PROPOSED IMPROVEMENTS

1. Clean bridge seats at both abutments.
2. Replace bearings at both abutments.
3. Repair structural steel at both abutments.
4. Replace joints at both abutments.
5. Repair portions of deck with partial depth patches.
6. Substructure concrete repairs.



ELEVATION



PLAN

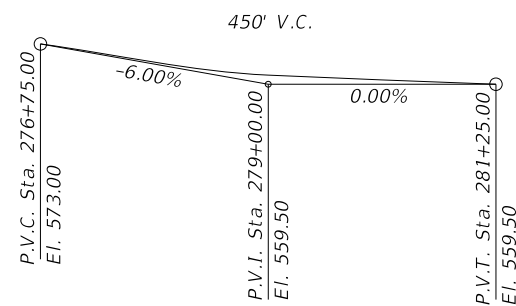
GENERAL NOTES

All structural steel shall conform to AASHTO Classification M-270 Gr. 50, unless otherwise noted.
 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.
 Reinforcement bars designated (E) shall be epoxy coated.
 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.
 Joint openings shall be adjusted according to Article 520.04 of the Standard Specifications when the deck is poured at an ambient temperature other than 50° F.
 All new structural steel and bearing assemblies shall be hot dip galvanized according to Special Provision "Hot Dip Galvanizing for Structural Steel".
 Fasteners shall be high strength bolts. Bolts 3#4"Ø, open holes 13#16"Ø, unless otherwise noted.
 Existing structural steel that will be in contact with new structural steel shall be cleaned and painted prior to erection as required by the Special Provision "Cleaning and Painting Contact Surface Areas of Existing Steel Structures."
 Cost of removal and re-installation of all members necessary to complete the work as detailed on the plans and as specified in the Special Provisions shall be included with Furnishing and Erecting Structural Steel.
 The existing abutment seats shall be cleaned according to the special provision for "Cleaning Bridge Seats."

DESIGN STRESSES

FIELD UNITS (New Construction)
 $f'_c = 3,500$ psi
 $f_y = 60,000$ psi (reinforcement bars)

FIELD UNITS (Exist. Construction)
 1972 Plans
 $f_c = 1,200$ psi (Slab)
 $f_c = 1,400$ psi (Substructure)
 $f_s = 27,000$ psi (A-588) Steel
 $n=10$



PROFILE GRADE

R 7 W, 3rd P.M.



PROJECT LOCATION



LOCATION SKETCH

GENERAL PLAN & ELEVATION
F.A.S. ROUTE 736 (C.H. 14)
STAUNTON-BUNKER HILL ROAD
OVER WEST FORK CAHOKIA CREEK
SECTION 19-00102-00-BR
MACOUPIN COUNTY
STA. 279+05.00

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 059-3235

SHEET NO. 2 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
736	19-00102-00-BR	MACOUPIN	20	2
CONTRACT NO. 93786				

ILLINOIS FED. AID PROJECT

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**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

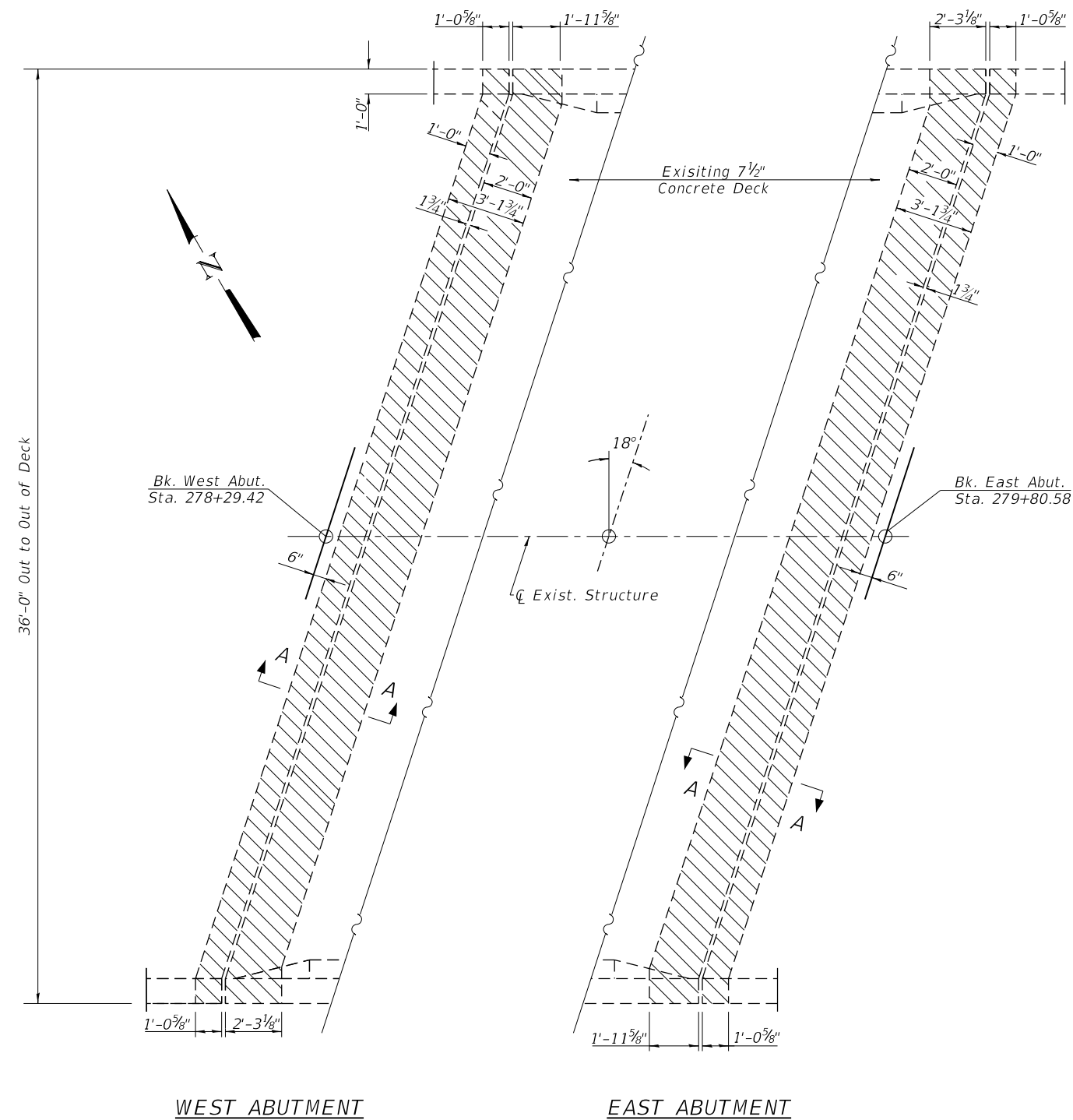
**SUMMARY OF QUANTITIES
 STRUCTURE NO. 059-3235**

SHEET NO. 3 OF 20 SHEETS

F.A.S RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
736	19-00102-00-BR	MACOUPIN	20	3
ILLINOIS FED. AID PROJECT			CONTRACT NO. 93786	

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	CONSTRUCTION CODE	
				BRIDGE	
				0013	
				SN 059-3235	
50102400	CONCRETE REMOVAL	CU. YD.	9.7		9.7
50300255	CONCRETE SUPERSTRUCTURE	CU. YD.	9.7		9.7
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	3365		3365
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	1310		1310
52000110	PREFORMED JOINT STRIP SEAL	FOOT	74		74
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	12		12
52100510	ANCHOR BOLTS, 3/4"	EACH	24		24
59000200	EPOXY CRACK INJECTION	FOOT	33		33
67100100	MOBILIZATION	L. SUM	1		1
X7011800	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L. SUM	1		1
Z0001899	JACK AND REMOVE EXISTING BEARINGS	EACH	12		12
Z0001903	STRUCTURAL STEEL REMOVAL	POUND	1480		1480
Z0001905	STRUCTURAL STEEL REPAIR	POUND	1570		1570
Z0010400	CLEANING BRIDGE SEATS	SQ. FT.	214		214
Z0016200	DECK SLAB REPAIR (PARTIAL)	SQ. YD.	23.5		23.5

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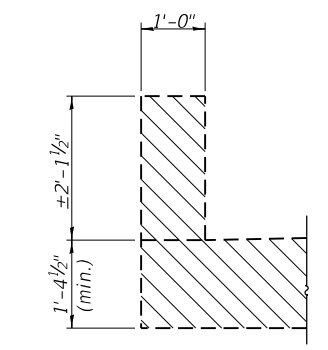


WEST ABUTMENT

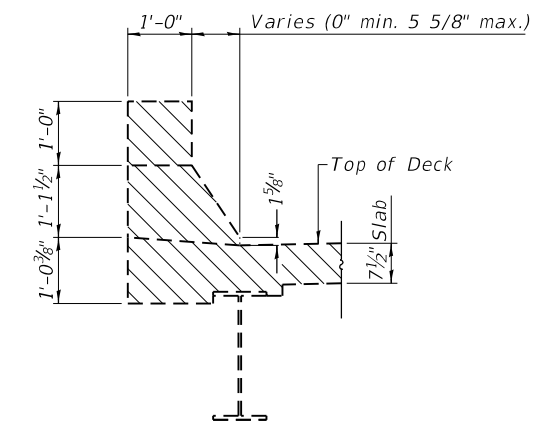
EAST ABUTMENT

PLAN
(Showing Removal)

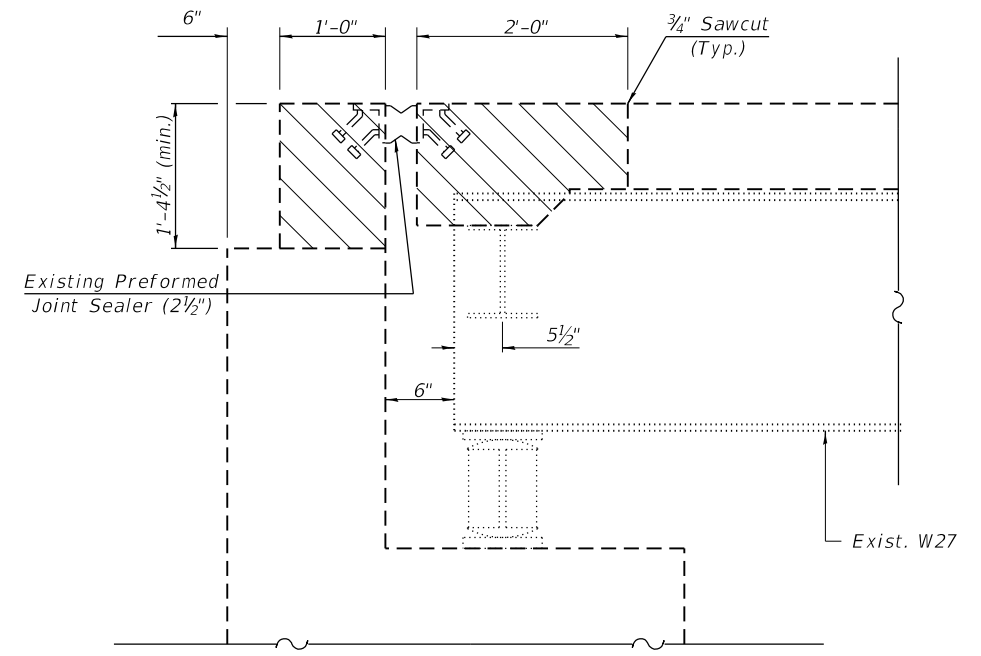
- Indicates Concrete Removal



PARAPET OVER ABUTMENT
(Dimensions at Rt. Angles)



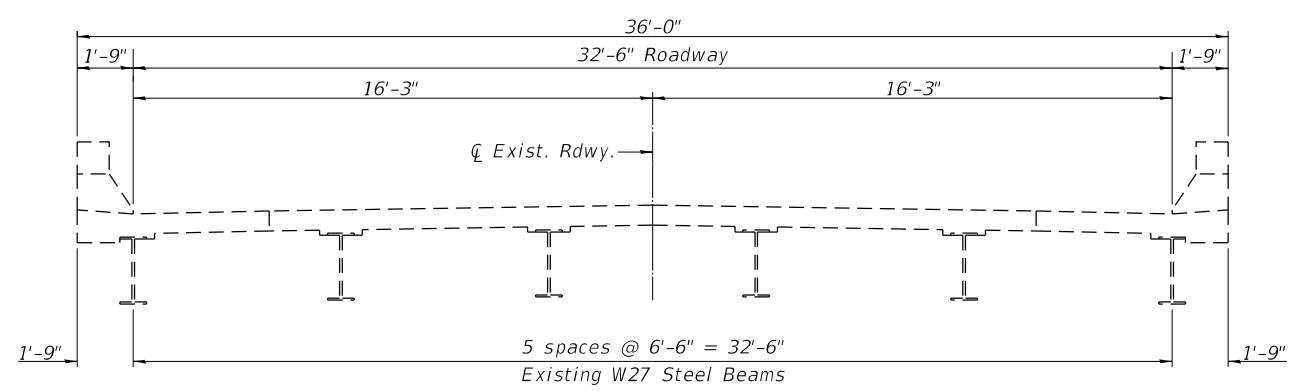
PARAPET OVER CONCRETE DECK
(Dimensions at Rt. Angles)



SECTION A-A
(Dimensions at Rt. Angles)

NOTES

The Contractor shall use extreme care during concrete removal so as not to damage the existing steel beams.
 Removal of existing expansion joint and associated material shall not be paid for separately, but shall be included in the cost of Concrete Removal.
 Removal and replacement of existing pavement as required to construct the new backwall shall not be paid for separately, but shall be included in the cost of Concrete Removal. New pavement shall be of like kind and quality as existing and as approved by the Engineer.
 Trim existing reinforcement to accommodate proposed expansion joint.
 Existing reinforcement bars extending into the removal area shall be cleaned, straightened and incorporated into 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.



