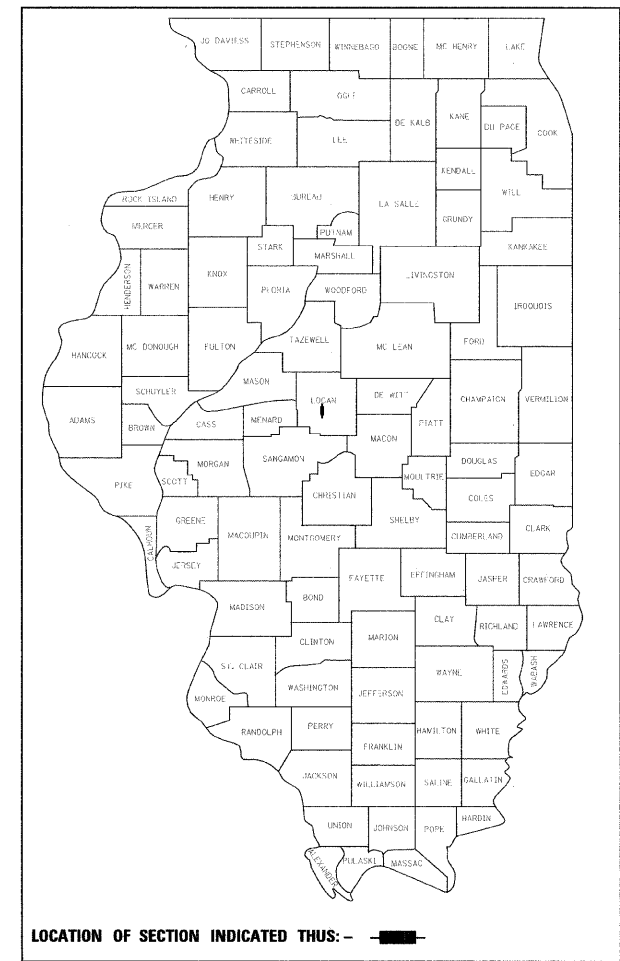


F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
559	09-00074-01-BR	LOGAN	22	1
CONTRACT NO. -----				
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT				

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
**PLANS FOR PROPOSED  
AMERICAN RECOVERY AND  
REINVESTMENT ACT**

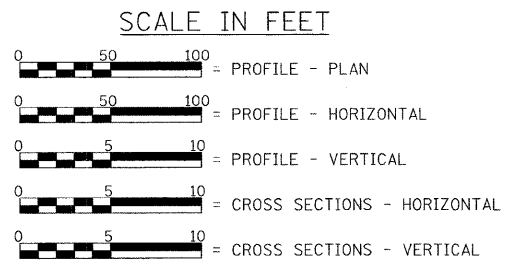
**PROJECT NO. ARA-0559(102)  
F.A.S. 559 (C.H. 2) OVER KICKAPOO CREEK  
SECTION 09-00074-01-BR  
LOGAN COUNTY  
C - 96-239-10  
EXISTING S.N. 054-3003**



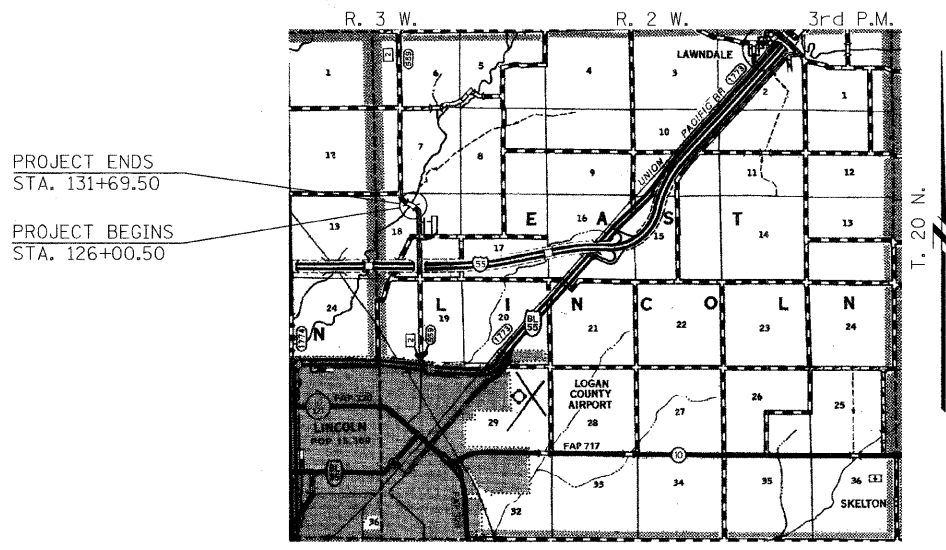
- INDEX OF SHEETS**
- 1 - TITLE SHEET
  - 2 - SUMMARY OF QUANTITIES, DETAILS & TYPICAL SECTIONS
  - 3 - GENERAL PLAN & ELEVATION
  - 4 - BRIDGE DECK CROSS SECTIONS
  - 5-7 - DECK SLAB REPAIR
  - 8-10 - CONCRETE REMOVAL
  - 11-16 - SUPERSTRUCTURE DETAILS
  - 17 - RAIL SUPPORT & ANCHOR DETAILS
  - 18 - PREFORMED JOINT STRIP SEAL DETAILS
  - 19 - FLOOR DRAIN DETAILS
  - 20-21 - BEARING DETAILS
  - 22 - ABUTMENT DETAILS

**STANDARDS**  
STANDARD 701901-01  
STANDARD BLR 21-8

**LIST OF UTILITIES**  
AMEREN CILCO  
825 N. MACARTHUR  
SPRINGFIELD, IL 62702  
VERIZON NORTH, INC.  
MC ILLBOM  
P.O. BOX 2675  
110 EAST MONROE STREET  
BLOOMINGTON, IL 61701  
COMCAST COMMUNICATIONS  
711 SOUTH DIRKSEN PARKWAY  
SPRINGFIELD, IL 62703



TOWNSHIP - EAST LINCOLN  
LAND SECTION - 18  
LAND QUARTER SECTION - N.W.  
FUNCTIONAL CLASSIFICATION: MAJOR COLLECTOR (NON-URBAN)  
A.D.T. - 600 (2006)  
A.D.T. - 780 (2020)  
50 M.P.H. DESIGN SPEED

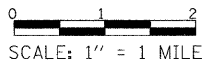


PROJECT ENDS  
STA. 131+69.50

PROJECT BEGINS  
STA. 126+00.50

**LOCATION PLAN**

LENGTH OF SECTION - 569.00 FEET = 0.108 MILES



**PROJECT DESCRIPTION:** BRIDGE REHABILITATION INCLUDING FULL DEPTH BRIDGE SLAB REPAIR, HYDROSCARIFICATION OF EXISTING DECK, MICROSILICA CONCRETE OVERLAY, EXPANSION JOINT AND BEARING REPLACEMENT, AND PLUGGING AND EXTENDING EXISTING DRAINS.

TOLL FREE  
"JOINT UTILITY LOCATION INFORMATION FOR EXCAVATORS"  
(J.U.L.I.E.) TELEPHONE NUMBER  
1-800-892-0123

CONTRACT NO. 93511



*Mark A. Henderson* 11/23/09  
EXPIRATION: 11/30/2009

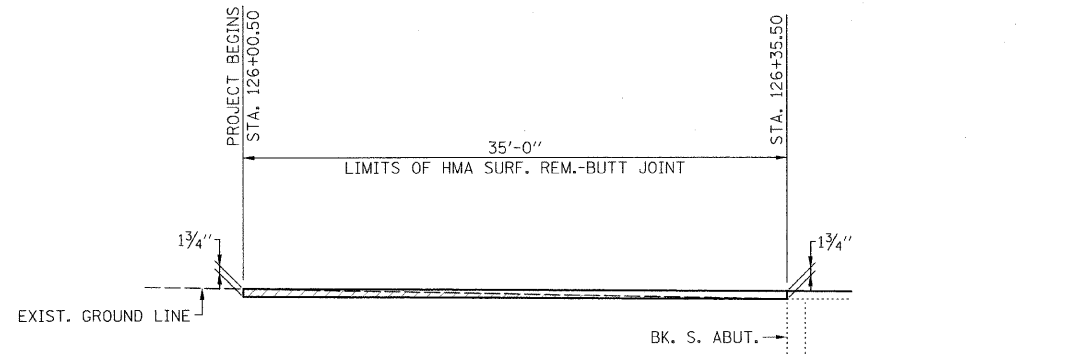
APPROVED 11/10, 2009  
*Bl. H. H.*  
COUNTY ENGINEER

PASSED Nov 30, 2009  
*Jimmy Paul*  
DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS

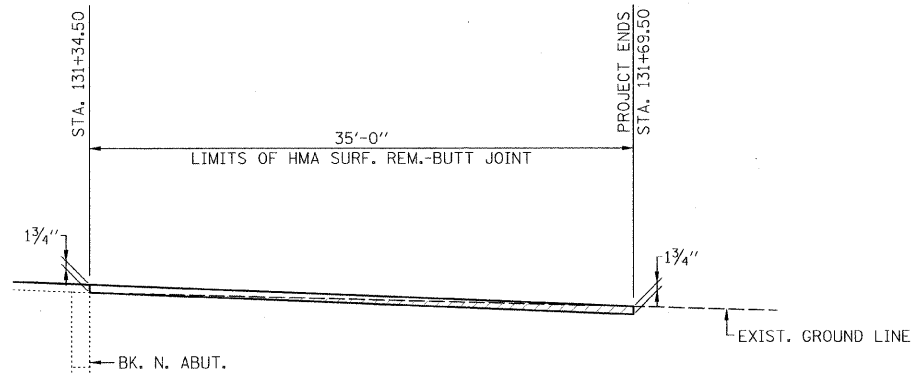
PASSED 11/25, 2009  
*Ron Ochambean*  
DISTRICT SIX CONSTRUCTION ENGINEER

Releasing For Bid Based on Limited Review Nov 30, 2009  
*Roger P. Duskell*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER  
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

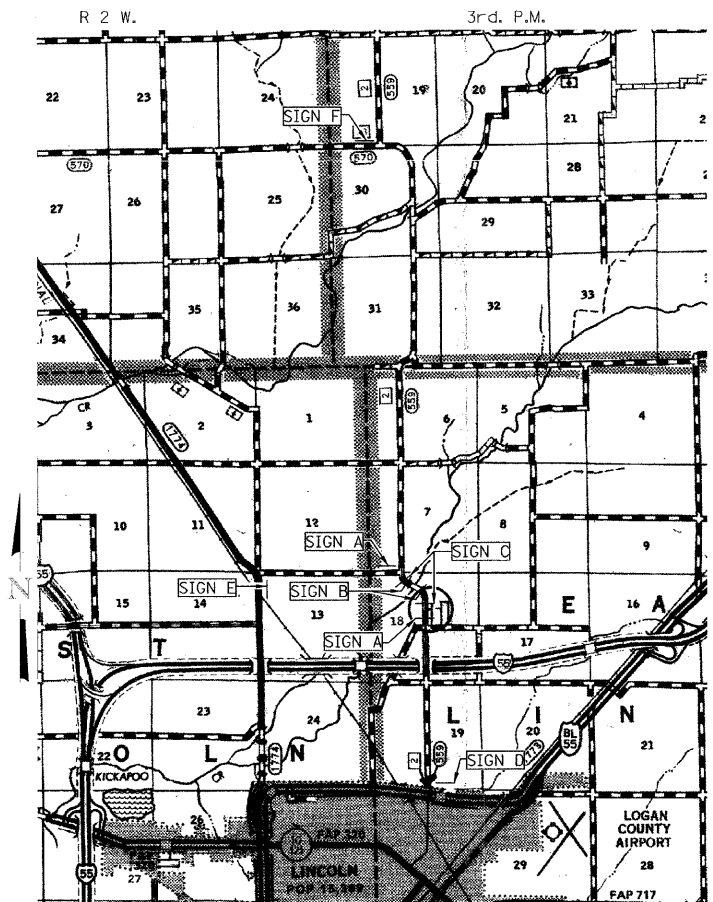
FILE NAME	USER NAME	DESIGNED	REVISED	<p><b>Allen Henderson &amp; Associates, Inc.</b> Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907</p>	<b>TITLE SHEET</b>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#	#USER#	DRAWN	REVISED			559	09-00074-01-BR	LOGAN	22	1	
		CHECKED	REVISED			CONTRACT NO. <b>93511</b>					
		DATE	REVISED			FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT					
				SCALE: 1" = 1 MILE SHEET NO. 1 OF 1 SHEETS		STA. TO STA.					



TAPER DETAIL AT SOUTH ABUTMENT



TAPER DETAIL AT NORTH ABUTMENT



BARRICADE LOCATION PLAN

LEGEND

- SIGN A - "ROAD CLOSED AHEAD"  
W20-3(0) 4848
- SIGN B - BLR STANDARD 21
- SIGN C - "ROAD CLOSED 500 FEET"  
W20-3(0) 4848
- SIGN D - "ROAD CLOSED AHEAD 2 MILES"  
R11-3A 6030
- SIGN E - "ROAD CLOSED AHEAD 1.3 MILES"  
R11-3A 6030
- SIGN F - "ROAD CLOSED AHEAD 4.3 MILES"  
R11-3A 6030

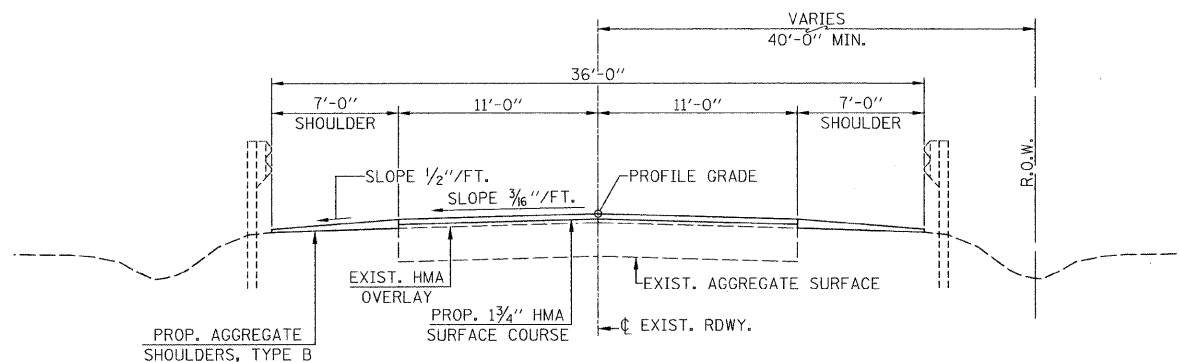
SUMMARY OF QUANTITIES			
CODE NO.	PAY ITEM	UNIT	TOTAL QUANTITY
25001000	SEEDING CLASS 2, SPECIAL	ACRE	0.5
40600982	HOT MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	171
40603310	HOT MIX ASPHALT SURFACE COURSE, MIX C N50	TON	17
48101200	AGGREGATE SHOULDERS, TYPE B	TON	13
50102400	CONCRETE REMOVAL	CU YD	21.7
50157300	PROTECTIVE SHIELD	SQ YD	525
50300225	CONCRETE STRUCTURES	CU YD	4.7
50300255	CONCRETE SUPERSTRUCTURE	CU YD	19.1
50300260	BRIDGE DECK GROOVING	SQ YD	1574
50300300	PROTECTIVE COAT	SQ YD	1701
50300530	FLOOR DRAIN EXTENSION	EACH	58
50500405	FURNISHING AND ERECTING STRUCTURAL STEEL	POUND	3190
50500715	JACK AND REMOVE EXISTING BEARINGS	EACH	20
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3065
51500200	RELOCATING NAME PLATES	EACH	1
52000110	PREFORMED JOINT STRIP SEAL	FOOT	102
52100010	ELASTOMERIC BEARING ASSEMBLY, TYPE I	EACH	10
52100020	ELASTOMERIC BEARING ASSEMBLY, TYPE II	EACH	10
52100520	ANCHOR BOLTS, 1"	EACH	40
67100100	MOBILIZATION	L SUM	1
70101700	TRAFFIC CONTROL AND PROTECTION	L SUM	1
X0321468	PLUG EXISTING DECK DRAINS	EACH	20
XZ193500	BRIDGE DECK MICROSILICA CONCRETE OVERLAY 2 1/4"	SQ YD	1648
Z0016001	DECK SLAB REPAIR (FULL DEPTH, TYPE I)	SQ YD	0.5
Z0016002	DECK SLAB REPAIR (FULL DEPTH, TYPE II)	SQ YD	155.3
Z0006204	BRIDGE DECK HYDRO-SCARIFICATION 1/2"	SQ YD	1648
Z0010400	CLEANING BRIDGE SEATS	SQ FT	369

\* SPECIAL PROVISION

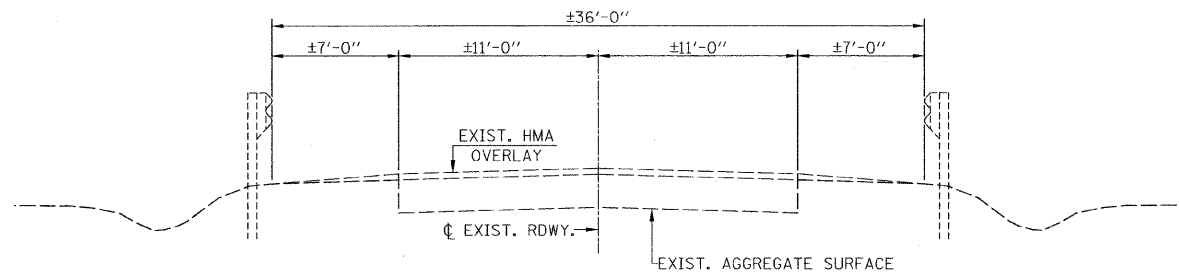
CONSTRUCTION TYPE CODE: X041-2A

GENERAL NOTES

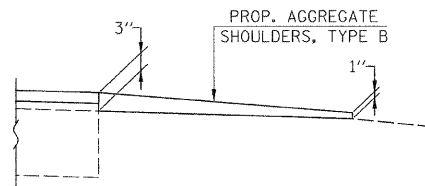
SEEDING: FERTILIZER NUTRIENTS SHALL BE APPLIED AT A RATIO OF 1:1:1 AND AT A RATE OF 90 POUNDS PER ACRE FOR EACH NUTRIENT.  
 MULCH SHALL BE APPLIED AT THE RATE OF 2 TONS PER ACRE.  
 AREAS TO BE SEEDD SHALL CONSIST OF ALL DISTURBED EARTH SURFACES WITHIN THE RIGHT OF WAY AS DIRECTED BY THE ENGINEER.  
 NO COMMITMENTS.  
 ANY EARTH EXCAVATION NECESSARY TO PROPERLY PLACE SHOULDERS SHALL NOT BE PAID FOR SEPARATELY BUT SHALL BE INCLUDED IN THE COST PER TON FOR AGGREGATE SHOULDERS, TYPE B.



PROPOSED ROADWAY CROSS SECTION (C.H. 2)



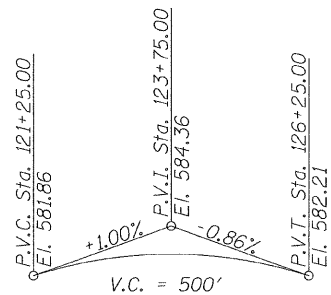
EXISTING ROADWAY CROSS SECTION (C.H. 2)



FILE NAME	USER NAME	DESIGNED	REVISED	<p>Allen Henderson &amp; Associates, Inc. Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907</p>	SUMMARY OF QUANTITIES, DETAILS & TYPICAL SECTIONS		F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.		
9/17/11		DRAWN	REVISED		SCALE:	SHEET NO. 1 OF 1 SHEETS	STA.	TO STA.	559	09-00074-01-BR	LOGAN	22	2
		CHECKED	REVISED										
		DATE	REVISED										
								CONTRACT NO. 93511		FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT			

**INDEX OF SHEETS**

- 1 General Plan & Elevation
- 2 Bridge Deck Cross Sections
- 3-5 Deck Slab Repair
- 6 Concrete Removal at South Abutment
- 7 Concrete Removal at Pier 2
- 8 Concrete Removal at North Abutment
- 9-10 Superstructure Details for South Abutment
- 11-12 Superstructure Details for Pier 2
- 13-14 Superstructure Details for North Abutment
- 15 Rail Support and Anchor Details
- 16 Preformed Joint Strip Seal Details
- 17 Floor Drain Details
- 18-19 Bearing Details
- 20 Abutment Details



**EXISTING PROFILE GRADE**

(Along F.A.S. 559 P.G.)  
(From Existing Plans)

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu Yd	21.7		21.7
Protective Shield	Sq Yd	525		525
Concrete Structures	Cu Yd		4.7	4.7
Concrete Superstructure	Cu Yd	19.1		19.1
Bridge Deck Grooving	Sq Yd	1574		1574
Protective Coat	Sq Yd	1701		1701
Floor Drain Extension	Each	58		58
Furnishing and Erecting Structural Steel	Pound	3190		3190
Jack and Remove Existing Bearings	Each	20		20
Reinforcement Bars, Epoxy Coated	Pound	2780	285	3065
Relocating Name Plates	Each		1	1
Preformed Joint Strip Seal	Foot	102		102
Elastomeric Bearing Assembly, Type I	Each	10		10
Elastomeric Bearing Assembly, Type II	Each	10		10
Anchor Bolts, 1"	Each	40		40
Plug Existing Deck Drains	Each	20		20
Bridge Deck Microsilica Concrete Overlay 2 1/4"	Sq Yd	1648		1648
Deck Slab Repair (Full Depth Type I)	Sq Yd	0.5		0.5
Deck Slab Repair (Full Depth Type II)	Sq Yd	155.3		155.3
Bridge Deck Hydro-Scarification 1/2"	Sq Yd	1648		1648
Cleaning Bridge Seats	Sq Ft		369	369

**GENERAL NOTES**

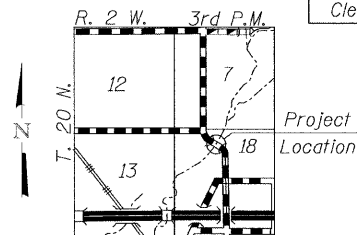
Fasteners shall be AASHTO M164 Type 3, mechanically galvanized bolts. Bolts  $\frac{3}{4}$ " $\phi$ , holes  $\frac{15}{16}$ " $\phi$ , unless otherwise noted.  
 All structural steel shall be AASHTO M270 Grade 50.  
 Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60.  
 No field welding is permitted except as specified in the contract documents.  
 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.  
 As directed by the Engineer, existing construction accessories welded to the top flange of beams and girders shall be removed. The weld areas shall be ground flush and inspected for cracks using magnetic particle testing (MT) or dye penetrant testing (PT) by qualified personnel approved by the Engineer.  
 Plan dimensions and details relative to existing plans are subject to nominal construction variations. The Contractor shall field verify existing dimensions and details affecting new construction and make necessary approved adjustments prior to construction or ordering of materials. Such variations shall not be cause for additional compensation for a change in scope of the work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.  
 The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.  
 The existing abutment seats and the seat of Pier 2 shall be cleaned according to the special provision for "Cleaning Bridge Seats".  
 All structural steel shall be shop painted with the inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Furnishing and Erecting Structural Steel.  
 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."  
 Reinforcement Bars designated (E) shall be epoxy coated.

