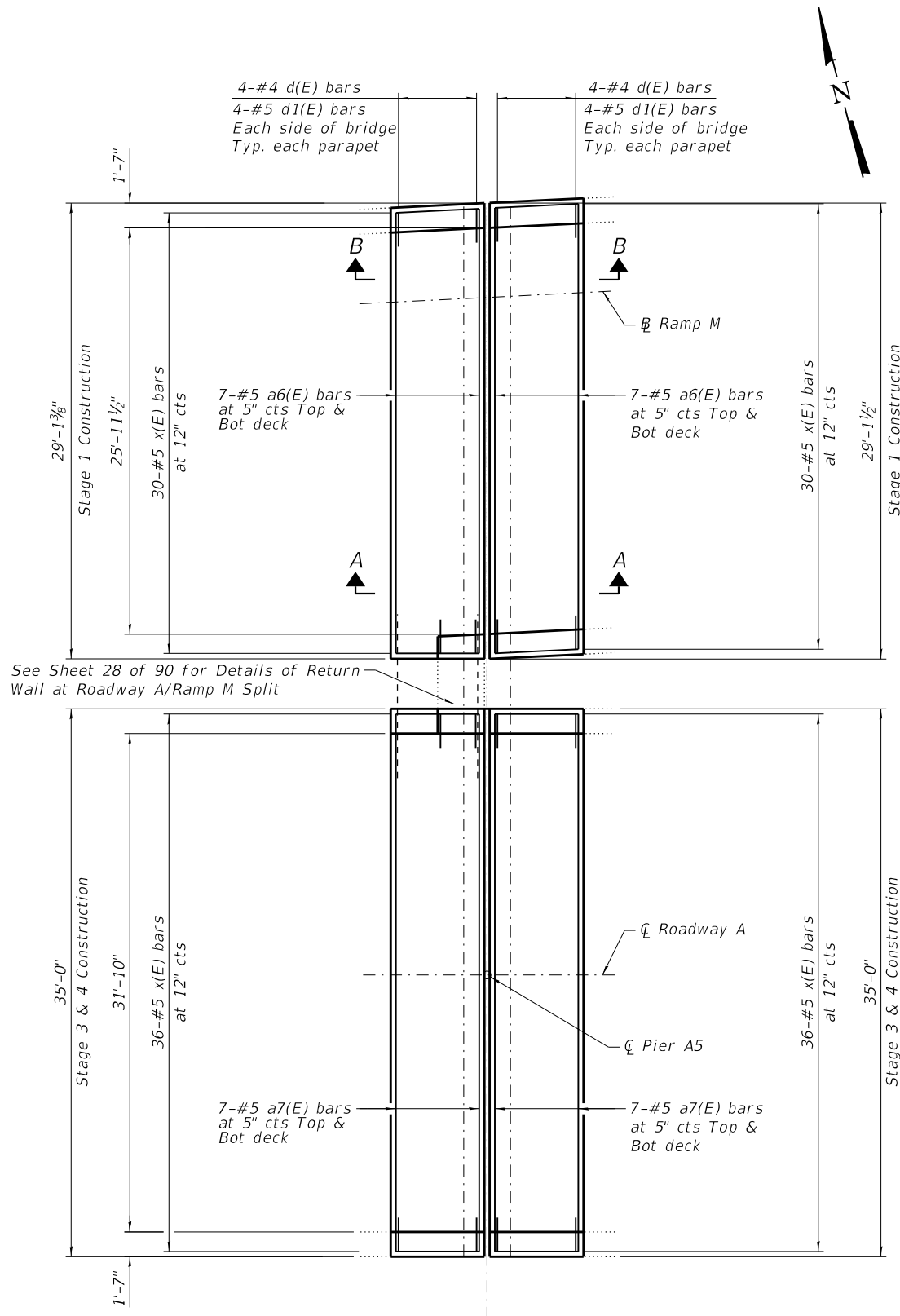
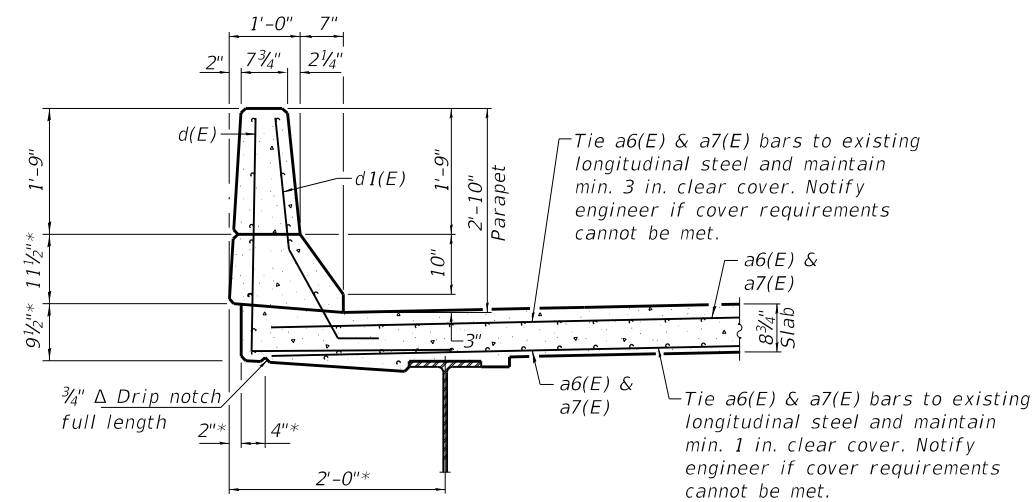
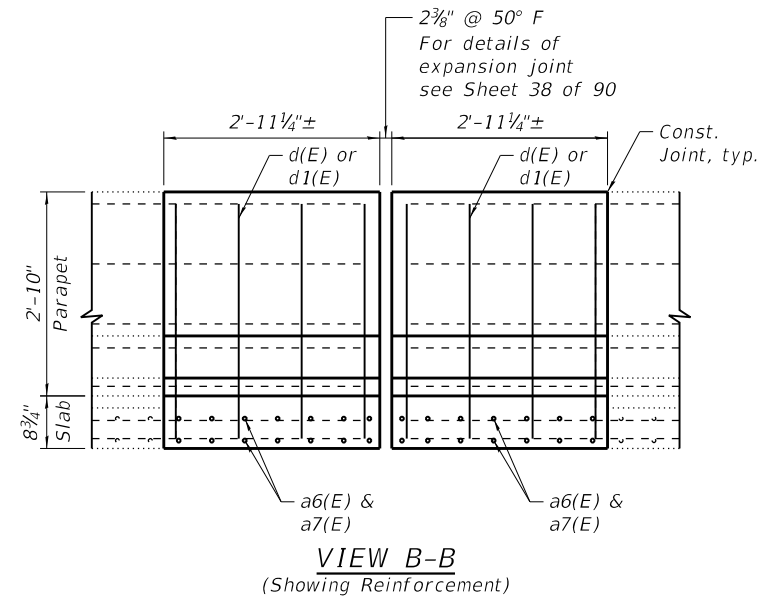
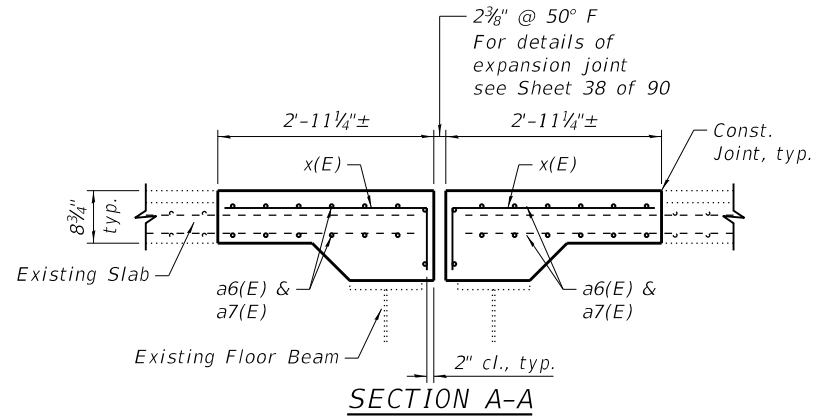


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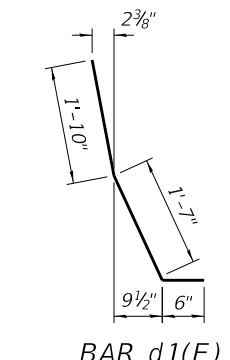
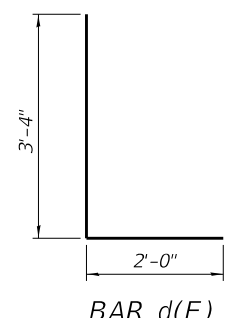
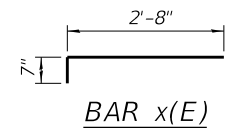


PIER A5 PLAN SHOWING REPLACEMENT



SECTION THRU PARAPET

* Adjust to match existing dimensions



BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a6(E)	28	#5	28'-10"	—	
a7(E)	28	#5	34'-8"	—	
d(E)	22	#4	5'-4"	L	
d1(E)	22	#5	3'-11"	L	
x(E)	132	#5	3'-3"	—	
Reinforcement Bars, Epoxy Coated				Lbs.	2470
Concrete Superstructure				Cu. Yds.	15.9

See Roadway Plans for extents of required traffic control.

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
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 330 Pingsten Road
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 847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - SGM	REVISED -
PLOT SCALE = 1/8" = 1'-0"	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

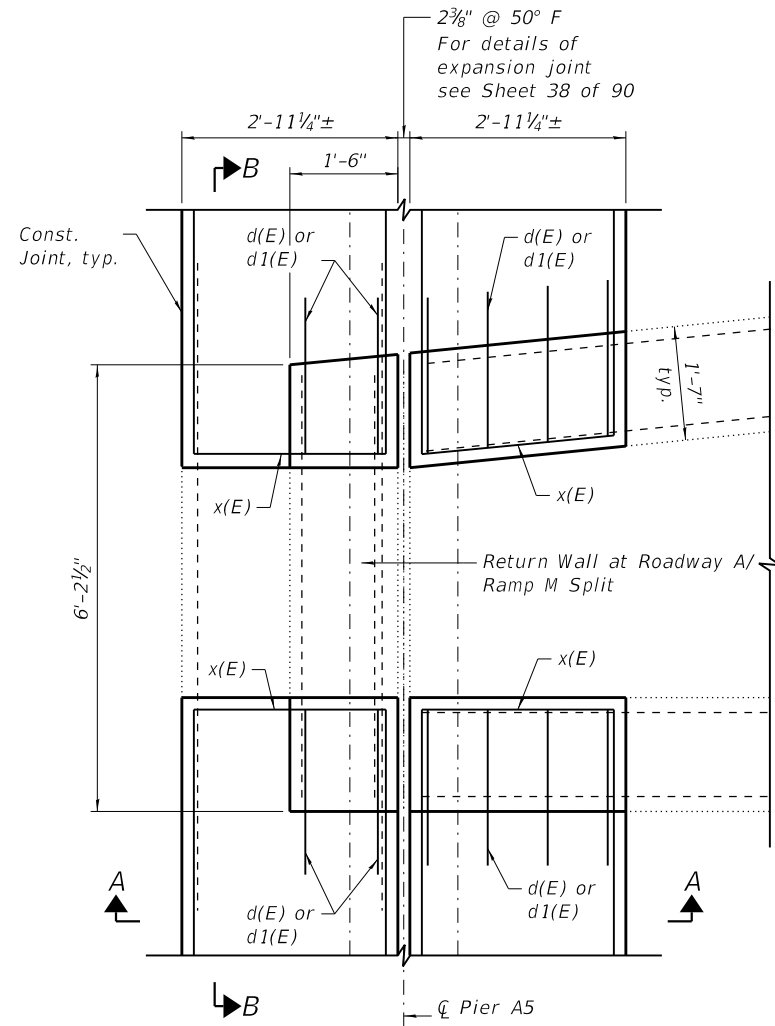
EXPANSION JOINT REPLACEMENT DETAILS (PIER A5)
S.N. 082-0141

SHEET NO. 27 OF 90 SHEETS

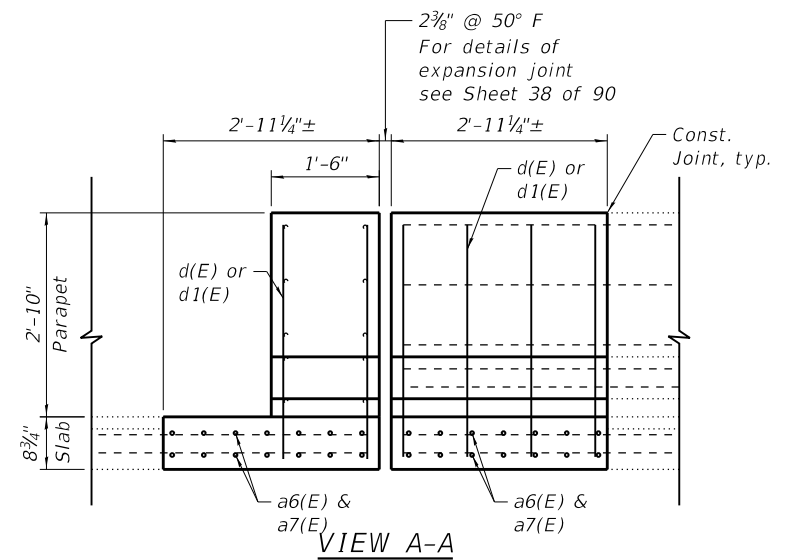
F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	101
CONTRACT NO. 76945				

ILLINOIS FED. AID PROJECT

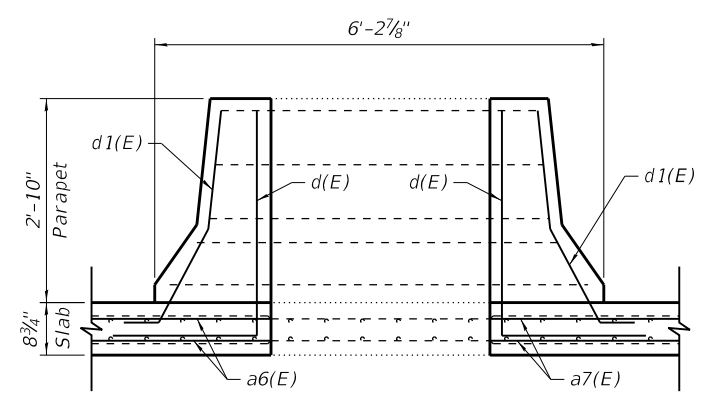
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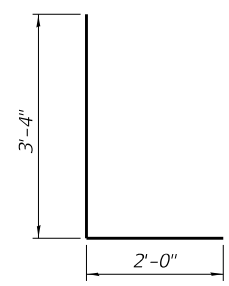
PIER A5 RETURN WALL PLAN VIEW



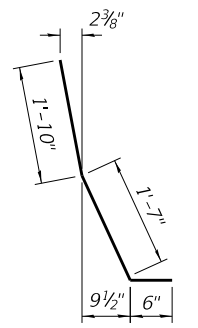
VIEW A-A



VIEW B-B



BAR d(E)



BAR d1(E)

Notes:
See Sheet 27 of 90 for additional details and quantities.

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847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - SGM	REVISED -
PLOT SCALE = 0.1667' / 1" =	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

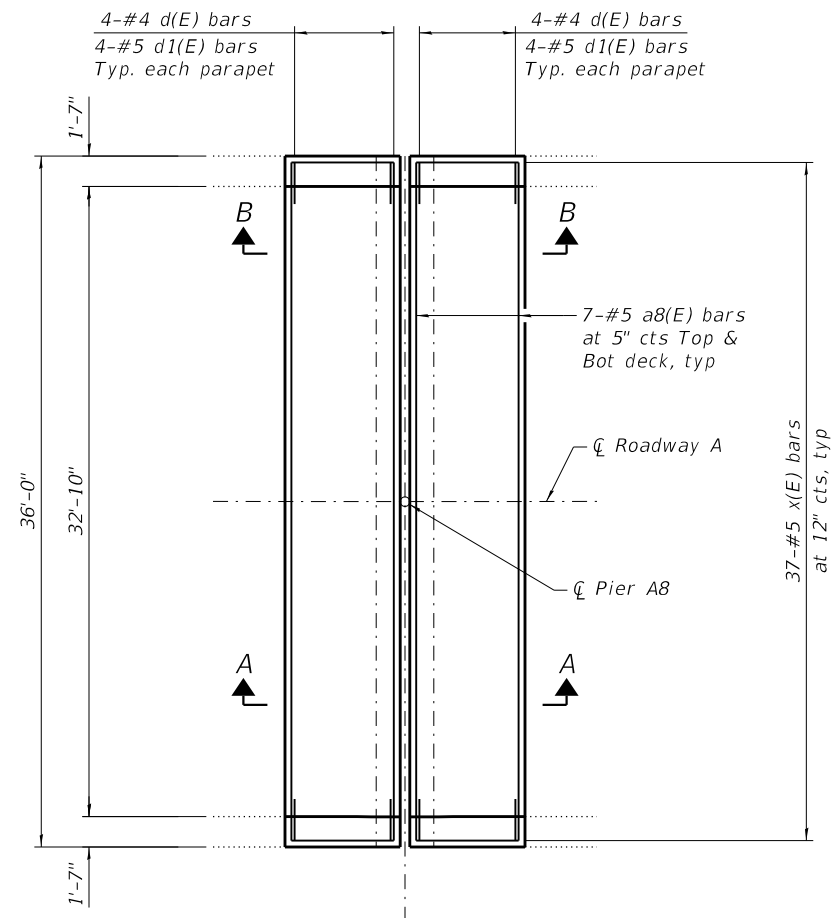
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REPLACEMENT DETAILS (PIER A5)
S.N. 082-0141

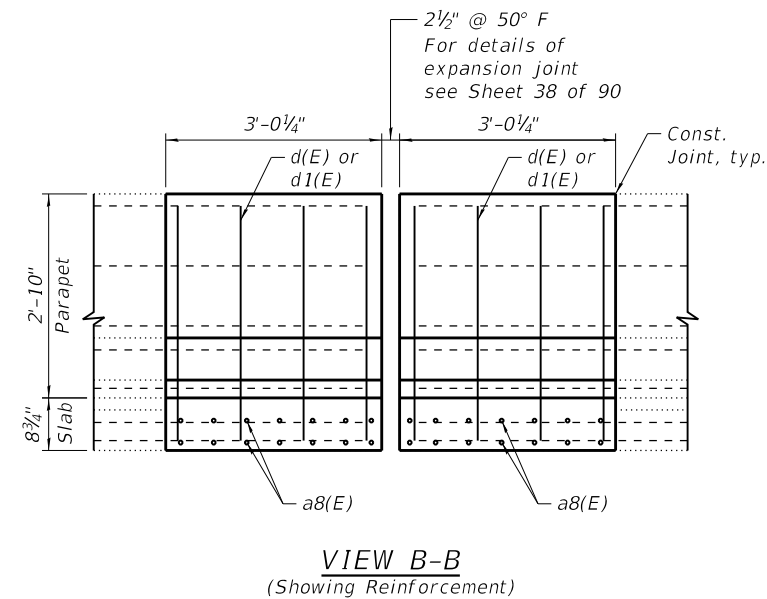
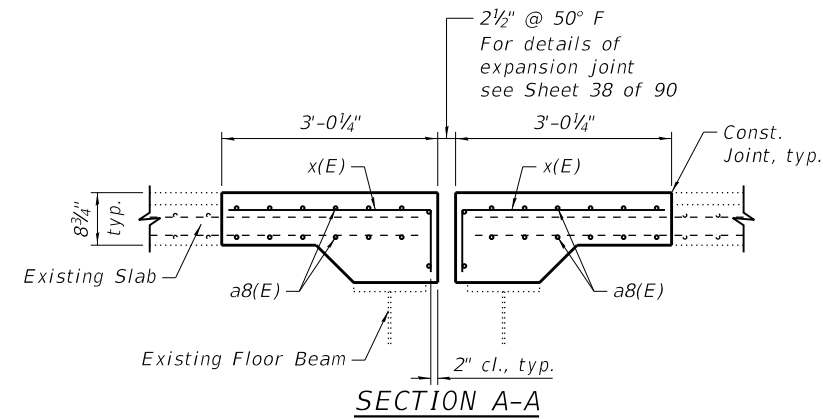
SHEET NO. 28 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	102
CONTRACT NO. 76945			ILLINOIS FED. AID PROJECT	

PRINT DATE: 9/28/2018 11:18:23 AM Z:\5052 Poplar Street Complex\DCN\Bridges\Final\Plotsheets\Roadway_A\030_Roadway_A_Pier_A8_Exp_Joint_Details.dgn

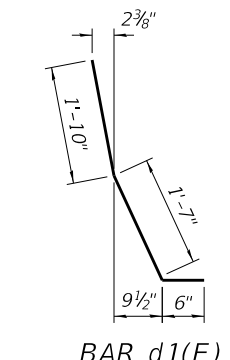
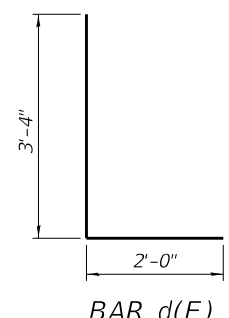
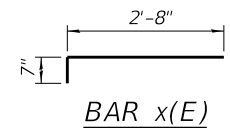


PIER A8 PLAN SHOWING REPLACEMENT



SECTION THRU PARAPET

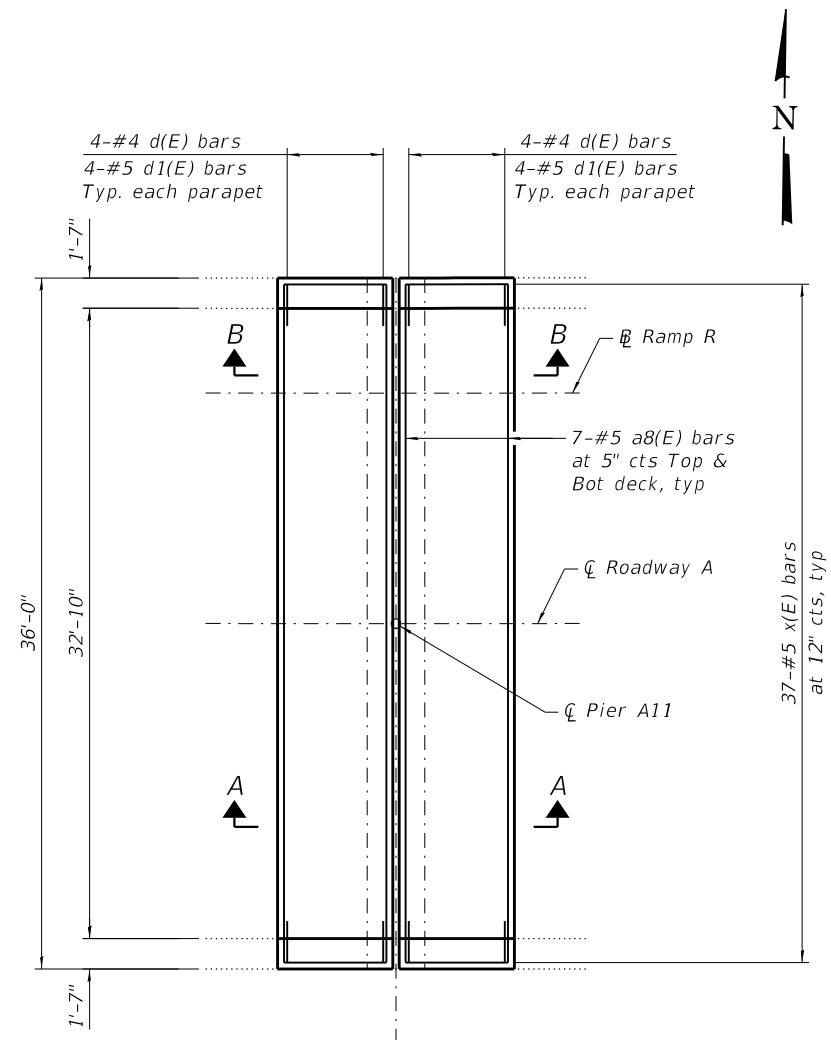
* Adjust to match existing dimensions



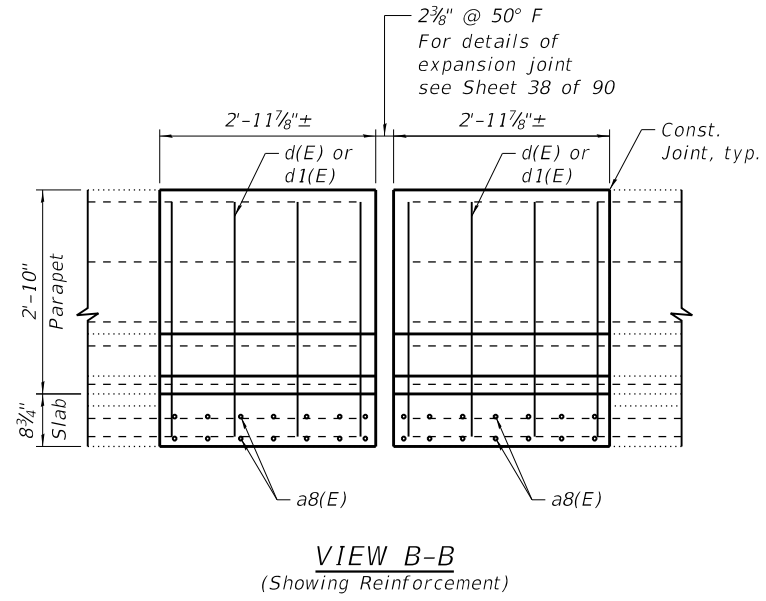
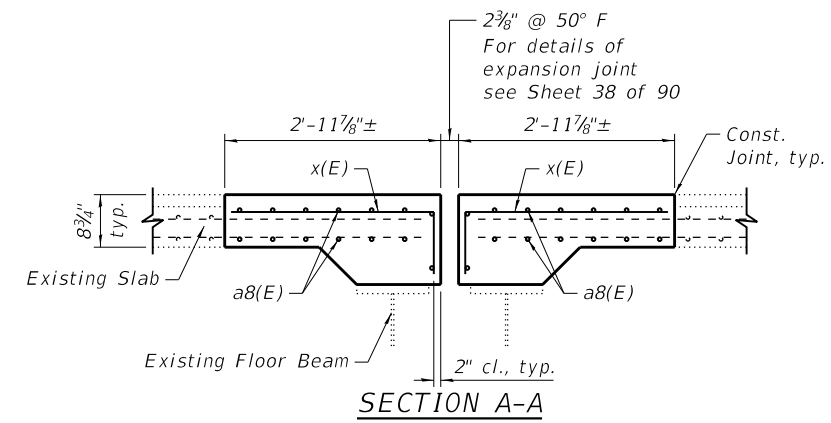
BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a8(E)	28	#5	35'-8"	—	
d(E)	16	#4	5'-4"	L	
d1(E)	16	#5	3'-11"	L	
x(E)	74	#5	3'-3"	—	
Reinforcement Bars, Epoxy Coated				Lbs.	1410
Concrete Superstructure				Cu. Yds.	9.1

PRINT DATE: 9/28/2018 11:18:24 AM Z:\5052 Poplar Street Complex\DCN\Bridges\Final\Plotsheets\Roadway A\03_Rdwy_A_Pier_All_Exp_Joint_Details.dgn

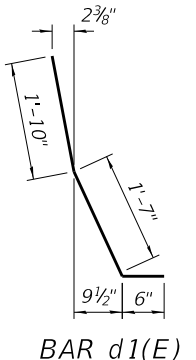
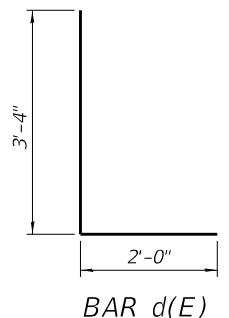
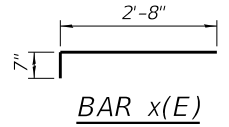


PIER A11 PLAN SHOWING REPLACEMENT



SECTION THRU PARAPET

* Adjust to match existing dimensions



BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a8(E)	28	#5	35'-8"	—	
d(E)	16	#4	5'-4"	L	
d1(E)	16	#5	3'-11"	└	
x(E)	74	#5	3'-3"	—	
Reinforcement Bars, Epoxy Coated				Lbs.	1410
Concrete Superstructure				Cu. Yds.	9.1

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 330 Pingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - SGM	REVISED -
PLOT SCALE = 0.1667' / 1"	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

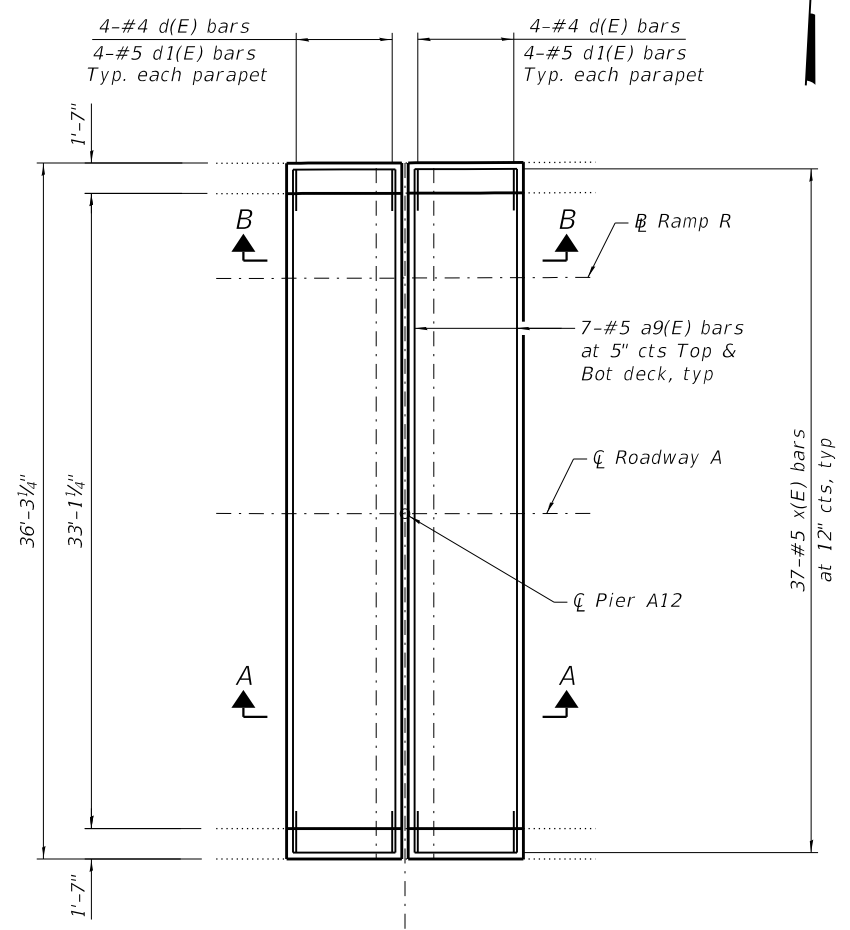
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REPLACEMENT DETAILS (PIER A11)
S.N. 082-0141

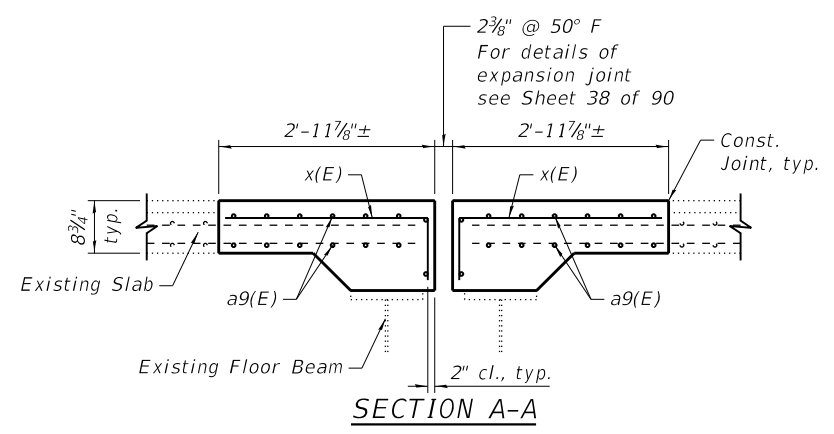
SHEET NO. 30 OF 90 SHEETS

F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HYB-2R-(2,1)-1-2	ST. CLAIR	238	104
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

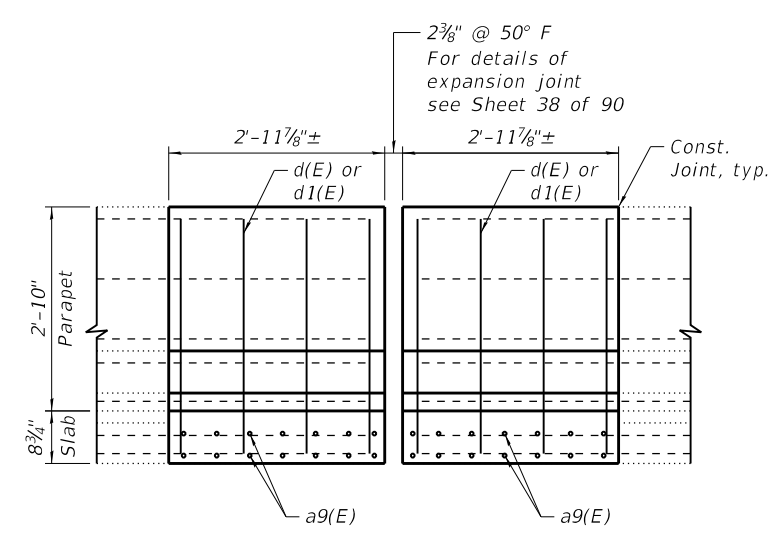
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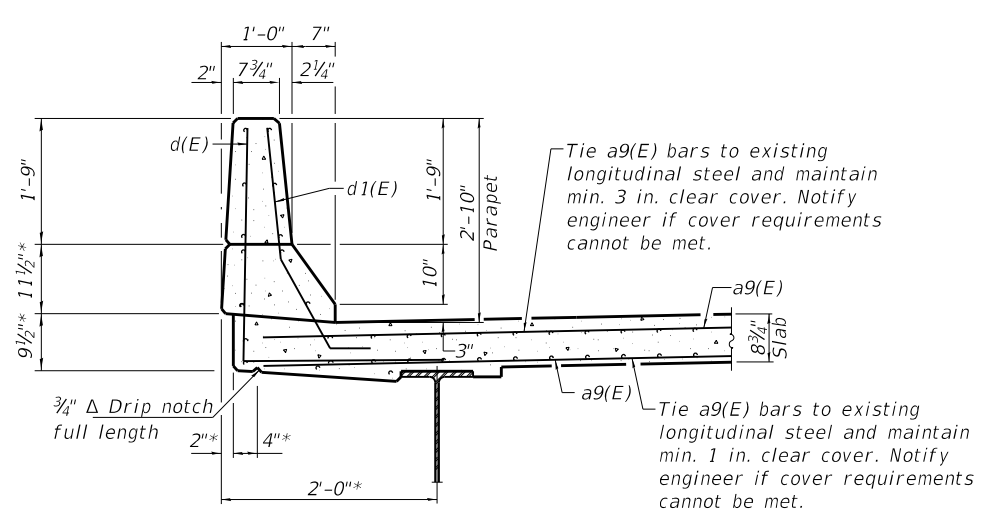
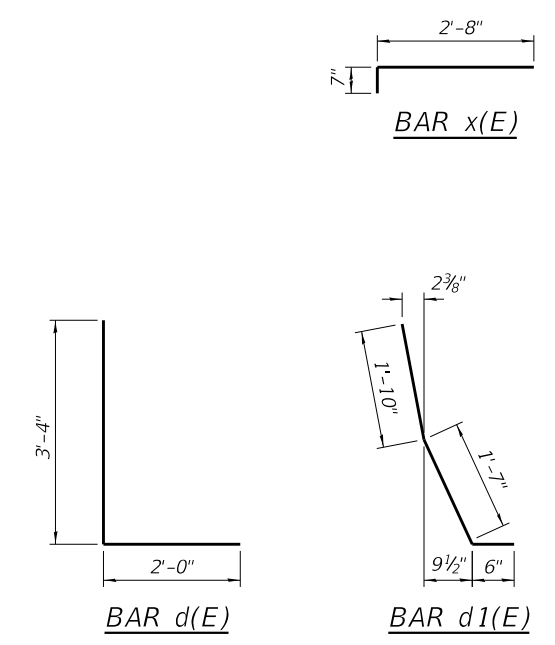
PIER A12 PLAN SHOWING REPLACEMENT



SECTION A-A



VIEW B-B (Showing Reinforcement)



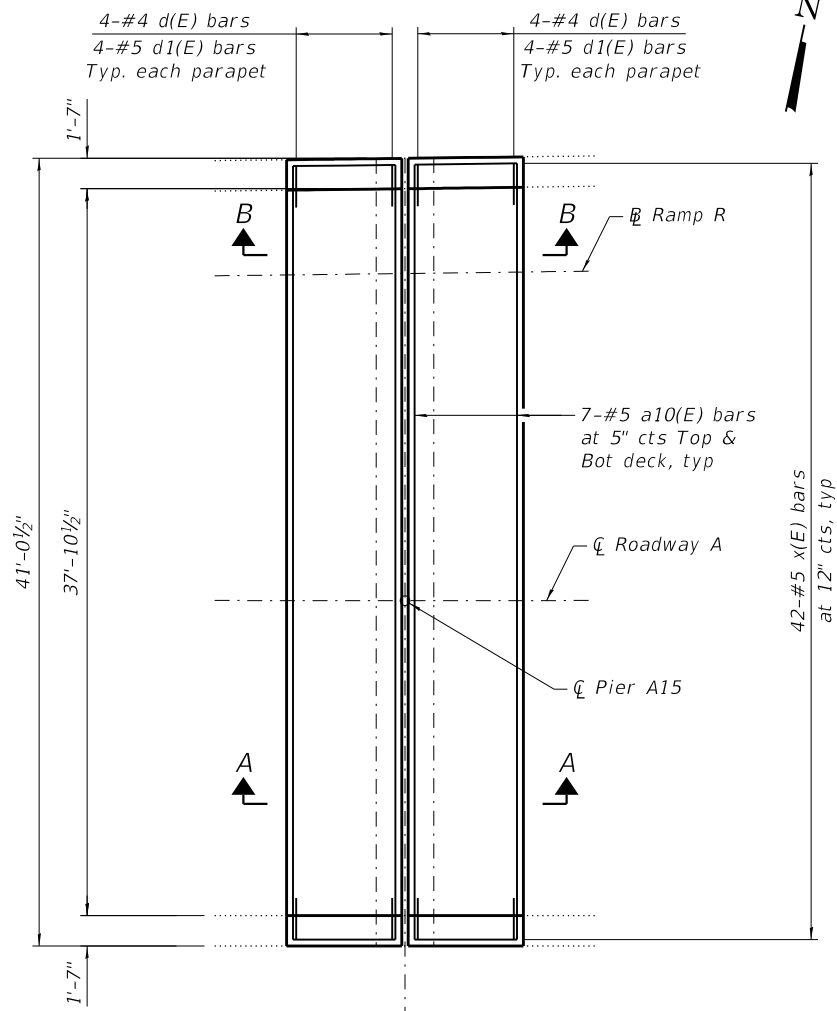
SECTION THRU PARAPET

* Adjust to match existing dimensions

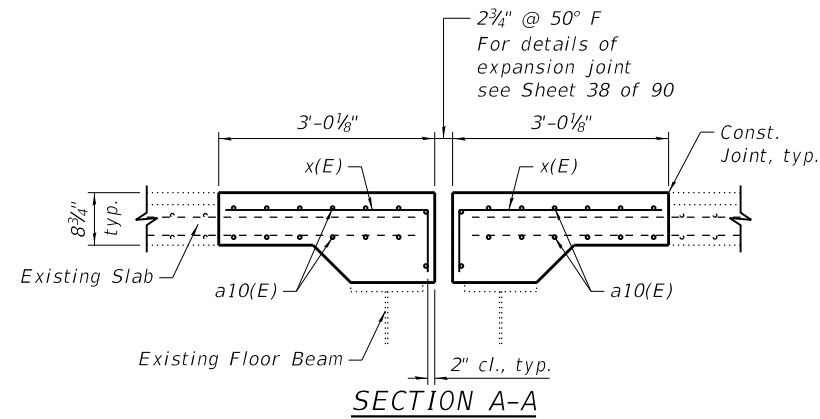
BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a9(E)	28	#5	35'-11"	—	
d(E)	16	#4	5'-4"	L	
d1(E)	16	#5	3'-11"	⌋	
x(E)	74	#5	3'-3"	—	
Reinforcement Bars, Epoxy Coated				Lbs.	1420
Concrete Superstructure				Cu. Yds.	9.2

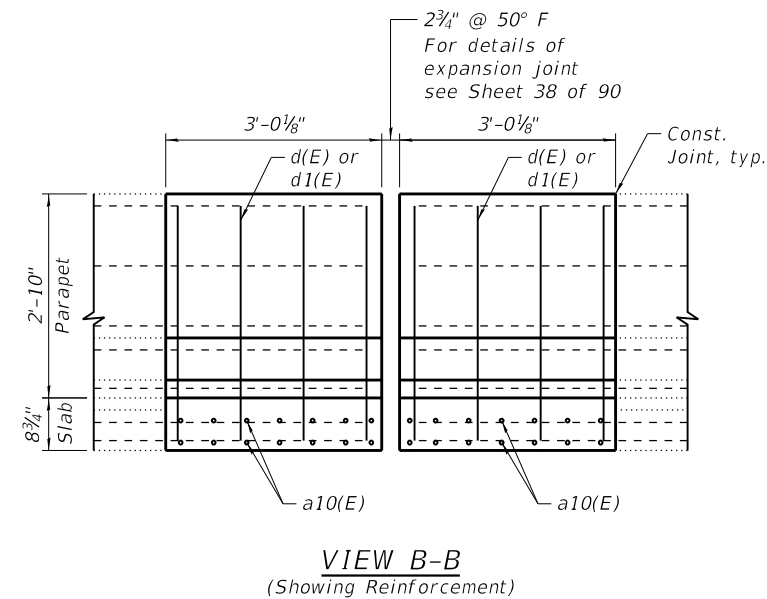
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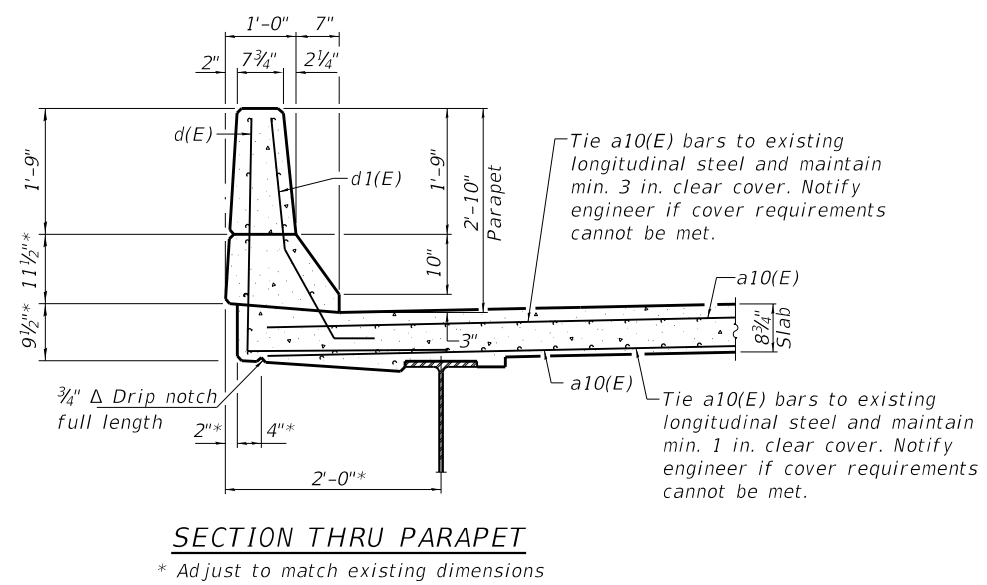
PIER A15 PLAN SHOWING REPLACEMENT



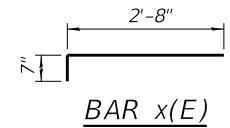
SECTION A-A



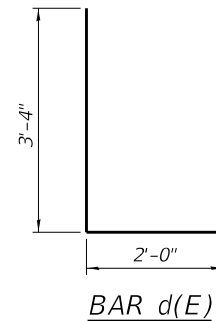
VIEW B-B
(Showing Reinforcement)



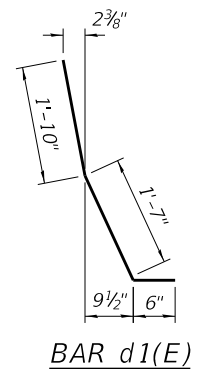
SECTION THRU PARAPET
* Adjust to match existing dimensions



BAR x(E)



BAR d(E)



BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a10(E)	28	#5	40'-8"	—	
d(E)	16	#4	5'-4"	L	
d1(E)	16	#5	3'-11"	└	
x(E)	84	#5	3'-3"	—	
Reinforcement Bars, Epoxy Coated				Lbs.	1600
Concrete Superstructure				Cu. Yds.	10.2

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USER NAME = acb	DESIGNED - SGM	REVISED -
PLOT SCALE = 0.1667' / 1"	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

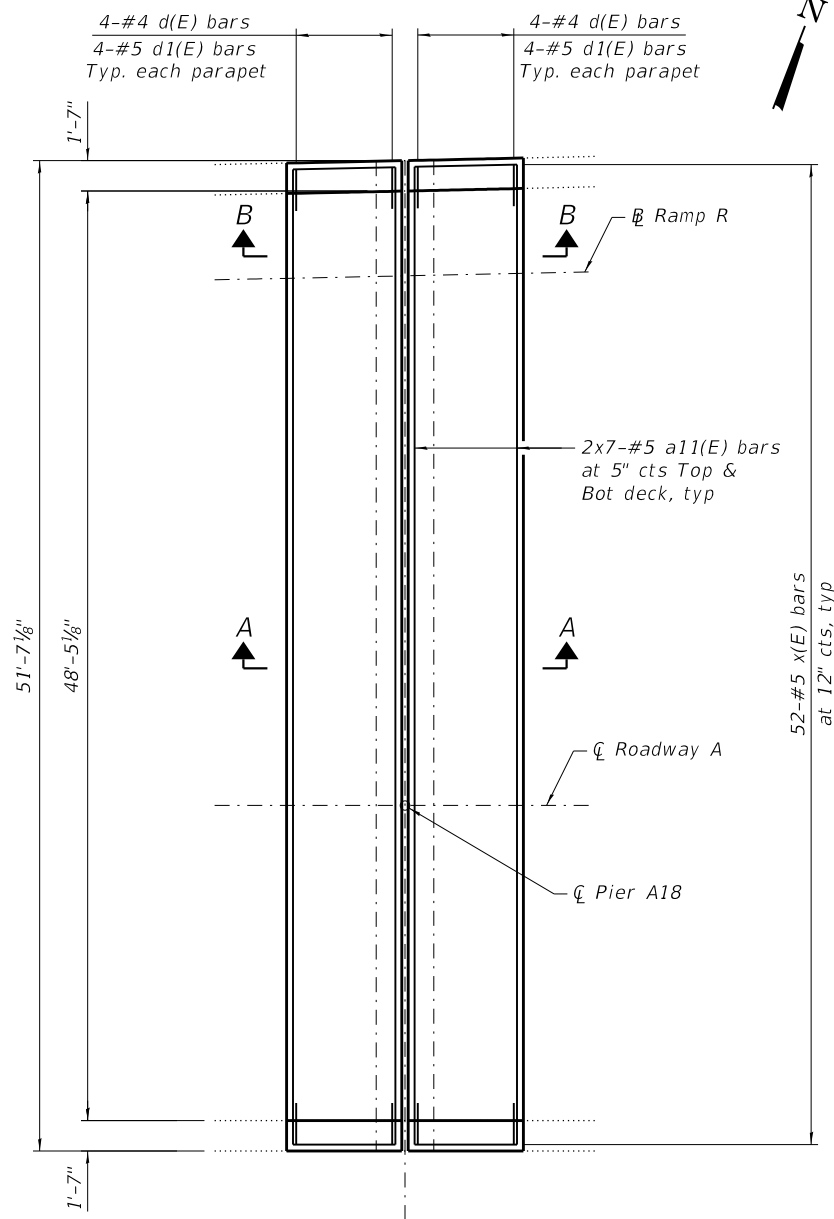
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REPLACEMENT DETAILS (PIER A15)
S.N. 082-0141

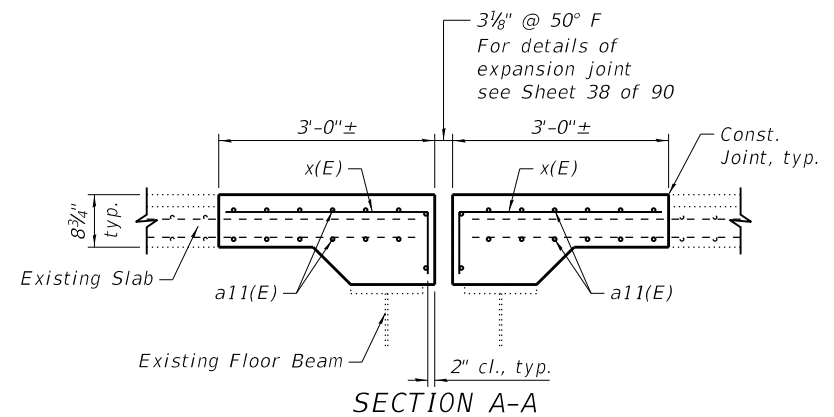
SHEET NO. 32 OF 90 SHEETS

F.A.I. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HYB-2R-(2,1)-1-2	ST. CLAIR	238	106
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

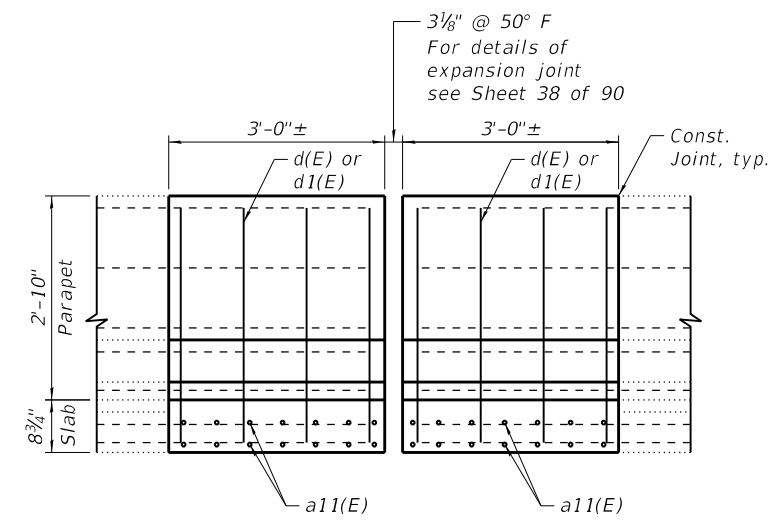
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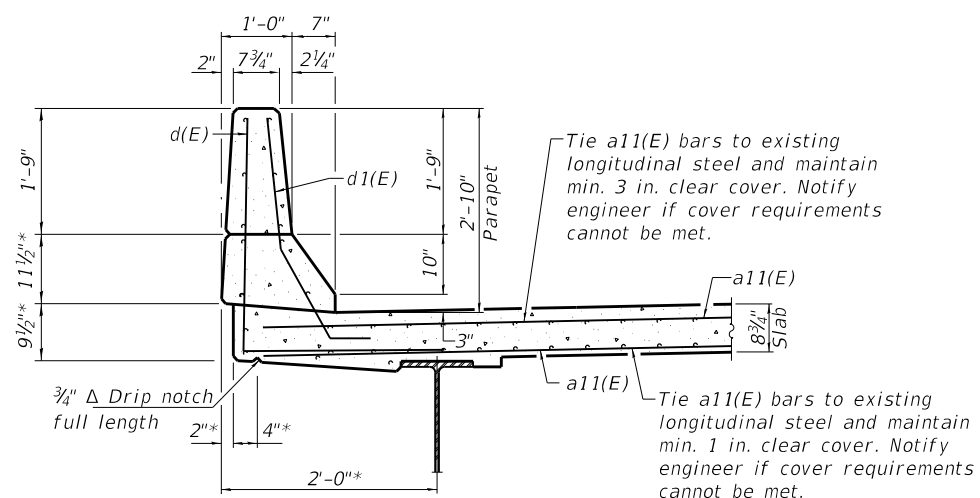
PIER A18 PLAN SHOWING REPLACEMENT



SECTION A-A

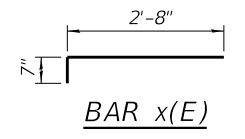


VIEW B-B (Showing Reinforcement)

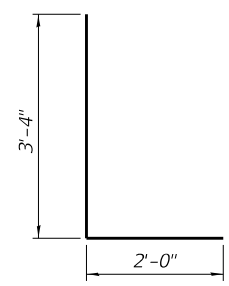


SECTION THRU PARAPET

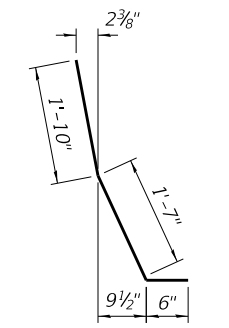
* Adjust to match existing dimensions



BAR x(E)



BAR d(E)



BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a11(E)	56	#5	27'-5"	—	
d(E)	16	#4	5'-4"	L	
d1(E)	16	#5	3'-11"	L	
x(E)	104	#5	3'-3"	—	
Reinforcement Bars, Epoxy Coated				Lbs.	2080
Concrete Superstructure				Cu. Yds.	12.6

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USER NAME = acb	DESIGNED - SGM	REVISED -
CHECKED - RW	REVISIONS -	
PLOT SCALE = 0.1667' / 1"	DRAWN - ACB	REVISED -
PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

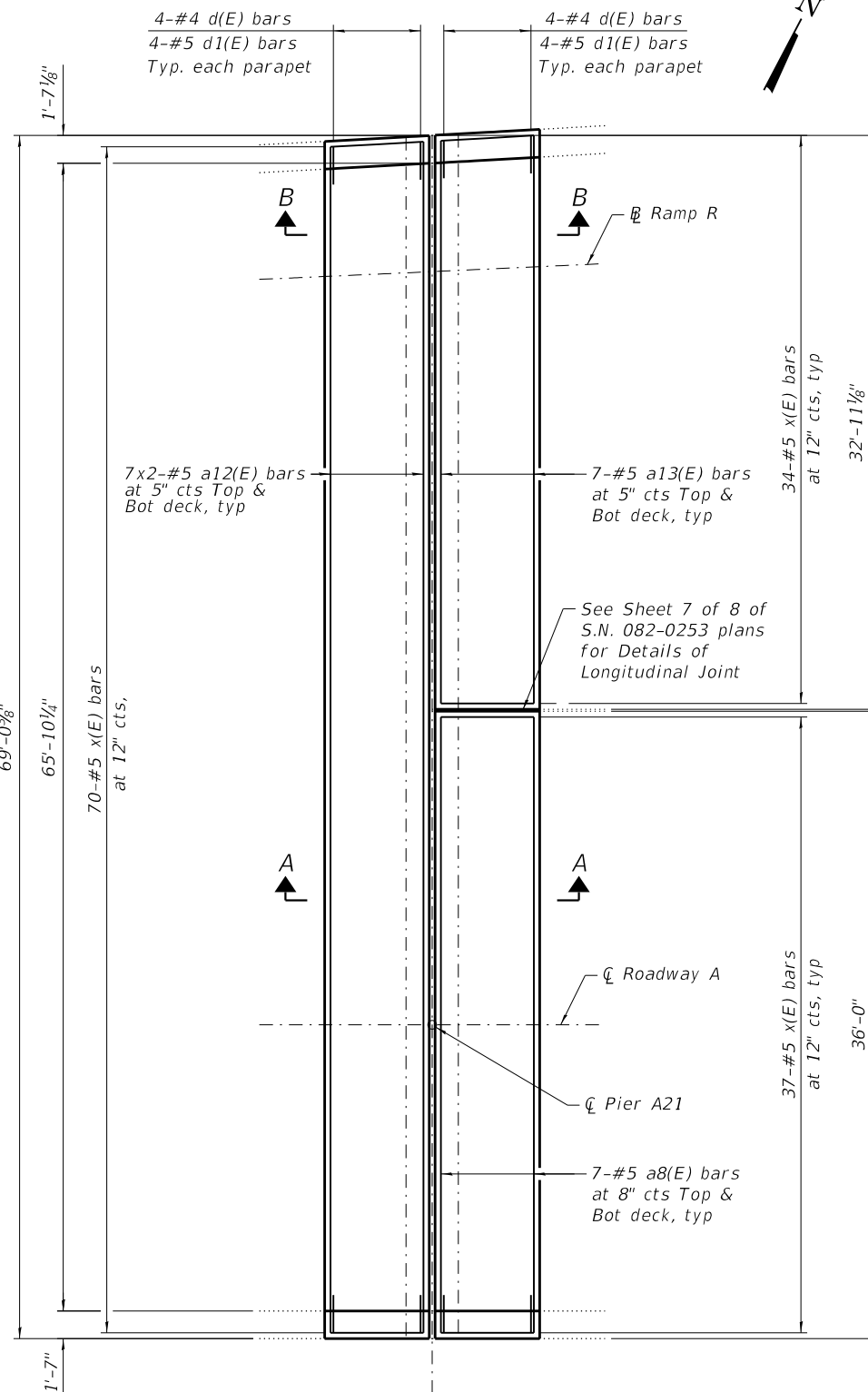
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REPLACEMENT DETAILS (PIER A18)
S.N. 082-0141

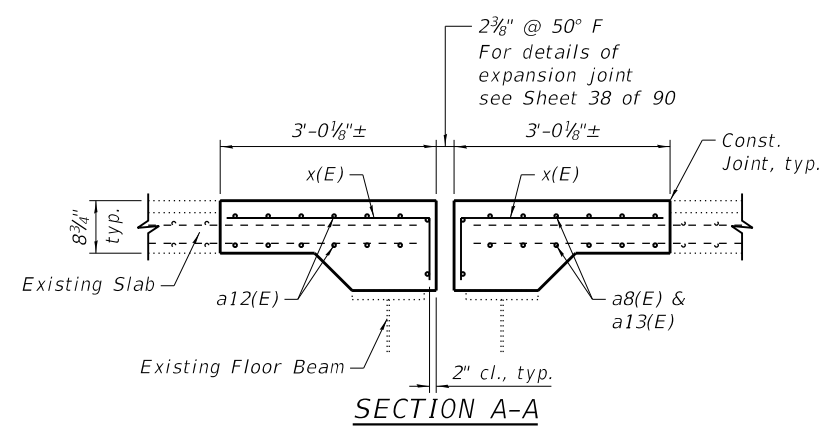
SHEET NO. 33 OF 90 SHEETS

F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	107
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

PRINT DATE: 9/28/2018 11:18:27 AM Z:\5052 Poplar Street Complex\DCN\Bridges\Final\Plotsheets\Roadway_A035_Rdwy_A_Pier_A21_Exp_Joint_Details.dgn

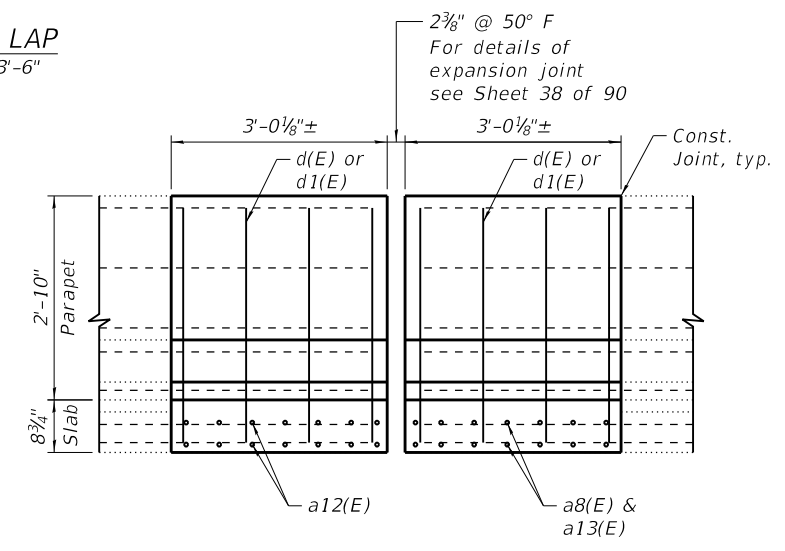


PIER A21 PLAN SHOWING REPLACEMENT

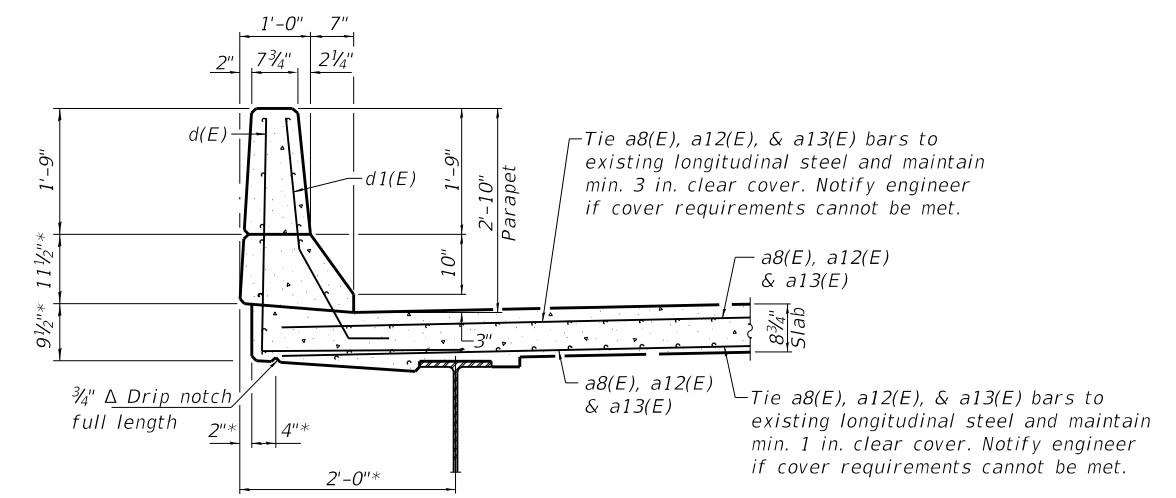


SECTION A-A

MIN BAR LAP
#5 bar = 3'-6"

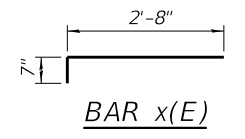


VIEW B-B
(Showing Reinforcement)

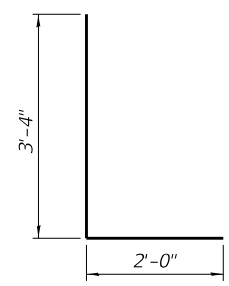


SECTION THRU PARAPET

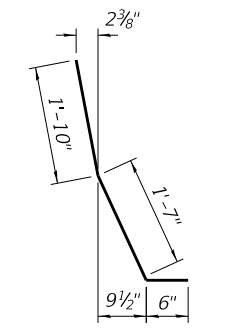
* Adjust to match existing dimensions



BAR x(E)



BAR d(E)



BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a8(E)	14	#5	35'-8"	—	
a12(E)	28	#5	35'-11"	—	
a13(E)	14	#5	32'-7"	—	
d(E)	32	#4	5'-4"	L	
d1(E)	32	#5	3'-11"	L	
x(E)	141	#5	3'-3"	—	
Reinforcement Bars, Epoxy Coated				Lbs.	2770
Concrete Superstructure				Cu. Yds.	16.4

Bars indicated thus 1 x 2-#8 etc. indicates 1 line of bars with 2 lengths per line.