CROSS SECTION



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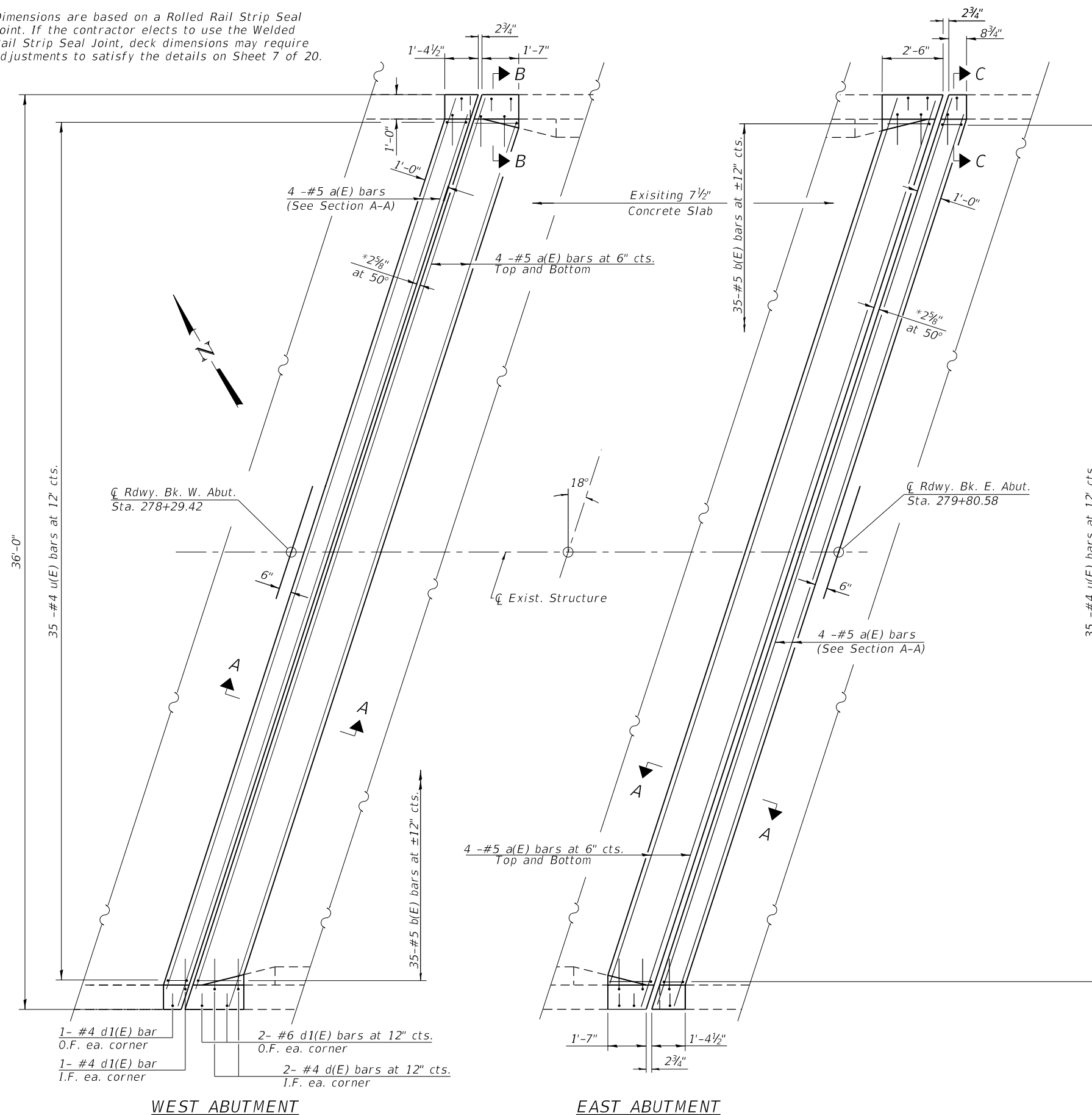
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SUPERSTRUCTURE CONCRETE REMOVAL
STRUCTURE NO 059-3235

SHEET 4 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
736	19-00102-00-BR	MACOUPIN	20	4
CONTRACT NO. 93786				
ILLINOIS FED. AID PROJECT				

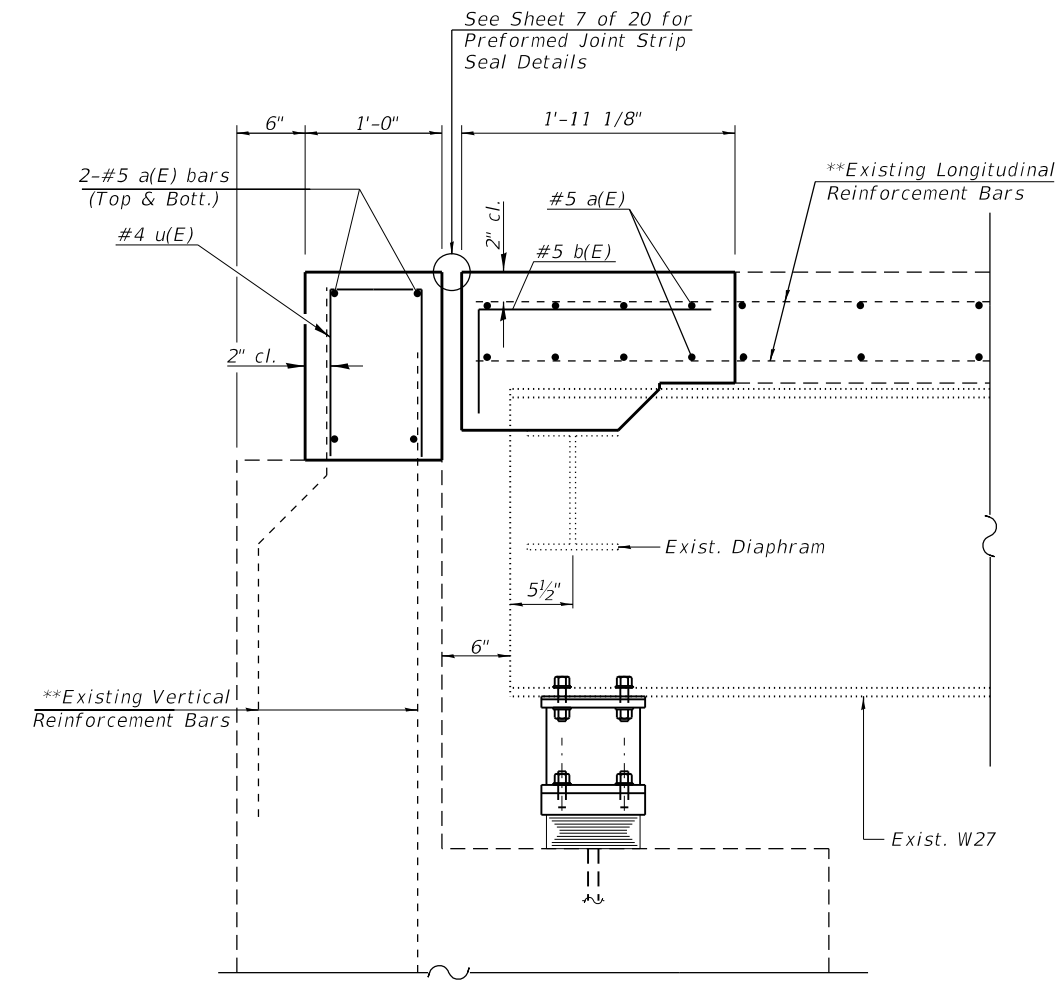
* Dimensions are based on a Rolled Rail Strip Seal Joint. If the contractor elects to use the Welded Rail Strip Seal Joint, deck dimensions may require adjustments to satisfy the details on Sheet 7 of 20.



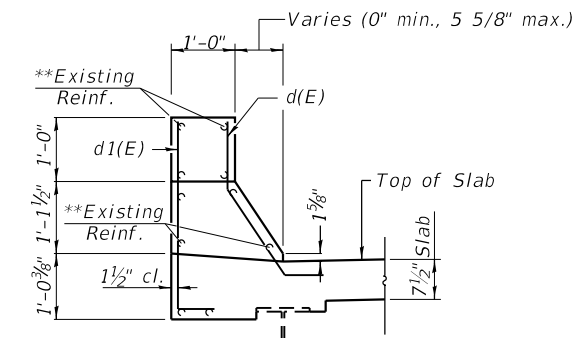
WEST ABUTMENT

EAST ABUTMENT

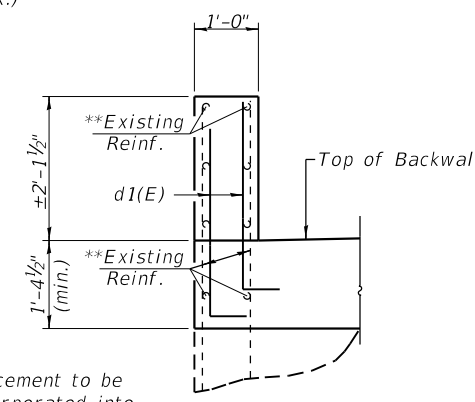
PLAN
(Showing Reinforcement)



SECTION A-A
(Dimensions at Rt. Angles)



SECTION B-B
(Dimensions at Rt. Angles)



SECTION C-C
(Dimensions at Rt. Angles)

** Existing reinforcement to be cleaned and incorporated into new construction.

Notes:
See sheet 6 of 20 for Bill of Material and Sections thru deck.

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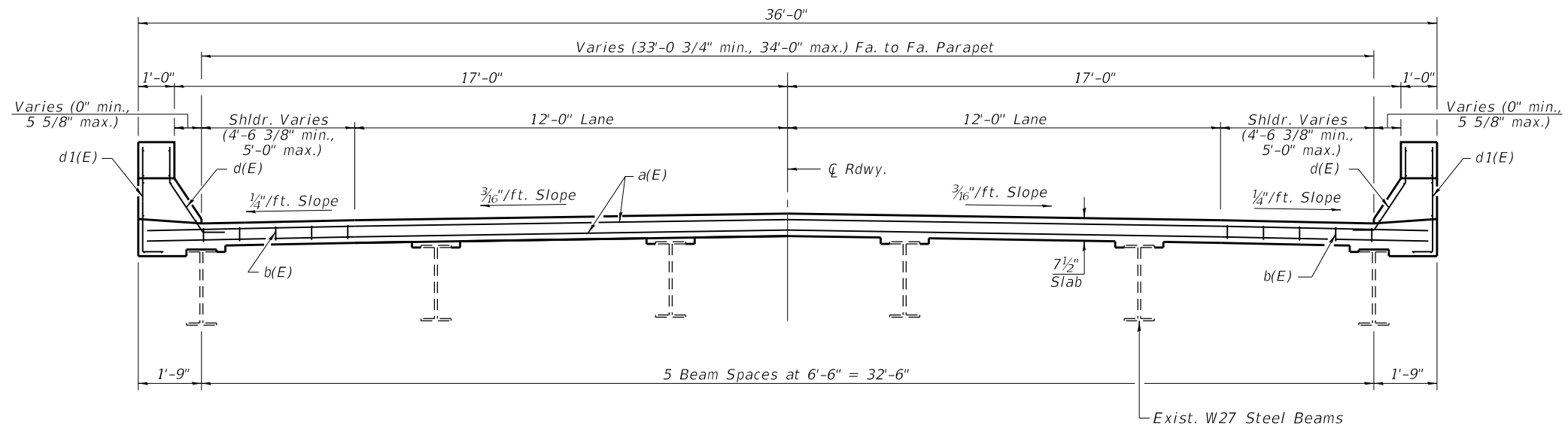
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

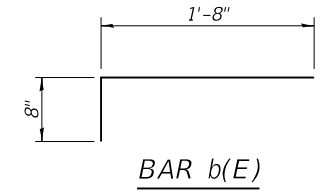
**SUPERSTRUCTURE DETAILS
STRUCTURE NO 059-3235**

SHEET 5 OF 20 SHEETS

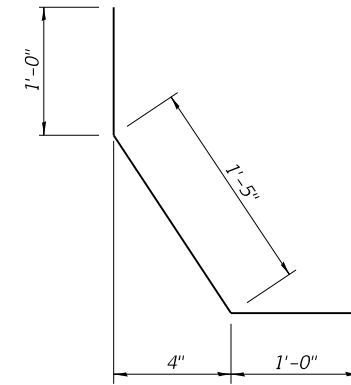
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736	19-00102-00-BR	MACOUPIN	20	5
CONTRACT NO. 93786				
ILLINOIS FED. AID PROJECT				