**PROPOSED IMPROVEMENTS**

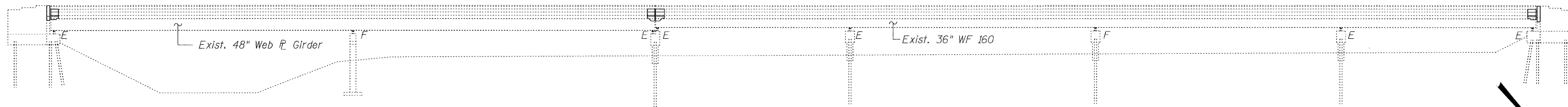
- 1. Replace expansion joints at the abutments and Pier 2.
- 2. Hydroscarify deck  $\frac{1}{2}$ " and install 2 1/4" microsilica overlay.
- 3. Perform full depth deck patching.
- 4. Replace steel rocker bearings at abutments and piers with elastomeric bearings.
- 5. Plug/extend existing floor drains.

**DESIGN STRESSES**

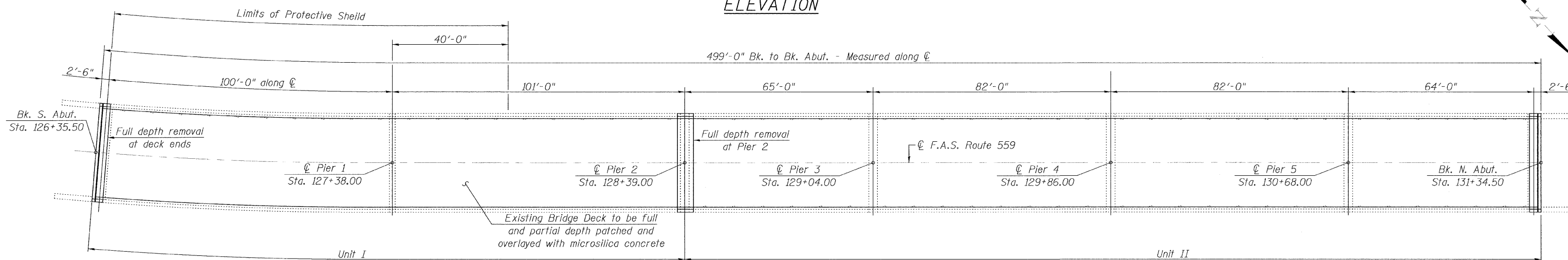
**FIELD UNITS (NEW CONSTRUCTION)**  
 $f'_c = 3500$  psi  
 $f_y = 60000$  psi (reinforcement)



**LOCATION SKETCH**

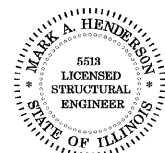


**ELEVATION**



**PLAN**

**GENERAL PLAN & ELEVATION**  
**F.A.S. ROUTE 559 OVER KICKAPOO CREEK**  
**S.N. 054-3003**

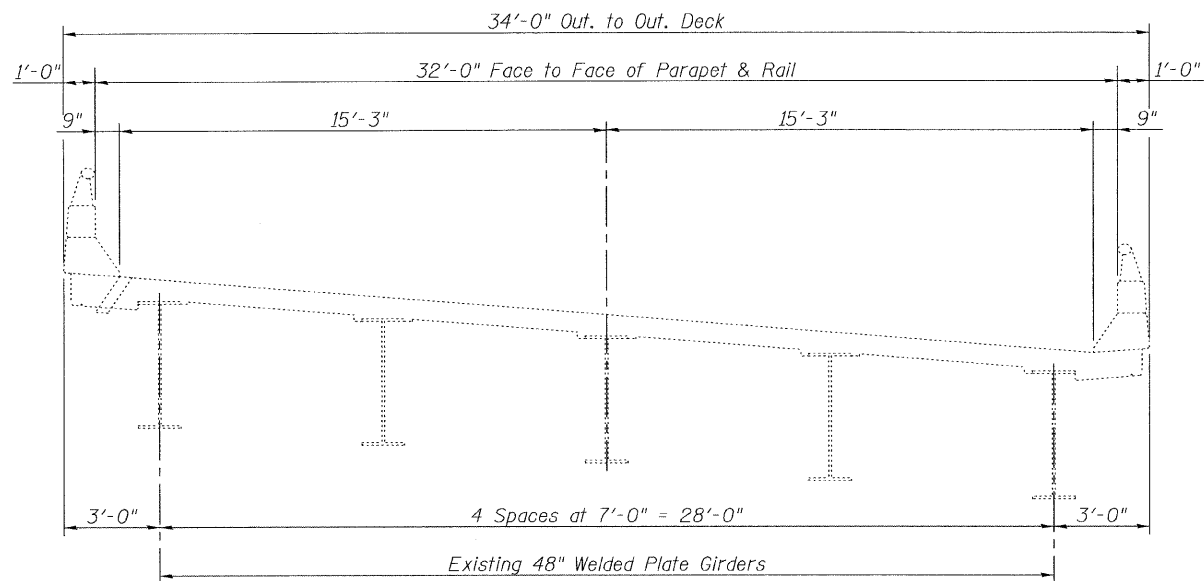


*Mark A. Henderson 11/23/09*  
 Expiration Date: 11/30/2010

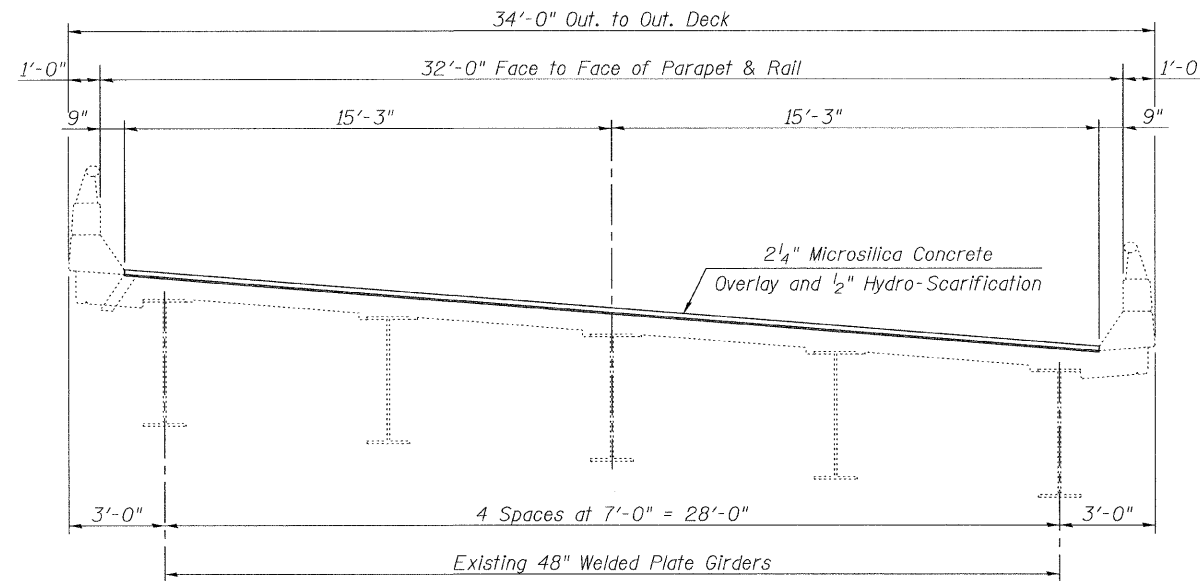


**Allen Henderson & Associates, Inc.**  
 Civil and Structural Engineers Springfield, IL  
 62703 Phone: (217)544-8033 IL Design Firm  
 No. 184-001907

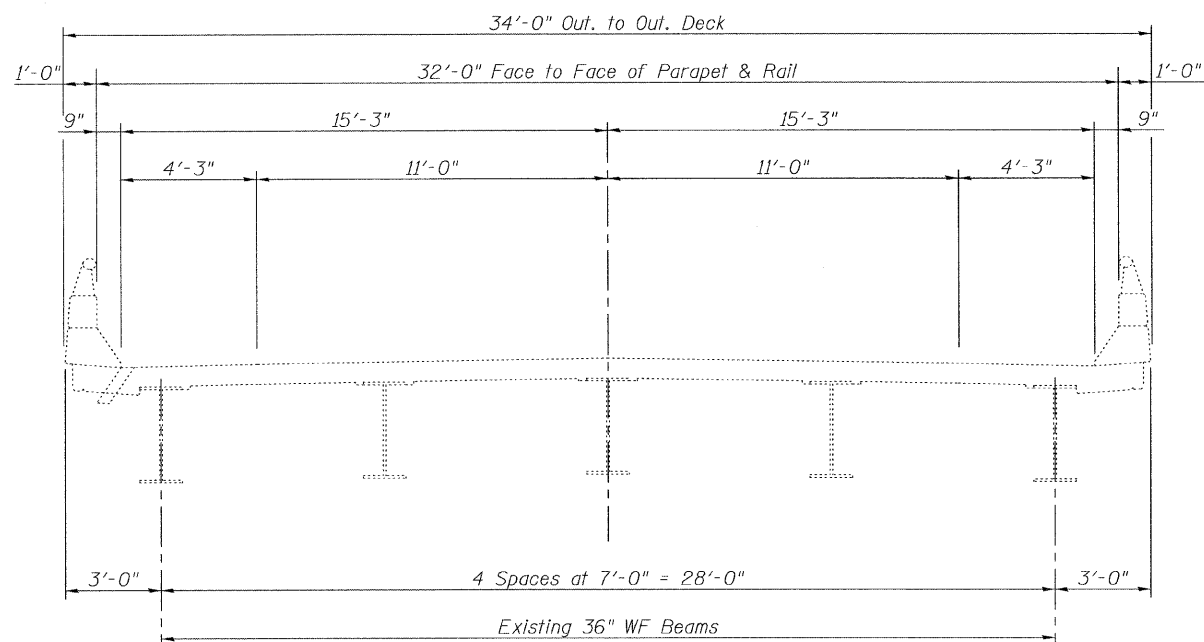
SHEET NO. 1 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	559	09-00074-01-BR	LOGAN	22	3
CONTRACT NO. 93511					
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					



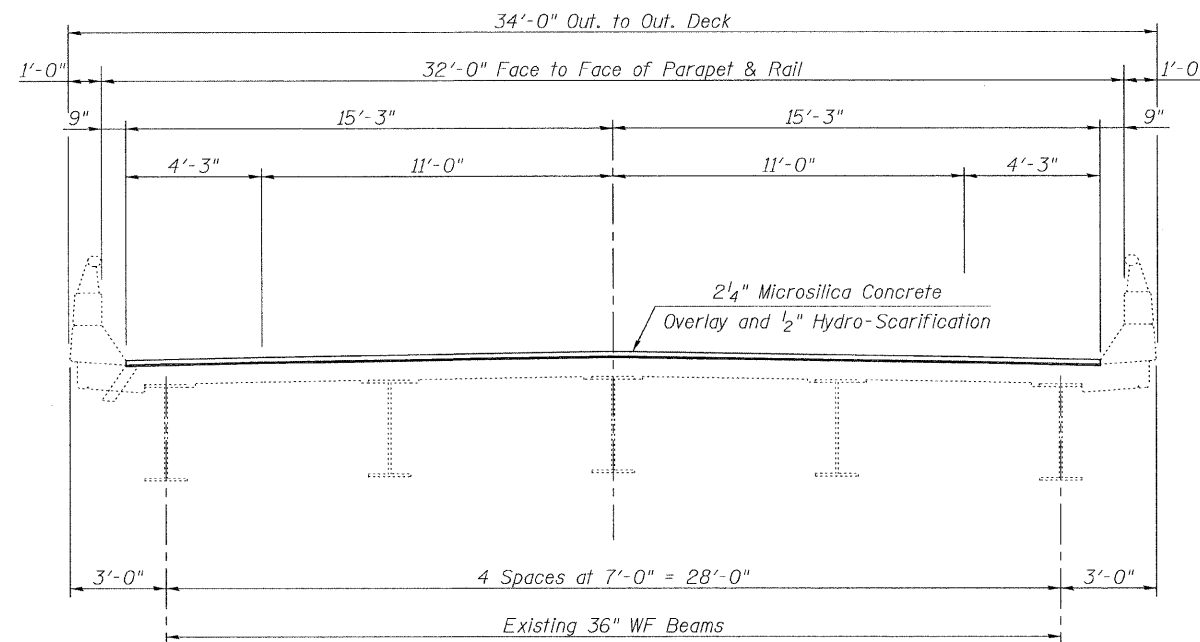
EXISTING CROSS SECTION  
 (Unit I-Looking South)



PROPOSED CROSS SECTION  
 (Unit I-Looking South)




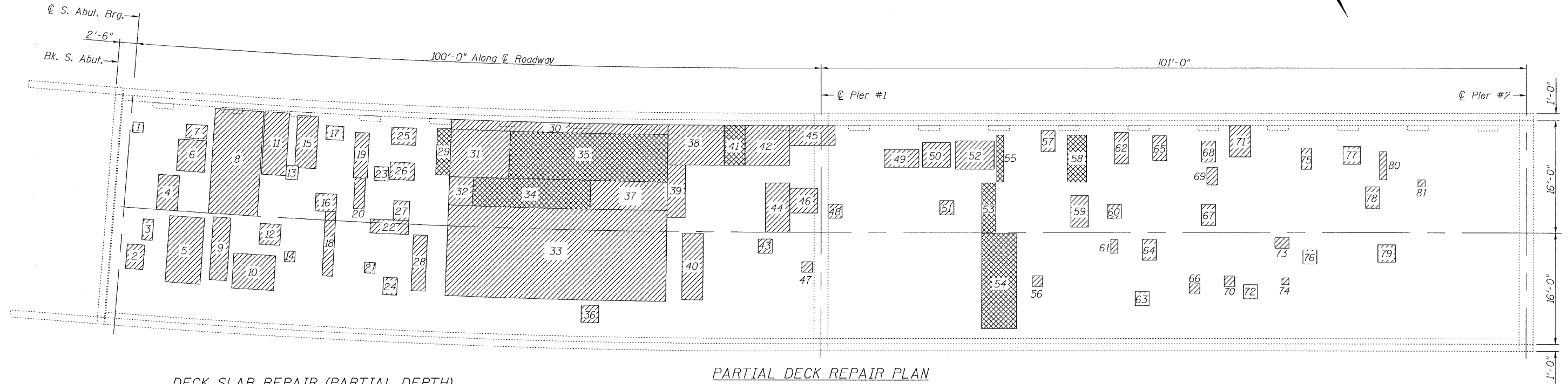
EXISTING CROSS SECTION  
 (Unit II-Looking South)



PROPOSED CROSS SECTION  
 (Unit II-Looking South)

BRIDGE DECK CROSS SECTIONS  
 F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
 S.N. 054-3003

 <b>Allen Henderson &amp; Associates, Inc.</b> Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL. Design Firm No. 184-001907	SHEET NO. 2 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		559	09-00074-01-BR	LOGAN	22	4
		CONTRACT NO. 93511				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						



**DECK SLAB REPAIR (PARTIAL DEPTH)**  
(For Information Only)

**PARTIAL DECK REPAIR PLAN**

Patch	Length (Foot)	Width (Foot)	Area (Sq. Yd.)
1	1.5	1.5	.25
2	2.5	3.5	.97
3	1.5	3	.50
4	3	5	1.67
5	5	9.5	5.28
6	4	4.5	2.0
7	3	2	.67
8	7	15	11.67
9	2.5	9	2.5
10	6	5	3.33
11	3	3	1.0
12	3.5	9	3.5
13	1.75	2	.39
14	1.5	1.5	.25
15	3	7.5	2.5
16	3	2.5	.83
17	2.5	2	.56
18	1.5	9.25	1.54
19	2	6.5	1.44
20	1.5	4.5	.75
21	1.5	1.5	.25
22	5.5	2	1.22
23	2	2	.44
24	2	2.5	.56
25	3.5	2.5	.97
26	3.5	2.5	.97
27	2.25	2.75	.69
28	2	8	1.78
30	31	1.5	5.17
31	8.5	6.75	6.38
32	3.5	4.0	1.56
33	31.5	13	45.5
<b>Total</b>			<b>107.09</b>

Patch	Length (Foot)	Width (Foot)	Area (Sq. Yd.)
36	2.5	2.5	.69
37	11	4	4.89
38	8	5.75	5.11
39	2.5	7.5	2.08
40	3	9.5	3.17
42	6.5	5.75	4.15
43	2	2	.44
44	3.5	7	2.72
45	6.5	3	2.17
46	4	3.5	1.56
47	1.5	1.5	.25
48	2	2	.44
49	5	2.5	1.39
50	4	3.5	1.56
51	2	2	.44
52	5.5	4	2.44
56	1.5	1.5	.25
57	2	3	.67
59	2.5	4.5	1.25
60	2	2	.44
61	1	2	.22
62	2	4.5	1.0
63	2	2	.44
64	2	3	.67
65	2	3.5	.78
66	1.5	1.5	.25
67	2	3	.67
68	2	3	.67
69	1.5	2.5	.42
70	1.5	1.5	.25
71	3	4.5	1.5
72	2	2	.44
<b>Total</b>			<b>43.42</b>

Patch	Length (Foot)	Width (Foot)	Area (Sq. Yd.)
73	2	1.5	.33
74	1	1	.11
75	1.5	3	.50
76	2	2	.44
77	2.5	2.5	.69
78	2	3	.67
79	2.5	2.5	.69
80	1	4	.44
81	1	1	.11
<b>Total</b>			<b>3.98</b>

**DECK SLAB REPAIR (FULL DEPTH)**

Patch	Length (Foot)	Width (Foot)	Area Type I (Sq. Yd.)	Area Type II (Sq. Yd.)
29	2	6.75		1.5
34	17	4		7.56
35	6.75	22.5		16.88
41	3	5.75		1.92
53	2	7.25		1.61
54	5	13.75		7.64
55	1	6.75		0.75
58	2.75	6.75		2.06
<b>Total</b>				<b>39.9</b>

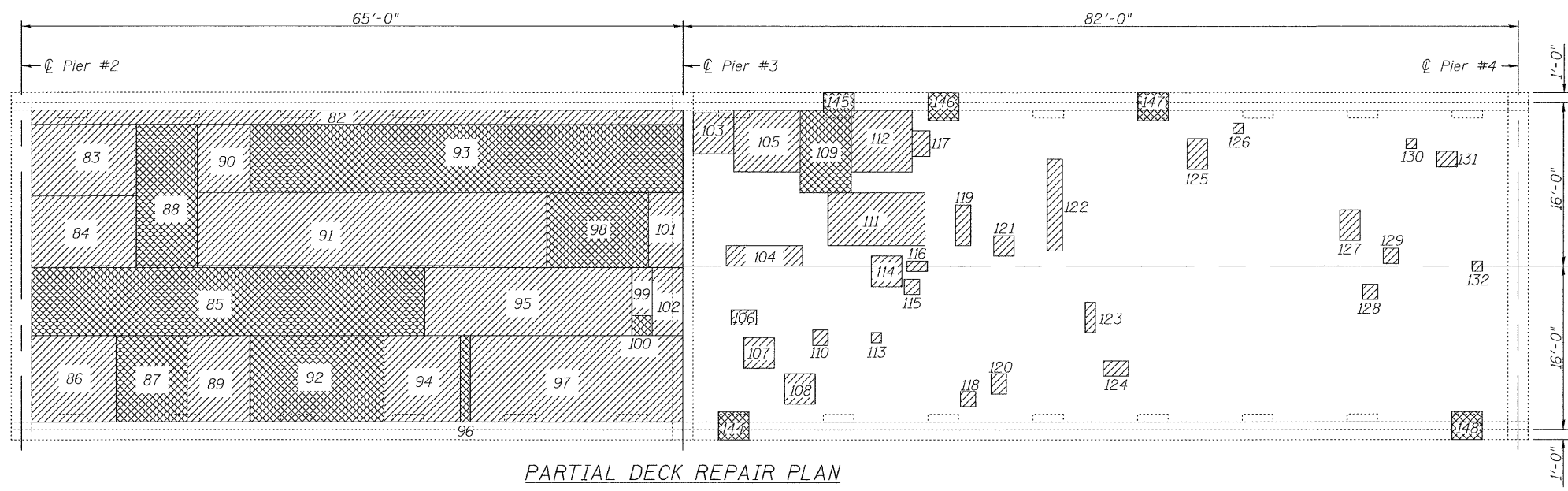
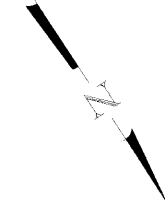
Notes: Areas of deck slab repairs shown are estimated. The engineer shall record the actual deck slab repair areas in the "As Built" plans.