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USER NAME = acb	DESIGNED - SGM	REVISED -
PLOT SCALE = 0.1667' / 1"	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

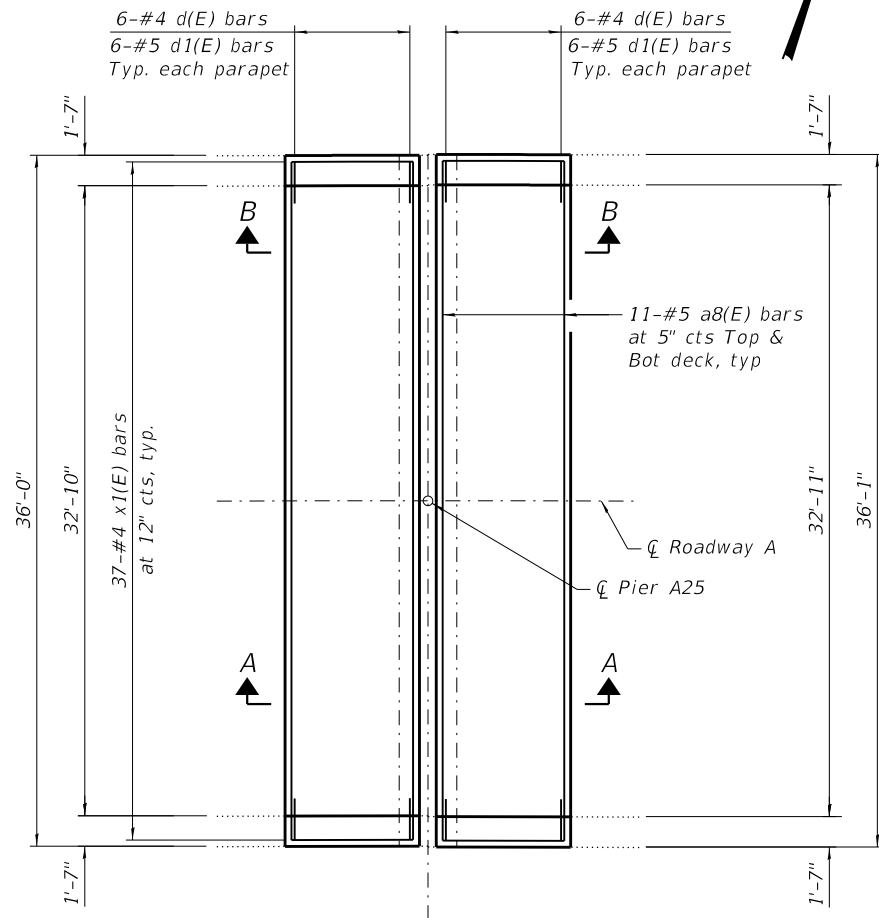
EXPANSION JOINT REPLACEMENT DETAILS (PIER A21)
S.N. 082-0141

SHEET NO. 34 OF 90 SHEETS

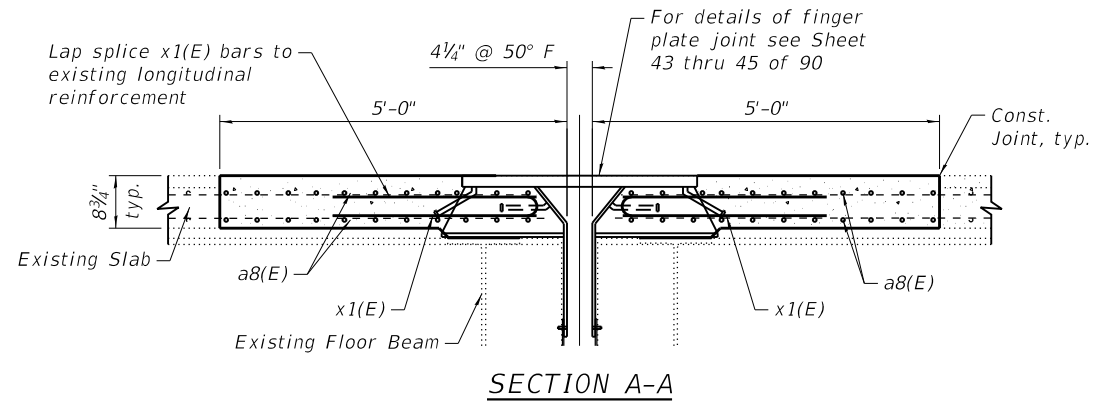
F.A.I. R.T.E.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	108
CONTRACT NO. 76945				

ILLINOIS FED. AID PROJECT

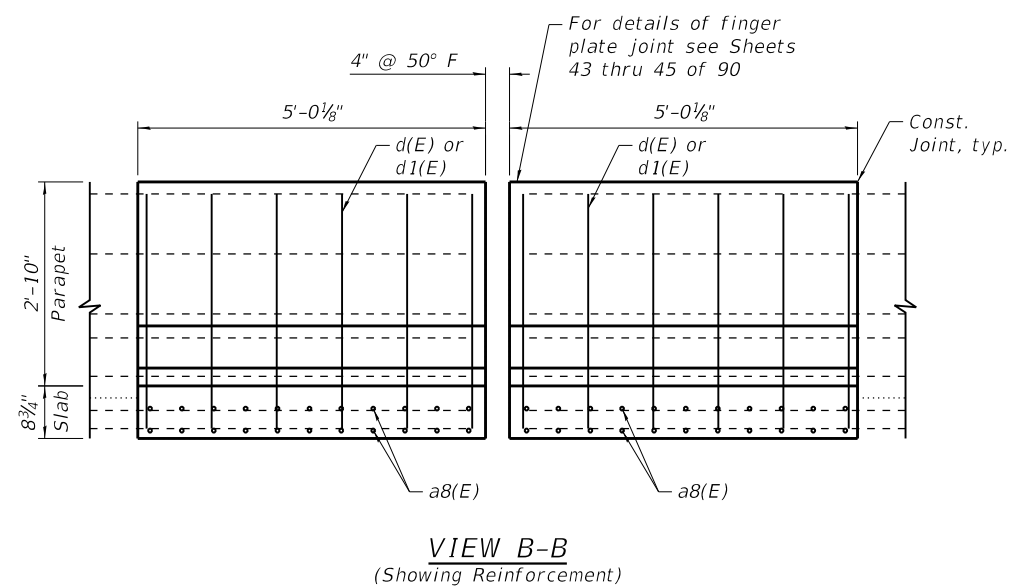
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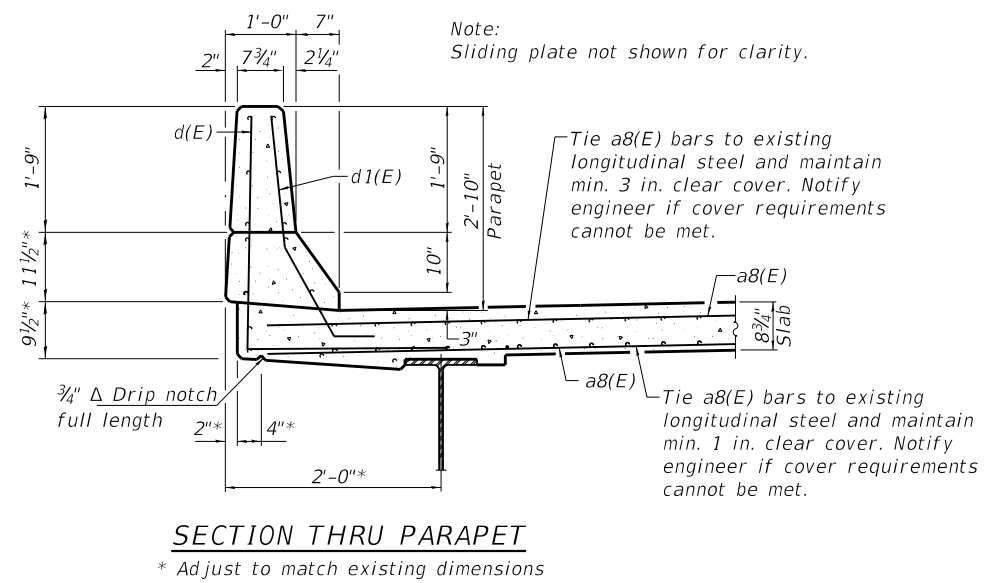
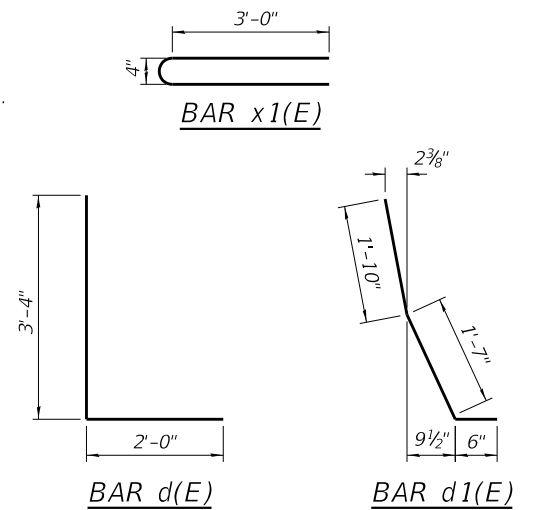
PIER A25 PLAN SHOWING REPLACEMENT



SECTION A-A



VIEW B-B (Showing Reinforcement)



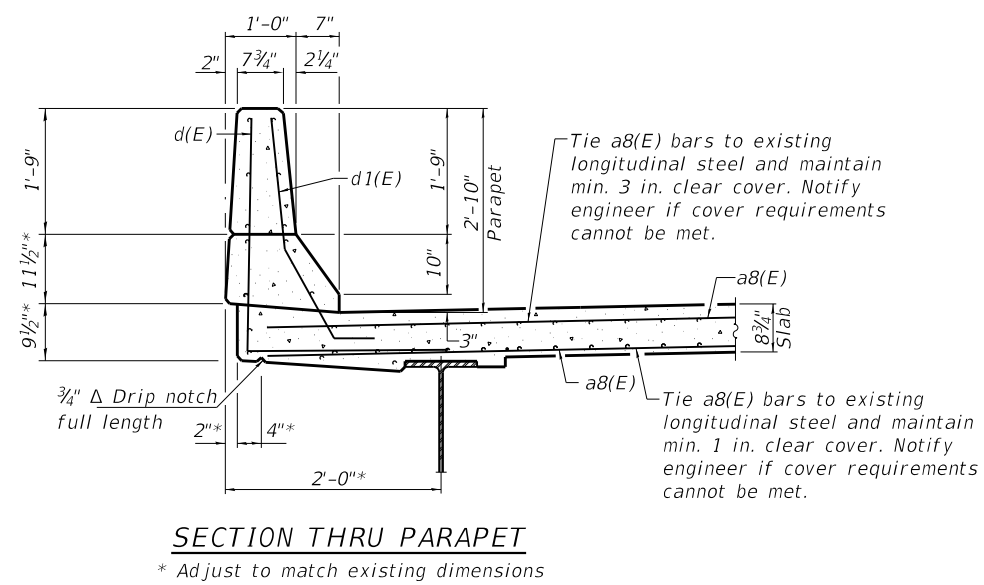
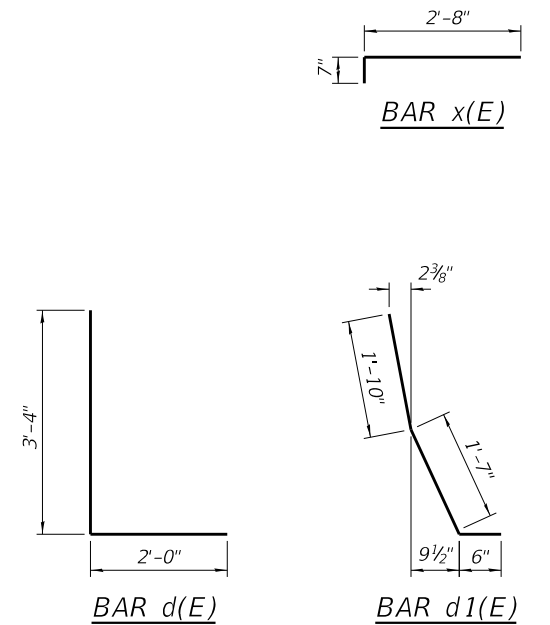
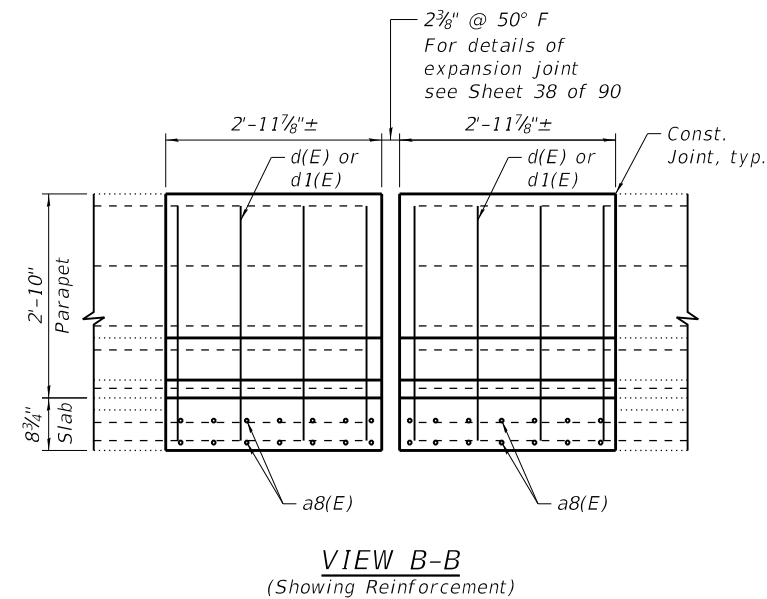
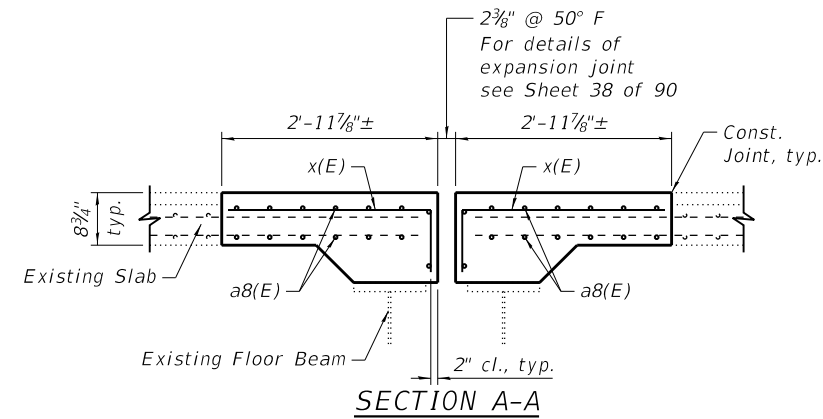
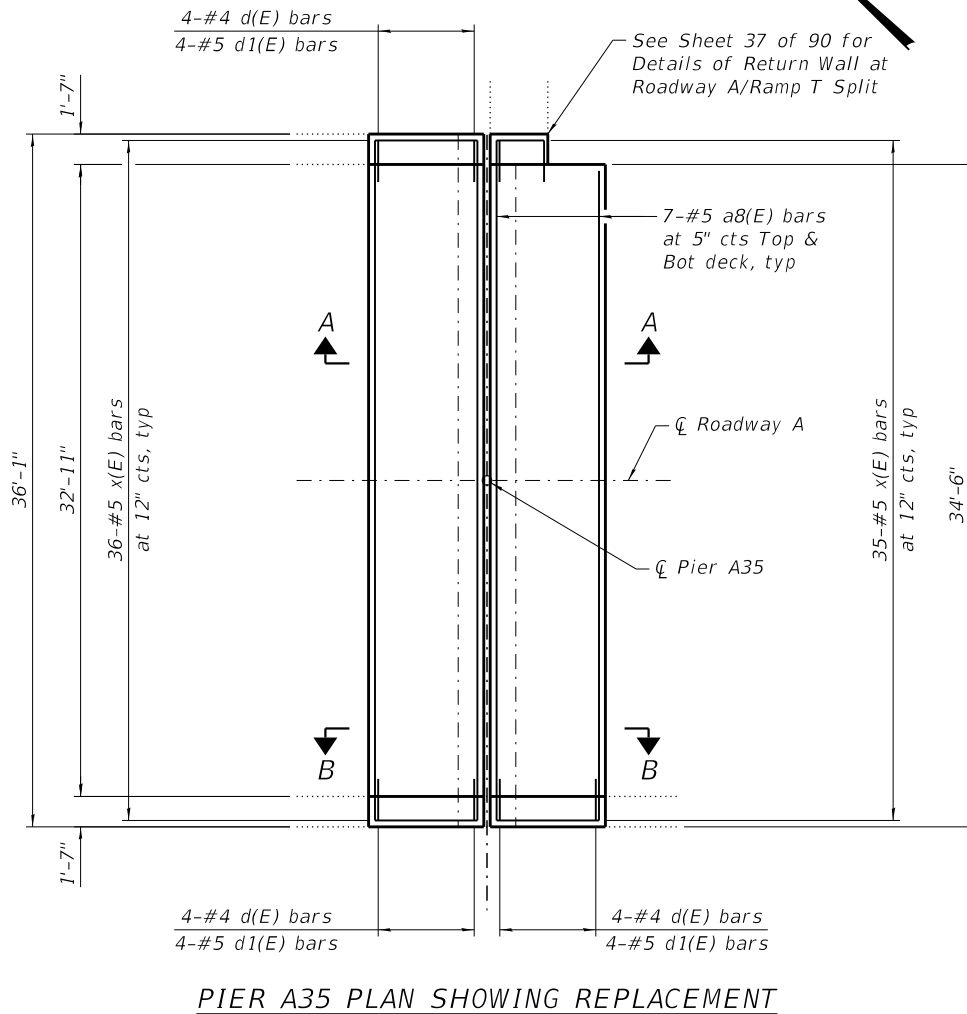
SECTION THRU PARAPET

* Adjust to match existing dimensions

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a8(E)	44	#5	35'-8"	—	
d(E)	32	#4	5'-4"	L	
d1(E)	32	#5	3'-11"	L	
x1(E)	74	#4	6'-7"	U	
Reinforcement Bars, Epoxy Coated				Lbs.	2210
Concrete Superstructure				Cu. Yds.	12.7

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BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a8(E)	28	#5	35'-8"	—	
d(E)	16	#4	5'-4"	L	
d1(E)	16	#5	3'-11"	U	
x(E)	72	#5	3'-3"	—	
Reinforcement Bars, Epoxy Coated				Lbs.	1410
Concrete Superstructure				Cu. Yds.	8.6

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USER NAME = acb	DESIGNED - SGM	REVISED -
PLOT SCALE = 0.1667' / 1"	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

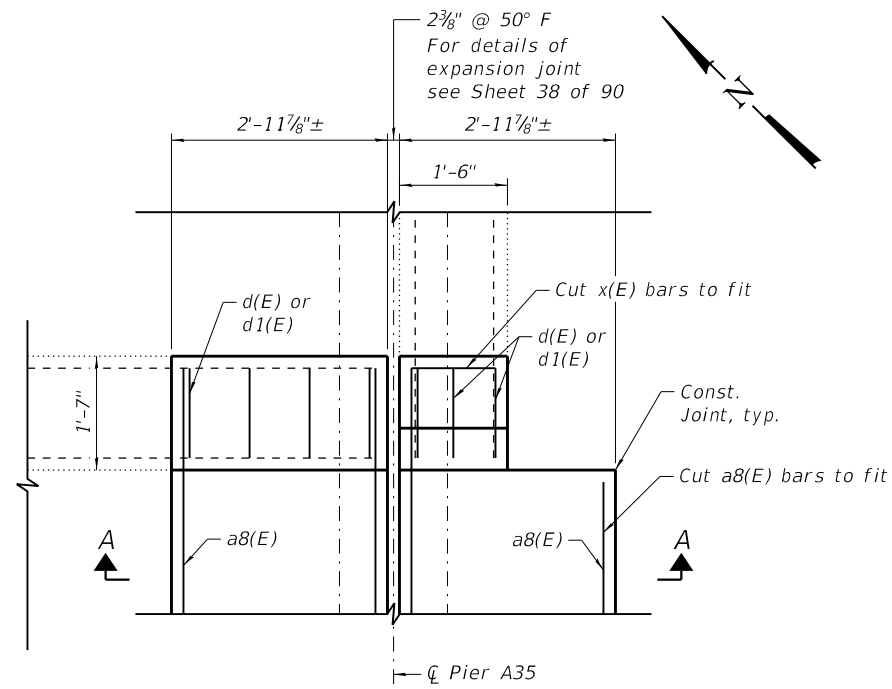
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**EXPANSION JOINT REPLACEMENT DETAILS (PIER A35)
S.N. 082-0141**

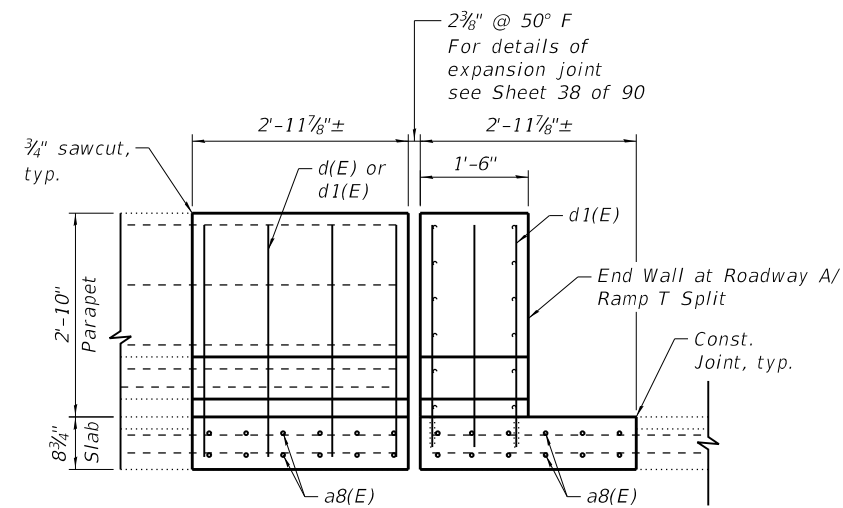
SHEET NO. 36 OF 90 SHEETS

F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

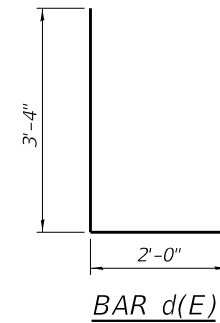
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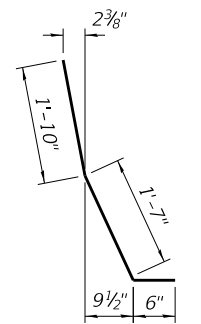
PIER A35 RETURN WALL PLAN VIEW



VIEW A-A



BAR d(E)



BAR d1(E)

Notes:
See Sheet 36 of 90 for additional details and quantities.

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USER NAME = acb	DESIGNED - SGM	REVISED -
CHECKED - RW	REVISIONS -	
PLOT SCALE = 0.1667' / 1" =	DRAWN - ACB	REVISED -
PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

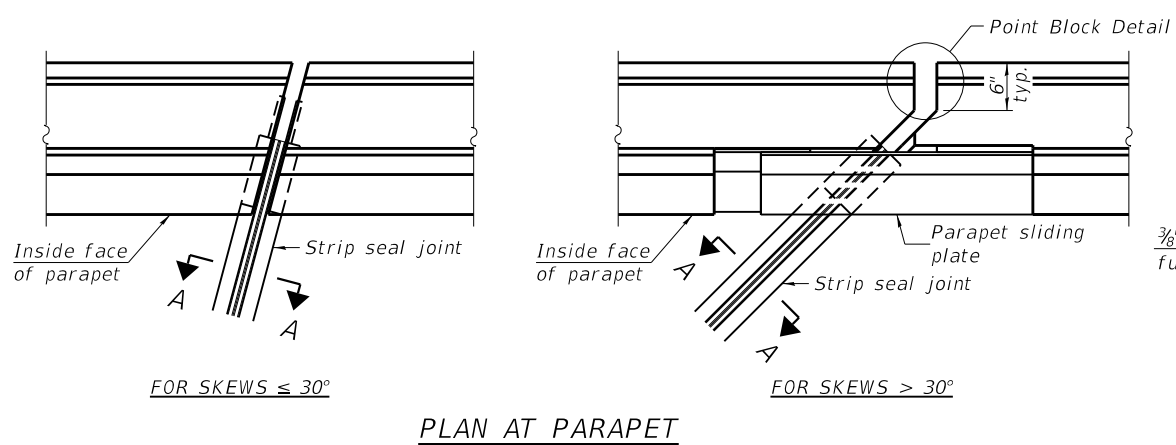
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REPLACEMENT DETAILS (PIER A35)
S.N. 082-0141

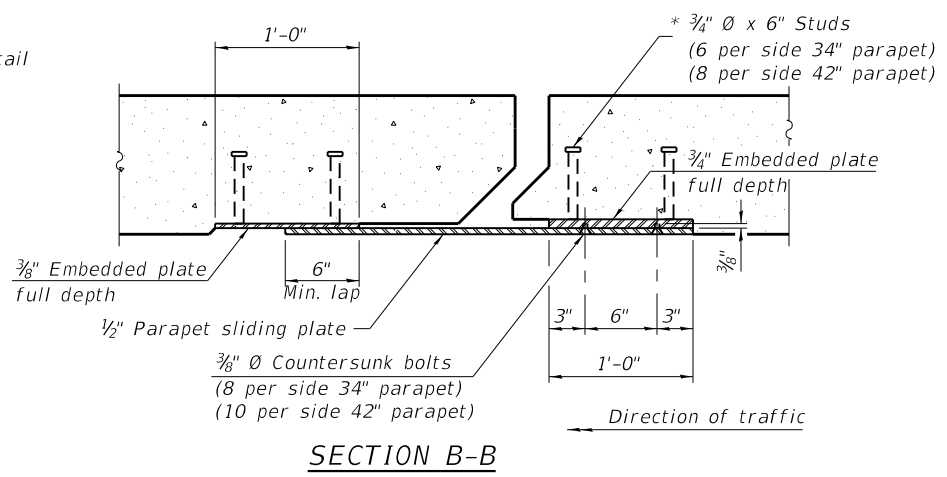
SHEET NO. 37 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	111
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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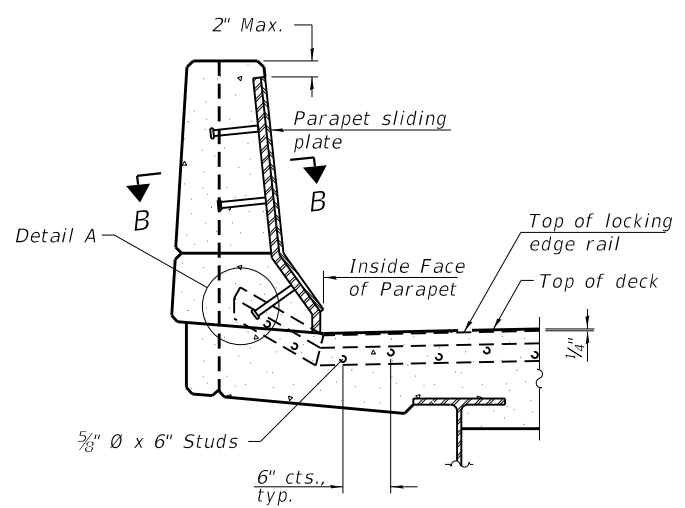


PLAN AT PARAPET



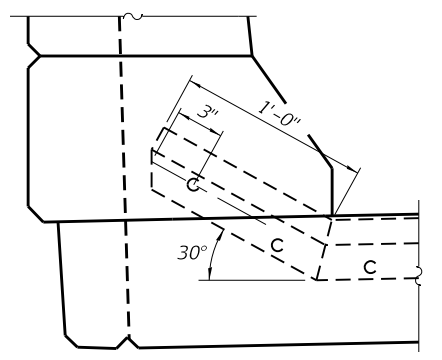
SECTION B-B

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

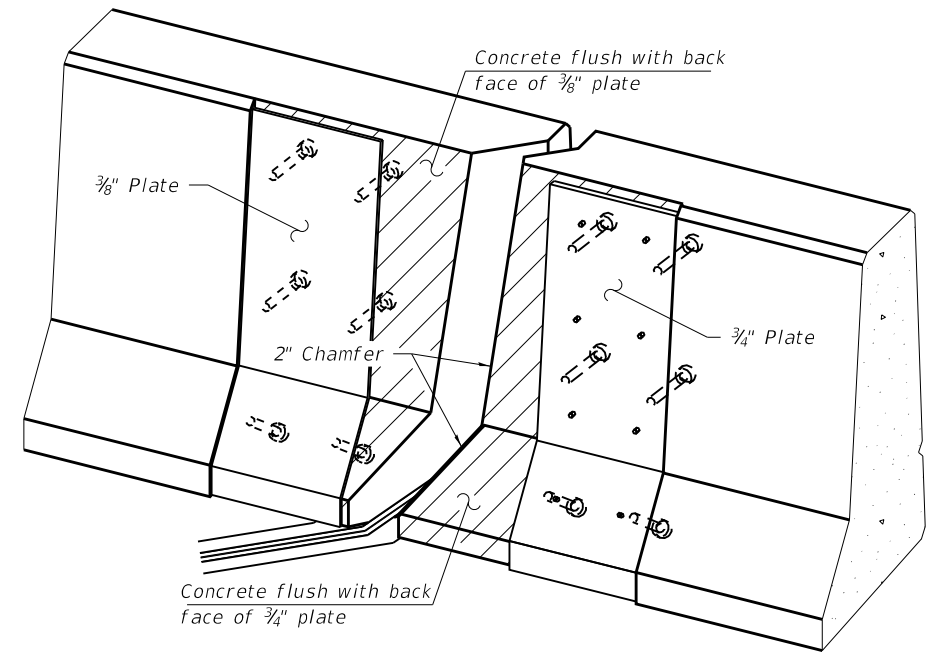


ELEVATION AT PARAPET

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



DETAIL A

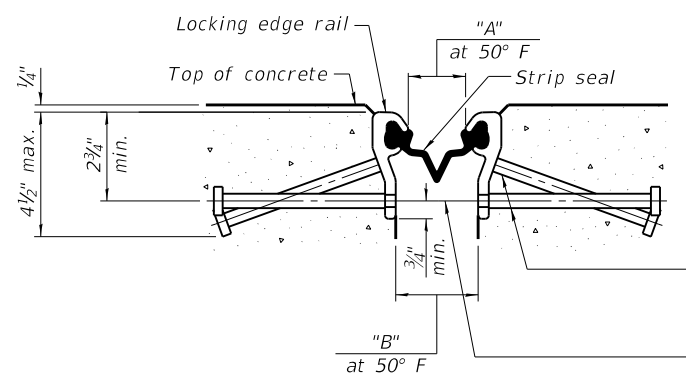


TRIMETRIC VIEW
(Showing embedded plates only)

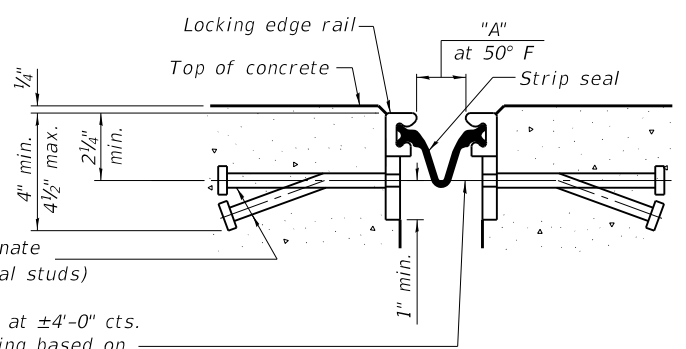
EXPANSION OPENINGS

Pier	"A"	"B"
A5	1 1/2"	2 3/8"
A8	1 3/8"	2 1/2"
A11	1 1/2"	2 3/8"
A12	1 1/2"	2 3/8"
A15	1 1/8"	2 3/4"
A18	2 1/4"	3 1/8"
A21	1 1/2"	2 3/8"
A35	1 1/2"	2 3/8"

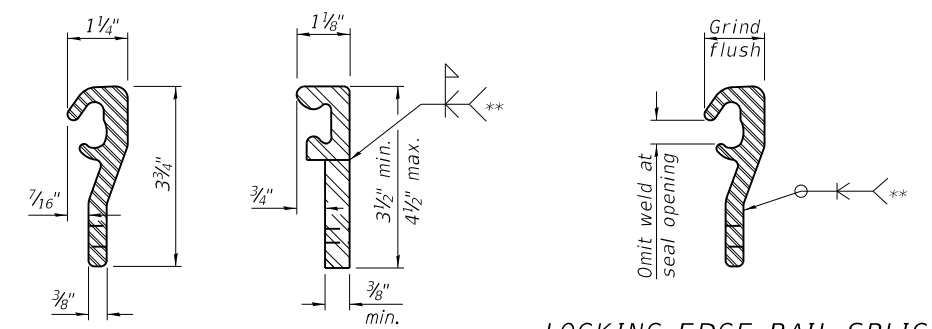
* 5/8" Ø x 6" studs @ 6" cts. (alternate angled/bent studs with horizontal studs)
 3/8" Ø threaded rods in 7/16" Ø holes at ±4'-0" cts. for holding the proper joint opening based on the temperature during the deck pour. Place to miss studs. All rods shall be burned, or sawed off flush with the plates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



SHOWING ROLLED RAIL JOINT



SHOWING WELDED RAIL JOINT



LOCKING EDGE RAILS

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

LOCKING EDGE RAIL SPLICE

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	374

EJ-SS 8-11-17

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USER NAME = acb	DESIGNED - SGM	REVISED -
PLOT SCALE = 0:2.0000 '1' / in.	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
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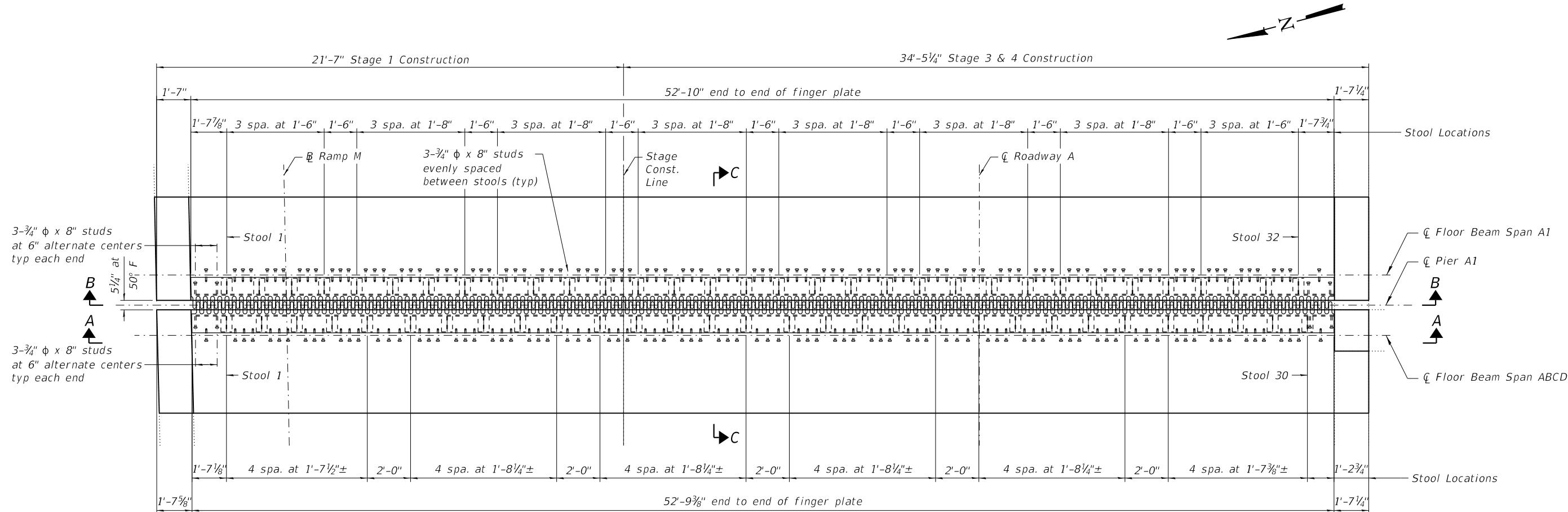
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
S.N. 082-0141

SHEET NO. 38 OF 90 SHEETS

F.A.I. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HYB-2R-(2,1)-1-2	ST. CLAIR	238	112
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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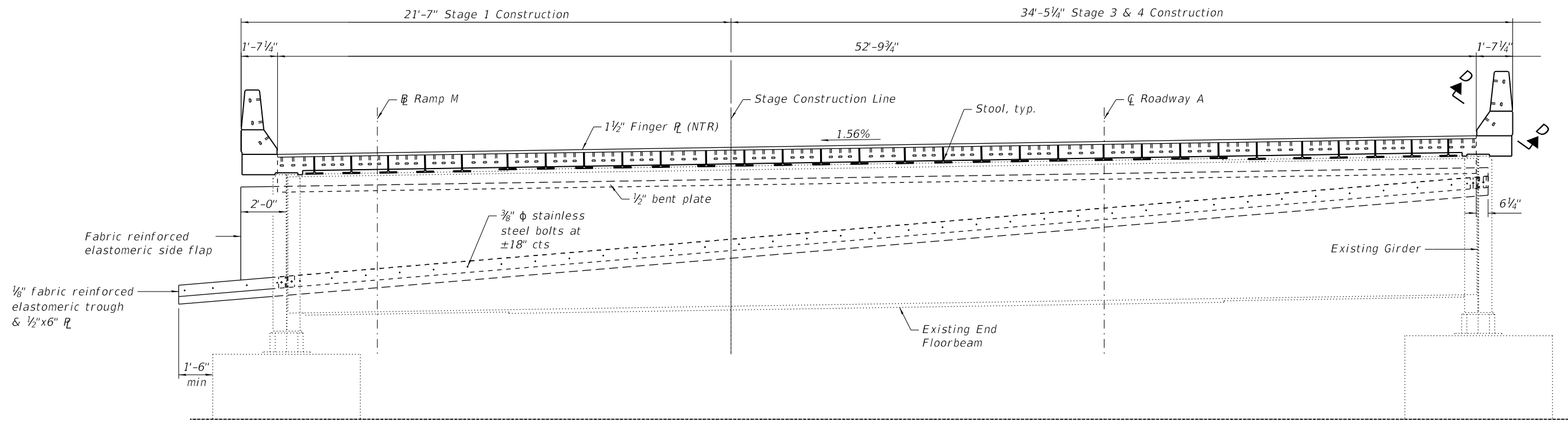
PLAN OF FINGER PLATE EXPANSION JOINT AT PIER A1

NOTES:
 See Sheet 40 and 41 of 90 for Sections A-A, B-B, and C-C.
 See Sheet 42 of 90 for details of stools.

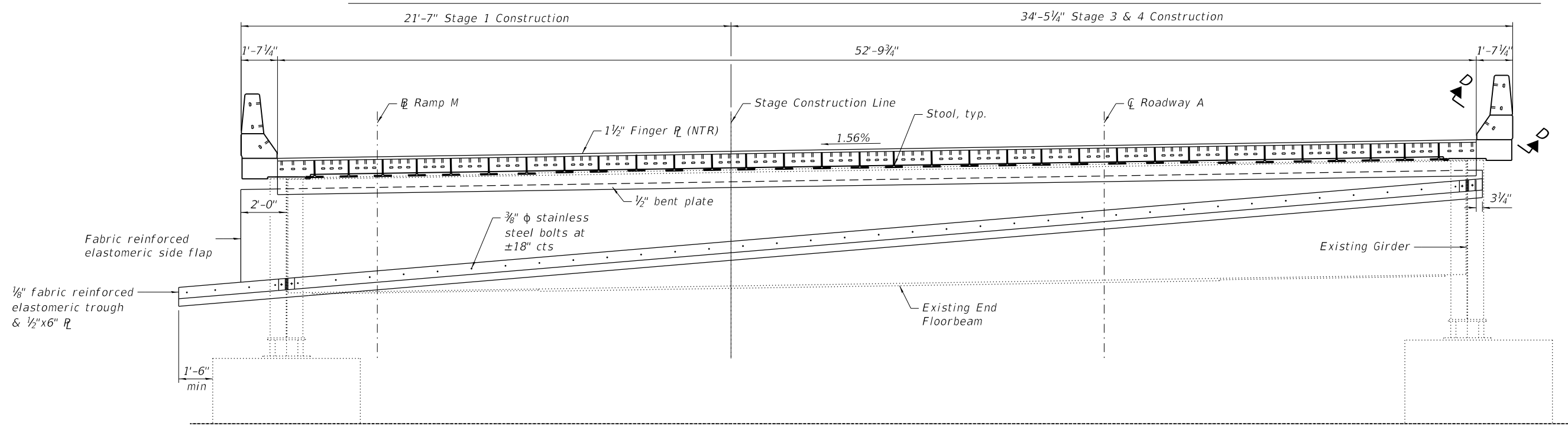
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	113
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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SECTION A-A



SECTION B-B

Note:
See Sheet 42 of 90 for Section D-D.

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USER NAME = acb	DESIGNED - SGM	REVISED -
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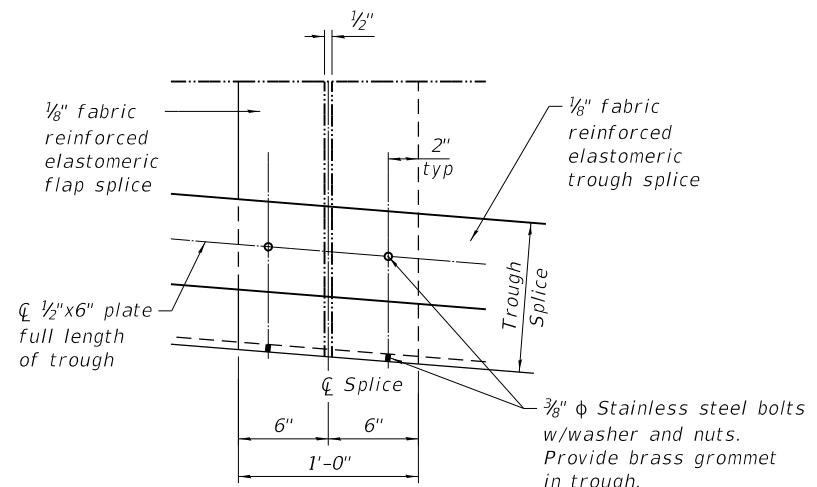
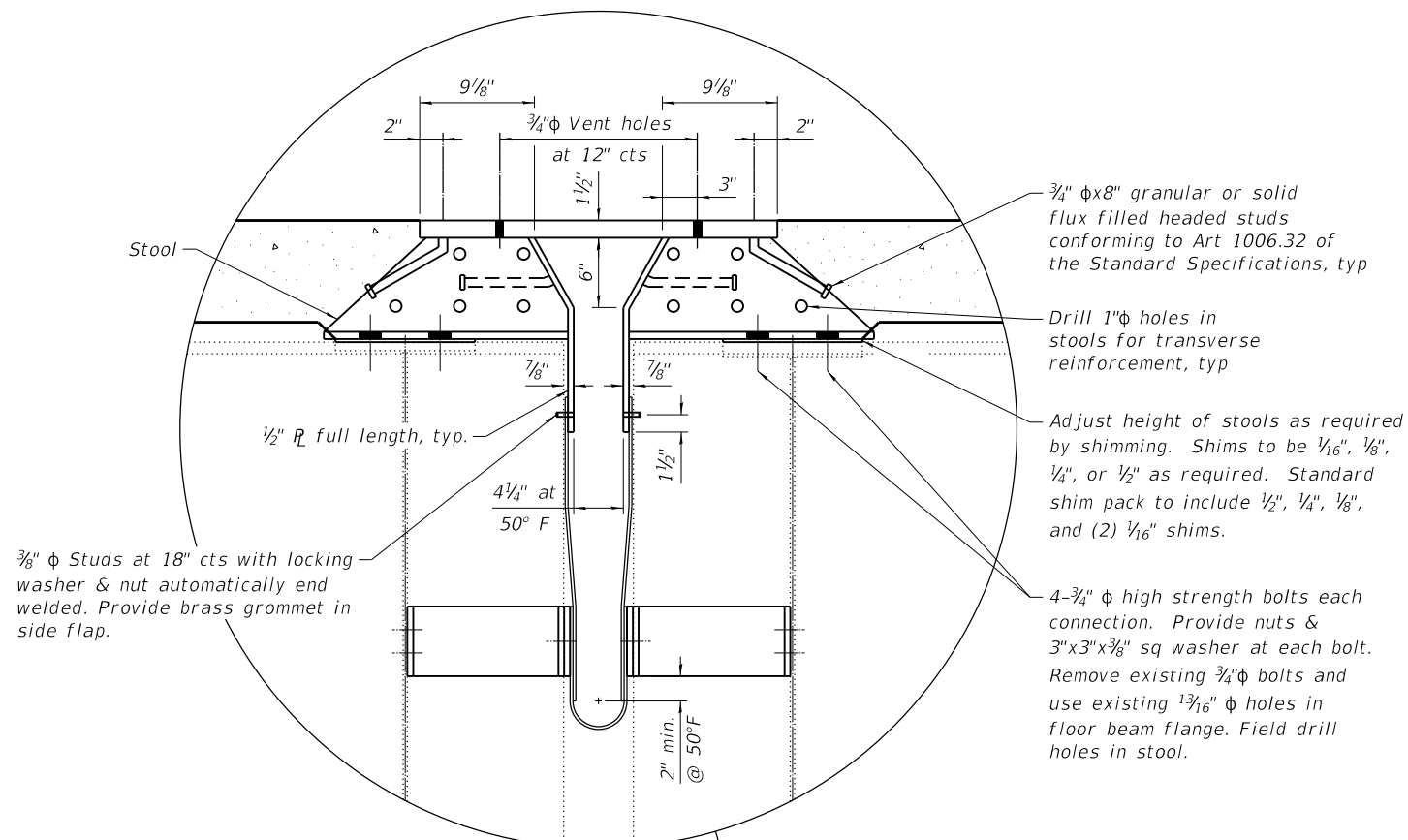
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

FINGER PLATE REPLACEMENT DETAILS (PIER A1)
S.N. 082-0141

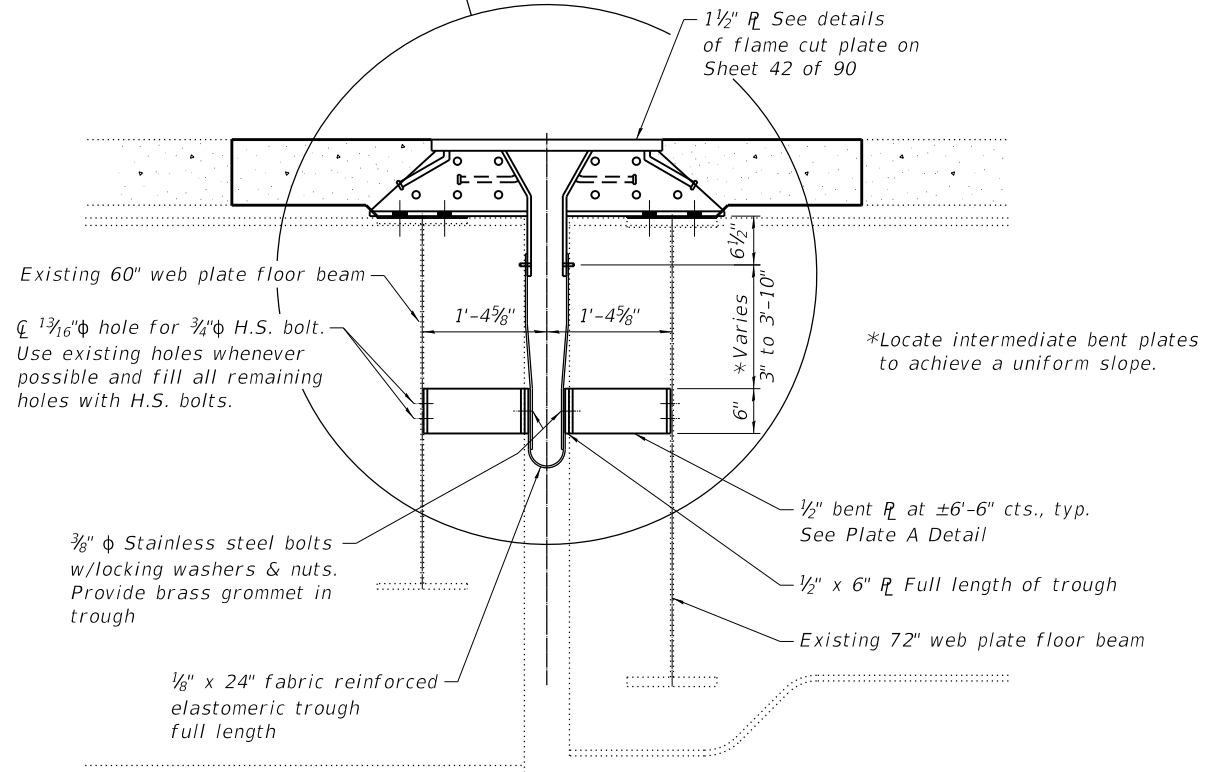
SHEET NO. 40 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

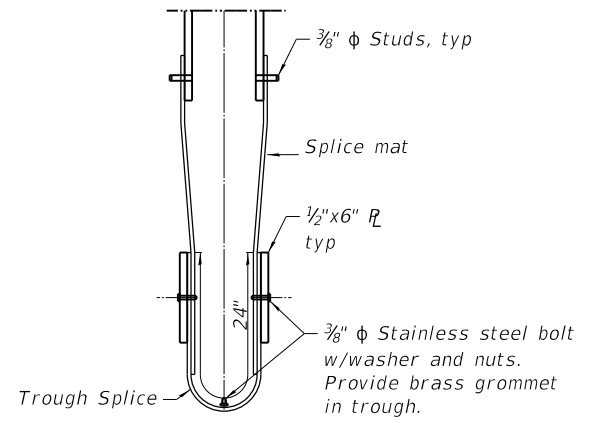
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TROUGH SPLICE DETAIL



SECTION C-C



SECTION THRU TROUGH SPLICE

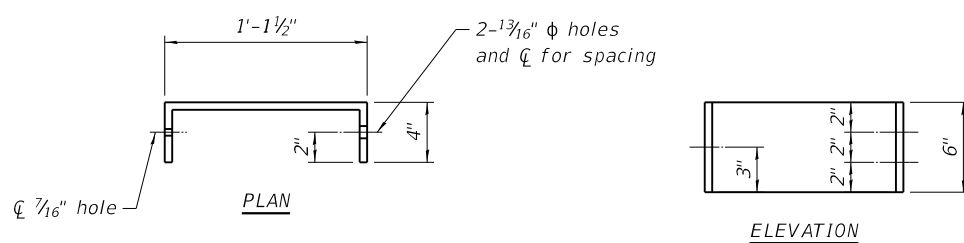


PLATE A DETAIL

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USER NAME = acb	DESIGNED - SGM	REVISED -
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	DATE - 09/28/2018	REVISED -

STATE OF ILLINOIS
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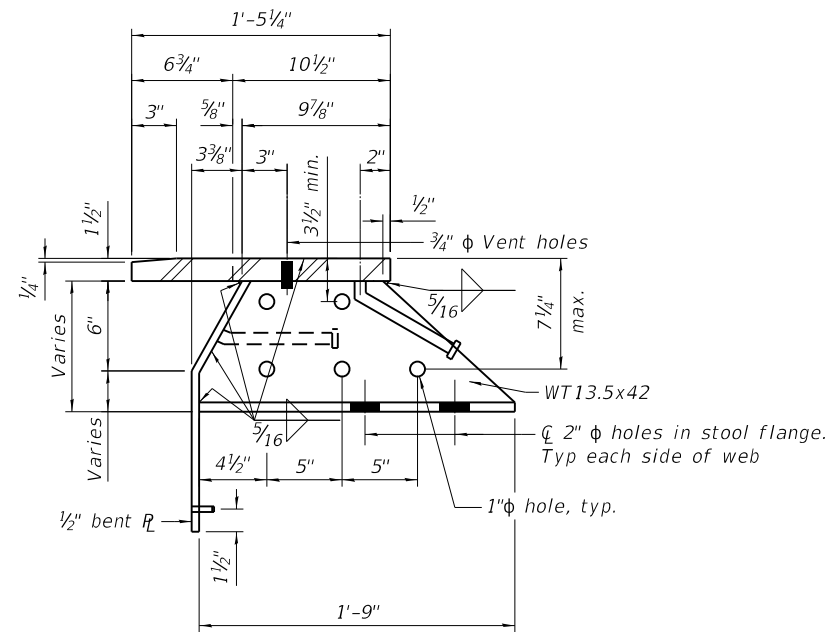
FINGER PLATE REPLACEMENT DETAILS (PIER A1)
 S.N. 082-0141

SHEET NO. 41 OF 90 SHEETS

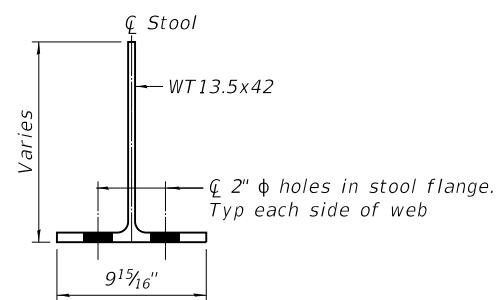
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	115
CONTRACT NO. 76945				

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STOOL DETAILS AT FINGER PLATE JOINT

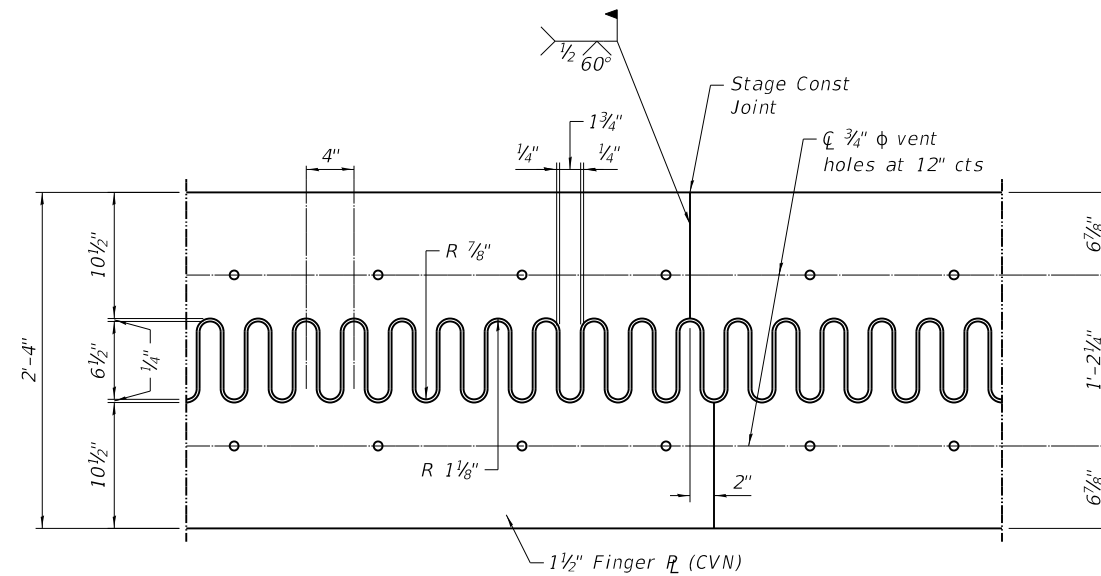


SECTION THRU STOOL

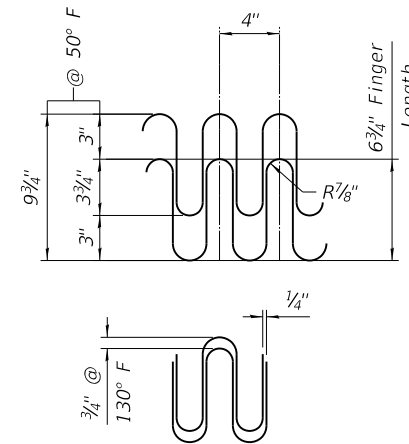
Cut stool from WT13.5x42, typ. See table below for stool heights

STOOL HEIGHTS

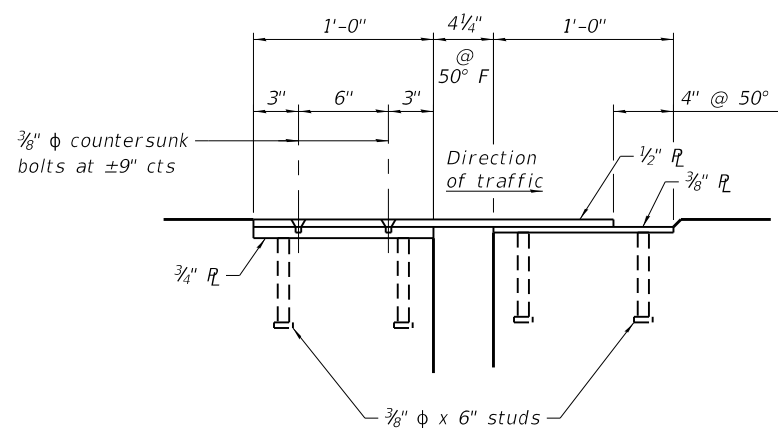
SPAN	STOOL NUMBER	HEIGHT
ABCD	1-5 & 25-30	6 3/8"
ABCD	6-24	5 3/8"
A1	1-7 & 26-32	11"
A1	8-25	10 1/2"



FLAME CUTTING DIAGRAM



JOINT OPENING AND GEOMETRY DETAIL



SECTION D-D

See Sheet 38 of 90 for typical sliding plate detail.
See Sheet 25 of 90 for parapet dimensions.

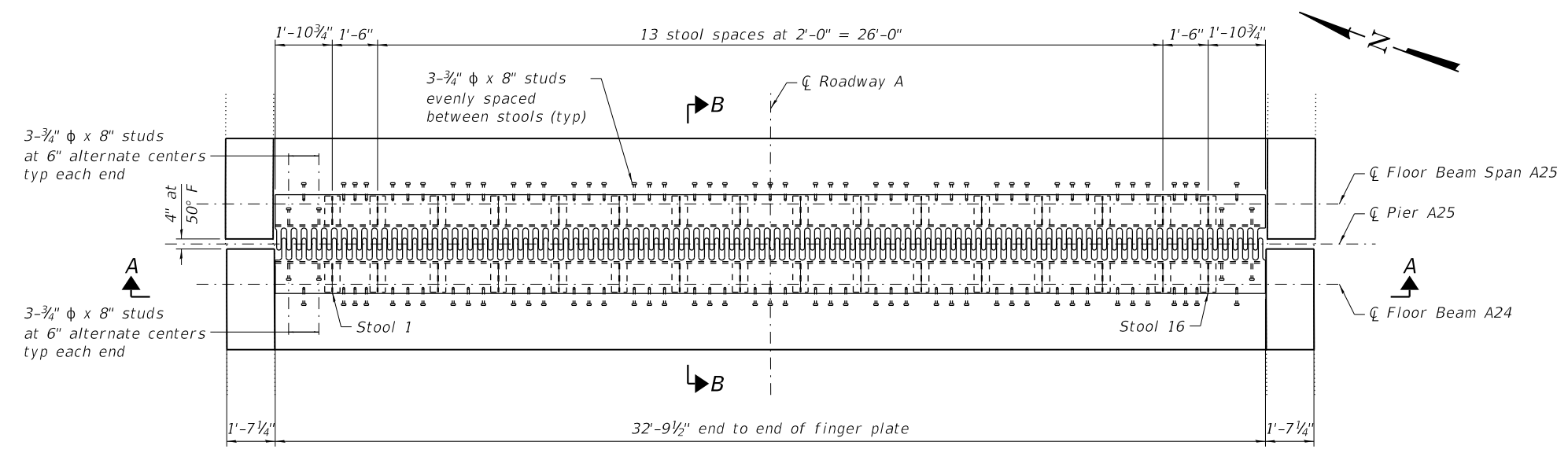
NOTES:

- "CVN" denotes Charpy V Notch impact energy requirements, zone 2.
- Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
- Finger plates and sliding plates shall conform to the requirements of AASHTO M270, Grade 50.
- The cost of all material for finger plates and trough support brackets shall be included in the cost of Finger Plate Expansion Joint, 3".
- All steel components of the expansion joint including hardware associated with the trough system and sliding plates shall be galvanized after fabrication according to Section 520.03 of the Standard Specifications.

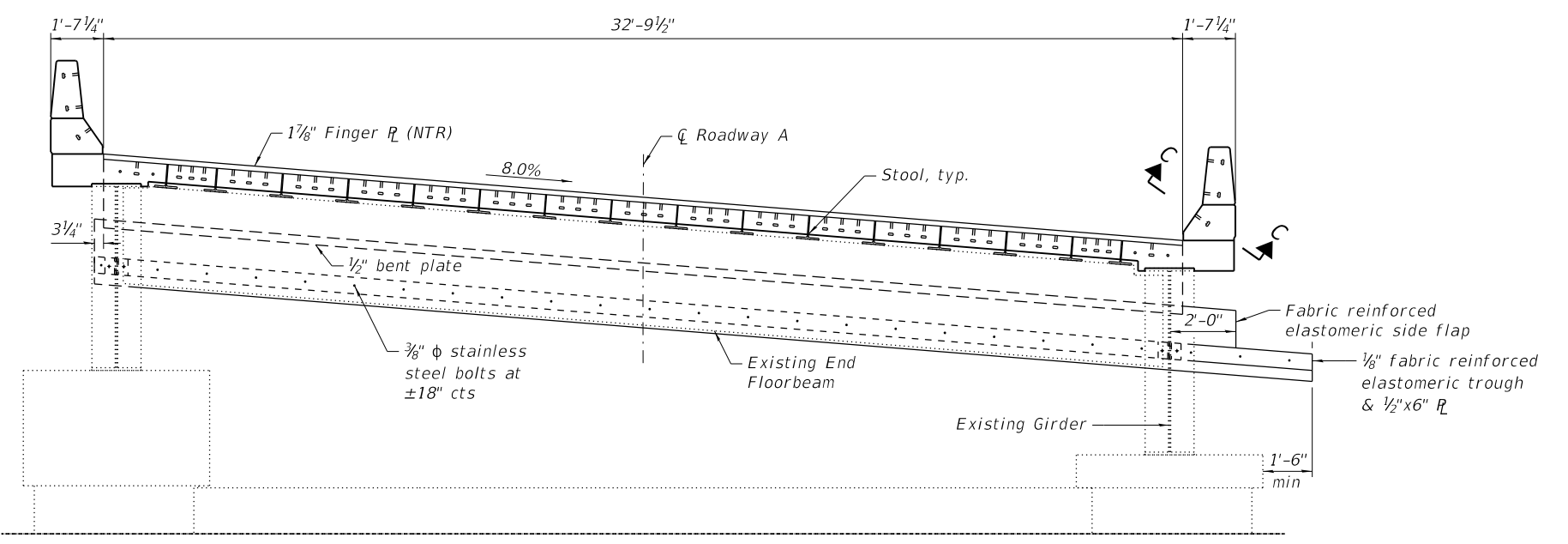
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Finger Plate Expansion Joint, 3"	Foot	53
Fabric Reinforced Elastomeric Trough	Foot	58

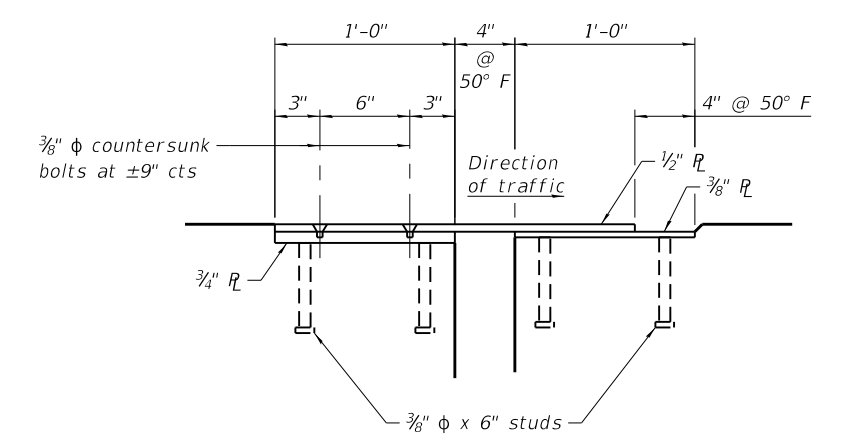
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PLAN OF FINGER PLATE EXPANSION JOINT AT PIER A25



SECTION A-A
Span A24 shown. Span A25 similar.



SECTION C-C
See Sheet 38 of 90 for typical sliding plate detail.
See Sheet 35 of 90 for parapet dimensions.

NOTES:
See Sheet 44 of 90 for Section B-B.
See Sheet 45 of 90 for details of stools.

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	DATE - 09/28/2018	REVISED -

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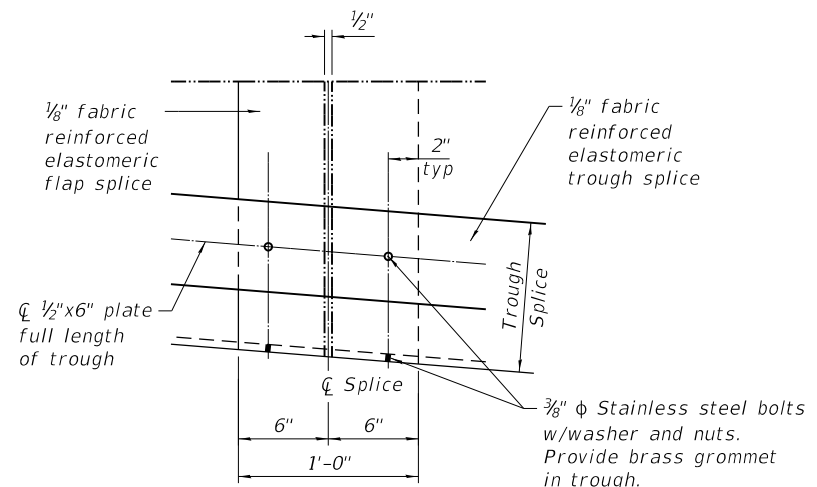
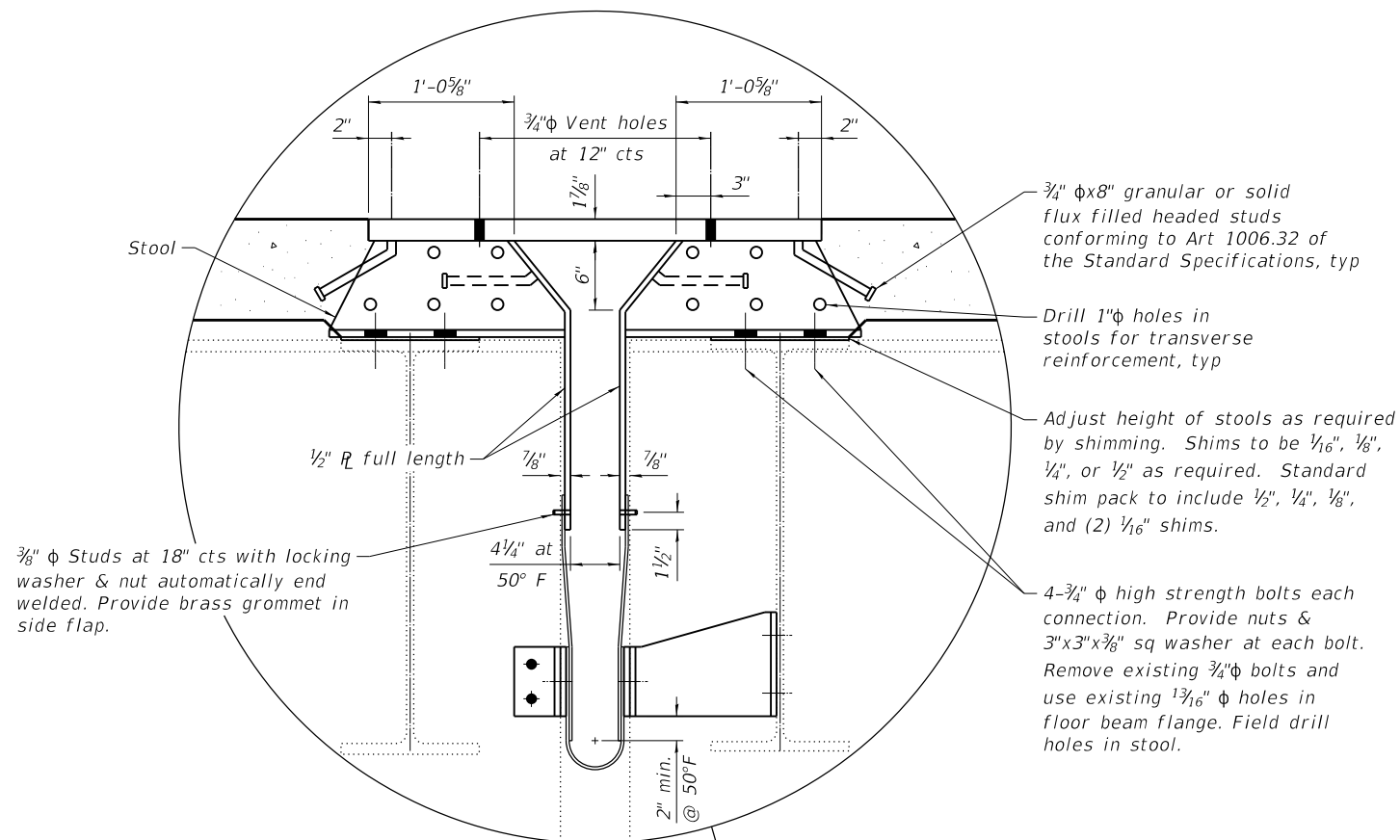
FINGER PLATE REPLACEMENT DETAILS (PIER A25)
S.N. 082-0141

SHEET NO. 43 OF 90 SHEETS

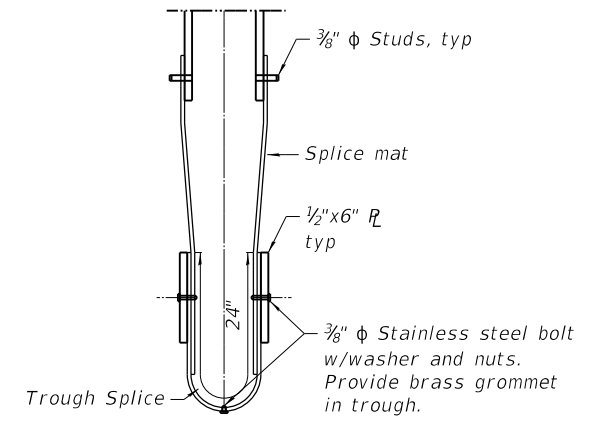
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	117
CONTRACT NO. 76945				

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TROUGH SPLICE DETAIL



SECTION THRU TROUGH SPLICE

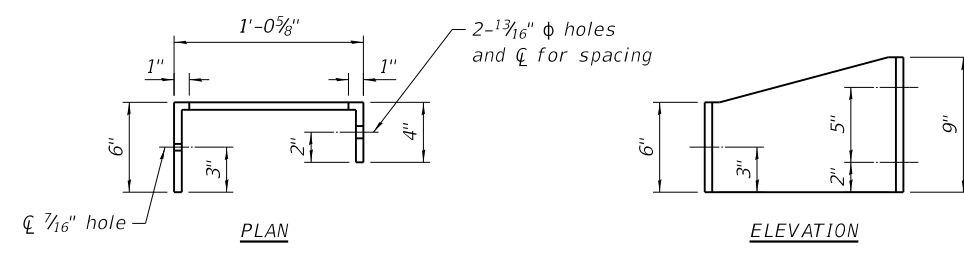
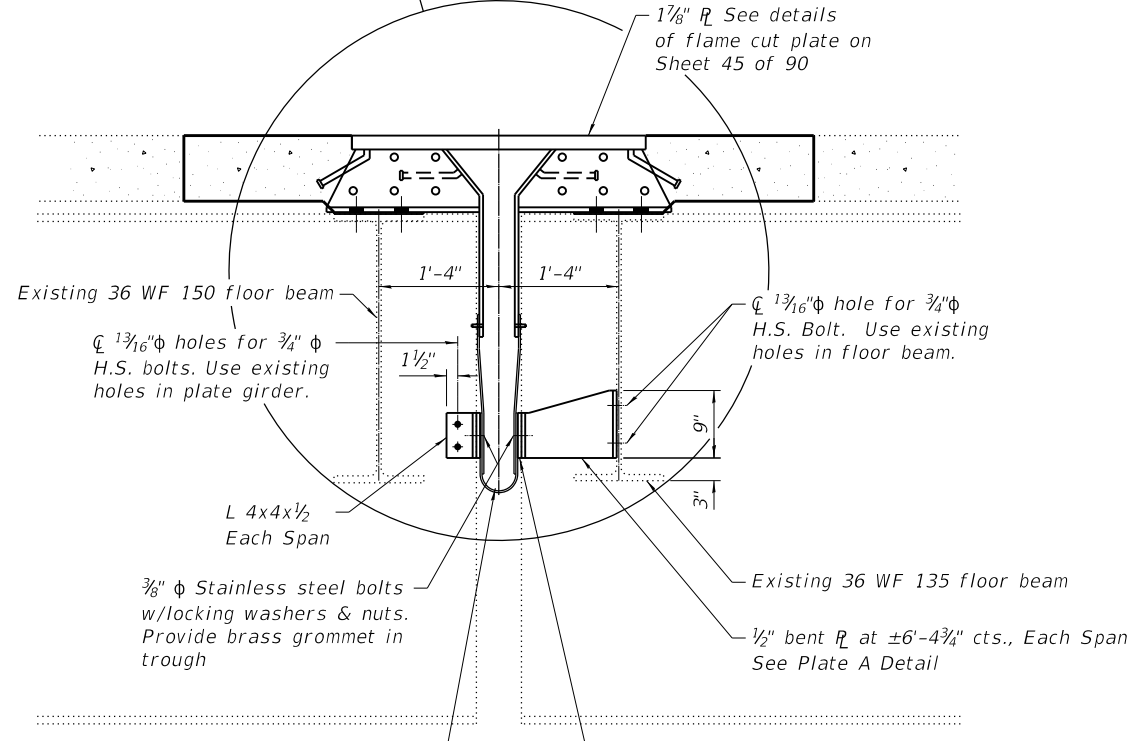


PLATE A DETAIL



SECTION B-B

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USER NAME = acb	DESIGNED - SGM	REVISED -
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PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
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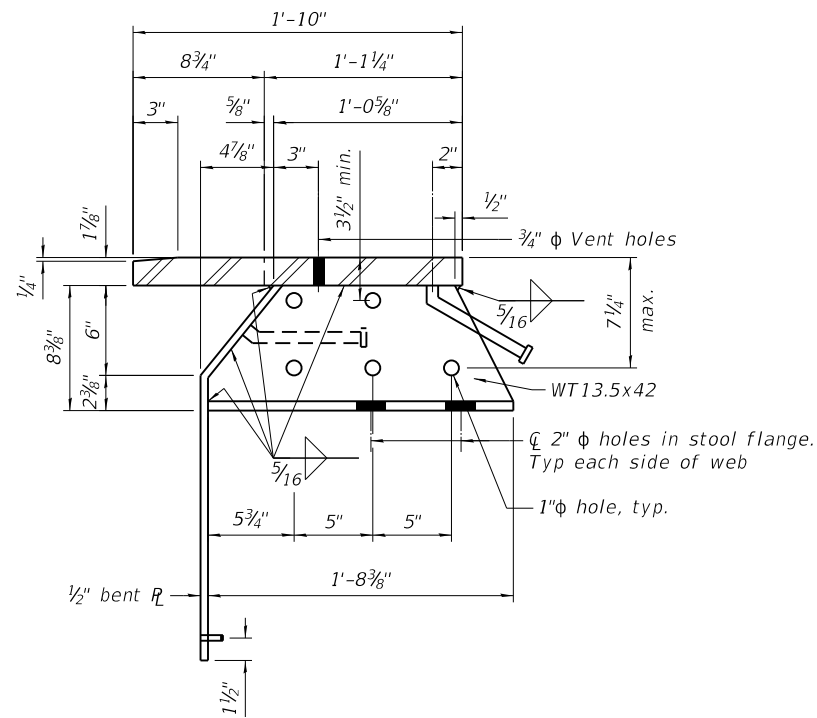
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**FINGER PLATE REPLACEMENT DETAILS (PIER A25)
 S.N. 082-0141**

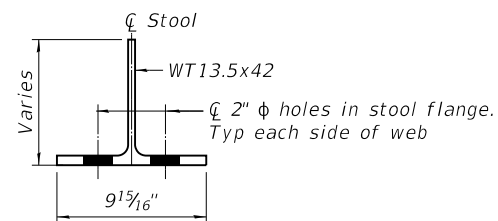
SHEET NO. 44 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

PRINT DATE: 9/28/2018 11:18:37 AM Z:\5052 Poplar Street Complex\DCN\Bridg\Final\Plotsheets\Roadway A\046_Rawy_A_Pier_A25_Finger_Joint_Details2.dgn



STOOL DETAILS AT FINGER PLATE JOINT

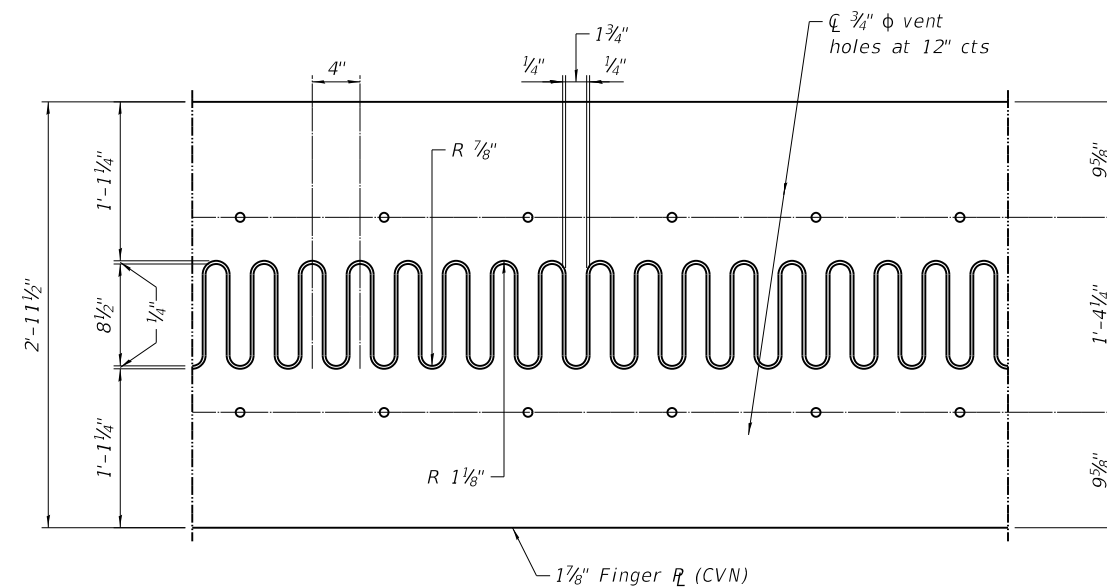


SECTION THRU STOOL

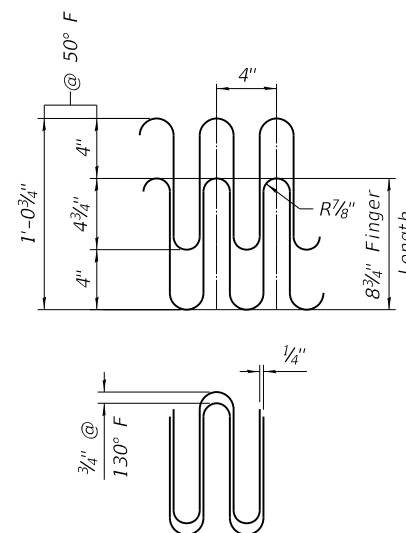
Cut stool from WT13.5x42, typ. See table below for stool heights

STOOL HEIGHTS

SPAN	STOOL NUMBER	HEIGHT
A24	1-9	11"
A24	10-16	10 7/8"
A25	1-16	10 7/8"



FLAME CUTTING DIAGRAM



JOINT OPENING AND GEOMETRY DETAIL

NOTES:

- "CVN" denotes Charpy V Notch impact energy requirements, zone 2.
- Finger plate expansion joints shall be assembled in their final relative position with the ends in place for shop inspection and acceptance.
- Finger plates and sliding plates shall conform to the requirements of AASHTO M270, Grade 50.
- The cost of all material for finger plates and trough support brackets shall be included in the cost of Finger Plate Expansion Joint, 4".
- All steel components of the expansion joint including hardware associated with the trough system and sliding plates shall be galvanized after fabrication according to Section 520.03 of the Standard Specifications.