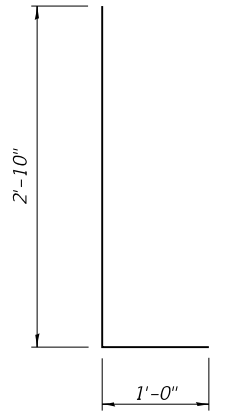
CROSS SECTION



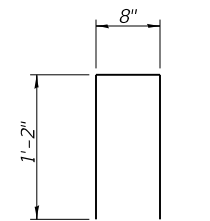
BAR b(E)



BAR d(E)



BAR d1(E)



BAR u(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	24	#5	36'-6"	—
b(E)	70	#5	2'-4"	┌
d(E)	8	#4	3'-5"	└
d1(E)	16	#5	3'-10"	└
u(E)	70	#4	3'-0"	┌
Concrete Removal			Cu. Yd.	9.7
Concrete Superstructure			Cu. Yd.	9.7
Reinforcement bars. Epoxy Coated			Pound	1,310

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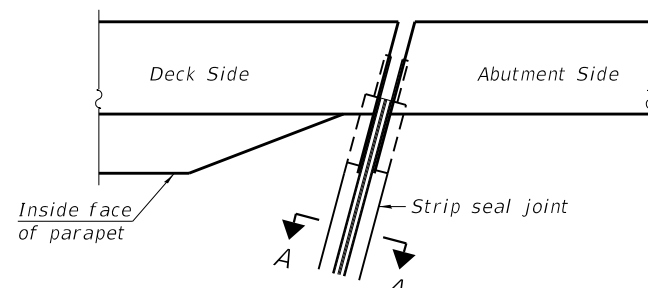
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

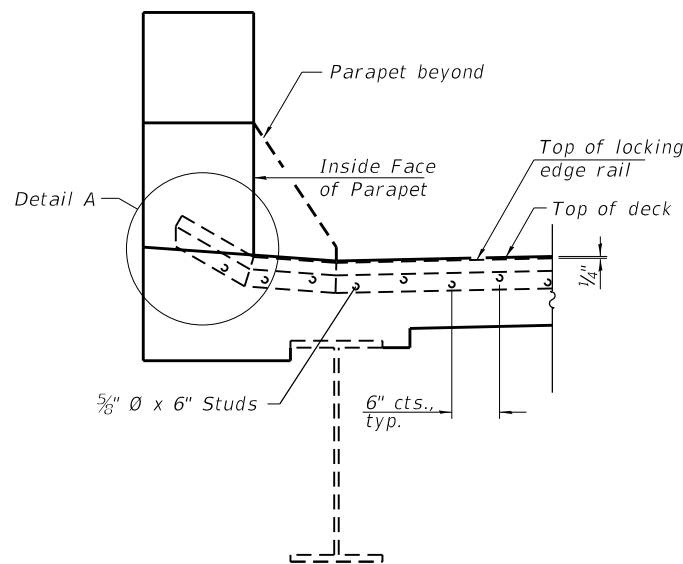
SUPERSTRUCTURE DETAILS
STRUCTURE NO 059-3235

SHEET 6 OF 20 SHEETS

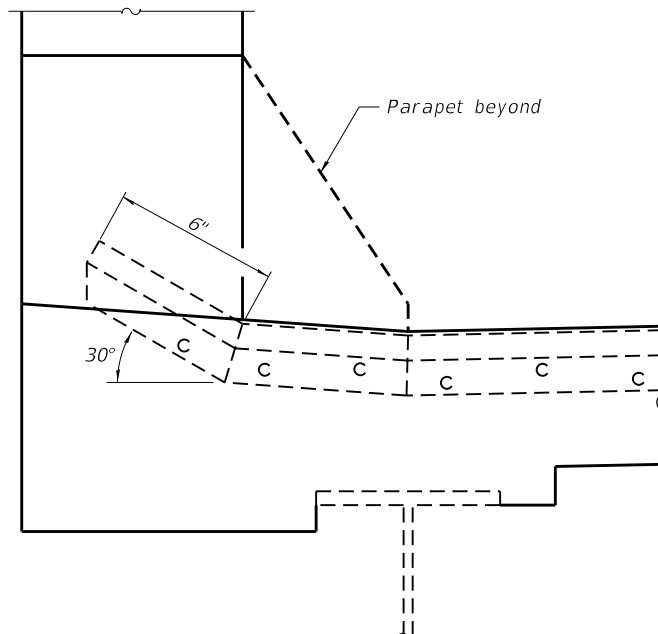
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CONTRACT NO. 93786				
ILLINOIS FED. AID PROJECT				



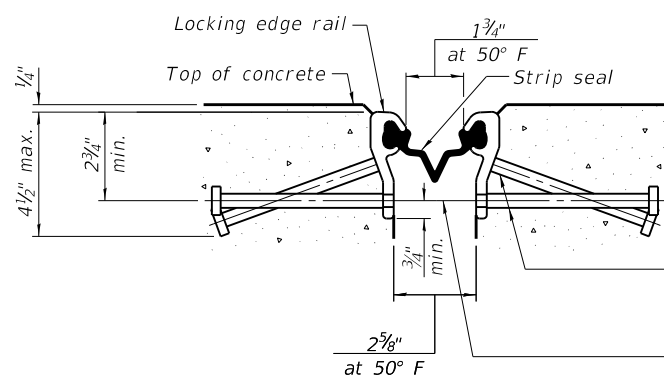
FOR SKEWS $\leq 30^\circ$
PLAN AT PARAPET



ELEVATION AT PARAPET



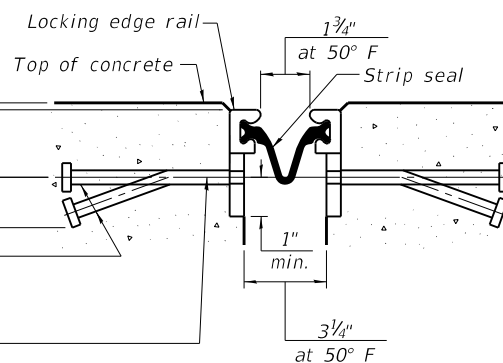
DETAIL A



SHOWING ROLLED RAIL JOINT

* $5/8$ " ϕ x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)

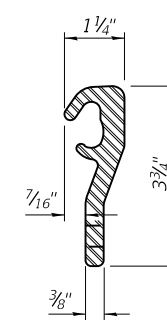
$3/8$ " ϕ threaded rods in $7/16$ " ϕ holes at ± 4 "-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates after concrete is set.



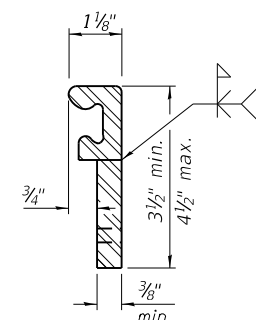
SHOWING WELDED RAIL JOINT

SECTION A-A

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



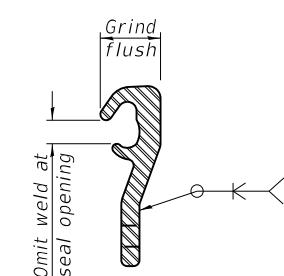
ROLLED (EXTRUDED) RAIL



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	74

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 embedded plates and anchorage studs included with Preformed Joint Strip Seal.

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.

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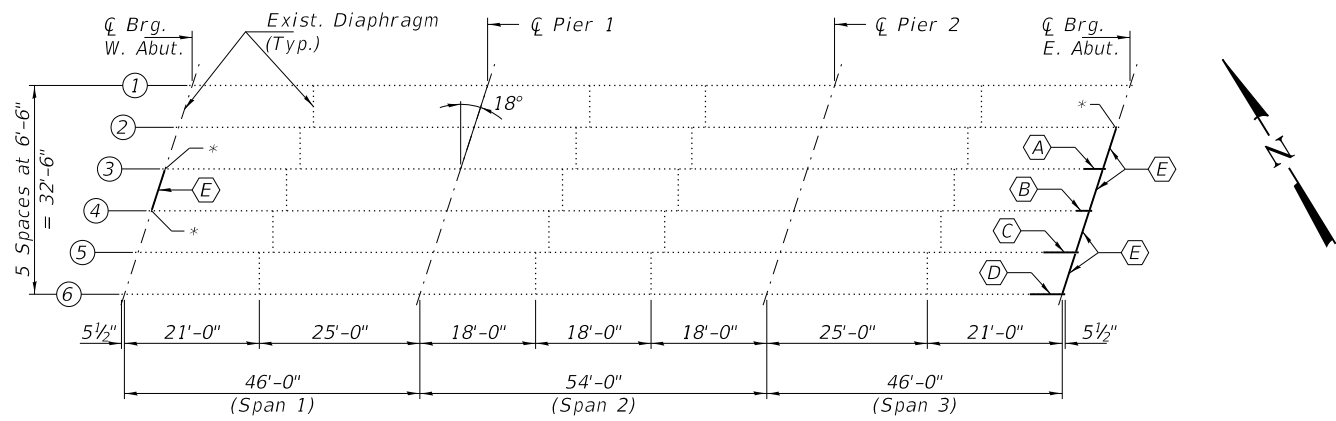
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
STRUCTURE NO 059-3235

SHEET 7 OF 20 SHEETS

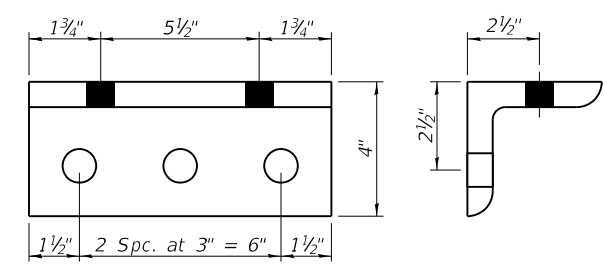
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CONTRACT NO. 93786				
ILLINOIS FED. AID PROJECT				



FRAMING PLAN

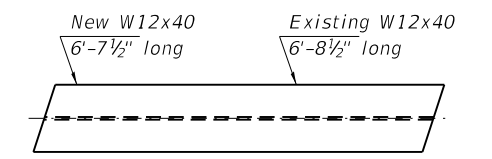
- (A) - Beam End Repair (3-E) (B) - Beam End Repair (4-E)
- (C) - Beam End Repair (5-E) (D) - Beam End Repair (6-E)
- (E) - Remove and Replace Diaphragms & Clip Angles

* Re-use existing clip angles. Field verify existing bolt locations.



CLIP ANGLE DETAILS

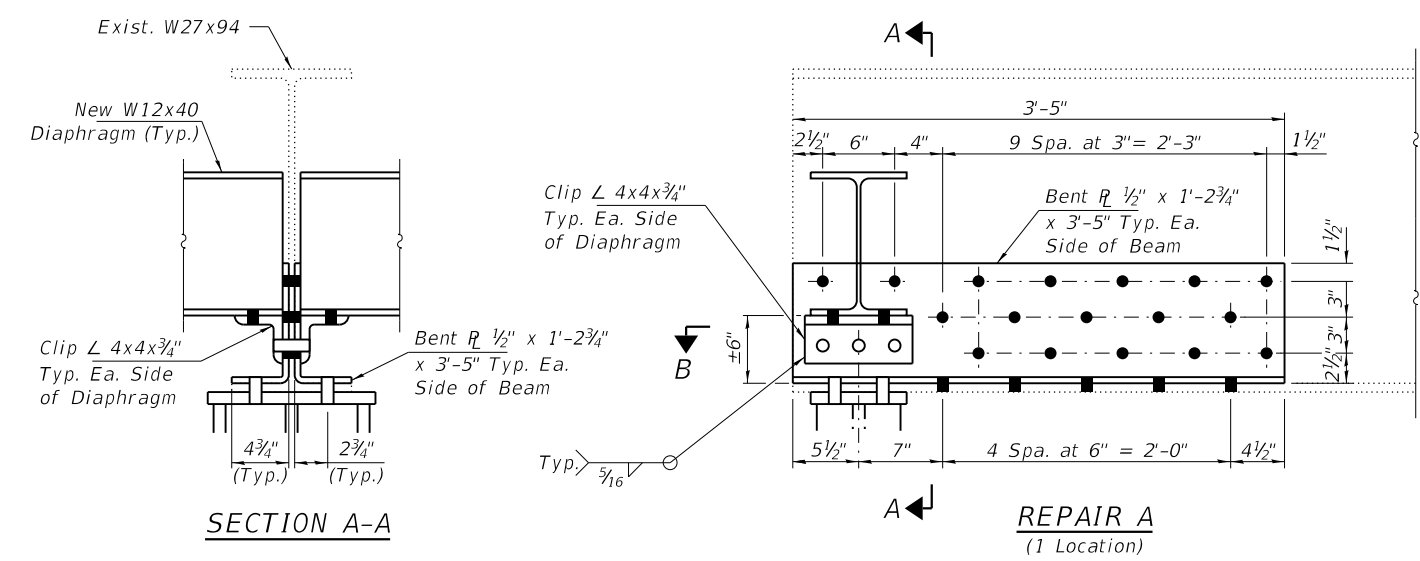
L 4x4x3/4" x 9" long
(7 Required)