**LEGEND**

- Deck Slab repair (Full Depth) - Sq. Yd.
- Deck Slab repair (Partial Depth) - Sq. Yd. (For information only)

**DECK SLAB REPAIR**  
**F.A.S. ROUTE 559 OVER KICKAPOO CREEK**  
**S.N. 054-3003**

<b>Allen Henderson &amp; Associates, Inc.</b> Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL. Design Firm No. 184-001907	SHEET NO. 3	F.A.S. RTE. 559	SECTION 09-00074-01-BR	COUNTY LOGAN	TOTAL SHEET SHEETS NO. 22 5
	20 SHEETS	CONTRACT NO. 93511			
	FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				



PARTIAL DECK REPAIR PLAN

**DECK SLAB REPAIR (PARTIAL DEPTH)**  
(For Information Only)

Patch	Length (Foot)	Width (Foot)	Area (Sq. Yd.)
82	6.4	1.5	10.67
83	10.25	7	7.97
84	10.25	7	7.97
86	8.25	8.5	7.79
89	6	8.5	5.67
90	5	6.5	3.61
91	34.25	7.25	27.59
94	7.5	8.5	7.08
95	20.5	6.5	14.81
97	21	8.5	19.83
99	2	4.75	1.06
101	3.5	7.5	2.92
102	3	6.75	2.25
103	4	4	1.78
104	7.5	2	1.67
105	6.5	6	4.33
106	2.5	1.5	.42
107	3	3	1.0
108	3	3	1.0
110	1.5	1.5	.25
111	9.5	5	5.28
112	6	6	4.0
113	1	1	.11
114	3	3	1.0
115	1.5	1.5	.25
116	2	1	.22
117	1.75	2.5	.49
118	1.5	1.5	.25
119	1.5	4	.67
<b>Total</b>			<b>141.94</b>

Patch	Length (Foot)	Width (Foot)	Area (Sq. Yd.)
120	1.5	2	.33
121	2	2	.44
122	1.5	9	1.5
123	1	3	.33
124	2.5	1.5	.42
125	2	3	.67
126	1	1	.11
127	2	3	.67
128	1.5	1.5	.25
129	1.5	1.5	.25
130	1	1	.11
131	2	1.5	.33
132	1	1	.11
<b>Total</b>			<b>5.52</b>

**DECK SLAB REPAIR (FULL DEPTH)**

Patch	Length (Foot)	Width (Foot)	Area Type I (Sq. Yd.)	Area Type II (Sq. Yd.)
85	38.75	6.75		29.06
87	7	8.5		6.61
88	6	14		9.33
92	13.25	8.5		12.51
93	42.5	6.75		31.88
96	1	8.5		.94
98	10	7.5		8.33
100	2	2	0.44	
109	5	8		4.44
144	3	2.75		.92
145	3	1.75		.58
146	3	2.75		.92
147	3	2.75		.92
148	3	2.75		.92
<b>Total</b>			<b>0.44</b>	<b>107.36</b>

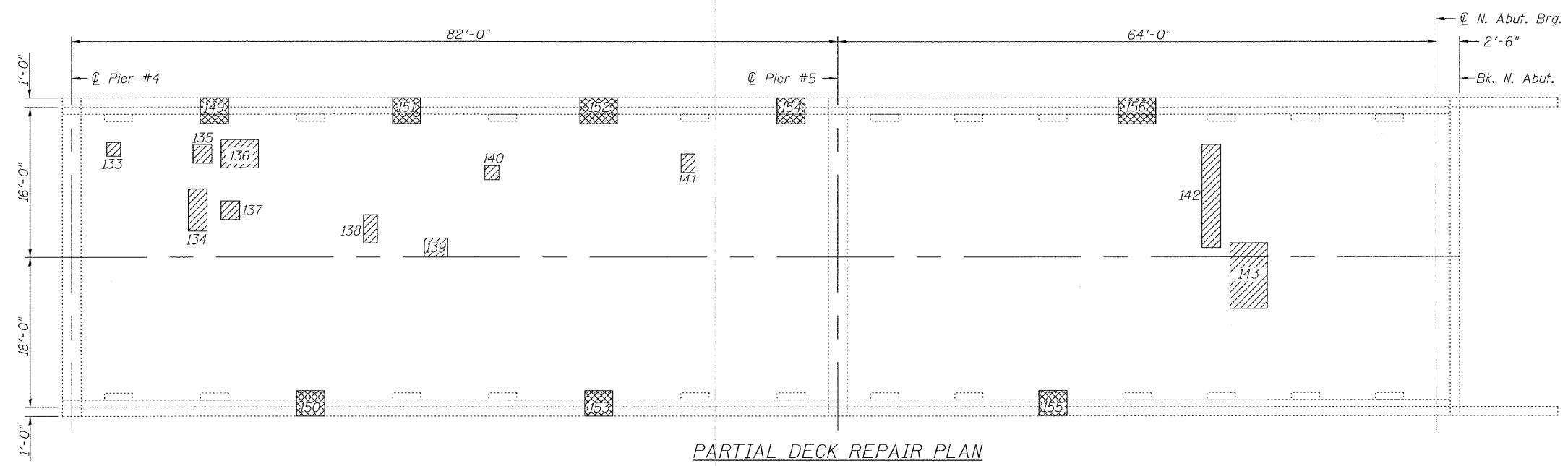
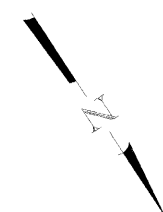
**LEGEND**

- Deck Slab repair (Full Depth) - Sq. Yd.
- Deck Slab repair (Partial Depth) - Sq. Yd. (For information only)

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

**DECK SLAB REPAIR**  
**F.A.S. ROUTE 559 OVER KICKAPOO CREEK**  
**S.N. 054-3003**

<b>Allen Henderson &amp; Associates, Inc.</b> Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907	SHEET NO. 4	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	20 SHEETS	559	09-00074-01-BR	LOGAN	22	6
	CONTRACT NO. <b>93511</b>					
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						



PARTIAL DECK REPAIR PLAN

DECK SLAB REPAIR (PARTIAL DEPTH)  
(For Information Only)

Patch	Length (Foot)	Width (Foot)	Area (Sq. Yd.)
133	1.5	1.5	.25
134	2	4.5	1.0
135	2	2	.44
136	4	3	1.33
137	2	2	.44
138	1.5	3	.50
139	2.5	2	.56
140	1.5	1.5	.25
141	1.5	2	.33
142	2	11	2.44
143	4	7	3.11
<b>Total</b>			<b>10.65</b>

DECK SLAB REPAIR (FULL DEPTH)

Patch	Length (Foot)	Width (Foot)	Area Type II (Sq. Yd.)
149	3	2.75	.92
150	3	2.75	.92
151	3	2.75	.92
152	4	2.75	1.22
153	3	2.75	.92
154	3	2.75	.92
155	3	2.75	.92
156	4	2.75	1.22
<b>Total</b>			<b>7.96</b>

LEGEND

Deck Slab repair (Partial Depth) - Sq. Yd. (For information only)

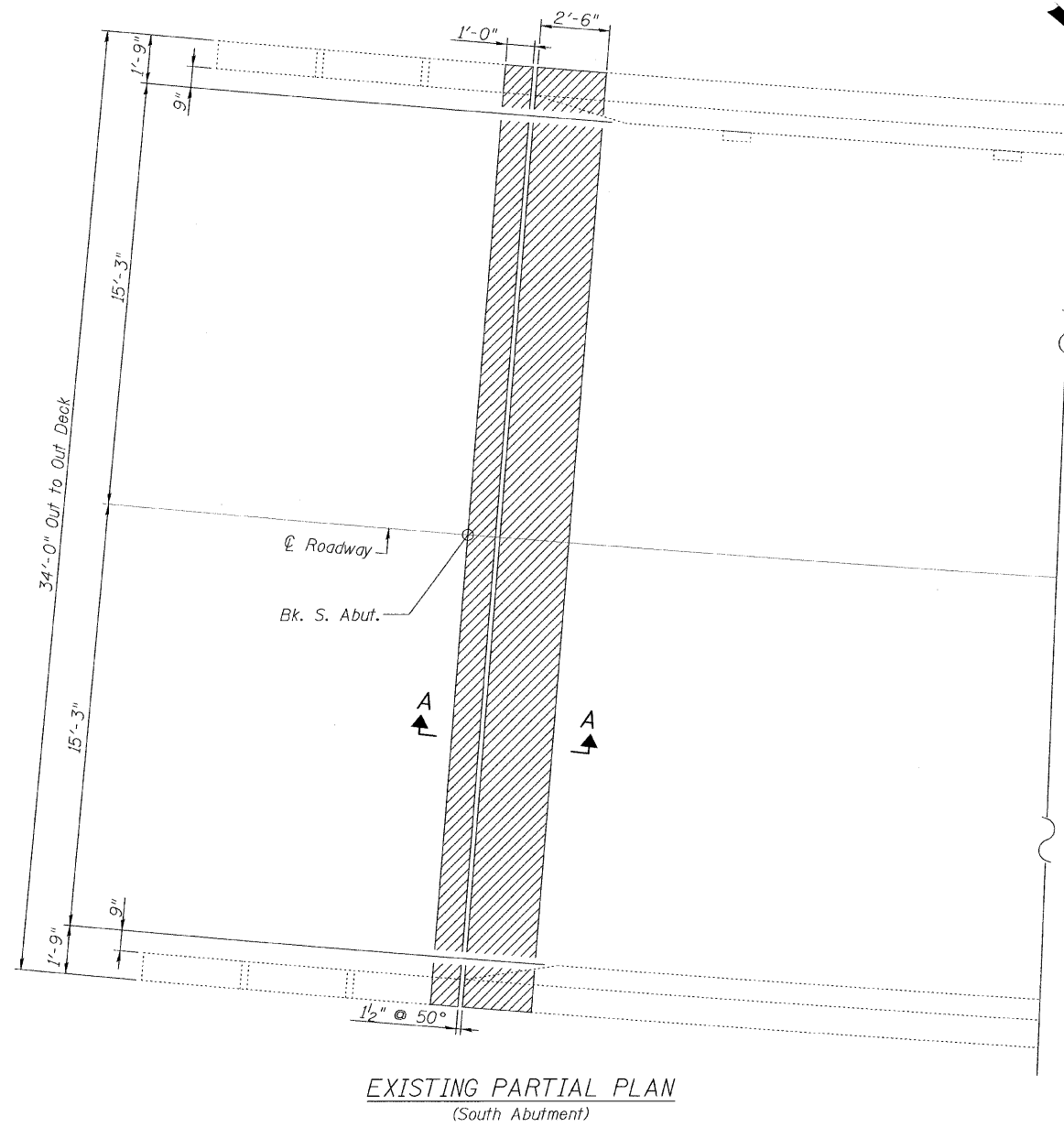
Notes: Areas of deck slab repairs shown are estimated. The engineer shall record the actual deck slab repair areas in the "As Built" plans.

TOTAL BILL OF MATERIAL

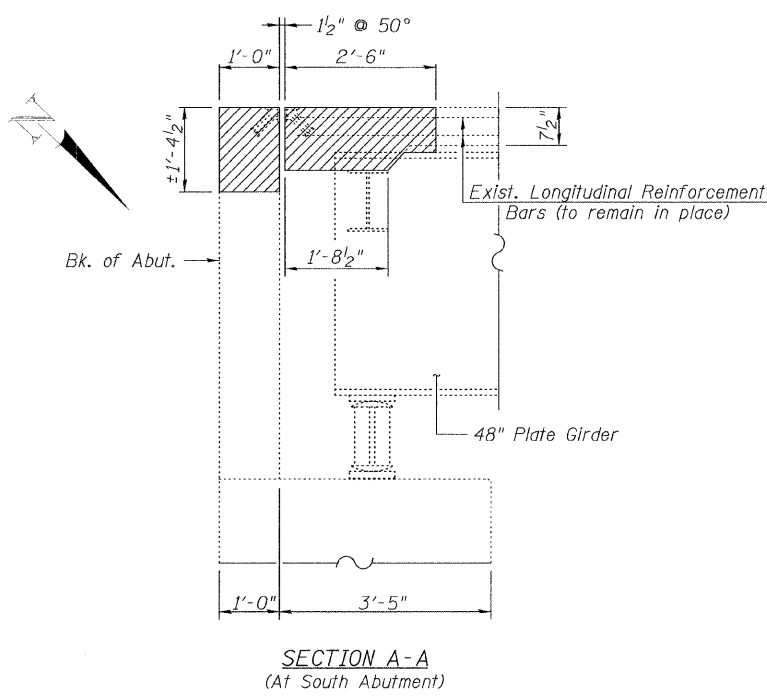
Item	Unit	Quantity
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	0.5
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	155.3

DECK SLAB REPAIR  
F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
S.N.054-3003

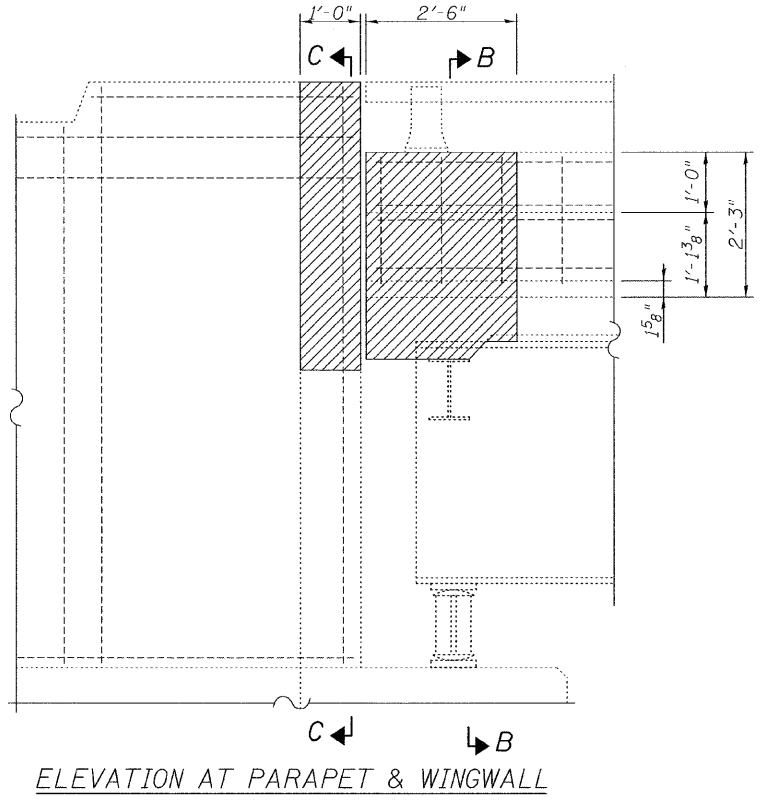
<b>Allen Henderson &amp; Associates, Inc.</b> Civil and Structural Engineers Springfield, IL 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907	SHEET NO. 5	F.A.S. RTE. 559	SECTION 09-00074-01-BR	COUNTY LOGAN	TOTAL SHEETS 22	SHEET NO. 7
	20 SHEETS	CONTRACT NO. 93511				
	FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					



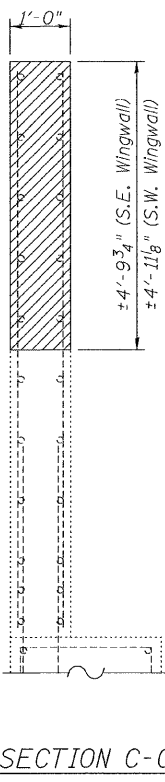
**EXISTING PARTIAL PLAN**  
(South Abutment)



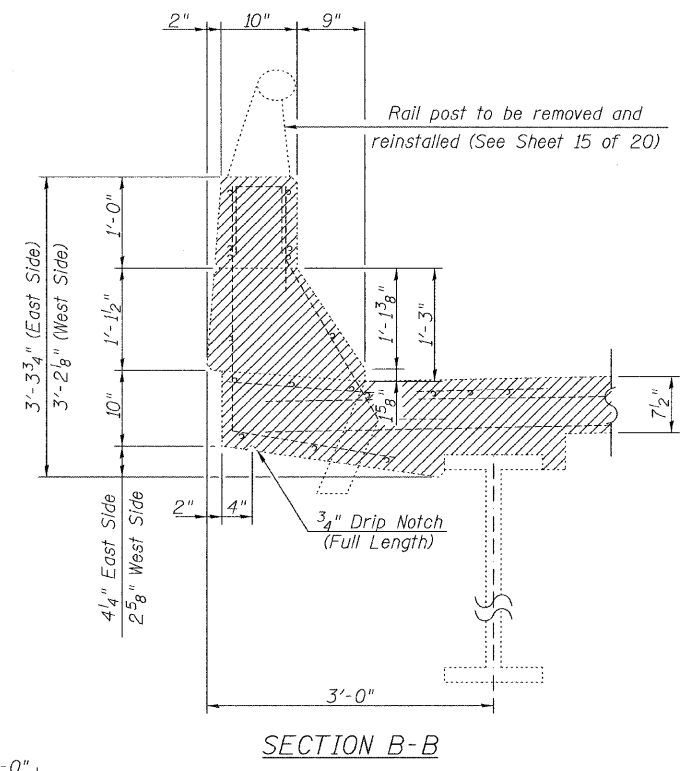
**SECTION A-A**  
(At South Abutment)



**ELEVATION AT PARAPET & WINGWALL**



**SECTION C-C**



**SECTION B-B**

**NOTES**  
Removal and disposal of the existing steel angle in the backwall and end of deck shall not be paid for separately, but shall be included in the cost of "Concrete Removal".  
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 operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included in the the cost of "Concrete Removal".

- Concrete Removal

**BILL OF MATERIAL**

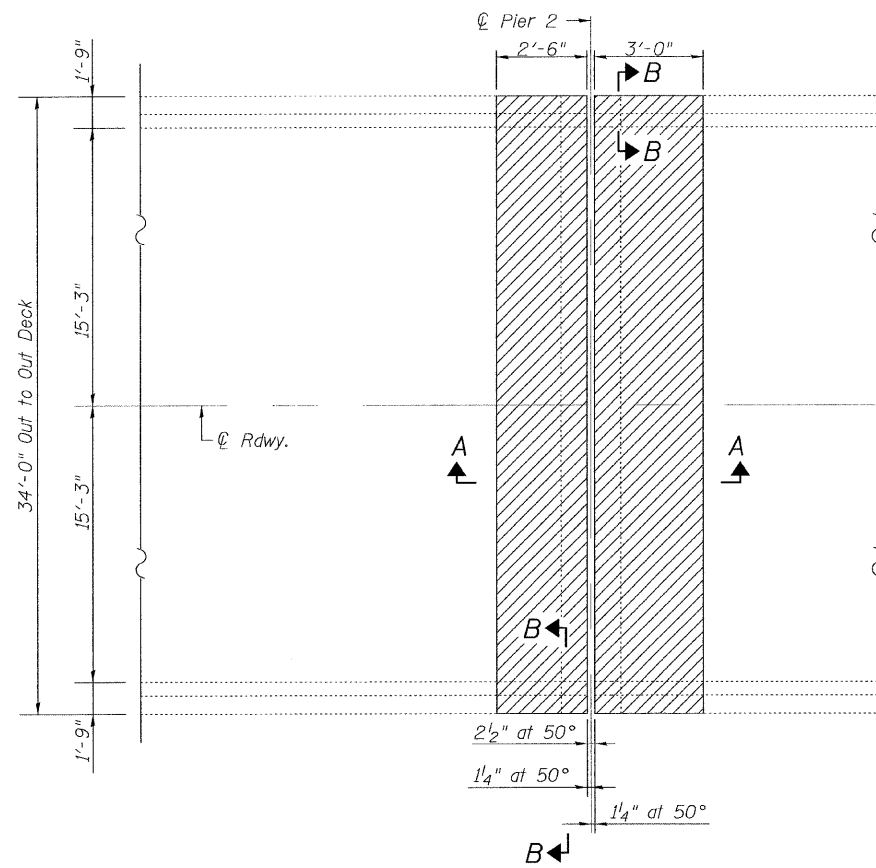
Item	Unit	Quantity
Concrete Removal	Cu. Yd.	6.1

**CONCRETE REMOVAL AT SOUTH ABUTMENT**  
F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
S.N. 054-3003

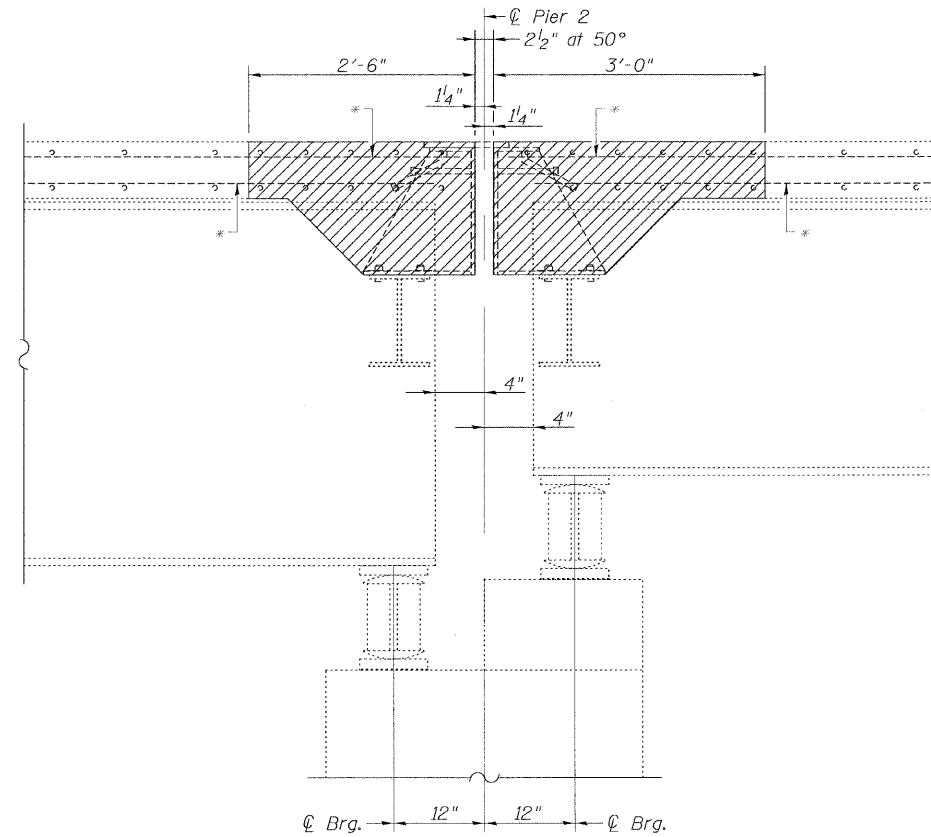
**Allen Henderson & Associates, Inc.**  
Civil and Structural Engineers Springfield, IL  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

SHEET NO. 6 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	559	09-00074-01-BR	LOGAN	22	8
	CONTRACT NO. <b>93511</b>				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					





EXISTING PARTIAL PLAN



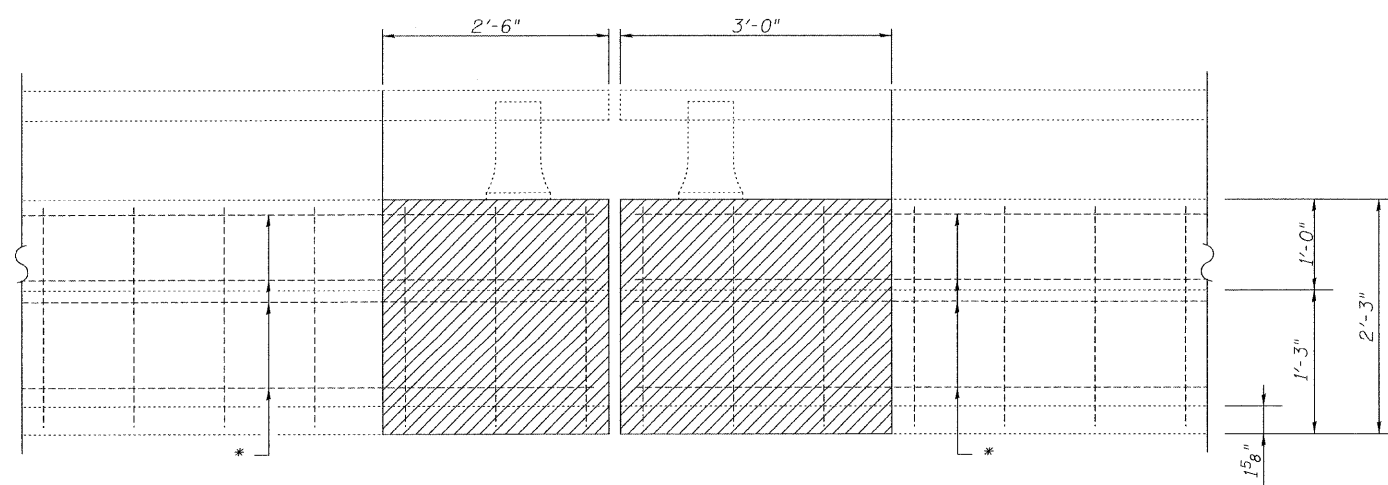
SECTION A-A

\* Existing reinforcement to remain.