BILL OF MATERIAL

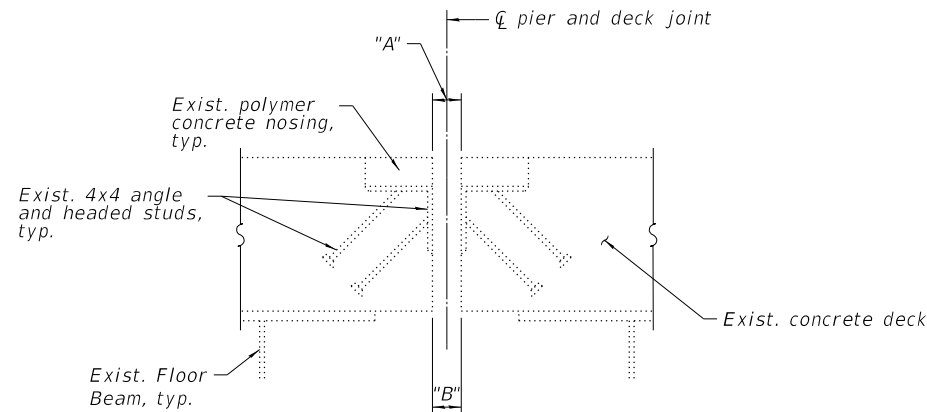
ITEM	UNIT	QUANTITY
Finger Plate Expansion Joint, 4"	Foot	33
Fabric Reinforced Elastomeric Trough	Foot	37

SILICONE JOINT SCHEDULE - RAMP A

Location	Type of Joint Seal	Joint Opening in Overlay- "A" (Inches)				
		@ -30°F	@ 10°F	@ 50°F	@ 90°F	@ 130°F
A41**	2½" Silicone	3¾"	3½"	2½"	1⅞"	1¼"
A43**	3" Silicone	4⅝"	3⅞"	3"	2⅞"	1⅞"
A44*	2" Silicone	—	—	2"	—	—
A45*	2" Silicone	—	—	2"	—	—
A46**	2" Silicone	2⅝"	2⅞"	2"	1⅞"	1⅞"

Note: For deck temperatures between those shown, width of joint opening can be interpolated.

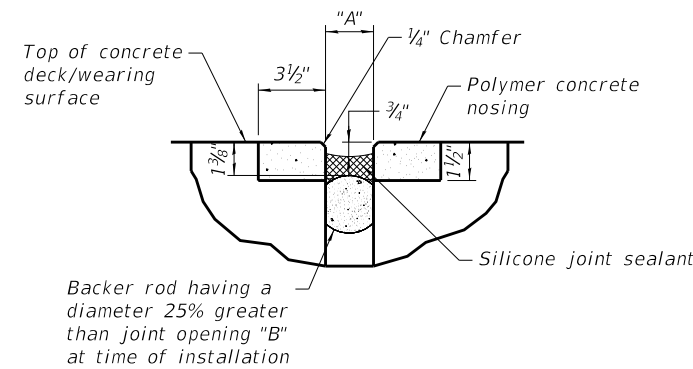
- * Joint at fixed bearing (no significant movement anticipated)
- ** Notify Engineer if joint opening in existing deck is less than value "A"



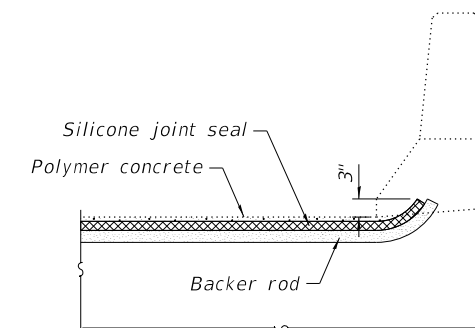
JOINT REPAIR AT TYPICAL EXPANSION JOINTS

(Includes A41, A43, A44, and A45 on Roadway A)

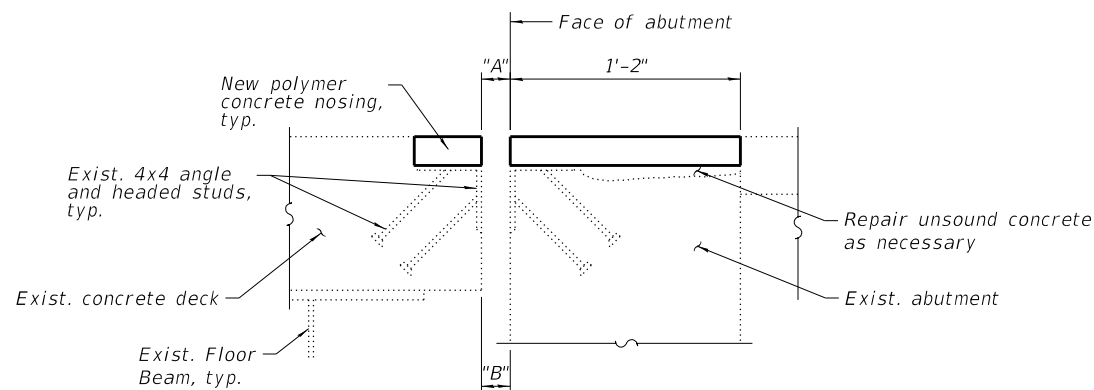
Note: Replace silicone joint seal per Detail A. Repair polymer concrete at locations of distress per Detail B.



DETAIL A - SILICONE JOINT SEAL

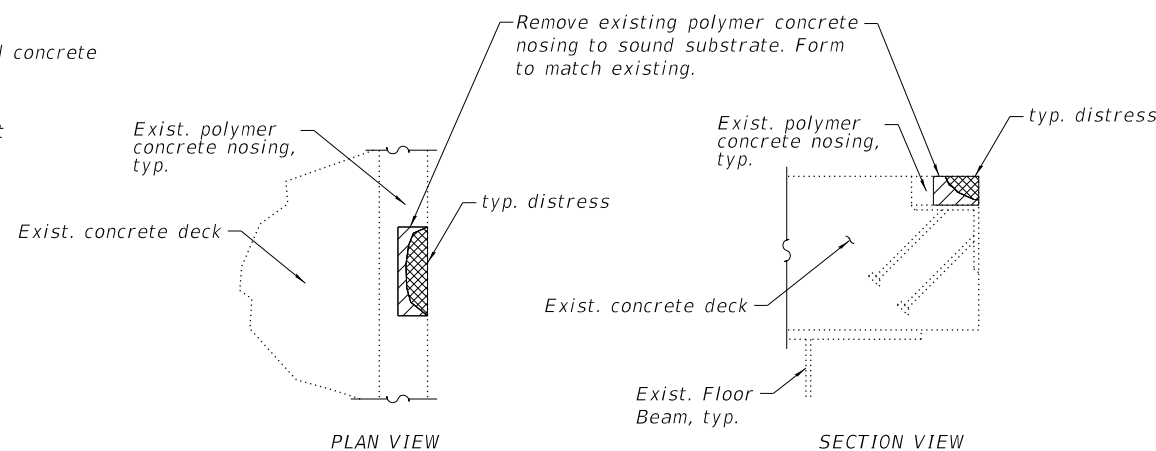


SILICONE JOINT SEAL AT PARAPET



JOINT REPAIR AT ABUTMENT A46 EXPANSION JOINT

Note: Replace silicone joint seal per Detail A. Remove existing polymer concrete nosing and silicone joint seal system to sound substrate.



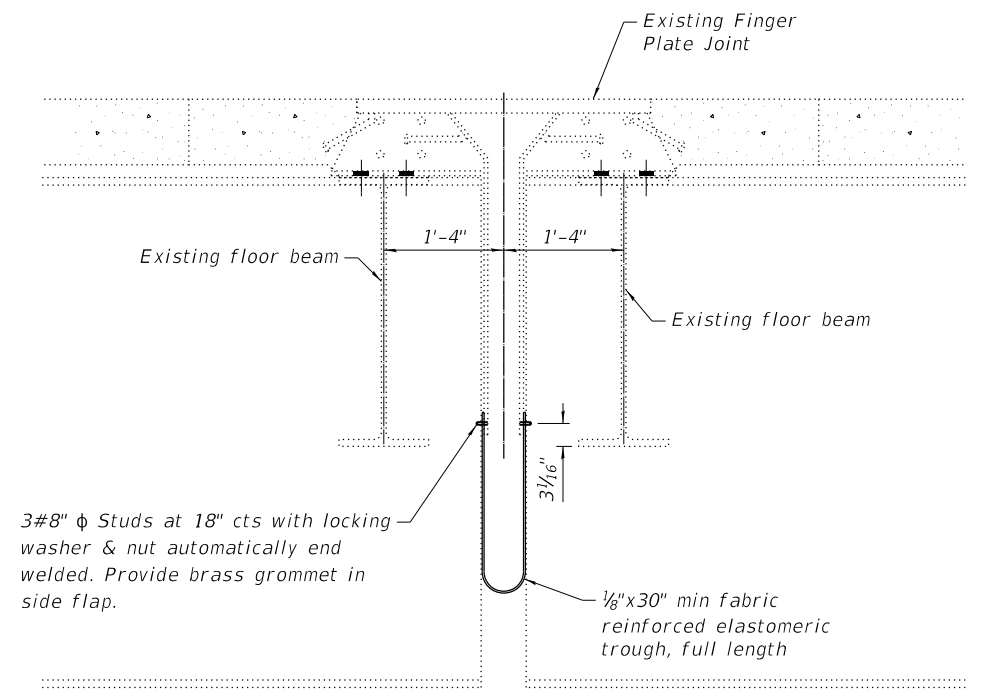
DETAIL C - LOCAL POLYMER CONCRETE NOSING REPAIRS

BILL OF MATERIAL

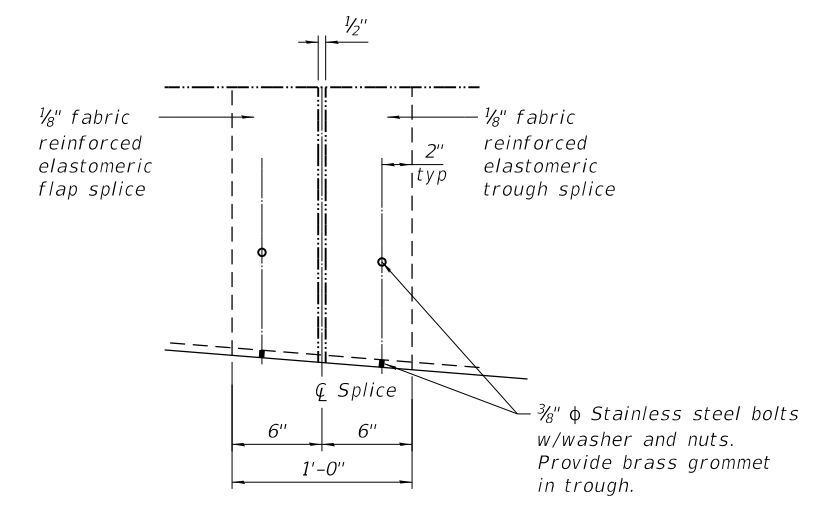
Item	Unit	Quantity
Silicone Joint Sealer, 2"	Foot	175
Silicone Joint Sealer, 2.5"	Foot	38
Silicone Joint Sealer, 3"	Foot	37
Concrete Removal	Cu. Yd.	0.7
Polymer Concrete	Cu. Ft.	18

PRINT DATE: 9/28/2018 11:18:38 AM Z:\5052 Poplar Street Complex\DCN\Bridges\Final\Plotsheets\Roadway A\047_Raw_A_Silicone_Joint_Details.dgn

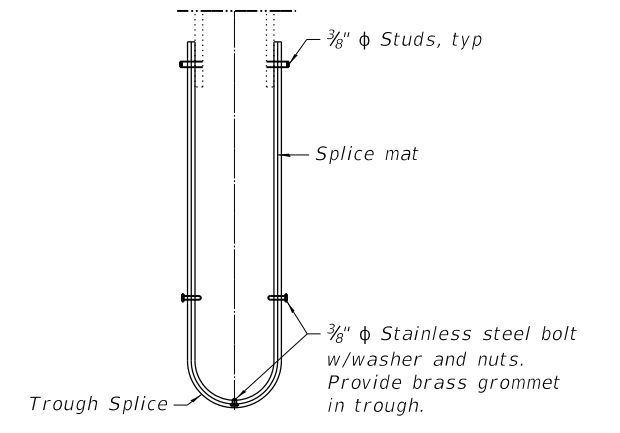
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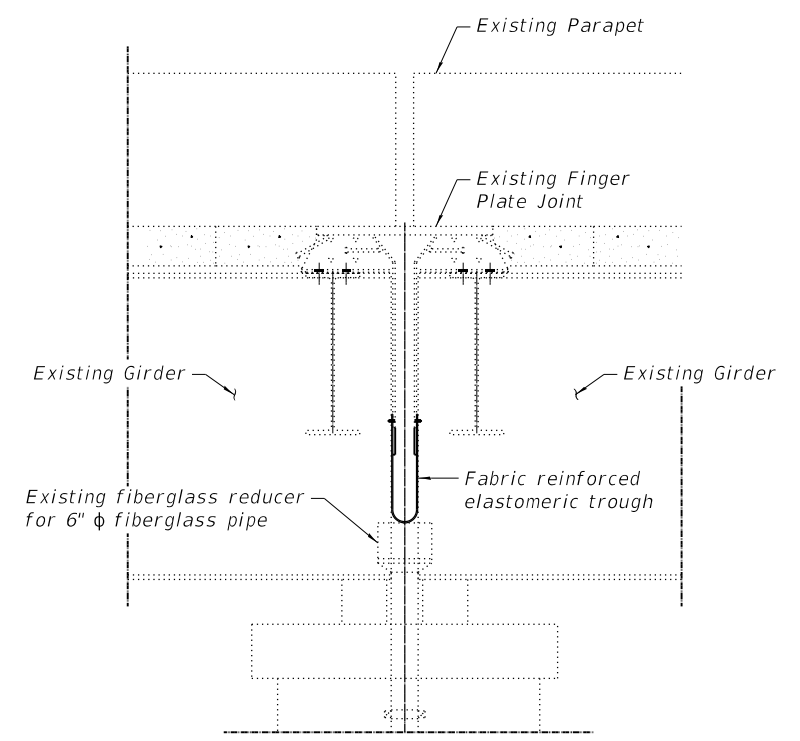
SECTION A-A
Piers A29, A35 (Ramp T), & A38



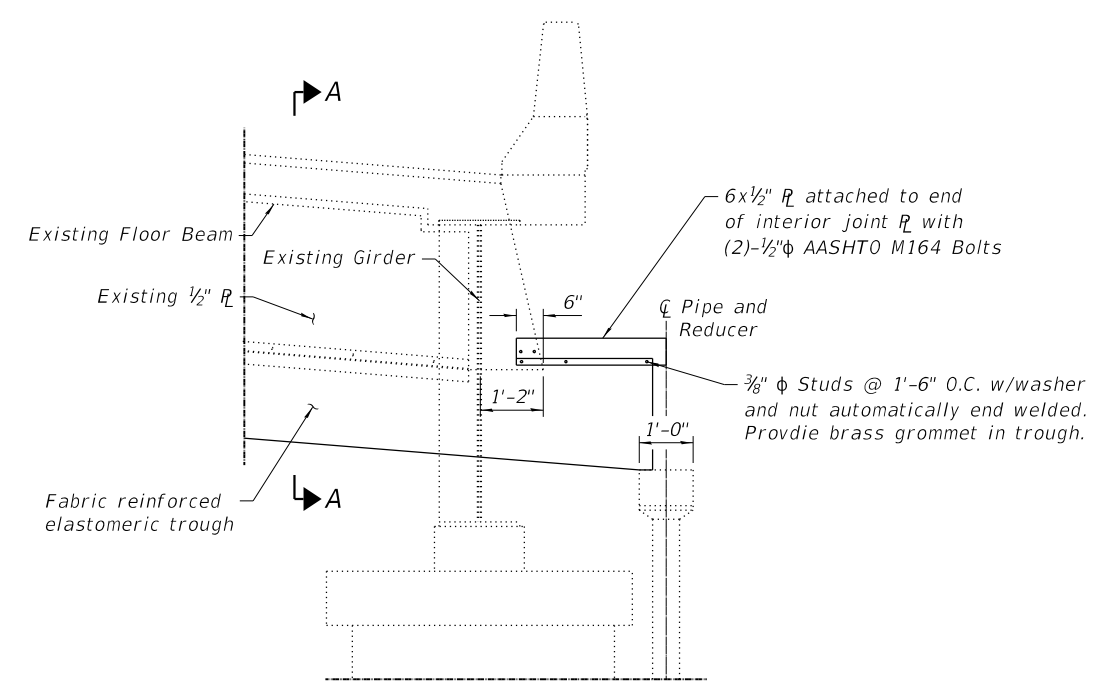
TROUGH SPLICE DETAIL



SECTION THRU TROUGH SPLICE



FINGER JOINT MAT DRAINAGE DETAIL - END VIEW
Piers A29, A35 (Ramp T), & A38



FINGER JOINT MAT DRAINAGE DETAIL - ELEVATION
Piers A29, A35 (Ramp T), & A38

BILL OF MATERIAL

Item	Unit	Total
Fabric Reinforced Elastomeric Trough	Foot	131

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330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - SGM	REVISED -
PLOT SCALE = 0.1667' / 1"	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
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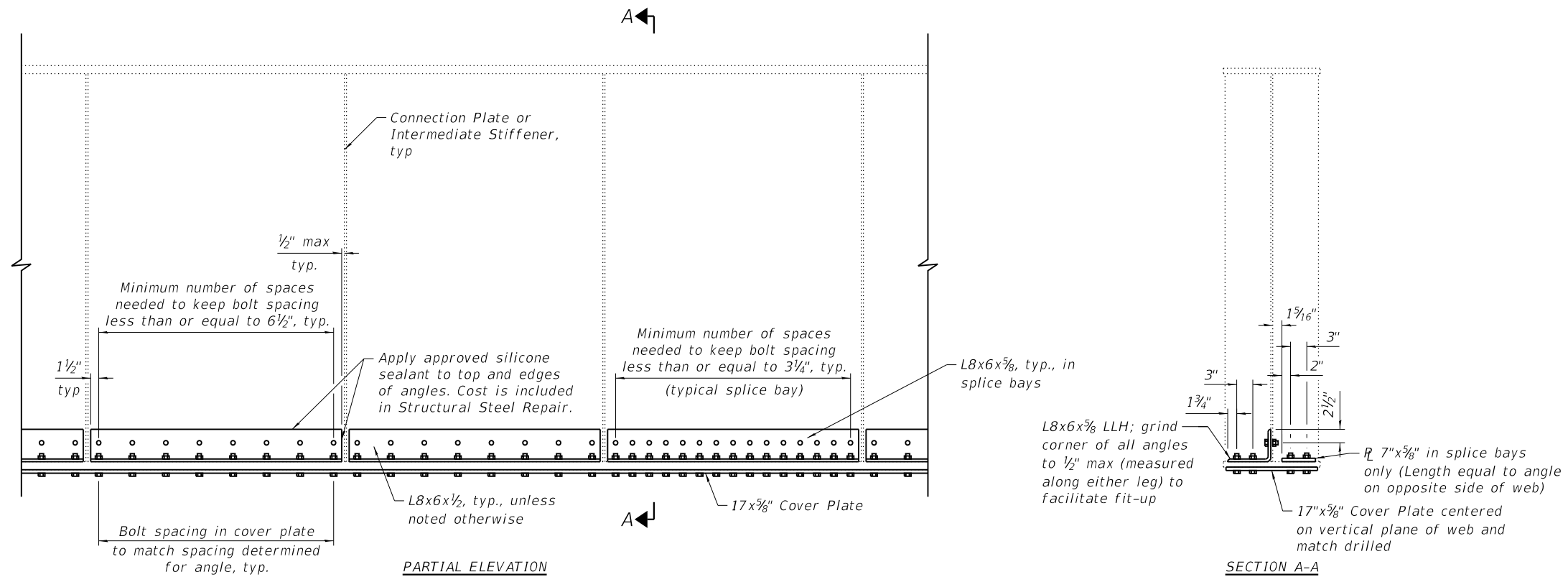
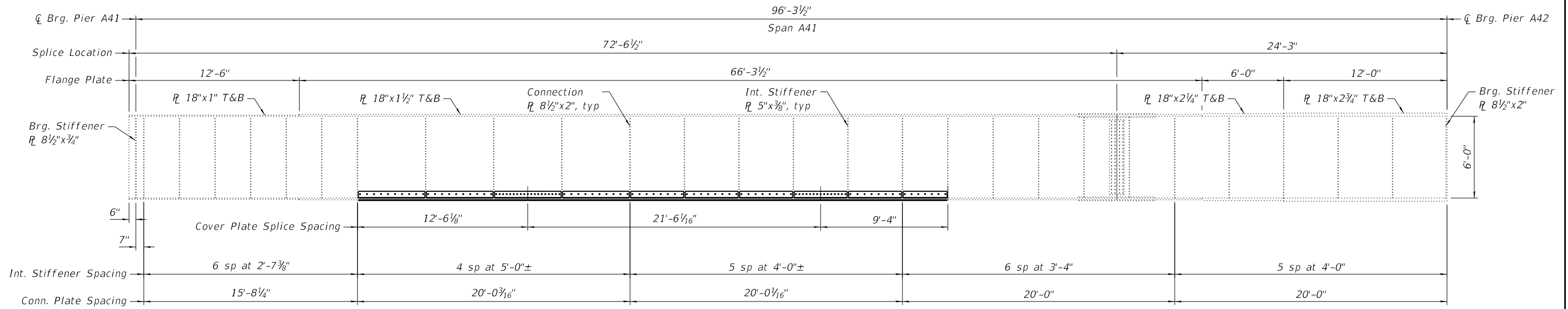
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SPECIAL DRAINAGE DETAILS
S.N. 082-0141**

SHEET NO. 47 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	121
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

PRINT DATE: 9/28/2018 11:18:40 AM Z:\5052 Poplar Street Complex\DCN\Bridges\Final\Plotsheets\Roadway A\049_Rawy_A_Steel Girder Repairs.dgn



BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	3250

Notes:
Match drill cover plate to angle. Make holes on plate symmetric over the plane of the web.

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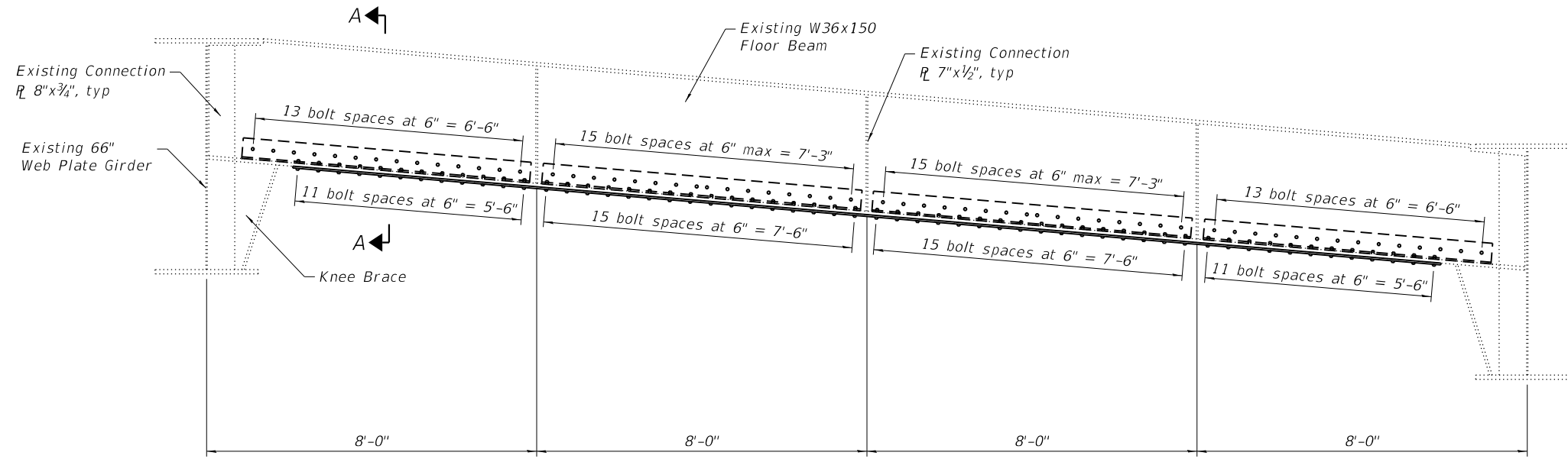
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**GIRDER FLANGE REPAIR
S.N. 082-0141**

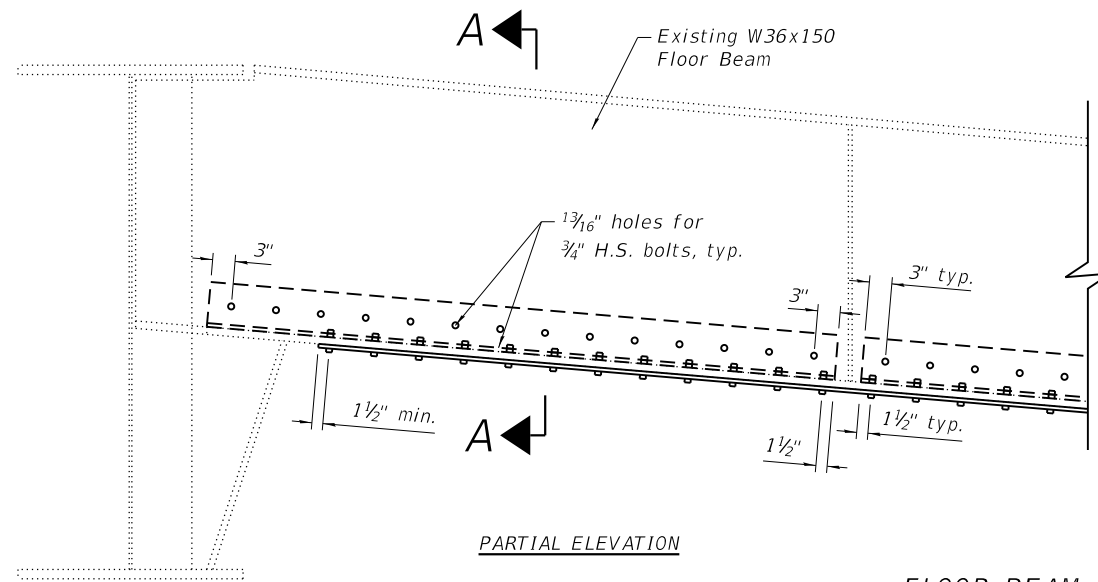
SHEET NO. 48 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
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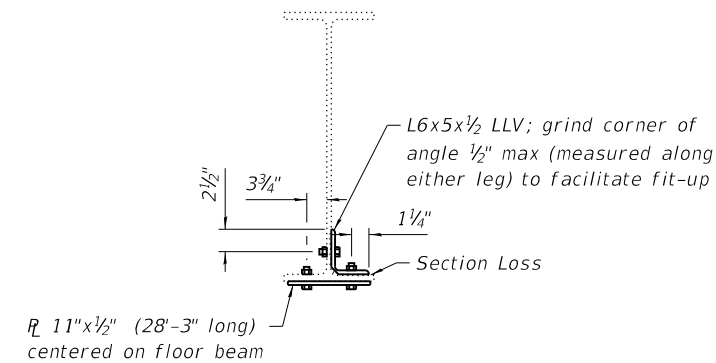


FLOORBEAM PIER A29 SPAN A28 ELEVATION



PARTIAL ELEVATION

FLOOR BEAM REPAIR DETAIL



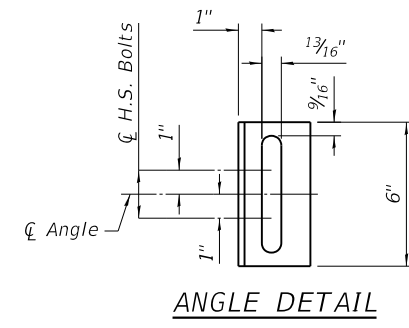
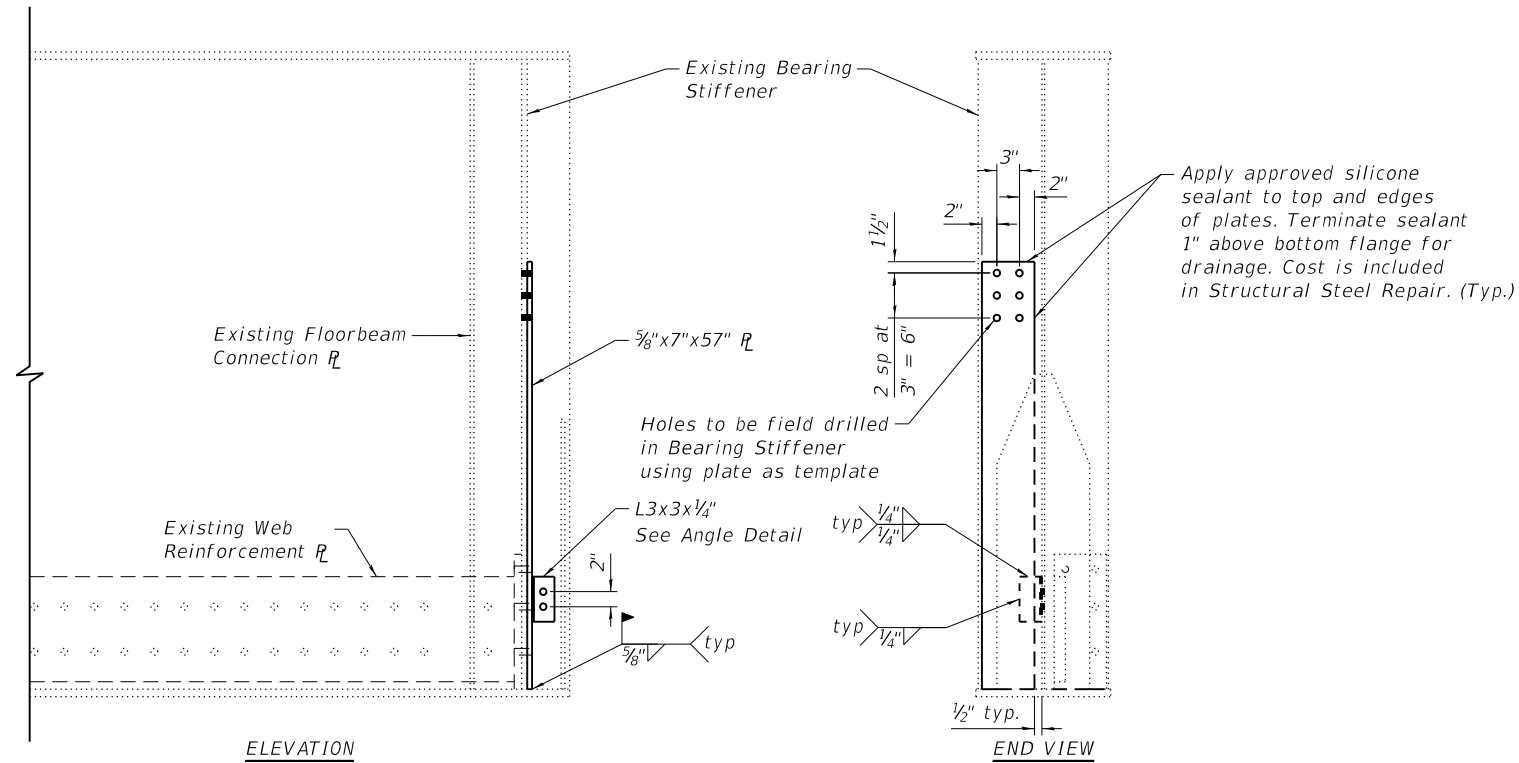
SECTION A-A

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	1400

Notes:
 Apply silicone sealant to all edges of the angles in contact with the web plate.
 Omit bolts that interfere with knee brace.
 Set angles by centering between vertical stiffeners, and then match drill cover plate.

PRINT DATE: 9/28/2018 11:18:46 AM Z:\5052 Poplar Street Complex\DCN\Bridg\Final\Plotsheets\Roadway A\050-Rawy_A_SteelBearing Stiffener Repair (Span A1).dgn



BEARING STIFFENER REPAIR

Span A1, Girder 1 (Opp. Hand)
Span A1, Girder 2

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	170

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PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

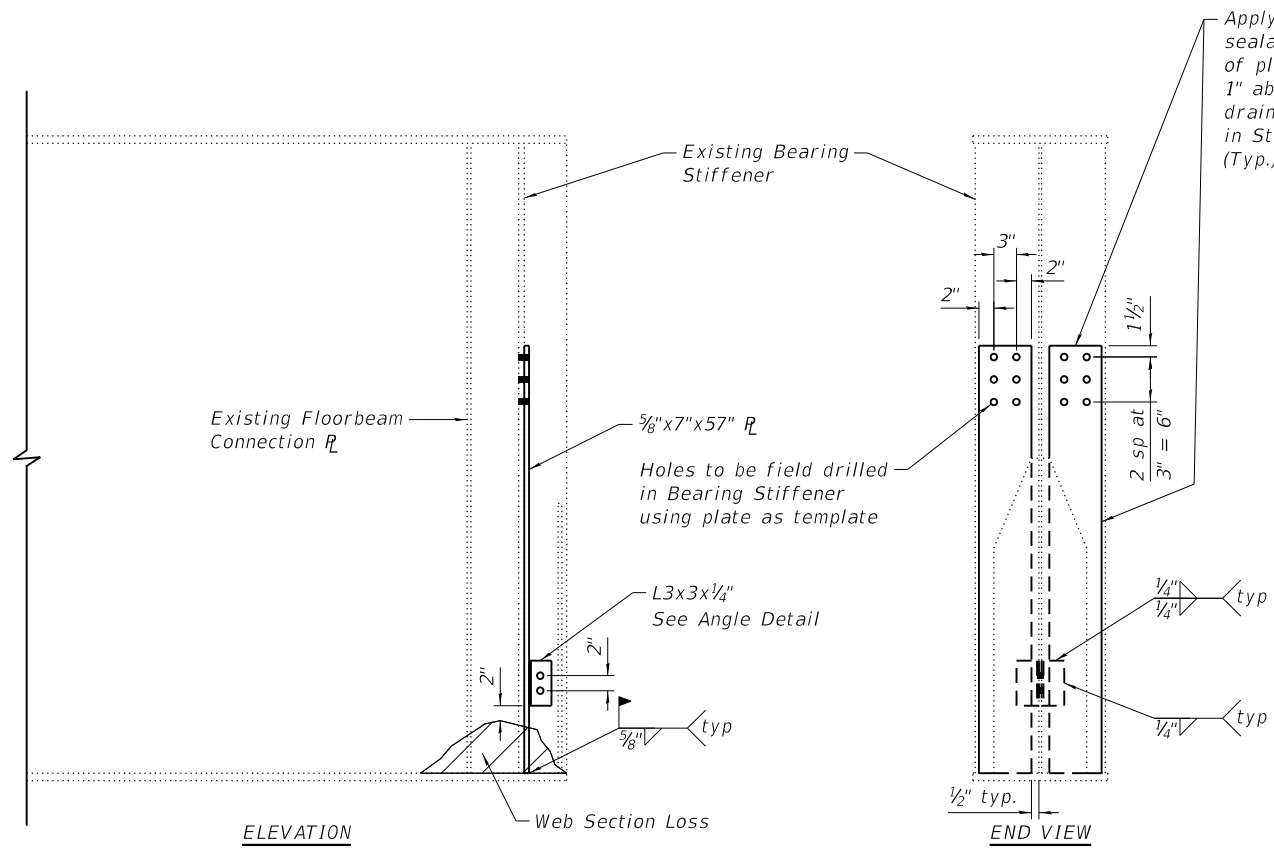
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING STIFFENER REPAIR
S.N. 082-0141

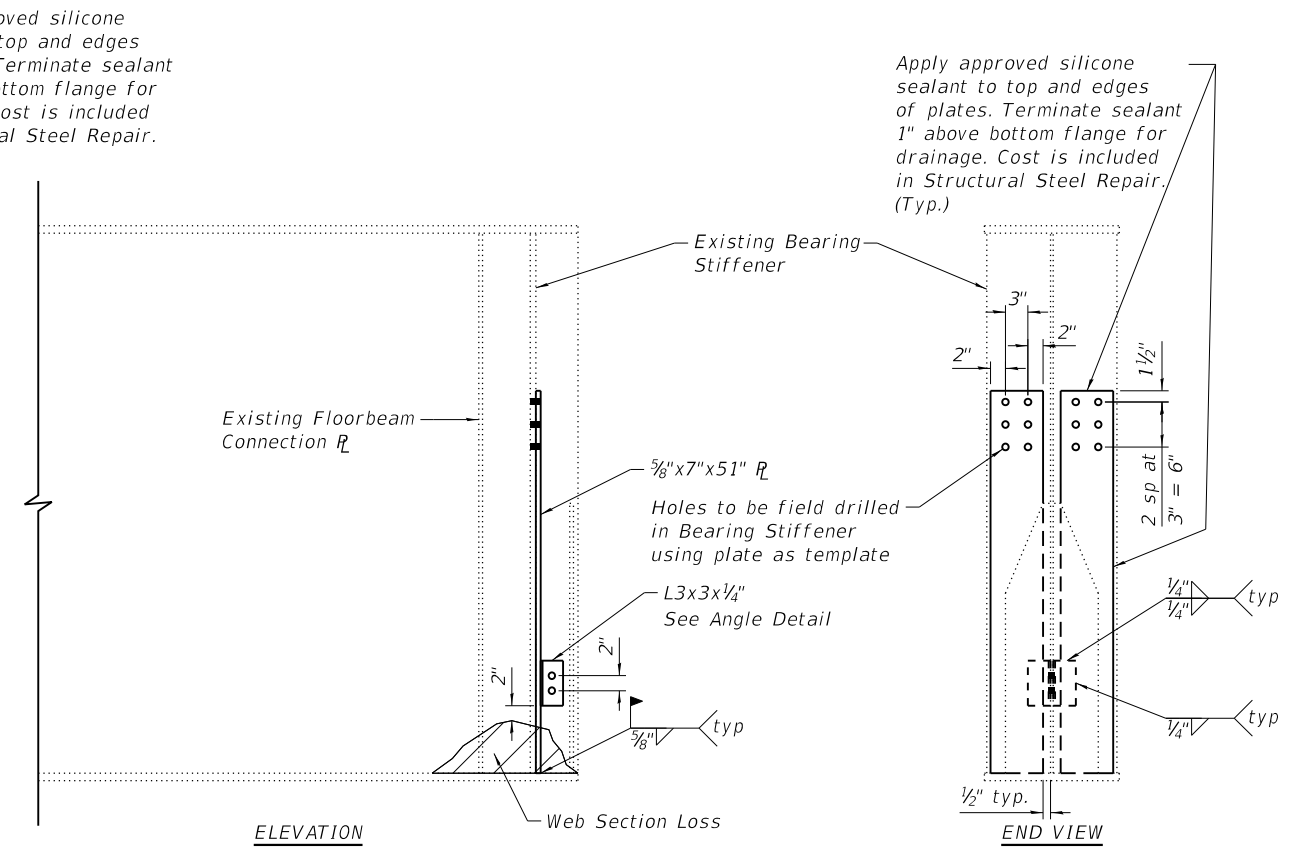
SHEET NO. 50 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

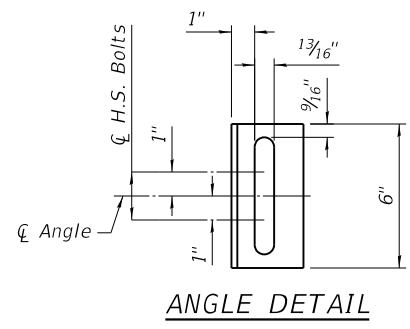
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BEARING STIFFENER REPAIR
 Span A4, Girder 1
 Span A20, Girder 2



BEARING STIFFENER REPAIR
 Span A37, Girder 1
 Span A37, Girder 2
 Span A41, Girder 1



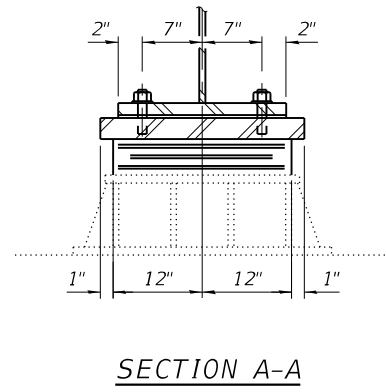
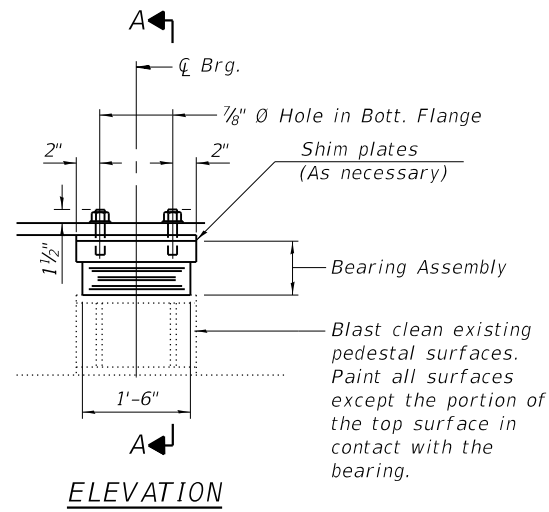
ANGLE DETAIL

BILL OF MATERIAL

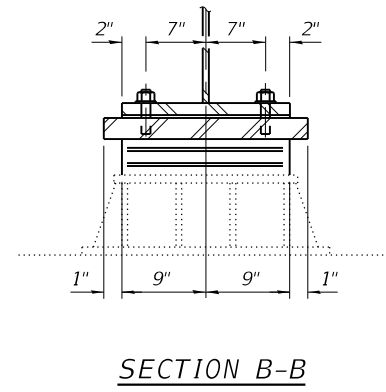
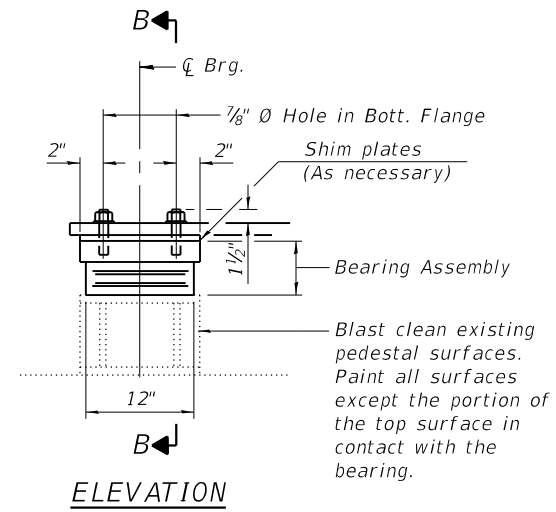
Item	Unit	Total
Structural Steel Repair	Pound	760

Notes:
 Clip angle legs as necessary to avoid partial height stiffener.
 If the elastomeric trough at Pier A38 is removed to facilitate installation of the bearing stiffener repairs at this location, it shall be replaced in the manner shown on Sheet 47 of 90 upon completion of the bearing stiffener repairs.

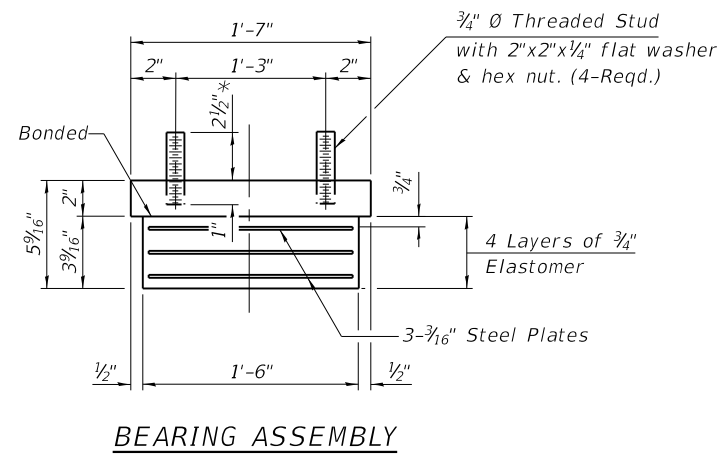
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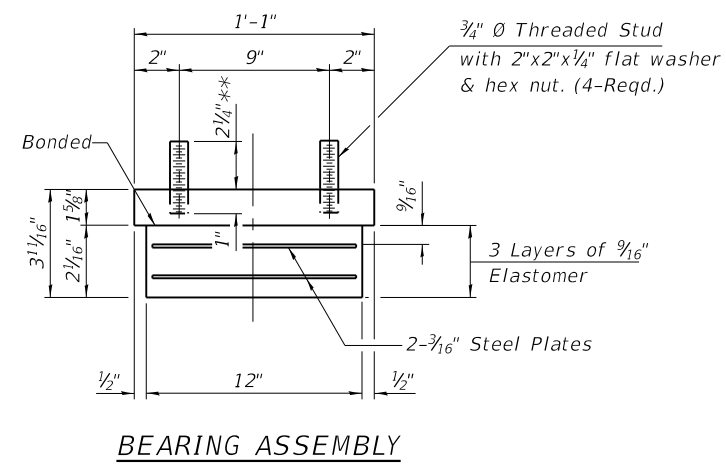
TYPE I ELASTOMERIC EXP. BRG.
Pier A5, Span A4



TYPE I ELASTOMERIC EXP. BRG.
Pier A5, Span A5



* 2 1/2" min. Add thickness of shim plates if required.



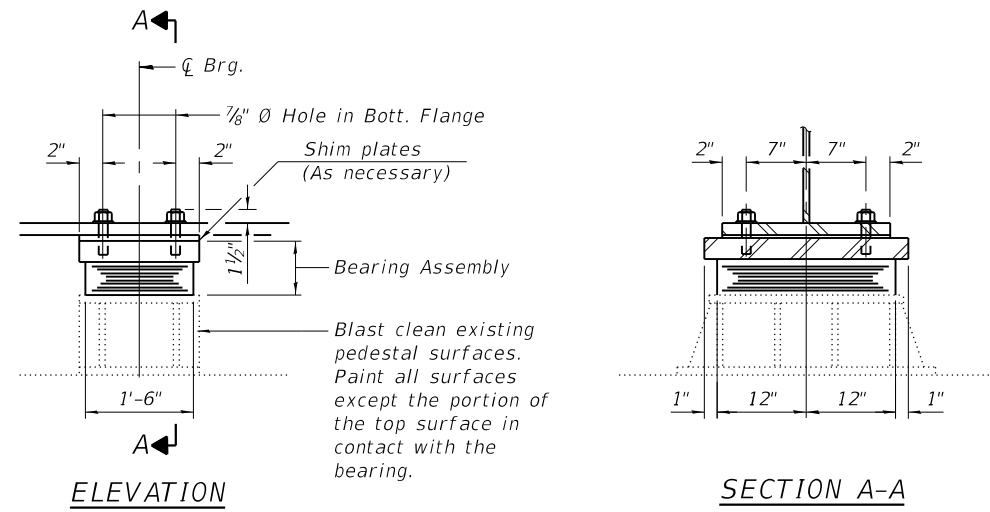
** 2 1/4" min. Add thickness of shim plates if required.

Notes:
Steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.
The bearing shall be installed at an ambient temperature of 50 ±10 Degrees Fahrenheit.
Shim plates shall not be placed under Bearing Assembly.
Minimum plate thickness is 1/16".
Use no more than 2 shim plates at each bearing.
For locations and reactions see Sheet 55 of 90.

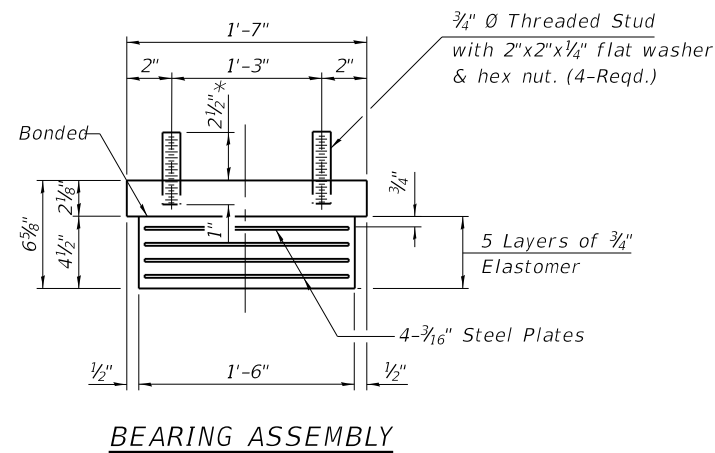
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	126
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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TYPE I ELASTOMERIC EXP. BRG.
Pier A21, Span A20



* 2 1/2" min. Add thickness of shim plates if required.

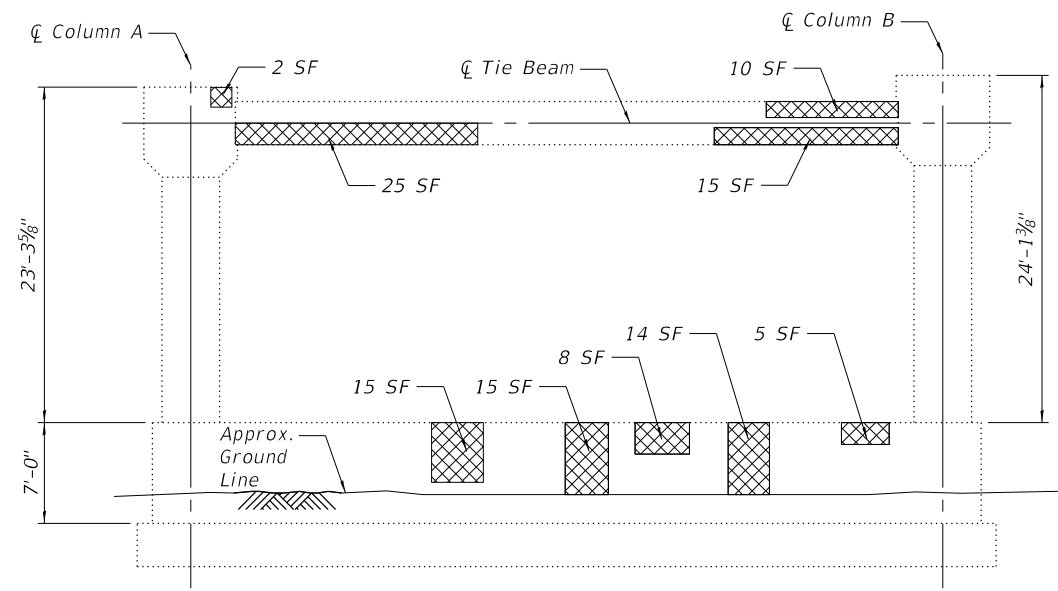
Notes:
Steel members required for the elastomeric bearing assembly shall be included in the cost of Elastomeric Bearing Assembly, Type I.

The bearing shall be installed at an ambient temperature of 50 ±10 Degrees Fahrenheit.
Shim plates shall not be placed under Bearing Assembly.
The topmost shim plate used shall have a slope of 3% to match the roadway grade. Minimum shim plate thickness is 1/16".
Use no more than 2 shim plates at each bearing.
For locations and reactions see Sheet 61 of 90.

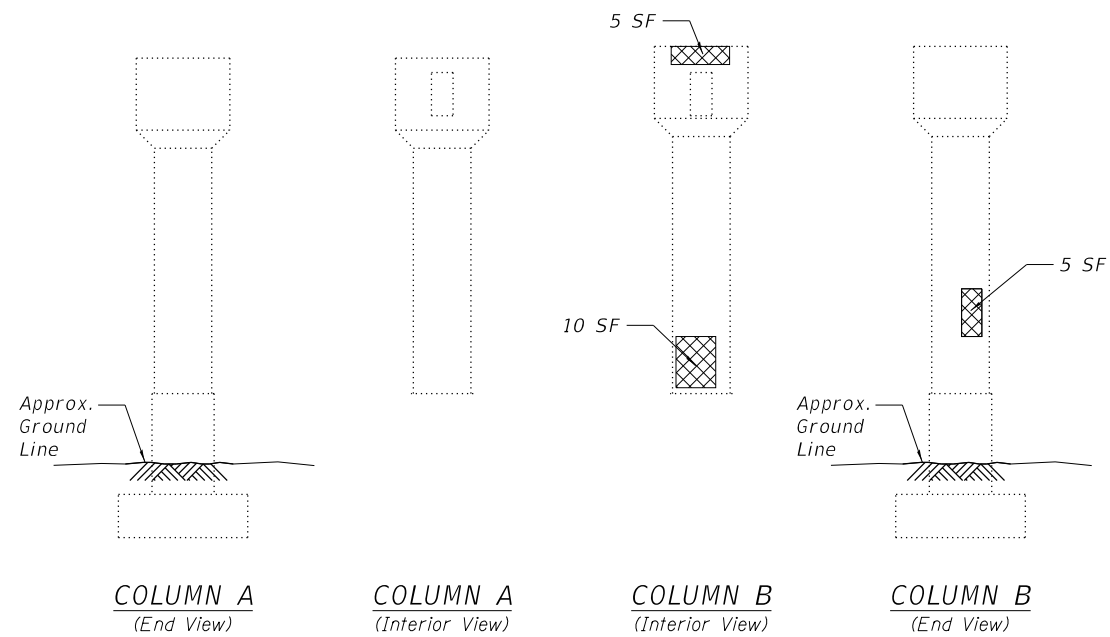
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

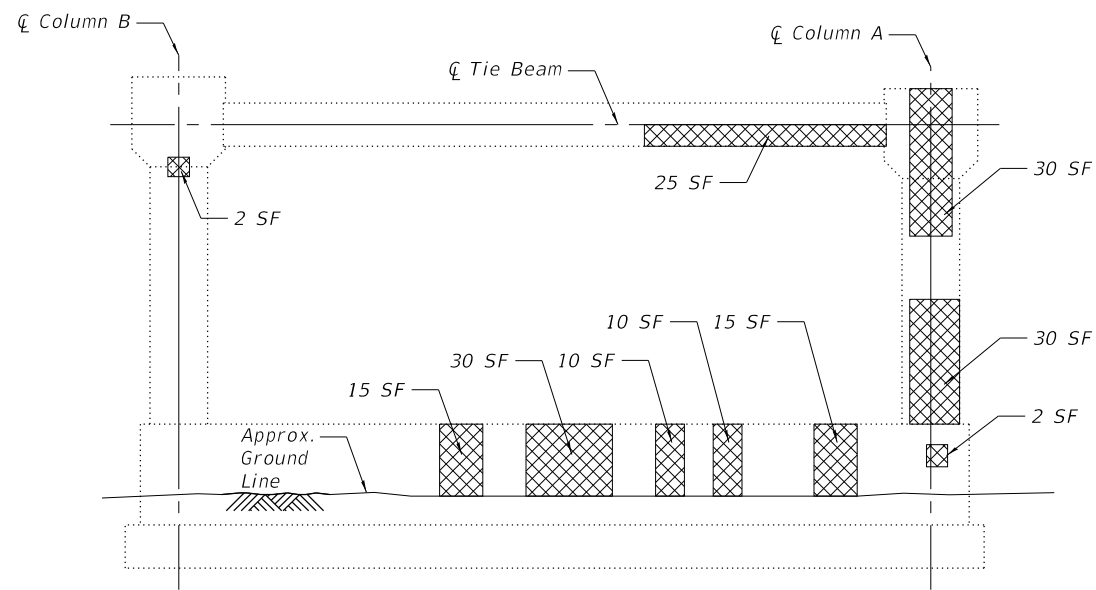
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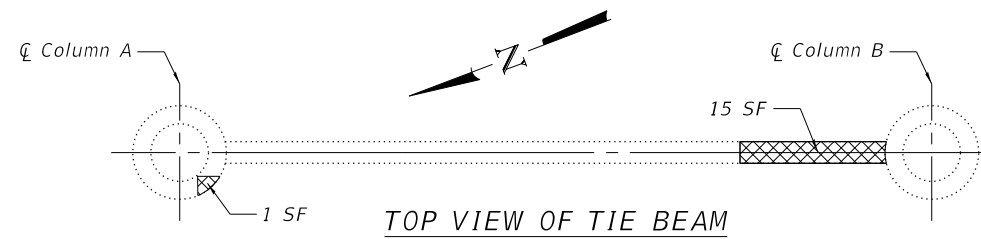
ELEVATION
(Looking Upstation)



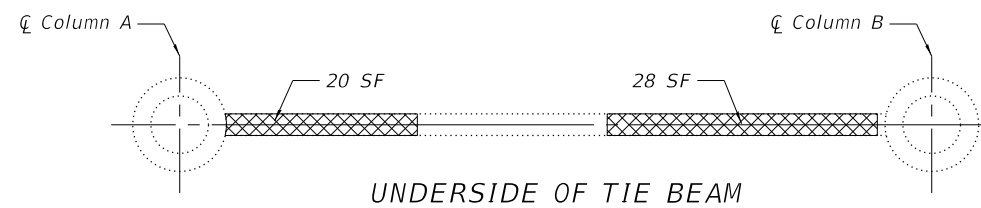
COLUMN A (End View) **COLUMN A** (Interior View) **COLUMN B** (Interior View) **COLUMN B** (End View)



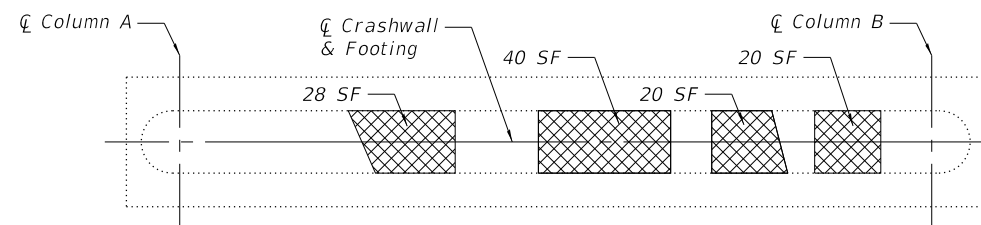
ELEVATION
(Looking Downstation)



TOP VIEW OF TIE BEAM



UNDERSIDE OF TIE BEAM



TOP OF CRASHWALL

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

Note:
Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

See Sheet 75 of 90 for details of partial depth patching and placement of zinc anodes.

PIER A1
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	470
Galvanic Anode	Each	371

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DATE - 09/28/2018
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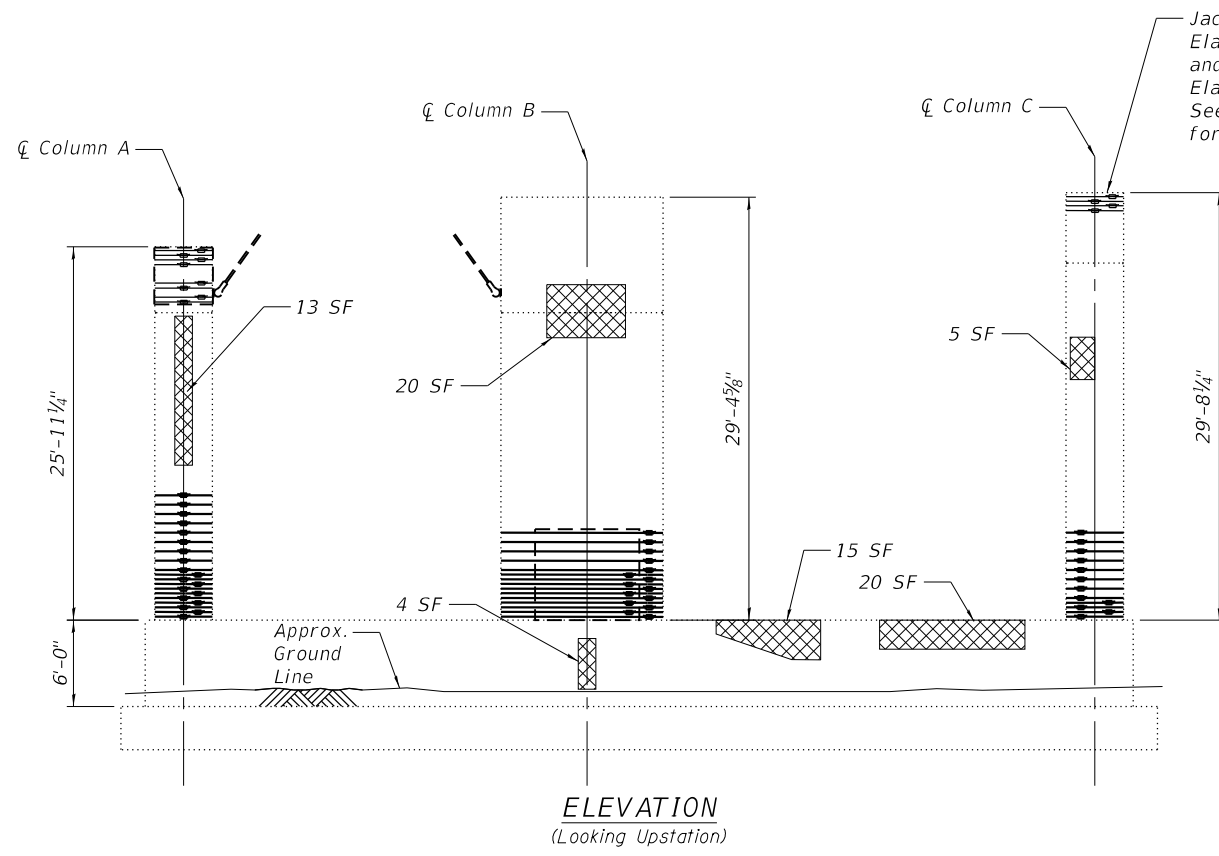
STATE OF ILLINOIS
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PIER A1
S.N. 082-0141

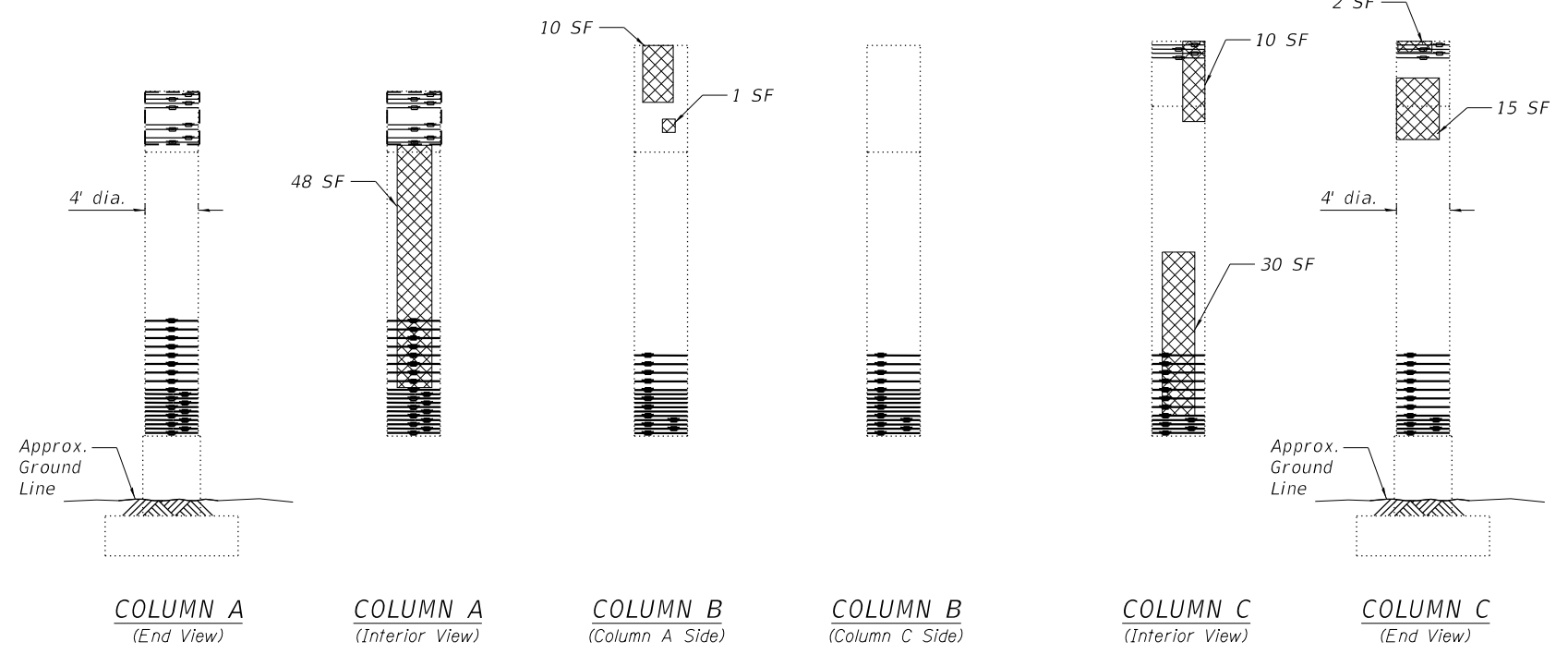
SHEET NO. 54 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

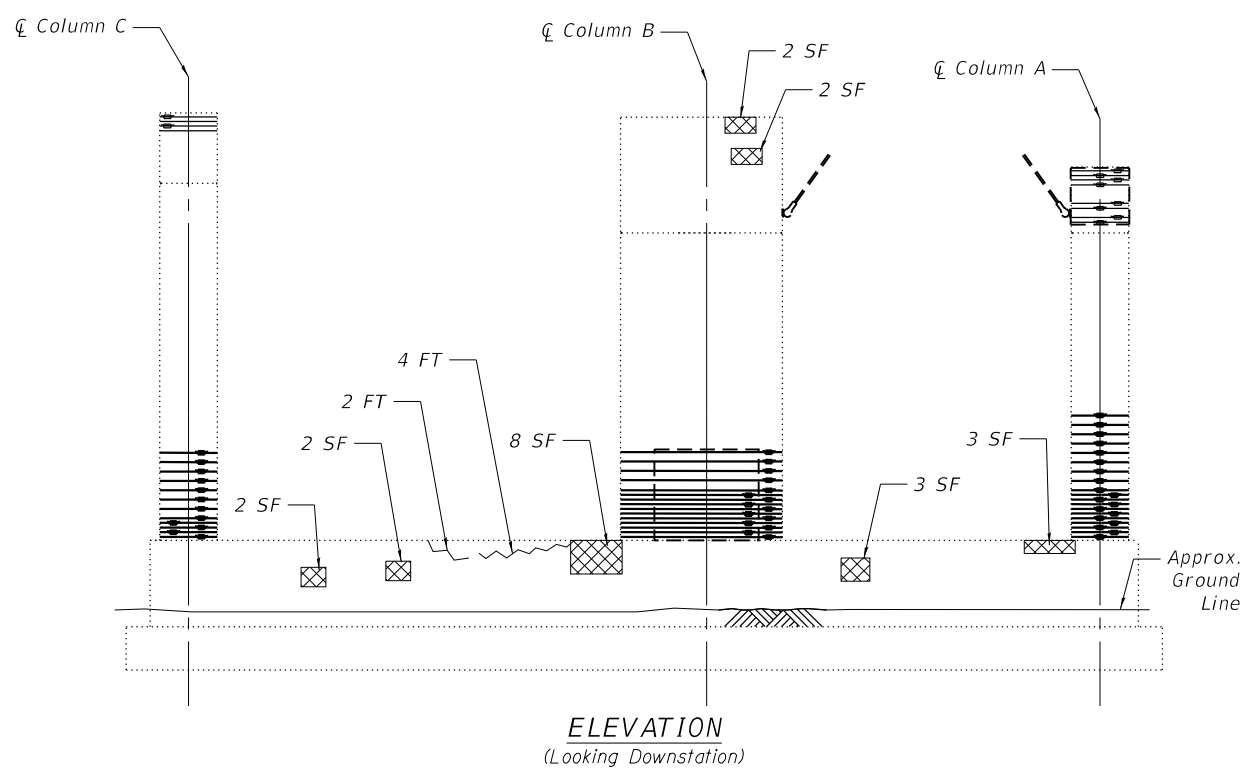
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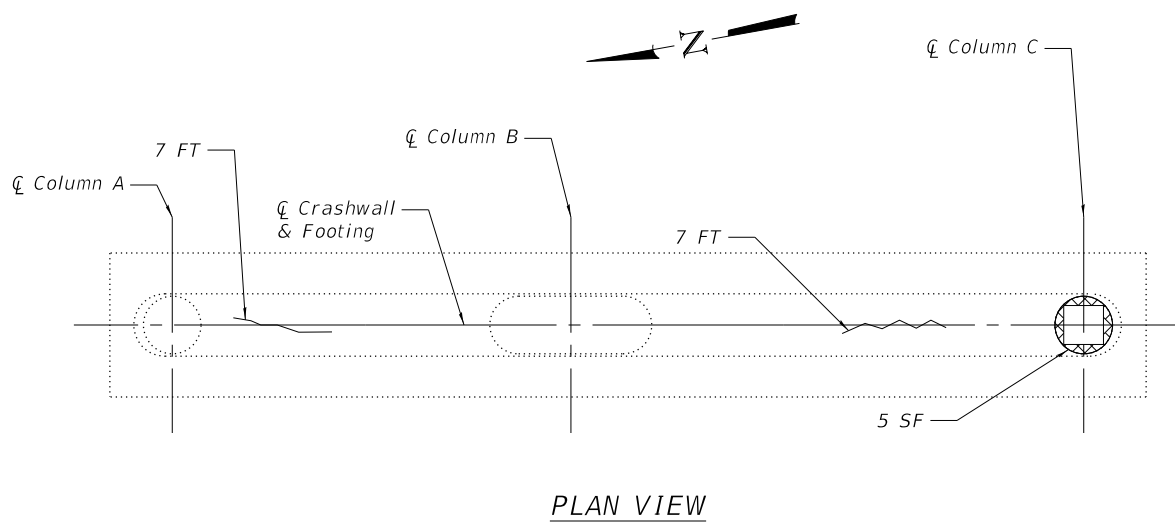
ELEVATION
(Looking Upstation)



COLUMN A (End View) **COLUMN A** (Interior View) **COLUMN B** (Column A Side) **COLUMN B** (Column C Side) **COLUMN C** (Interior View) **COLUMN C** (End View)



ELEVATION
(Looking Downstation)



PLAN VIEW

Span A5 Bearing Reactions	
Dead	90 kip
Live Load + Impact	83 kip

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

Epoxy Crack Injection

Span A4 Bearing Reactions	
Dead	165 kip
Live Load + Impact	155 kip

PIER A5
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	220
Epoxy Crack Injection	Foot	20
Galvanic Anode	Each	262
Column Tensioned Strands	Each	20
Elastomeric Bearing Assembly, Type I	Each	2
Jack and Remove Existing Bearings	Each	2

Note:
Remove existing hoops that intersect repair areas. Replace each removed hoop with a column tensioned strand after the repair area has reached design strength. See sheet 76 of 90 for related details and notes.

Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

See Sheet 75 of 90 for details of partial depth patching and placement of zinc anodes.

Bearing removal shall take place before removal of hoops. The new bearing will not be loaded until the new column tensioned strands are in place.