DIAPHRAGM
(5 Required)

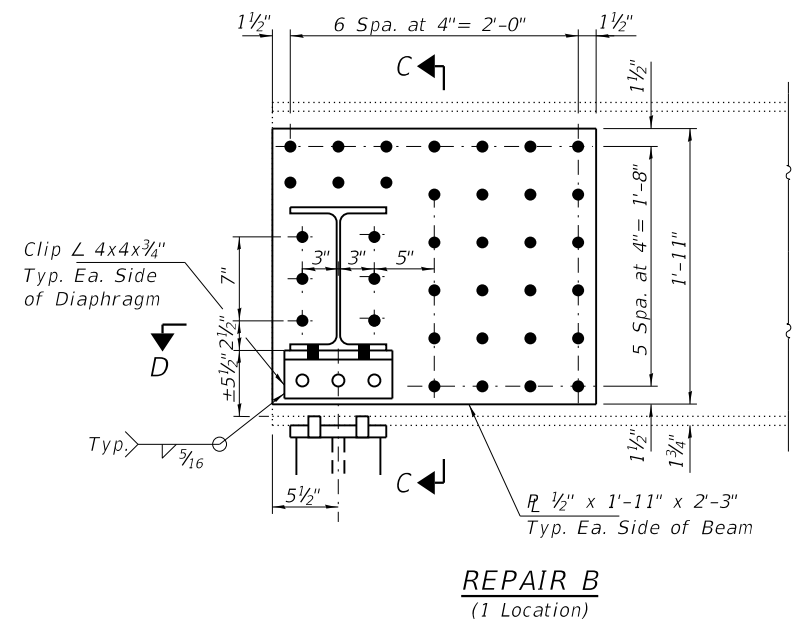
REPAIR E

Existing L 6"x4"x3/4" shall be removed by the air-arc method and grind smooth all weld material remaining on the web.

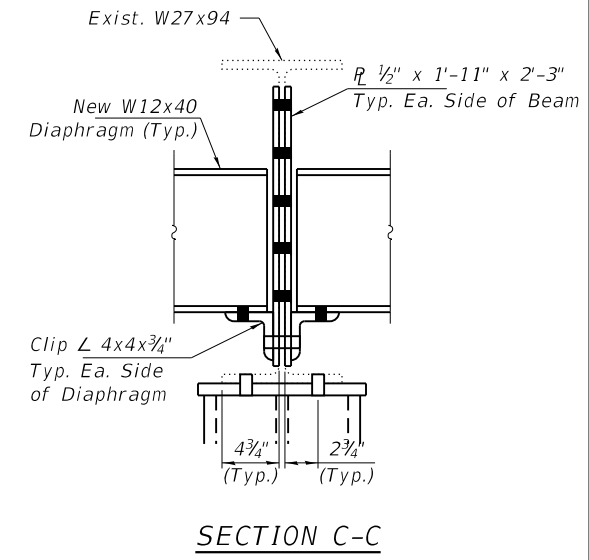


SECTION A-A

REPAIR A
(1 Location)

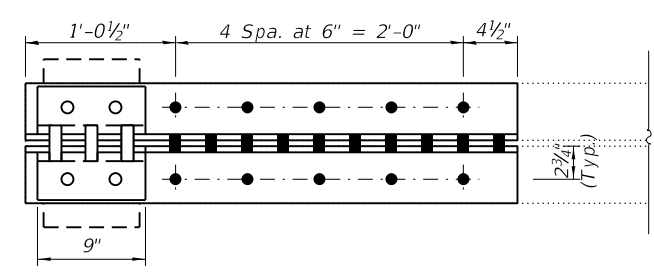


REPAIR B
(1 Location)

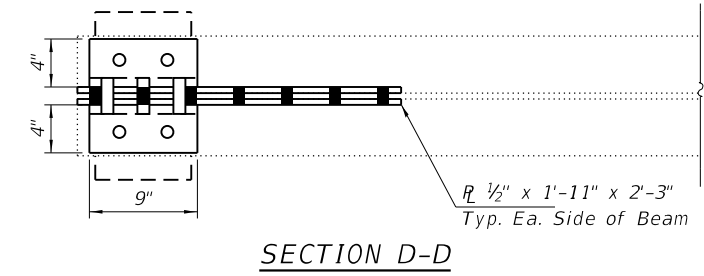


SECTION C-C

- BOLT HOLE LEGEND**
- - Field drill using existing or new steel as template.
 - - Shop drill holes in new steel.



SECTION B-B



SECTION D-D

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Steel Removal	Pound	1,480
Structural Steel Repair	Pound	1,570
Furnishing and Erecting Structural Steel	Pound	1,440

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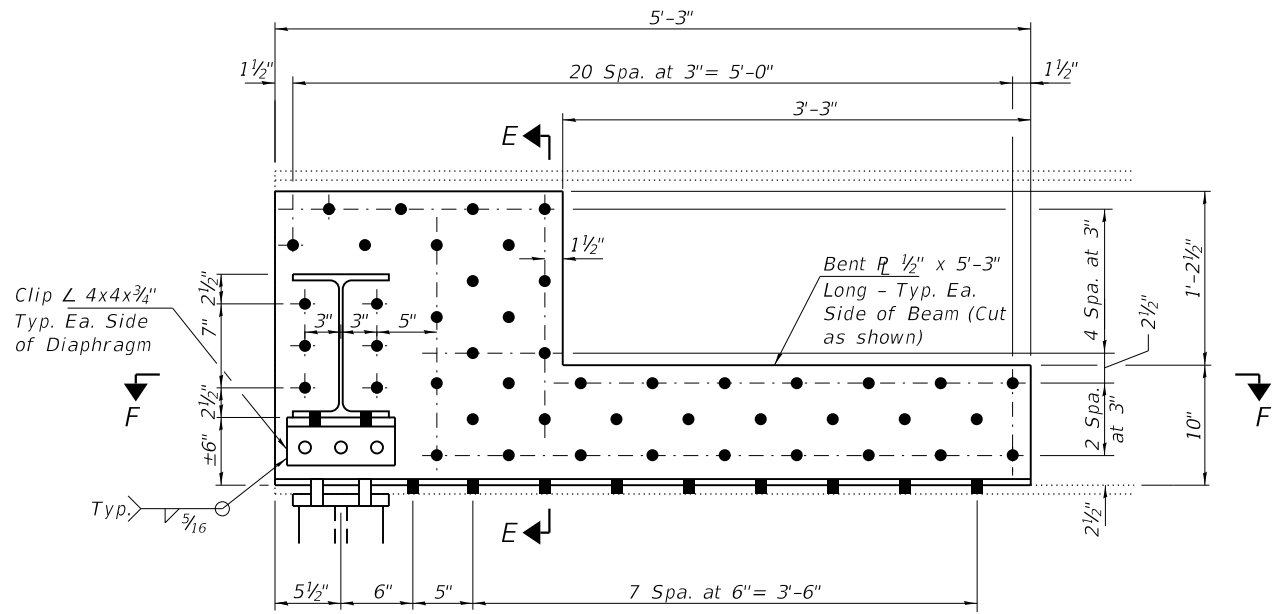
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

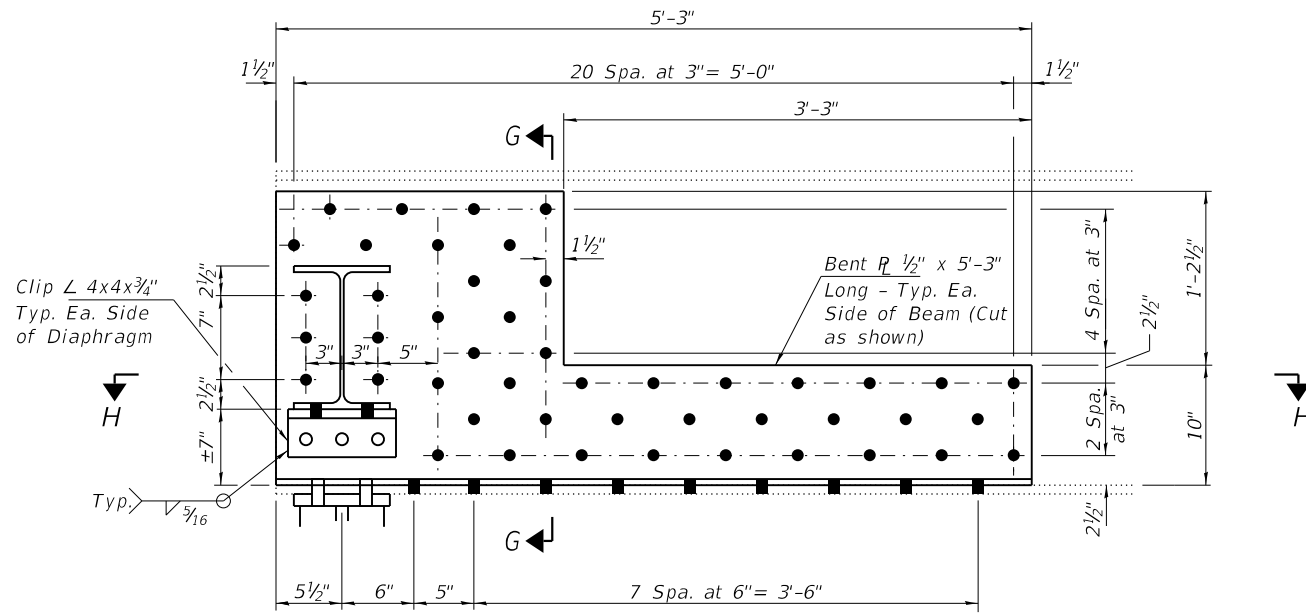
STRUCTURAL STEEL REPAIR DETAILS
STRUCTURE NO 059-3235

SHEET 8 OF 20 SHEETS

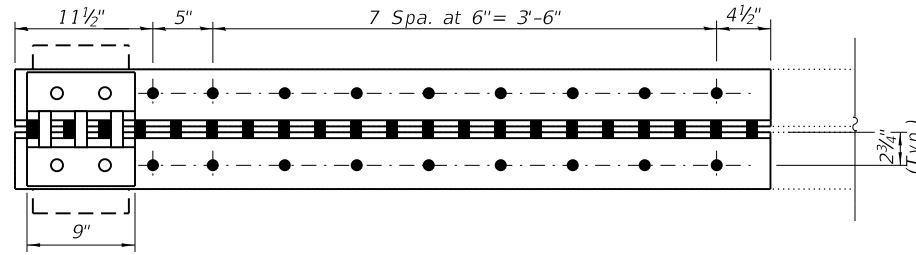
F.A.S. RTE. 736	SECTION 19-00102-00-BR	COUNTY MACOUPIN	TOTAL SHEETS 20	SHEET NO. 8
CONTRACT NO. 93786				
ILLINOIS FED. AID PROJECT				



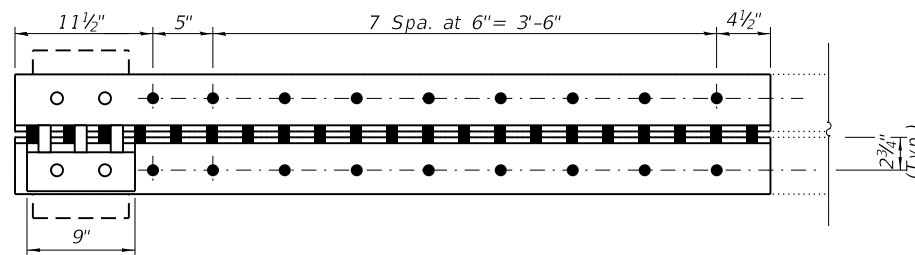
REPAIR C
(1 Location)



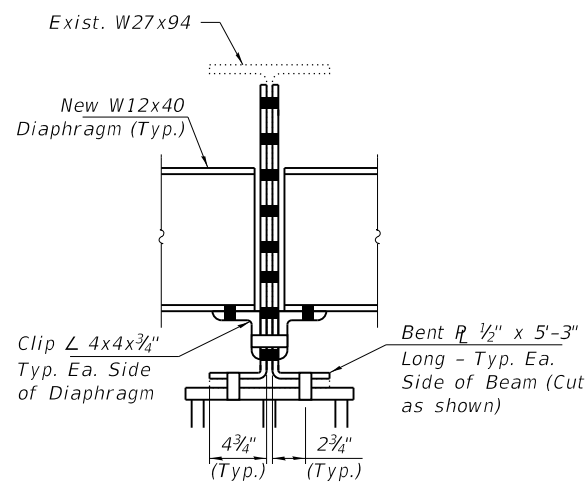
REPAIR D
(1 Location)



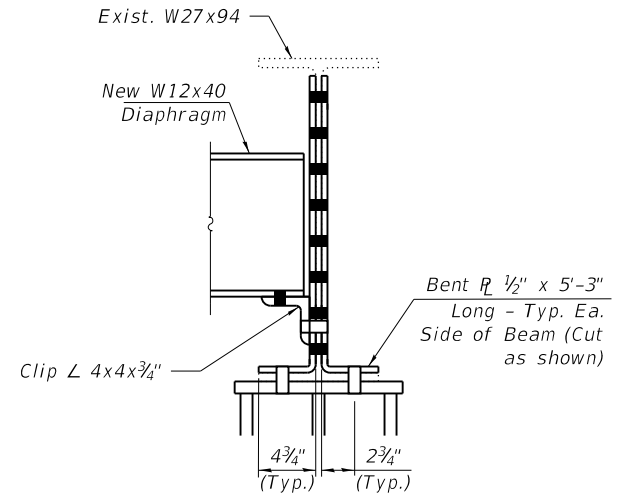
SECTION F-F



SECTION H-H



SECTION E-E



SECTION G-G

BOLT HOLE LEGEND

- - Field drill using existing or new steel as template.
- - Shop drill holes in new steel.