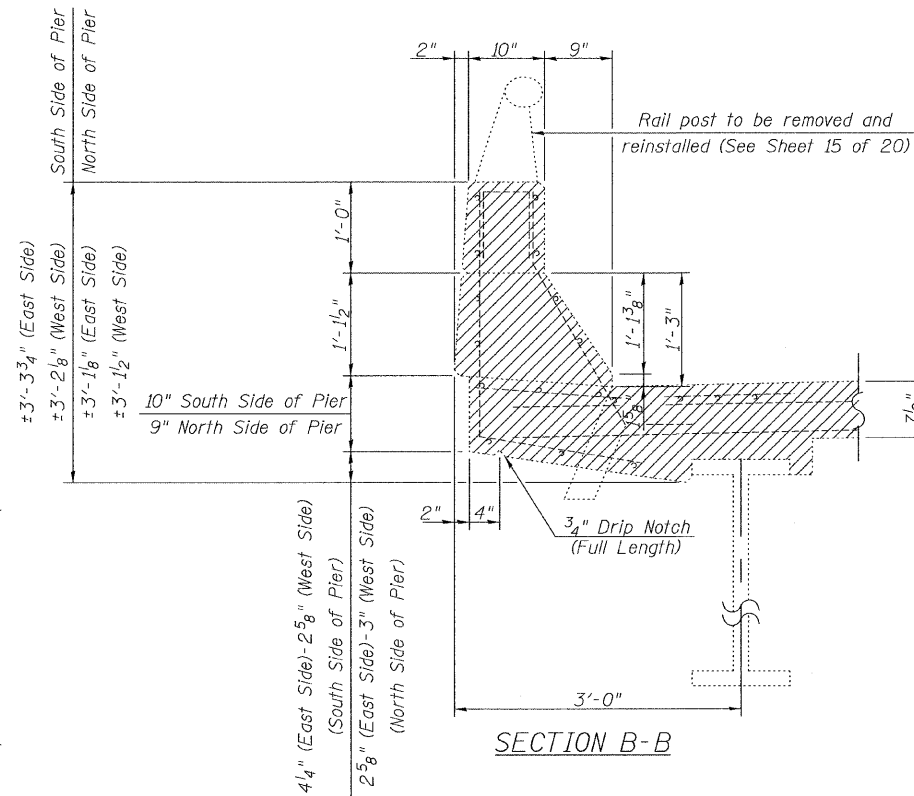
- Concrete Removal

NOTES

Removal of existing expansion joint and associated material shall not be paid for separately but shall be included in the cost of "Concrete Removal".  
 Trim existing reinforcement to accommodate proposed expansion joint.  
 The Contractor shall use extreme care during concrete removal so as not to damage the Steel Beams.  
 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".



ELEVATION AT PARAPET  
(Showing Inside Face)



SECTION B-B

BILL OF MATERIAL

Item	Unit	Quantity
Concrete Removal	Cu. Yd.	8.8

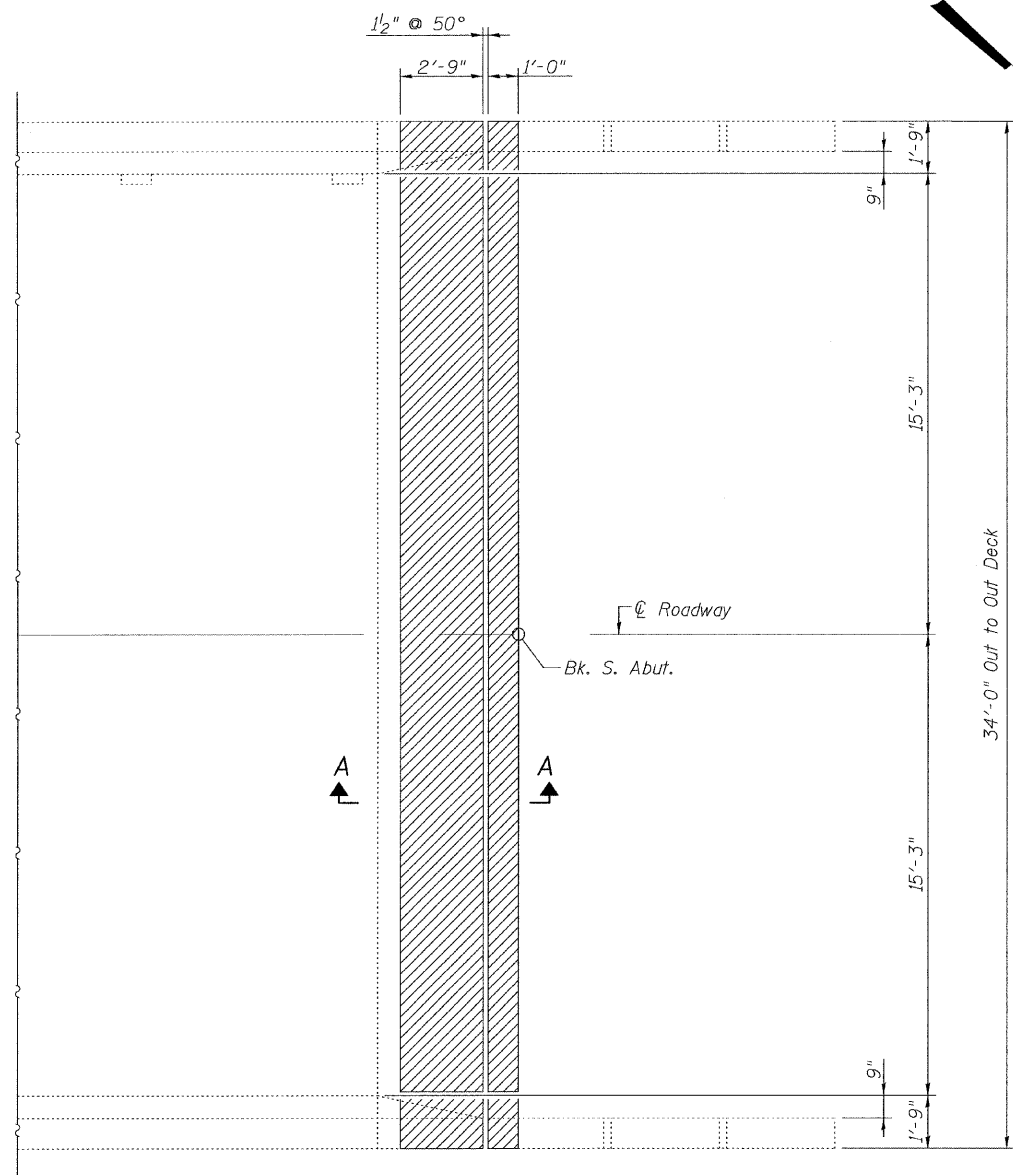
CONCRETE REMOVAL AT PIER 2  
 F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
 S.N. 054-3003



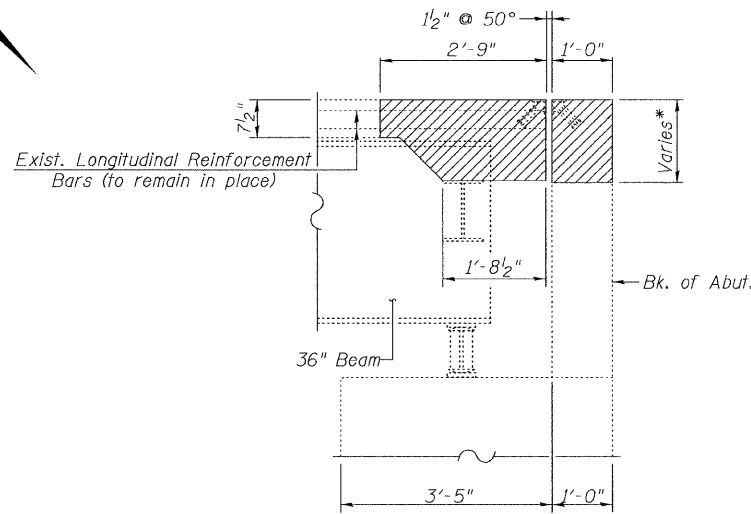
Allen Henderson & Associates, Inc.  
 Civil and Structural Engineers Springfield, IL  
 62703 Phone: (217)544-8033 IL Design Firm  
 No. 184-001907

SHEET NO. 7  
 20 SHEETS

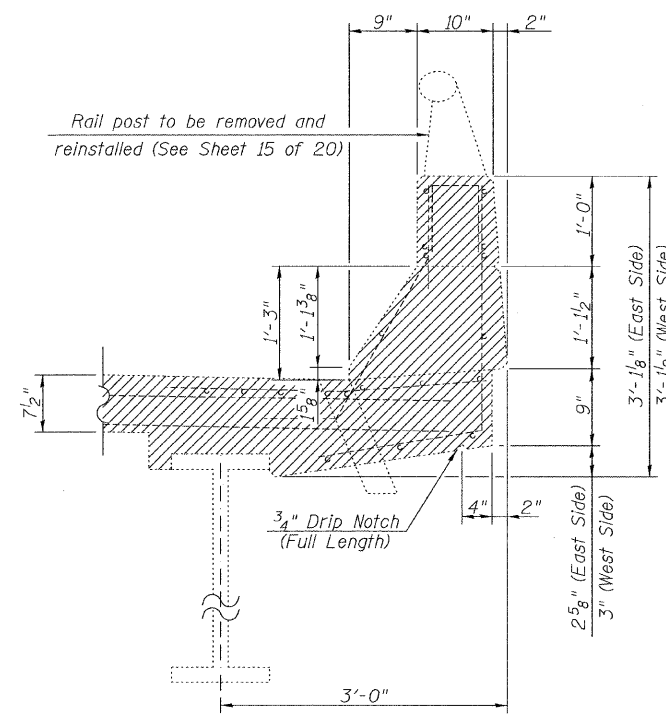
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
559	09-00074-01-BR	LOGAN	22	9
CONTRACT NO. 93511				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				



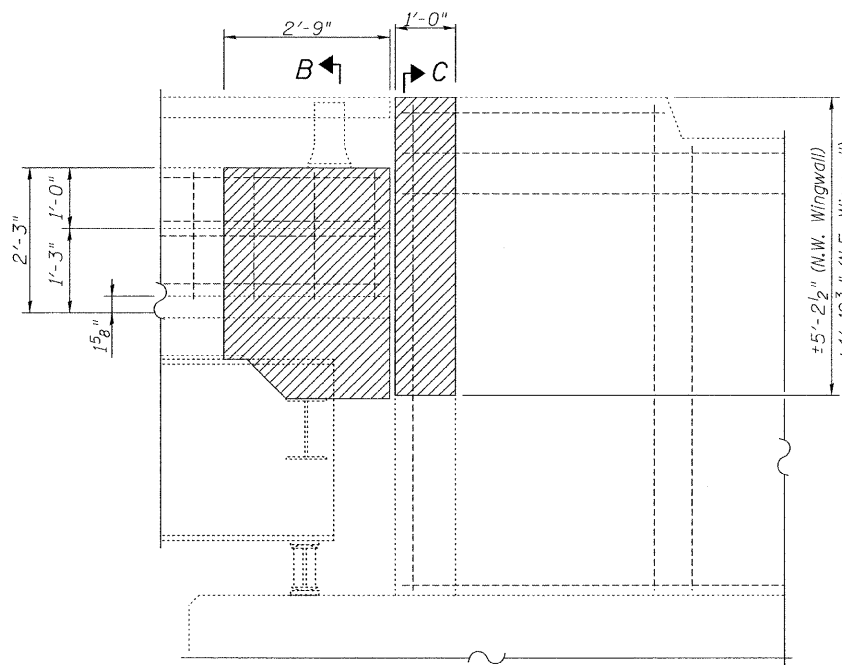
**EXISTING PARTIAL PLAN**  
(North Abutment)



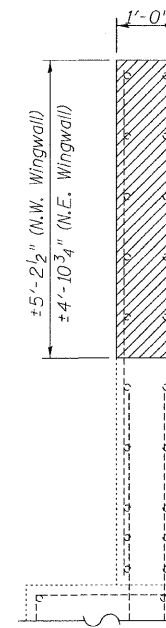
**SECTION A-A**  
(At North Abutment)



**SECTION B-B**



**ELEVATION AT PARAPET & WINGWALL**



**SECTION C-C**

\* 1'-8 1/4" (West End)  
1'-8 1/8" (C. Rdwy.)  
1'-3 1/2" (East End)

**NOTES**

Removal and disposal of the existing steel angle in the backwall and end of deck shall not be paid for separately, but shall be included in the cost of "Concrete Removal".  
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 operations shall be repaired or replaced using an approved bar splicer or anchorage system. Cost included in the the cost of "Concrete Removal".

- Concrete Removal

**BILL OF MATERIAL**

Item	Unit	Quantity
Concrete Removal	Cu. Yd.	6.8

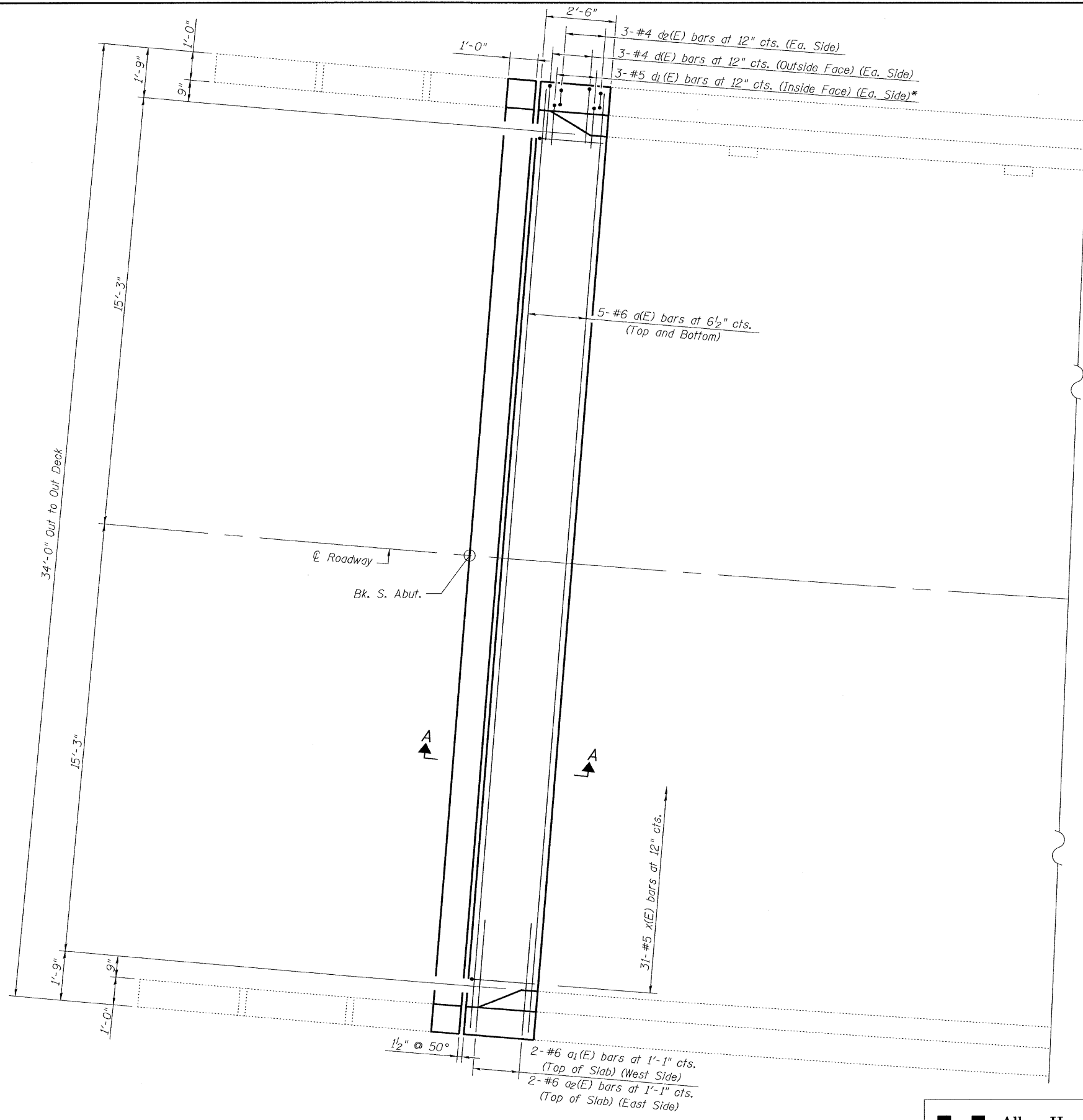
**CONCRETE REMOVAL AT NORTH ABUTMENT**  
F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
S.N. 054-3003



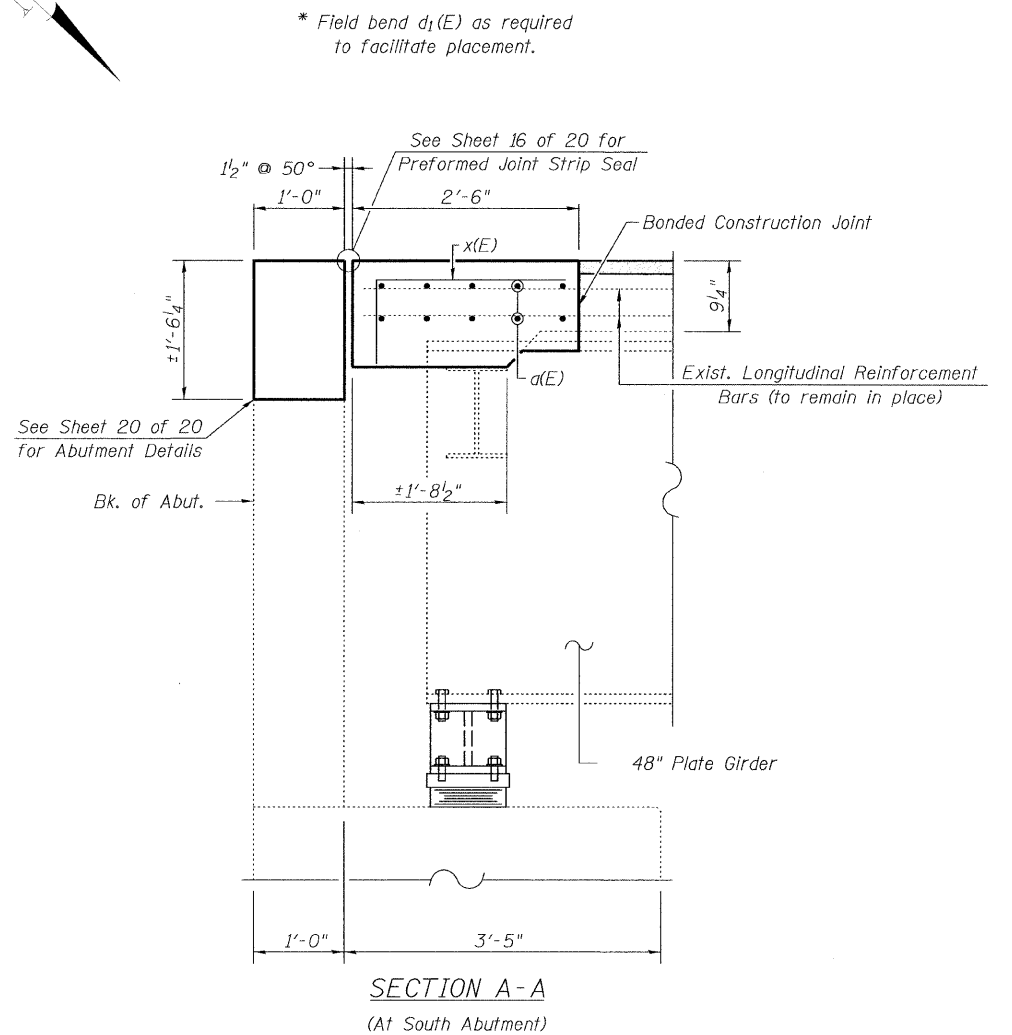
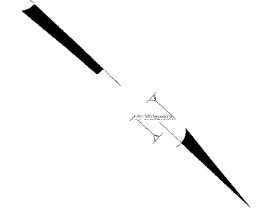
**Allen Henderson & Associates, Inc.**  
Civil and Structural Engineers Springfield, IL  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

SHEET NO. 8  
20 SHEETS


F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
559	09-00074-01-BR	LOGAN	22	10
CONTRACT NO. 93511				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				