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847.272.7400 tel | 847.291.9595 fax

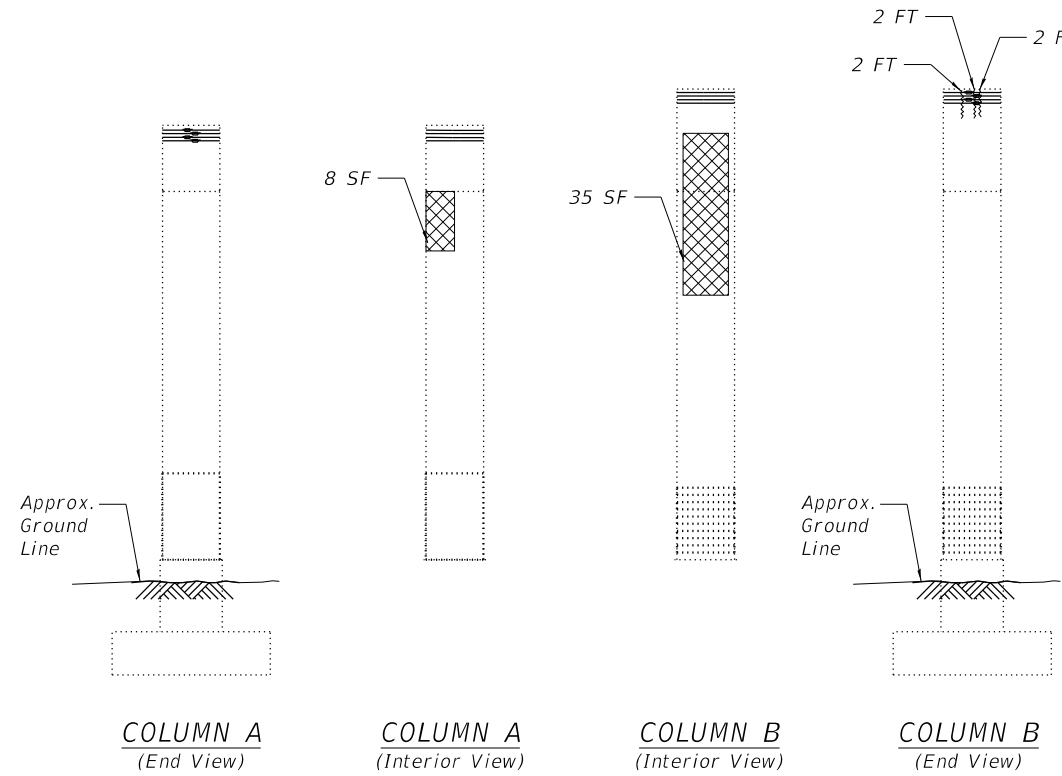
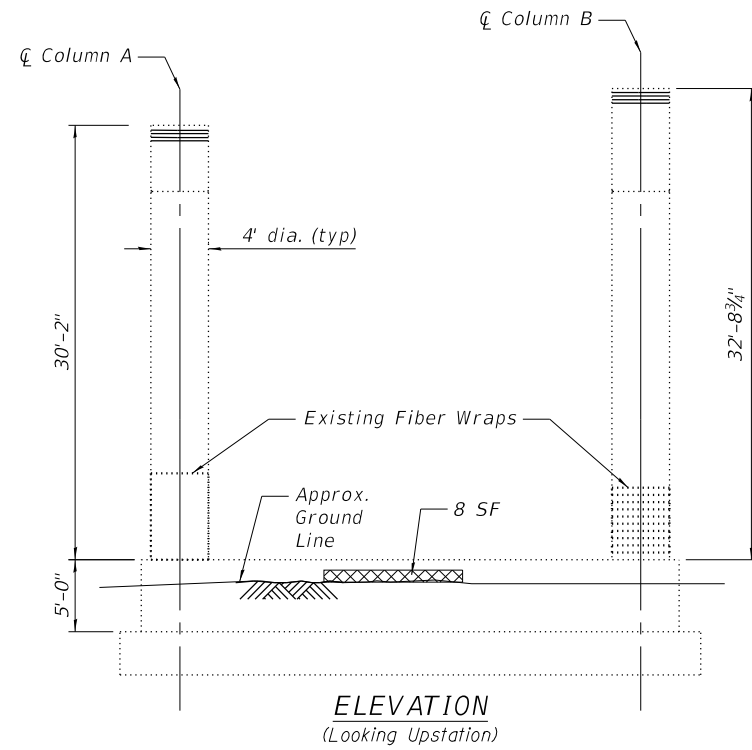
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

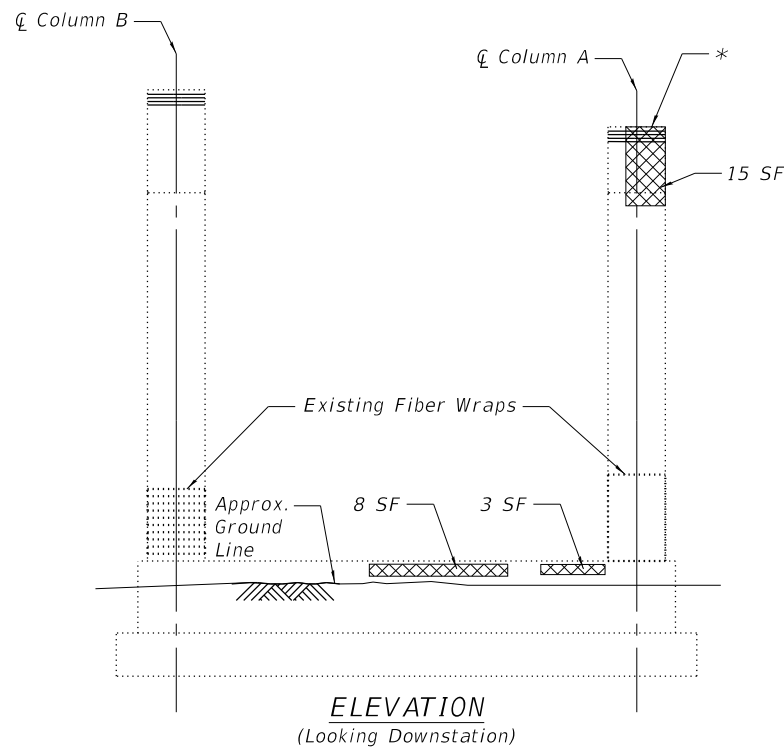
PIER A5
S.N. 082-0141
SHEET NO. 55 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HV-2R-(2,1)-1-2	ST. CLAIR	238	129
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

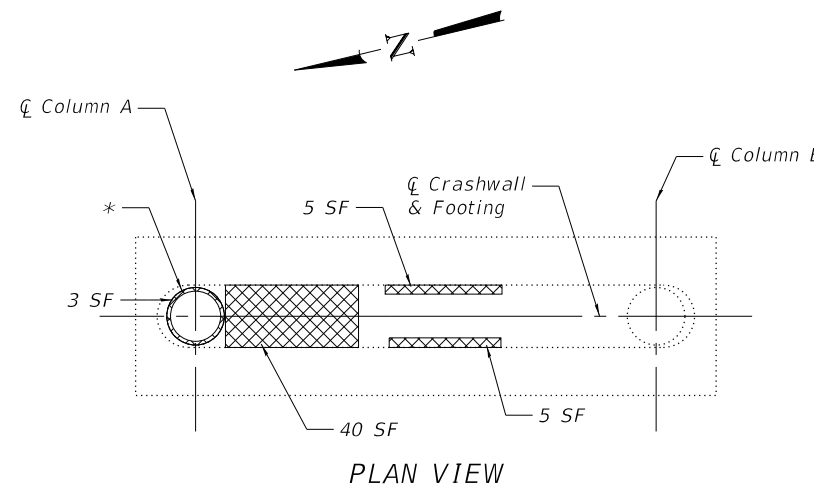
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Span A8 Bearing Reactions	
Dead	111 kip
Live Load + Impact	86 kip



* Install temporary shoring to support each girder framing into Column A prior to concrete removal.



Span A7 Bearing Reactions	
Dead	90 kip
Live Load + Impact	83 kip

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

Epoxy Crack Injection

Note:
Remove existing hoops that intersect repair areas. Replace each removed hoop with a column tensioned strand after the repair area has reached design strength. See sheet 76 of 90 for related details and notes.

Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A8
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	130
Epoxy Crack Injection	Foot	6
Galvanic Anode	Each	132
Column Tensioned Strands	Each	4
Temporary Shoring and Cribbing	Each	2

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax
www.wje.com

USER NAME = acb	DESIGNED - ARB	REVISED -
PLOT SCALE = 0.1667' / 1"	CHECKED - RW	REVISED -
PLOT DATE = 10/8/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

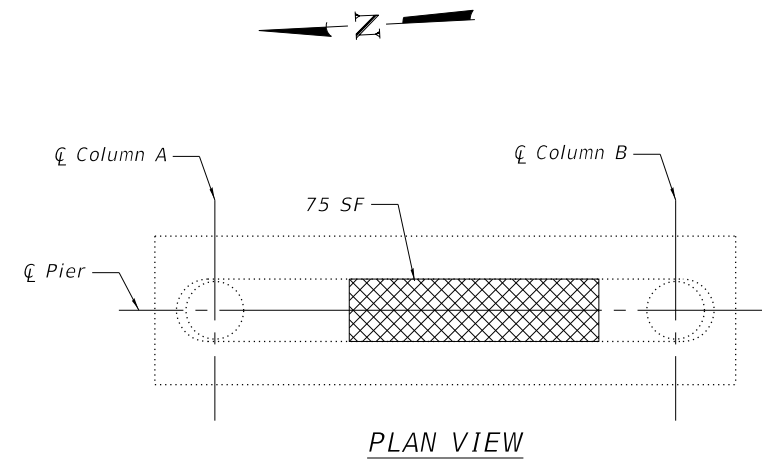
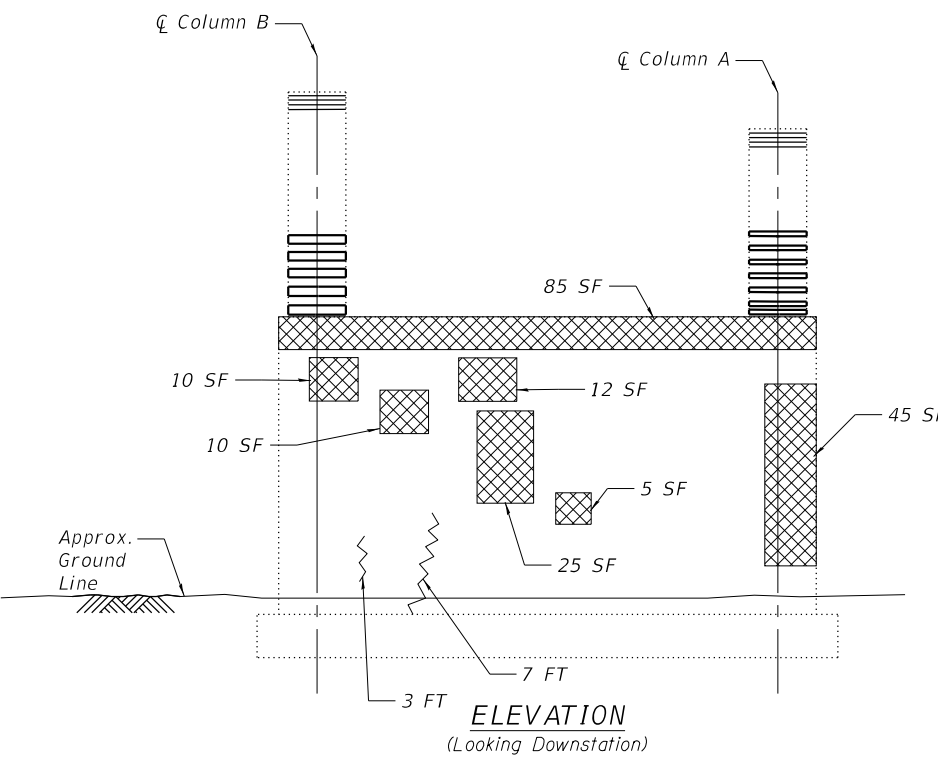
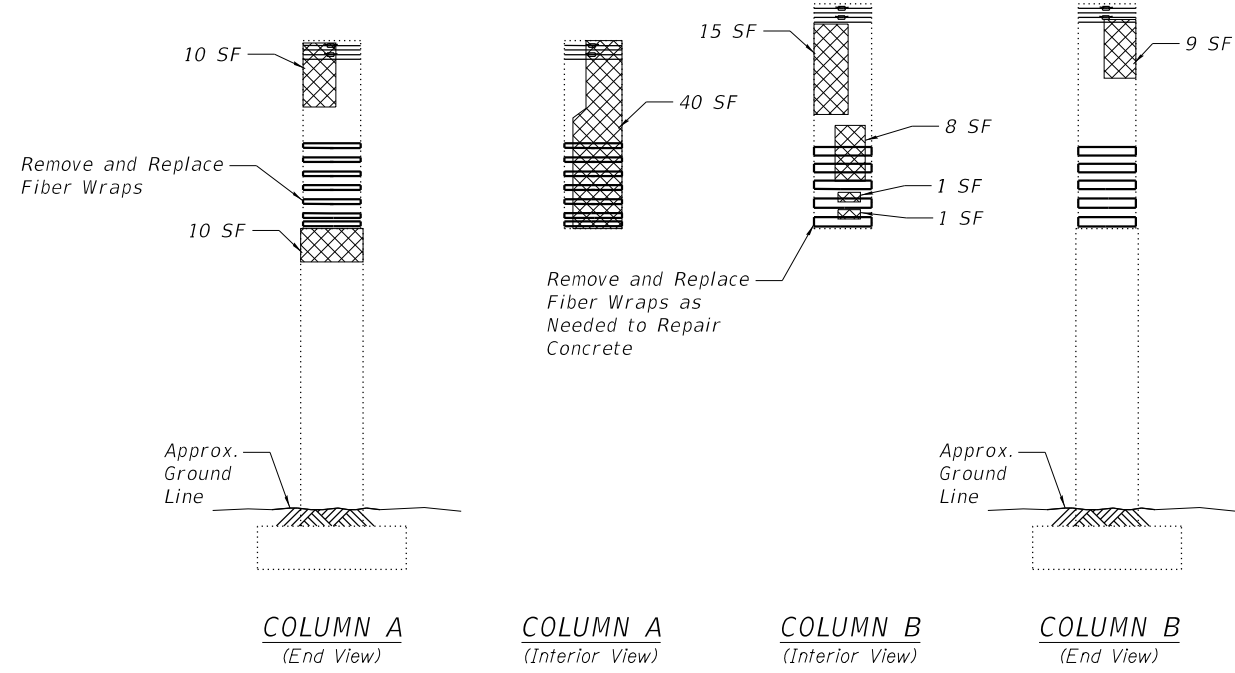
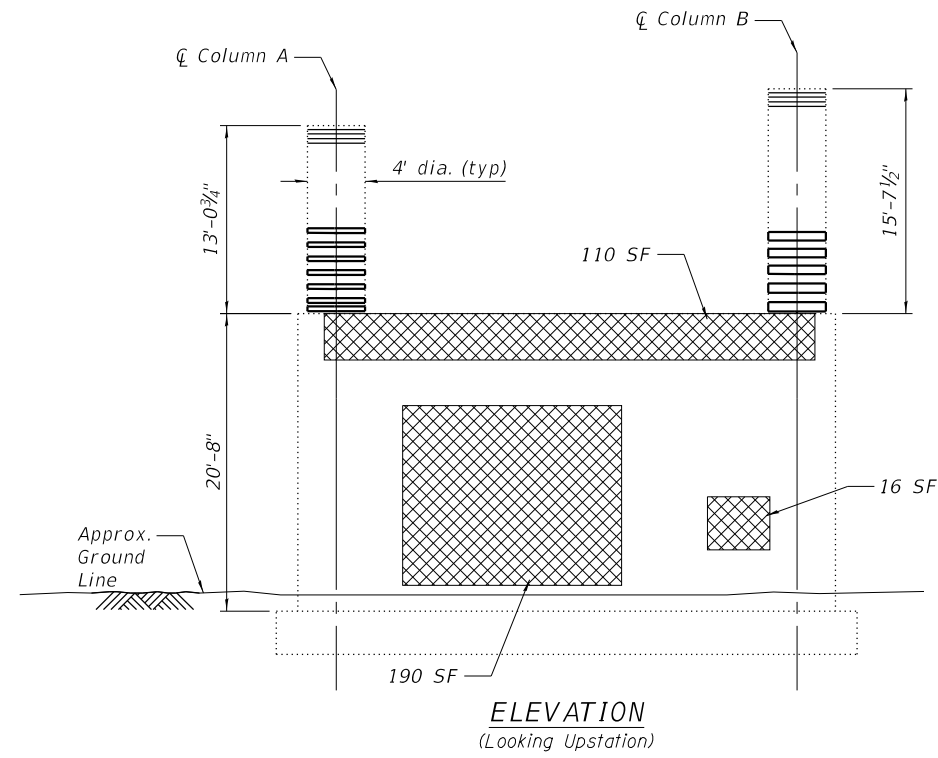
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER A8
S.N. 082-0141

SHEET NO. 56 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	130
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

PRINT DATE: 9/28/2018 11:18:55 AM Z:\5052 Poplar Street Complex\DCN\Bridges\Final\Plotsheets\Piers\057_Pier_All.dgn



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

Note:
 Remove existing hoops that intersect repair areas. Replace each removed hoop with a column tensioned strand after the repair areas has reached design strength. See sheet 76 of 90 for related details and notes.

 See project specifications for fiber wrap replacement requirements.

 Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

**PIER A11
BILL OF MATERIAL**

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	677
Epoxy Crack Injection	Foot	10
Galvanic Anode	Each	403
Column Tensioned Strands	Each	6
Fiber Wrap	Sq Ft	55

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 Wss, Janney, Elstner Associates, Inc.
 330 Pingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ARB	REVISED -
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PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

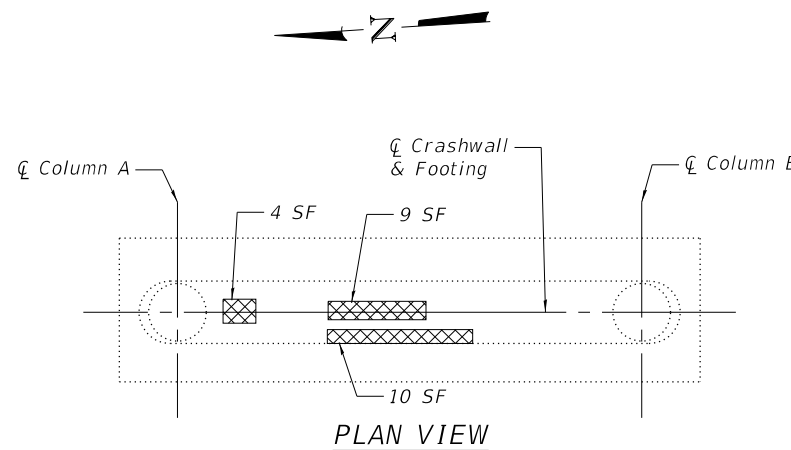
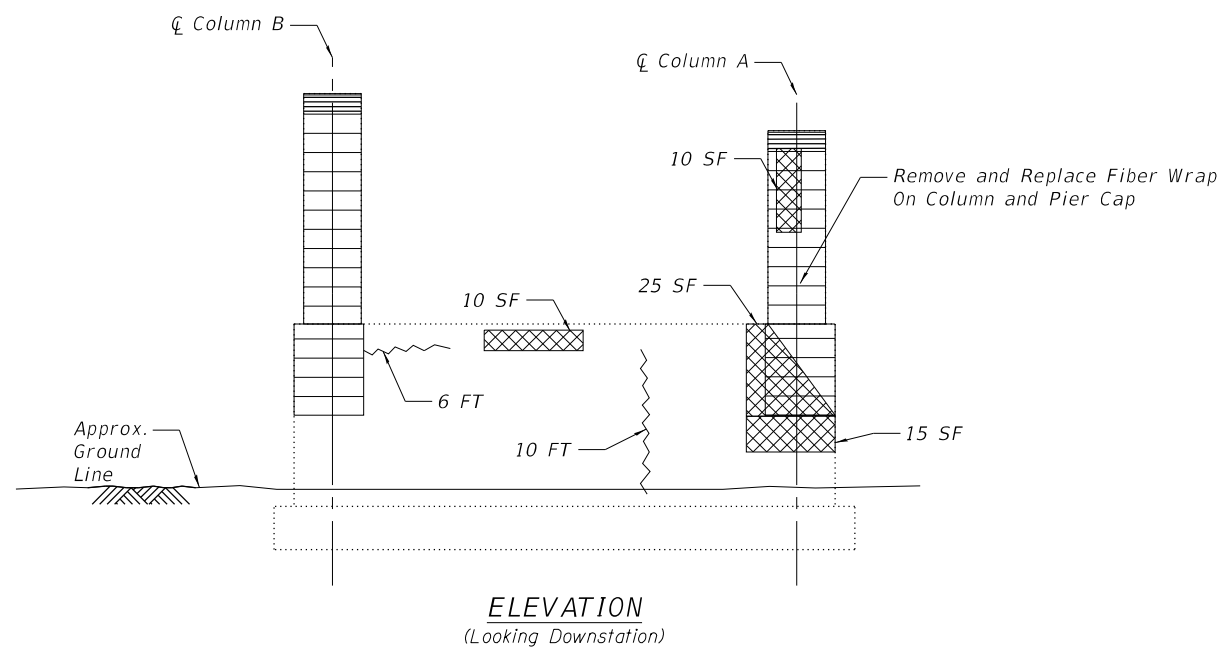
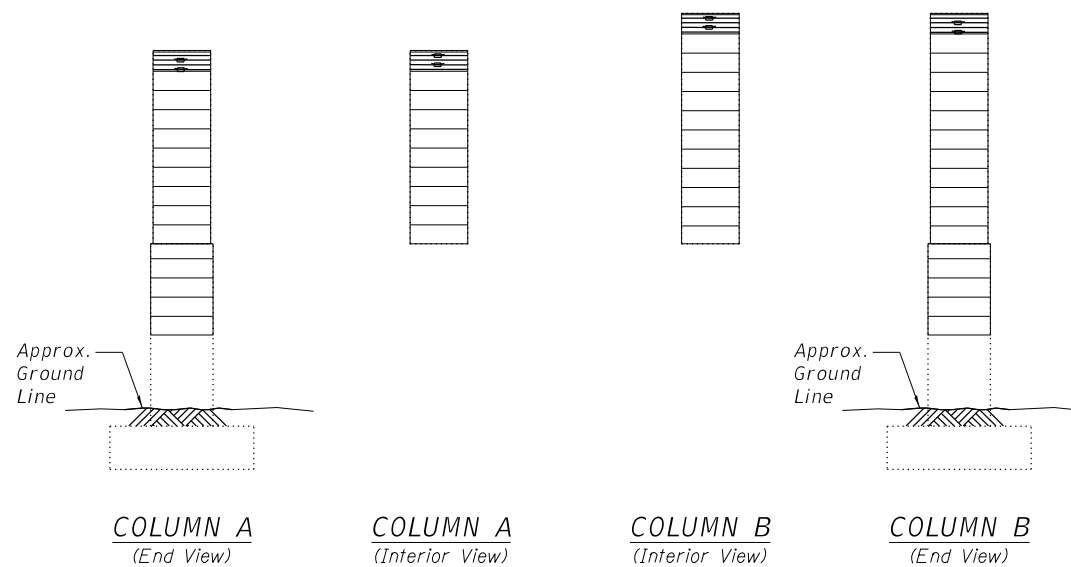
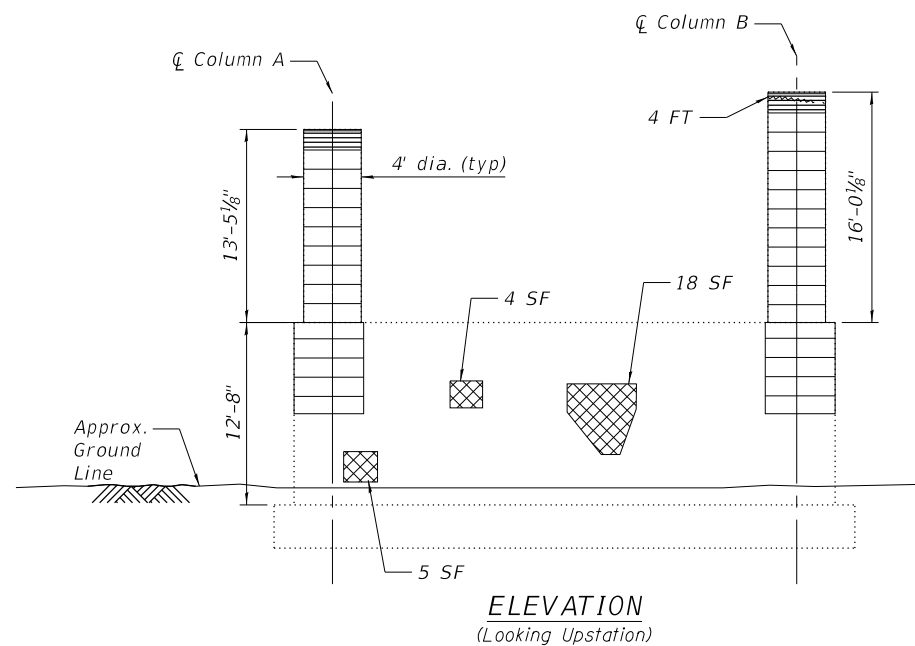
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**PIER A11
S.N. 082-0141**

SHEET NO. 57 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	131
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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- Existing fiber wraps
- Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)
- Epoxy Crack Injection

Note:
See project specifications for fiber wrap replacement requirements.

Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A12
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	90
Epoxy Crack Injection	Foot	20
Galvanic Anode	Each	134
Fiber Wrap	Sq Ft	65

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax

USER NAME = acb
DESIGNED - ARB
CHECKED - RW
DRAWN - ACB
DATE - 09/28/2018
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PLOT DATE = 9/28/2018

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REVISED -
REVISED -
REVISED -

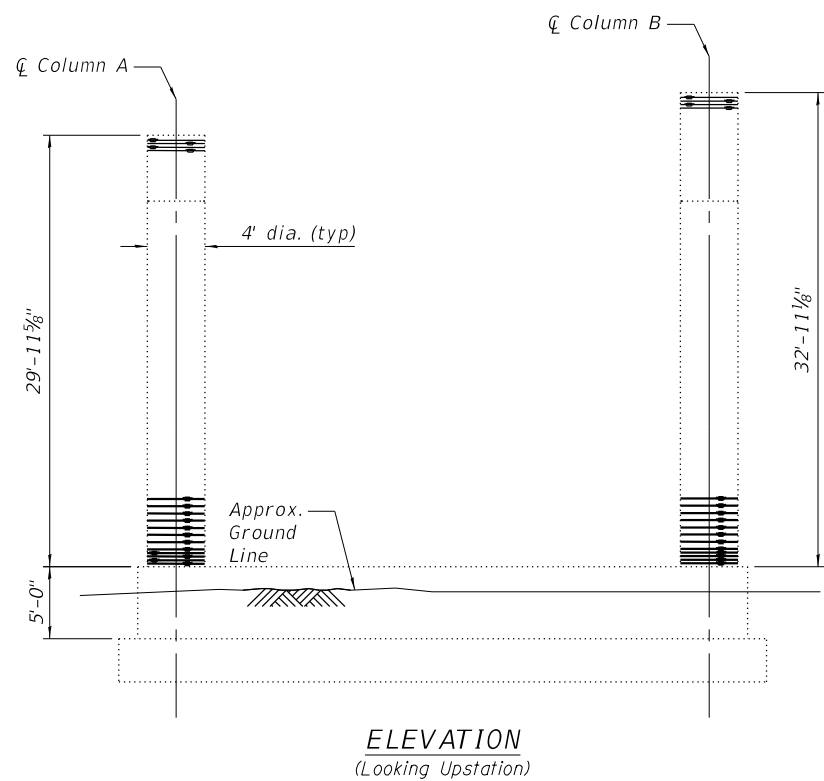
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER A12
S.N. 082-0141

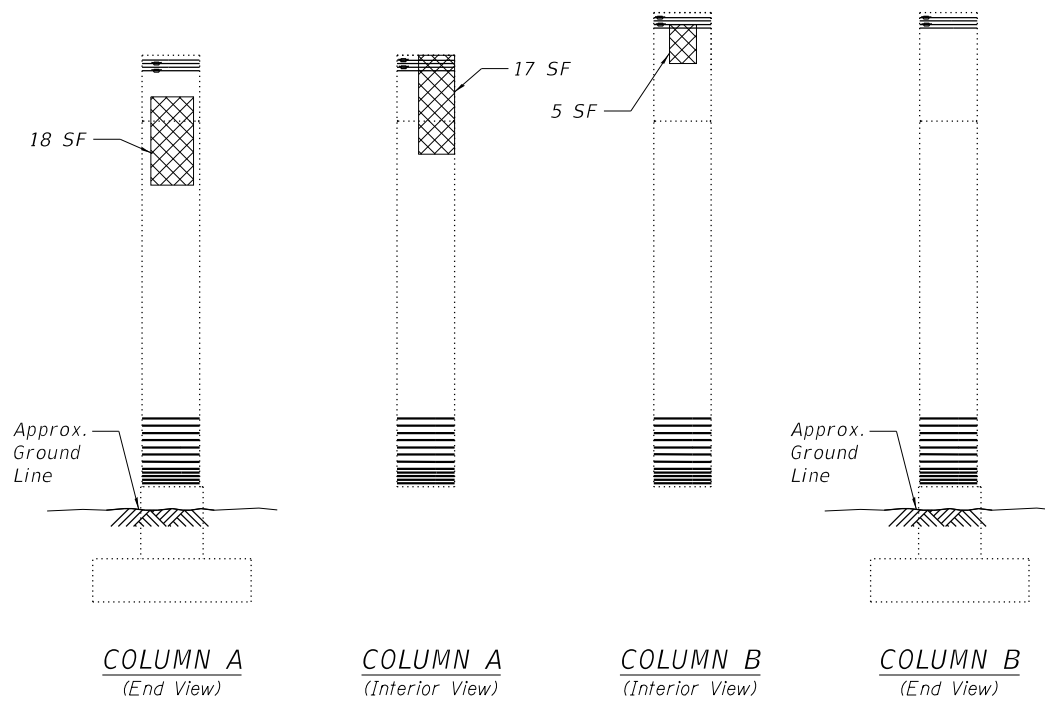
SHEET NO. 58 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	132
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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ELEVATION
(Looking Upstation)

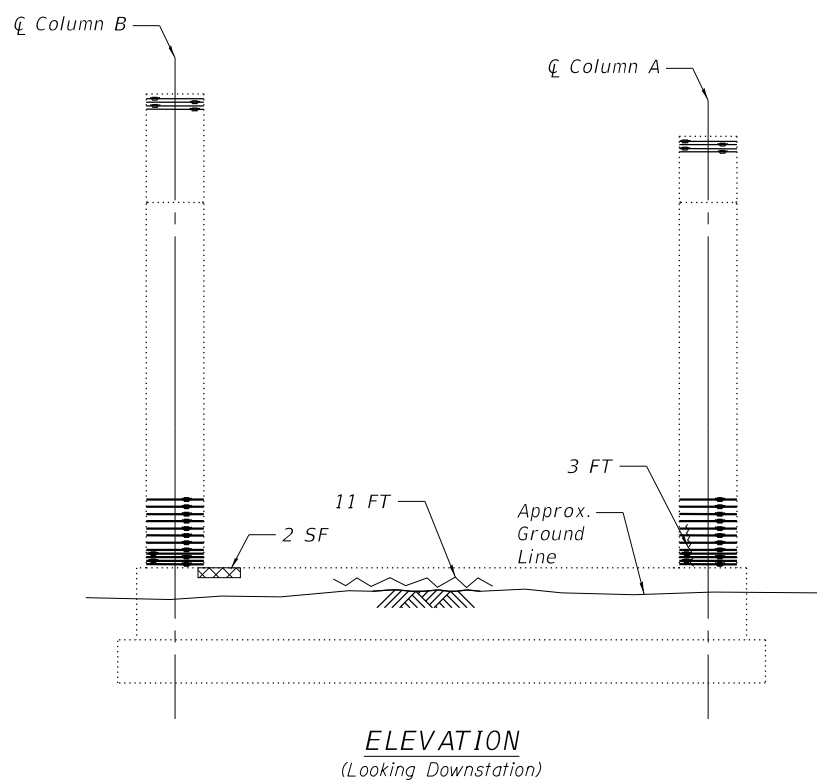


COLUMN A
(End View)

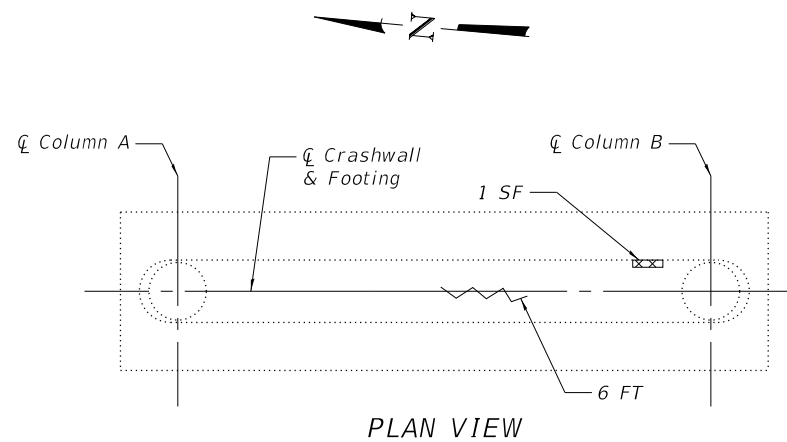
COLUMN A
(Interior View)

COLUMN B
(Interior View)

COLUMN B
(End View)



ELEVATION
(Looking Downstation)



PLAN VIEW

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

Epoxy Crack Injection

Note:
Remove existing hoops that intersect repair areas. Replace each removed hoop with a column tensioned strand after the repair area has reached design strength. See sheet 76 of 90 for related details and notes.

Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A15
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	43
Epoxy Crack Injection	Foot	20
Galvanic Anode	Each	44
Column Tensioned Strands	Each	6

WJE ENGINEERS
ARCHITECTS
MATERIAL SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax
www.wje.com

USER NAME = acb
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CHECKED - RW
DRAWN - ACB
DATE - 09/28/2018
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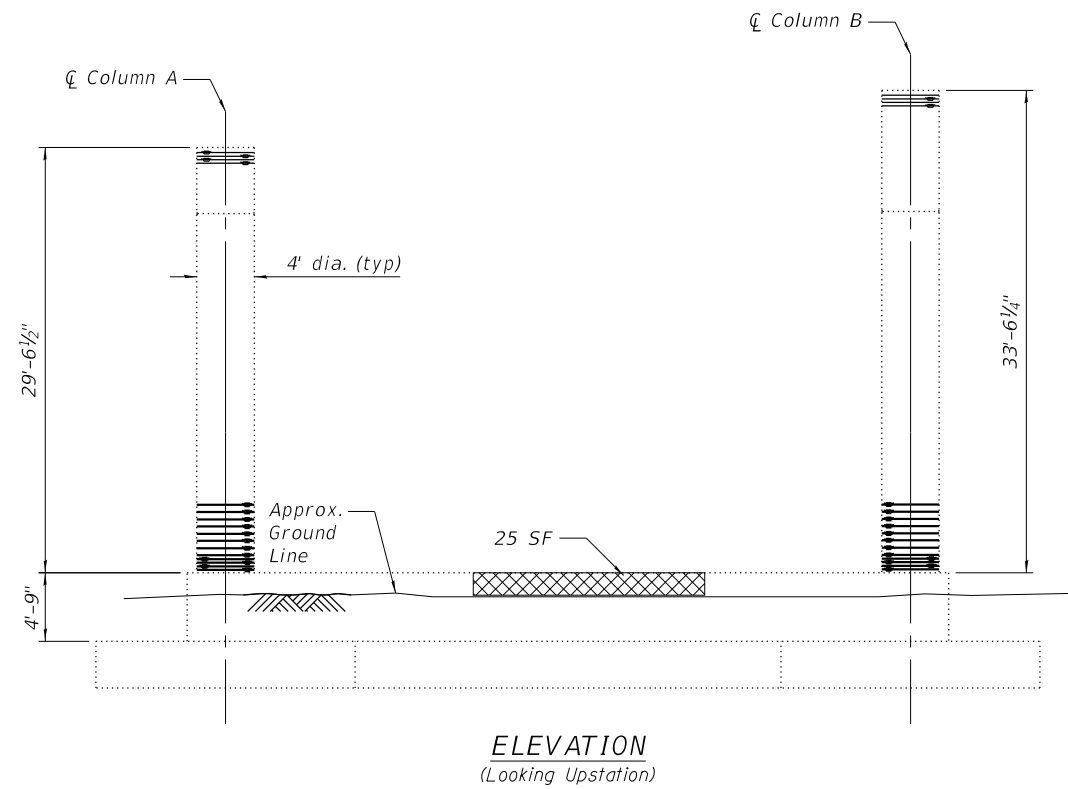
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DATE - 09/28/2018

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

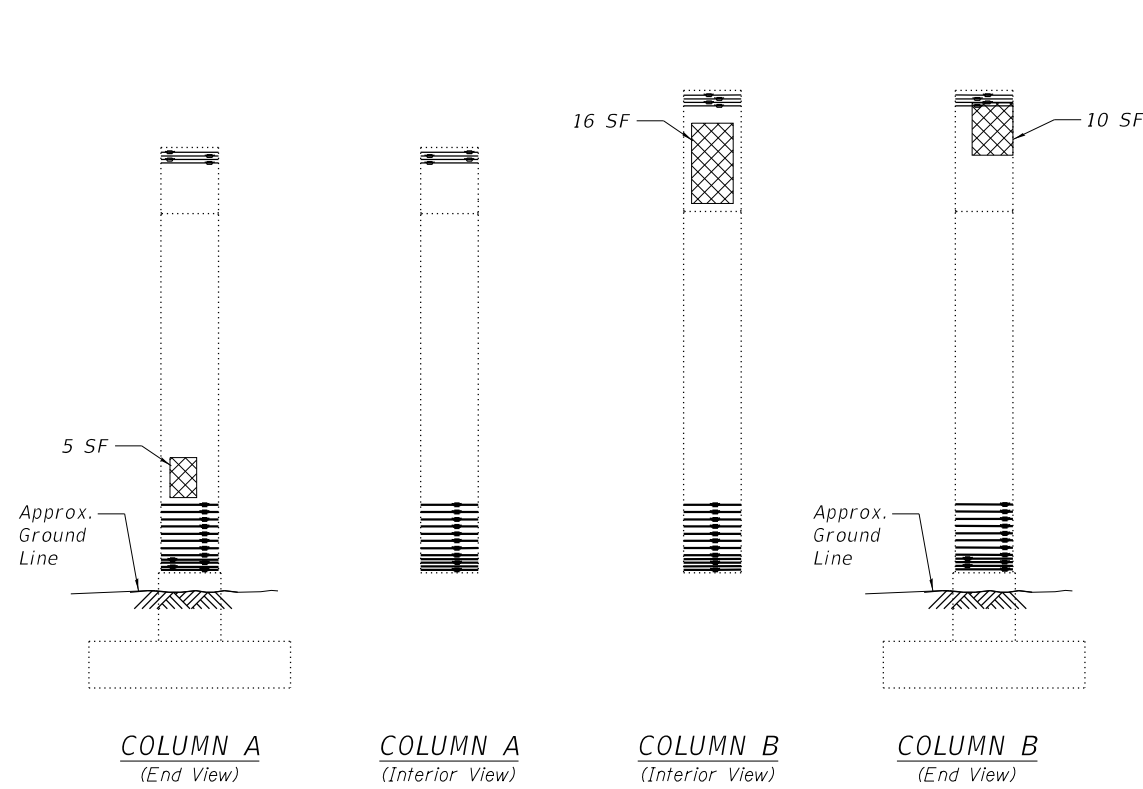
PIER A15
S.N. 082-0141
SHEET NO. 59 OF 90 SHEETS

F.A.I. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

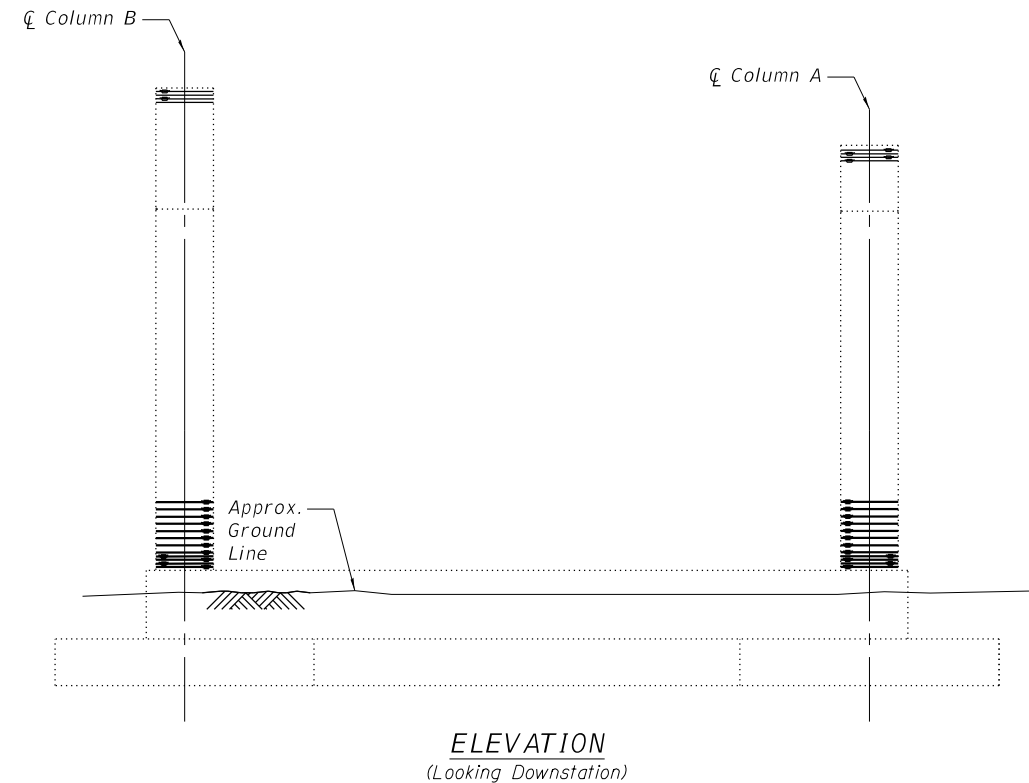
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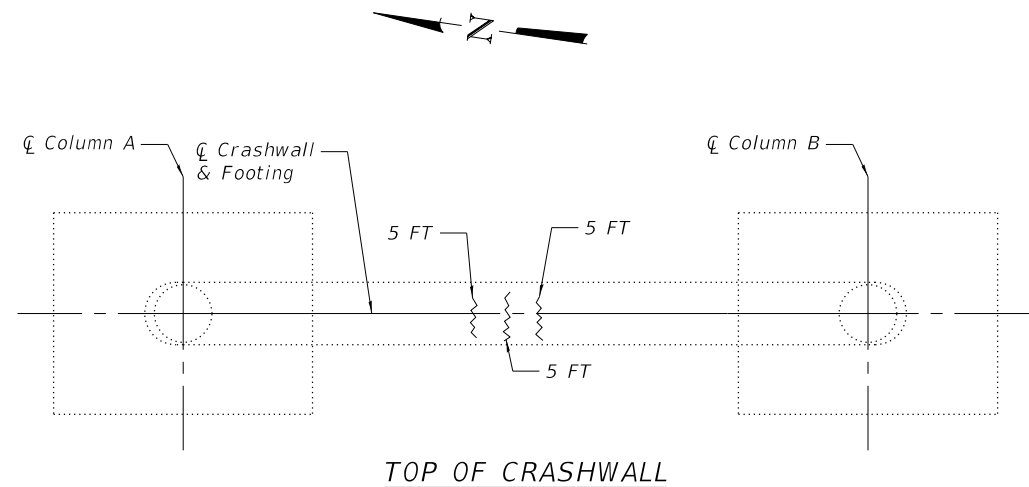
ELEVATION
(Looking Upstation)



COLUMN A (End View) **COLUMN A** (Interior View) **COLUMN B** (Interior View) **COLUMN B** (End View)



ELEVATION
(Looking Downstation)



TOP OF CRASHWALL

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

Note:
Remove existing hoops that intersect repair areas. Replace each removed hoop with a column tensioned strand after the repair area has reached design strength. See sheet 76 of 90 for related details and notes.

Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A18
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	56
Epoxy Crack Injection	Foot	15
Galvanic Anode	Each	66
Column Tensioned Strands	Each	2

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Plingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

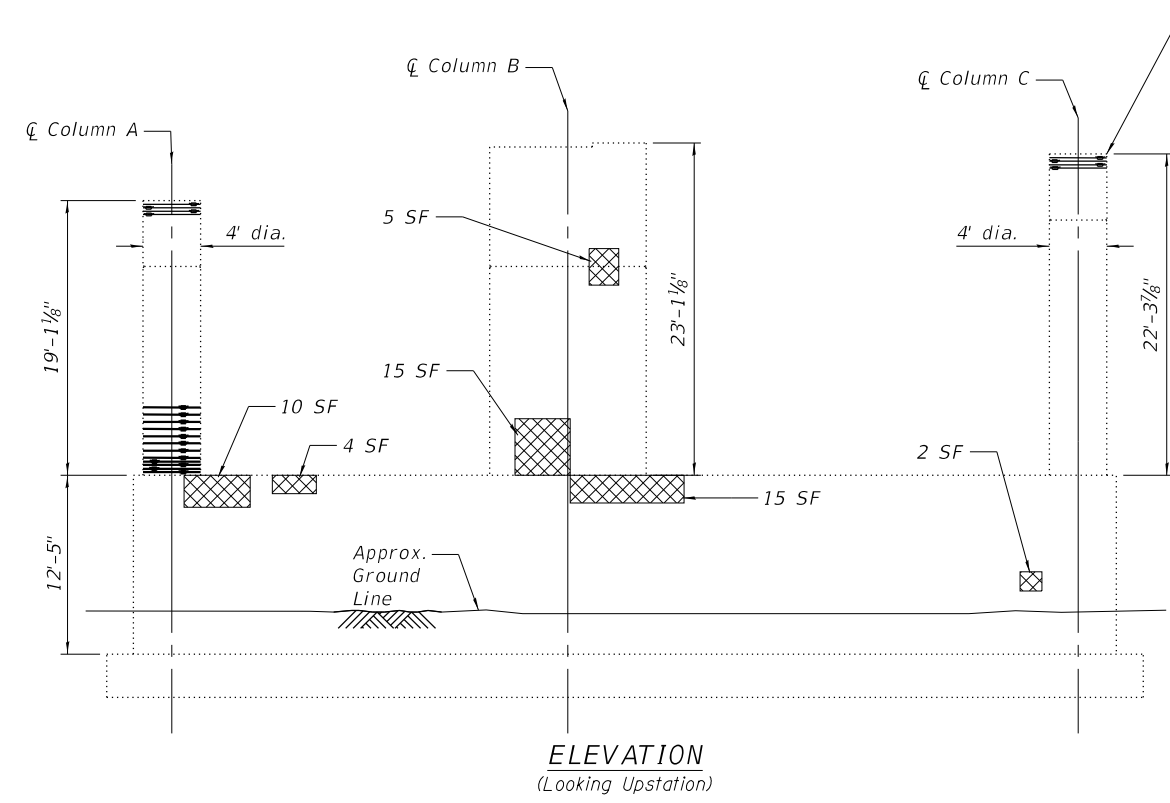
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER A18
S.N. 082-0141
SHEET NO. 60 OF 90 SHEETS

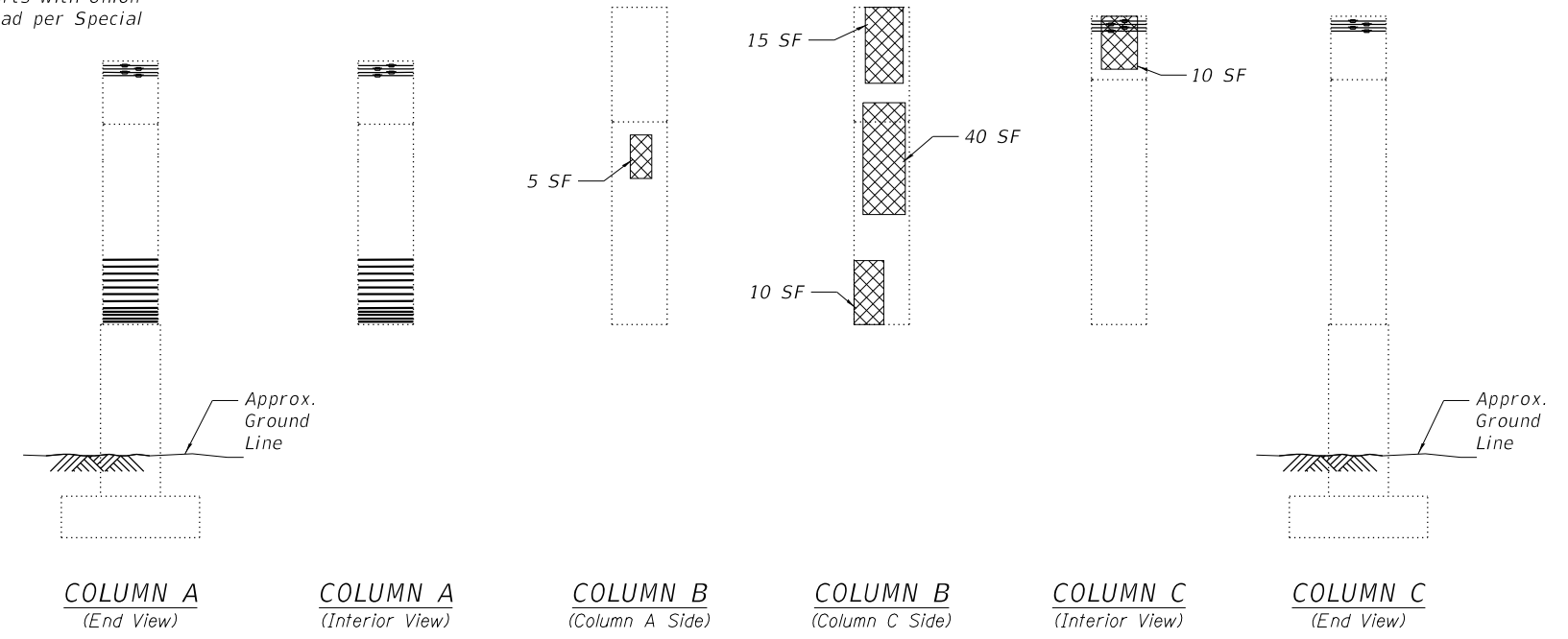
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	134
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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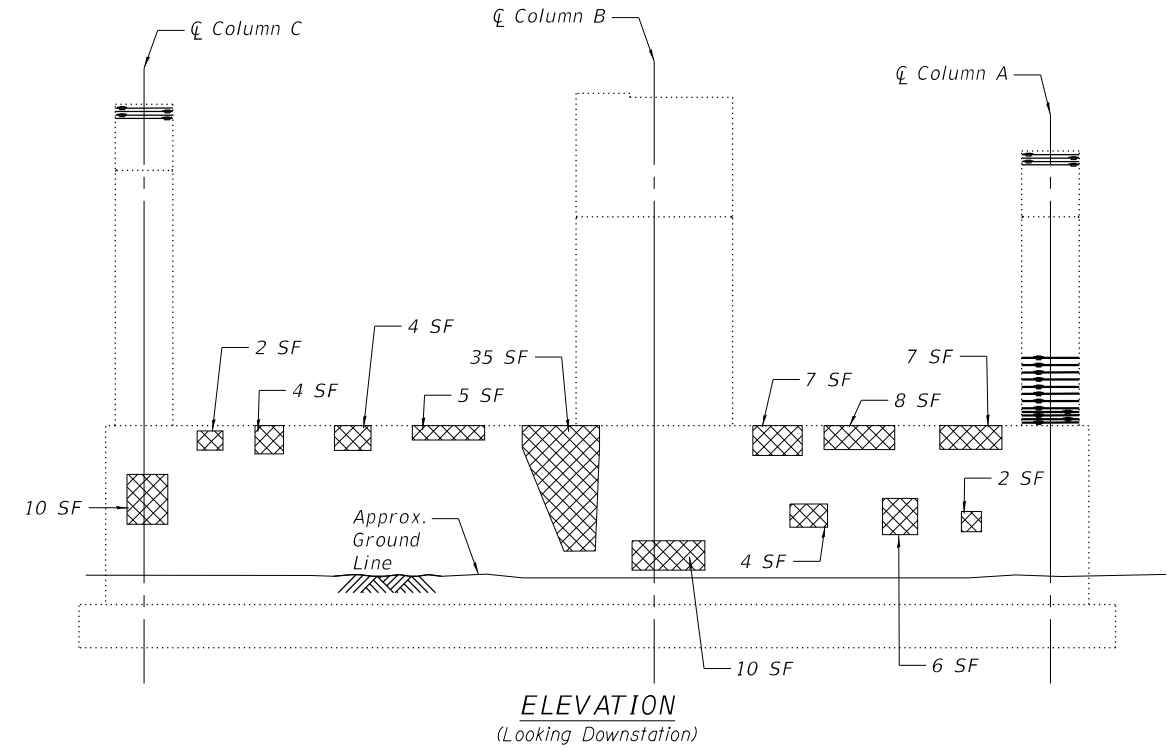
ELEVATION
(Looking Upstation)

Jack and Remove Span A20
Elastomeric Bearing
Install New Elastomeric
Bearing. See Sheet 53 of 90
for Bearing Details. Coordinate
jacking supports with Union
Pacific Railroad per Special
Provisions.

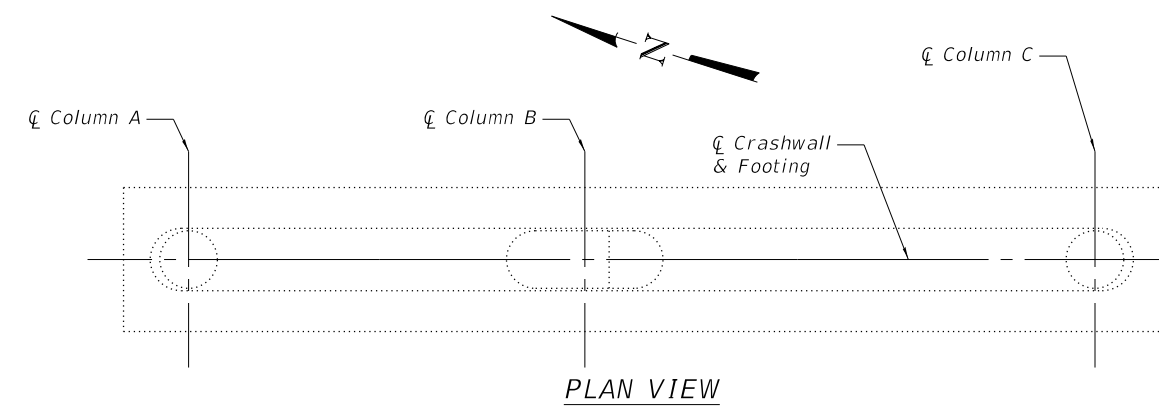


COLUMN A (End View) **COLUMN A** (Interior View) **COLUMN B** (Column A Side) **COLUMN B** (Column C Side) **COLUMN C** (Interior View) **COLUMN C** (End View)

Span A20 Bearing Reactions	
Dead	211 kip
Live Load + Impact	129 kip



ELEVATION
(Looking Downstation)



PLAN VIEW

Note:
Remove existing hoops that intersect repair areas. Replace each removed hoop with a column tensioned strand after the repair area has reached design strength. See sheet 76 of 90 for related details and notes.

Bearing removal shall take place before removal of hoops. The new bearing will not be loaded until the new column tensioned strands are in place.

Contractor to provide temporary shoring of span A20 girder for replacement of indicated bearing.

Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

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

Epoxy Crack Injection

PIER A21
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	235
Column Tensioned Strands	Each	4
Elastomeric Bearing Assembly, Type I	Each	1
Galvanic Anode	Each	265
Jack and Remove Existing Bearings	Each	1

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wesley J. Jamney, Elster Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax

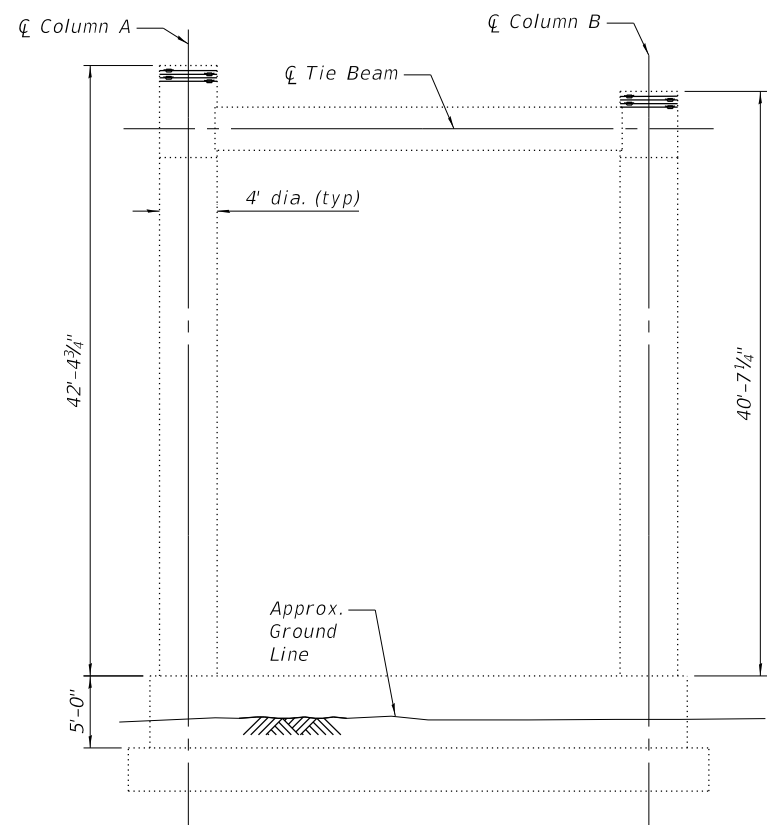
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

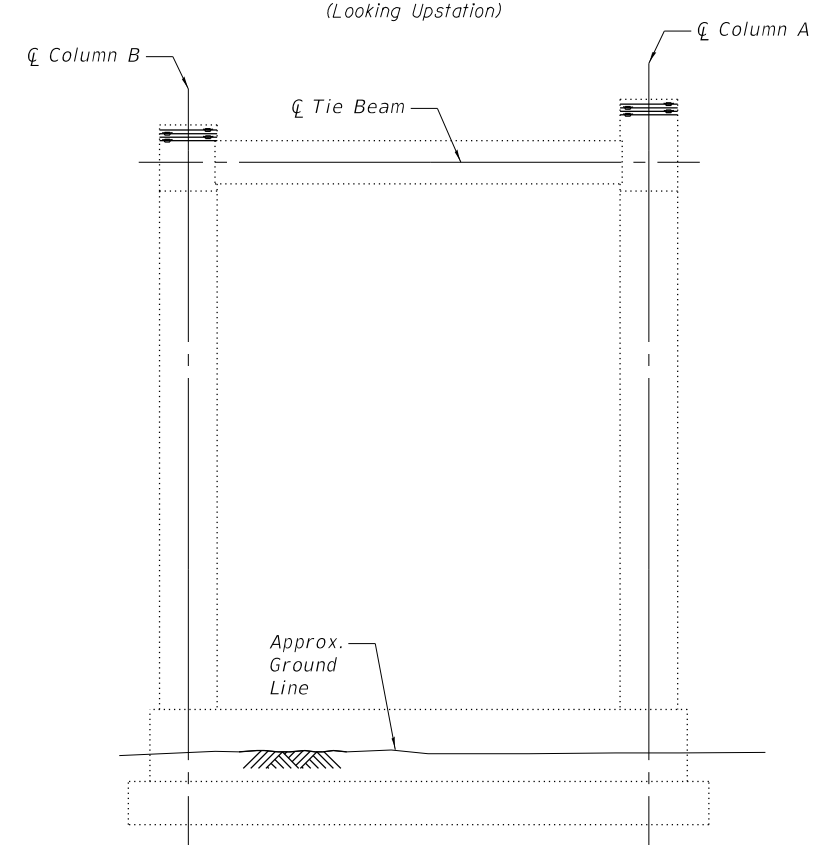
PIER A21
S.N. 082-0141
SHEET NO. 61 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

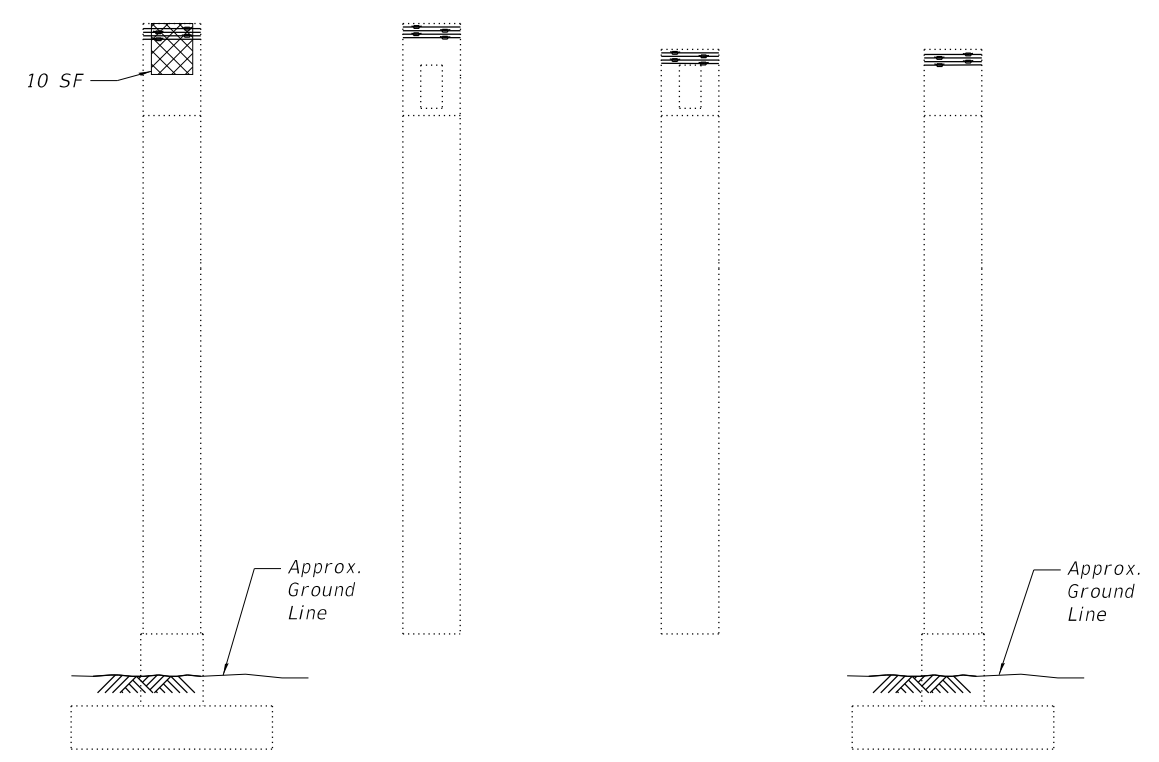
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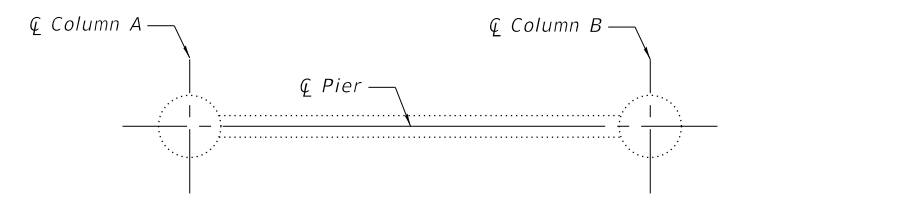
ELEVATION
(Looking Upstation)



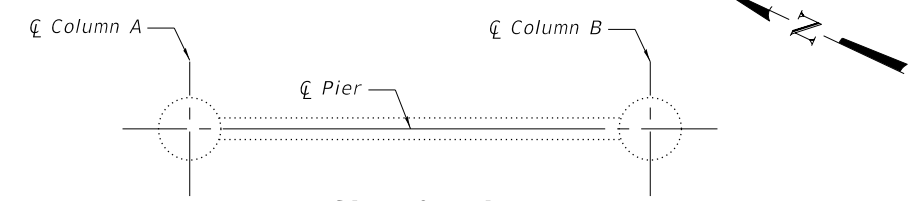
ELEVATION
(Looking Downstation)



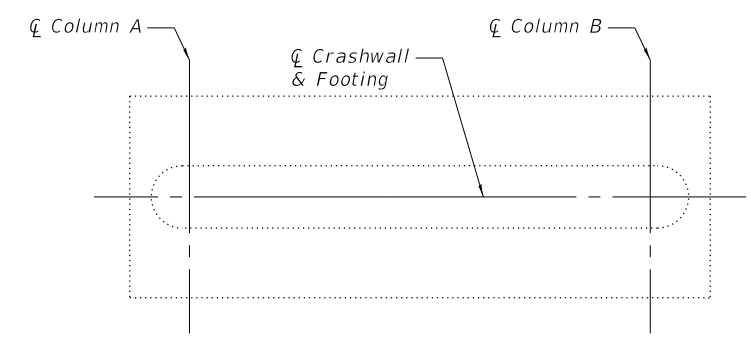
COLUMN A (End View) **COLUMN A (Interior View)** **COLUMN B (Interior View)** **COLUMN B (End View)**



TOP VIEW OF TIE BEAM



UNDERSIDE OF TIE BEAM



TOP OF CRASHWALL

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

Note:
Remove existing hoops that intersect repair areas. Replace each removed hoop with a column tensioned strands after the repair area has reached design strength. See sheet 76 of 90 for related details and notes.

Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A24
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	10
Column Tensioned Strands	Each	4
Galvanic Anode	Each	10

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wes, Janney, Elstner Associates, Inc.
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847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ARB	REVISED -
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PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

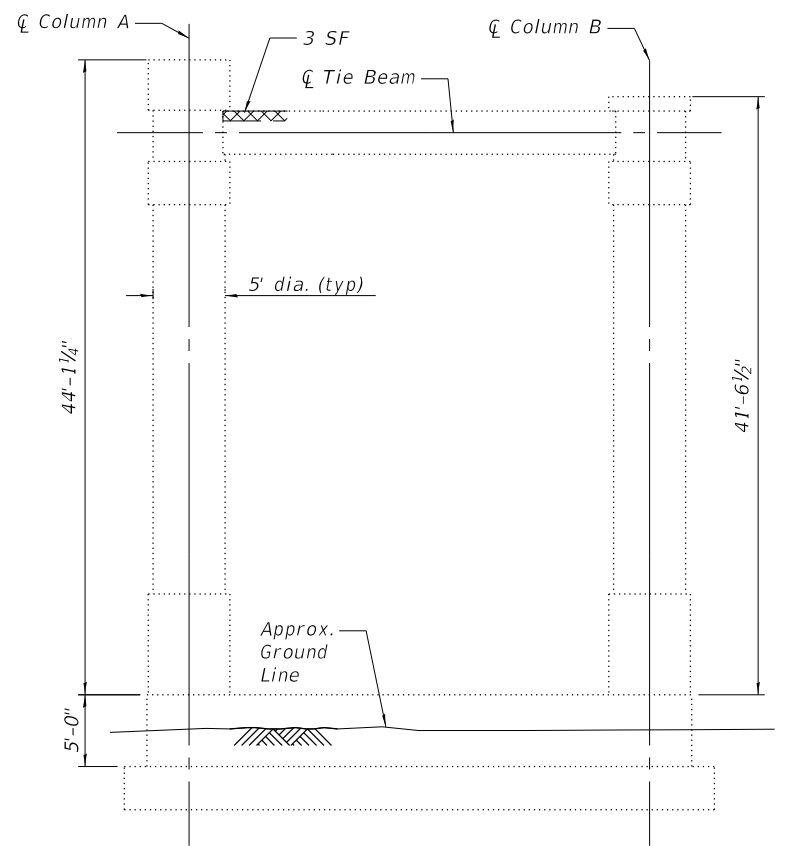
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER A24
S.N. 082-0141

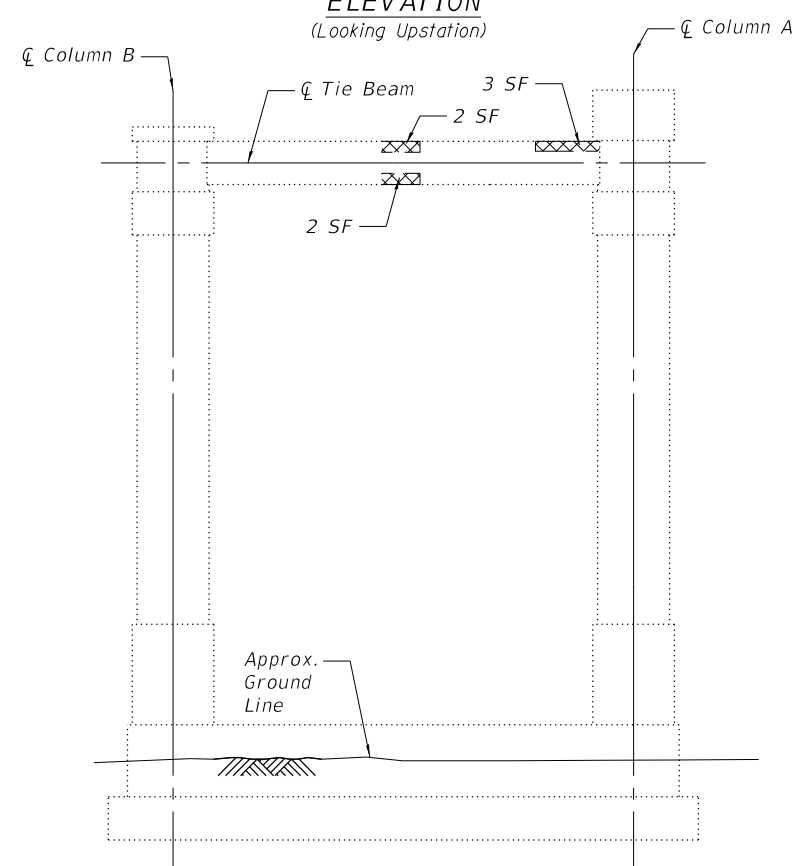
SHEET NO. 62 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	136
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

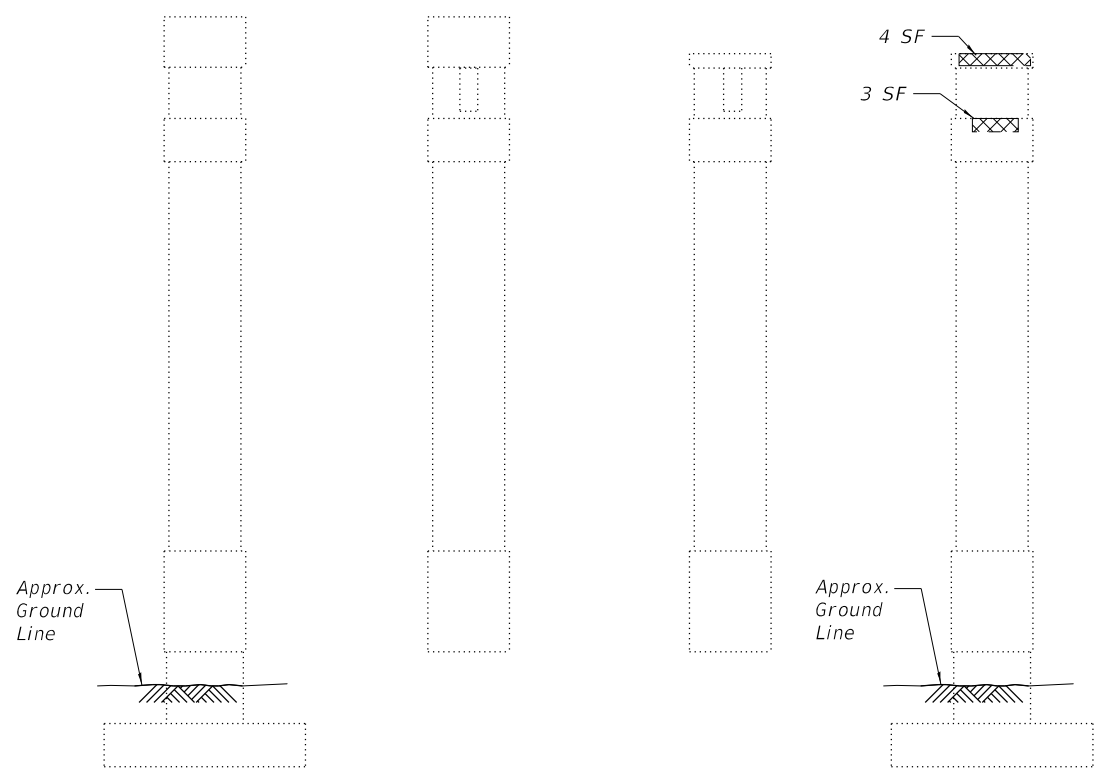
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ELEVATION
(Looking Upstation)



ELEVATION
(Looking Downstation)

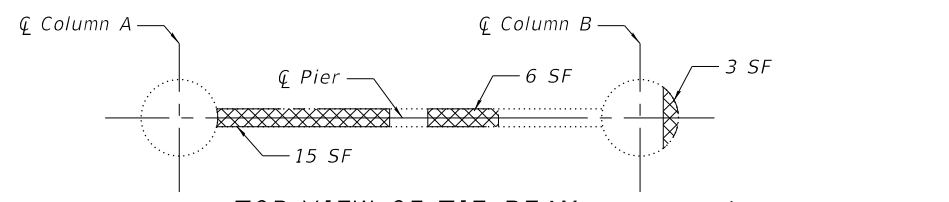


COLUMN A
(End View)

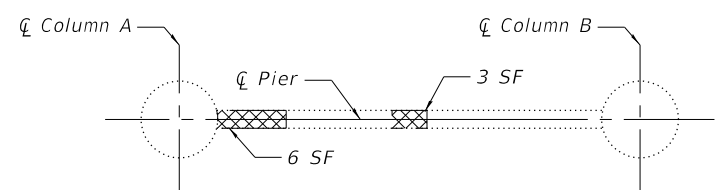
COLUMN A
(Interior View)

COLUMN B
(Interior View)

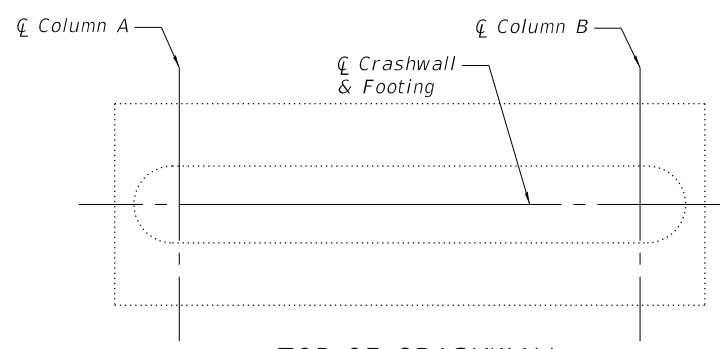
COLUMN B
(End View)



TOP VIEW OF TIE BEAM



UNDERSIDE OF TIE BEAM



TOP OF CRASHWALL

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

Note:
Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A25
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	50
Galvanic Anode	Each	109

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pingsten Road
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847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ARB	REVISED -
PLOT SCALE = 0/2" = 1' = 1/4"	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
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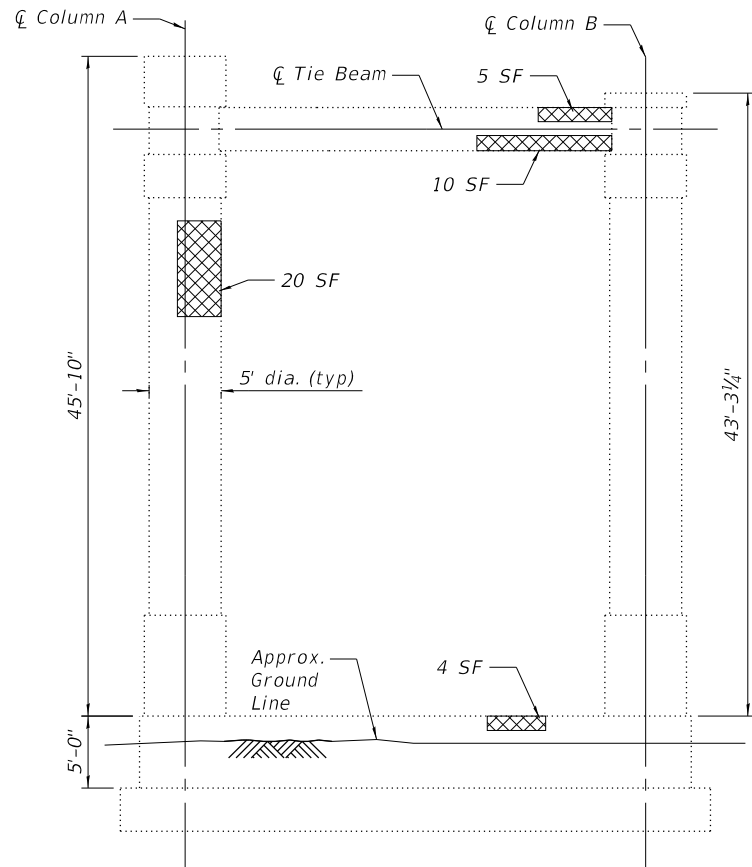
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER A25
S.N. 082-0141

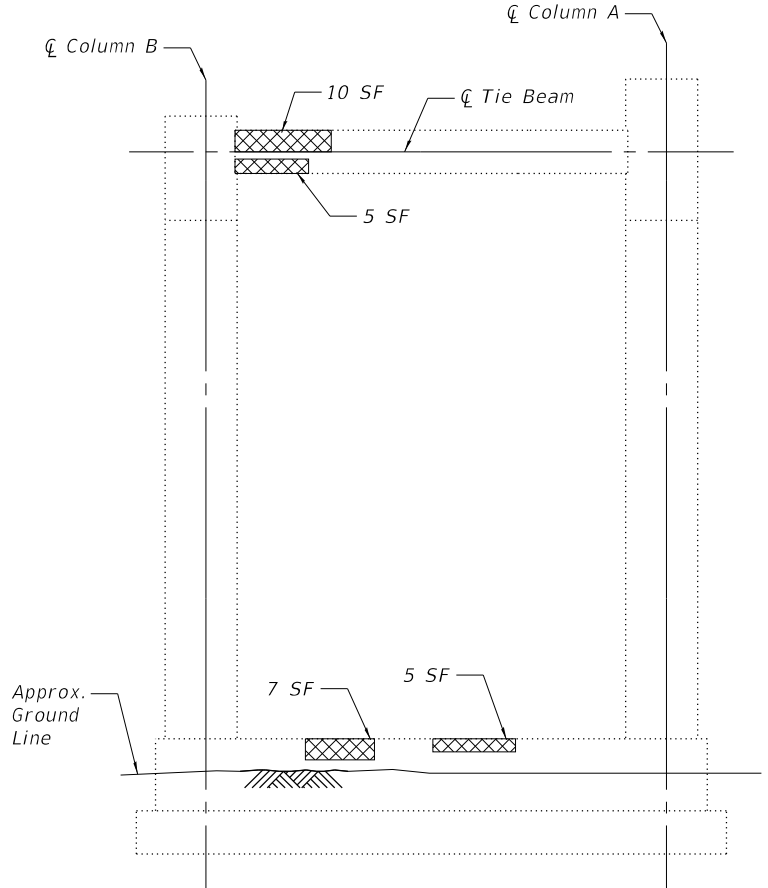
SHEET NO. 63 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

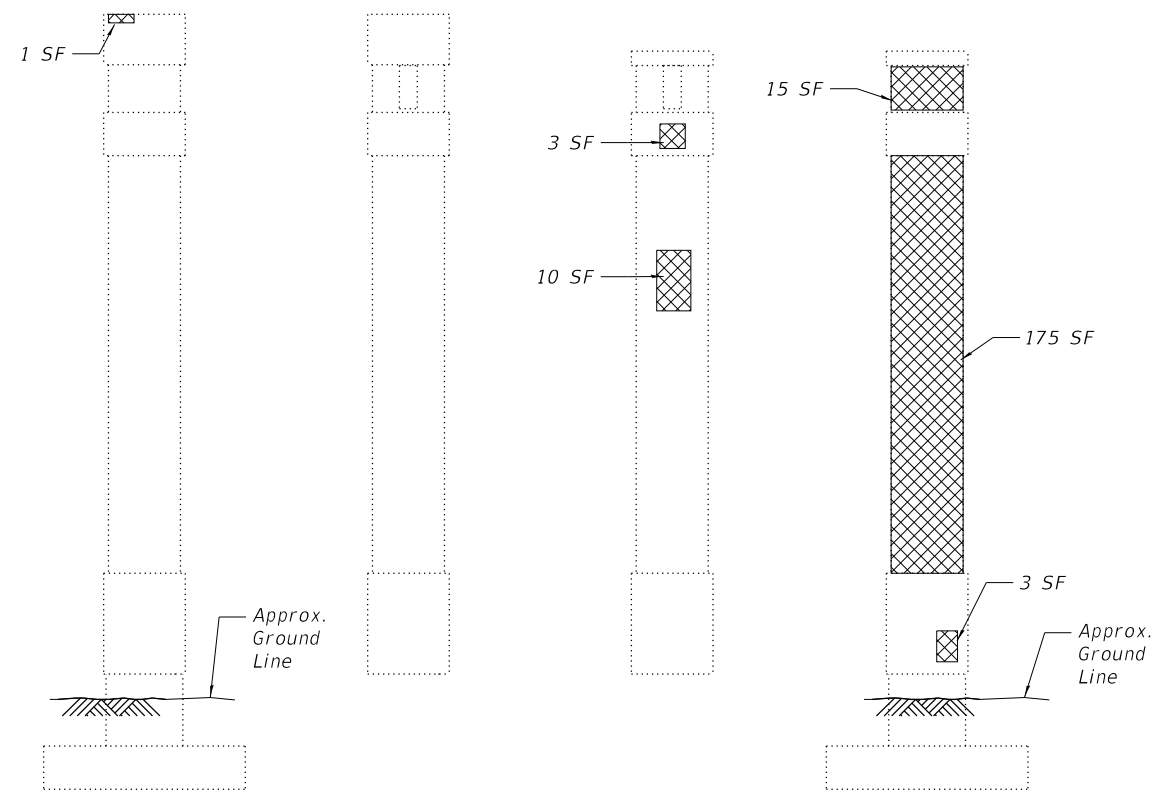
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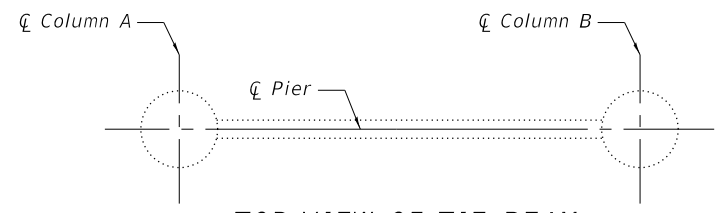
ELEVATION
(Looking Upstation)



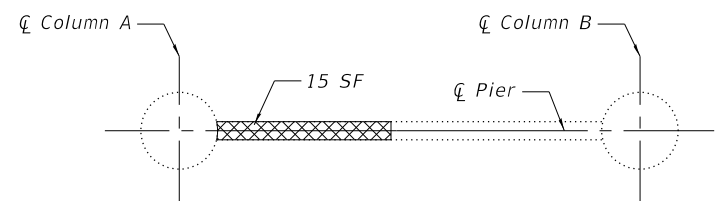
ELEVATION
(Looking Downstation)



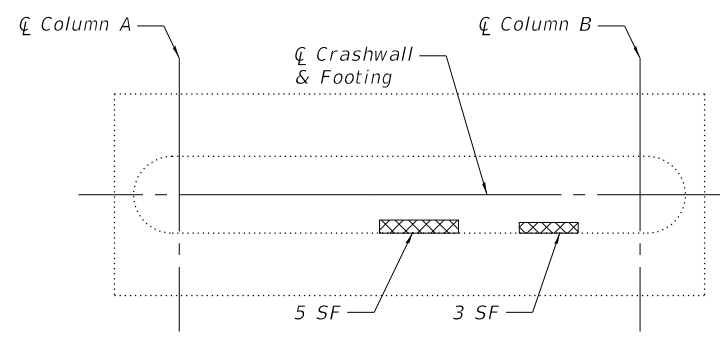
COLUMN A (End View) COLUMN A (Interior View) COLUMN B (Interior View) COLUMN B (End View)



TOP VIEW OF TIE BEAM



UNDERSIDE OF TIE BEAM



TOP OF CRASHWALL

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

Note:
 Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A29
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	296
Galvanic Anode	Each	241

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Pingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ARB	REVISED -
PLOT SCALE = 0.1667' / 1"	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

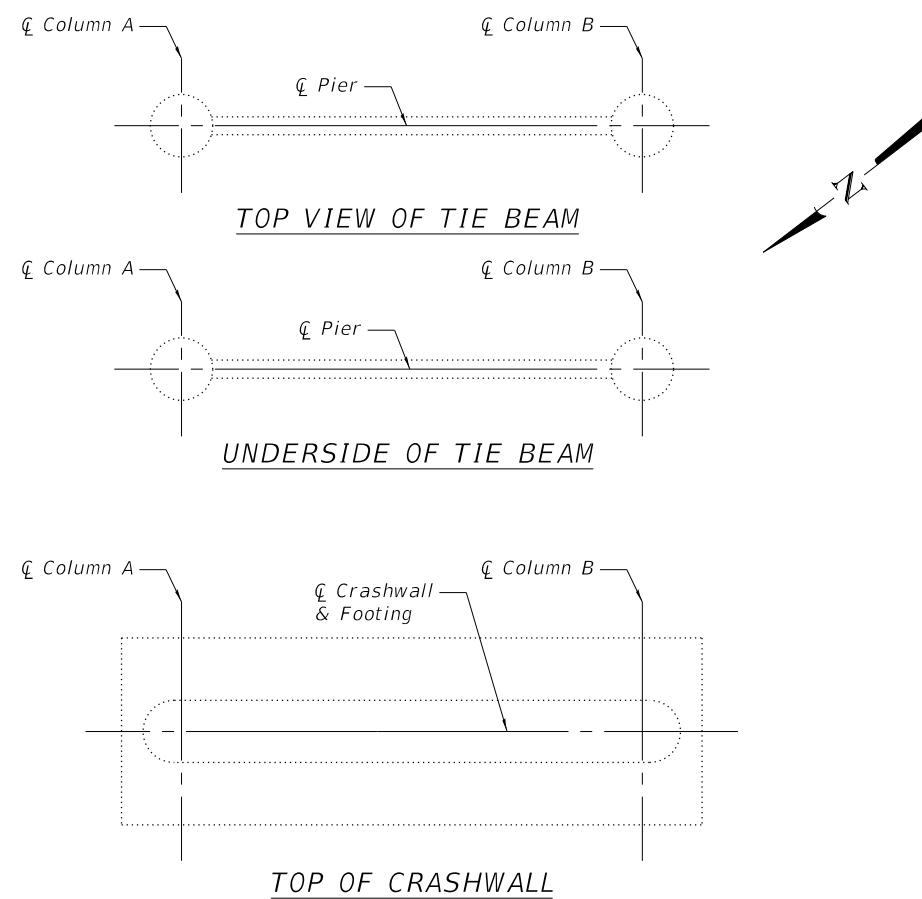
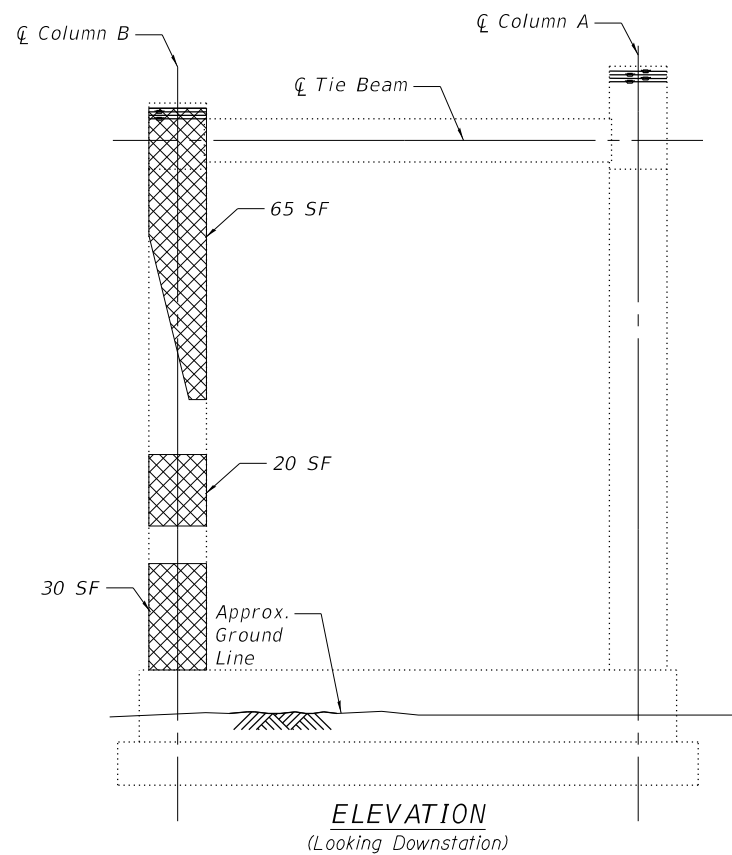
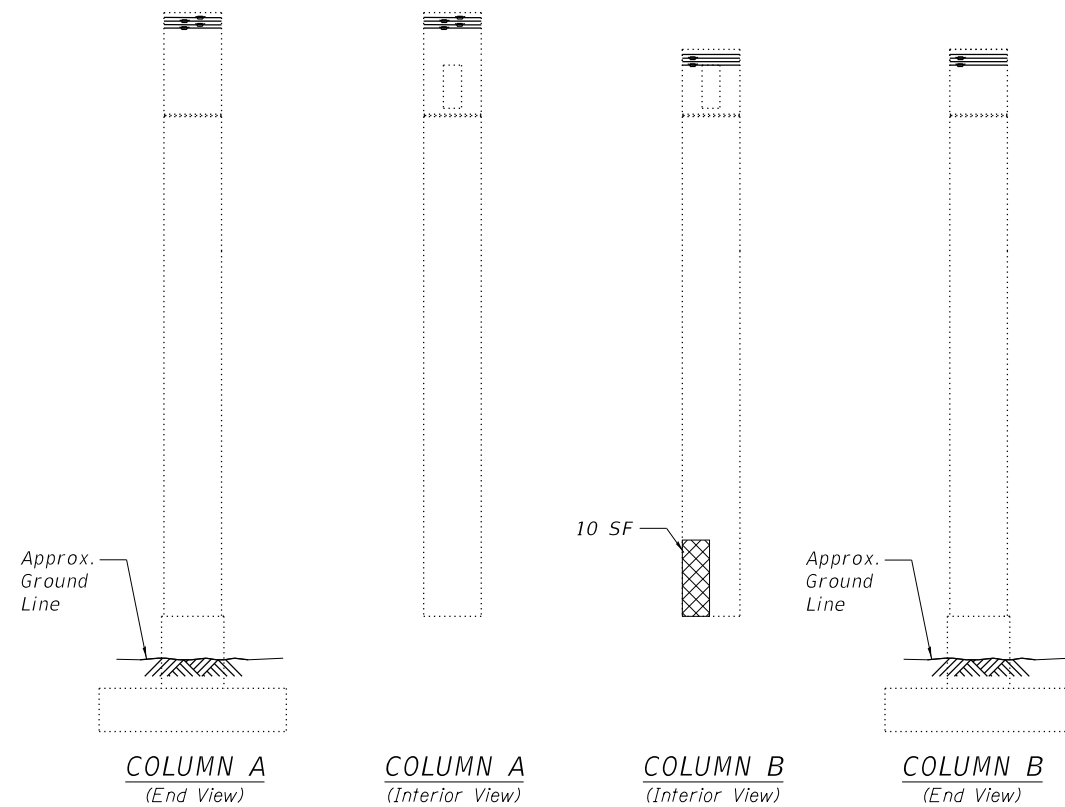
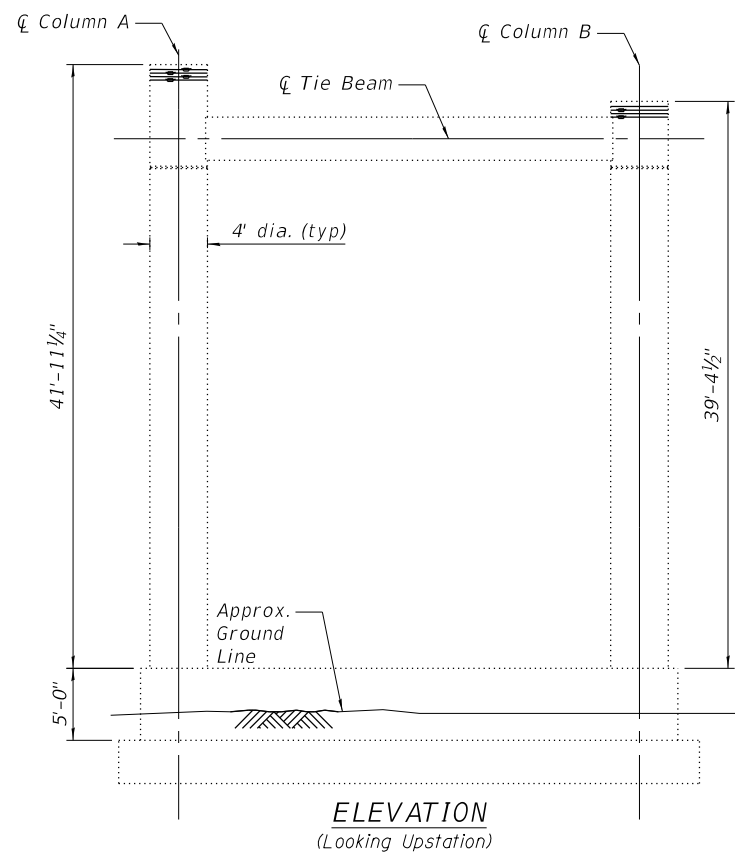
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER A29
S.N. 082-0141

SHEET NO. 64 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	138
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

PRINT DATE: 9/28/2018 11:00 AM Z:\5052 Poplar Street Complex\DCN\Bridges\Final\Plotsheets\Piers\065_Pier_A30.dgn



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

Note:
Remove existing hoops that intersect repair areas. Replace each removed hoop with a column tensioned strand after the repair area has reached design strength. See sheet 76 of 90 for related details and notes.

Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A30
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	125
Column Tensioned Strands	Each	4
Galvanic Anode	Each	102

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax

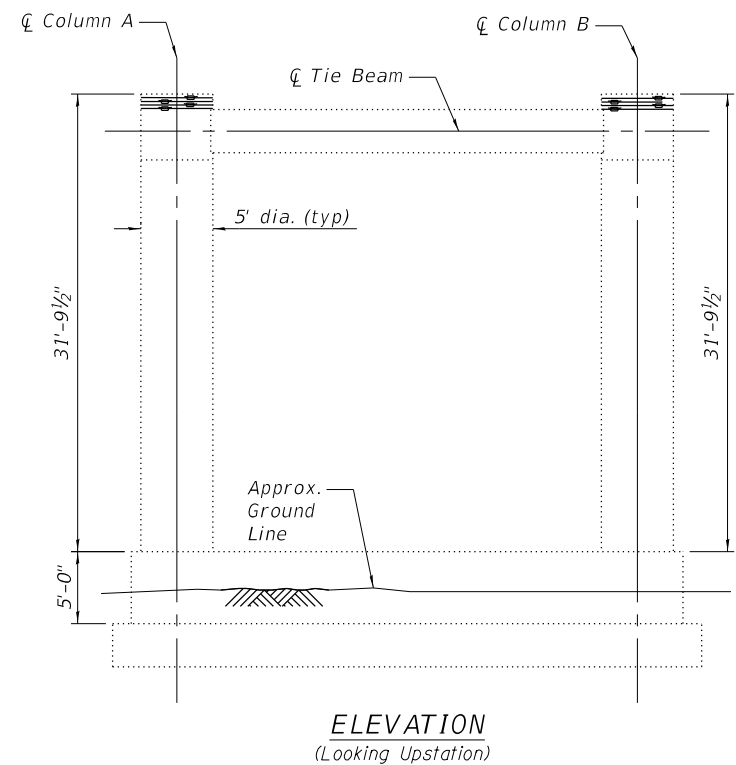
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PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

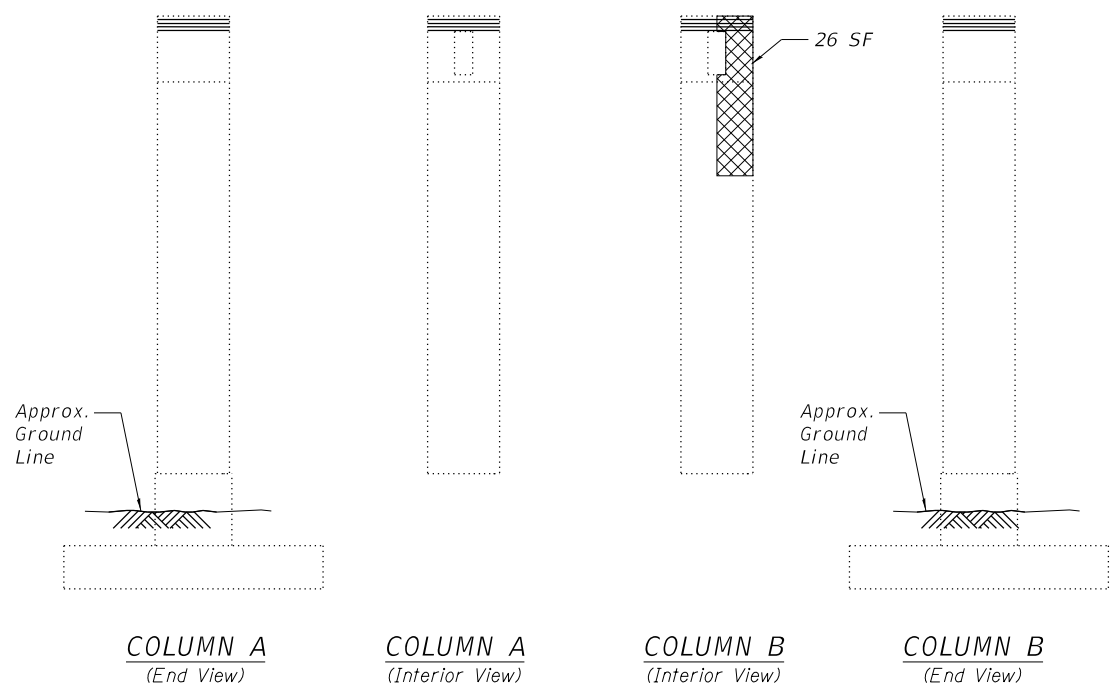
PIER A30
S.N. 082-0141
SHEET NO. 65 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	139
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

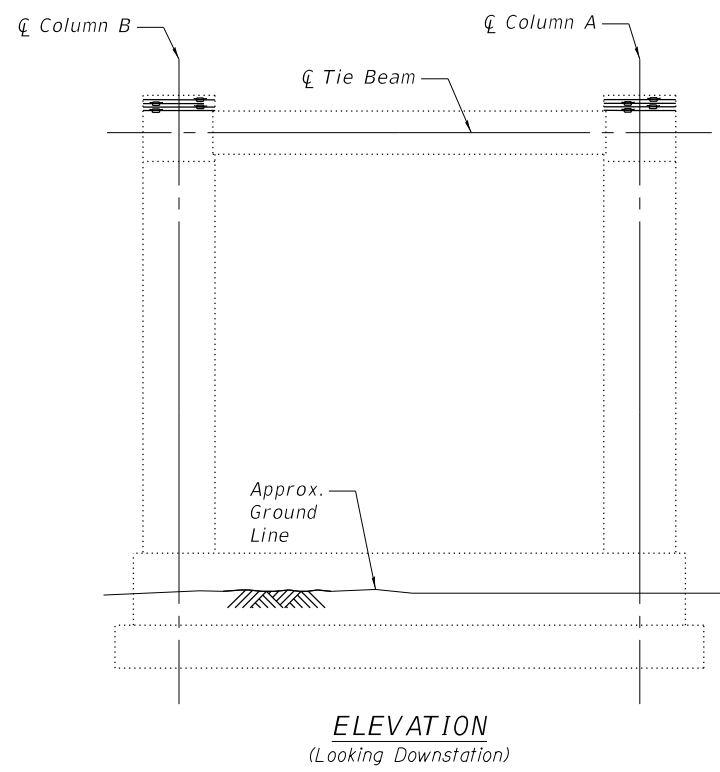
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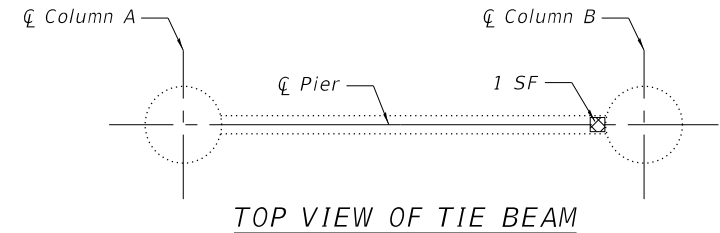
ELEVATION
(Looking Upstation)



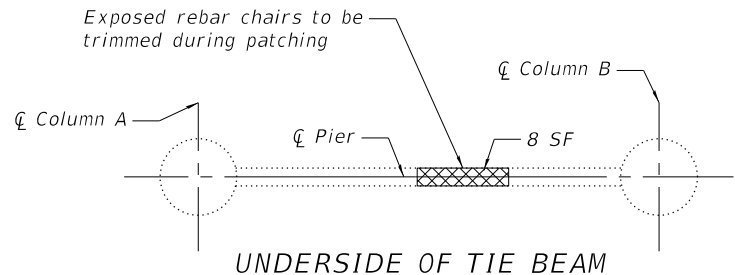
COLUMN A (End View) **COLUMN A** (Interior View) **COLUMN B** (Interior View) **COLUMN B** (End View)



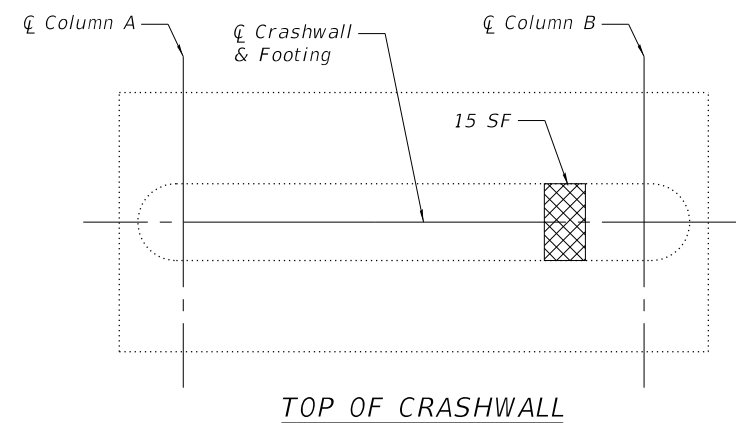
ELEVATION
(Looking Downstation)



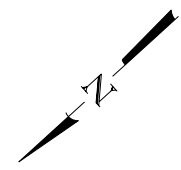
TOP VIEW OF TIE BEAM



UNDERSIDE OF TIE BEAM



TOP OF CRASHWALL



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

Note:
Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A34
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	50
Galvanic Anode	Each	59
Column Tensioned Strands	Each	4

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ARB	REVISED -
	CHECKED - RW	REVISED -
PLOT SCALE = 0:2.0000 '1' / in.	DRAWN - ACB	REVISED -
PLOT DATE = 10/3/2018	DATE - 09/28/2018	REVISED -

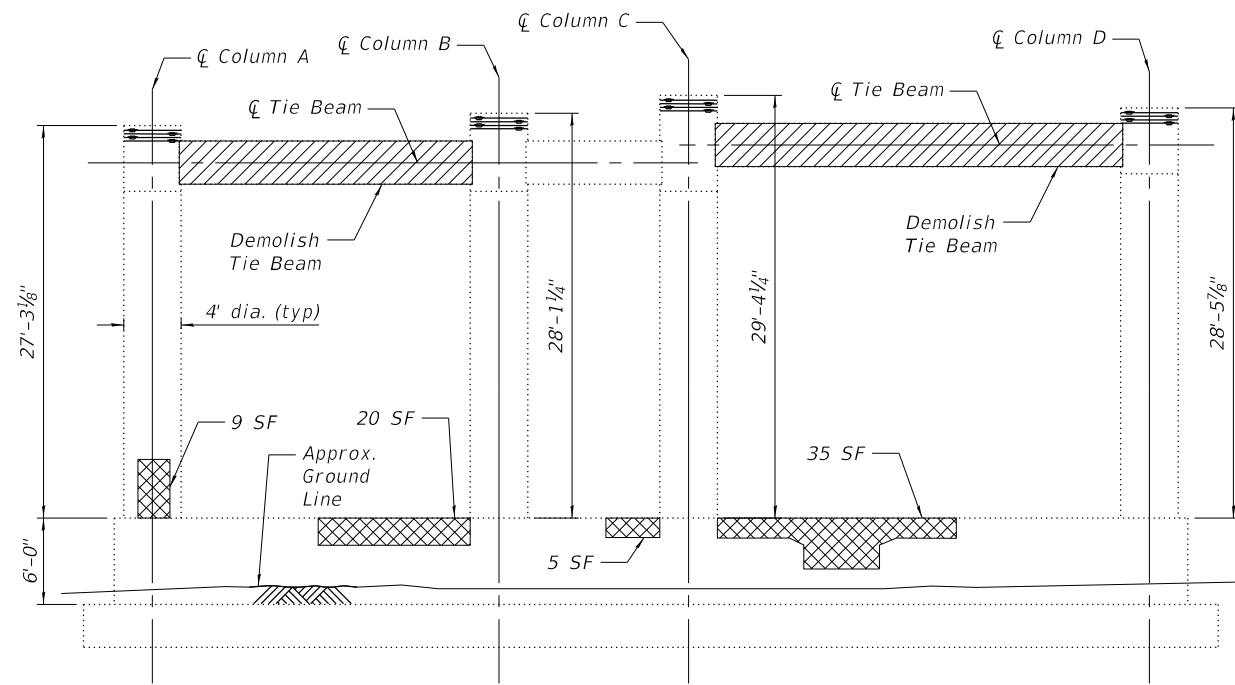
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER A34
S.N. 082-0141

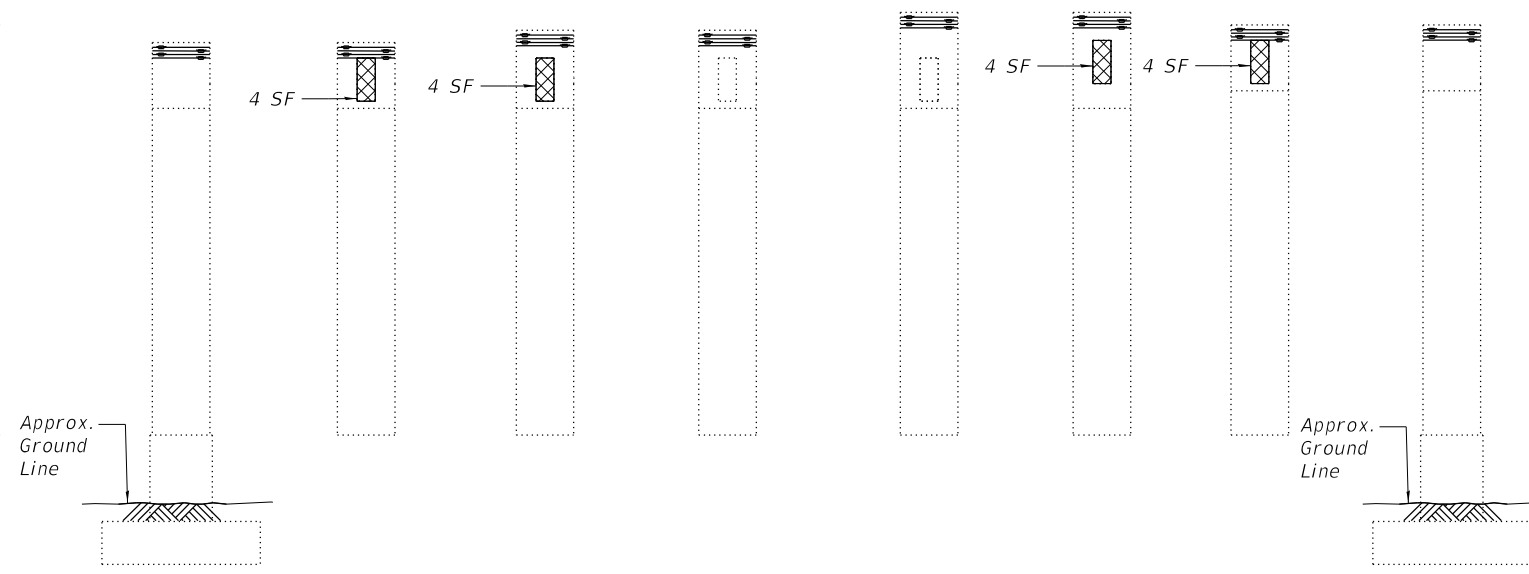
SHEET NO. 66 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

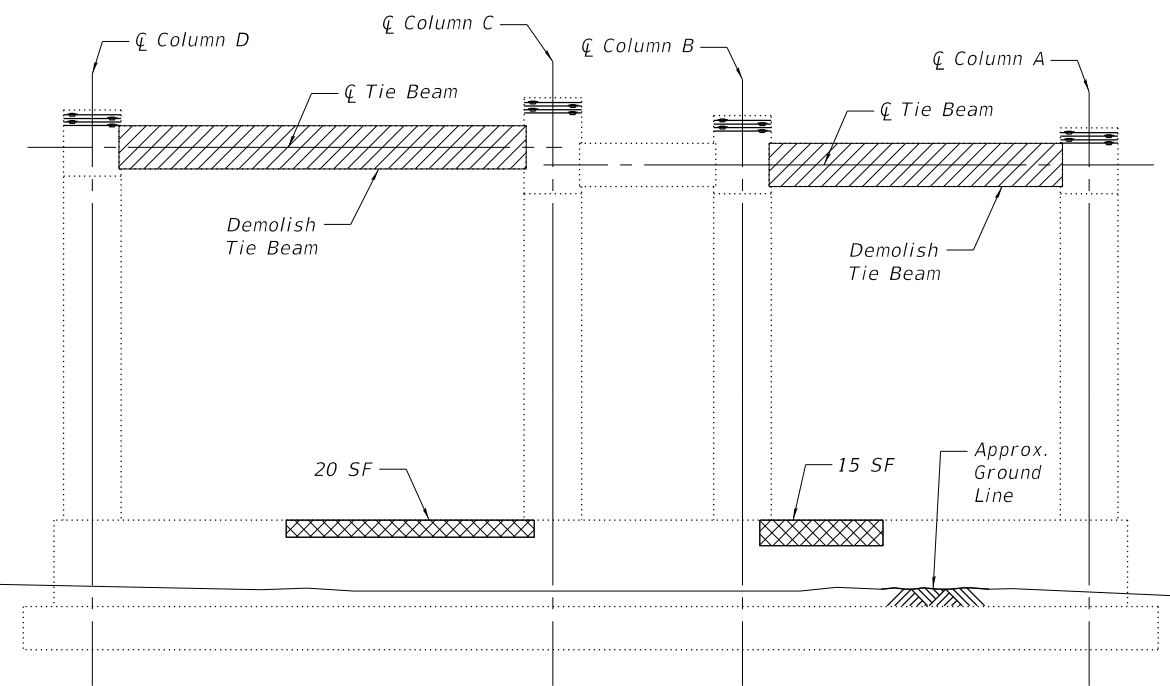
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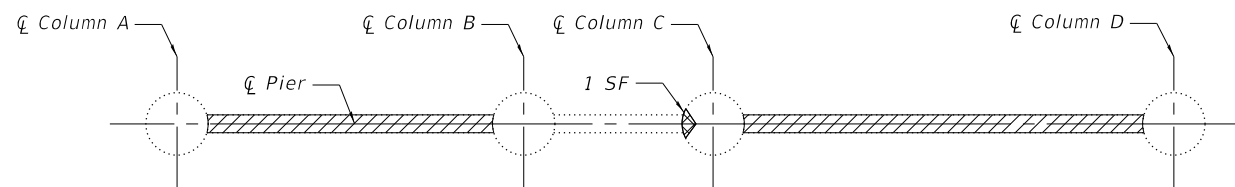
ELEVATION
(Looking Upstation)



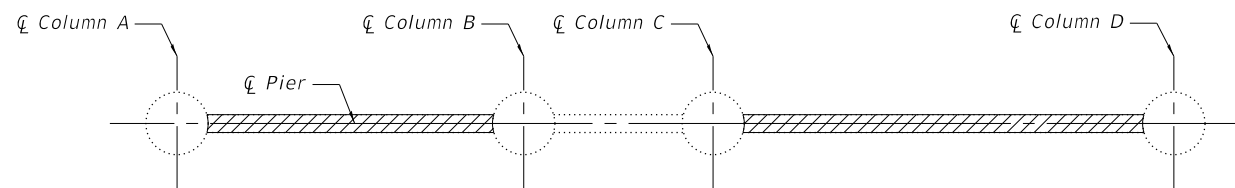
COLUMN A (End View) **COLUMN A** (Interior View) **COLUMN B** (Column A Side) **COLUMN B** (Column C Side) **COLUMN C** (Column B Side) **COLUMN C** (Column D Side) **COLUMN D** (Interior View) **COLUMN D** (End View)



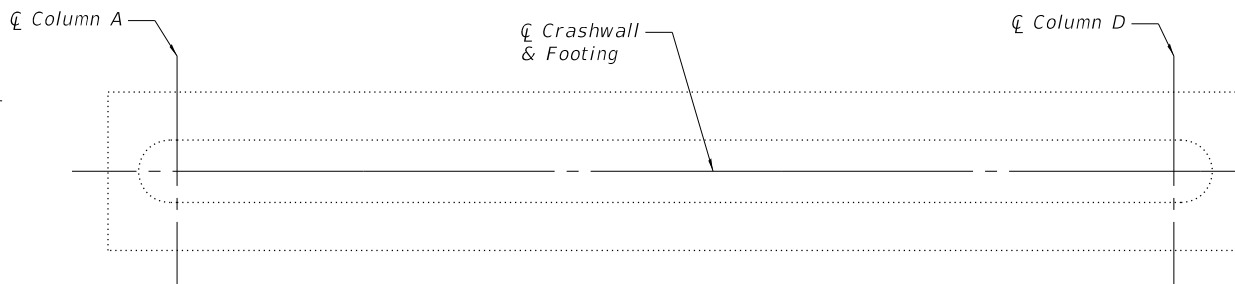
ELEVATION
(Looking Downstation)



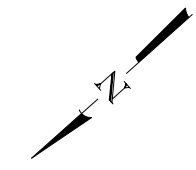
TOP VIEW OF TIE BEAM



UNDERSIDE OF TIE BEAM



TOP OF CRASHWALL



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

Notes:
Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

The former interface between tie beam and column will be treated like a typical patch. Chipping around the existing column reinforcement will extend 1-1/2" into the column or to sound concrete, whichever is greater. Tie beam reinforcement shall be cut to provide minimum clear cover of 1-1/2" to formed surface of patch.

PIER A35
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	120
Galvanic Anode	Each	173
Concrete Removal	Cu Yd	7

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ARB	REVISED -
	CHECKED - RW	REVISED -
PLOT SCALE = 0:2.0000 '1' / in.	DRAWN - ACB	REVISED -
PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

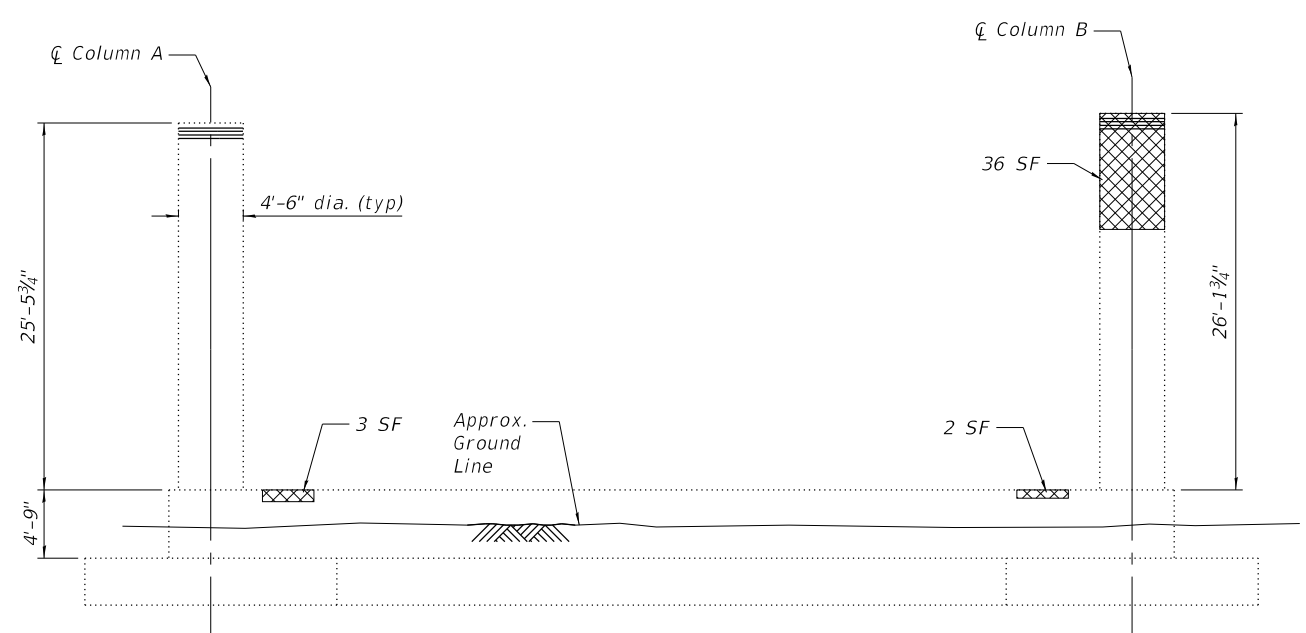
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER A35
S.N. 082-0141

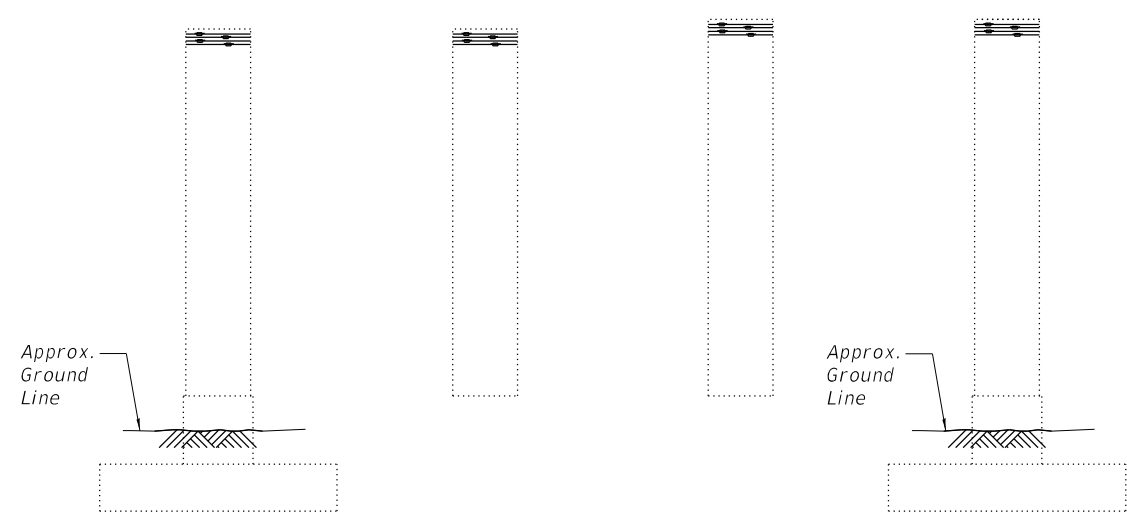
SHEET NO. 67 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

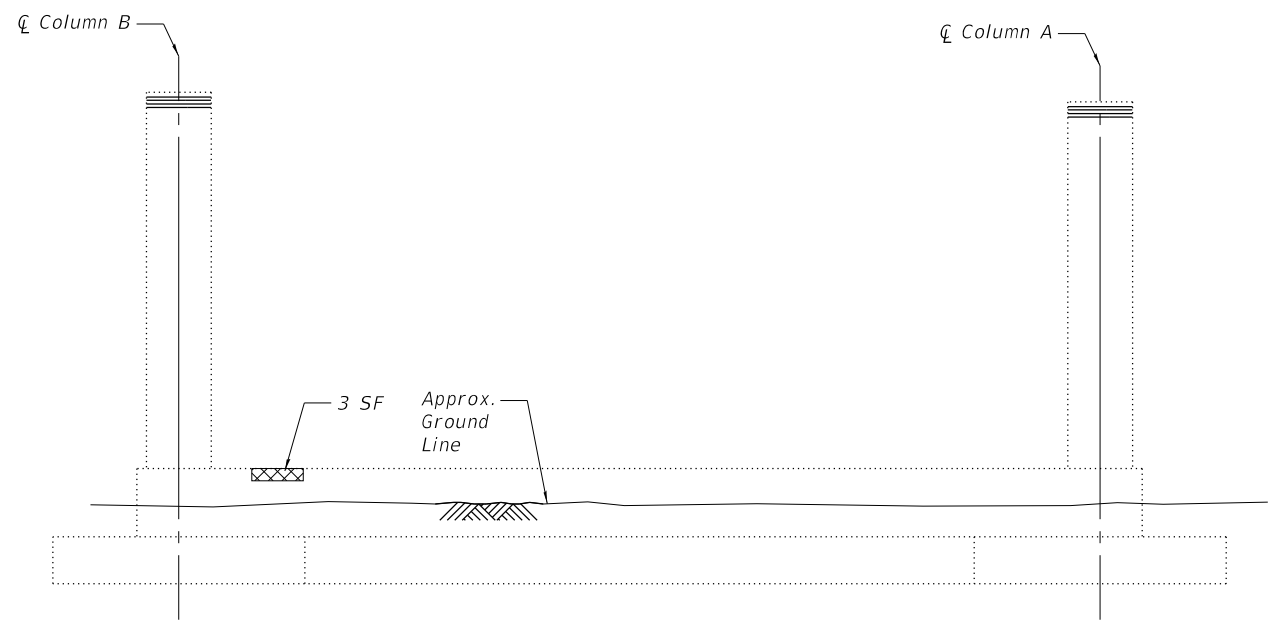
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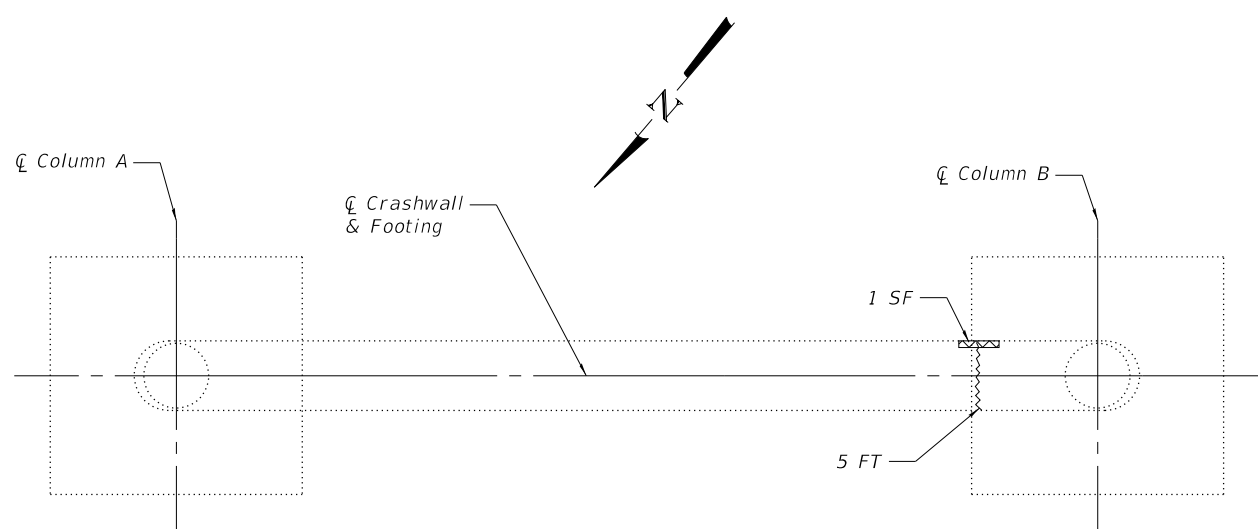
ELEVATION
(Looking Upstation)



COLUMN A (End View) **COLUMN A** (Interior View) **COLUMN B** (Interior View) **COLUMN B** (End View)



ELEVATION
(Looking Downstation)



PLAN VIEW

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

Epoxy Crack Injection

Note:
Remove existing hoops that intersect repair areas. Replace each removed hoop with a column tensioned strand after the repair area has reached design strength. See sheet 76 of 90 for related details and notes.

Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A36
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	45
Epoxy Crack Injection	Foot	5
Column Tensioned Strands	Each	4
Galvanic Anode	Each	47

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wesley J. Jamney, Elster Associates, Inc.
330 Pfingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ARB	REVISED -
	CHECKED - RW	REVISED -
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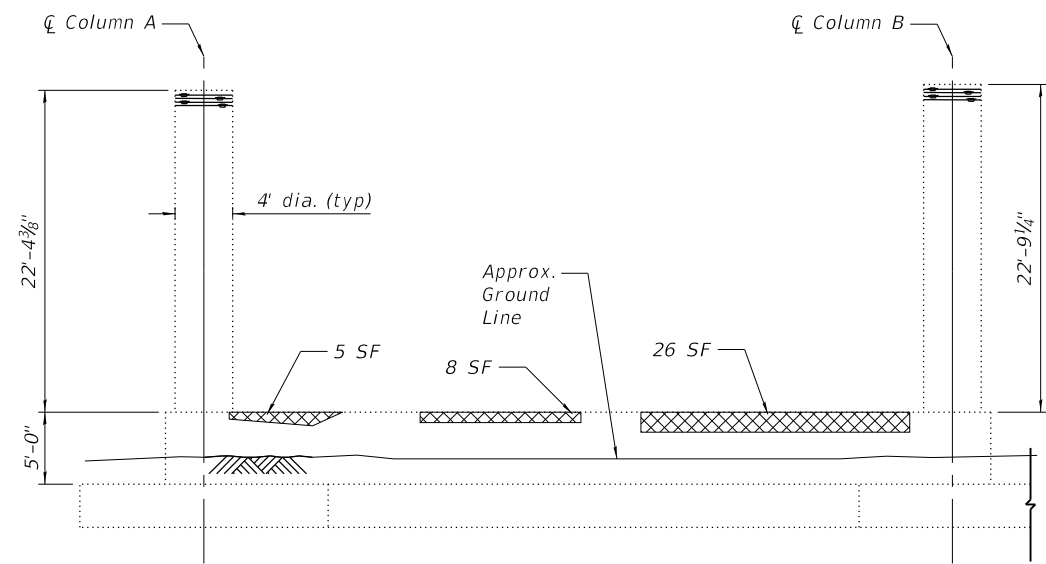
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER A36
S.N. 082-0141

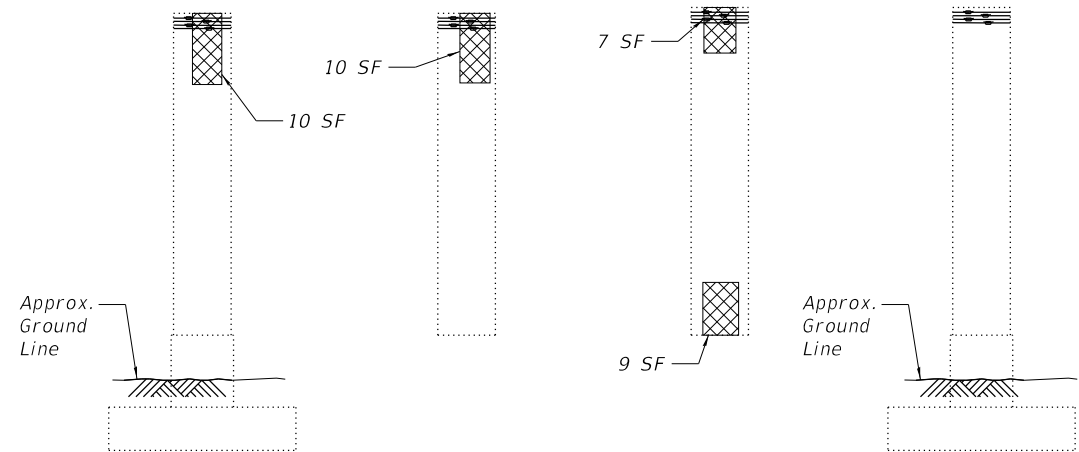
SHEET NO. 68 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

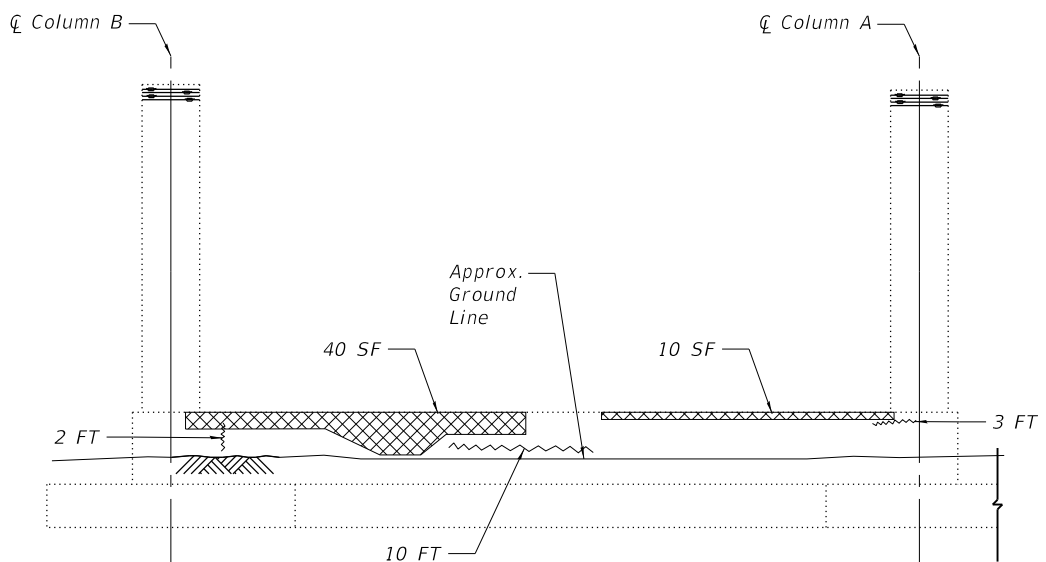
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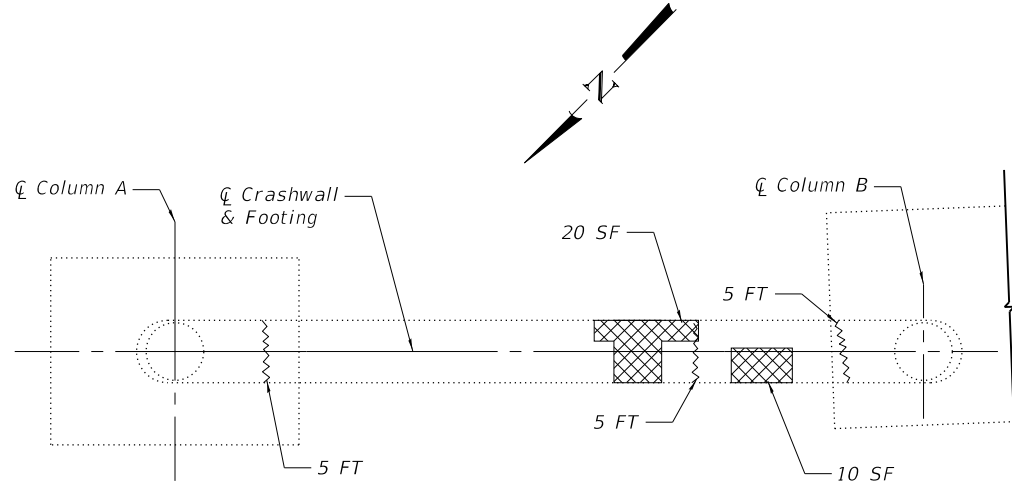
ELEVATION
(Looking Upstation)



COLUMN A (End View) **COLUMN A** (Interior View) **COLUMN B** (Interior View) **COLUMN B** (End View)



ELEVATION
(Looking Downstation)



PLAN VIEW

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

Epoxy Crack Injection

Notes:
Remove existing hoops that intersect repair areas. Replace each removed hoop with a column tensioned strand after the repair area has reached design strength. See sheet 76 of 90 for related details and notes.

Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A38
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	155
Epoxy Crack Injection	Foot	30
Column Tensioned Strands	Each	8
Galvanic Anode	Each	239

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ARB	REVISED -
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PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
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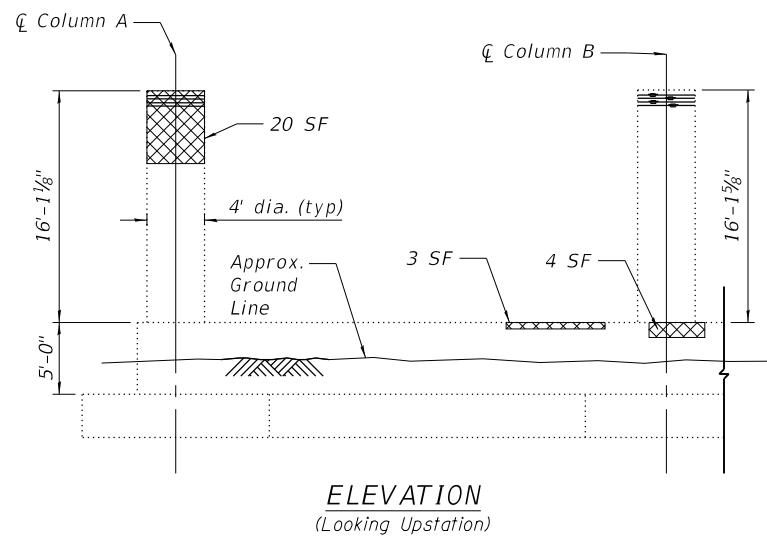
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER A38
S.N. 082-0141

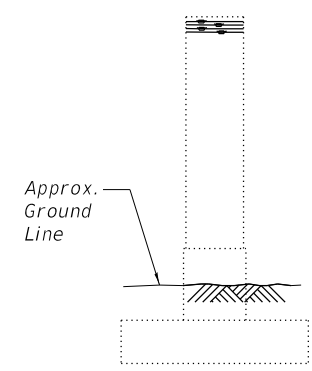
SHEET NO. 69 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

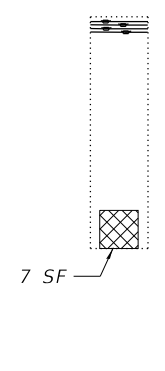
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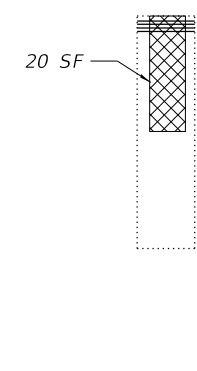
ELEVATION
(Looking Upstation)



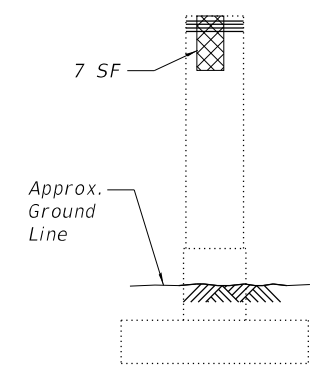
COLUMN A
(End View)



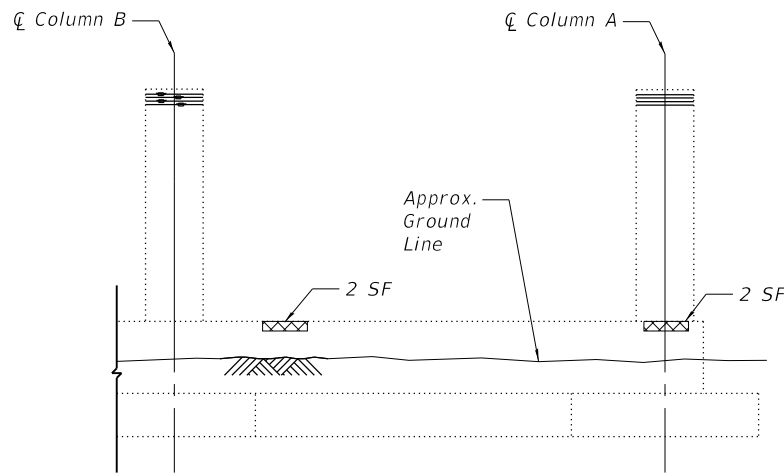
COLUMN A
(Interior View)



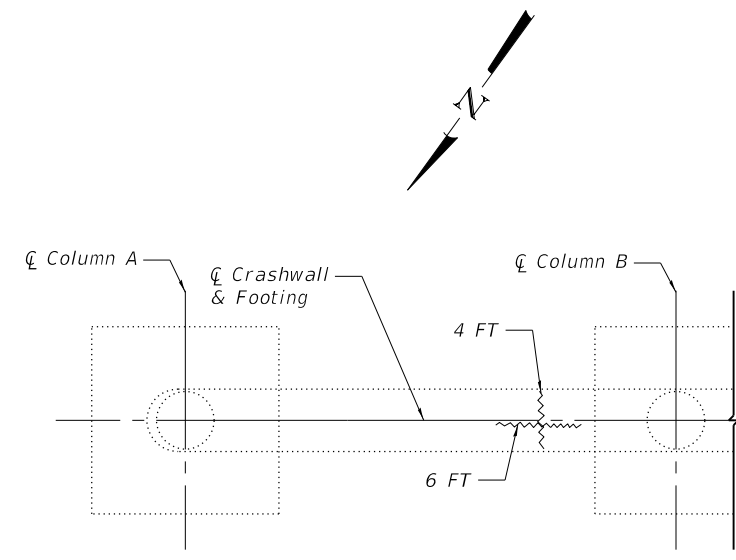
COLUMN B
(Interior View)



COLUMN B
(End View)



ELEVATION
(Looking Downstation)



PLAN VIEW

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

Notes:
 Remove existing hoops that intersect repair areas. Replace each removed hoop with a column tensioned strand after the repair area has reached design strength. See sheet 76 of 90 for related details and notes.

 Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A41
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	65
Epoxy Crack Injection	Foot	10
Galvanic Anode	Each	88
Column Tensioned Strands	Each	8

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Pingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ARB	REVISED -
	CHECKED - RW	REVISED -
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PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

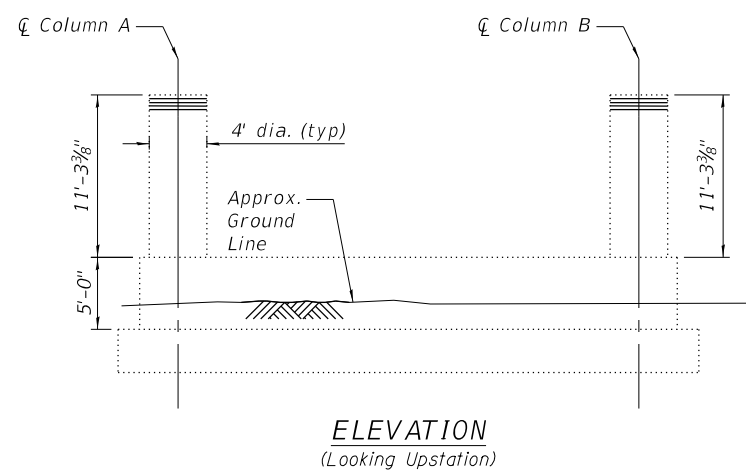
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER A41
S.N. 082-0141

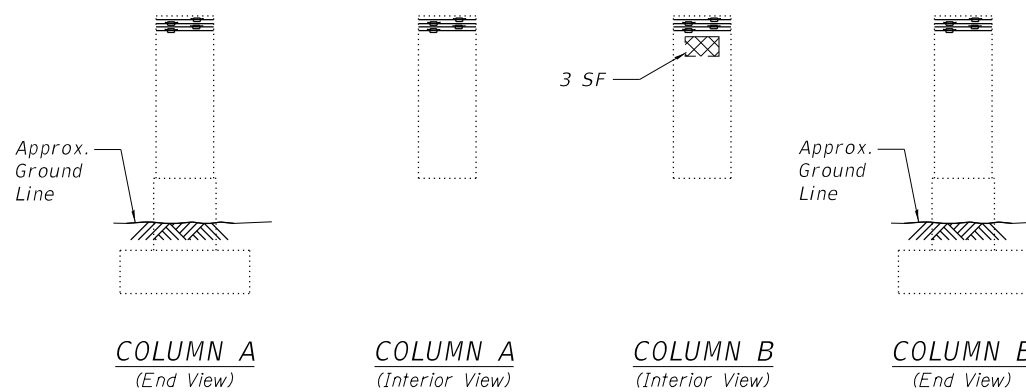
SHEET NO. 70 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	144
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

PRINT DATE: 9/28/2018 11:19:04 AM Z:\5052 Poplar Street Complex\DCN\Bridges\Final\Plotsheets\Piers\071_Pier_A43.dgn



ELEVATION
(Looking Upstation)

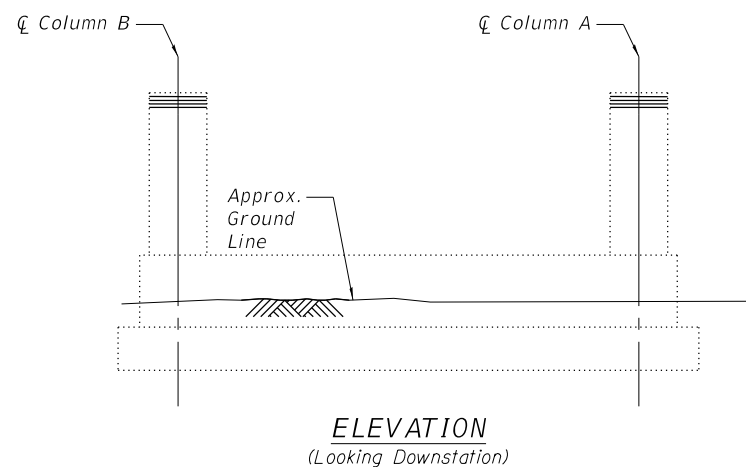


COLUMN A
(End View)

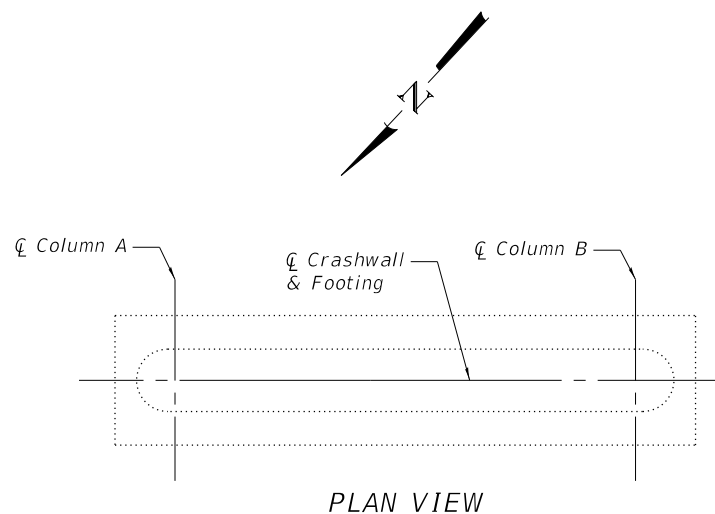
COLUMN A
(Interior View)

COLUMN B
(Interior View)

COLUMN B
(End View)



ELEVATION
(Looking Downstation)



PLAN VIEW

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

Note:
Repairs may be visible in multiple views
on circular elements, however, the repair
is only shown in the most descriptive view.