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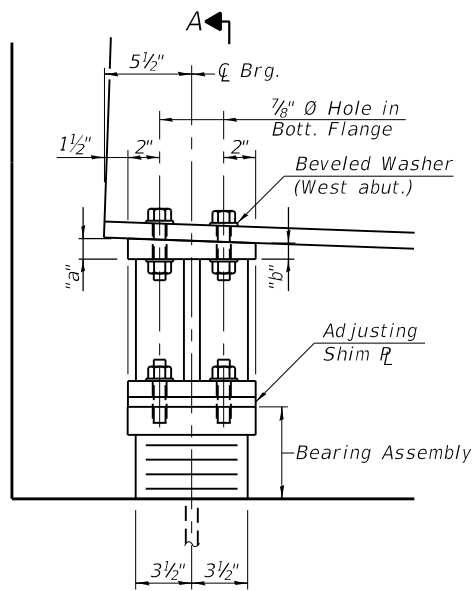
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**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

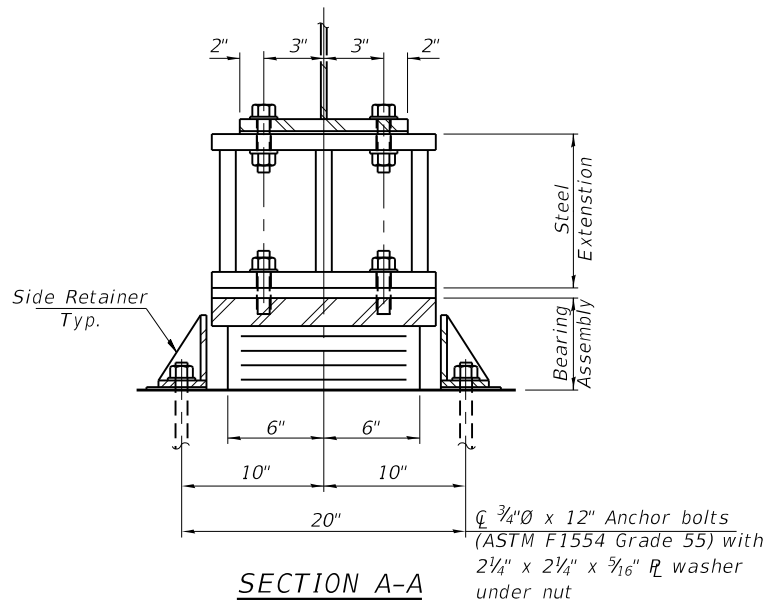
**STRUCTURAL STEEL REPAIR DETAILS
STRUCTURE NO 059-3235**

SHEET 9 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
736	19-00102-00-BR	MACOUPIN	20	9
CONTRACT NO. 93786				
ILLINOIS FED. AID PROJECT				

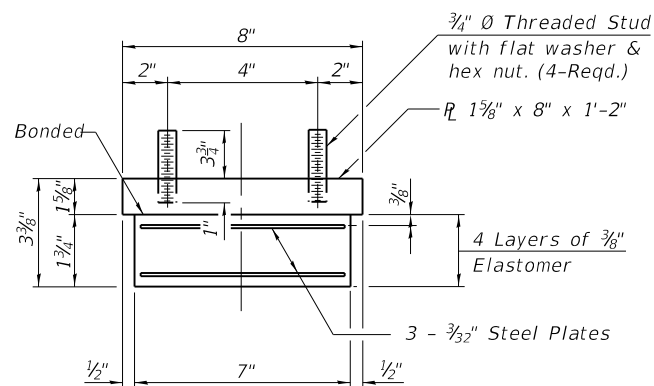


ELEVATION AT ABUT.



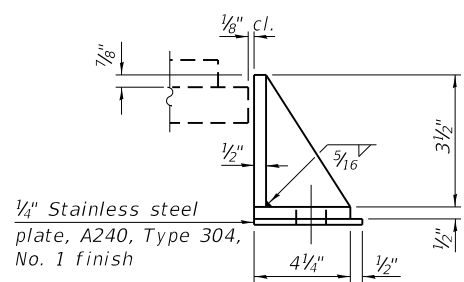
SECTION A-A

TYPE I ELASTOMERIC EXP. BRG.
(At West and East Abutments - 12 required)



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.

STEEL EXTENSION TOP PLATE DIMENSIONS

Location	"a"	"b"
W. Abut.	1 1/4"	1"
E. Abut.	1"	1"

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.

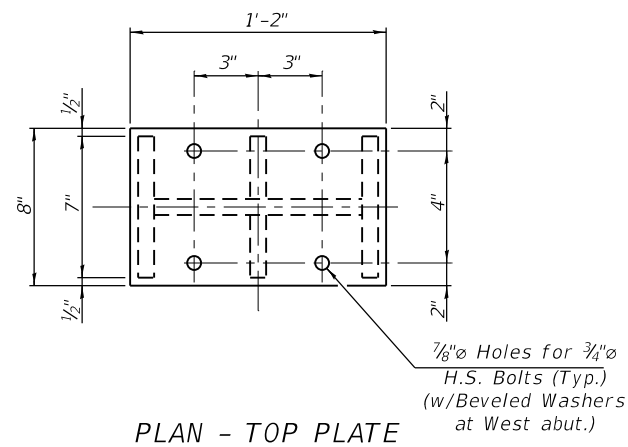
Drilled and set anchor bolts shall be installed according to Article 521.06 of the Standard Specifications. Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.

Diaphragm removal and replacement may be required to facilitate drilling holes. Cost shall be included with Furnishing and Erecting Structural Steel.

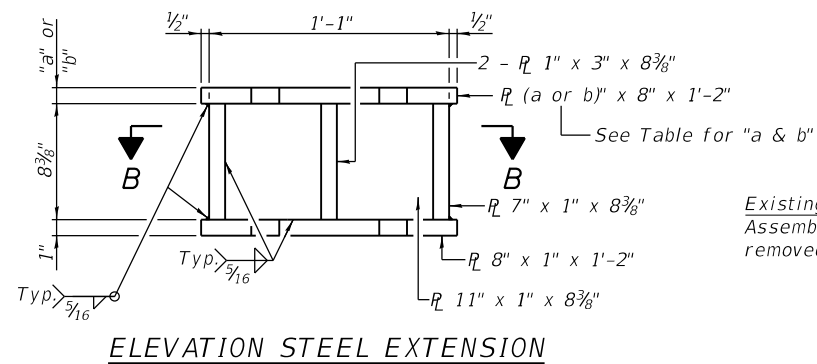
New steel extensions, adjusting shim plates and connection bolts are included with Furnishing and Erecting Structural Steel.

Prior to ordering any material, the Contractor shall verify in the field all bearing heights.

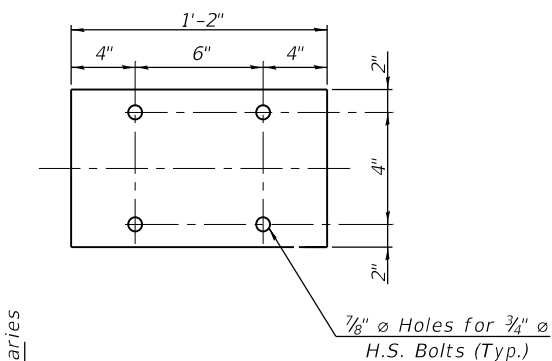
The structural steel bearing plates for the bearings shall conform to the requirements of AASHTO M270 Grade 50.



PLAN - TOP PLATE

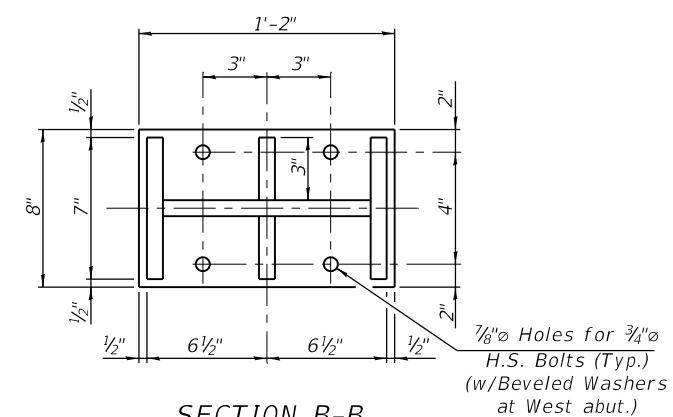


ELEVATION STEEL EXTENSION

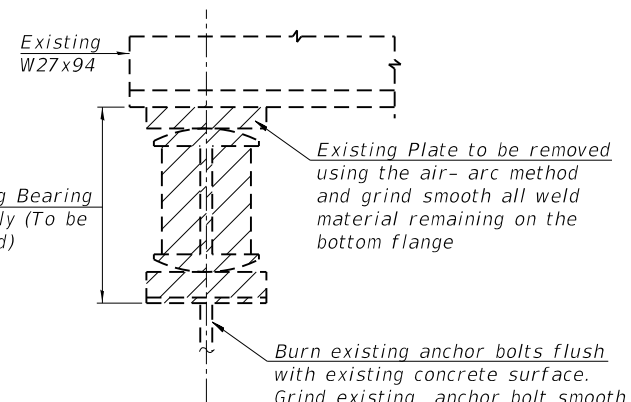


SHIM PLATE DETAIL

*(Provide shim plate at beam as shown in table)



SECTION B-B



EXISTING BEARING REMOVAL DETAIL

The minimum jack capacity provided for "Jack and Remove Existing Bearings" is 26 tons.

***ADJUSTING SHIM PLATE DIMENSIONS**

Location	Beam 1	Beam 2	Beam 3	Beam 4	Beam 5	Beam 6
West Abut.	1/4"	none	1/4"	1"	1/2"	3/8"
East Abut.	3/4"	5/8"	5/8"	1 1/4"	3/4"	3/4"

INTERIOR BEAM REACTION TABLE

	W. Abut.	E. Abut.
R _D L, kips	18.4	18.4
R _L L, kips	32.2	32.2
Imp., kips	9.4	9.4
R (Total), kips	60.0	60.0

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly Type I	Each	12
Anchor Bolts, 3/4"	Each	24
Furnishing and Erecting Structural Steel	Pound	1,925
Jack and Remove Existing Bearings	Each	12

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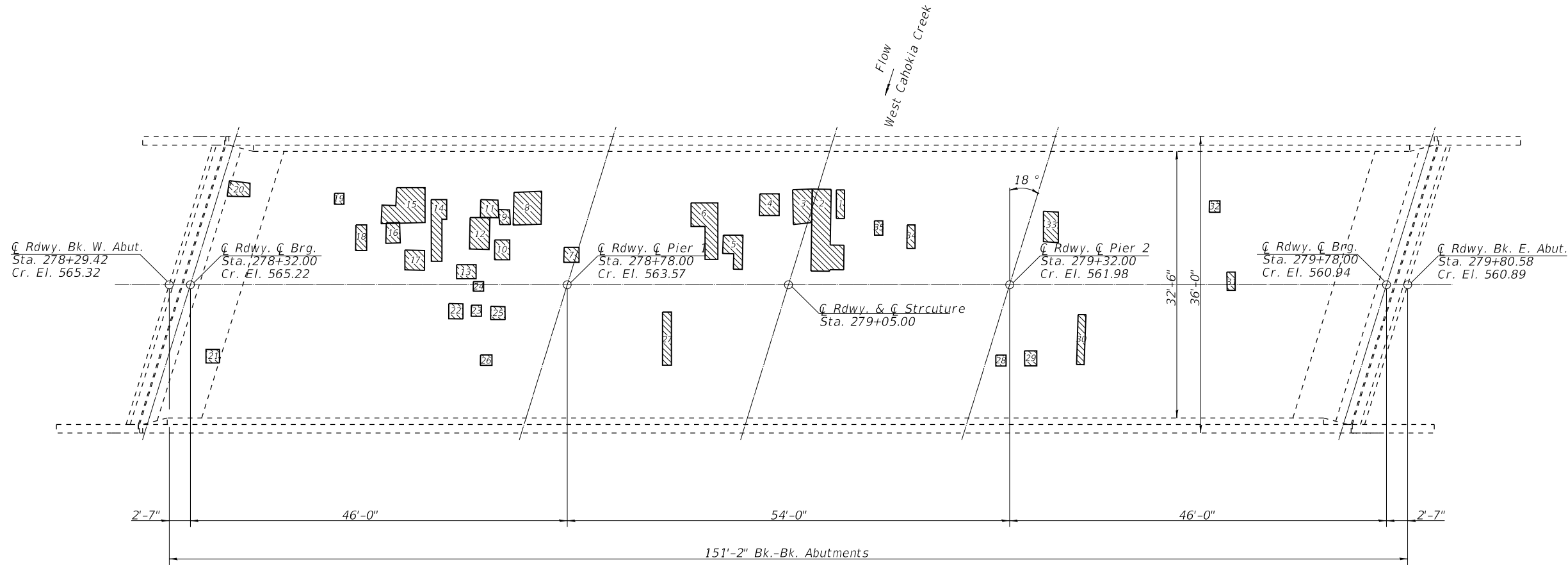
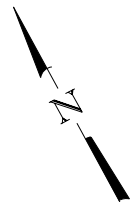
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO 059-3235