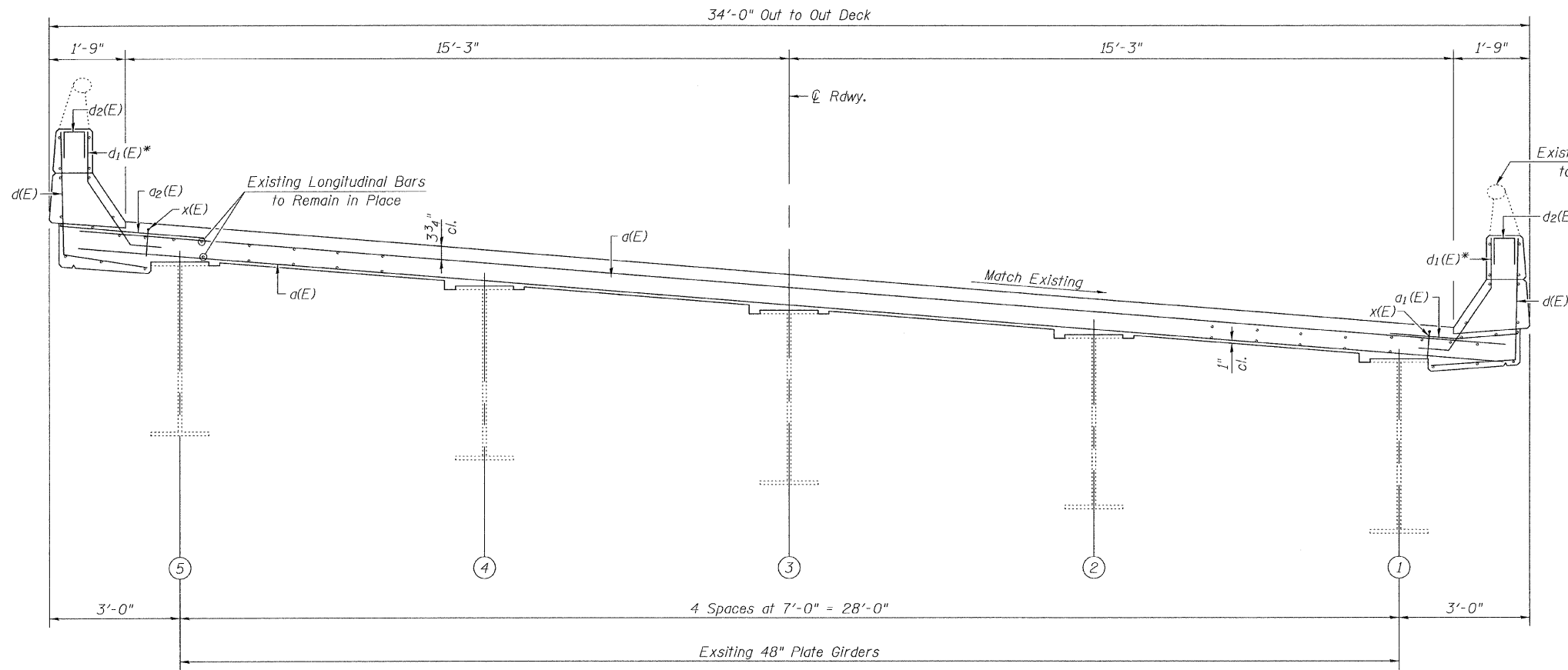


PROPOSED PARTIAL PLAN  
(South Abutment)



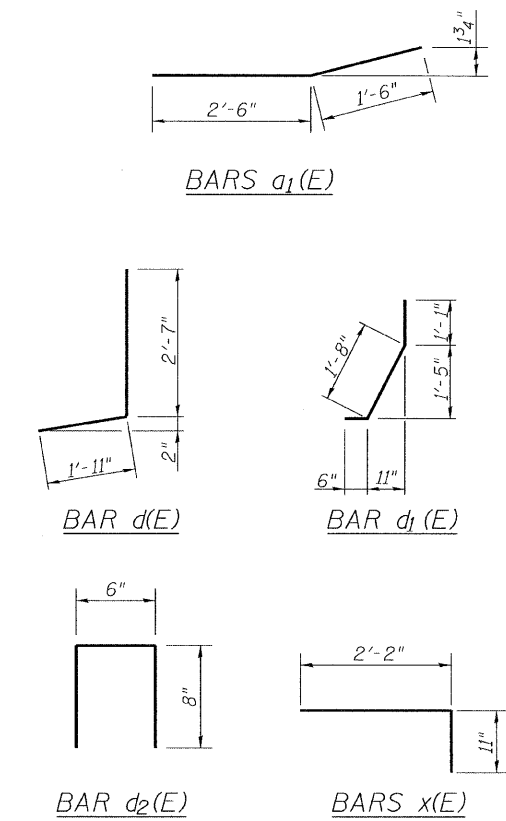
SUPERSTRUCTURE DETAILS FOR SOUTH ABUTMENT  
F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
S.N. 054-3003

 <b>Allen Henderson &amp; Associates, Inc.</b> Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL. Design Firm No. 184-001907	SHEET NO. 9	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	20 SHEETS	559	09-00074-01-BR	LOGAN	22	11
					CONTRACT NO. 93511	
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						



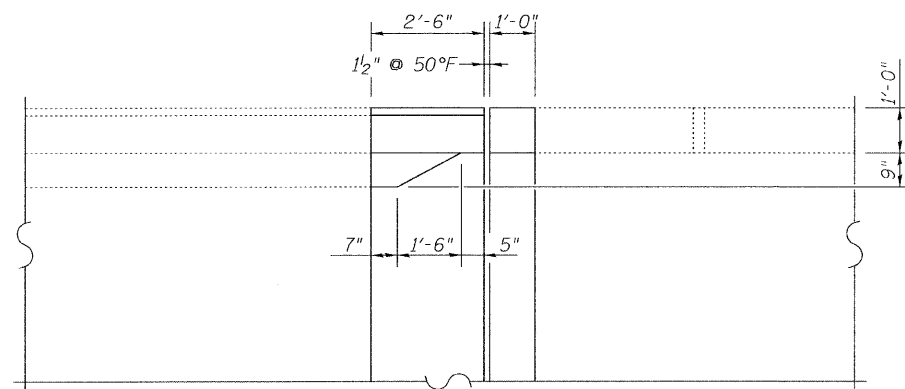
CROSS SECTION THRU PROPOSED DECK  
(South Abutment-Looking South)

\* Field cut  $d_1(E)$  as required to facilitate placement.

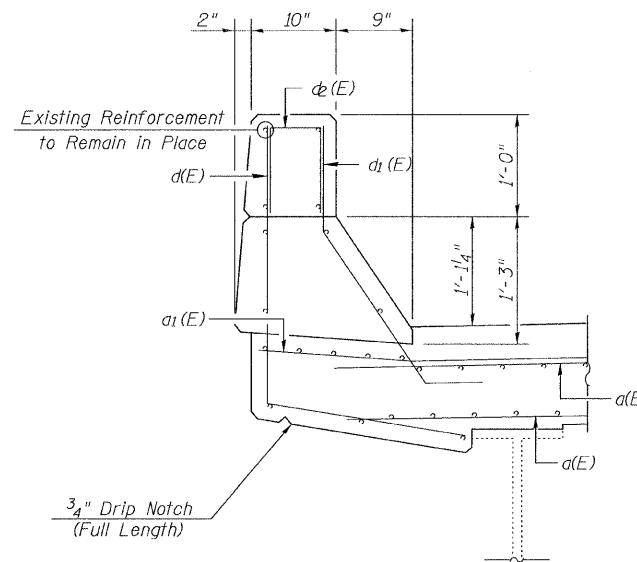


BILL OF MATERIAL  
SOUTH ABUTMENT

Bar	No.	Size	Length	Shape
$a(E)$	10	#6	32'-6"	—
$a_1(E)$	2	#6	4'-0"	—
$a_2(E)$	2	#6	4'-0"	—
$d(E)$	6	#4	4'-6"	┌
$d_1(E)$	6	#5	3'-3"	┌
$d_2(E)$	6	#4	1'-10"	┐
$x(E)$	31	#5	3'-1"	┌
Reinforcement Bars, Epoxy Coated			Lbs.	660
Concrete Superstructure			Cu. Yd.	4.4



PARTIAL PLAN OF PARAPET



SECTION THRU PROPOSED PARAPET

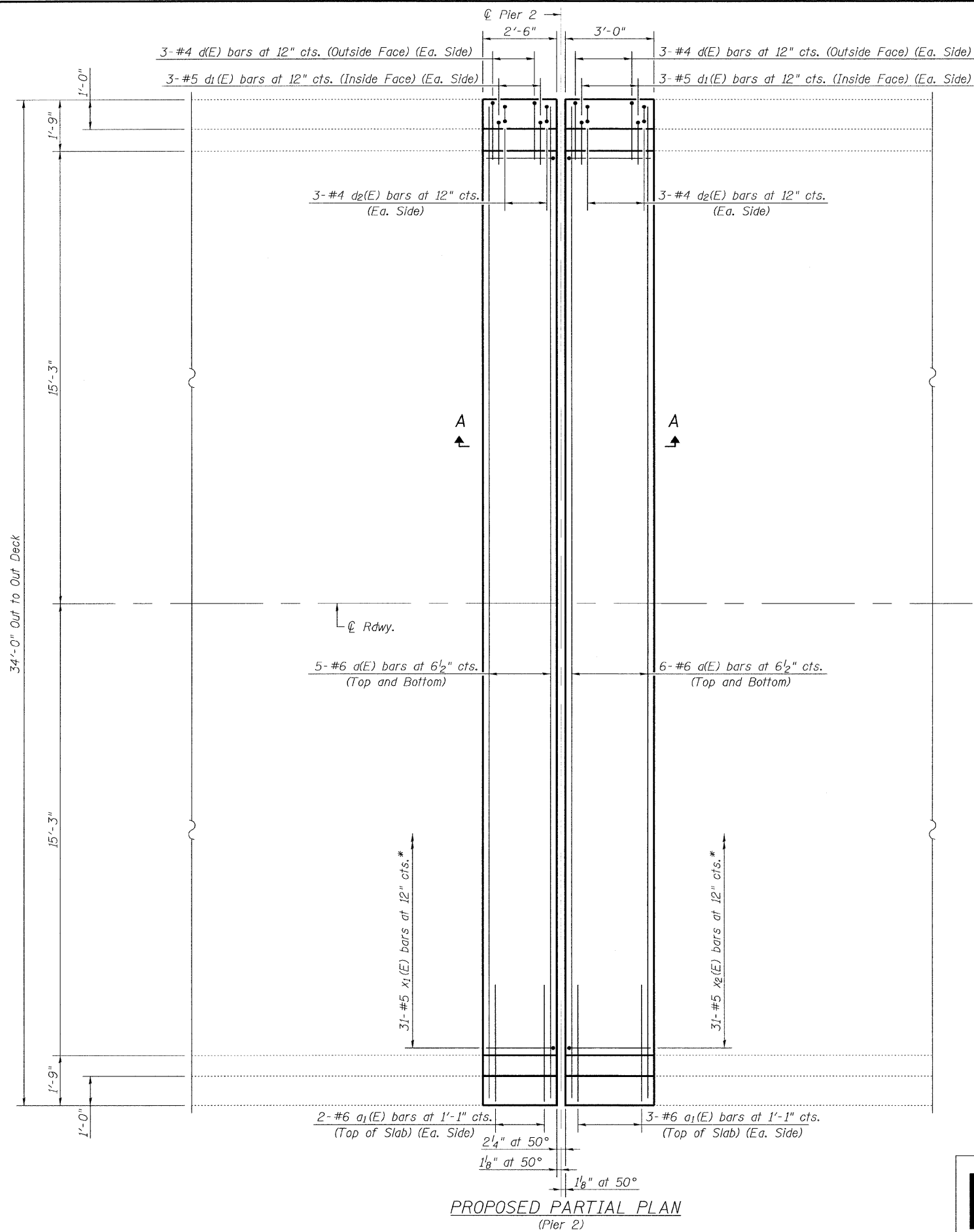
SUPERSTRUCTURE DETAILS FOR SOUTH ABUTMENT  
F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
S.N. 054-3003



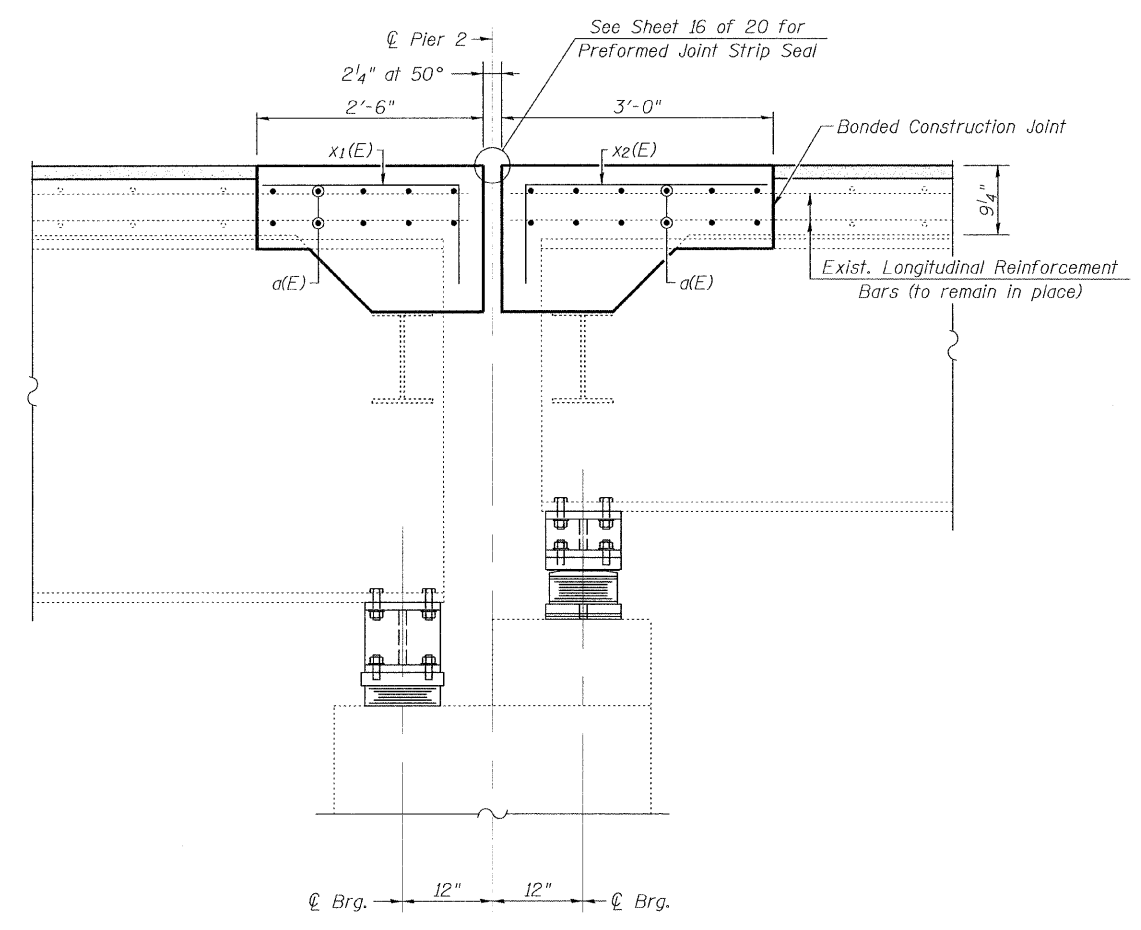
Allen Henderson & Associates, Inc.  
Civil and Structural Engineers Springfield, IL.  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

SHEET NO. 10  
20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
559	09-00074-01-BR	LOGAN	22	12
CONTRACT NO. 93511				
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT				



PROPOSED PARTIAL PLAN  
(Pier 2)



SECTION A-A

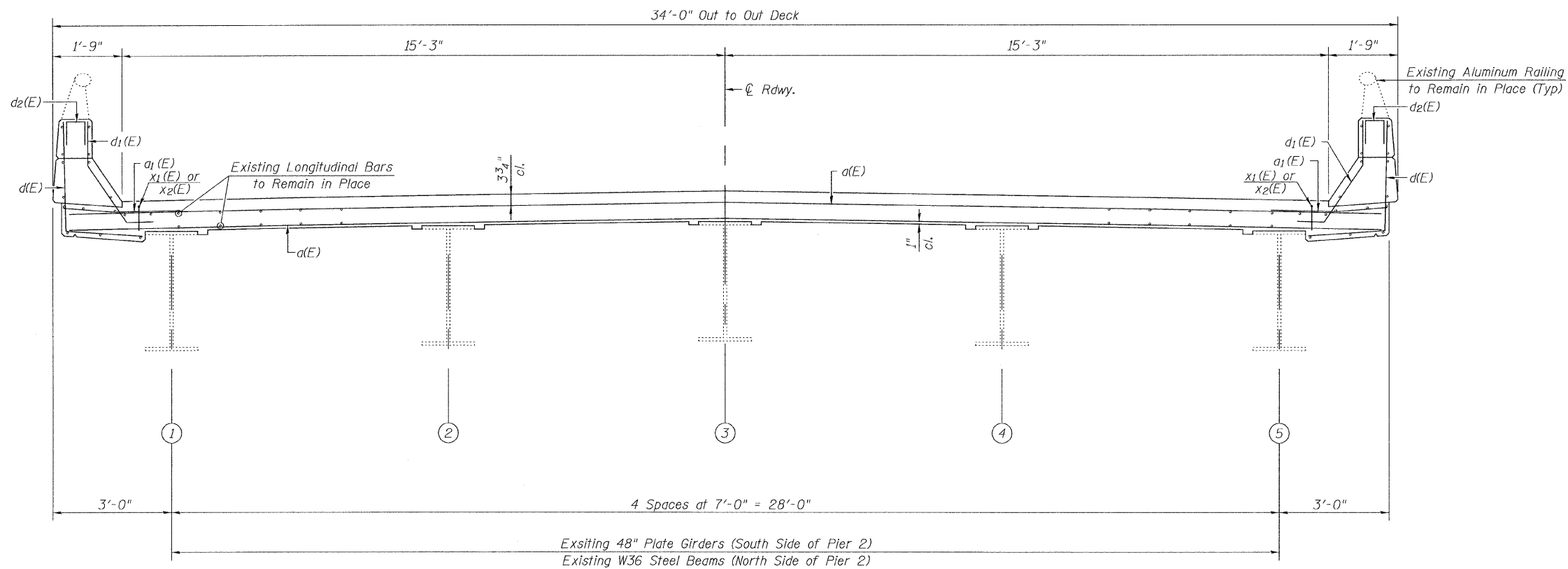
\* Tilt vertical leg of  $x_1(E)$  and  $x_2(E)$  bars as required to provide  $1\frac{1}{2}$ " clearance at bottom of proposed concrete.

SUPERSTRUCTURE DETAILS FOR PIER 2  
F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
S.N. 054-3003

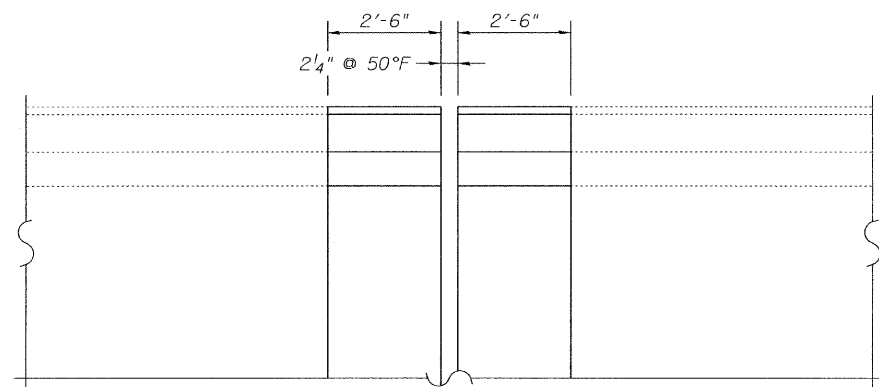
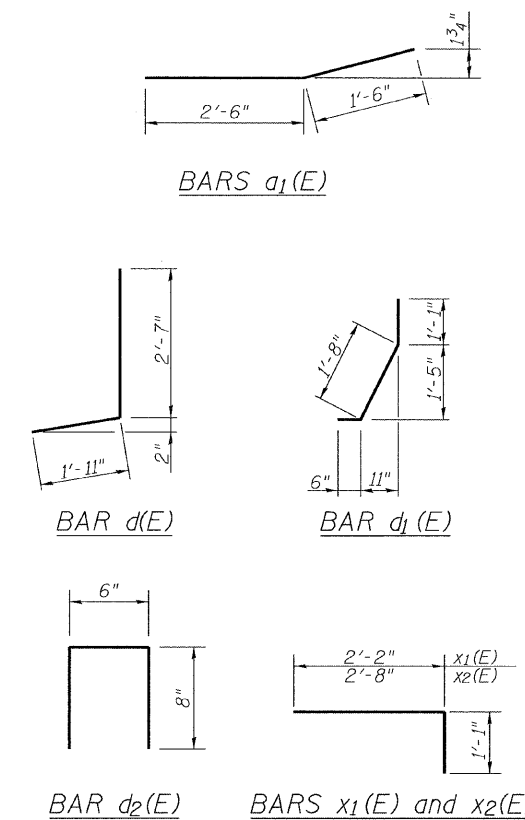


Allen Henderson & Associates, Inc.  
Civil and Structural Engineers Springfield, IL.  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

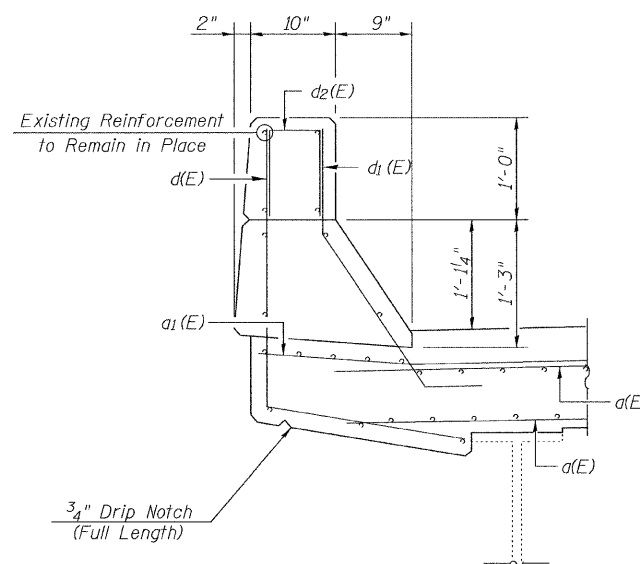
SHEET NO. 11 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	559	09-00074-01-BR	LOGAN	22	13
CONTRACT NO. 93511					
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					



CROSS SECTION THRU PROPOSED DECK  
(Pier 2-Looking North)