PIER A43
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	3
Galvanic Anode	Each	6

WJE ENGINEERS
ARCHITECTS
MATHEMATICAL SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax
www.wje.com

USER NAME = acb	DESIGNED - ARB	REVISED -
	CHECKED - RW	REVISED -
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PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

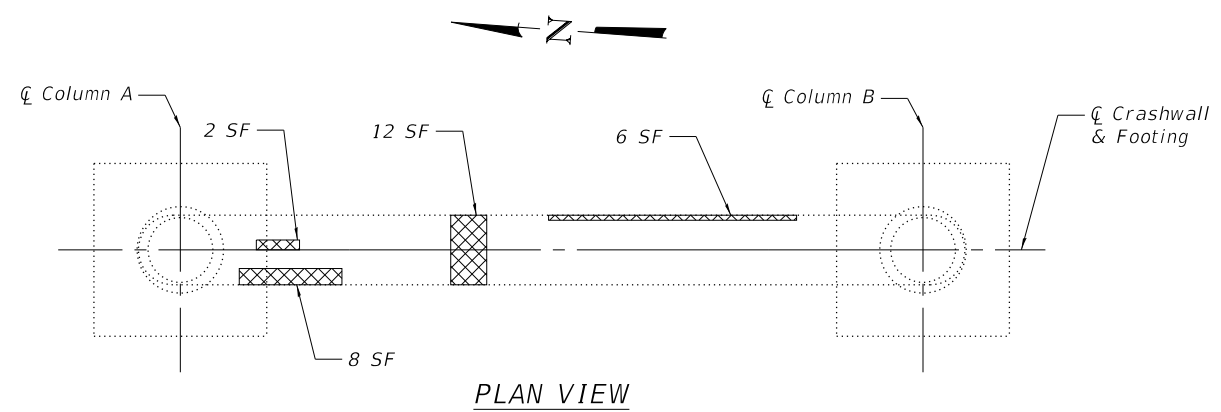
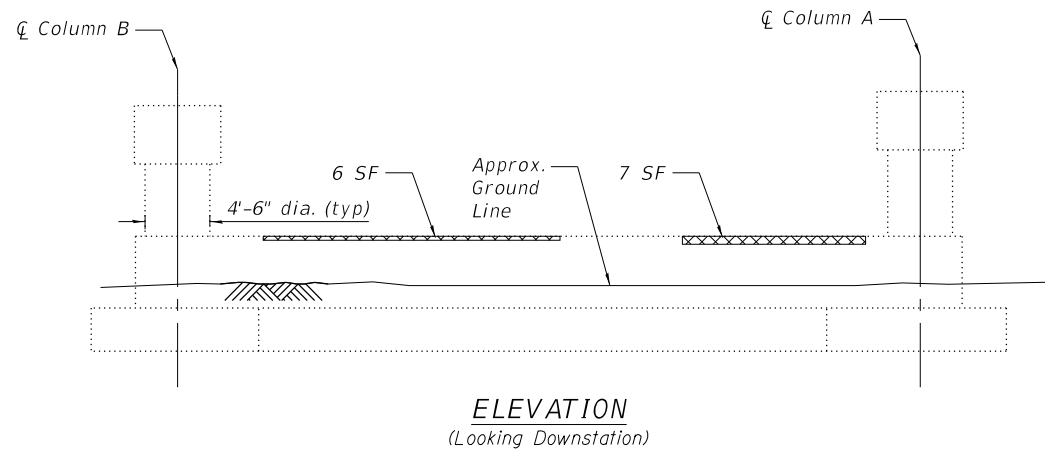
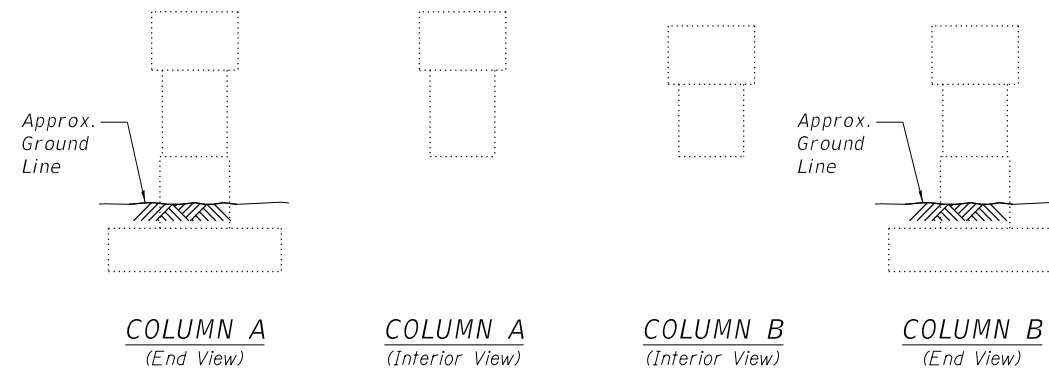
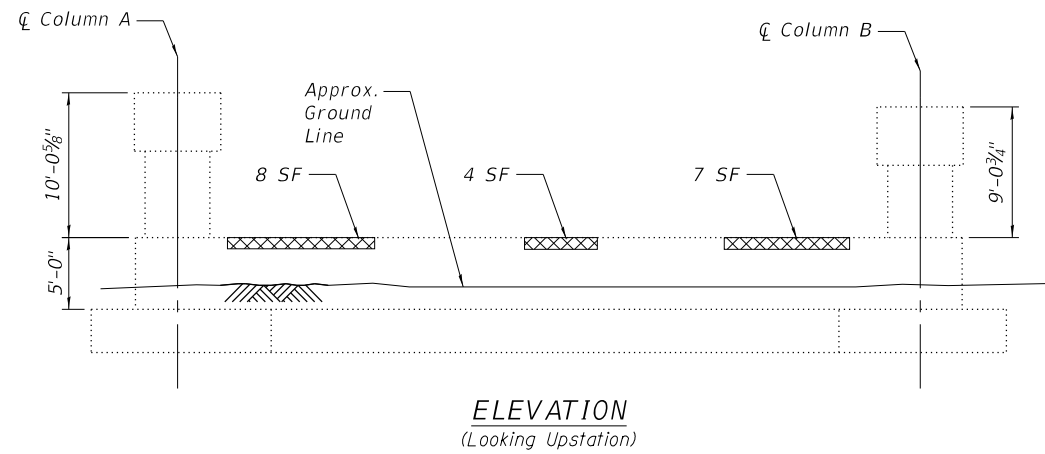
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER A43
S.N. 082-0141

SHEET NO. 71 OF 90 SHEETS

F.A.I. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	145
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

PRINT DATE: 9/28/2018 11:05 AM Z:\5052 Poplar Street Complex\DCN\Bridges\Final\Plotsheets\Piers\072_Pier_A44.dgn



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

Note:
Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A44
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	60
Galvanic Anode	Each	134

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax

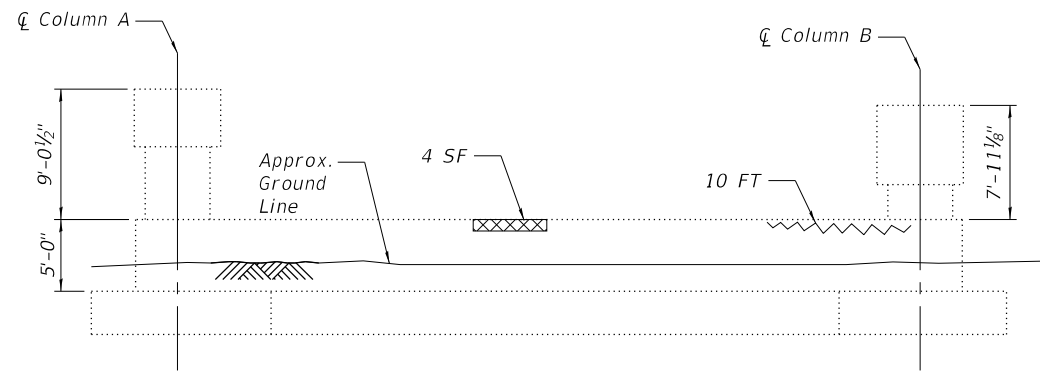
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	CHECKED - RW	REVISED -
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PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

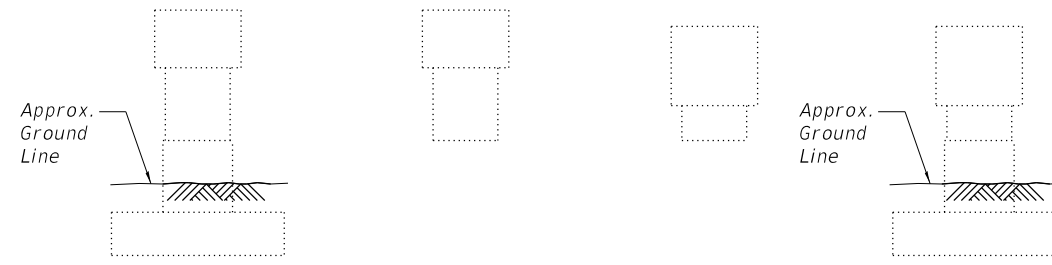
PIER A44
S.N. 082-0141
SHEET NO. 72 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	146
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

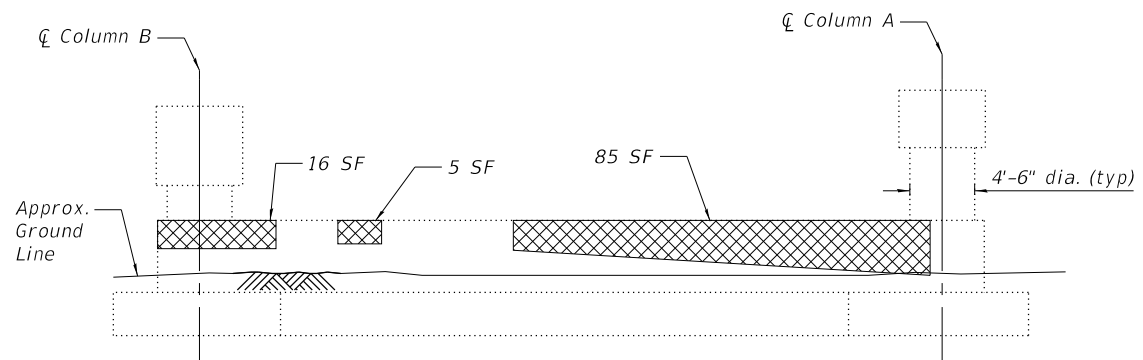
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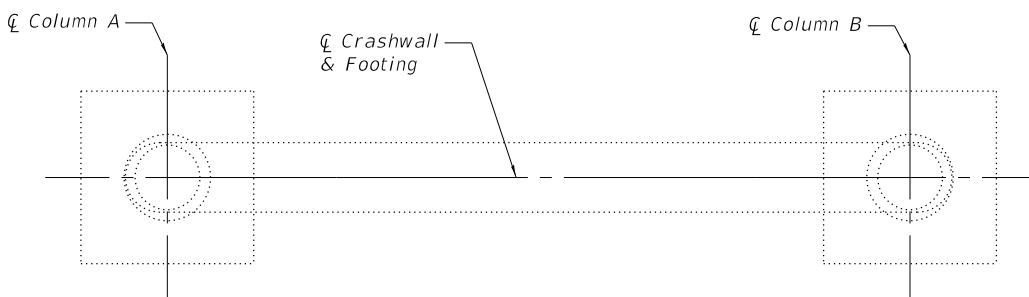
ELEVATION
(Looking Upstation)



COLUMN A (End View) **COLUMN A** (Interior View) **COLUMN B** (Interior View) **COLUMN B** (End View)



ELEVATION
(Looking Downstation)



PLAN VIEW

- Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)
- Epoxy Crack Injection

Note:
Repairs may be visible in multiple views on circular elements, however, the repair is only shown in the most descriptive view.

PIER A45
BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Structural Repair of Concrete (Depth Equal to or Less Than 5 Inches)	Sq Ft	110
Epoxy Crack Injection	Foot	10
Galvanic Anode	Each	107

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Pingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

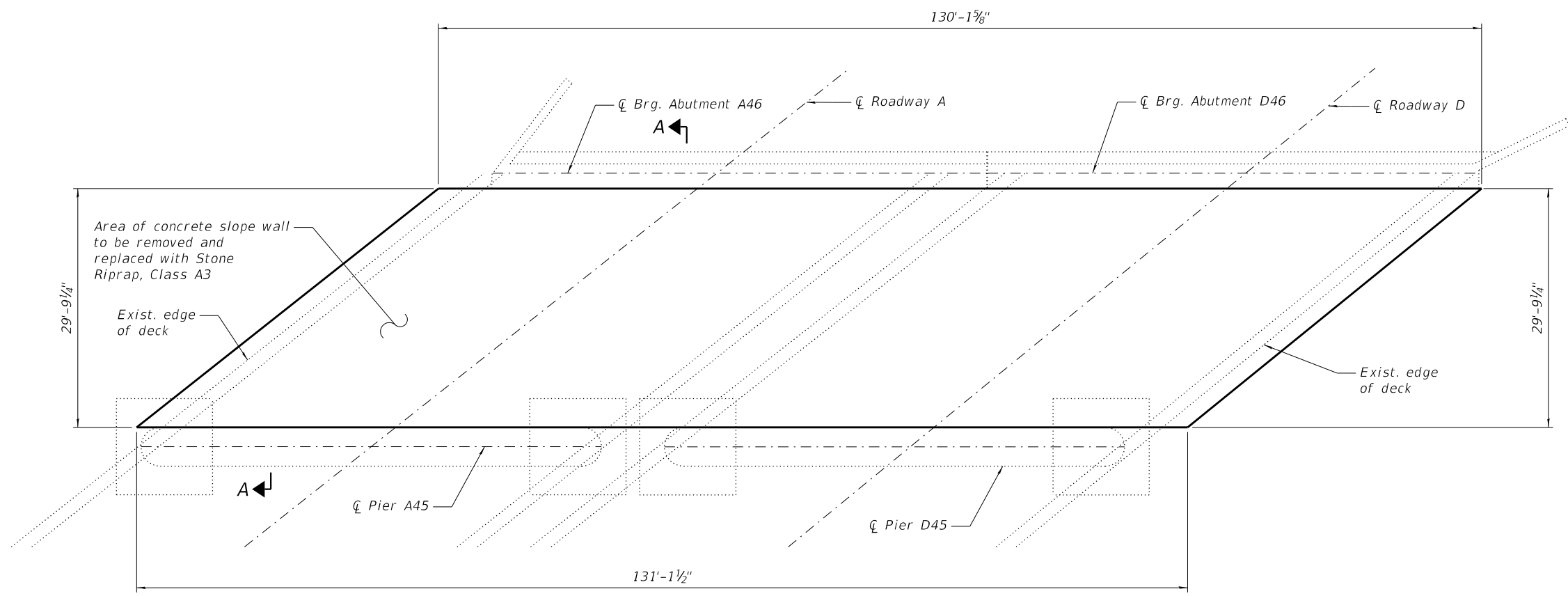
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PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

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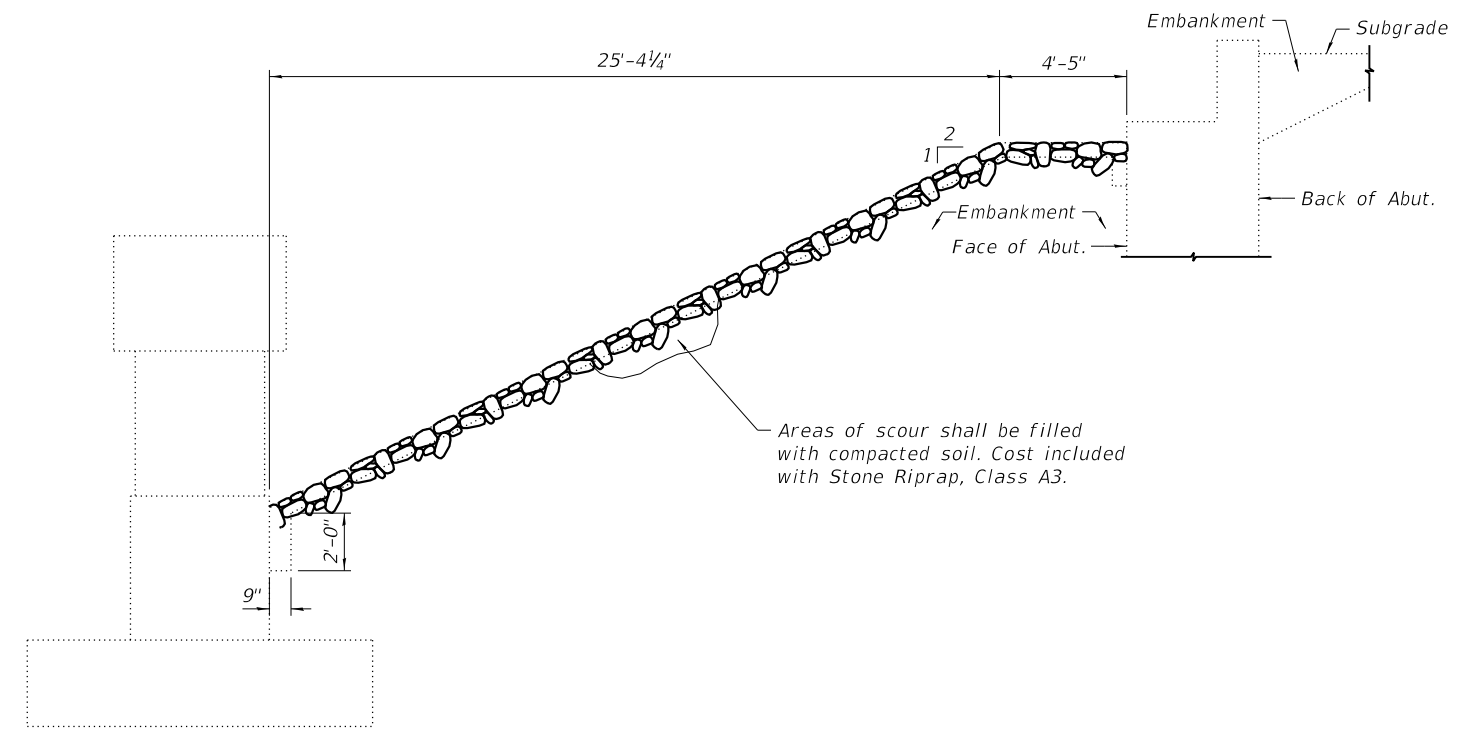
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S.N. 082-0141
 SHEET NO. 73 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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PLAN



SECTION A-A

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Slope Wall Removal	Sq. Yd.	474
Stone Riprap, Class A3	Sq. Yd.	474

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Pingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

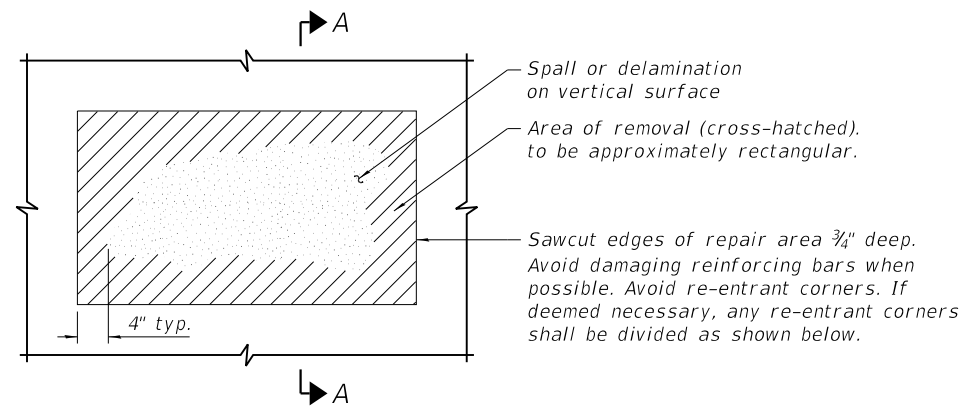
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	DATE - 09/28/2018	REVISED -

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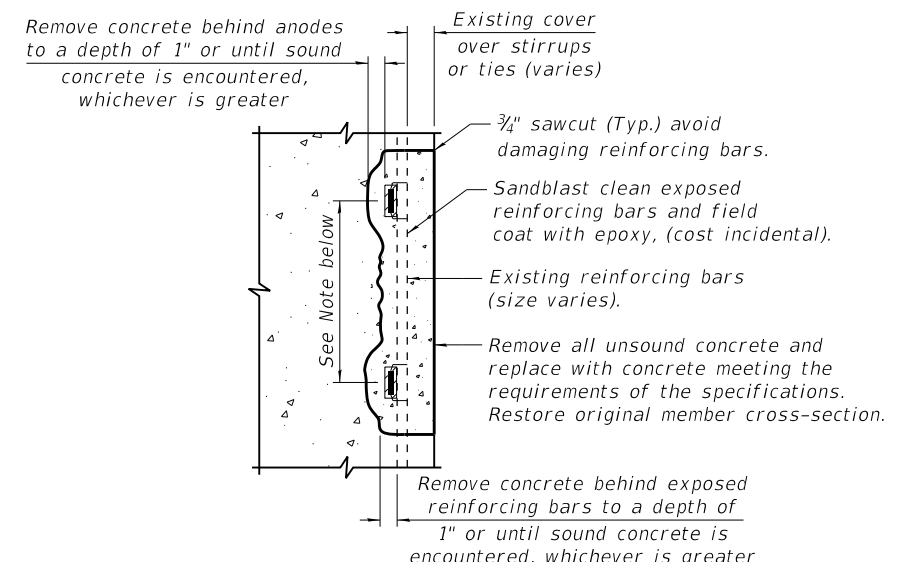
SLOPE WALL REMOVAL DETAILS
S.N. 082-0141
 SHEET NO. 74 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	148
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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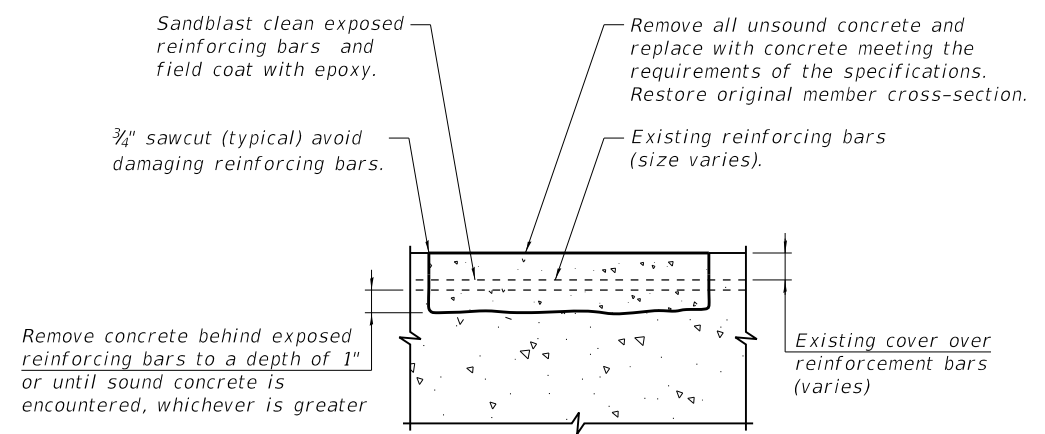


VERTICAL SURFACE REPAIR DETAIL
At Substructure

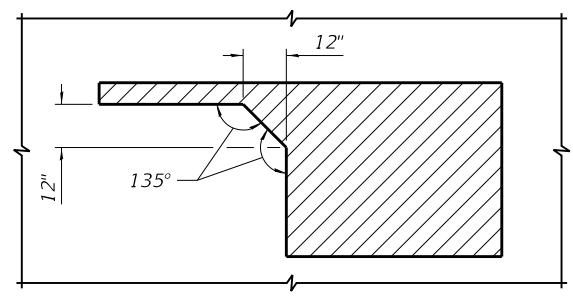


SECTION A-A

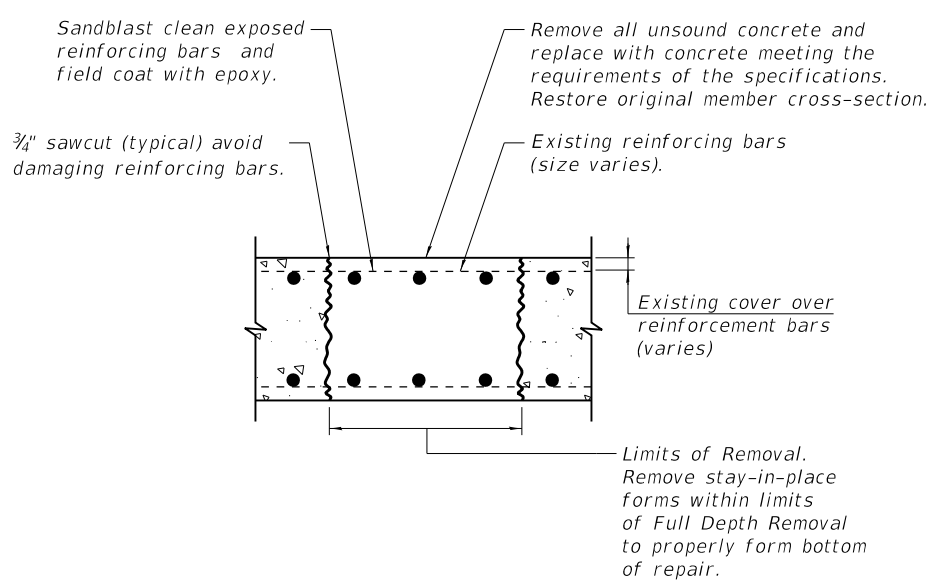
Anodes shall be installed around the perimeter of the patch. No more than 2" from the edge of the patch, anode shall be spaced at 12" on center max. on all crashwall faces and the top and bottom faces of the tie beams. Anodes shall be spaced at 16" on center max. on column faces and vertical faces of the tie beams. No anodes specified in deck slab repairs.



HORIZONTAL SURFACE REPAIR (PARTIAL DEPTH)
At bridge deck and substructure.

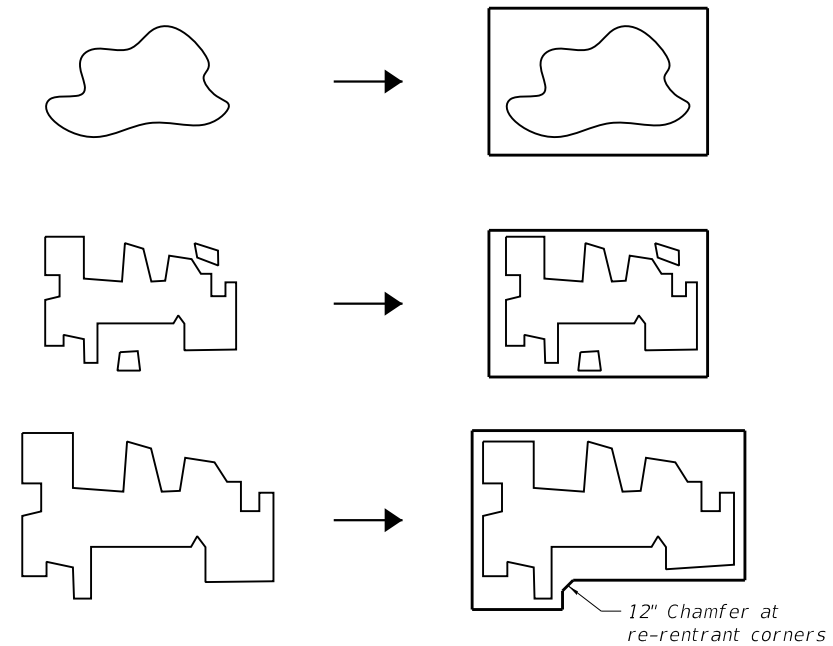


RE-ENTRANT CORNER MODIFICATIONS

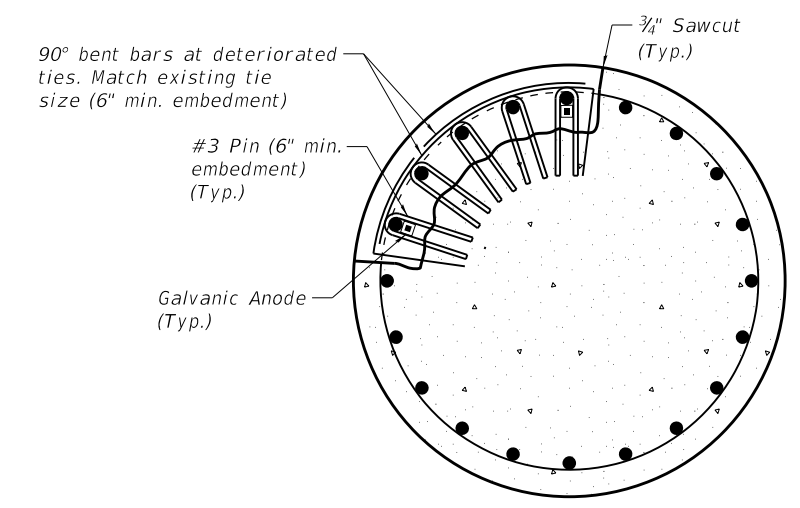


HORIZONTAL SURFACE REPAIR (FULL DEPTH)
At bridge deck

Note:
Where construction joints occur within patches due to staging requirements, concrete removal shall extend 1 inch into previously repaired regions such that all existing steel is cleaned and coated. See Roadway Plans for traffic control staging requirements.



TYPICAL CONCRETE REPAIR GEOMETRY



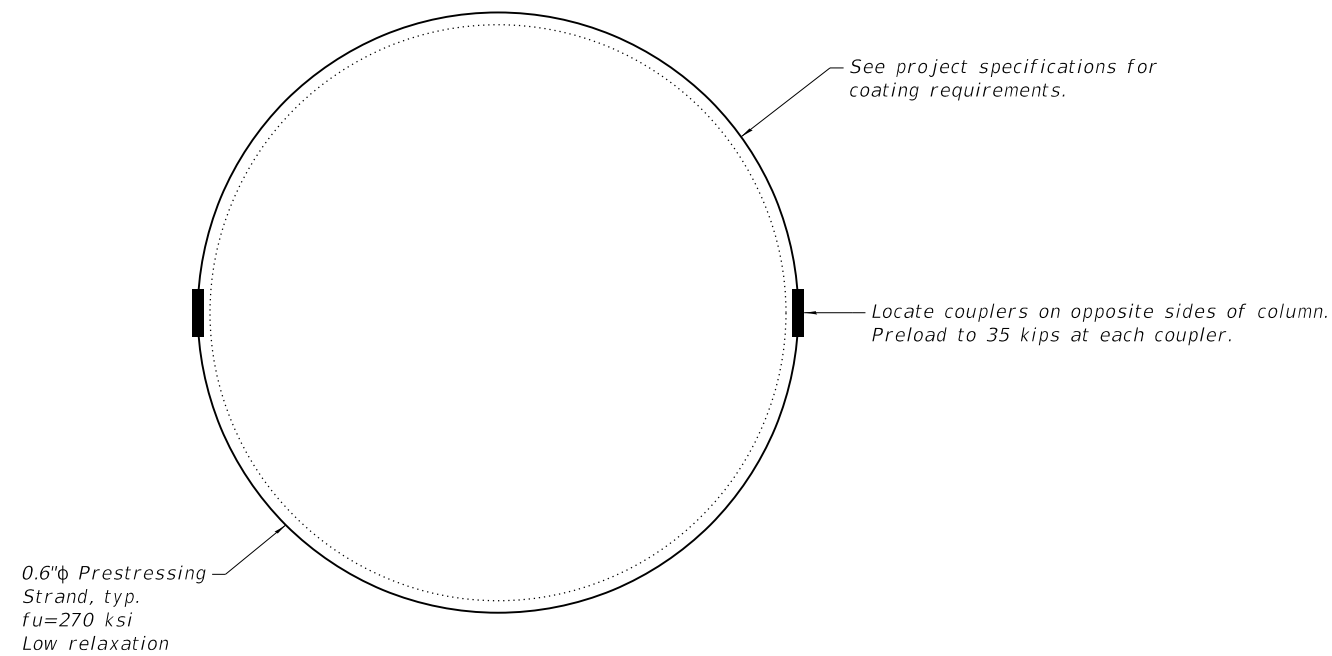
COLUMN REPAIR AT DETERIORATED TIE

Notes:
Patch shall extend 4" past tie deterioration or to the extents of unsound concrete, whichever is greater.
The standing leg of the 90 degree bent bars will be installed 1" to 3" from the edge of the patch.
Stagger #3 pins 3" vertically (alternate sides of deteriorated existing tie)

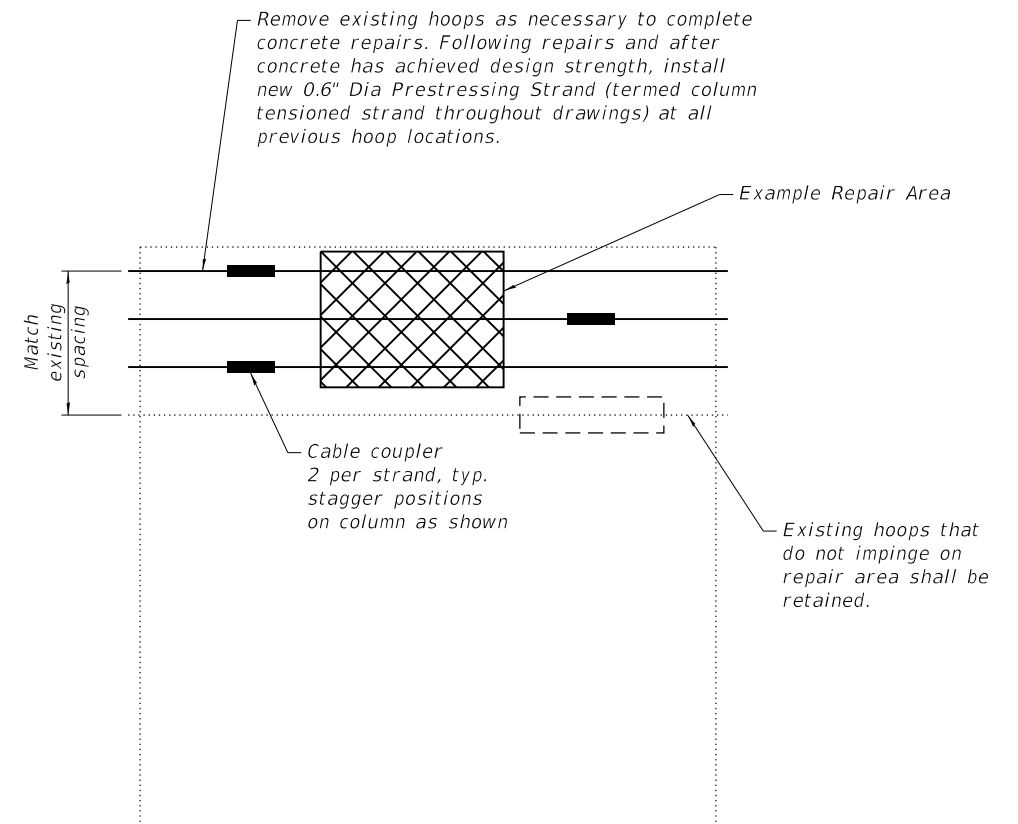
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	DATE - 09/28/2018	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	149
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

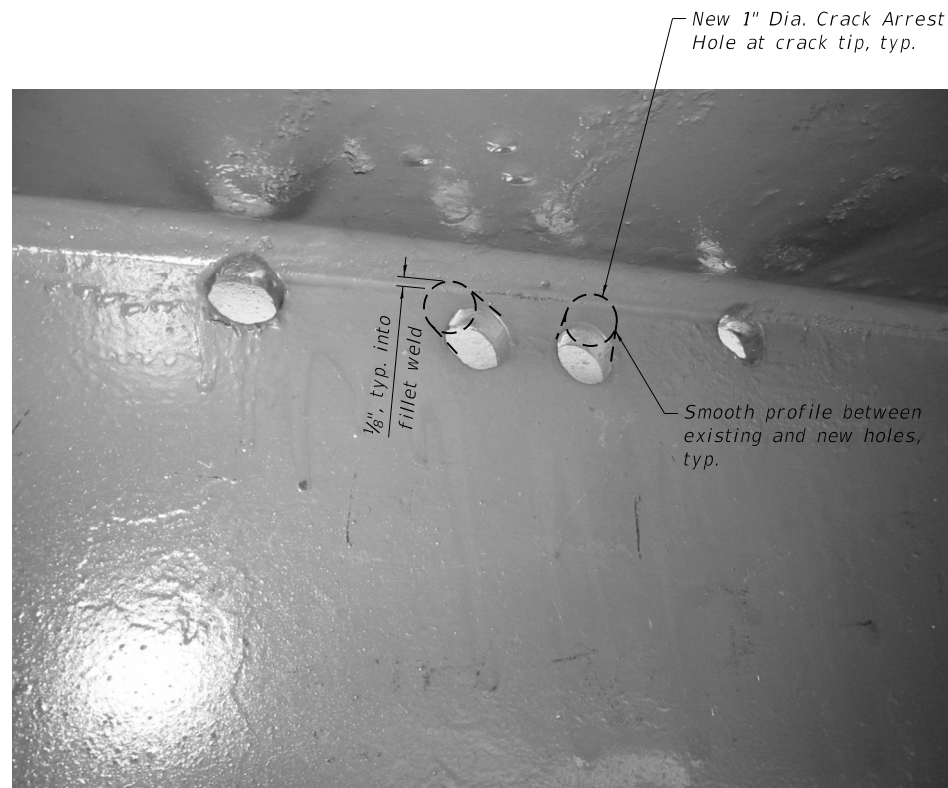
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PLAN



ELEVATION



SPAN A3 CRACK ARREST HOLES
Girder A1 at first interior floor beam from Pier A3



SPAN A19 CRACK ARREST HOLES
Girder A1 at first interior floor beam from Pier A20

Crack Arrest Hole Procedure

1. Locate crack tip using magnetic particle inspection methods. Test from both sides of web.
2. Drill a 1-inch diameter crack arrest hole. The crack tip shall fall within the diameter of the hole.
3. Re-inspect the area using magnetic particle inspection methods to verify that the crack arrest hole has fully captured the crack tip.
4. At Span A3 repairs, achieve a smooth profile between existing and new retrofit holes.
5. All newly exposed surfaces shall have a Roughness Average (Ra) of 500 or less.
6. Attain approval of Engineer.
7. Clean and paint the exposed steel surfaces and any surfaces marred during drilling with a zinc rich primer as described in GBSP 21-Cleaning and Painting Existing Steel Structures.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Crack Arrest Holes	Each	4

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wess, Janney, Elstner Associates, Inc.
 330 Pfingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

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PLOT SCALE = 0.1667' / 1"	CHECKED - RW	REVISED -
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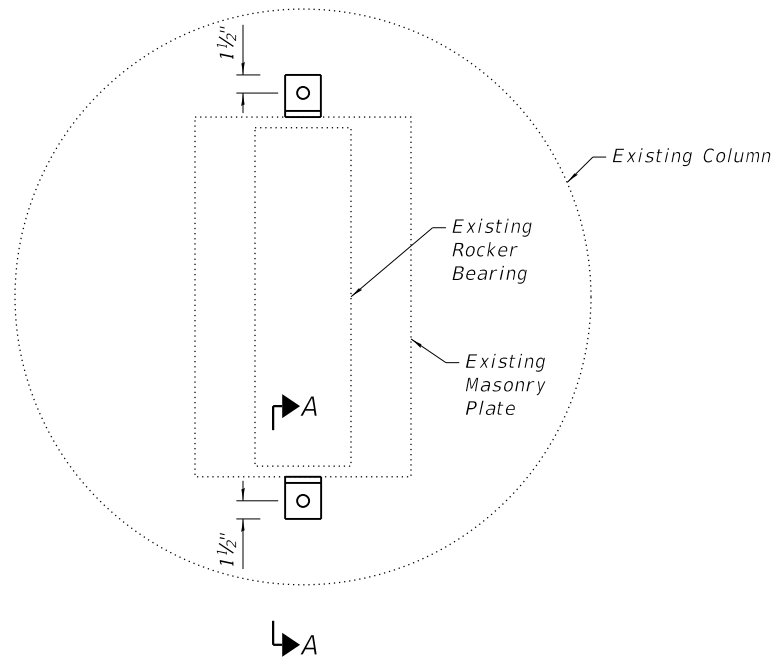
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

CABLE TENSIONED STRANDS AND CRACK ARREST HOLE DETAILS
 S.N. 082-0141

SHEET NO. 76 OF 90 SHEETS

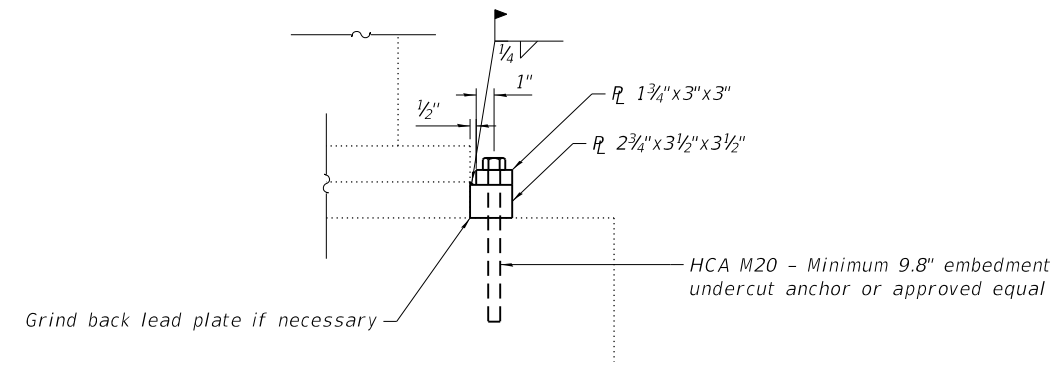
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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TOP OF COLUMN PLAN

Pier A31, Column B
Pier A33, Column B



SECTION A-A

Notes:
Anchors shall be installed in the locations shown according to the manufacturer's installation instructions. Cost of plates is included with Anchor Bolts, 1".

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Anchor Bolts, 1"	Each	4

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Pfingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax
 www.wje.com

USER NAME = acb	DESIGNED - ARB	REVISED -
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PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

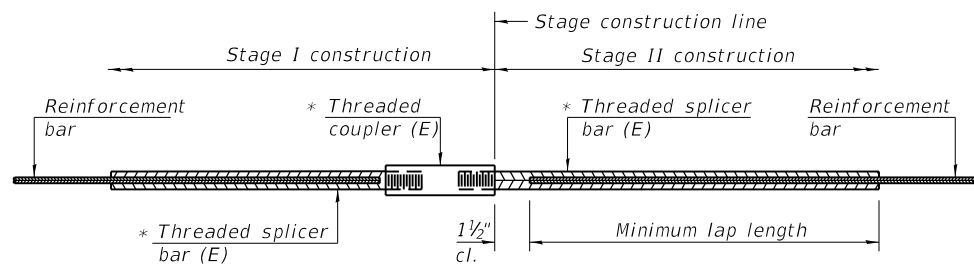
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHIM STACK RETAINER DETAILS
S.N. 082-0141

SHEET NO. 77 OF 90 SHEETS

F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	151
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

PRINT DATE: 9/28/2018 11:19:11 AM Z:\5052 Poplar Street Complex\DCN\Bridg\Final\Plotsheets\Roadway A\078_Rawy_A_Bar_Splicer Assembly and Mechanical Splicer Details.dgn

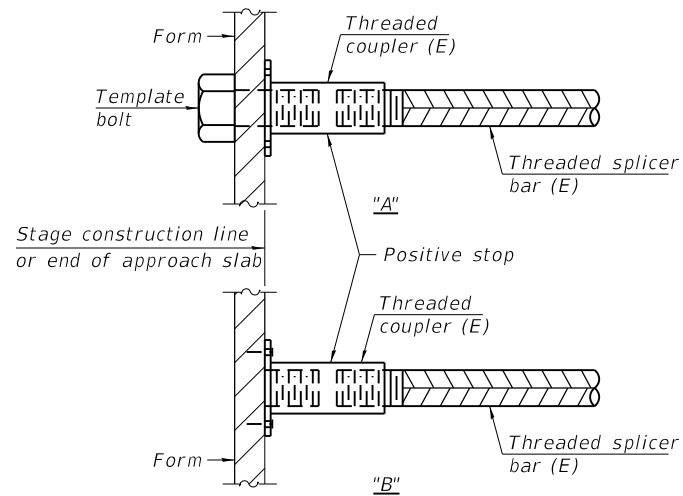


STANDARD BAR SPLICER ASSEMBLY

Threaded splicer bar length = min. lap length + 1 1/2" + thread length

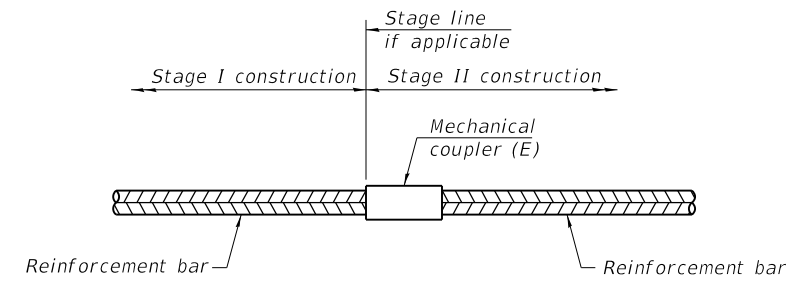
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
Pier A1	#5	44	3'-6"



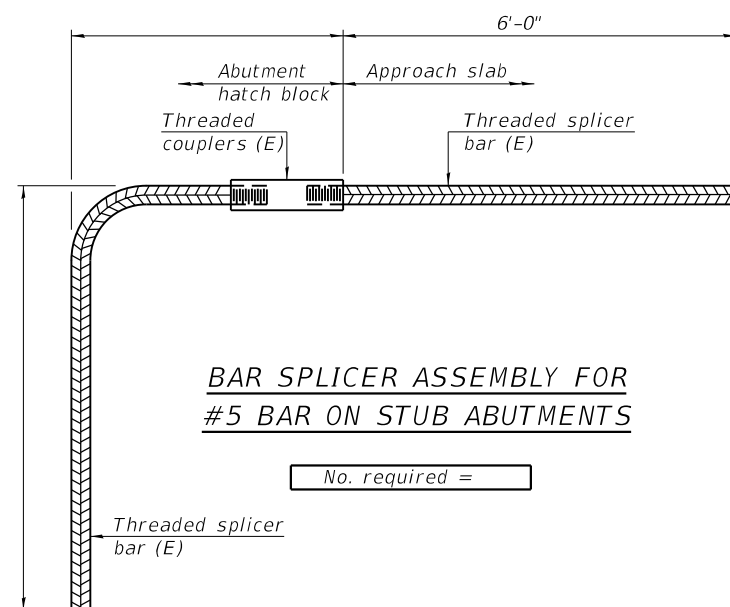
INSTALLATION AND SETTING METHODS

"A" : Set bar splicer assembly by means of a template bolt.
 "B" : Set bar splicer assembly by nailing to wood forms or cementing to steel forms.
 (E) : Indicates epoxy coating.



STANDARD MECHANICAL SPLICER

Location	Bar size	No. assemblies required



BAR SPLICER ASSEMBLY FOR #5 BAR ON STUB ABUTMENTS

No. required =

NOTES

Splicer bars shall be deformed with threaded ends and have a minimum 60 ksi yield strength.
 All reinforcement shall be lapped and tied to the splicer bars.
 Bar splicer assemblies shall be epoxy coated according to the requirements for reinforcement bars. See Section 508 of the Standard Specifications.
 See approved list of bar splicer assemblies and mechanical splicers for alternatives.
 Bar splicer assemblies shall develop in tension at least 125 percent of the yield strength of the lapped reinforcement bars.

BSD-1

2-17-2017

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Pfingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

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PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISOR -

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
S.N. 082-0141

SHEET NO. 78 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	152
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

DESIGN: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. ("AASHTO Specifications")

CONSTRUCTION: Current (at time of letting) Illinois Department of Transportation Standard Specifications for Road and Bridge Construction, Supplemental Specifications and Special Provisions. ("Standard Specifications")

LOADING: 90 M.P.H. WIND VELOCITY

WALKWAY LOADING: Dead load plus 500 lbs. concentrated live load.

DESIGN STRESSES:
Field Units
f'c = 3,500 p.s.i.
fy = 60,000 p.s.i. (reinforcement)

WELDING: All welds to be continuous unless otherwise shown. All welding to be done in accordance with current AWS D1.1 and D1.2 Structural Welding Codes (Steel and Aluminum) and the Standard Specifications. No field welding is permitted except as specified in contract documents.

MATERIALS: Aluminum Alloys as shown throughout plans. All Structural Steel Pipe shall be ASTM A53 Grade B or A500 Grade B or C. If A500 pipe is substituted for A53, then the outside diameter shall be as detailed and wall thickness greater than or equal to A53. All Structural Steel Plates and Shapes shall conform to AASHTO M270 Gr. 36, Gr. 50 or Gr. 50W*. Stainless steel for shims, sleeves and handhole covers shall be ASTM A240, Type 302 or 304, or another alloy suitable for exterior exposure and acceptable to the Engineer.

The steel pipe and stiffening ribs at the base plate for the column shall have a minimum longitudinal Charpy V-Notch (CVN) energy of 15 lb.-ft. at 40° F. (Zone 2) before galvanizing.

FASTENERS FOR ALUMINUM TRUSSES: All bolts noted as "high strength" must satisfy the requirements of AASHTO M164 (ASTM A325), or approved alternate, and must have matching lock nuts. Threaded studs for splices (if Members interfere) must satisfy the requirements of ASTM A449, ASTM A193, Grade B7, or approved alternate, and must have matching lock nuts. Bolts and lock nuts not required to be high strength must satisfy the requirements of ASTM A307. All bolts and lock nuts must be hot dip galvanized per AASHTO M232. The lock nuts must have nylon or steel inserts. A stainless steel flat washer conforming to ASTM A240 Type 302 or 304, is required under both head and nut or under both nuts where threaded studs are used. High strength bolt installation shall conform to Article 505.04 (f) (2)d of the IDOT Standard Specifications for Road and Bridge Construction. Rotational capacity ("ROCAP") testing of bolts will not be required.

U-BOLTS AND EYEBOLTS: U-Bolts and Eyebolts must be produced from ASTM A276 Type 304, 304L, 316 or 316L, Condition A, cold finished stainless steel, or an equivalent material acceptable to the Engineer. All nuts for U-Bolts and Eyebolts must be lock nuts equivalent to ASTM A307 with nylon or steel inserts and hot dip galvanized per AASHTO M232. A stainless steel flat washer conforming to ASTM A240, Type 302 or 304, is required under each U-Bolt and Eyebolt lock nut.

GALVANIZING: All Steel Grating, Plates, Shapes and Pipe shall be Hot Dip Galvanized after fabrication in accordance with AASHTO M111. Painting is not permitted.

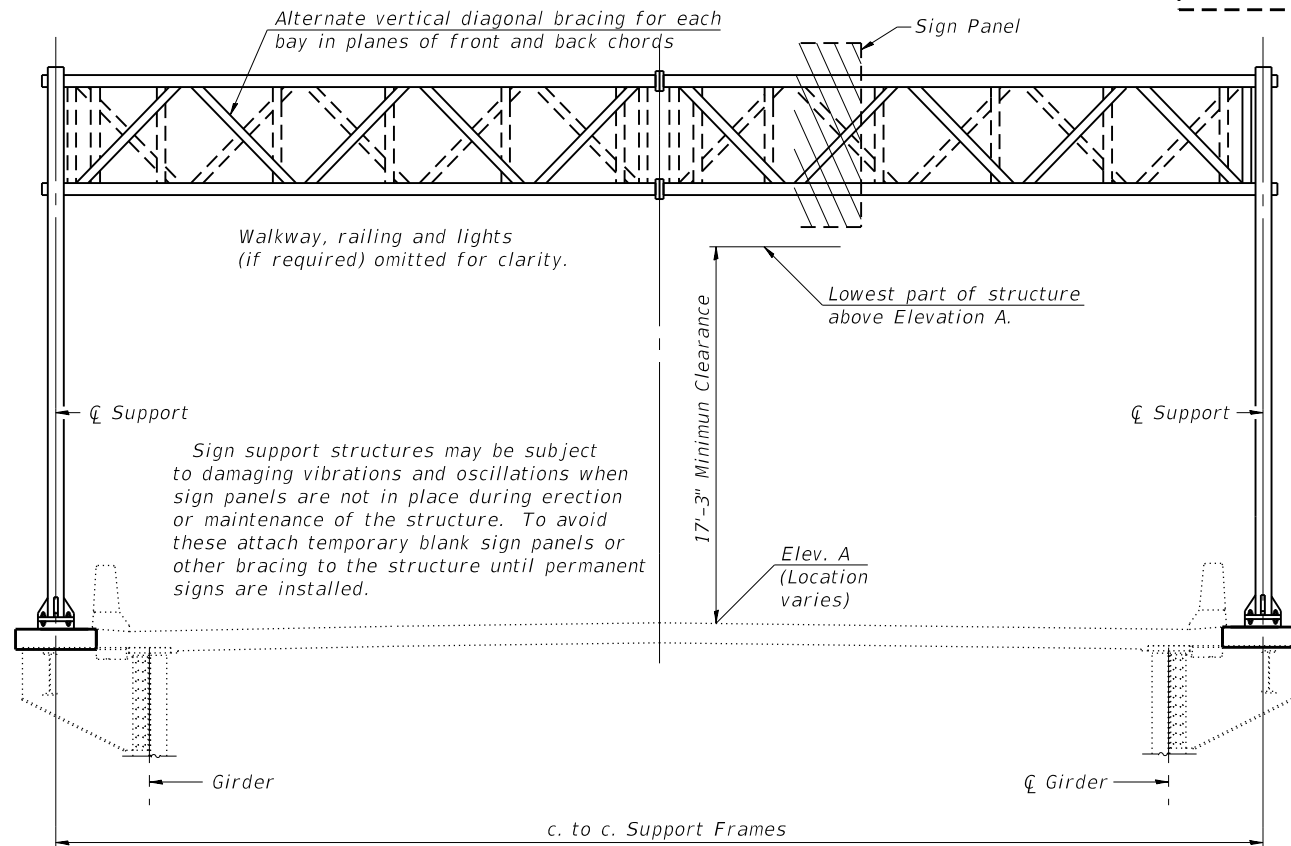
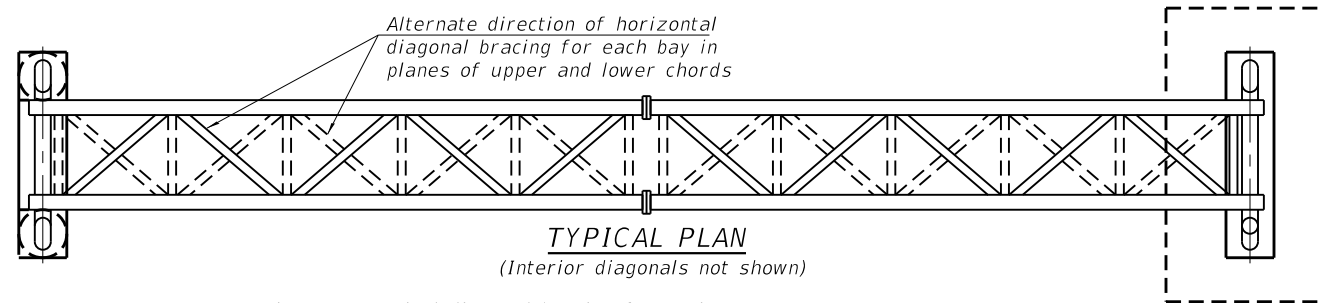
ANCHOR RODS: Shall conform to ASTM F1554 Gr. 105.

CONCRETE SURFACES: All concrete surfaces above an elevation 6" below the lowest final ground line at each foundation shall be cleaned and coated with Concrete Sealer in accordance with the Standard Specifications.

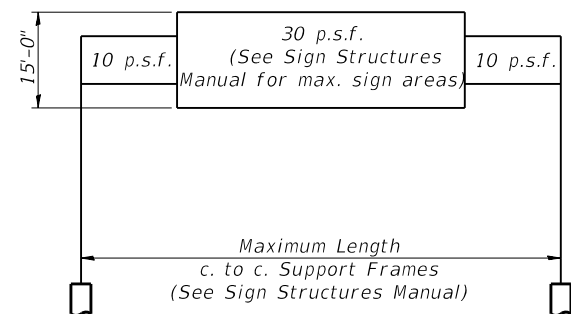
REINFORCEMENT BARS: Reinforcement Bars designated (E) shall be epoxy coated in accordance with the Standard Specifications.

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.

Existing reinforcement shall be cleaned and incorporated into the new construction. Cost included with Concrete Removal.



Elev. A = Elevation at point of minimum clearance to sign, walkway support or truss.



Parameters shown are basis for I.D.O.T. Standards and Sign Manual Tables. Installations not within dimensional limits shown require special analysis for all components.

SCOPE OF WORK AT EACH OVERHEAD SIGN STRUCTURE

1. Remove Overhead Sign Structure including supports.
2. Remove Concrete Pad.
3. Clean Rebar and top of bracket assembly.
4. Install Stud Shear Connectors, Anchor Rods, and Rebar.
5. Install Concrete Pad.
6. Install new Overhead Sign Structure.
7. Install Signs.

TYPICAL ELEVATION
(Looking at Face of Signs**)

Structure Number	Station	Design Truss Type	c. to c. Supports	Elev. A	Dim. D	Height of Tallest Sign	Total Sign Area
850825015L000.8	85+77	I-A	63'-6 1/16"	448.64	---	12'-0"	270

**Looking upstation for structures with signs both sides.

* If M270 Gr. 50W (M222) steel is proposed, chemistry for plate to be used shall first be approved by the Engineer as suitable for galvanizing and welding.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
REMOVE OVERHEAD SIGN STRUCTURE - BRIDGE MOUNTED	Each	1
CONCRETE REMOVAL	Cu. Yd.	1.3
STUD SHEAR CONNECTORS	Each	20
REINFORCEMENT BARS, EPOXY COATED	Pound	200
CONCRETE SUPERSTRUCTURE	Cu. Yd.	1.3
OVERHEAD SIGN STRUCTURE - SPAN, TYPE I-A (4'-0" x 4'-6")	Foot	64
OVERHEAD SIGN STRUCTURE WALKWAY, TYPE A	Foot	57
SIGN PANEL - TYPE 3	Sq. Ft.	270

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES - GENERAL PLAN &
ELEVATION - ALUMINUM TRUSS & STEEL SUPPORTS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55/64	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	153
CONTRACT NO. 76945				

SHEET NO. 79 OF 90 SHEETS

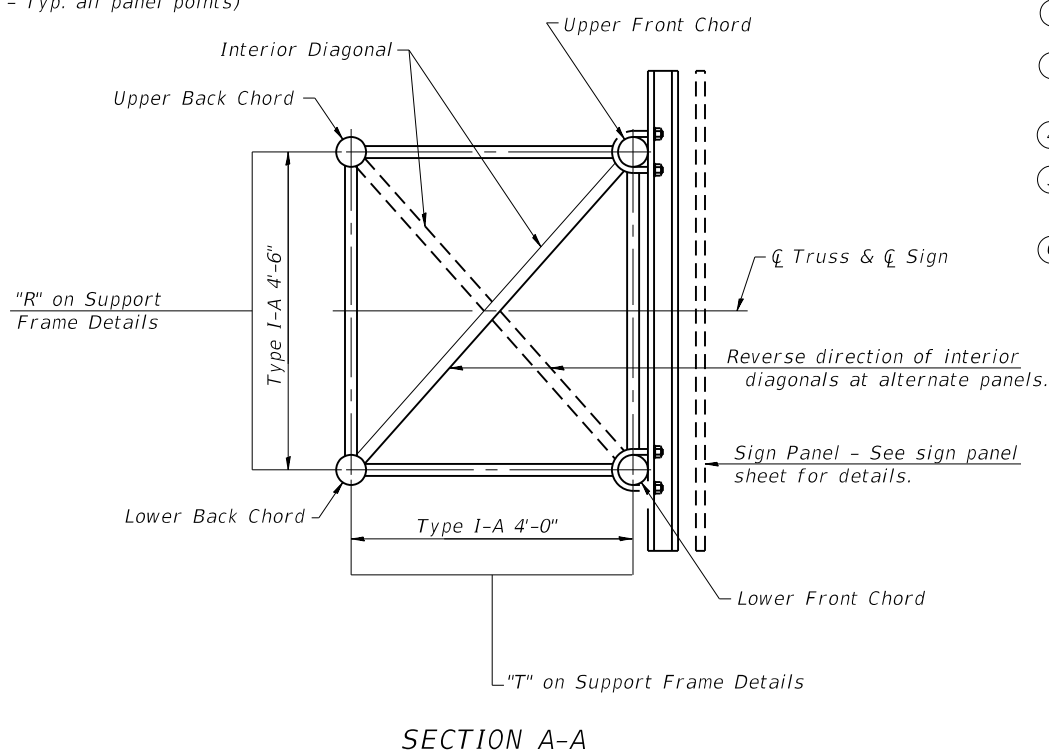
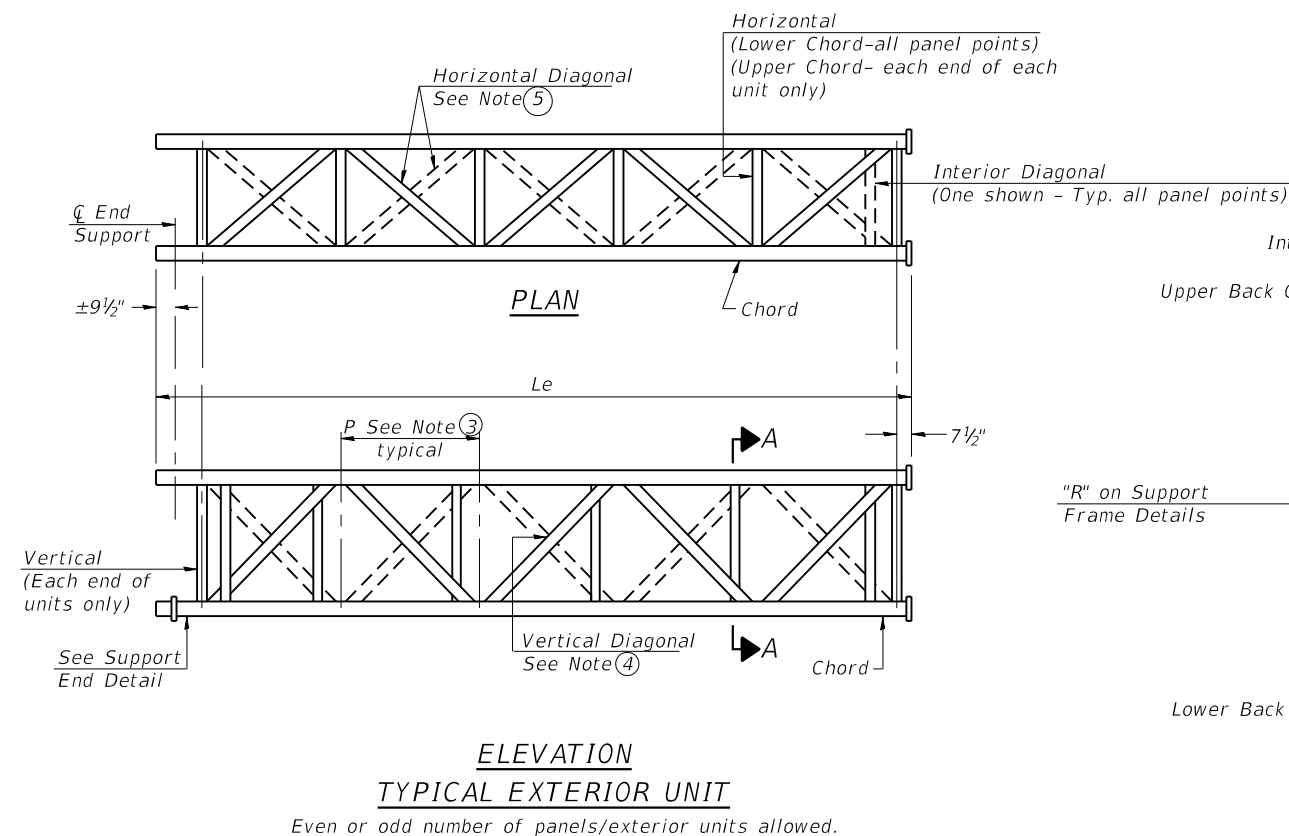
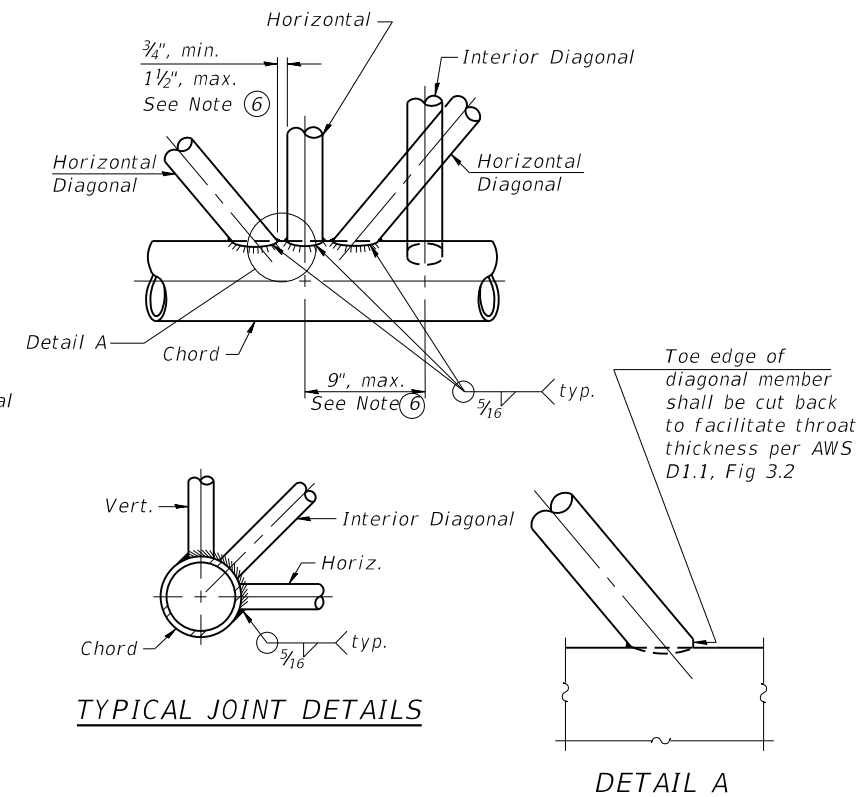
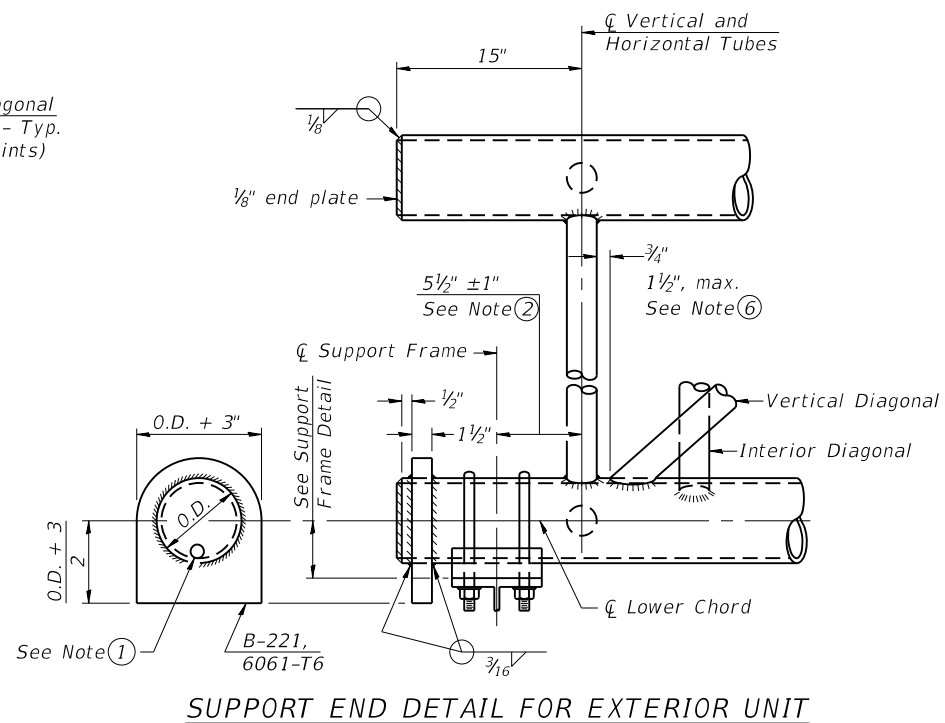
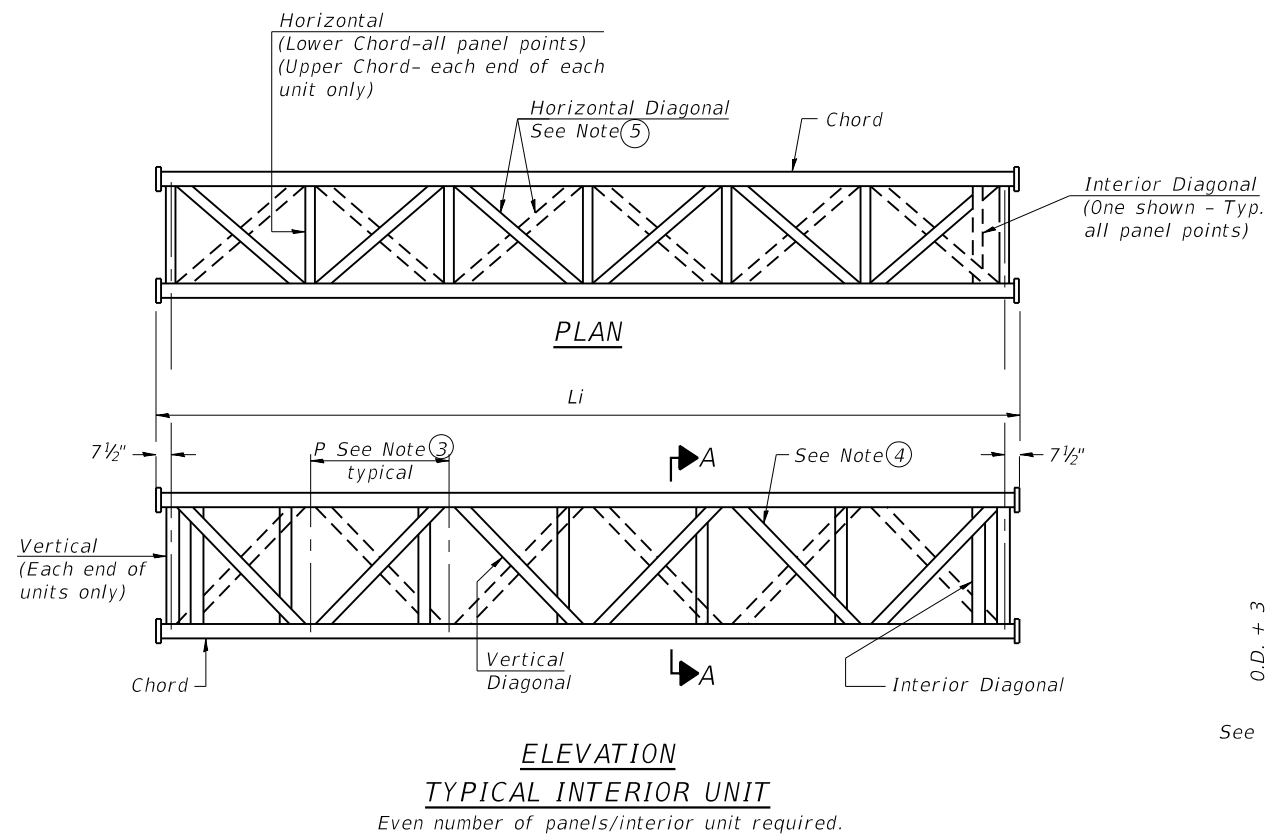
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PLOT SCALE = 0:2.0000 '1' / in.	DRAWN - MJR	REVISED -
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- ① Contractor may alternatively use standard aluminum drive-fit cap to close end. 1/2" Ø drain hole in end plate/drive-fit cap. (Typ. at ends of all chords)
- ② 5 1/2" end dimension may vary by ±1" to provide uniform panel spacing (P).
- ③ Panel spacing (P) shall be uniform for entire truss and between 4'-0" and 5'-0" for Type I-A.
- ④ Vertical Diagonals in front and back face shall alternate.
- ⑤ Hidden lines show wind bracing alternates direction between planes of top and bottom chords.
- ⑥ All diagonals shall be detailed for minimum offset from the panel point based on the following: Offset shall be such as to provide a 3/4" minimum to 1 1/2" maximum clearance between any diagonal and any horizontal or vertical member, and to provide clearance for U-bolt connections of signs or walkway brackets.