SHEET 10 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
736	19-00102-00-BR	MACOUPIN	20	10
CONTRACT NO. 93786				
ILLINOIS FED. AID PROJECT				



DECK SLAB REPAIR (PARTIAL)

Patch	Length (Foot)	Width (Foot)	Area (Sq. Yd.)
1	1.00	3.50	0.39
2	2.50	10.00	2.78
	1.75	3.00	0.58
3	2.50	4.00	1.11
4	2.50	2.75	0.76
5	2.50	2.00	0.56
	1.00	2.00	0.22
6	3.50	3.00	1.17
	1.50	4.00	0.67
7	1.75	1.75	0.34
8	3.50	4.00	1.56
9	1.50	1.75	0.29
10	1.75	2.50	0.49
11	2.00	2.25	0.50
12	2.50	4.00	1.11
13	2.50	1.75	0.49
14	1.75	2.25	0.44
	1.25	5.25	0.73
15	3.25	4.25	1.54
	1.75	2.25	0.44
16	1.50	2.50	0.42
17	2.25	2.50	0.63
18	1.25	3.00	0.42
19	1.00	1.25	0.14
20	2.50	1.75	0.49
21	1.75	1.50	0.29
22	1.75	2.00	0.39
23	1.25	1.25	0.17
24	1.25	1.25	0.17
25	1.75	1.50	0.29
26	1.50	1.25	0.21
27	1.00	6.50	0.72
28	1.25	1.25	0.17
29	1.50	1.75	0.29
30	1.00	6.00	0.67
31	1.00	2.25	0.25
32	1.25	1.50	0.21
33	2.00	3.75	0.83
34	1.00	3.00	0.33
35	1.00	2.00	0.22
Total			23.5

PLAN

Note:
Areas of deck slab repairs shown are estimated.
The Engineer shall record the actual deck slab areas in the "As Built" plans.

Date of Survey: 7-21-2020
Survey by: Macoupin County Personnel

BILL OF MATERIAL

Item	Unit	Quantity
Deck Slab Repair (Partial)	Sq. Yd.	23.5

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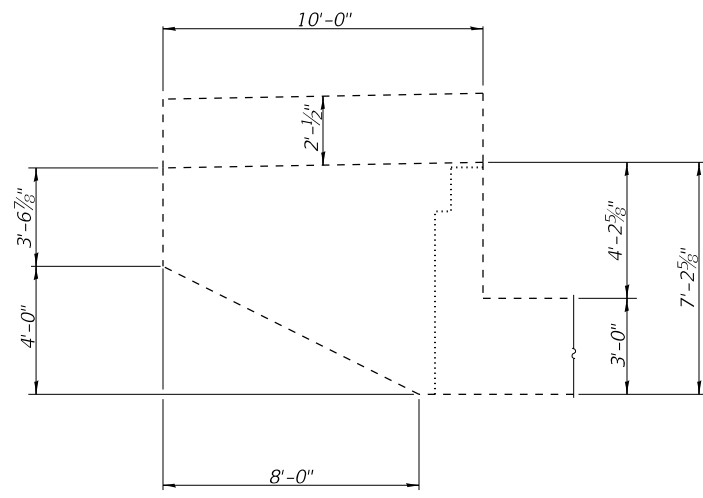
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DECK SLAB REPAIR DETAILS
STRUCTURE NO 059 - 3235

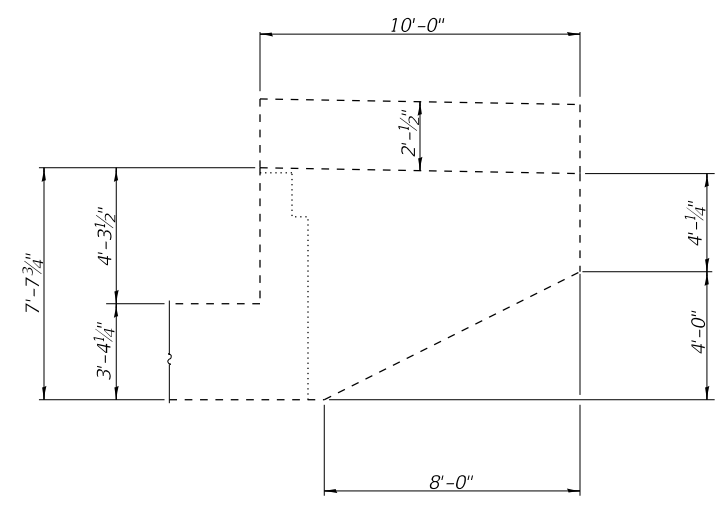
SHEET 11 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
736	19-00102-00-BR	MACOUPIN	20	11
CONTRACT NO. 93786				
ILLINOIS FED. AID PROJECT				

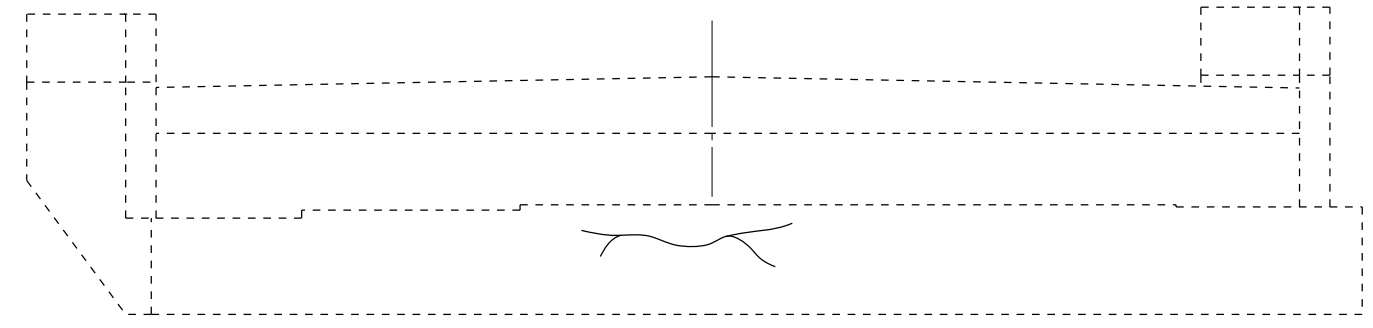
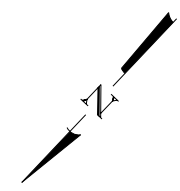
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NORTH WING WALL

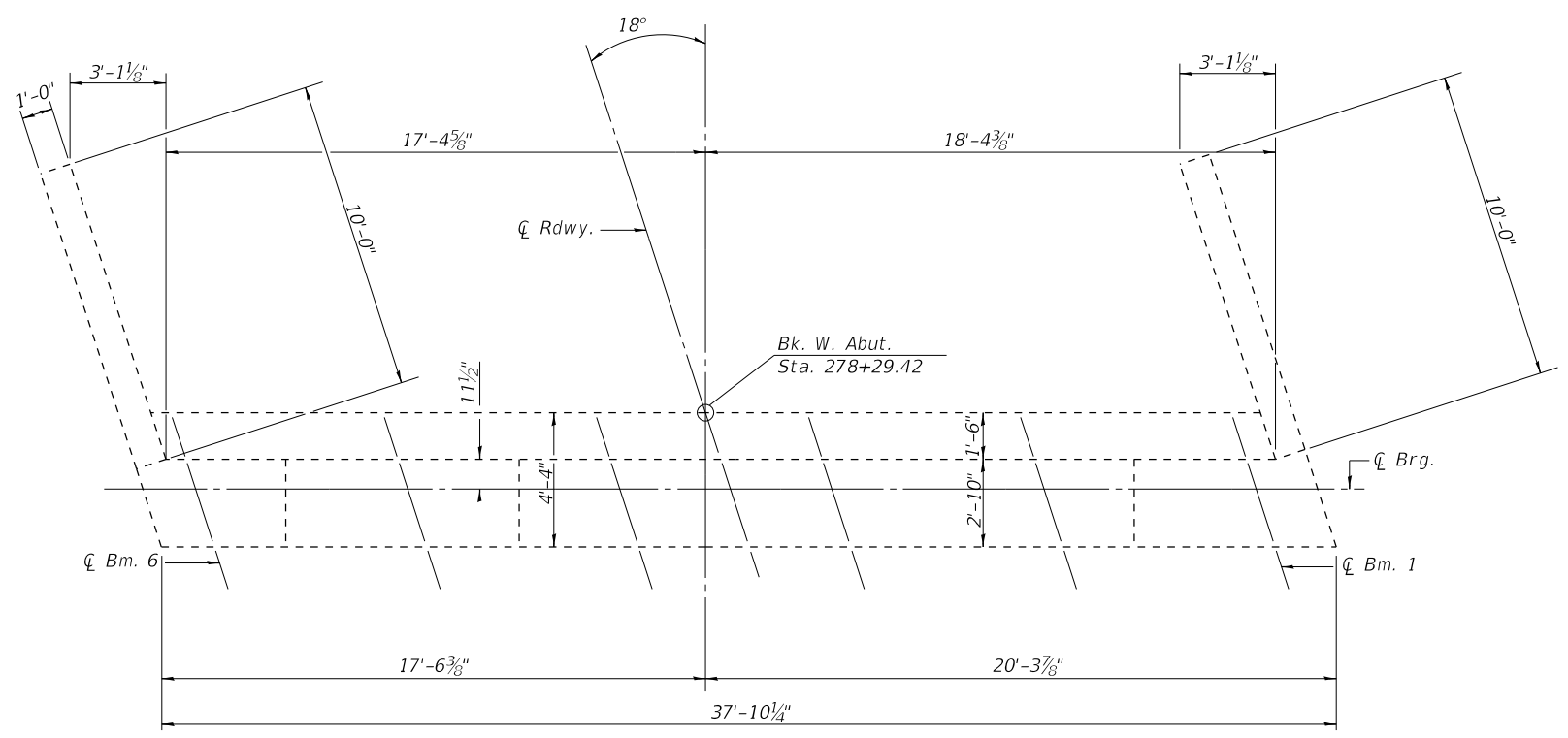


SOUTH WING WALL



ELEVATION
(Looking West)

~ - Crack to Clean and Apply Epoxy Crack Injection



TOP VIEW

BILL OF MATERIAL

Item	Unit	Total
Epoxy Crack Injection	Foot	11



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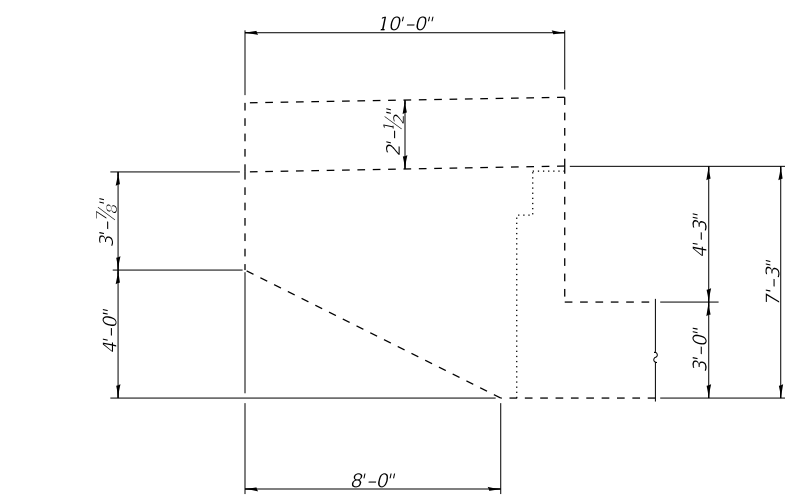
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