PARTIAL PLAN OF PARAPET



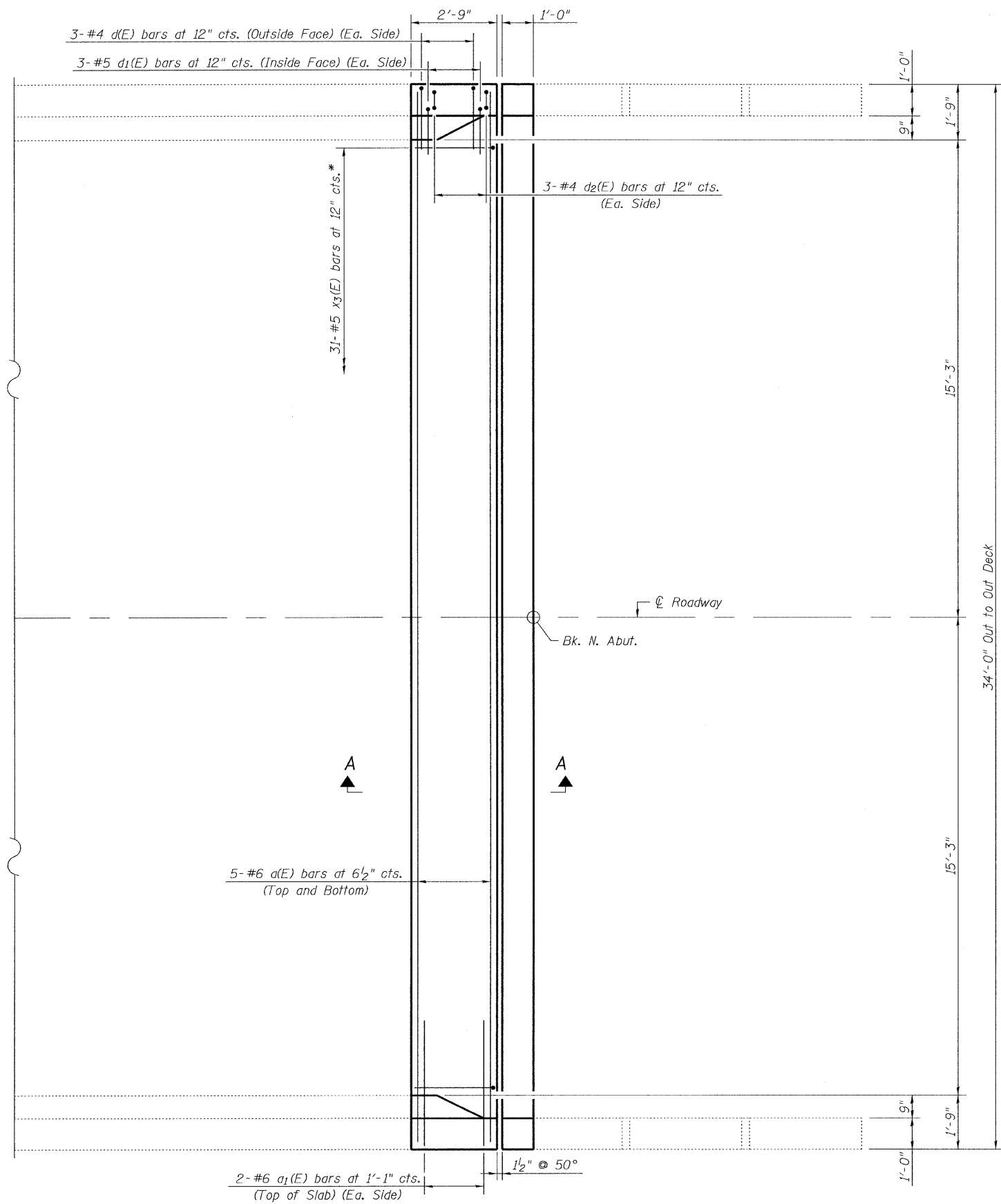
SECTION THRU PROPOSED PARAPET

BILL OF MATERIAL  
PIER 2

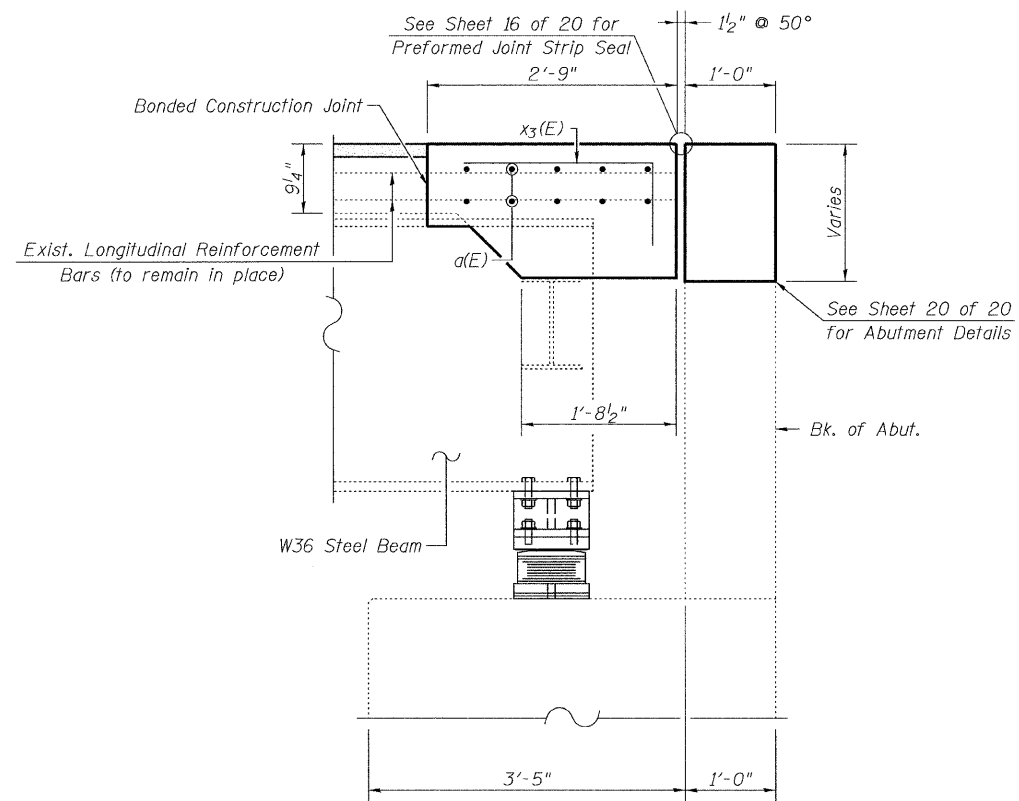
Bar	No.	Size	Length	Shape	
a(E)	22	#6	32'-6"	—	
a1(E)	10	#6	4'-0"	—	
d(E)	12	#4	4'-6"	L	
d1(E)	12	#5	3'-3"	L	
d2(E)	12	#4	1'-10"	U	
x1(E)	31	#5	3'-3"	L	
x2(E)	31	#5	3'-9"	L	
Reinforcement Bars, Epoxy Coated				Lbs.	1455
Concrete Superstructure				Cu. Yd.	9.7

SUPERSTRUCTURE DETAILS FOR PIER 2  
F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
S.N. 054-3003

<p><b>Allen Henderson &amp; Associates, Inc.</b> Civil and Structural Engineers Springfield, IL 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907</p>	<p>SHEET NO. 12 20 SHEETS</p>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		559	09-00074-01-BR	LOGAN	22	14
		CONTRACT NO. 93511				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						




PROPOSED PARTIAL PLAN  
(North Abutment)

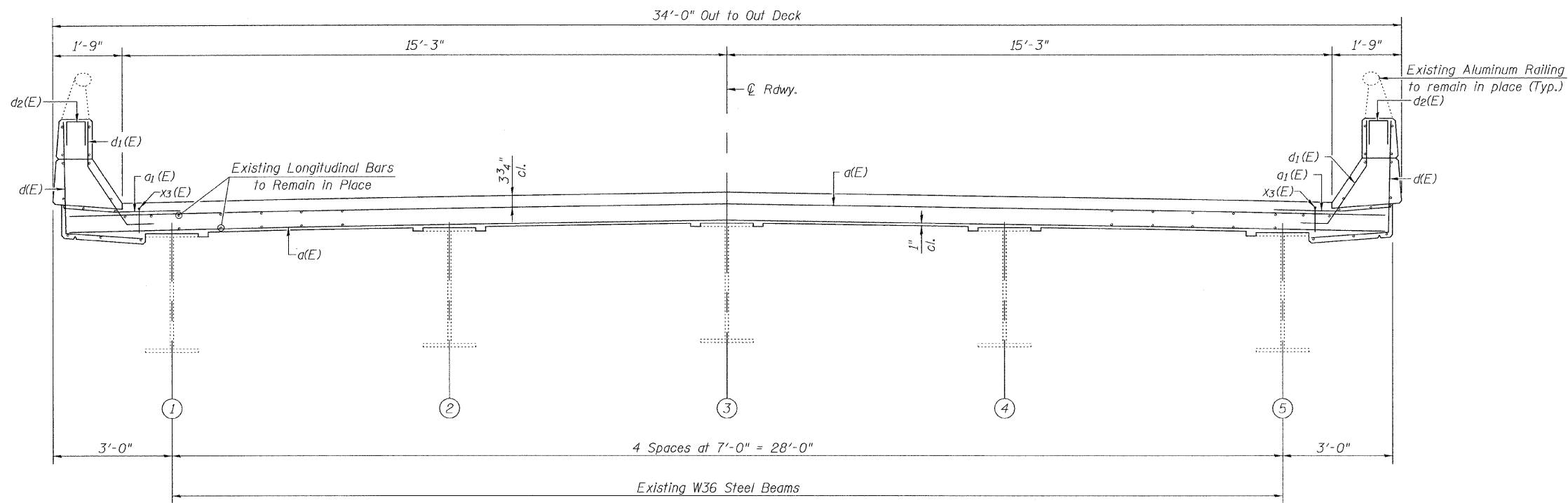


SECTION A-A  
(At North Abutment)

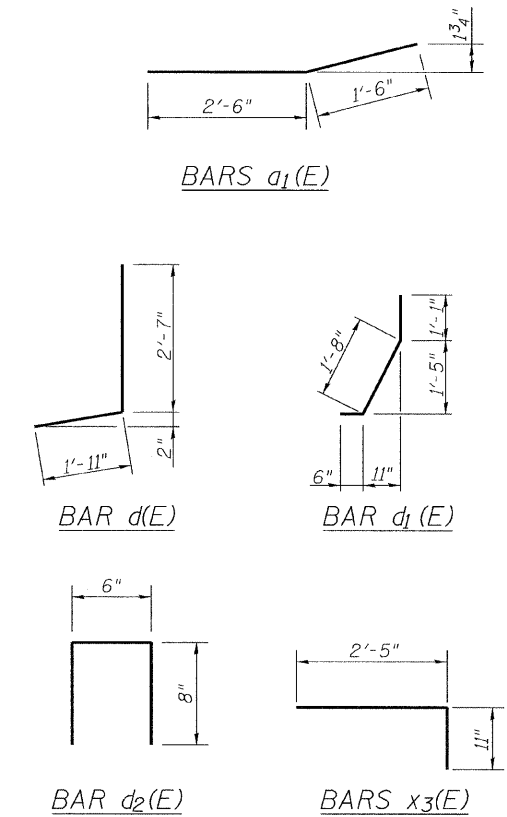
\* Tilt vertical leg of x3(E) bar as required to provide 1/2" clearance at bottom of slab.

SUPERSTRUCTURE DETAILS FOR NORTH ABUTMENT  
F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
S.N. 054-3003

 <b>Allen Henderson &amp; Associates, Inc.</b> Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907	SHEET NO. 13 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		559	09-00074-01-BR	LOGAN	22	15
					CONTRACT NO. 93511	
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

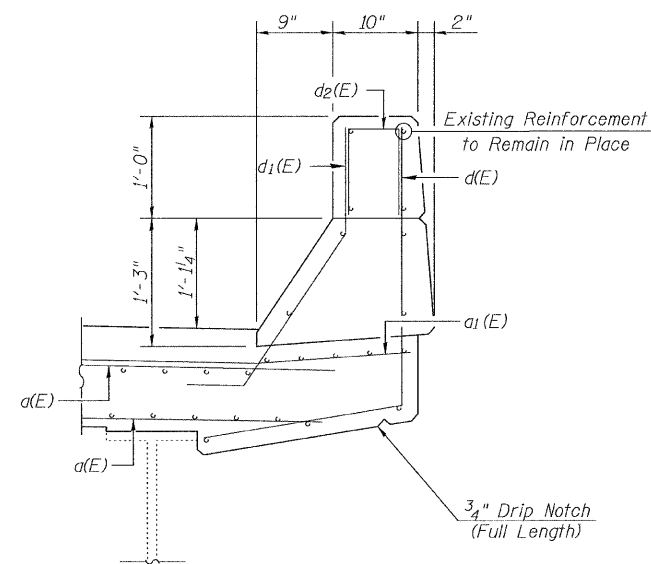


**CROSS SECTION THRU PROPOSED DECK**  
(North Abutment-Looking North)

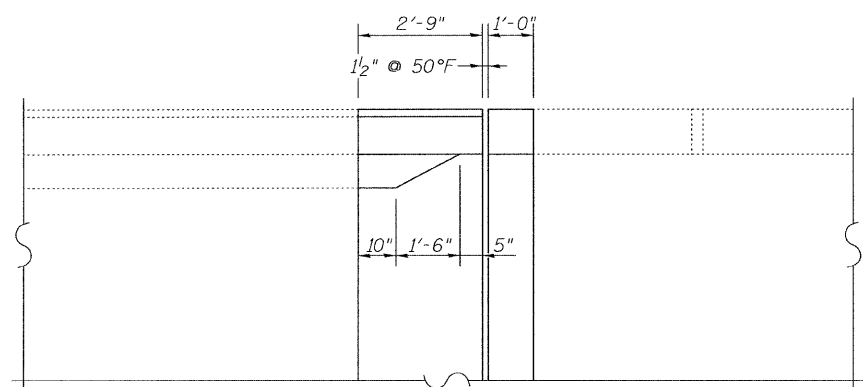


**BILL OF MATERIAL**  
**NORTH ABUTMENT**

Bar	No.	Size	Length	Shape
a(E)	10	#6	32'-6"	—
a1(E)	4	#6	4'-0"	—
d(E)	6	#4	4'-6"	L
d1(E)	6	#5	3'-3"	L
d2(E)	6	#4	1'-10"	U
x3(E)	31	#5	3'-4"	L
Reinforcement Bars, Epoxy Coated				Lbs. 665
Concrete Superstructure				Cu. Yd. 5.0



**SECTION THRU PROPOSED PARAPET**

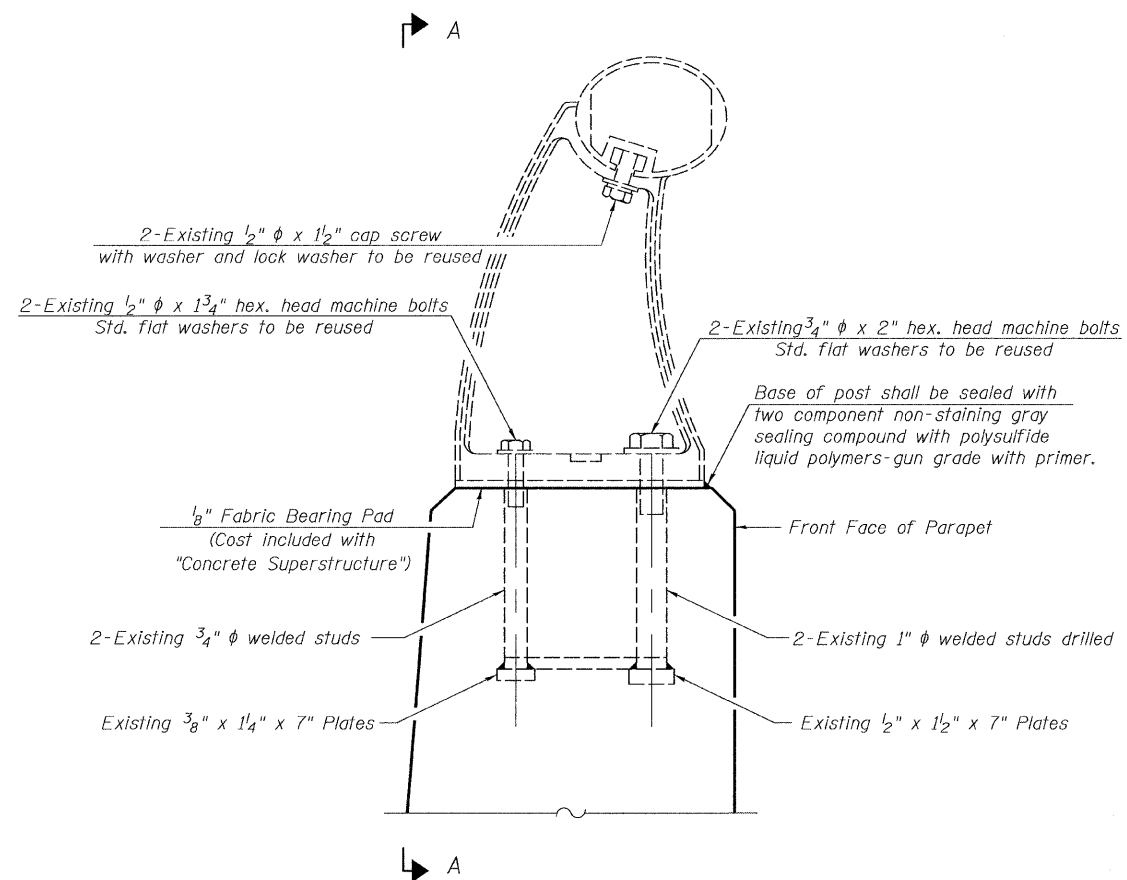
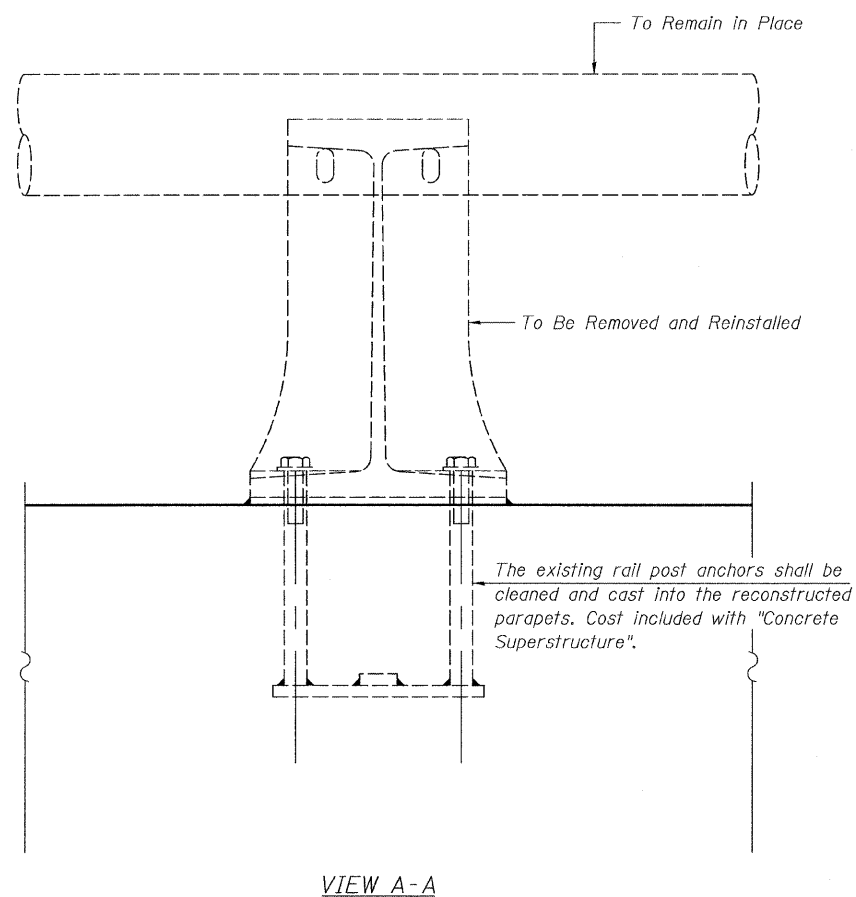


**PARTIAL PLAN OF PARAPET**

**SUPERSTRUCTURE DETAILS FOR NORTH ABUTMENT**  
**F.A.S. ROUTE 559 OVER KICKAPOO CREEK**  
**S.N. 054-3003**

<b>Allen Henderson &amp; Associates, Inc.</b> Civil and Structural Engineers Springfield, IL 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907	SHEET NO. 14	F.A.S. RTE. 559	SECTION 09-00074-01-BR	COUNTY LOGAN	TOTAL SHEETS 22	SHEET NO. 16
	20 SHEETS	CONTRACT NO. 99511				
	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					



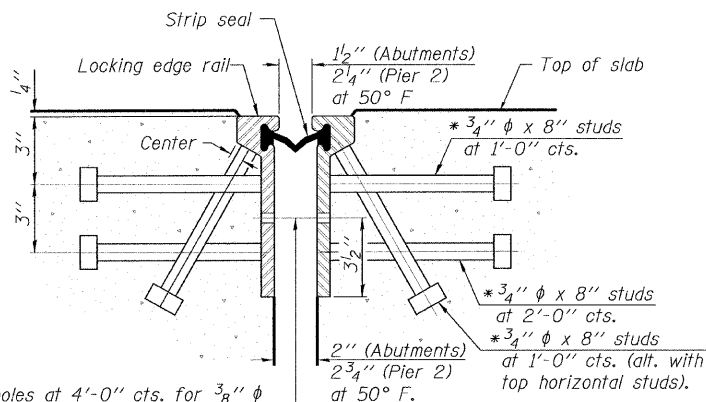


Note: The cost of removing the existing rail post, removing and cleaning the existing railpost anchors and fasteners, and reinstalling the rail post is included with the cost of "Concrete Superstructure".

RAIL SUPPORT AND ANCHOR DETAILS  
 F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
 S.N. 054-3003

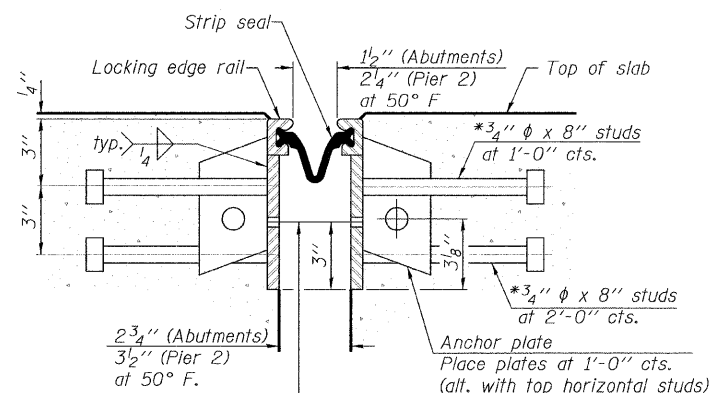
<b>Allen Henderson &amp; Associates, Inc.</b> Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL. Design Firm No. 184-001907	SHEET NO. 15	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	20 SHEETS	559	09-00074-01-BR	LOGAN	22	17
	CONTRACT NO. <b>93511</b>					
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT						

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



7/16"  $\phi$  holes at 4'-0" cts. for 3/8"  $\phi$  bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU ROLLED RAIL JOINT



7/16"  $\phi$  holes at 4'-0" cts. for 3/8"  $\phi$  bolts. All bolts shall be burned, sawed, or chipped off flush with the plates after forms are removed, typ.