05-A-2

2-17-2017



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	DATE - 9/28/2018	REVISED -

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DEPARTMENT OF TRANSPORTATION**

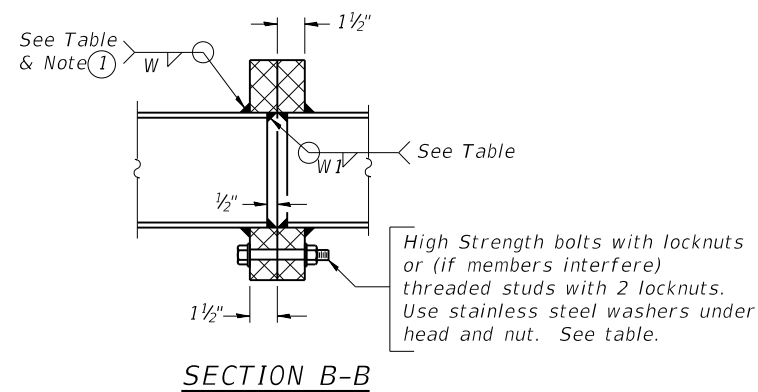
**OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS
DETAILS FOR TRUSS TYPE I-A**

F.A.I. RTÉ.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55/64	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	154
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

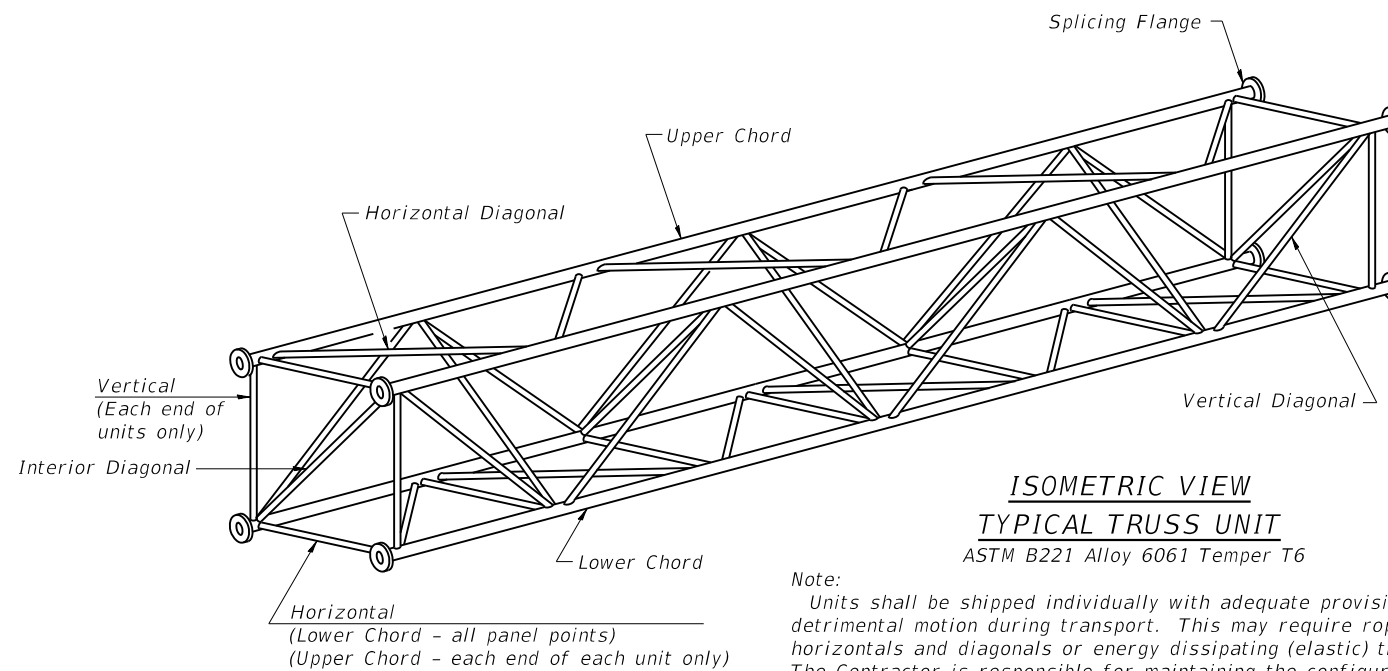
SHEET NO. 80 OF 90 SHEETS

TRUSS UNIT TABLE

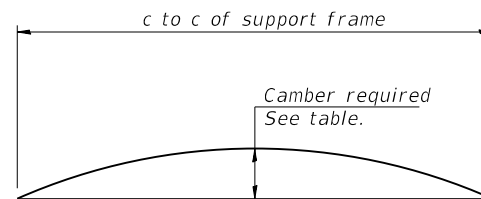
Structure Number	Station	Design Truss Type	Exterior Units (2)			Interior Unit				Upper & Lower Chord		Verticals; Horizontal; Vertical, Horizontal, and Interior Diagonals		Camber at Midspan	Splicing Flange					
			No. Panels per Unit	Unit Lgth.(Le)	Panel Lgth.(P)	No. Req'd.	No. Panels per Unit	Unit Lgth.(Li)	Panel Lgth.(P)	O.D.	Wall	O.D.	Wall		Bolts		Weld Sizes		A	B
															No./Splice	Dia.	W	WI		
8S0825015L000.8	85+77	I-A	7	32'-7 $\frac{3}{4}$ "	4'-4 $\frac{3}{4}$ "	---	---	---	---	5	$\frac{5}{16}$	2 $\frac{1}{2}$	$\frac{5}{16}$	1 $\frac{1}{2}$	6	$\frac{7}{8}$	$\frac{5}{16}$	$\frac{1}{4}$	8 $\frac{3}{4}$	11 $\frac{3}{4}$



① Splicing Flanges shall be attached to each truss unit with the truss shop assembled to camber shown. Truss units shall be in proper alignment and flange surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure flanges until remaining welds are made after disassembly. Adjacent flanges shall be "match marked" to insure proper field assembly.

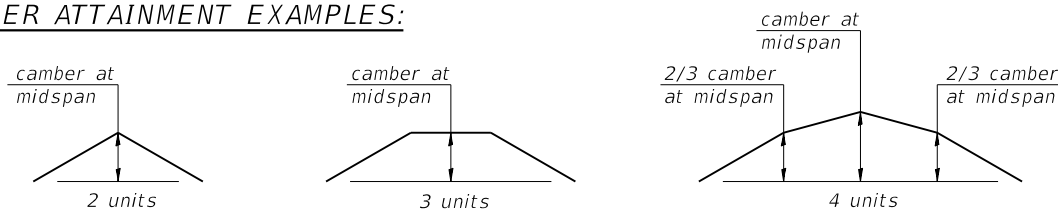


Note:
Units shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The Contractor is responsible for maintaining the configuration and protection of the units.

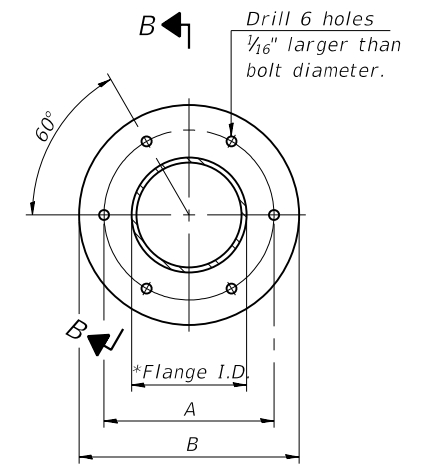


CAMBER DIAGRAM
Camber curve shown is theoretical. Actual camber attained by slope changes at splices between units.

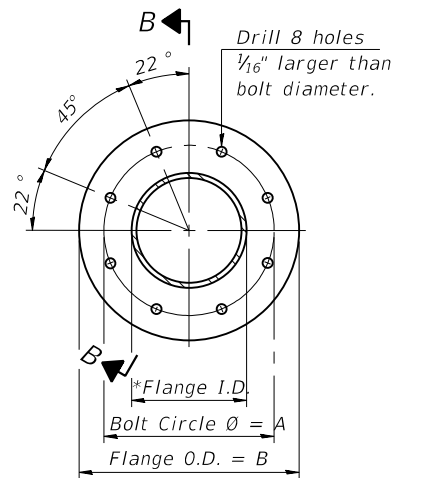
CAMBER ATTAINMENT EXAMPLES:



Camber shown is for fabrication only, measured with truss fully supported. (No-load condition)



TRUSS TYPES I-A, II-A, & III-A



**TRUSS TYPES II-A & III-A
SPLICING FLANGES**

ASTM B221, Alloy 6061-T6
or ASTM B209, Alloy 6061-T651
*To fit O.D. of Chord with maximum gap of 1/16".

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054-A-2

2-17-2017



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PLOT SCALE = 0:2.0000 '1' / in.	DRAWN - MJR	REVISED -
PLOT DATE = 9/28/2018	DATE - 9/28/2018	REVISED -

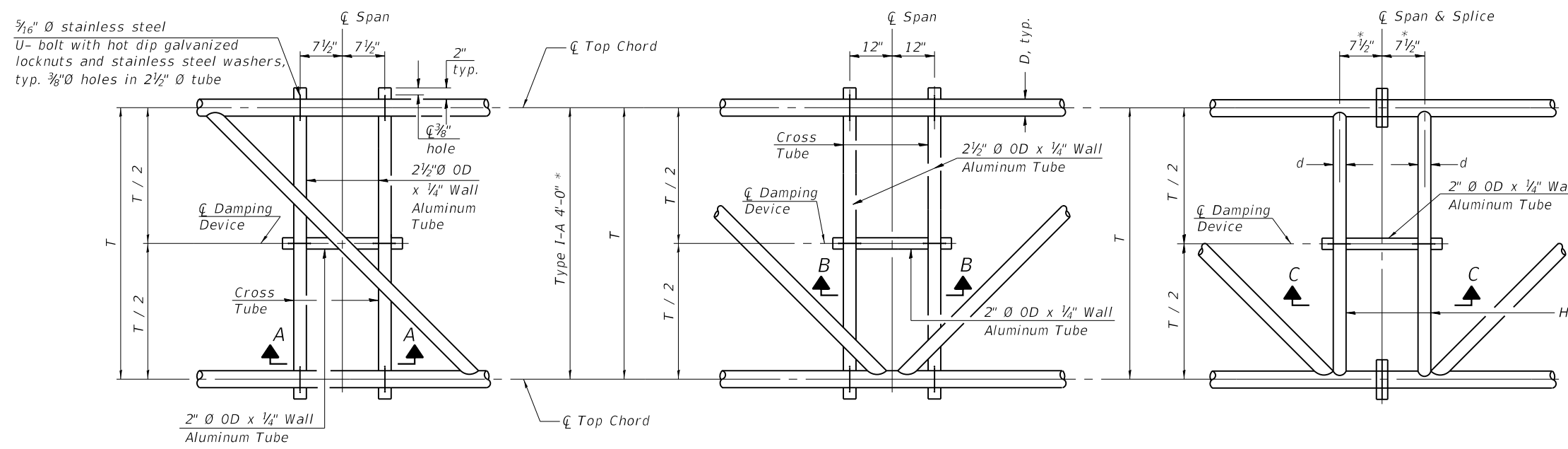
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS DETAILS
FOR TRUSS TYPE I-A**

SHEET NO. 81 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55/64	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	155
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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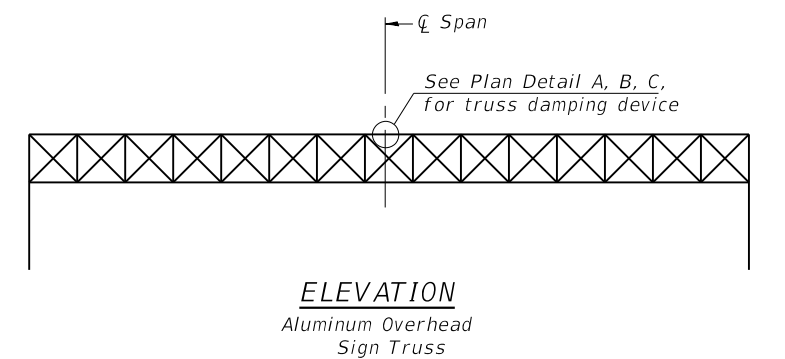
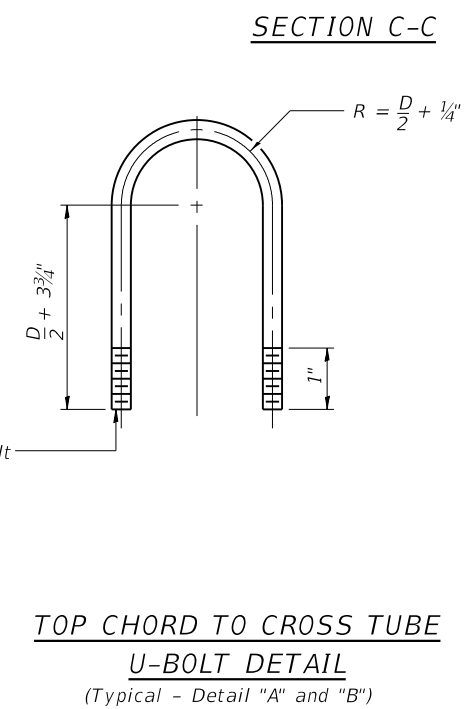
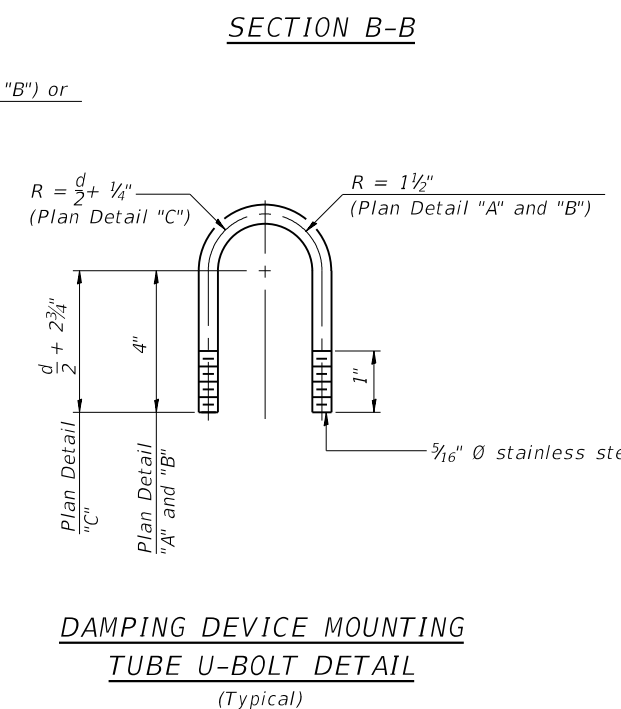
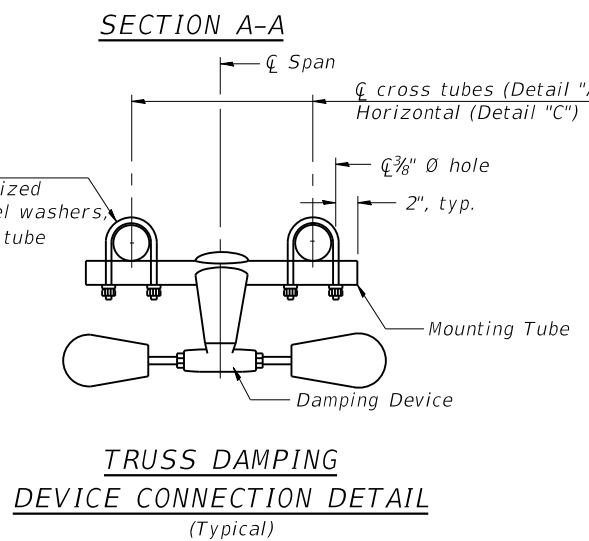
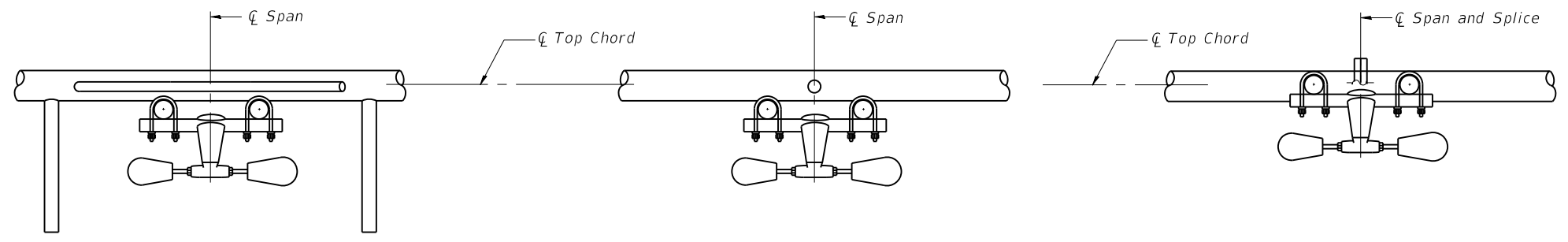


* Center of horizontal to center of splice dimension may vary. Verify before drilling holes in mounting tube.

NOTES

Damper: One damper per truss. (31 lbs. minimum Stockbridge-Type Aluminum - 29" minimum between ends of weights) Cost included in Overhead Sign Structure...

Materials: Materials: Aluminum tubes shall be ASTM B221 alloy 6061 temper T6. Cost included in Overhead Sign Structure...



05-A-D

2-17-2017



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	DATE - 9/28/2018	REVISED -

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OVERHEAD SIGN STRUCTURE
DAMPING DEVICE

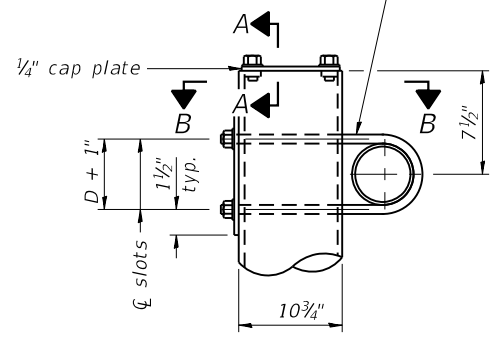
SHEET NO. 82 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55/64	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	156
CONTRACT NO. 76945				

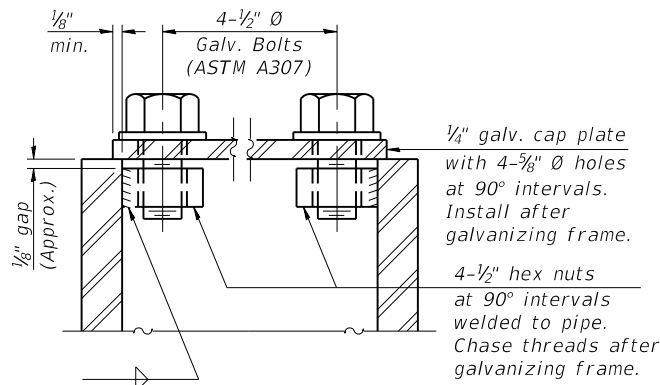
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3/4" Ø stainless steel U-bolt.
Provide two washers and two hexagon locknuts. (4)
1 3/16" x 2" slots on 10" Ø pipe.
(4 slots required per pipe)

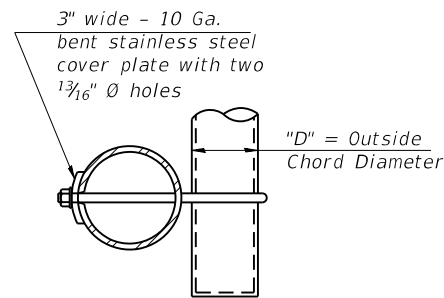


DETAIL A

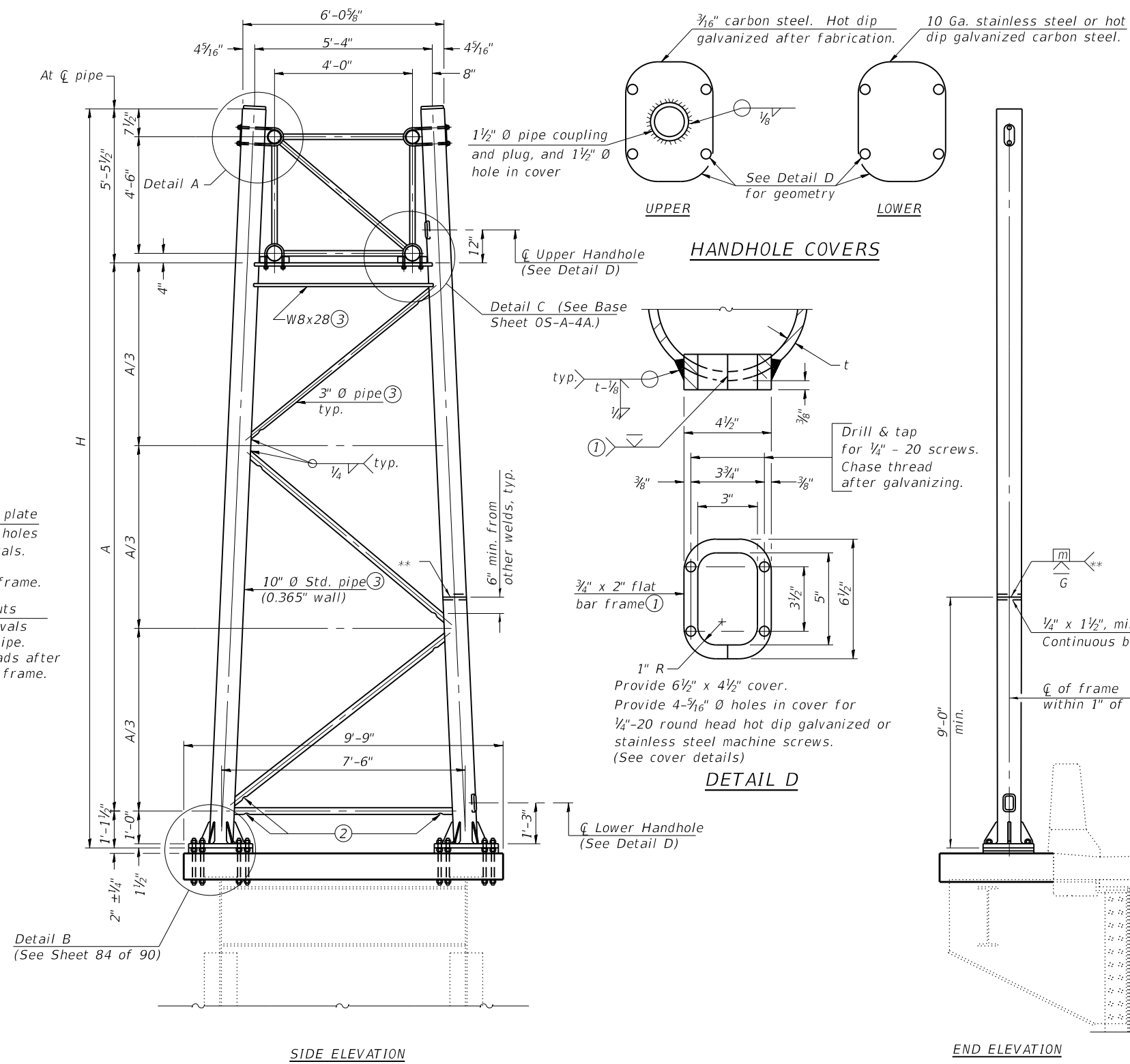


SECTION A-A

As an alternate to bolts, may use galvanized drive-fit caps installed after galvanizing frame.

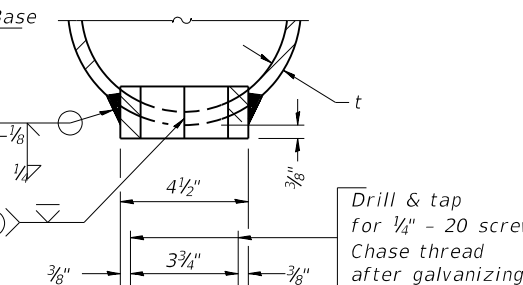


SECTION B-B

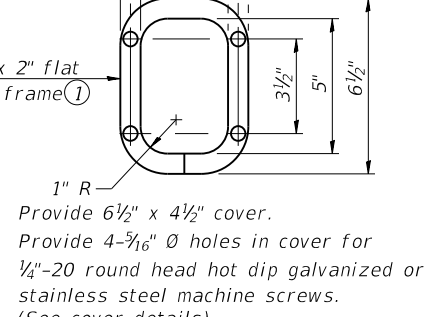


SIDE ELEVATION

HANDHOLE COVERS



DETAIL D



END ELEVATION

Support Design Loads: See Sheet 79 of 90 for design and loading criteria.
Load combinations checked include deadload plus:
a) 100% wind normal to sign, 20% parallel to sign
b) 60% wind normal to sign, 30% parallel to sign

- ① In lieu of fabricated handhole frame as shown, may cut from 2" plate (rolling direction vertical). All cut faces to be ground to ANSI Roughness of 500µ in or less.
- ② Galvanizing vent holes of adequate size shall be provided on underside at each end of bracing pipes. Alternately, holes may be provided in wall of pipe column. All vent holes shall be drilled and de-burred, typ.
- ③ Steel pipe, plate, carbon steel handhole covers and rolled sections shall be hot dip galvanized after fabrication. Painting is not permitted. See Base Sheet 05-A-1.
- ④ See General Notes for fasteners.
- ⑤ Dimensions shown are based on selection criteria in the Sign Structures Manual. Nonstandard applications must have dimensions verified or amended as appropriate.
- ⑥ "H" based on 15'-0" or actual sign height, whichever is greater.

10" Ø PIPE TRUSS SUPPORT FRAME

** One butt welded joint is allowed only on one post per support frame. If used, weld procedure must be pre-approved by Engineer and joint shall receive 100% RT or UT (tension criteria) at Contractor's expense.

Structure Number	Station	Support		H ⑥	A
		Left	Right		
8S0825015L000.8	85+77	X		29.63	23.05
8S0825015L000.8	85+77		X	29.10	22.52



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PLOT DATE = 9/28/2018	DRAWN - MJR	REVISED -
	DATE - 9/28/2018	REVISED -

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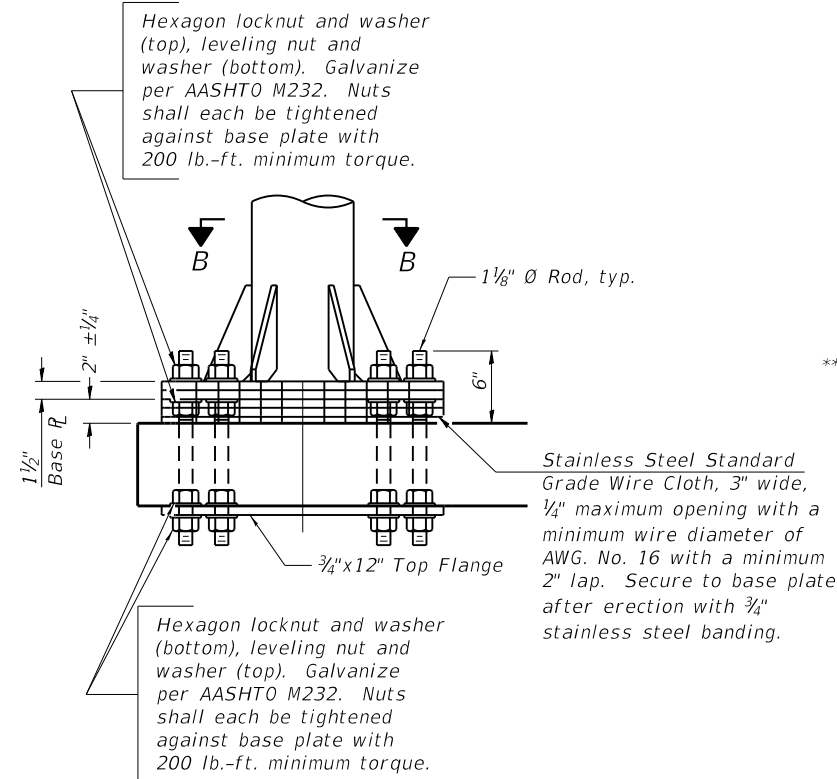
OVERHEAD SIGN STRUCTURES
SUPPORT FRAME FOR TYPE I-A ALUMINUM TRUSS

F.A.I. RTE. 55/64	SECTION 82-3HVB-2R-(2,1)-1-2	COUNTY ST. CLAIR	TOTAL SHEETS 238	SHEET NO. 157
CONTRACT NO. 76945				

SHEET NO. 83 OF 90 SHEETS

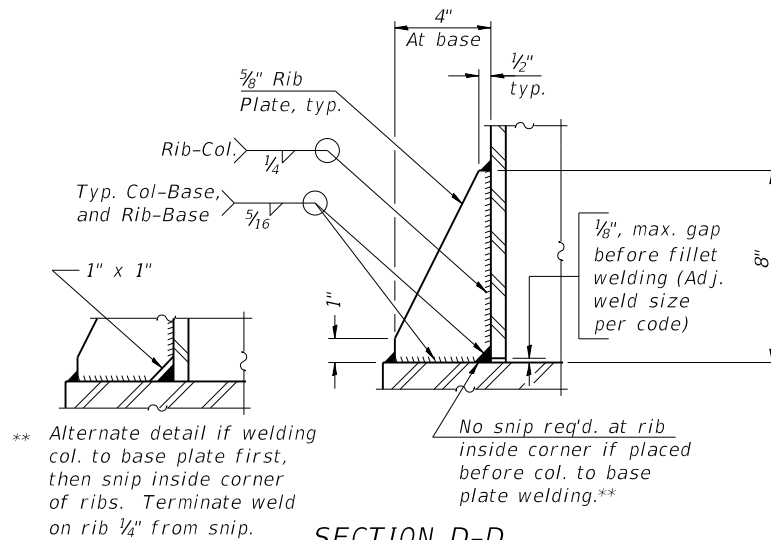
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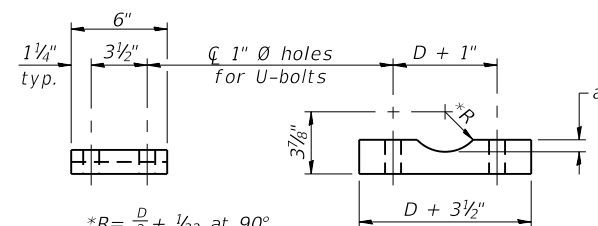
DETAIL B

Ribs shall be cut to fit slope of pipe.



SECTION D-D

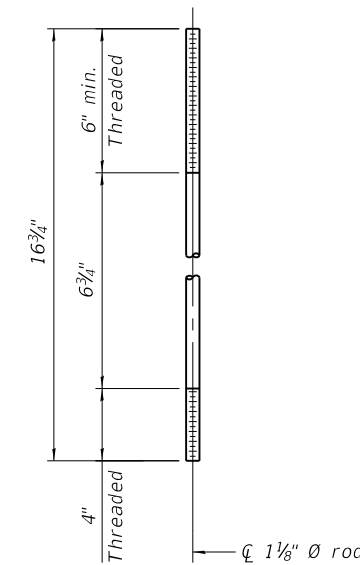
** Alternate detail if welding col. to base plate first, then snip inside corner of ribs. Terminate weld on rib 1/4 inch from snip.



SADDLE SHIM DETAIL

ASTM B26 Alloy 356-F
or
ASTM B209 Alloy 6061-T651
(4 required per sign truss)

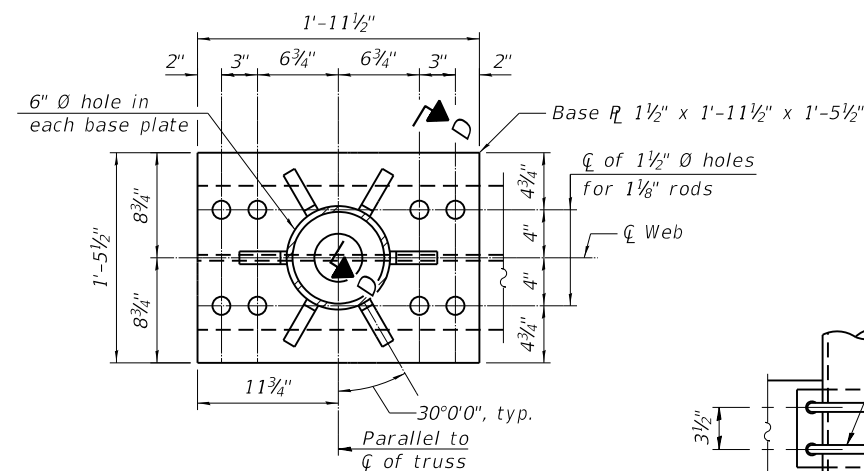
Truss Chord Nominal Dia.	a
5"	3/4"
5 1/2"	1 3/16"
6"	7/8"
6 1/2"	1 5/16"



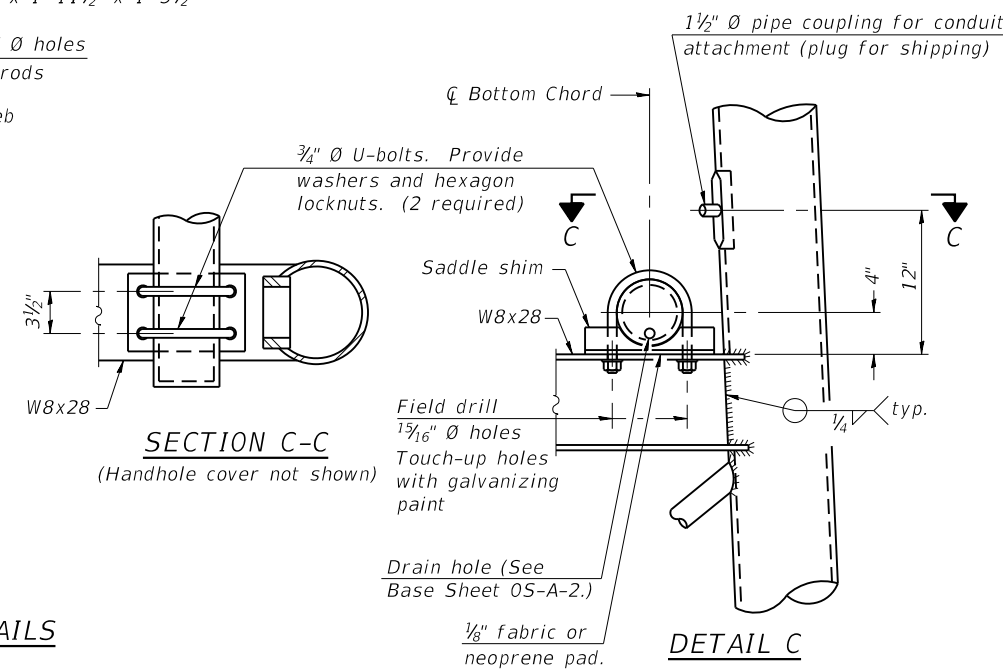
ANCHOR ROD DETAIL

Anchor Rods shall conform to ASTM F1554 and shall be fully galvanized per AASHTO M232. No welding shall be permitted on rods.

Note:
Anchor Rods are included in the cost of Overhead Sign Structure - Span, Type I-A (4'-0"x4'-6")



SECTION B-B



SECTION C-C

(Handhole cover not shown)

DETAIL C

**TYPE I-A TRUSS
10" Ø PIPE SUPPORT FRAME DETAILS**



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PLOT DATE = 9/28/2018	DRAWN - MJR	REVISED -
	DATE - 9/28/2018	REVISED -

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DEPARTMENT OF TRANSPORTATION

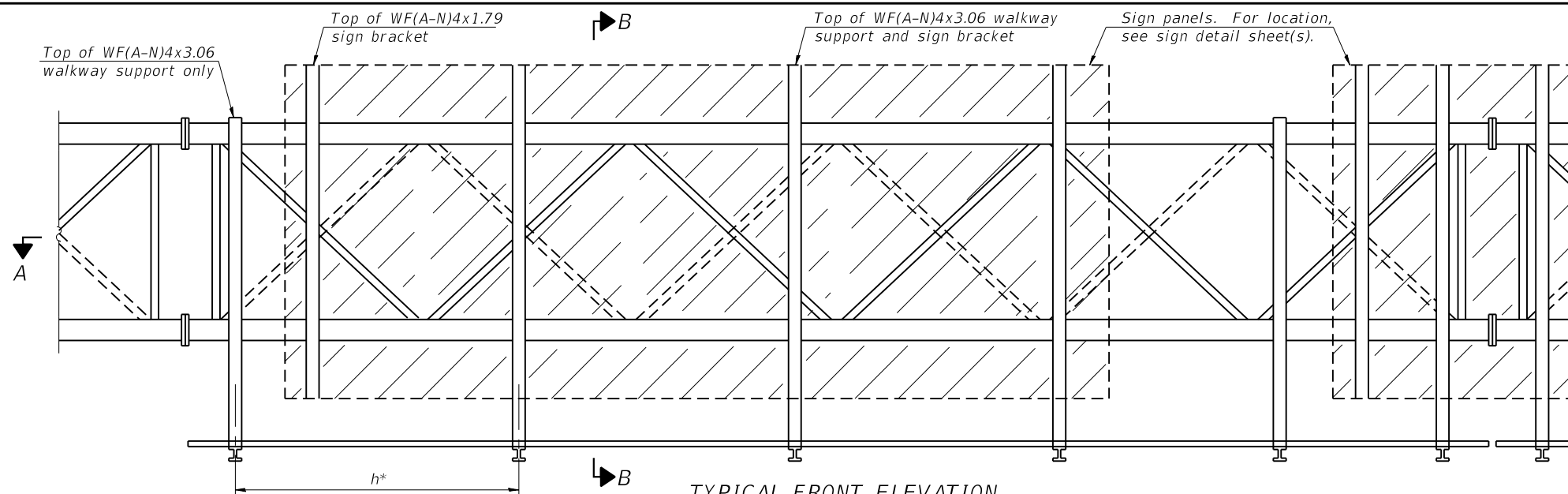
OVERHEAD SIGN STRUCTURES
SUPPORT FRAME DETAILS - ALUMINUM TRUSS

SHEET NO. 84 OF 90 SHEETS

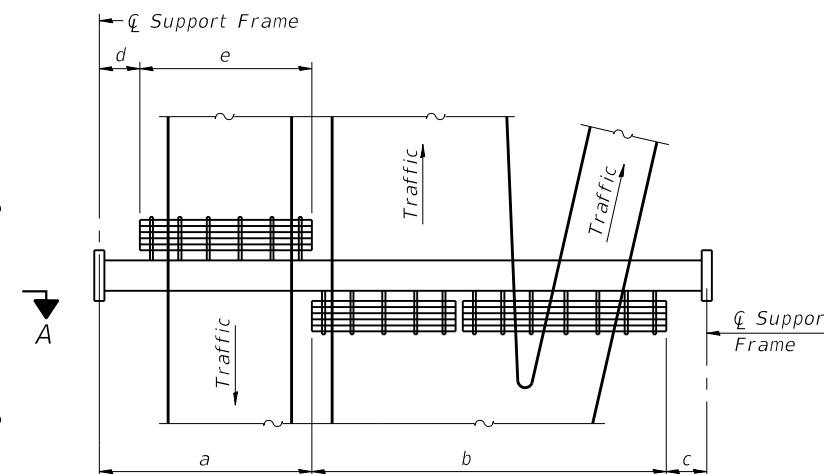
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55/64	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	158
CONTRACT NO. 76945				

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TYPICAL FRONT ELEVATION
 With lights and handrail omitted for clarity.
 For Section B-B, see Base Sheet 05-A-10.



PLAN WALKWAY AND HANDRAIL SKETCH
 (Road plan beneath truss varies)

BRACKET TABLE

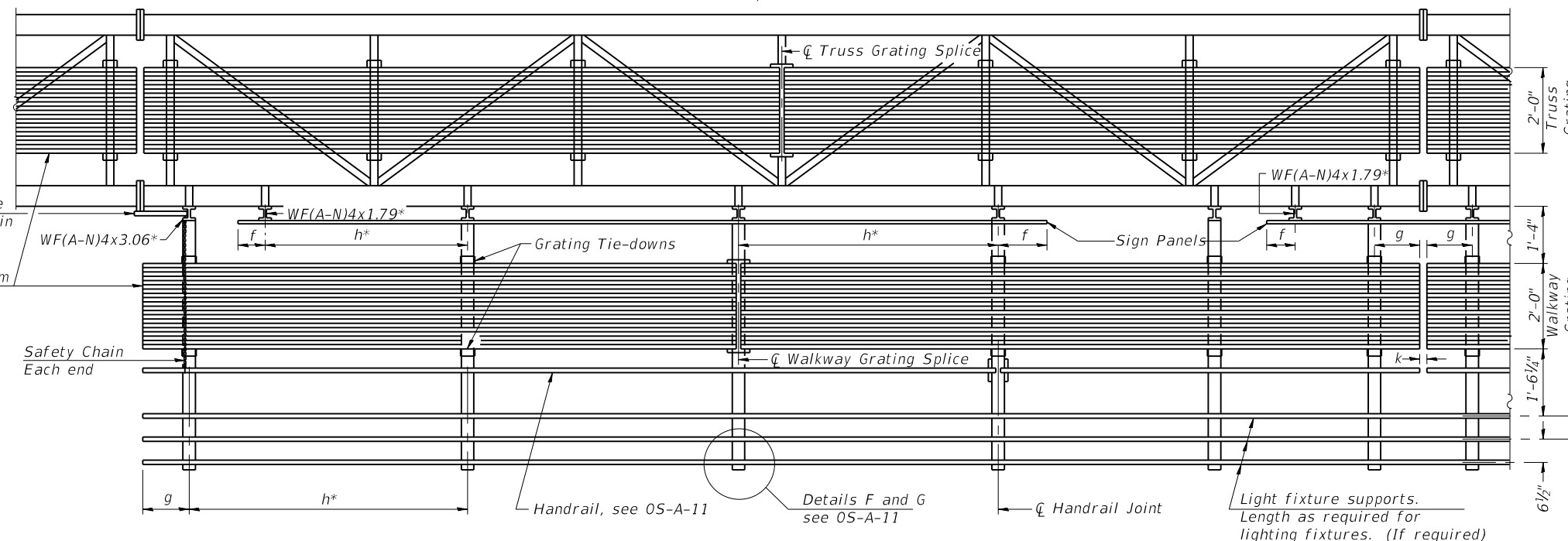
WF(A-N)4x1.79 or WF(A-N)4x3.06 ASTM B308, Alloy 6061-T6		
Sign Width		Number Brackets Required
Greater Than	Less Than or Equal To	
	8'-0"	2
8'-0"	14'-0"	3
14'-0"	20'-0"	4
20'-0"	26'-0"	5
26'-0"	32'-0"	6

Notes:
 * Space walkway brackets WF(A-N)4x3.06 and sign brackets WF(A-N)4x1.79 for efficiency and within limits shown:
 f = 12" maximum, 4" minimum (End of sign to ϕ of nearest bracket)
 g = 12" maximum, 4" minimum (End of walkway grating to ϕ of nearest support bracket)
 h = 6'-0" maximum (ϕ to ϕ sign and/or walkway support brackets, WF(A-N)4x1.79 or WF(A-N)4x3.06)
 k = 2" maximum gap between adjacent walkway grating sections and handrail ends

** If walkway bracket at safety chain location is behind sign, add angle to bracket, see Alternate Safety Chain Attachment on Sheet 87 of 88.

For Details T and W, Section B-B and Grating Splice Details see Sheet 86 of 88.
 For Handrail Details see Sheet 87 of 88.

** Alternate angle for safety chain attachment
 Standard Aluminum Grating, see Details T and W
 Safety Chain Each end



SECTION A-A

Handrail and walkway shall span a minimum of three brackets between splices and/or gap joints. Place all sign and walkway brackets as close to panel points as practical. Handrail joints, grating, and light support splices placed as needed.

Structure Number	Station	a	b	c	d	e	Walkway Grating and Handrail Lengths
8S0825015L000.8	85+77	4'-0"	56'-6"	4'-0"	---	---	56'-6"

Truss grating to facilitate inspection shall run full length (center to center of support frames) $\pm 12"$ on overhead trusses. Cost of truss grating is included in "Overhead Sign Structure".

Walkway and Truss Grating width dimensions are nominal and may vary $\pm 1/2"$ based on available standard widths.

05-A-9

2-17-2017



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	DATE - 9/28/2018	REVISED -

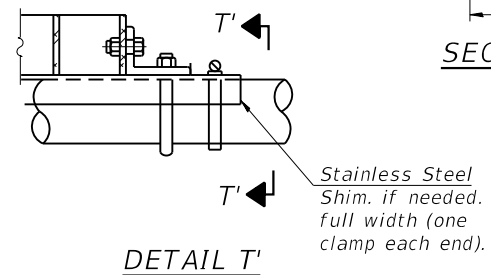
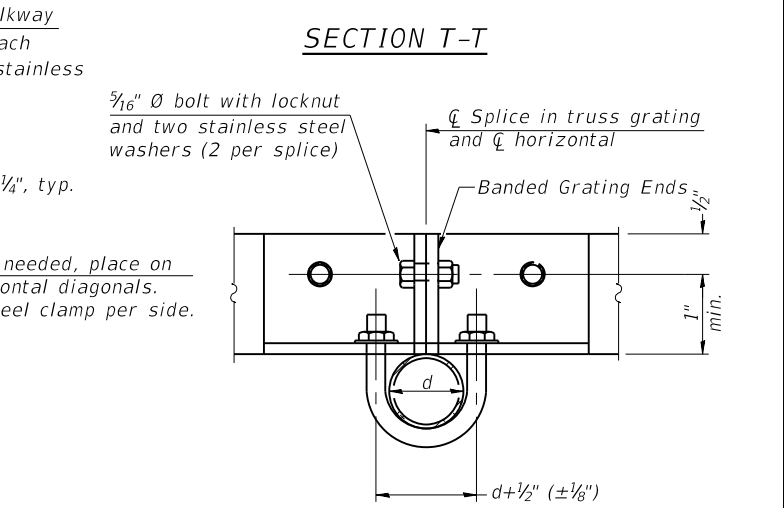
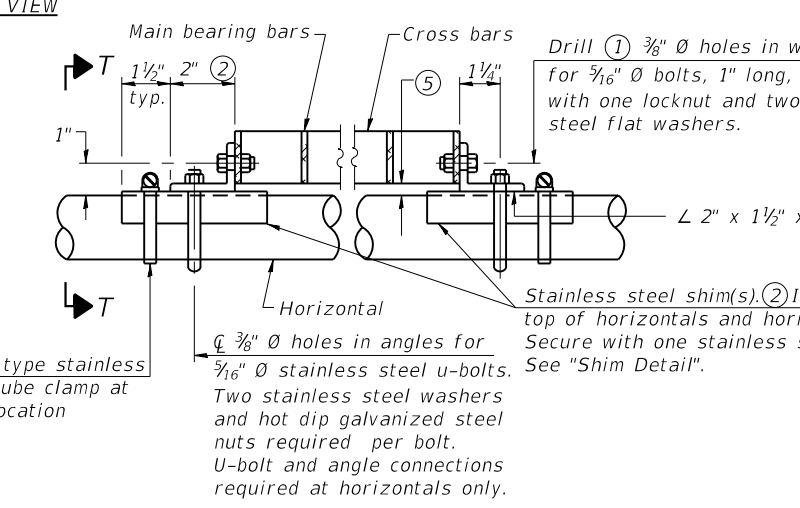
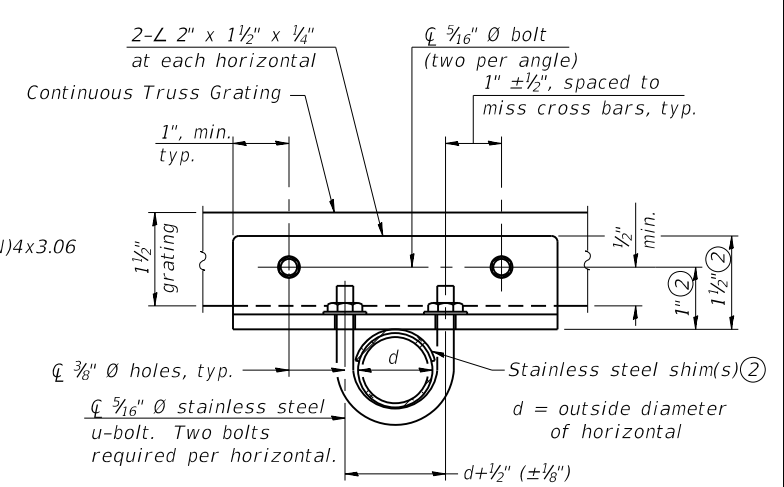
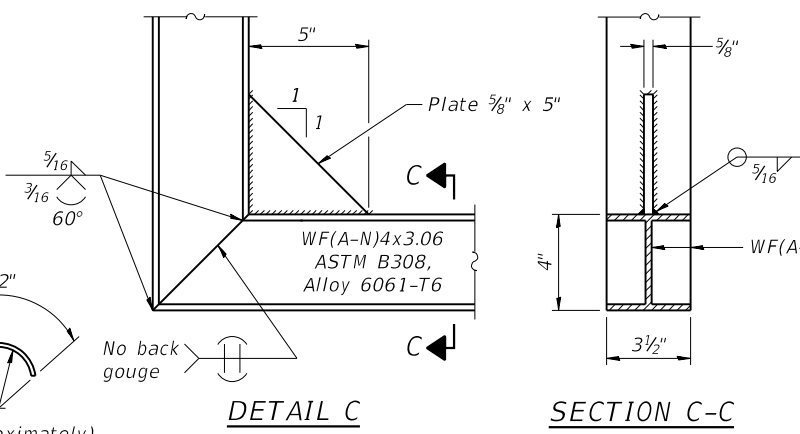
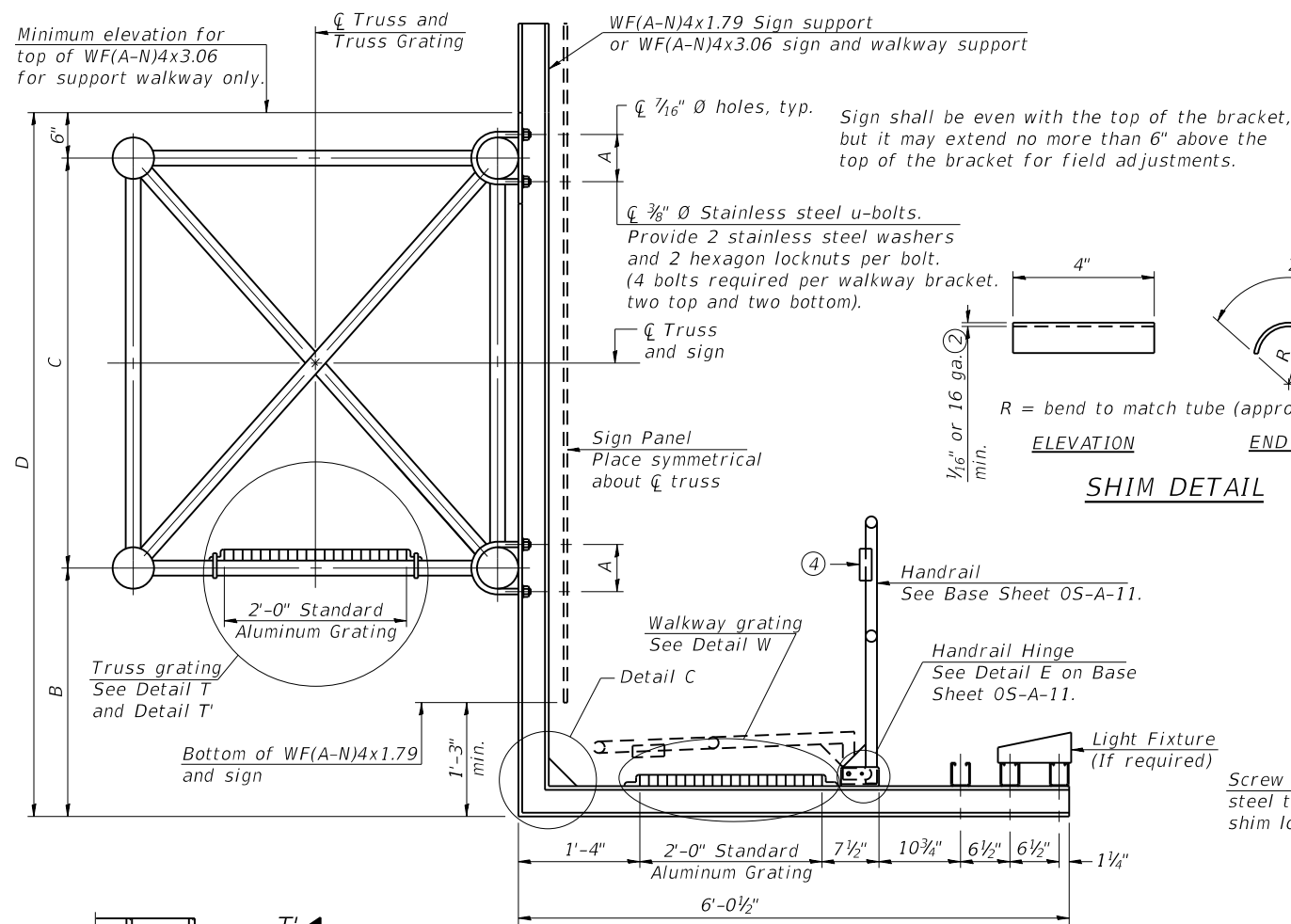
**STATE OF ILLINOIS
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**OVERHEAD SIGN STRUCTURES
 ALUMINUM WALKWAY DETAILS**

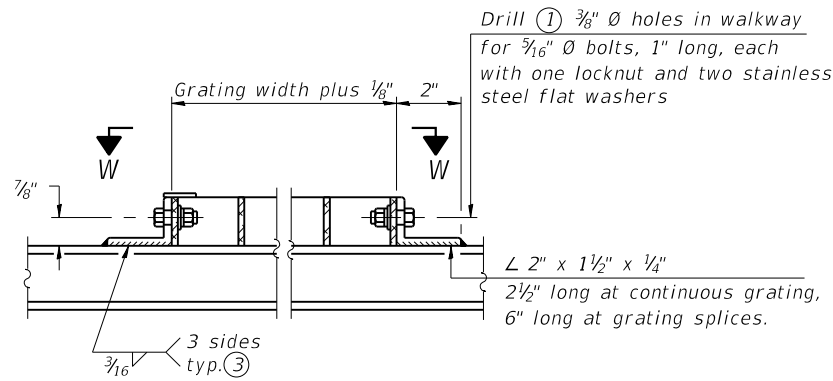
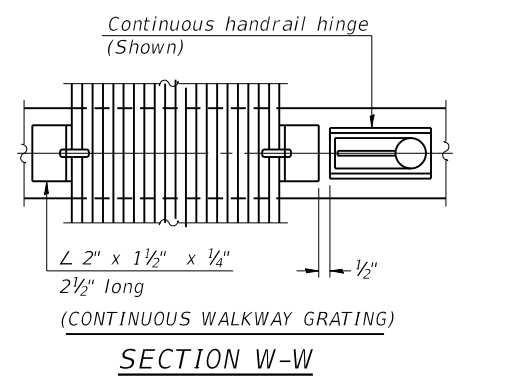
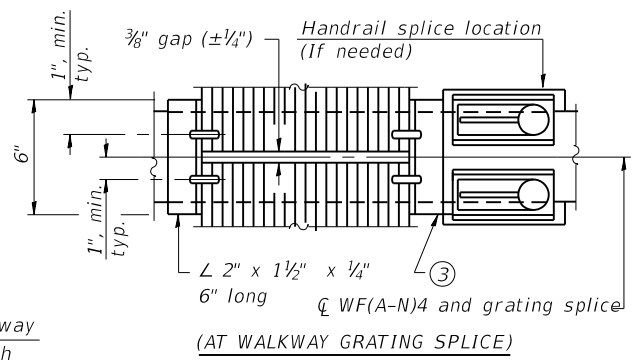
SHEET NO. 85 OF 90 SHEETS

F.A.I. RTE. 55/64	SECTION 82-3HVB-2R-(2,1)-1-2	COUNTY ST. CLAIR	TOTAL SHEETS 238	SHEET NO. 159
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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DETAIL T'
(Truss grating splice)
Details not shown same as Detail T. Alternate materials may be used subject to the Engineer's review and approval.



DETAIL W
(Walkway grating)

SPECIFICATIONS FOR STANDARD ALUMINUM GRATING

Main Bearing Bars shall be 3/16" x 1 1/2" on 1 3/16" centers and conform to ASTM B221 Alloy 6061-T6.
Cross bars shall be 3/16" x 1 1/2" on 4" centers and conform to ASTM B221 Alloy 6063-T5 or 6061-T6.
OR
Aluminum Grating with modified "t" sections for main bearing bars shall meet the following requirements:
Main bars shall conform to ASTM B221 Alloy 6061-T6 and have a minimum section modulus equal to 0.0705 in.³ per bar, a depth of 1 1/2", spaced on 1 3/16" centers.
Cross bars shall conform to ASTM B221 Alloy 6063-T5 or T-42 and spaced on 4" centers.

Structure Number	Station	A	⑥ B	C	⑥ D
8S0825015L000.8	85+77	6"	6'-6"	4'-6"	11'-6"

- Drilling holes in grating may be done in shop or field, based on Contractor's preference and subject to accurate alignment.
- Stainless steel shims shall be placed as shown in Detail T if needed to compensate for alignment variations between horizontal and diagonal pipes beyond adjustment provided by angles. Thicker shims may be used subject to shims performing properly.
- If Handrail Joint present, weld angle to WF(A-N)4 and 1/4" extension bars. (See Base Sheet OS-A-11.)
- 1/8" x 1/2" x 2" welded to handrail posts to protect locations that contact grating.
- Tube to grating gap may vary from 0 to 1/2", max. to align walkway, allow for camber, etc.
- Based on actual height of tallest sign given on OS-A-1.

05-A-10

2-17-2017



USER NAME = acb	DESIGNED - FAS	REVISED -
PLOT SCALE = 0:2.0000' = 1" = 1/8"	CHECKED - JPC	REVISED -
PLOT DATE = 9/28/2018	DRAWN - MJR	REVISED -
	DATE - 9/28/2018	REVISED -

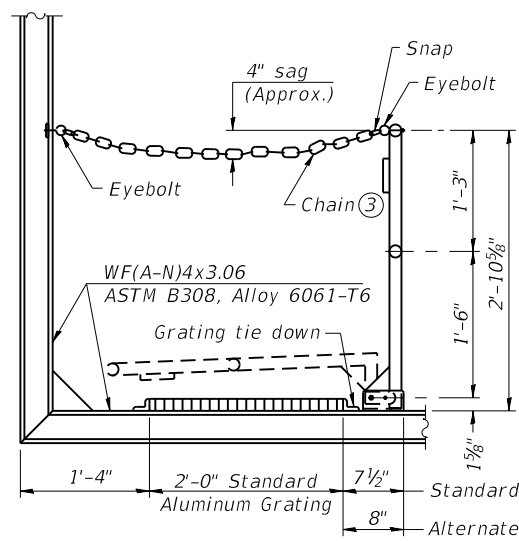
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OVERHEAD SIGN STRUCTURES
ALUMINUM WALKWAY DETAILS

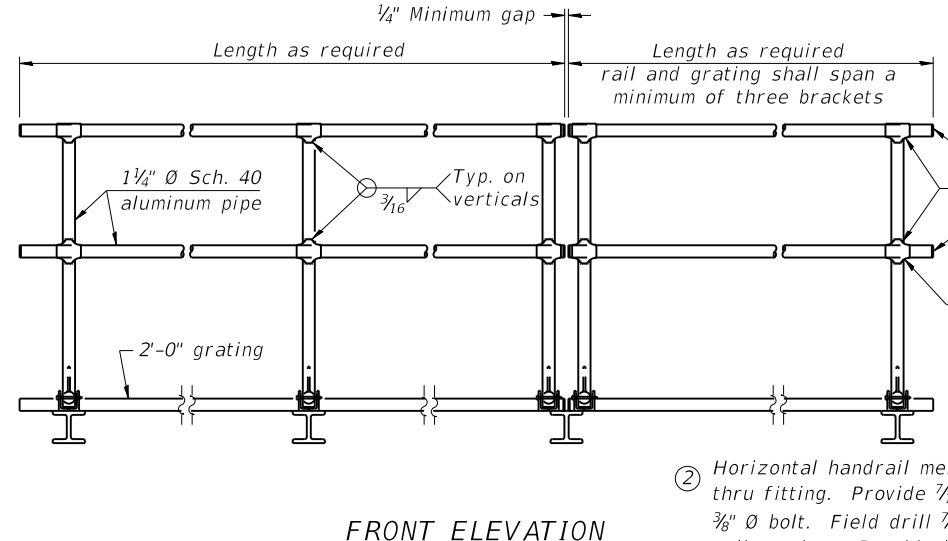
SHEET NO. 86 OF 90 SHEETS

F.A.I. RTE. 55/64	SECTION 82-3HVB-2R-(2,1)-1-2	COUNTY ST. CLAIR	TOTAL SHEETS 238	SHEET NO. 160
ILLINOIS FED. AID PROJECT			CONTRACT NO. 76945	

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SIDE ELEVATION
(Showing safety chain w/o sign)

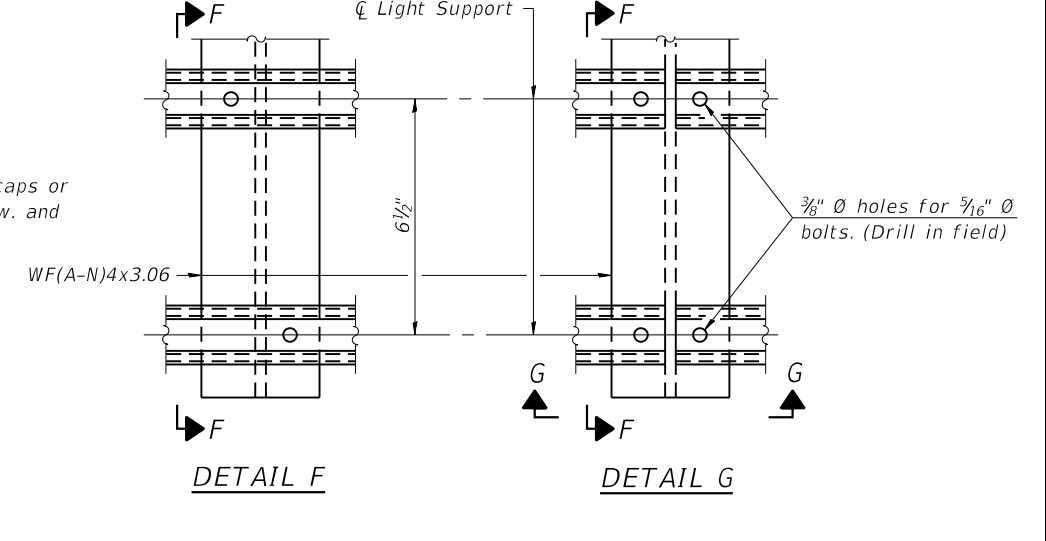


FRONT ELEVATION

HANDRAIL DETAILS

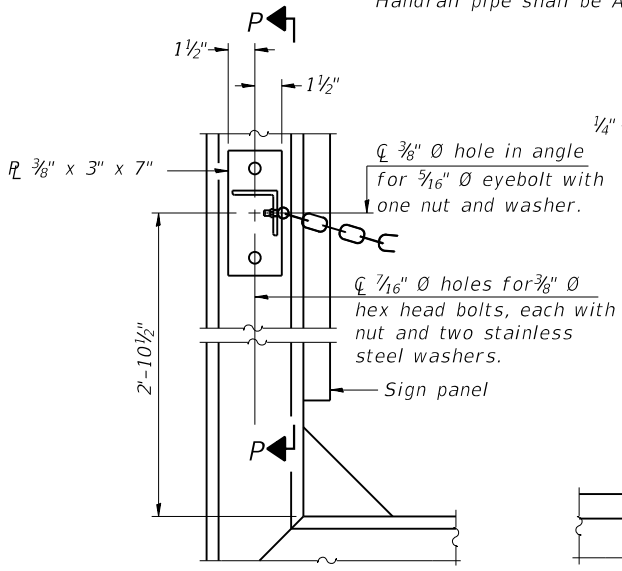
Handrail pipe shall be ASTM B241 or B429, Alloy 6063-T6 or Alloy 6061-T6.

- ① Install standard force-fit end caps or weld 1/8" end plates with 1/8" c.f.w. and grind smooth. (All rail ends)
- ② Horizontal handrail member shall be continuous thru fitting. Provide 7/16" hole in fitting for 3/8" bolt. Field drill 7/16" hole in horizontal rail member. Provide locknut and two stainless steel washers for bolt. (Use 5/16" eyebolts in 7/16" holes on top rail at ends only.)



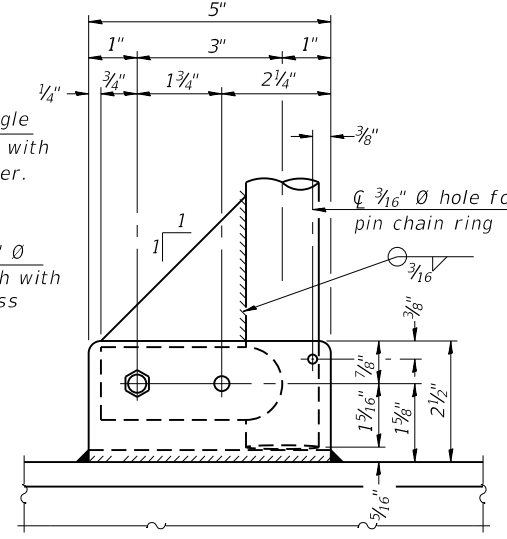
DETAIL F

DETAIL G

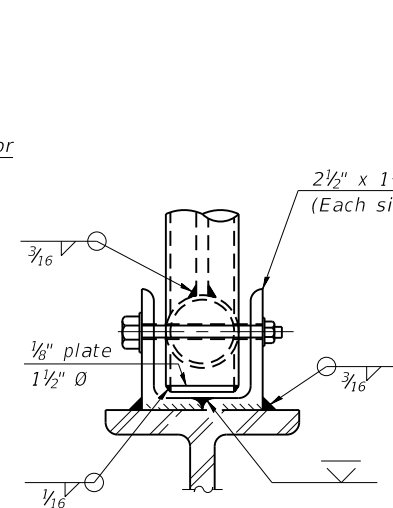


ALTERNATE SAFETY CHAIN ATTACHMENT
(With Sign Present)

Items not shown same as "Side Elevation" of "Handrail Details"

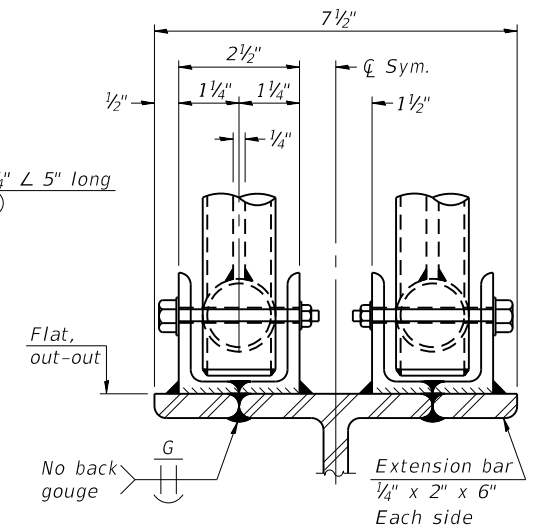


SIDE ELEVATION

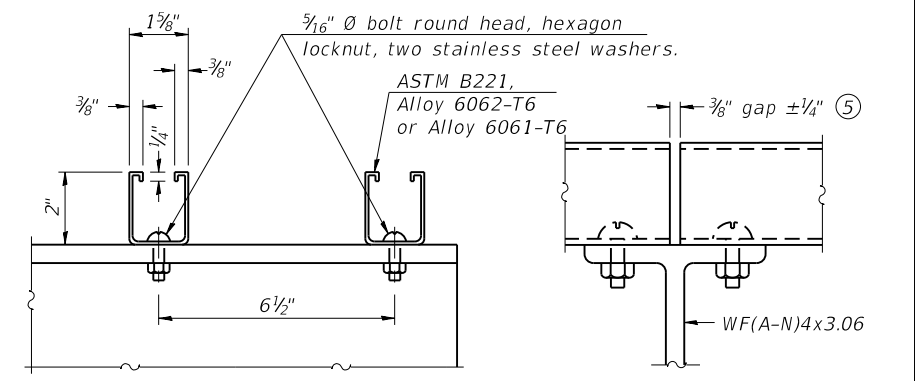


FRONT ELEVATION

See "Elevation" at right for dimensions.



ELEVATION AT HANDRAIL JOINT

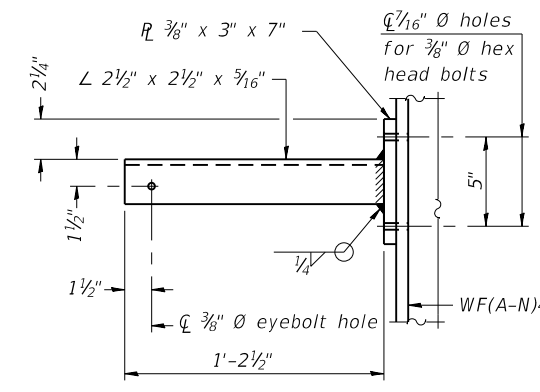


SECTION F-F

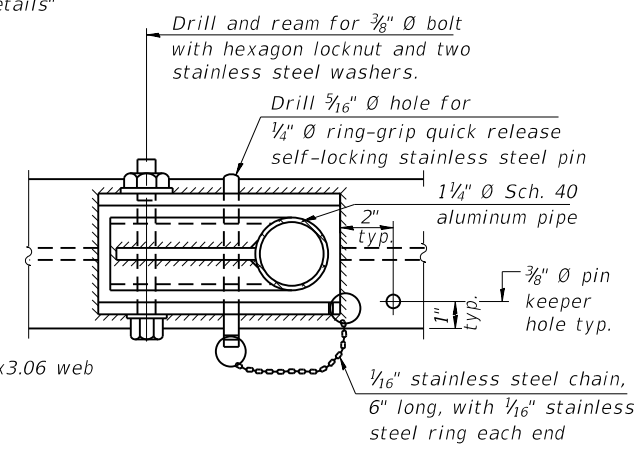
SECTION G-G

LIGHTING FIXTURE MOUNTS (IF REQUIRED)

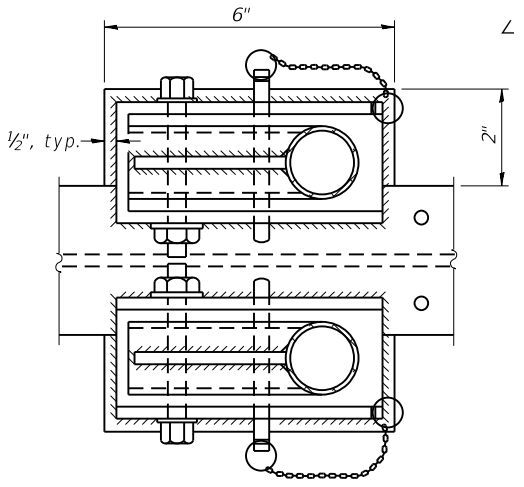
- ⑤ Field cut ends of light support channels shall be free of burrs or hazardous projections and coated with zinc-rich primer or equivalent.