WEST ABUTMENT REPAIR (EPOXY CRACK INJECTION)
STRUCTURE NO 059 - 3235

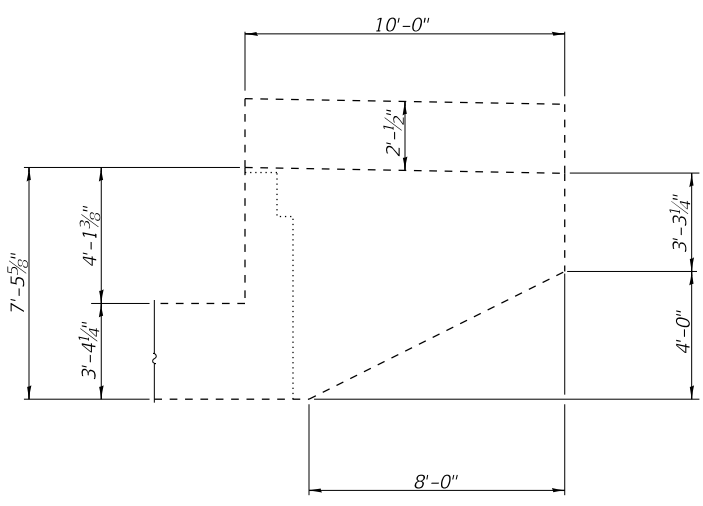
SHEET 12 OF 20 SHEETS

F.A.S. RTE. 736	SECTION 19-00102-00-BR	COUNTY MACOUPIN	TOTAL SHEETS 20	SHEET NO. 12
ILLINOIS FED. AID PROJECT			CONTRACT NO. 93786	

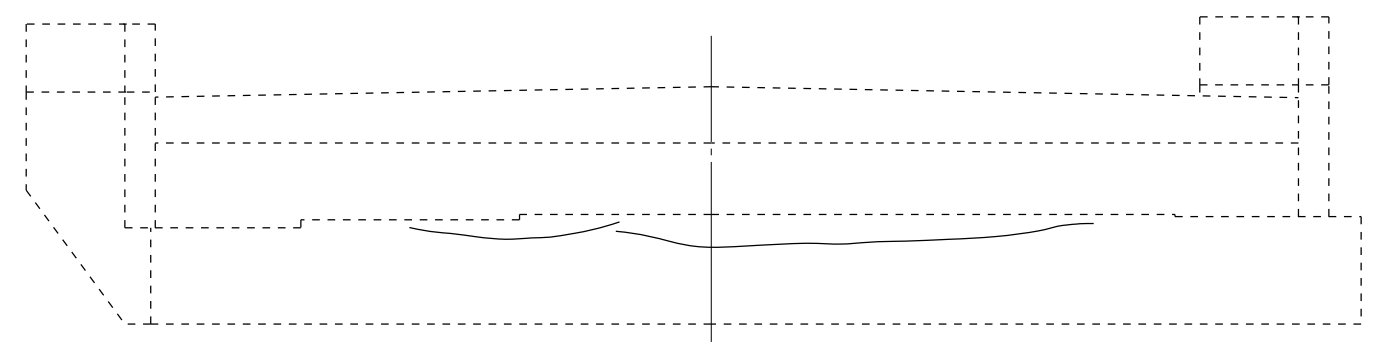
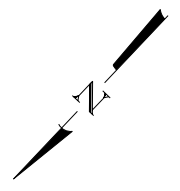
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NORTH WING WALL

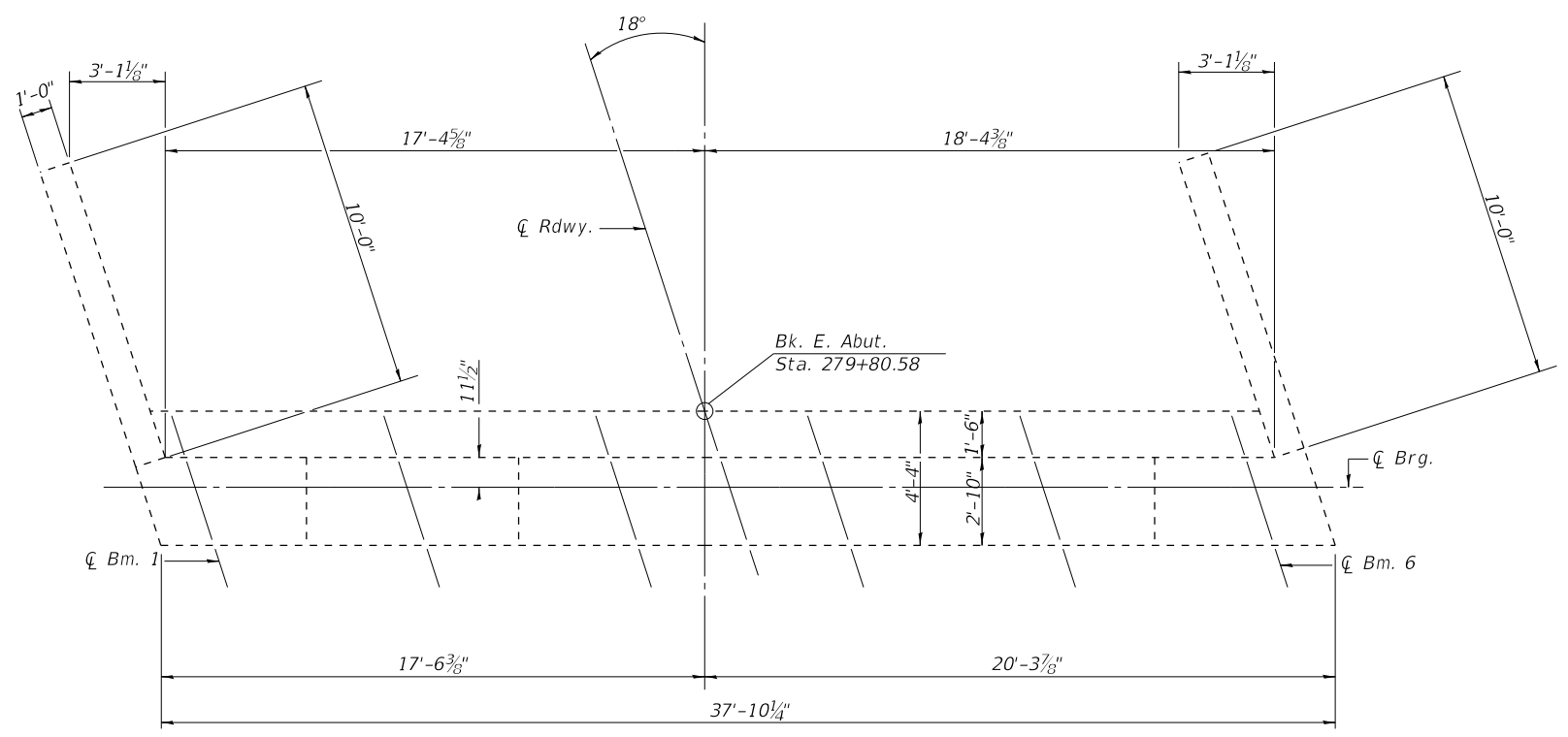


SOUTH WING WALL



ELEVATION
(Looking East)

~ - Crack to Clean and Apply Epoxy Crack Injection



TOP VIEW

BILL OF MATERIAL

Item	Unit	Total
Epoxy Crack Injection	Foot	22



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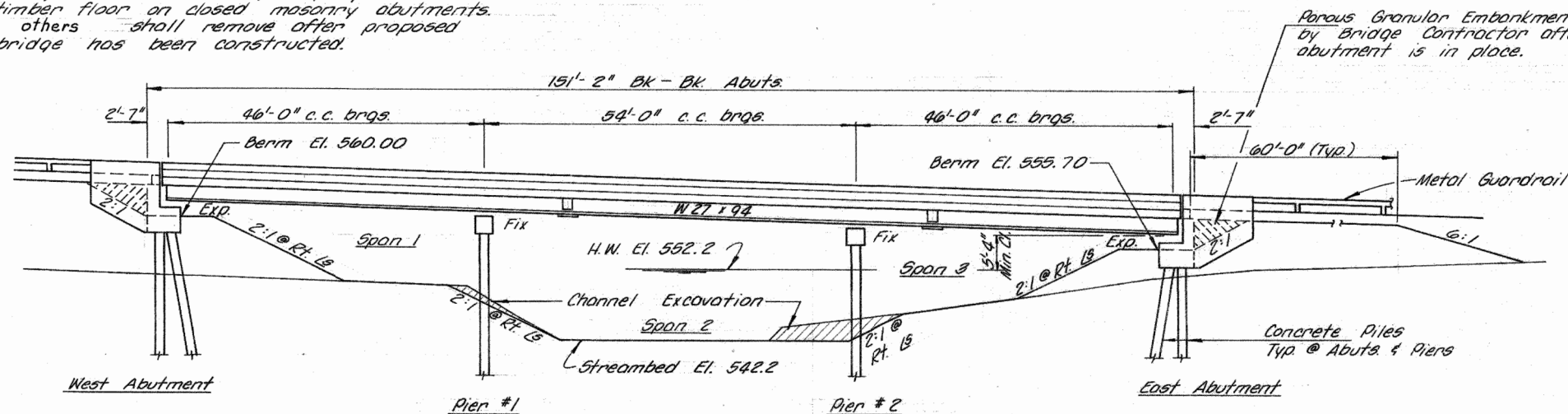
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EAST ABUTMENT REPAIR (EPOXY CRACK INJECTION)
STRUCTURE NO 059-3235

SHEET 13 OF 20 SHEETS

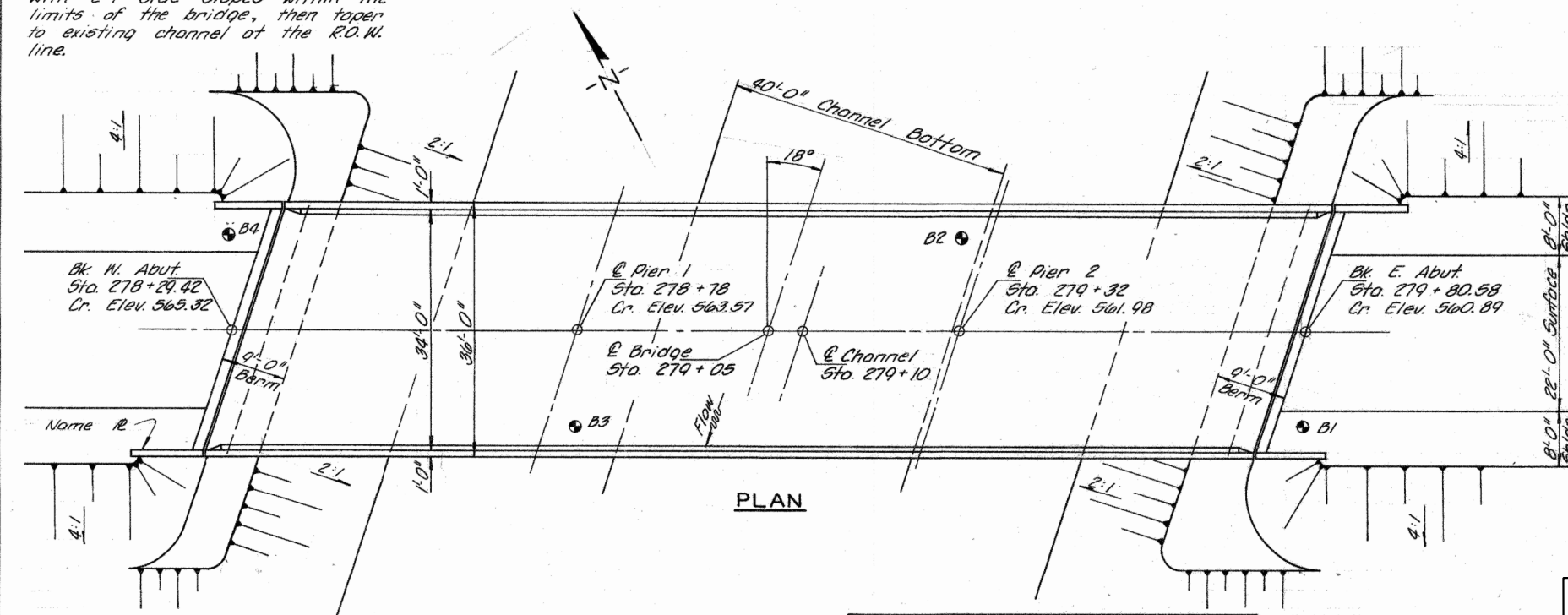
F.A.S. RTE. 736	SECTION 19-00102-00-BR	COUNTY MACOUPIN	TOTAL SHEETS 20	SHEET NO. 13
CONTRACT NO. 93786				
ILLINOIS FED. AID PROJECT				

B.M. - Top of 6" beam @ N.E. corner of exist bridge 200' Lt. Sta. 280+00 Elev. 555.05
 Existing Structure - One span pony truss with timber floor on closed masonry abutments. others shall remove after proposed bridge has been constructed.



Note:
 The channel shall be excavated 40' wide at elevation 542.2 with 2:1 side slopes within the limits of the bridge, then taper to existing channel at the R.O.W. line.