SECTION THRU WELDED RAIL JOINT

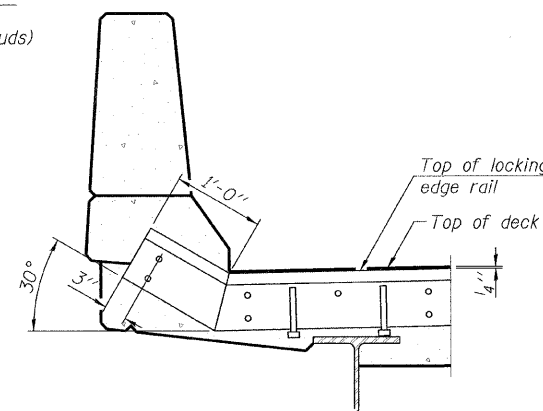
Notes:

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.

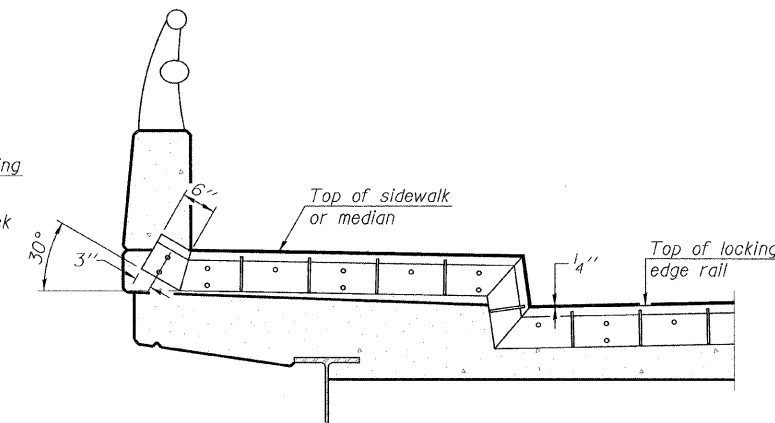
The height and thickness of the Locking Edge Rails shown are minimum dimensions. The actual configuration of the Locking Edge Rails and matching strip seal may vary from manufacturer to manufacturer. Flanged edge rails will not be allowed. Locking Edge Rails may be spliced at slope discontinuities and stage construction joints.

The manufacturer's recommended installation methods shall be followed. The joint opening and deck dimensions detailed on the superstructure are based on a rolled rail expansion joint. If the Contractor elects to use the welded rail expansion joint, the opening and deck dimensions shall be modified according to the dimensions detailed on this sheet. Required modifications shall be made at no additional cost to the State.

All steel components shall be galvanized after fabrication according to Article 520.03 of the Standard Specifications.

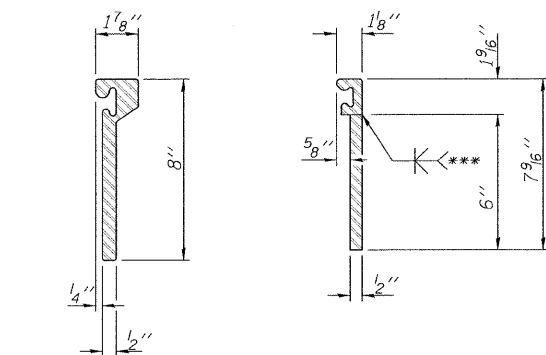


AT PARAPET

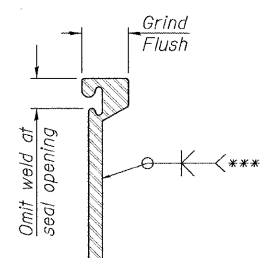


AT SIDEWALK OR MEDIAN

Shorter plates with a single row of studs at 12" cts. may be necessary on medians which are shallower than 9". See manufacturer's recommendation.



ROLLED EXTRUDED RAIL WELDED RAIL

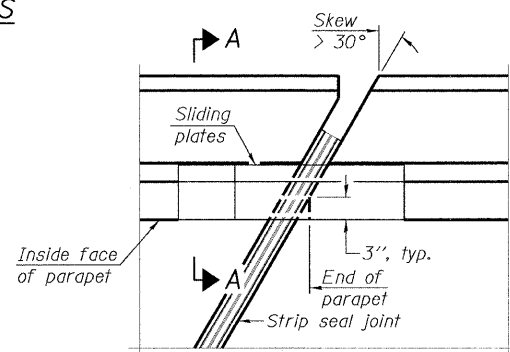


\*\*\*Back gouge not required if complete joint penetration is verified by mock-up.

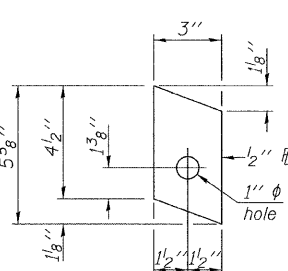
LOCKING EDGE RAIL SPLICE

The inside of the locking edge rail groove shall be free of weld residue.

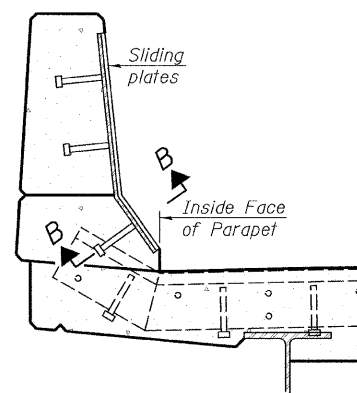
LOCKING EDGE RAILS



PLAN



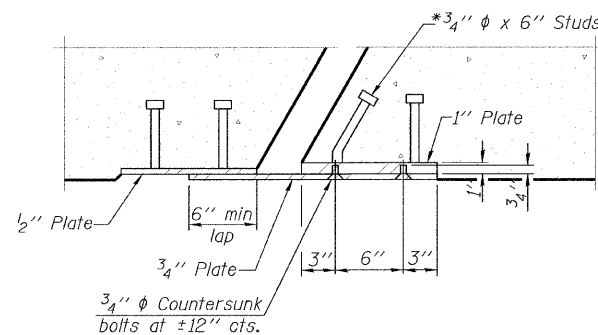
ANCHOR PLATE (for welded rail)



SECTION A-A

POINT BLOCK DETAILS (for skews > 30°)

TYPICAL END TREATMENTS



SECTION B-B

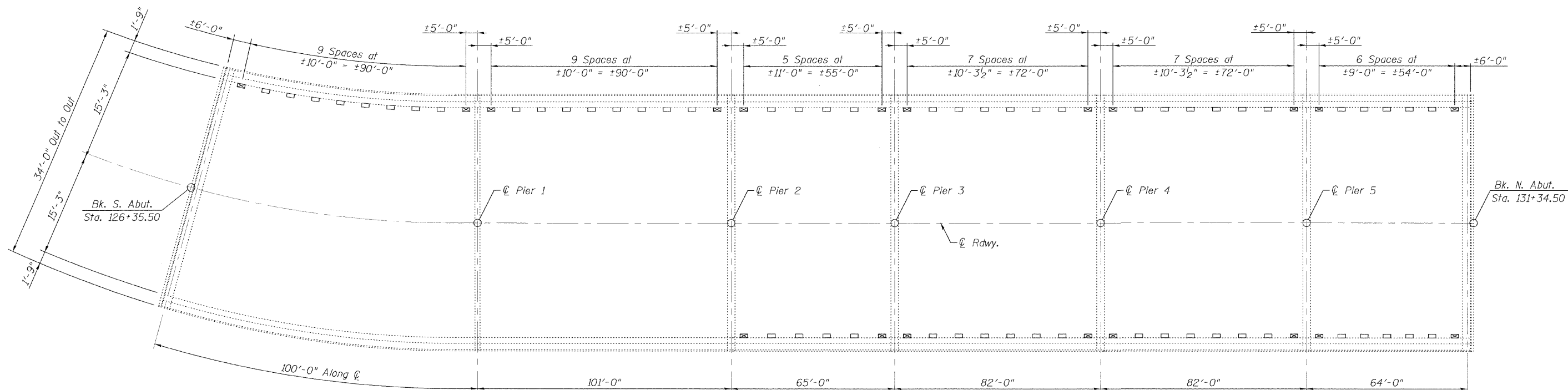
BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	102

PREFORMED JOINT STRIP SEAL DETAILS  
F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
S.N. 054-3003



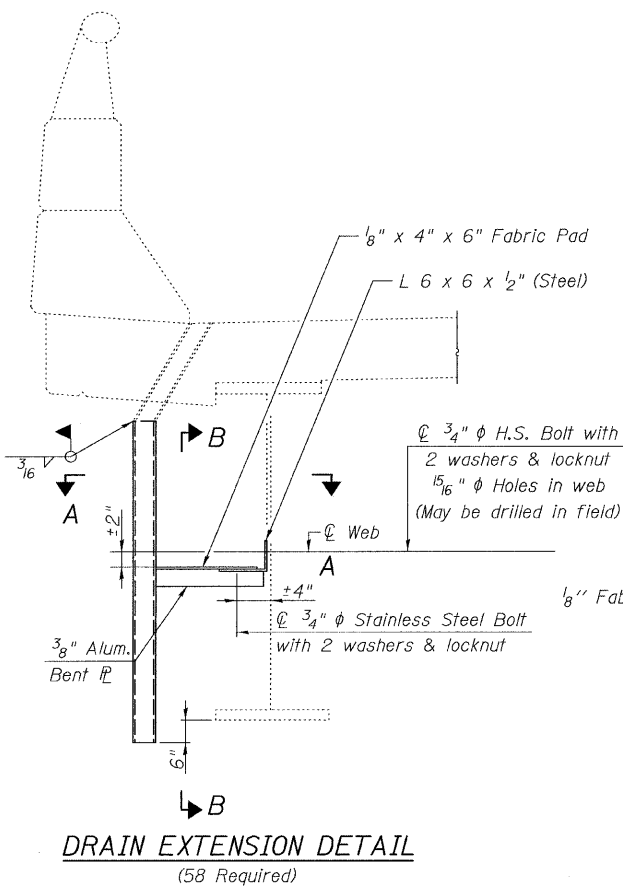
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
559	09-00074-01-BR	LOGAN	22	18
CONTRACT NO. 93511				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				



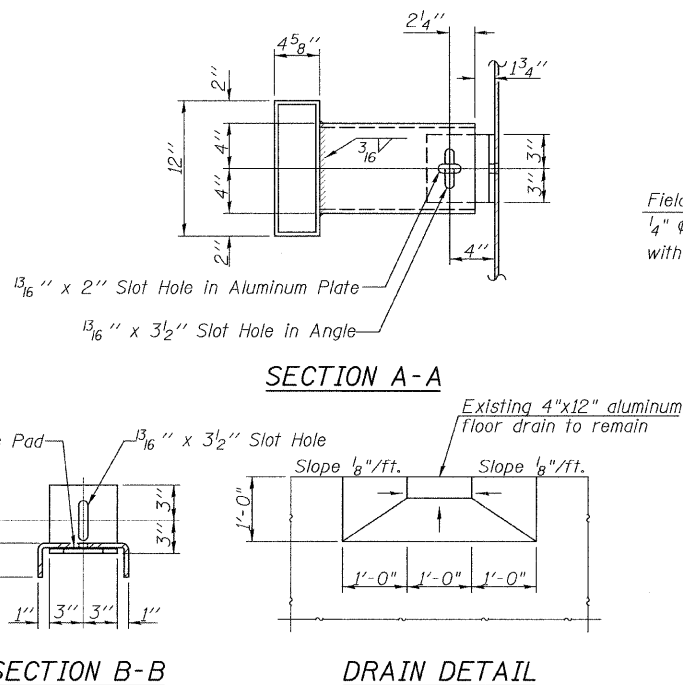
EXISTING PLAN

LEGEND

- Plug Existing Deck Drain
- Floor Drain Extensions

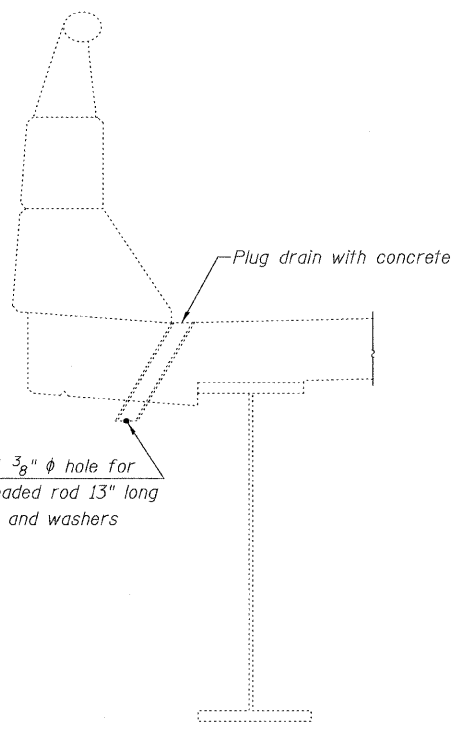


DRAIN EXTENSION DETAIL  
(58 Required)



SECTION B-B

DRAIN DETAIL



DRAIN ELIMINATION DETAIL

(20 Required)

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Floor Drain Extension	Each	58
Plug Existing Deck Drains	Each	20

FLOOR DRAIN DETAILS  
F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
S.N. 054-3003



Allen Henderson & Associates, Inc.  
Civil and Structural Engineers Springfield, IL.  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

SHEET NO. 17  
20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
559	09-00074-01-BR	LOGAN	22	19
CONTRACT NO. 93511				
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT				

Notes:

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

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

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

Existing bearings at the south abutment and south side of Pier 2 shall be removed and replaced according to the plans.

Jacking shall be according to the Special Provision for "Jack and Remove Existing Bearings". If web stiffeners are not present directly over the jack location, hardwood timbers shall be installed tightly between top and bottom flanges to prevent rotation. The bearings shall be in place and the jacks lowered before the new concrete deck is poured at the abutment and pier.

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

New steel extensions and connection bolts are included with Furnishing and Erecting Structural Steel.

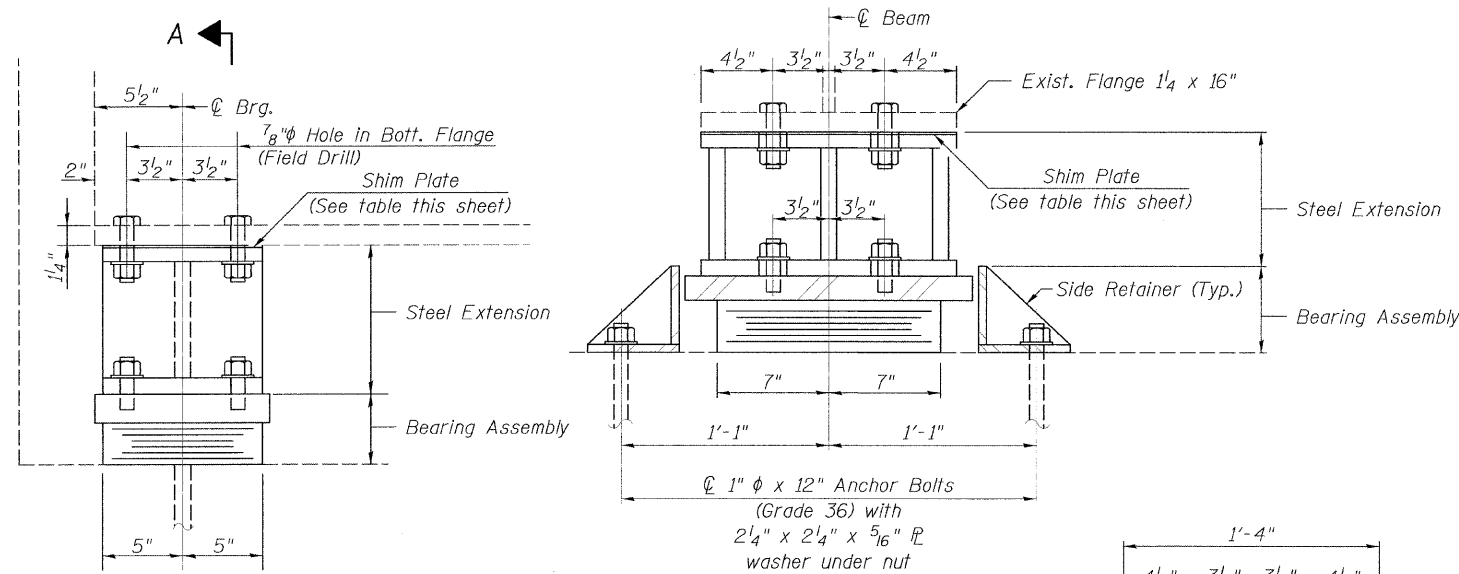
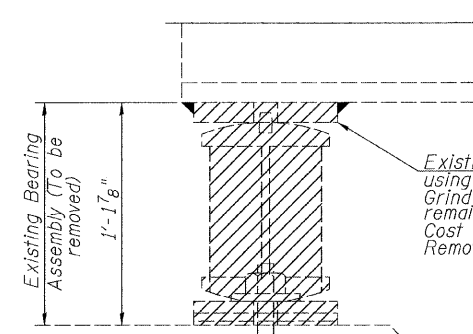
Prior to ordering any material, the Contractor shall verify in the field all bearing heights and shim thickness dimensions.

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

Existing Plate to be removed using the air-arc method. Grind smooth all weld material remaining on the bottom flange. Cost included with "Jack and Remove Existing Bearings".

Burn existing anchor bolts flush with existing concrete surface. Grind existing anchor bolt smooth and seal with epoxy. Cost included with "Jack and Remove Existing Bearings".

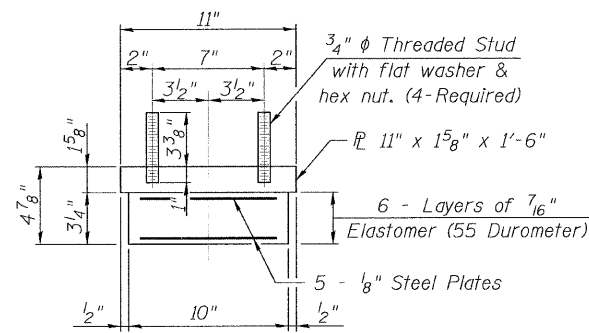
EXISTING BEARING REMOVAL DETAIL



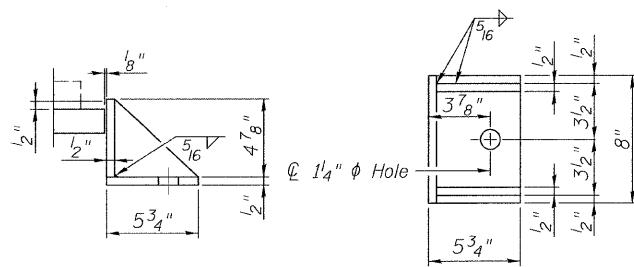
SECTION A-A

ELEVATION AT S. ABUTMENT AND PIER 2-SOUTH BRG.

TYPE I ELASTOMERIC EXP. BRG.

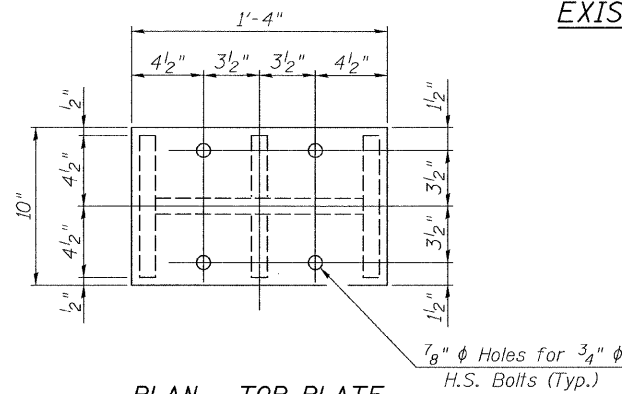


BEARING ASSEMBLY

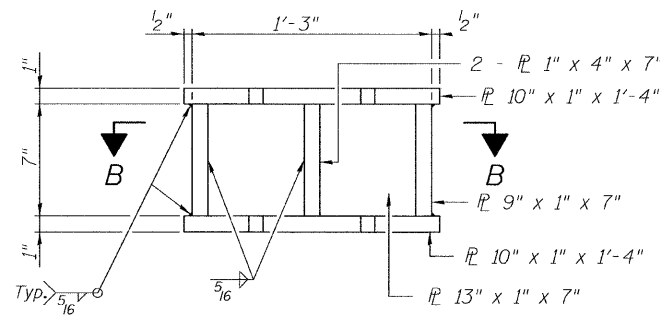


SIDE RETAINER

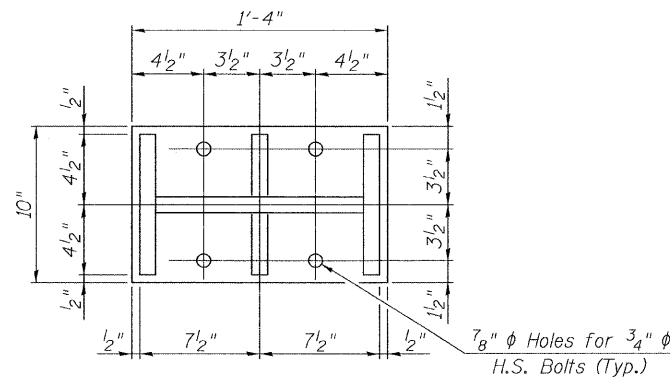
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.