ELEVATION



PLAN

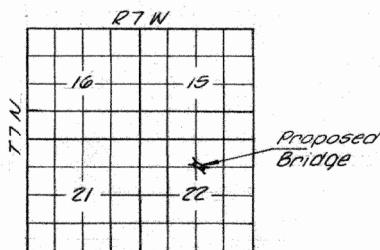
WATERWAY DATA

Drainage Area	7.470 Acres
Req'd Opening (25Yr.)	600 Sq. Ft.
Present Opening	425 Sq. Ft.
Proposed Opening	600 Sq. Ft.
Computed Discharge	3,500 C.F.S.

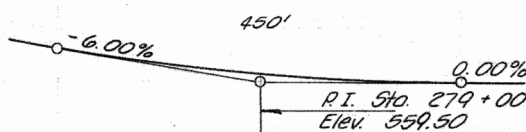
STATION 279+05
 WEST FORK CAHOKIA CREEK
 BUILT 197-
 F.A.S. RT. 736 SEC. 366
 F.A. PROJ. S-736(103)
 LOADING HS 20

LETTERING FOR NAME PLATE

See Std. 2113



LOCATION PLAN



PROFILE GRADE

FOR INFORMATION ONLY

DESIGN STRESSES

$f_c = 1,200$ p.s.i. (Slab)
 $f_c = 1,400$ p.s.i. (Substructure)
 $f_s = 27,000$ p.s.i. (A-588)
 $n = 10$
 Allowable & Deflection = $L/800$
 $25\#/ft^2$ included in ϕ for future wearing surface.
 Design Specifications AASHTO 1969 as applicable.

LOADING HS 20-44

Fred J. Stone Jr.
 Illinois Structural No. 2934

GENERAL NOTES

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

Fasteners shall be high strength bolts. Bolts $3/8"$ ϕ ; open holes $13/16"$ ϕ , unless otherwise noted.

All structural steel shall conform to A.S.T.M. Designation A588 and shall be used in the bare unpainted condition. Calculated weight of Structural Steel = 104,630 Lbs.

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.

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

The embankment configuration shown shall be the minimum embankment that must be constructed prior to driving abutment piles.

INDEX OF SHEETS

- | | |
|-----------------------------|---------------------------|
| 1. General Plan & Elevation | 7. Bearings |
| 2-3. Slab Elevations | 8-9. Abutments |
| 4. Superstructure | 10. Piers |
| 5. Parapet & Expansion | 11. Borings |
| 6. Structural Steel | 12. Pile Details & Layout |

TOTAL BILL OF MATERIAL

ITEM	SUPER	SUB	TOTAL
Channel Excavation Cu.Yd.		150	150
Porous Granular Embankment Cu.Yd.		31	31
Protective Coat Sq.Yd.	648	14	662
Class X Concrete Cu.Yd.	171.5	78.3	249.8
Structural Steel Lump Sum			1
Reinforcement Bars Lb.	37,950	8,080	46,030
Concrete Piles Lin.Ft.		1,070	1,070
Test Piles Concrete Each		1	1
Name Plates Each			1
Preforced Joint Sealer Lin.Ft.	76		76

WEST FORK CAHOKIA CREEK BRIDGE

GENERAL PLAN & ELEVATION
 PROJECT S-736 (103)
 F.A.S. RT. 736 SECTION 366
 MACOUPIN COUNTY
 STATION 279+05

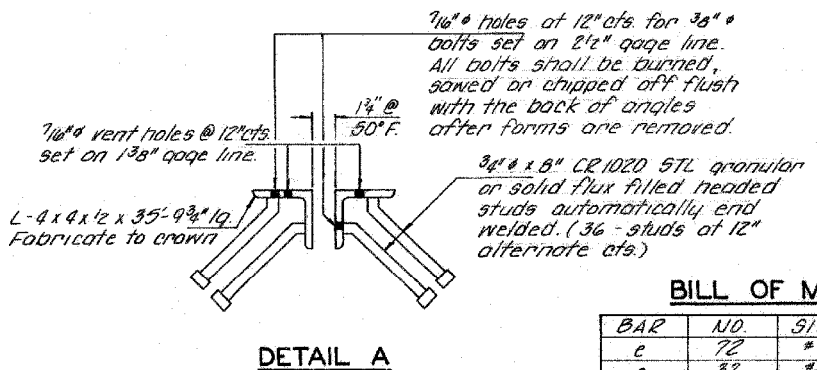
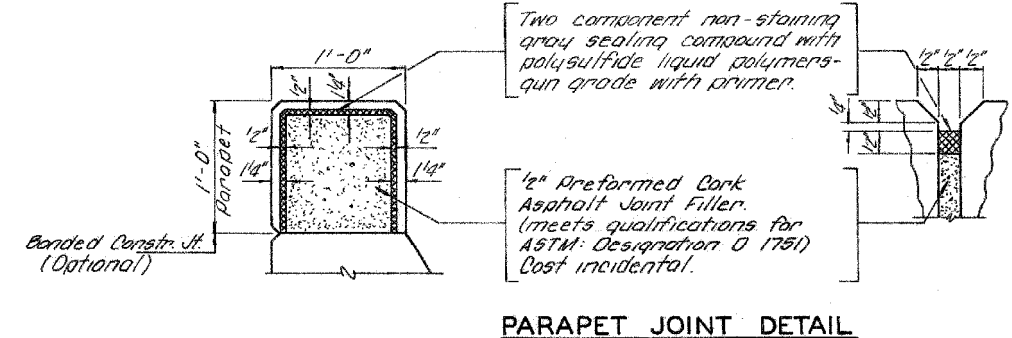
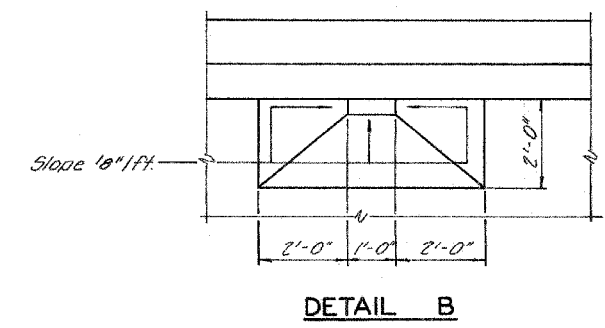
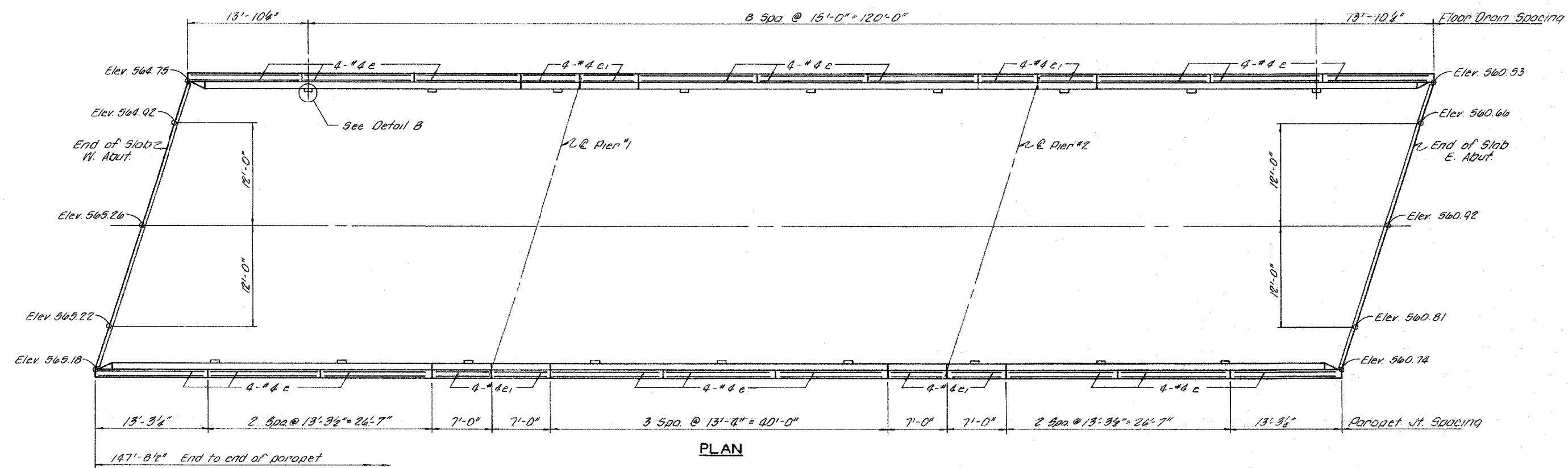
COLLINS AND RICE
 CONSULTING ENGINEERS

DESIGNED F.S. CHECKED M.B.
 DRAWN A.D. DATE 4-14-72 NO. 783



USER NAME =	DESIGNED - KES	REVISED -
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PLOT DATE = 2/22/2022	DRAWN - JRP	REVISED -
	CHECKED -	REVISED -

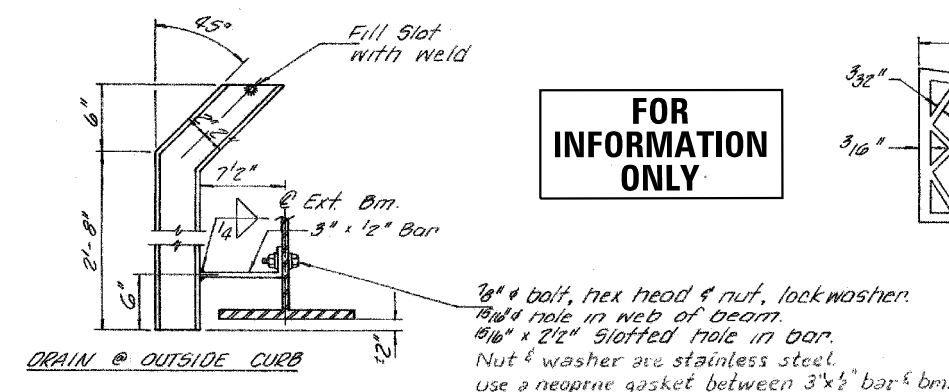
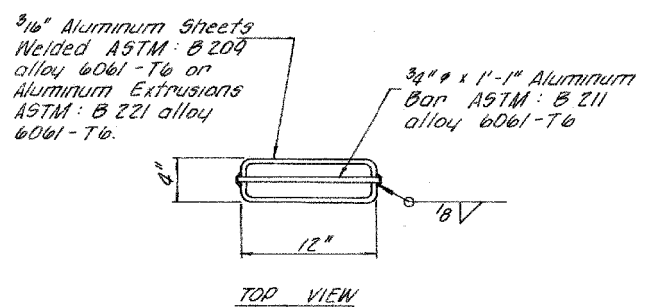
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
736	19-00102-00-BR	MACOUPIN	20	14
CONTRACT NO. 93786				
ILLINOIS FED. AID PROJECT				



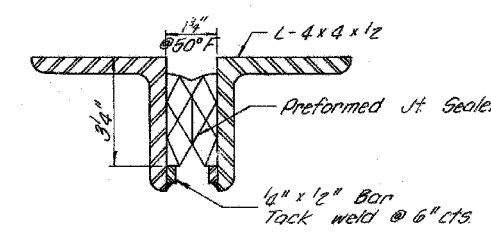
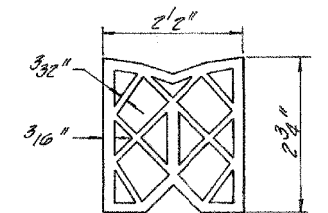
BILL OF MATERIAL

BAR	NO.	SIZE	LENGTH	SHAPE
c	72	#4	13'-0"	
ci	32	#4	6'-9"	
				Class X Concrete
				Cu.Yd. 14.1
				Reinforcement Bars
				Lb. 770

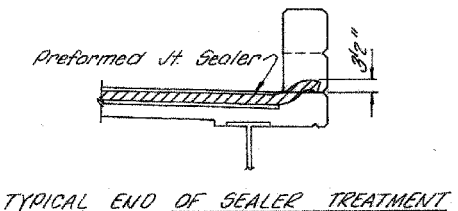
* Includes abutment end posts.



FOR INFORMATION ONLY



PREFORMED JOINT SEALER (2'2")



TYPICAL END OF SEALER TREATMENT

PARAPET & EXPANSION
 F.A.S. RT. 736 SECTION 36G
 MACOUPIN COUNTY
 STATION 279+05

COLLINS AND RICE
 CONSULTING ENGINEERS

DESIGNED M.B. CHECKED F.S.
 DRAWING J.F. DATE 4-14-72 NO. 783

MODEL: 016
 FILE NAME: Z10 V and K Jobs\5312 Macoupin County FAS 736 over W Fork Cahokia Creek\CADD Sheets\059-3235 Structure Plans.dgn
 2/23/2022 10:42:15 AM



USER NAME =	DESIGNED - KES	REVISED -
PLOT SCALE =	CHECKED - MAH	REVISED -
PLOT DATE = 2/22/2022	DRAWN - JRP	REVISED -
	CHECKED -	REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXISTING PLAN SHEET - FOR INFORMATION ONLY
 STRUCTURE NO 059-3235

SHEET 16 OF 20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
736	19-00102-00-BR	MACOUPIN	20	16
CONTRACT NO. 93786				
ILLINOIS FED. AID PROJECT				