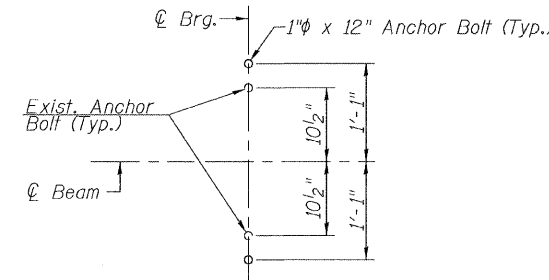
PLAN - TOP PLATE



ELEVATION STEEL EXTENSION



SECTION B-B



ANCHOR BOLT SETTING DETAIL

INTERIOR GIRDER REACTION TABLE		
R (DL)	(K)	46.9
R (LL)	(K)	45.3
R (IMP)	(K)	10.1
R (TOTAL)	(K)	102.3
Minimum Jack Capacity	(Tons)	56

BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	10
Anchor Bolts, 1"	Each	20
Jack and Remove Existing Bearings	Each	10
Furnishing and Erecting Structural Steel	Pound	1805

SHIM PLATE THICKNESS 'I'					
Location	BM 1	BM 2	BM 3	BM 4	BM 5
∅ Brg. S. Abut.	0"	0"	0"	0"	0"
Pier 2	0"	0"	3/8"	1/4"	0"

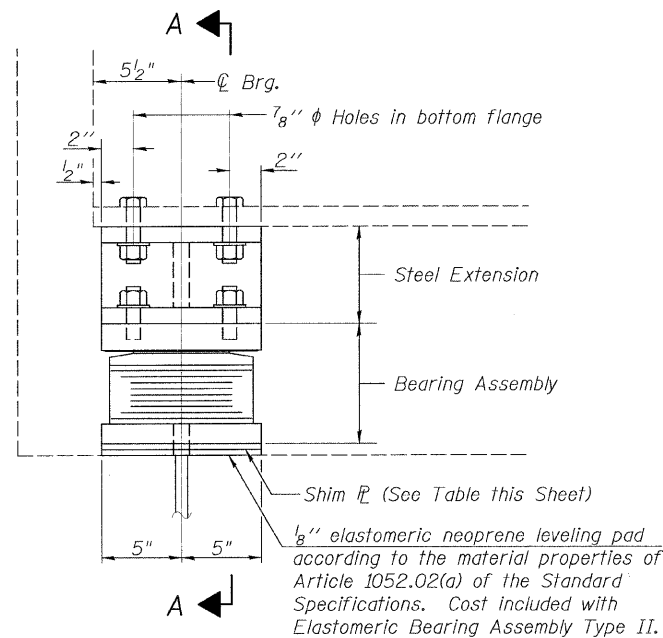
BEARING DETAILS  
F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
S.N. 054-3003



Allen Henderson & Associates, Inc.  
Civil and Structural Engineers Springfield, IL  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

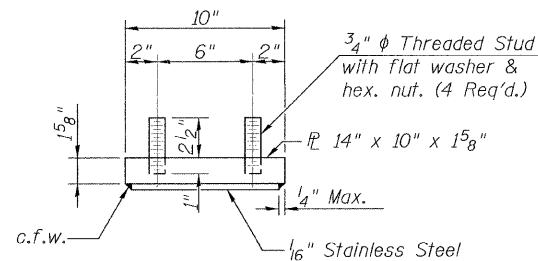
SHEET NO. 18  
20 SHEETS

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
559	09-00074-01-BR	LOGAN	22	20
CONTRACT NO. 93511				
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT				

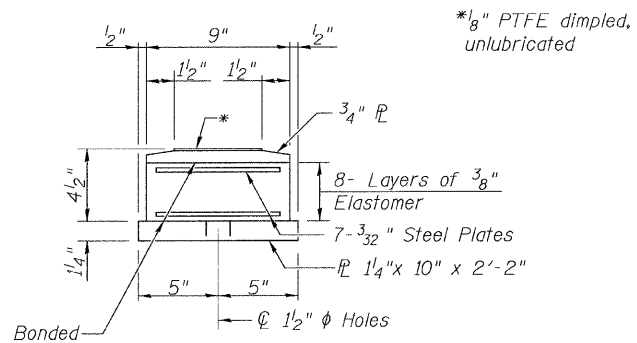


**ELEVATION AT N. ABUT.  
& NORTH SIDE OF PIER 2**

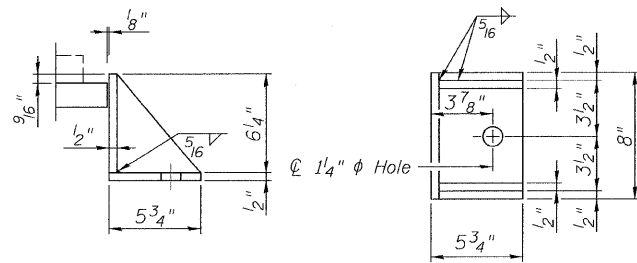
**TYPE II ELASTOMERIC EXP. BRG.**



**TOP BEARING ASSEMBLY**



**BOTTOM BEARING ASSEMBLY**

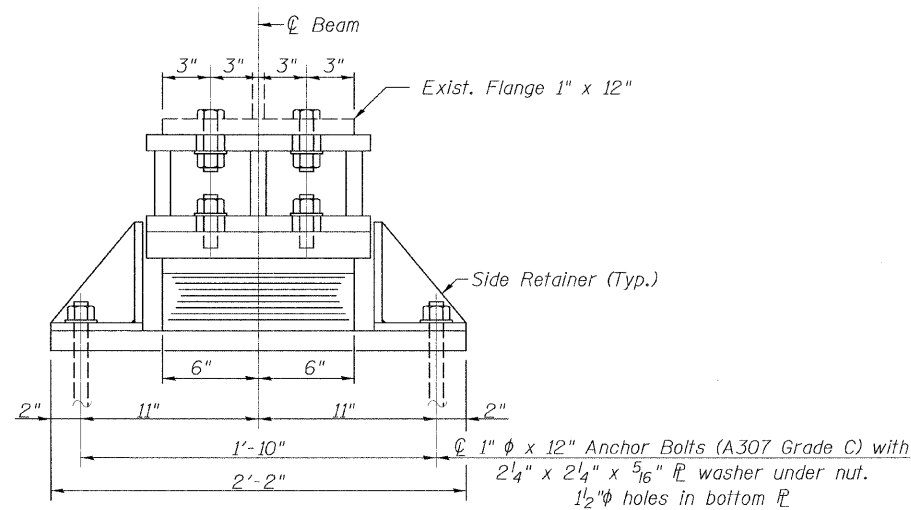


**SIDE RETAINER**

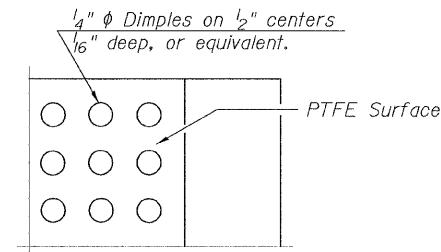
Equivalent rolled angle with stiffeners will be allowed in lieu of welded plates.

I-2E-2

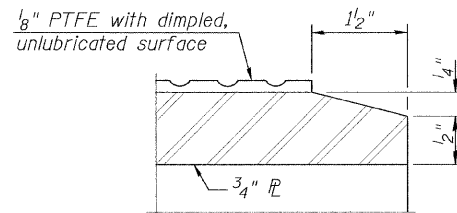
10-1-08



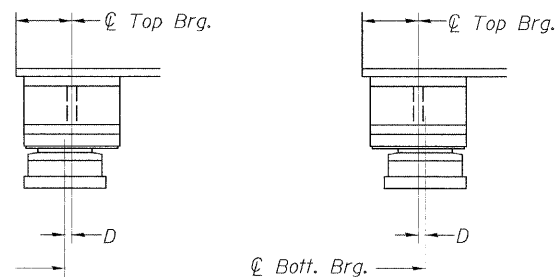
**SECTION A-A**



**PLAN-PTFE SURFACE**



**SECTION THRU PTFE**



BELOW 50°F.

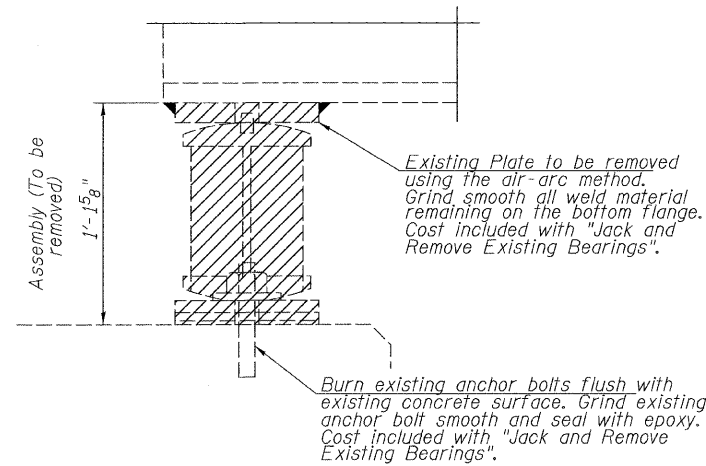
(Move bott. brg. away fixed brg.)

ABOVE 50°F.

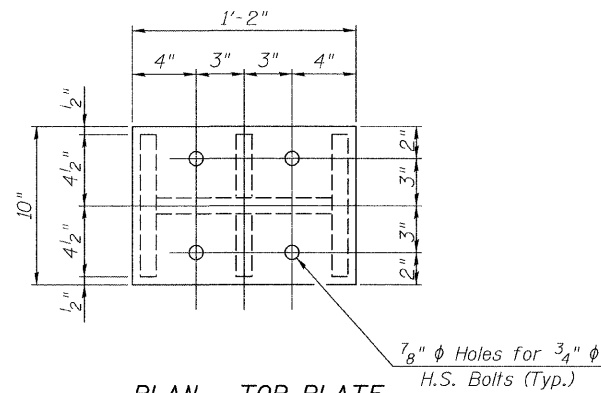
(Move bott. brg. toward fixed brg.)

**SETTING ANCHOR BOLTS AT EXP. BRG.**

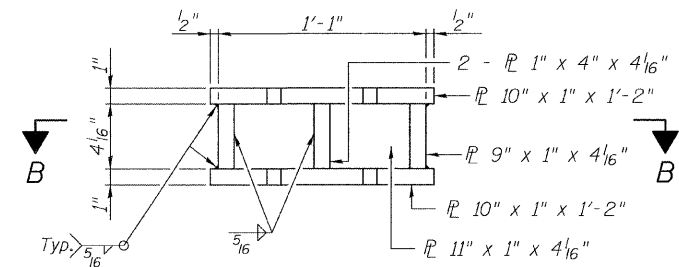
D = 1/8" per each 100' of expansion for every 15° temp. change from the normal temp. of 50°F.



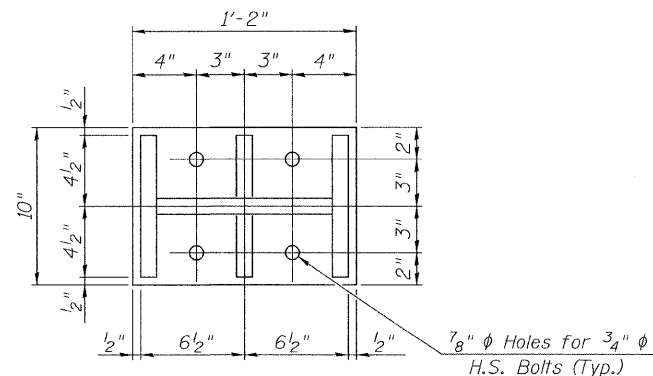
**EXISTING BEARING REMOVAL DETAIL**



**PLAN - TOP PLATE**



**ELEVATION STEEL EXTENSION**



**SECTION B-B**

**Notes:**

Anchor bolts shall be ASTM F1554 all-thread (or an Engineer-approved alternate material) of the grade(s) and diameter(s) specified. ASTM A307 Grade C anchor bolts may be used in lieu of ASTM F1554 Grade 36 (Fy=36ksi). The corresponding specified grade of AASHTO M314 anchor bolts may be used in lieu of ASTM F1554.

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

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

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

The 1/8" PTFE sheet shall be bonded directly to the top steel plate with a two-component, medium viscosity epoxy resin, conforming to the requirements of the Federal Specification MMM-A-134, Type I. The bond agent shall be applied on the full area of the contact surfaces.

Bonding of 1/8" PTFE sheet during vulcanizing process will be permitted provided the process and method of adjusting assembly height is approved by the Engineer.

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

New steel extensions, 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 height and shim thickness dimensions.

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

Existing bearings at the north side of pier 2 and north abutment shall be removed and replaced according to the plans. "Jack and Remove Existing Bearings". If web stiffeners are not present directly over the jack location, hardwood timbers shall be installed tightly between top and bottom flanges to prevent rotation. The bearings shall be in place and the jacks lowered before the new concrete deck is poured at the abutment and pier.

INTERIOR BEAM REACTION TABLE		
R (DL)	(K)	27.8
R (LL)	(K)	42.3
R (IMP)	(K)	11.2
R (TOTAL)	(K)	81.3
Minimum Jack Capacity	(Tons)	41

SHIM PLATE THICKNESS 't'					
Location	BM 1	BM 2	BM 3	BM 4	BM 5
Pier 2	0"	0"	3/8"	1/4"	0"
<math>\phi</math> Brg. N. Abut.	1/8"	1/8"	0"	0"	0"

**BILL OF MATERIAL**

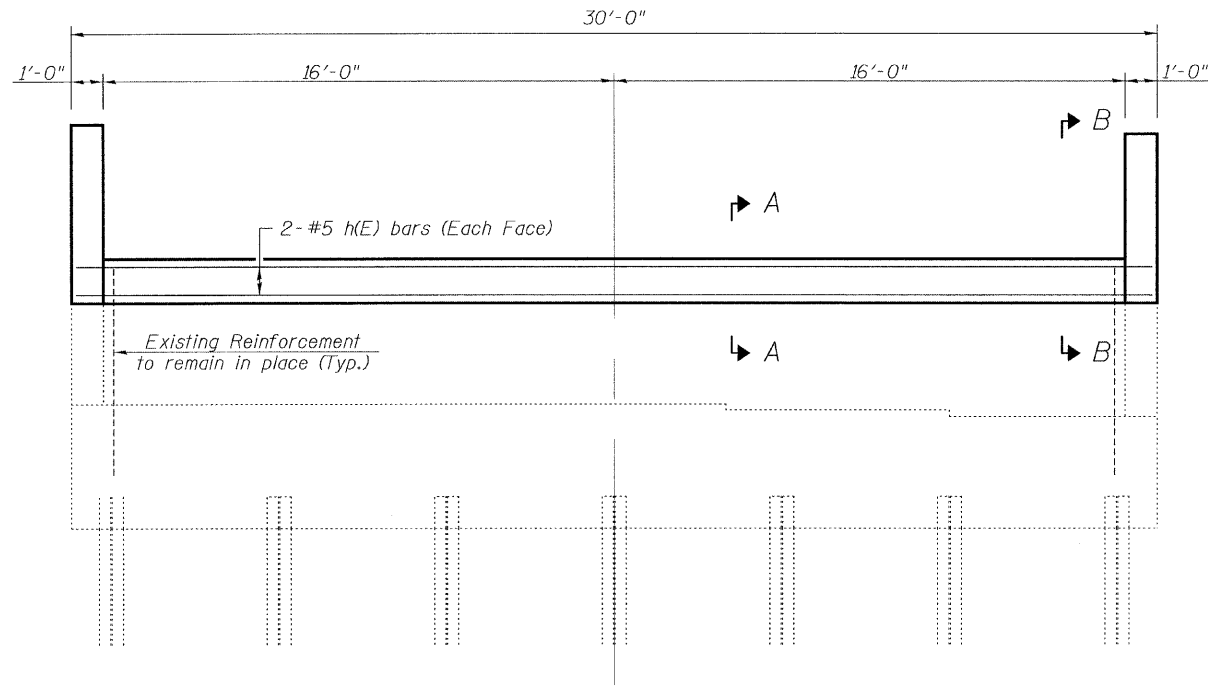
Item	Unit	Total
Elastomeric Bearing Assembly Type II	Each	10
Anchor Bolts, 1"	Each	20
Furnishing and Erecting Structural Steel	Pound	1385
Jack and Remove Existing Bearings	Each	10

**BEARING DETAILS**  
F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
S.N. 054-3003

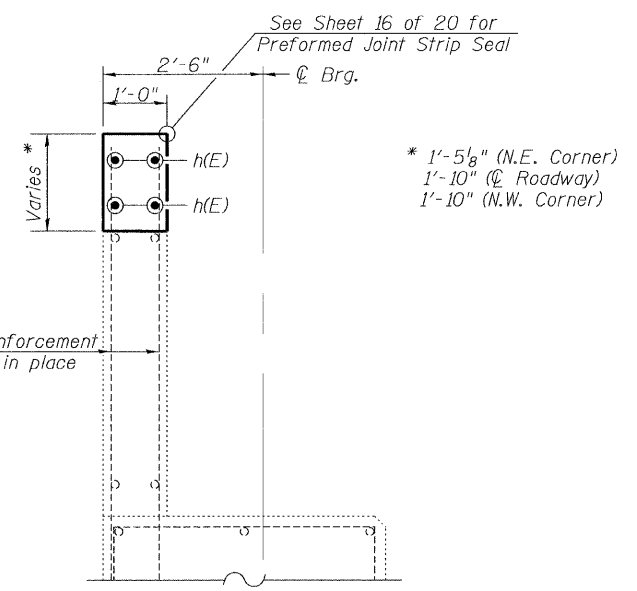


**Allen Henderson & Associates, Inc.**  
Civil and Structural Engineers Springfield, IL.  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

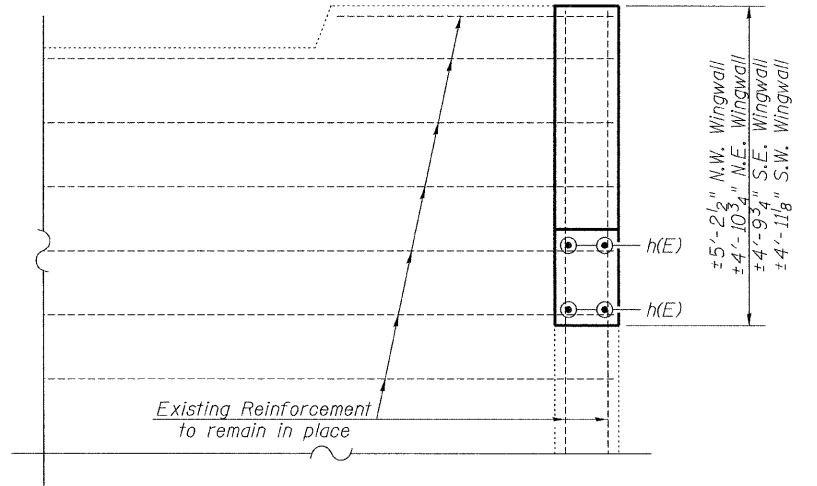
F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
559	09-00074-01-BR	LOGAN	22	21
SHEET NO. 19		CONTRACT NO. 93511		
20 SHEETS		FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT		



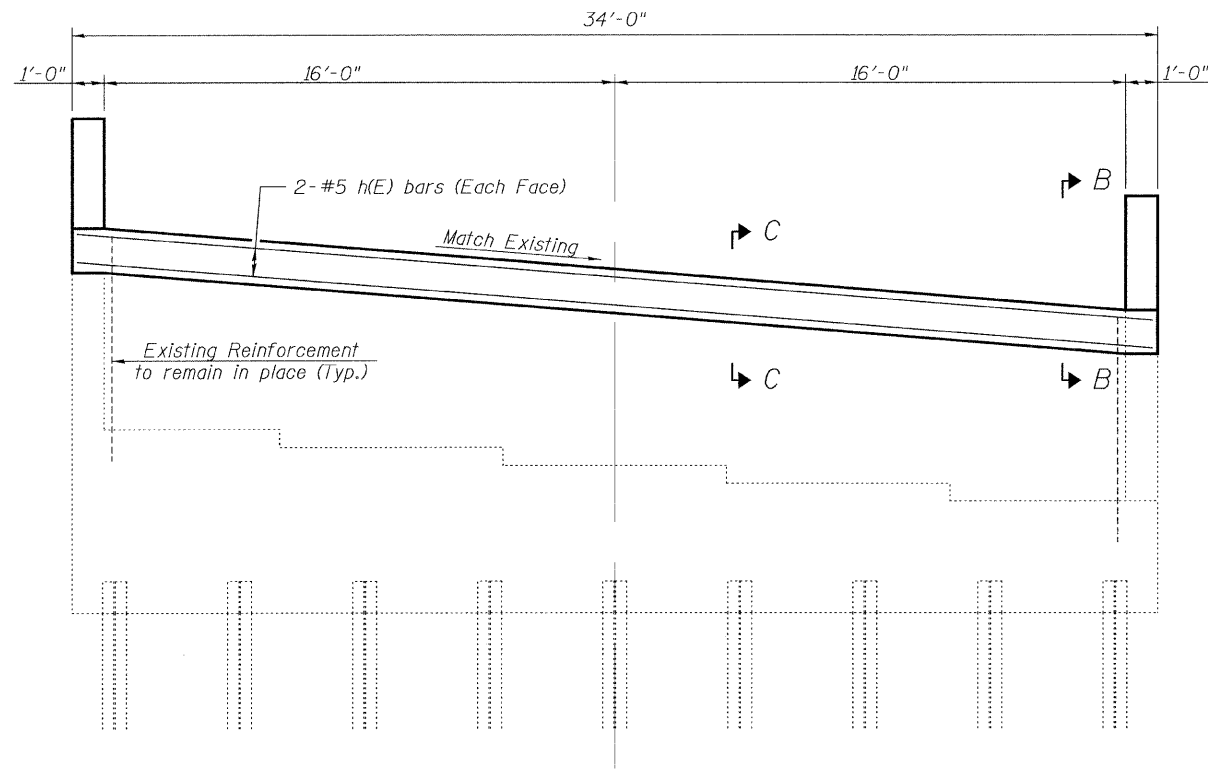
PROPOSED ELEVATION - NORTH ABUTMENT  
(Looking North)



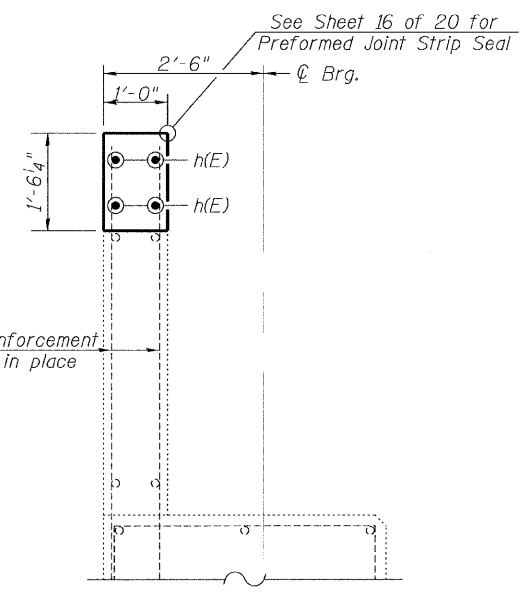
SECTION A-A



SECTION B-B



PROPOSED ELEVATION - SOUTH ABUTMENT  
(Looking South)




SECTION C-C

BILL OF MATERIAL - NORTH AND SOUTH ABUTMENTS

Bar	No.	Size	Length	Shape
h(E)	8	#5	33'-8"	—
Concrete Structures			Cu. Yds.	4.7
Reinforcement Bars, Epoxy Coated			Pounds	285
Relocating Name Plates			Each	1

See Sheets 6 and 8 of 20 for concrete removal.

ABUTMENT DETAILS  
F.A.S. ROUTE 559 OVER KICKAPOO CREEK  
S.N. 054-3003

 **Allen Henderson & Associates, Inc.**  
Civil and Structural Engineers Springfield, IL.  
62703 Phone: (217)544-8033 IL Design Firm  
No. 184-001907

SHEET NO. 20 20 SHEETS	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	559	09-00074-01-BR	LOGAN	22	22
					CONTRACT NO. 98511
FED. ROAD DIST. NO. _ ILLINOIS FED. AID PROJECT					