SECTION P-P

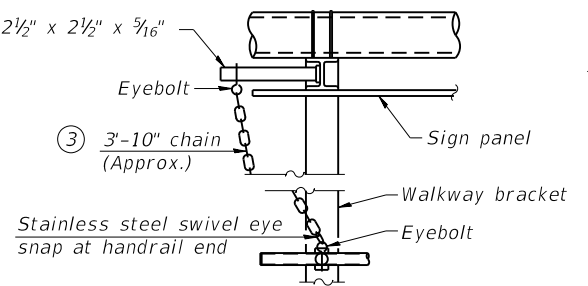


PLAN
DETAIL E HANDRAIL HINGE



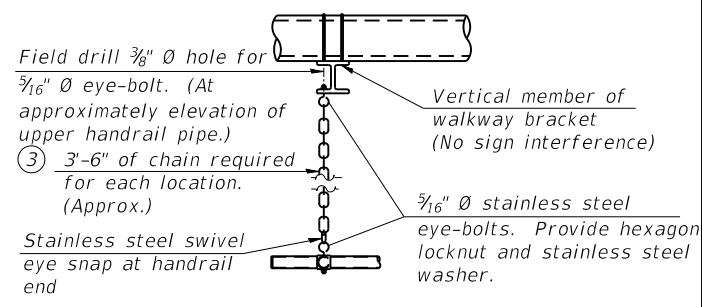
PLAN AT HANDRAIL JOINT

Details not shown same as "PLAN"



ALTERNATE SAFETY CHAIN ATTACHMENT

Details not shown similar to "Safety Chain" Details (Walkway omitted for clarity)



SAFETY CHAIN

One required for each end of each walkway.

- ③ 3/16" Type 304L stainless steel chain, approximately 12 links per foot.
- ④ Extrusions may be used in lieu of the details shown, with approval of the Engineer.

05-A-11

2-17-2017



USER NAME: acb	DESIGNED: FAS	REVISED:
PLOT SCALE: 0:2.0000 1' = 1/4" in.	CHECKED: JPC	REVISED:
PLOT DATE: 9/28/2018	DRAWN: MJR	REVISED:
	DATE: 9/28/2018	REVISED:

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

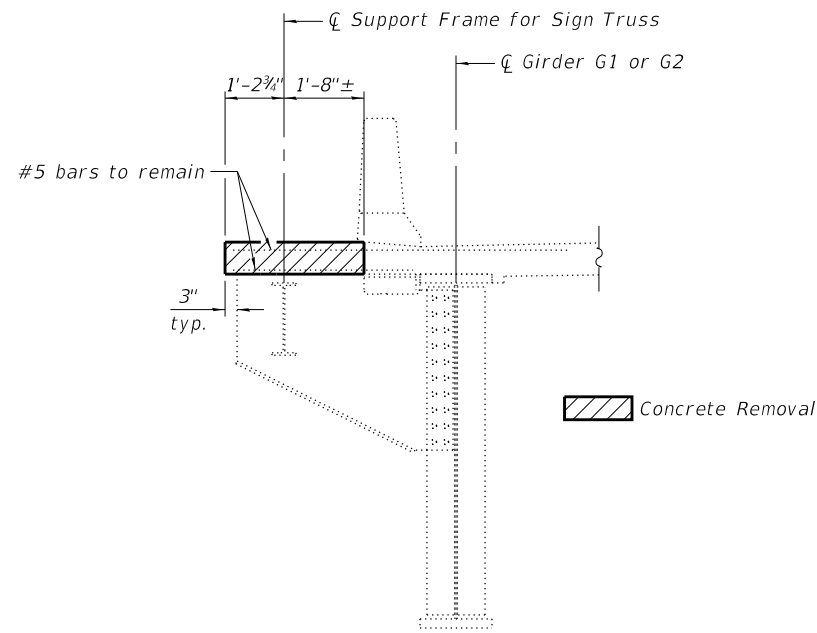
OVERHEAD SIGN STRUCTURES
ALUMINUM HANDRAIL DETAILS

SHEET NO. 87 OF 90 SHEETS

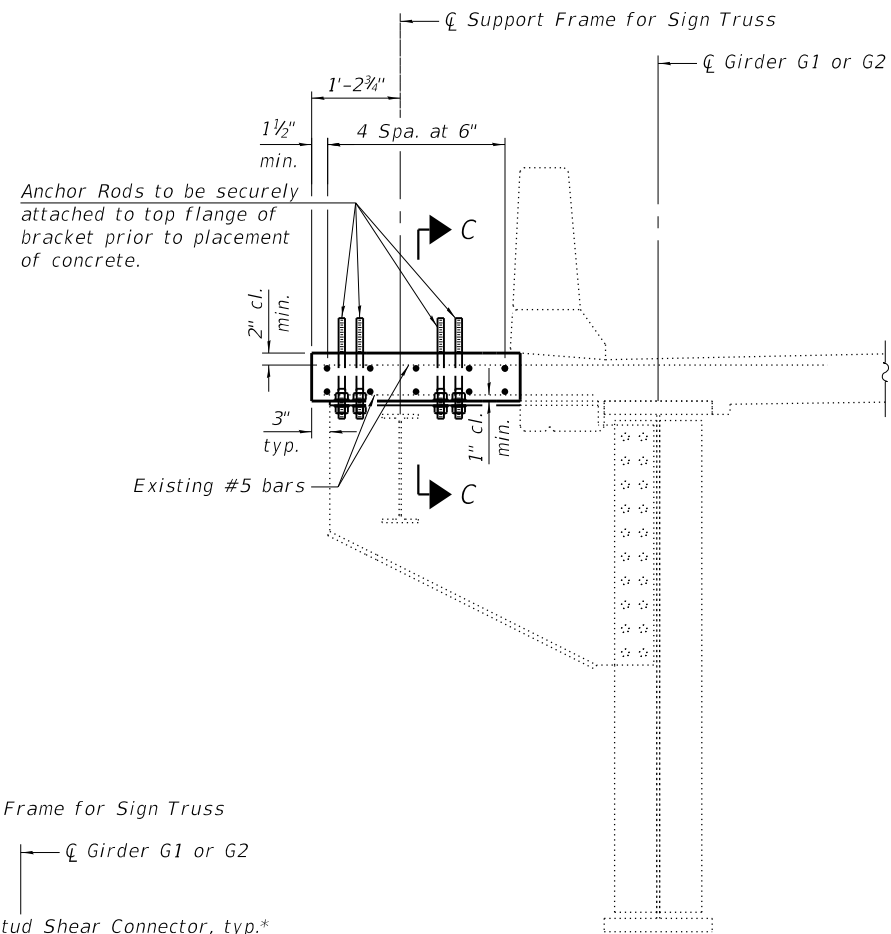
F.A.I. R.E. 55/64	SECTION 82-3HYB-2R-(2,1)-1-2	COUNTY ST. CLAIR	TOTAL SHEETS 238	SHEET NO. 161
CONTRACT NO. 76945				

ILLINOIS FED. AID PROJECT

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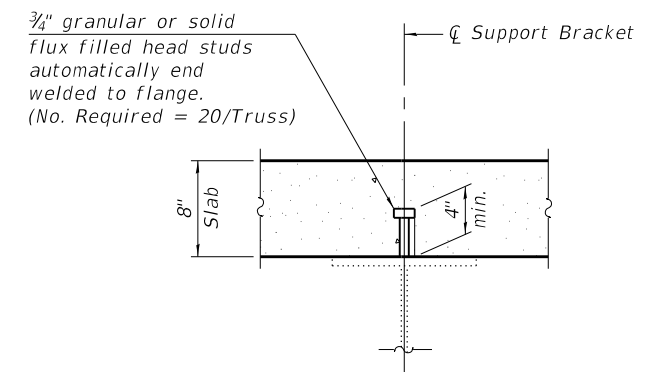


SECTION A-A

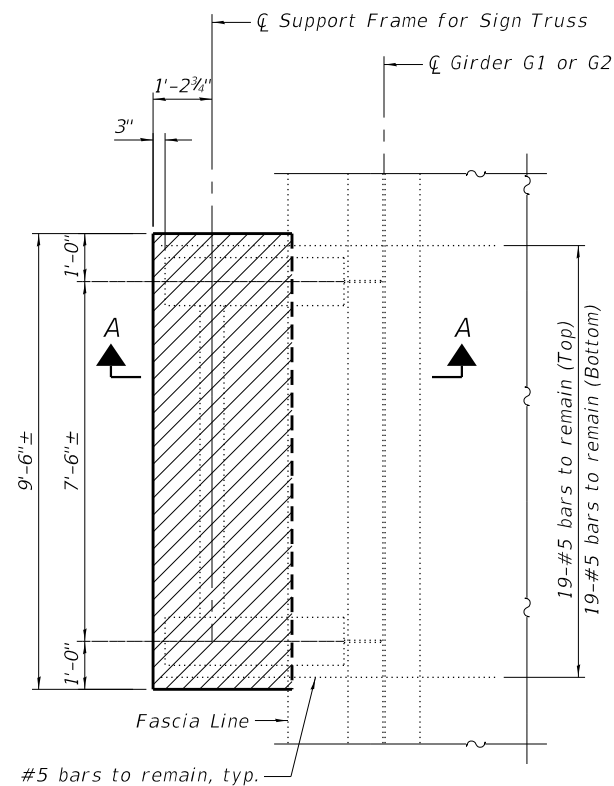


SECTION B-B

(Stud Shear Connectors not shown for clarity)

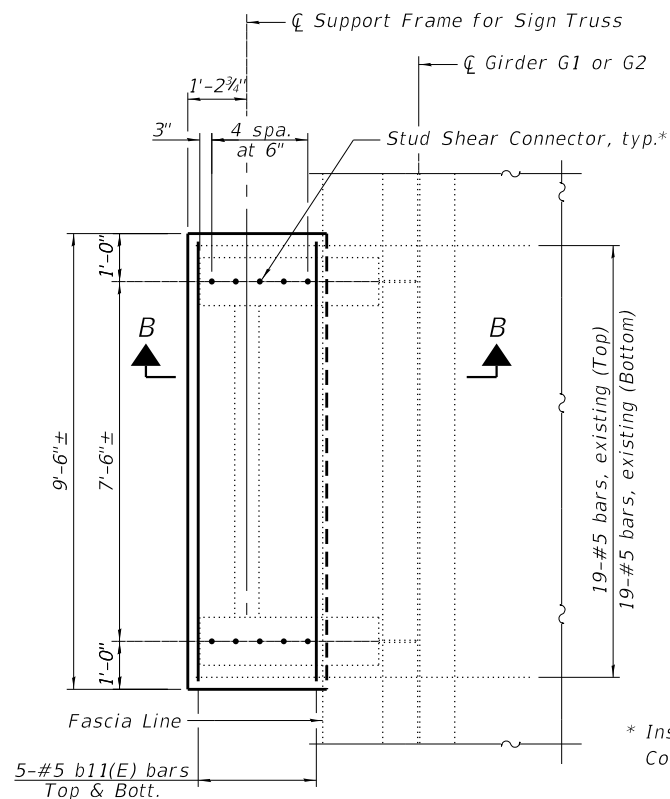


SECTION C-C



PLAN

TYPICAL REMOVAL DETAILS



PLAN

TYPICAL SLAB CONSTRUCTION DETAILS

* Install 5 Each 3/4" Ø x 4" Stud Shear Connector along C of Beam.

Note:
#5 rebar protruding from bridge deck to remain. Clean concrete from rebar.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
b11(E)	20	#5	9'-3"	—
Reinforcement Bars, Epoxy Coated		Pound		200

BILL OF MATERIAL

ITEM	UNIT	TOTAL
Concrete Removal	Cu. Yd.	1.3
Concrete Superstructure	Cu. Yd.	1.3
Stud Shear Connectors	Each	20



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PLOT DATE = 9/28/2018	DRAWN - MJR	REVISED -
	DATE - 9/28/2018	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

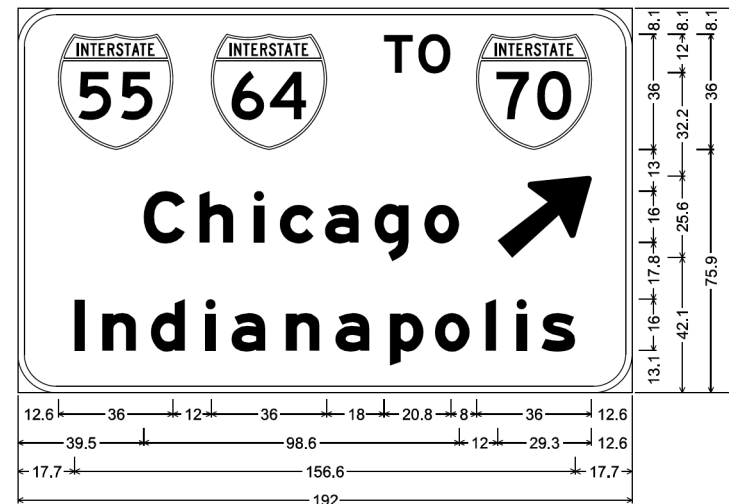
OVERHEAD SIGN STRUCTURES
SLAB REMOVAL/REPLACEMENT DETAILS

SHEET NO. 88 OF 90 SHEETS

F.A.I. RT.:	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55/64	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	162
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				



SE1



SE2



USER NAME = acb	DESIGNED - FAS	REVISED -
	CHECKED - JPC	REVISED -
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PLOT DATE = 9/28/2018	DATE - 9/28/2018	REVISED -

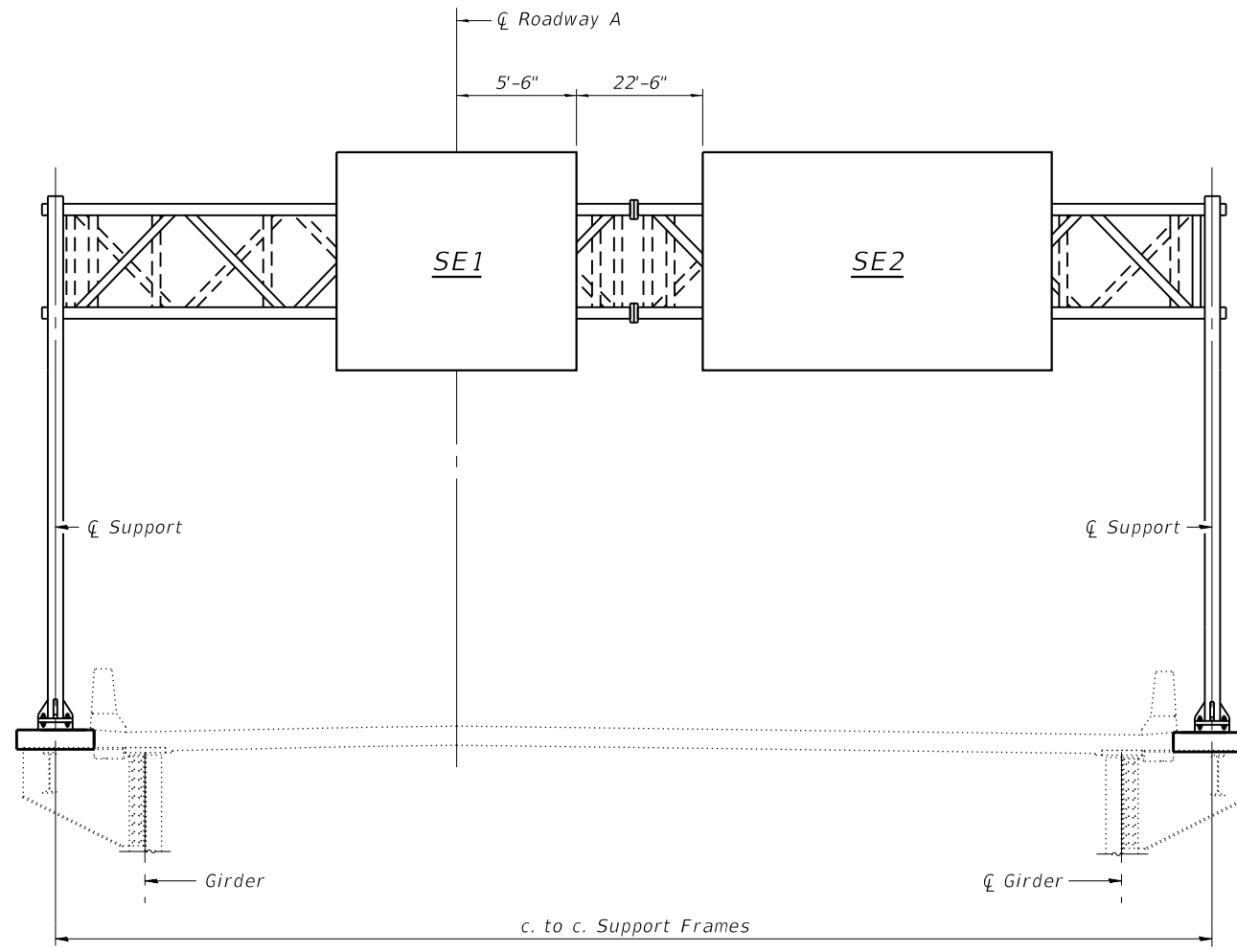
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES
 SPECIAL SIGN DETAILS**

SHEET NO. 89 OF 90 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55/64	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	163
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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ELEVATION - A37
(Looking at Face of Signs)



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	CHECKED - JPC	REVISED -
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PLOT DATE = 9/28/2018	DATE - 9/28/2018	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**OVERHEAD SIGN STRUCTURES
LOCATION OF SIGNS ON OVERHEAD TRUSS**

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55/64	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	164
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

SHEET NO. 90 OF 90 SHEETS

Bench Mark: Cut "X" on top northwest hex bolt on hydrant, 23' southeast of the intersection of Bond Avenue and South 4th Street. Elev. 414.63.

Existing Structure: S.N. 082-0144 was originally built in 1969 as F.A.I. 70, Sections 82-3HV(B,D,F&3)-1 & 3HVB-3. The existing structure consists of a 45-span superstructure supported on multi-column piers, which are founded on pile supported footings and a stub abutment on piles at the south end. The structure width varies and the total length is 4,335' from Pier D1 to Abutment D46. The superstructure framing is arranged in single, three, four, and five span units between expansion joints, and is noncomposite with the deck except in the single span units.

Salvage: None

SCOPE OF WORK

1. Partial depth concrete deck repairs from Pier D1 to Pier D29.
2. Bearing stiffener repairs at three locations.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition
 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges
 1995 FHWA Seismic Retrofitting Manual

SEISMIC DATA

Seismic Performance Category (SPC) = B
 Acceleration Coefficient (A) = 0.12g
 Site Coefficient (S) = 1.0

DESIGN STRESSES

FIELD UNITS

NEW CONSTRUCTION

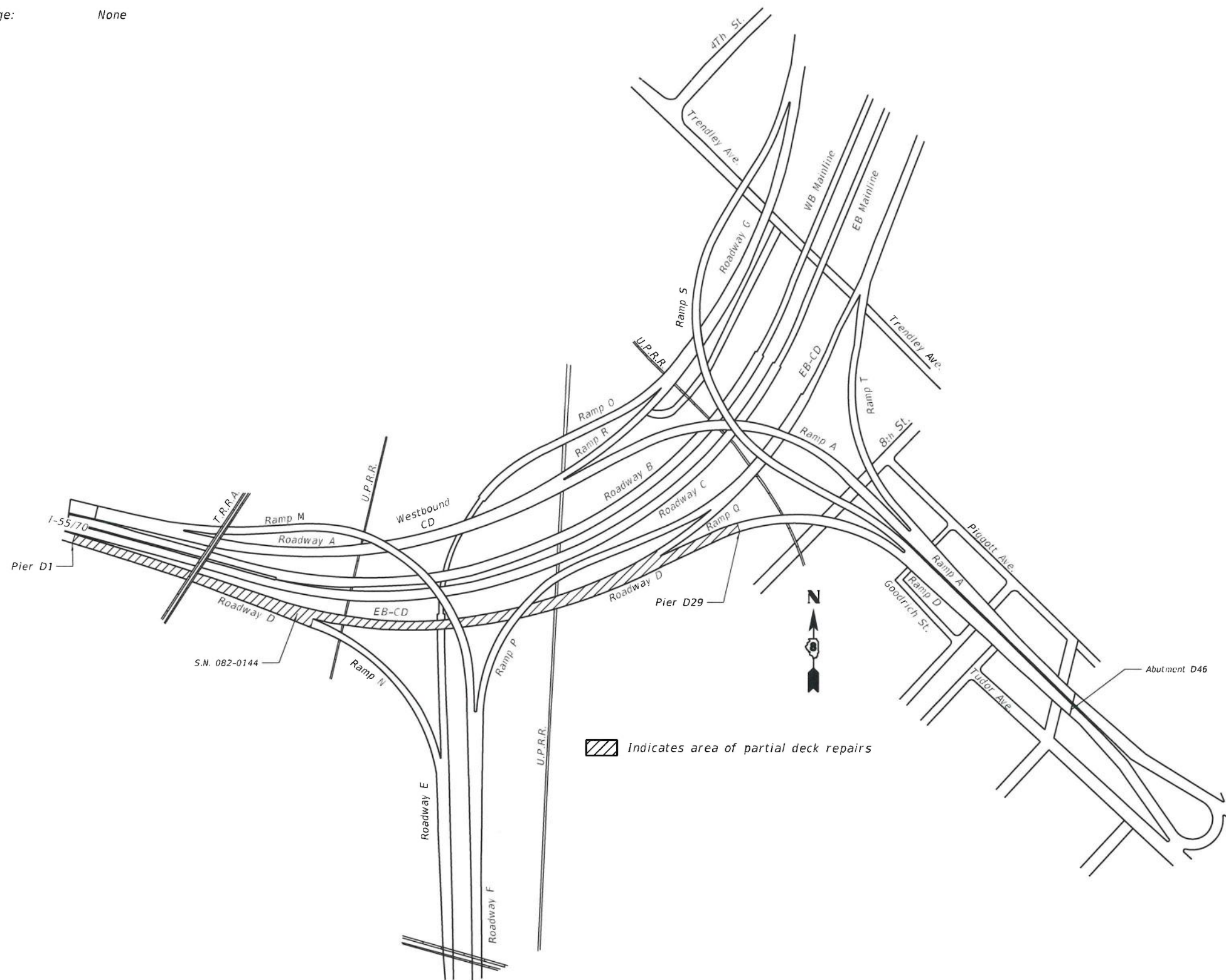
$f'_c = 4,000$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 36,000$ psi (Structural Steel)

EXISTING CONSTRUCTION

$f'_c = 3,500$ psi (1989+ Rehabs)
 $f'_c = 1,400$ psi (1967 Construction)
 $f_s = 20,000$ psi (Reinforcement)
 $f_s = 20,000$ psi (Structural Steel 1967 Construction)
 $f_y = 36,000$ psi & $50,000$ psi (Structural Steel 1989+ Rehabs)

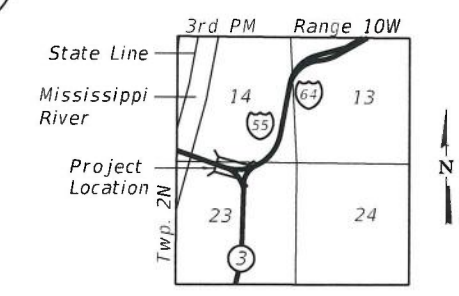


Signature: *Richard A. Walther*
 Date Signed: 9-28-18
 License Expires: 11/30/2020



▨ Indicates area of partial deck repairs

GENERAL PLAN



LOCATION SKETCH

GENERAL PLAN
F.A.I. 70 (I-55/I-64) EB CD "D"
OVER RR, IL 3, 8TH ST
SEC. 82-3HVB-2R-(2,1)-1-2
ST. CLAIR COUNTY
STATION 49+55.37
STRUCTURE NO. 082-0144

PRINT DATE: 9/28/2018 7:20:31AM Z:\N5052 Poplar Street Complex\Complex\Bridges\final\Plot sheets\Roadway D\001_Rdwy_D_TTitle.dgn

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 ENGINEERS
 ARCHITECTS
 MATERIAL SCIENTISTS
 Wis. Janney, Elstner Associates, Inc.
 330 Pfingsten Road
 Northbrook, Illinois 60062
 847.272.7400 ext 1847.291.9595 fax

USER NAME = acb	DESIGNED - ACB	REVISED -
PLOT SCALE = 0:2 '1" / 1"	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
S.N. 082-0144

SHEET NO. 1 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	165
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Structural Steel Repair	Pound	480	0	480
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	60	0	60
Deck Slab Repair (Partial)	Sq. Yd.	849	0	849
Cable Protection	Each	2	0	2

GENERAL NOTES

- Dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to field verify such dimensions and details and make necessary approved adjustments prior to construction or ordering materials. Such variation shall not be cause for additional compensation for a change in the scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- Concrete deck repair areas for SN 082-0144 are estimated based on inspection data from February, 2016 with deck repair areas updated through visual surveys conducted in March, 2018.
- Actual repair areas may be different in shape, size, and location than shown on the drawings. The exact locations shall be determined by the Engineer. The Engineer shall show actual repair areas and their dimensions on as-built plans.
- Only partial depth repairs are anticipated. However, nominal full depth repair quantities have been included for use in the event that removal operations extend to the bottom mat of reinforcement.
- A quantity of 60 square yards of Deck Slab Repair (Full Depth - Type I) is included in the total bill of materials to account for some repair areas shown on the plans extending through the full deck depth. Actual depth of repairs to be verified by the Engineer.
- At locations where the roadway will be open to traffic within two weeks or less of the concrete placement due to construction staging, an accelerating admixture from the IDOT Qualified Product List of Concrete Admixtures shall be used for concrete superstructure and deck slab repairs. Refer to the Roadway Plans and project schedule.
- Existing reinforcing bars shall be field-coated with epoxy, in accordance with the Special Provision "Field Coating Reinforcing Bars".
- Reinforcing bars designated (E) shall be epoxy-coated. Damage to the epoxy coating during handling, placement, etc., shall be repaired according to the Special Provision "Field Coating Reinforcing Bars".
- All accessories including bolsters, chairs, tie wire, etc., used to tie or support the epoxy-coated bars shall be epoxy coated.
- New concrete deck surfaces shall have a tined finish as per Article 420.09(e)(1) of the Standard Specifications. Cost included with Deck Slab Repair.
- All structural steel shall be AASHTO M-270 Grade 36, unless noted otherwise.
- No field welding is permitted except as specified in the contract documents.
- Fasteners shall be ASTM A325, Type 1, mechanically galvanized bolts. Bolts shall be 3/4 in. diameter and placed in 13/16 in. diameter holes unless noted otherwise.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- 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".
- All new structural steel shall be shop painted with inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Structural Steel Repair.

INDEX OF SHEETS

- General Plan
- General Data
- General Plan and Elevation (Spans D1 thru D9)
- General Plan and Elevation (Spans D10 thru D17)
- General Plan and Elevation (Spans D18 thru D25)
- General Plan and Elevation (Spans D26 thru D32)
- General Plan and Elevation (Spans D33 thru D39)
- General Plan and Elevation (Spans D40 thru D45)
- Deck Patching Repairs (Spans D1 thru D4)
- Deck Patching Repairs (Spans D5 thru D9)
- Deck Patching Repairs (Spans D10 thru D13)
- Deck Patching Repairs (Spans D14 thru D17)
- Deck Patching Repairs (Spans D18 thru D21)
- Deck Patching Repairs (Spans D22 thru D25)
- Deck Patching Repairs (Spans D26 & D27)
- Deck Patching Repairs (Spans D28 thru D31)
- Deck Patching Repairs (Spans D32 thru D35)
- Deck Patching Repairs (Spans D36 thru D39)
- Deck Patching Repairs (Spans D40 thru D43)
- Deck Patching Repairs (Spans D44 & D45)
- Bearing Stiffener Repair
- Concrete Repair Details
- Cable Protection Details

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WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wess, Janney, Elstner Associates, Inc.
 330 Pingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax
 www.wje.com

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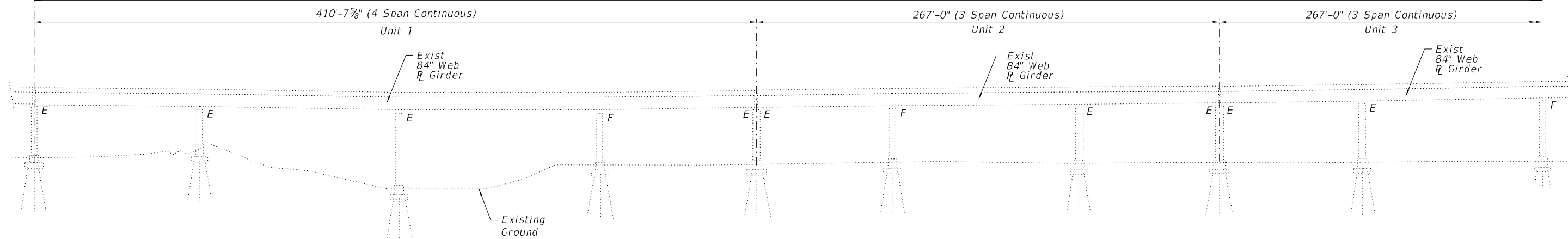
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA
 S.N. 082-0144**

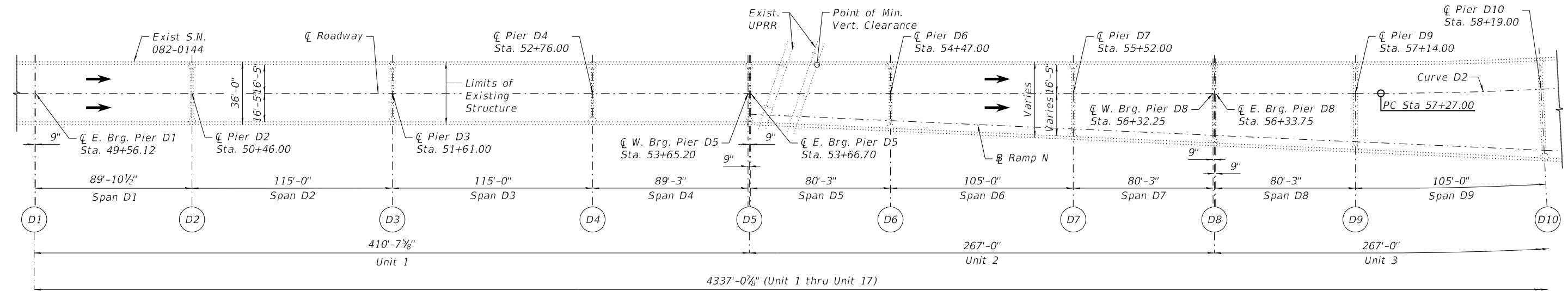
SHEET NO. 2 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	166
CONTRACT NO. 76945			ILLINOIS FED. AID PROJECT	

Bridge Omission Sta. 49+55.37 to Sta. 92+90.80



ELEVATION



PLAN (SPANS D1 - D9)

Longitudinal dimensions measured along \bar{C} Roadway D

GENERAL PLAN & ELEVATION
F.A.I. 70 (I-55/I-64) EB CD "D"
OVER RR, IL 3, 8TH ST
SEC. 82-3HVB-2R-(2,1)-I-2
ST. CLAIR COUNTY
STATION 49+55.37
STRUCTURE NO. 082-0144

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 Northbrook, Illinois 60062
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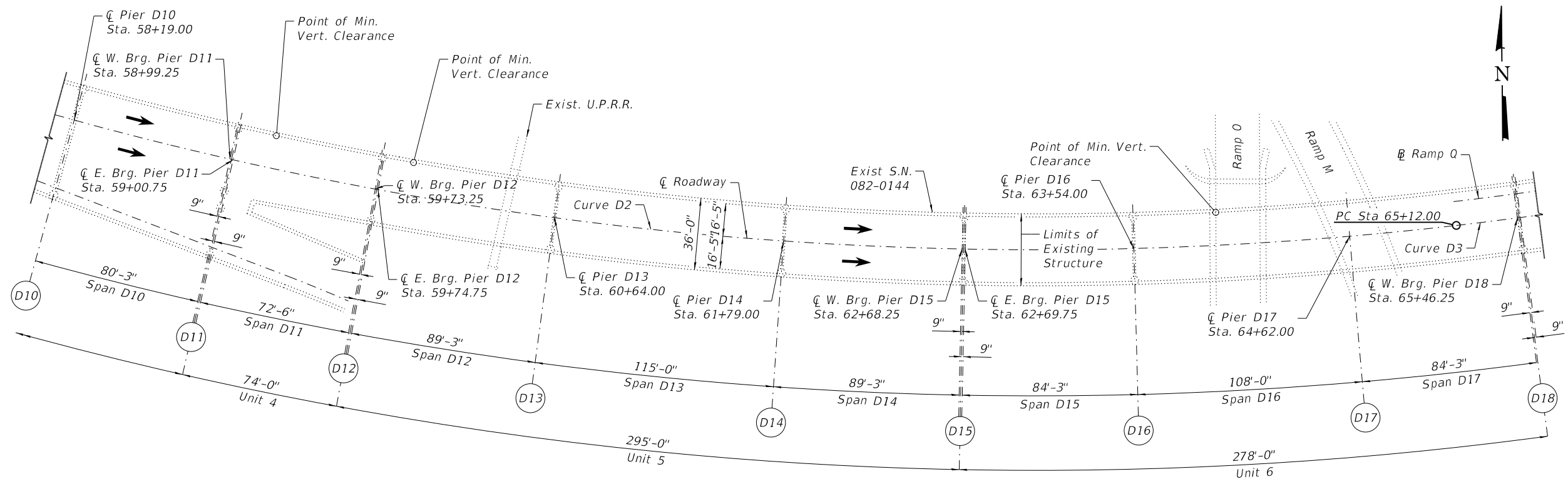
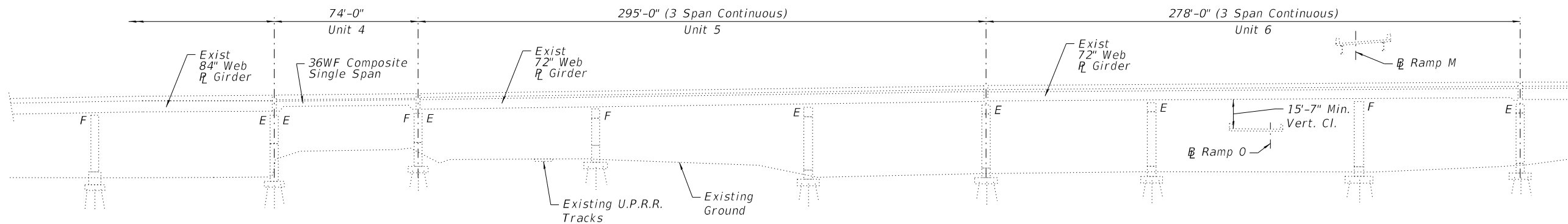
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
(SPANS D1 THRU D9)

SHEET NO. 3 OF 23 SHEETS

F.A.I. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-I-2	ST. CLAIR	238	167
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

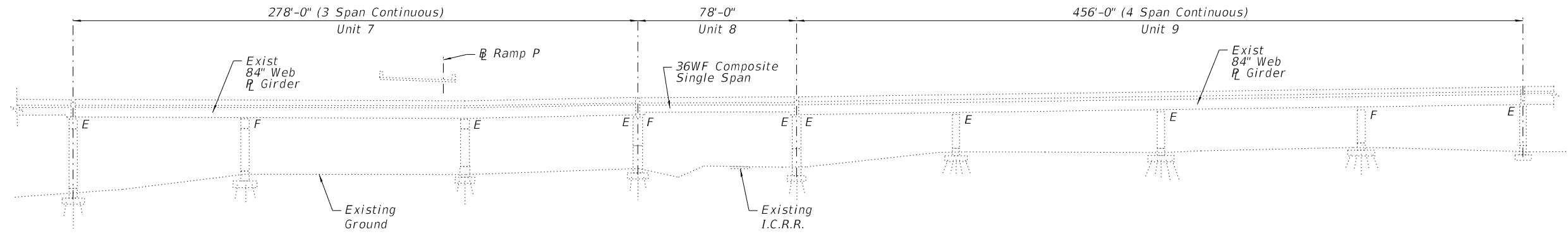
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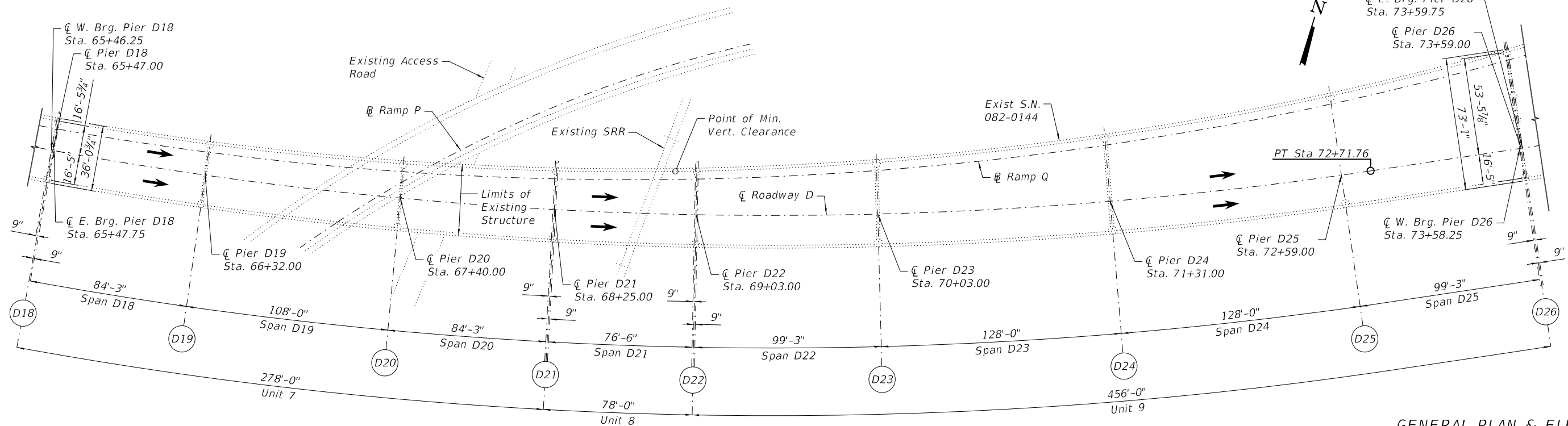
GENERAL PLAN & ELEVATION
F.A.I. 70 (I-55/I-64) EB CD "D"
OVER RR, IL 3, 8TH ST
SEC. 82-3HVB-2R-(2,1)-I-2
ST. CLAIR COUNTY
STATION 49+55.37
STRUCTURE NO. 082-0144

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS Wesa, Janney, Elstner Associates, Inc. 330 Pfingsten Road Northbrook, Illinois 60062 847.272.7400 tel 847.291.9595 fax www.wje.com	USER NAME = acb	DESIGNED - ACB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN AND ELEVATION (SPANS D10 THRU D17) SHEET NO. 4 OF 23 SHEETS	F.A.I. RTE. = 70	SECTION = 82-3HVB-2R-(2,1)-I-2	COUNTY = ST. CLAIR	TOTAL SHEETS = 238	SHEET NO. = 168
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ELEVATION



PLAN (SPANS D18 - D25)

Longitudinal dimensions measured along \bar{C} Roadway D

GENERAL PLAN & ELEVATION
F.A.I. 70 (I-55/I-64) EB CD "D"
OVER RR, IL 3, 8TH ST
SEC. 82-3HVB-2R-(2,1)-I-2
ST. CLAIR COUNTY
STATION 49+55.37
STRUCTURE NO. 082-0144

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wesa, Janney, Elstner Associates, Inc.
 330 Pingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

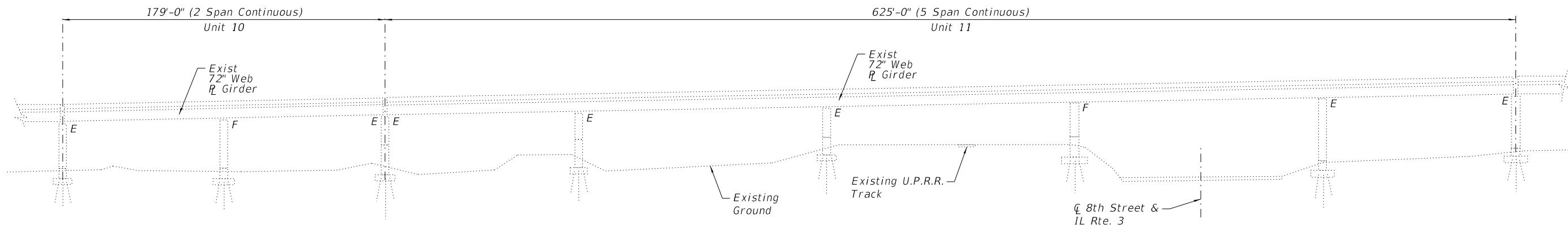
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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

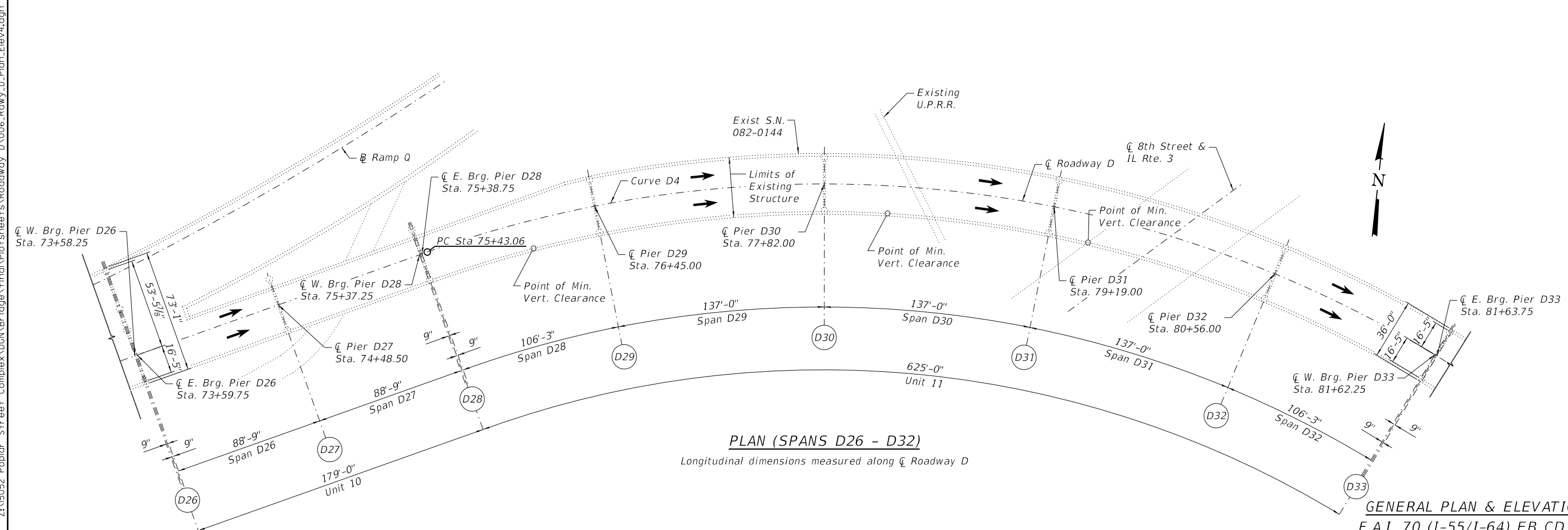
GENERAL PLAN AND ELEVATION
(SPANS D18 THRU D25)

SHEET NO. 5 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-I-2	ST. CLAIR	238	169
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				



ELEVATION



PLAN (SPANS D26 - D32)

Longitudinal dimensions measured along \bar{C} Roadway D

GENERAL PLAN & ELEVATION
 F.A.I. 70 (I-55/I-64) EB CD "D"
 OVER RR, IL 3, 8TH ST
 SEC. 82-3HVB-2R-(2,1)-1-2
 ST. CLAIR COUNTY
 STATION 49+55.37
 STRUCTURE NO. 082-0144

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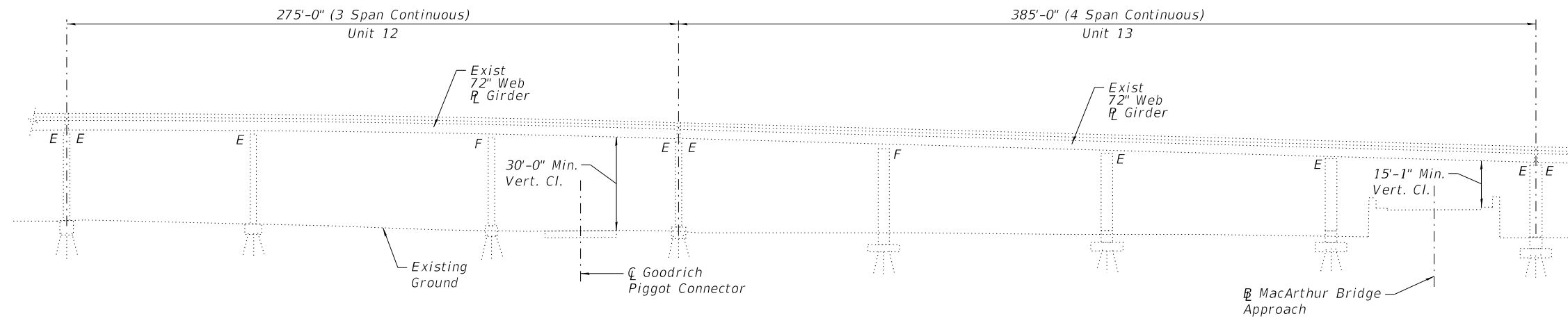
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PLOT SCALE = 0.1667' / 1"	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

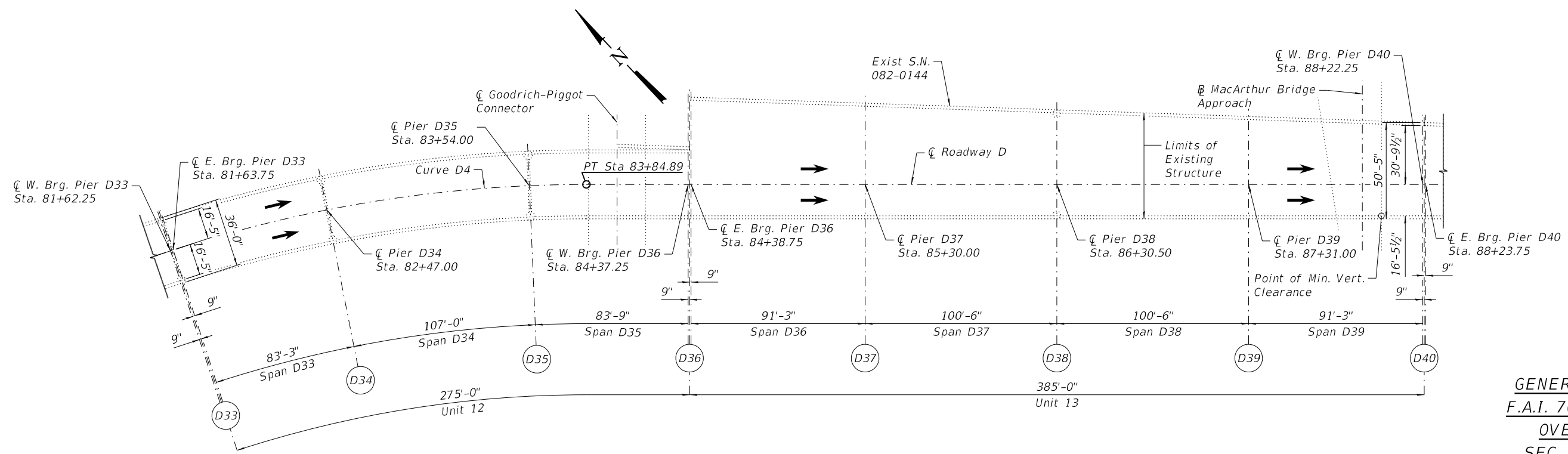
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**GENERAL PLAN AND ELEVATION
 (SPANS D26 THRU D32)**
 SHEET NO. 6 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	170
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				



ELEVATION



PLAN (SPANS D33 - D39)

Longitudinal dimensions measured along \bar{C} Roadway D

GENERAL PLAN & ELEVATION
F.A.I. 70 (I-55/I-64) EB CD "D"
OVER RR, IL 3, 8TH ST
SEC. 82-3HVB-2R-(2,1)-I-2
ST. CLAIR COUNTY
STATION 49+55.37
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 330 Pingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ACB	REVISED -
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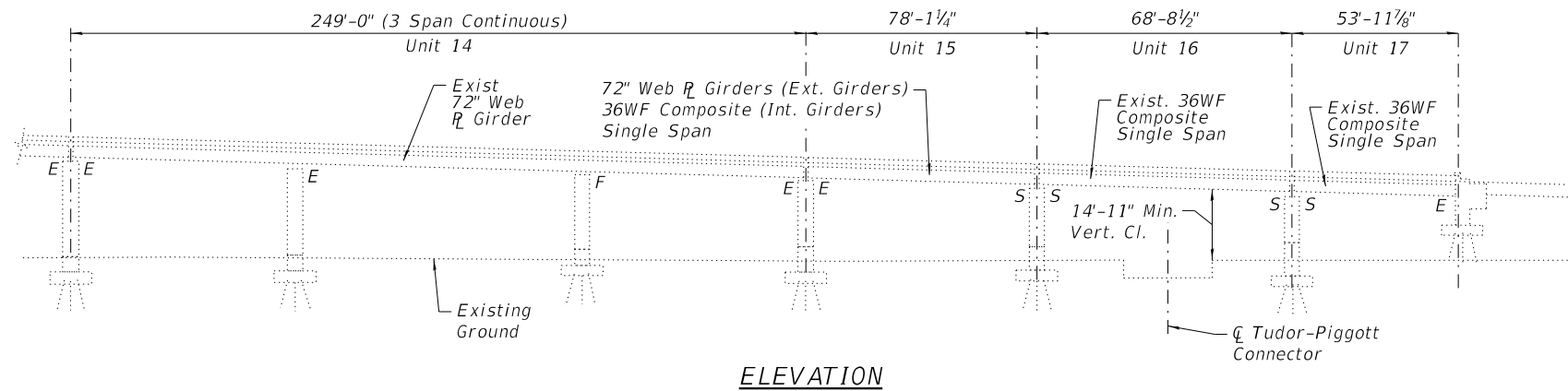
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GENERAL PLAN AND ELEVATION
(SPANS D33 THRU D39)

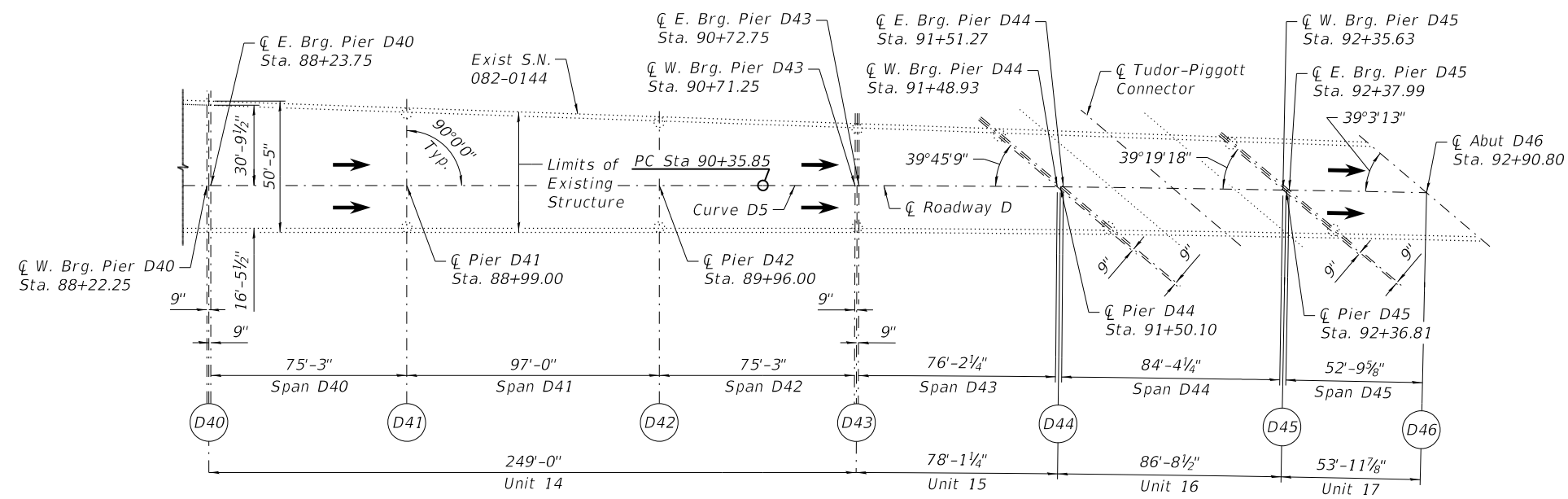
SHEET NO. 7 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-I-2	ST. CLAIR	238	171
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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ELEVATION



PLAN (SPANS D40 - D45)

Longitudinal dimensions measured along \bar{C} Roadway D

GENERAL PLAN & ELEVATION
F.A.I. 70 (I-55/I-64) EB CD "D"
OVER RR, IL 3, 8TH ST
SEC. 82-3HVB-2R-(2,1)-1-2
ST. CLAIR COUNTY
STATION 49+55.37
STRUCTURE NO. 082-0144

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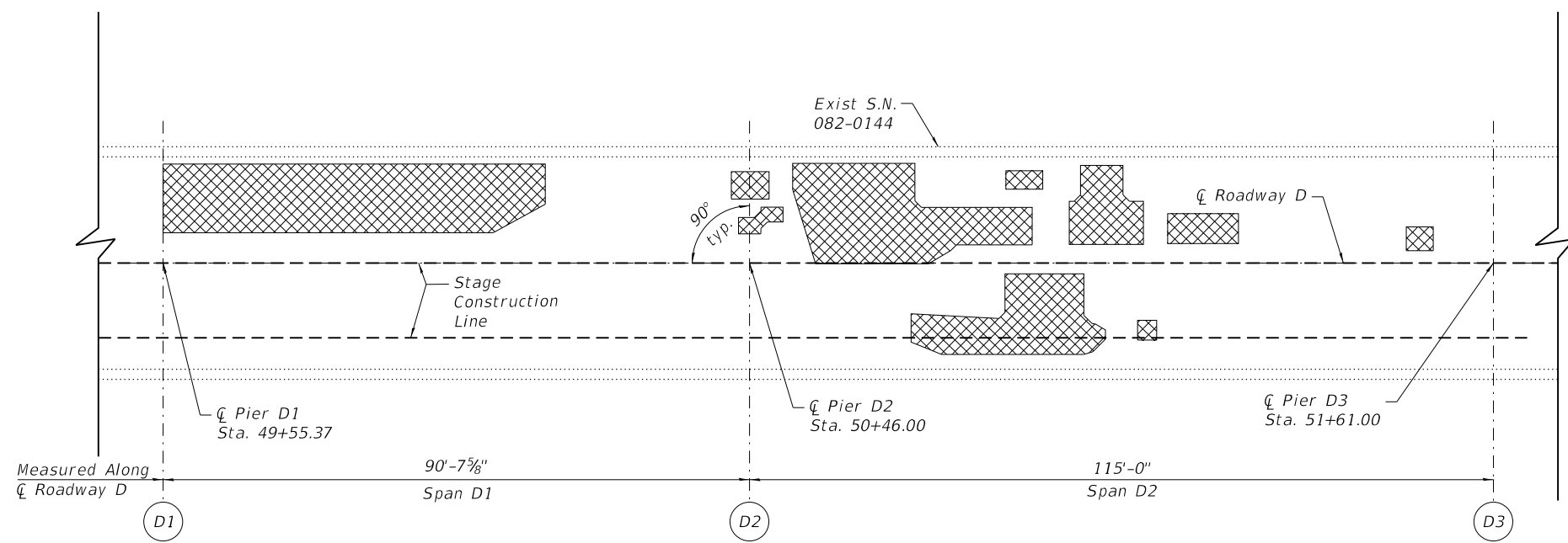
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PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISOR -

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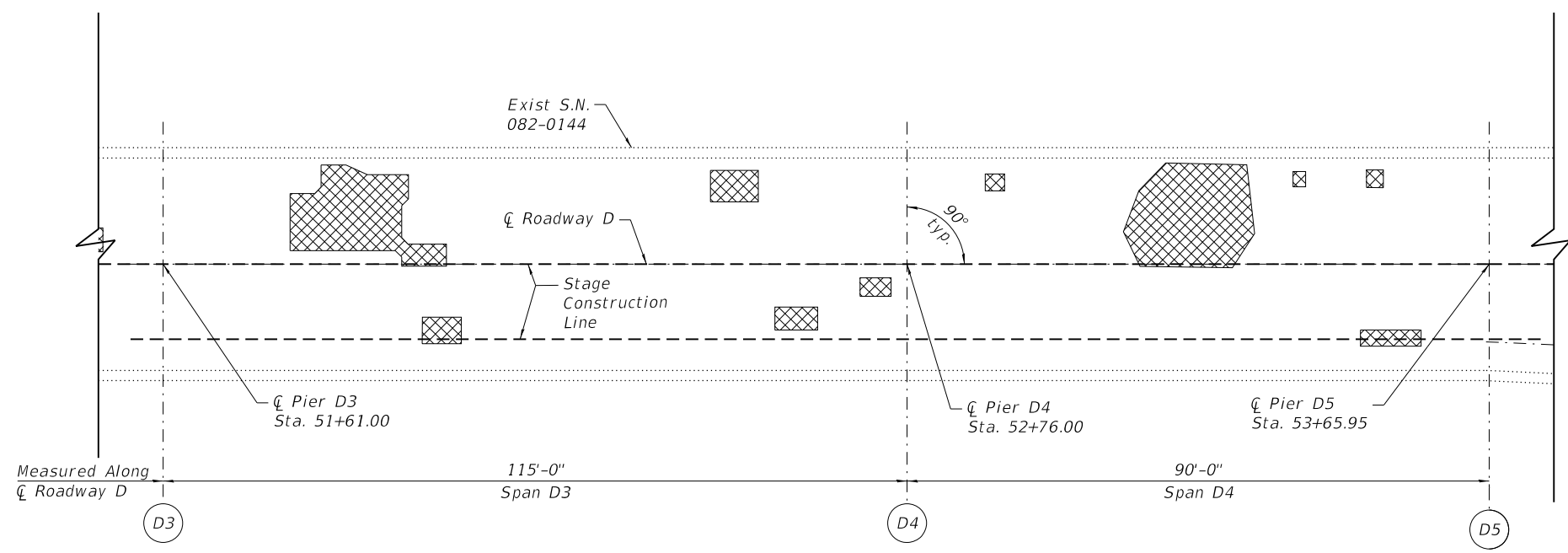
GENERAL PLAN AND ELEVATION
(SPANS D40 THRU D45)
 SHEET NO. 8 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	172
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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PLAN (SPANS D1 & D2)



PLAN (SPANS D3 & D4)

SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
D1	71	4	75
D2	102	6	108
D3	38	2	40
D4	38	2	40

Deck Slab Repair

Note:
 Deck sounding was performed in March 2018, with quantities increased to account for anticipated growth. The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin.
 For details of full depth or partial depth patching, see Sheet 22 of 23.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type I)	Sq Yd	14
Deck Slab Repair (Partial)	Sq Yd	249

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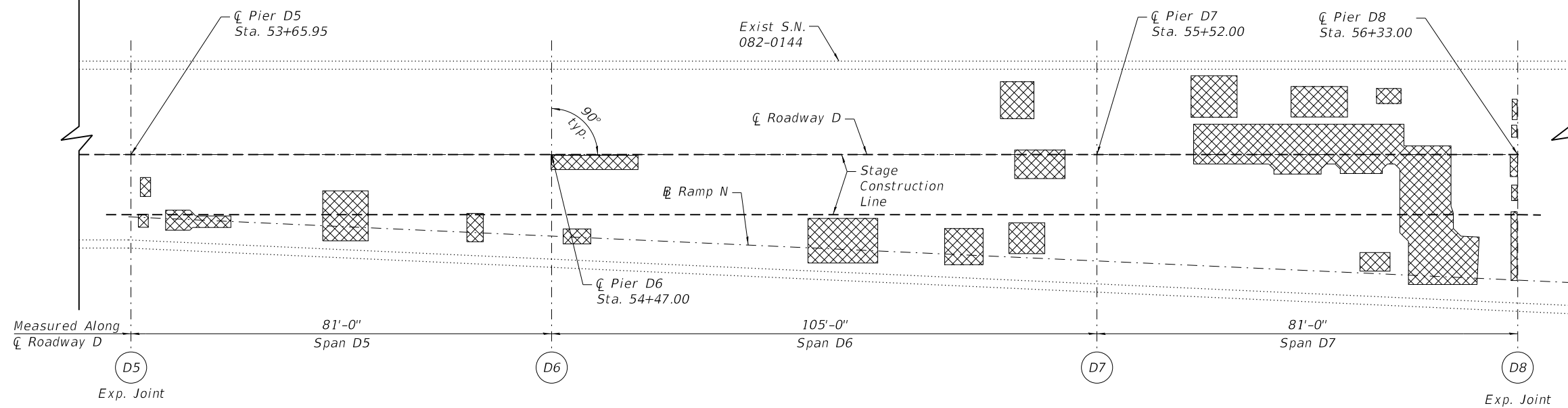
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PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

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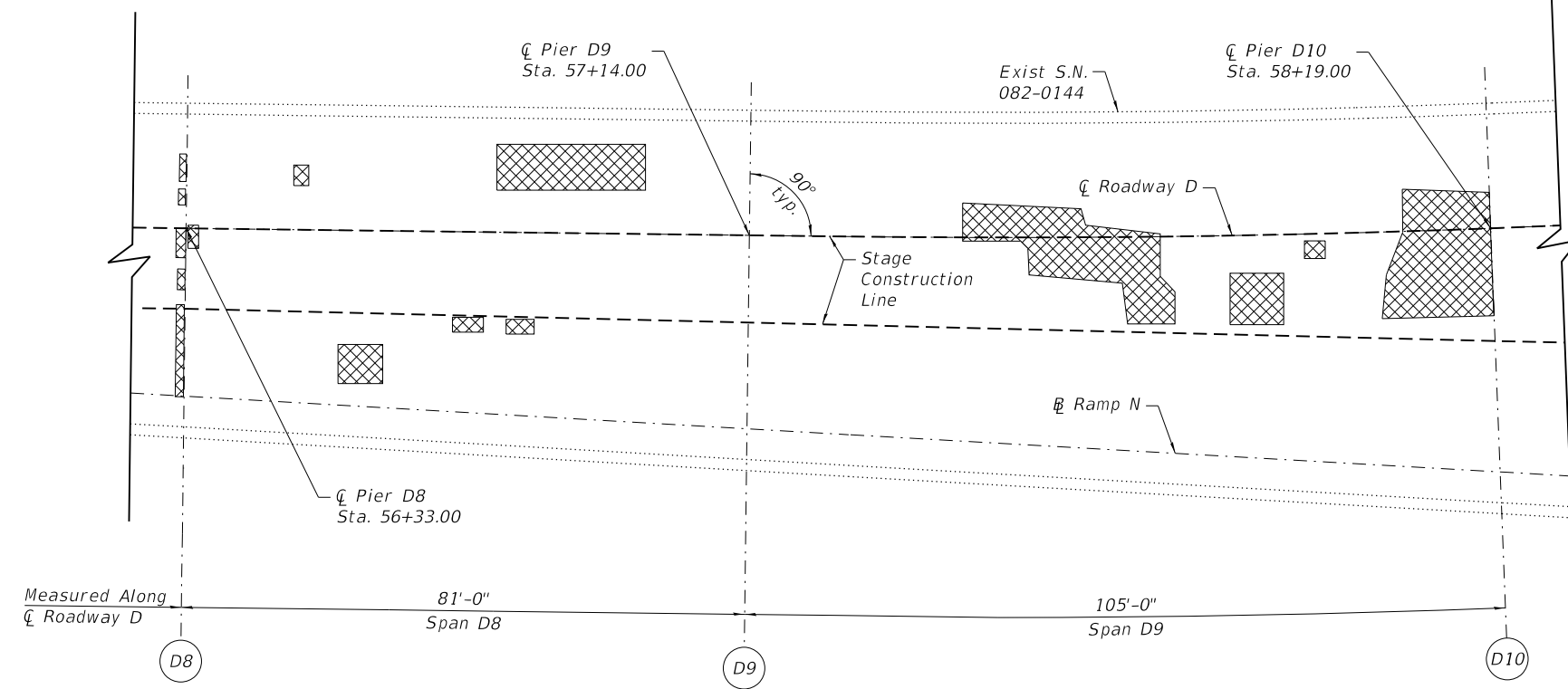
**DECK PATCHING REPAIRS (SPANS D1 THRU D4)
 S.N. 082-0144**

SHEET NO. 9 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	173
			CONTRACT NO. 76945	
ILLINOIS FED. AID PROJECT				



PLAN (SPANS D5, D6 & D7)



PLAN (SPANS D8 & D9)

SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
D5	18	1	19
D6	44	3	47
D7	99	6	105
D8	23	2	25
D9	62	4	66

Deck Slab Repair

Note:
Deck sounding was performed in March 2018, with quantities increased to account for anticipated growth. The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin. For details of full depth or partial depth patching, see Sheet 22 of 23.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type I)	Sq Yd	16
Deck Slab Repair (Partial)	Sq Yd	246

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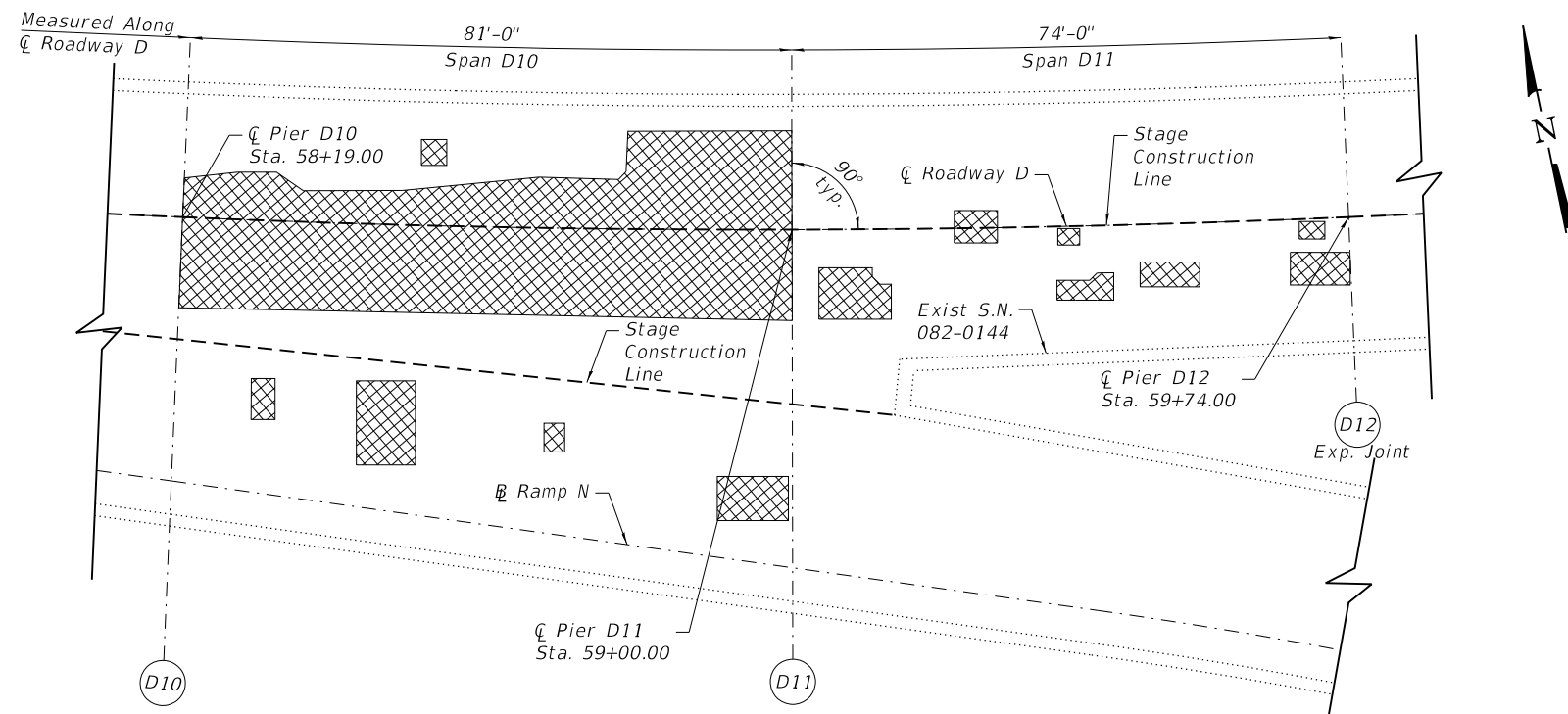
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**DECK PATCHING REPAIRS (SPANS D5 THRU D9)
S.N. 082-0144**

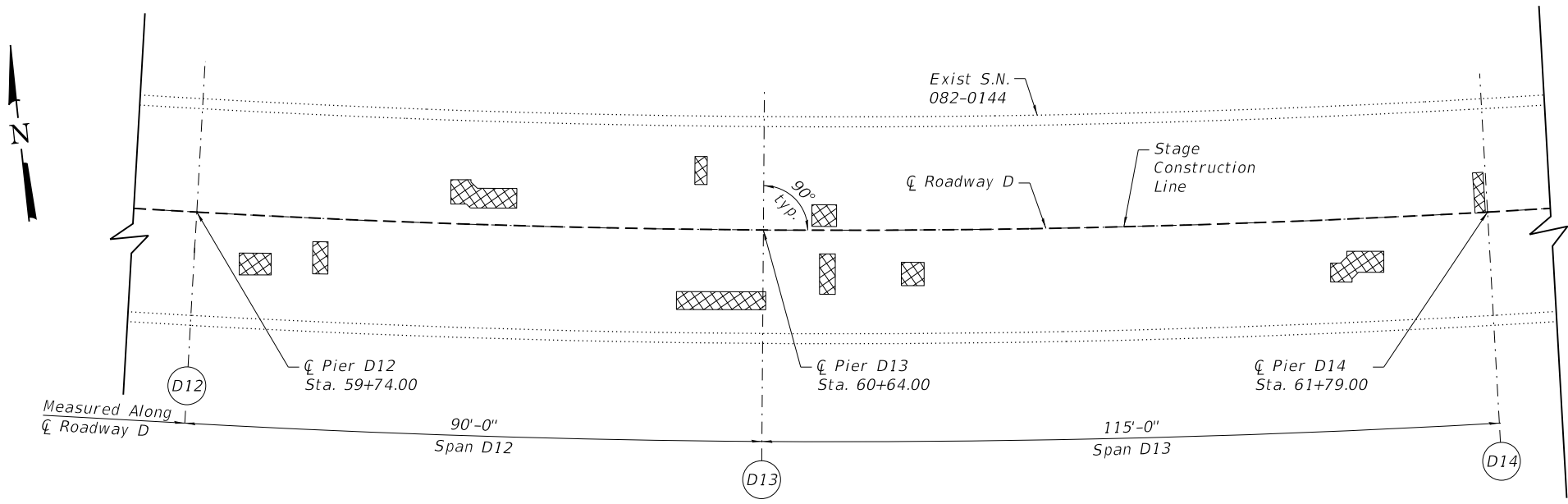
SHEET NO. 10 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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PLAN (SPANS D10 & D11)



PLAN (SPANS D12 & D13)

SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
D10	211	12	223
D11	22	2	24
D12	13	1	14
D13	10	1	11

Deck Slab Repair

Note:
Deck sounding was performed in March 2018, with quantities increased to account for anticipated growth. The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin.
For details of full depth or partial depth patching, see Sheet 22 of 23.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type I)	Sq Yd	16
Deck Slab Repair (Partial)	Sq Yd	256

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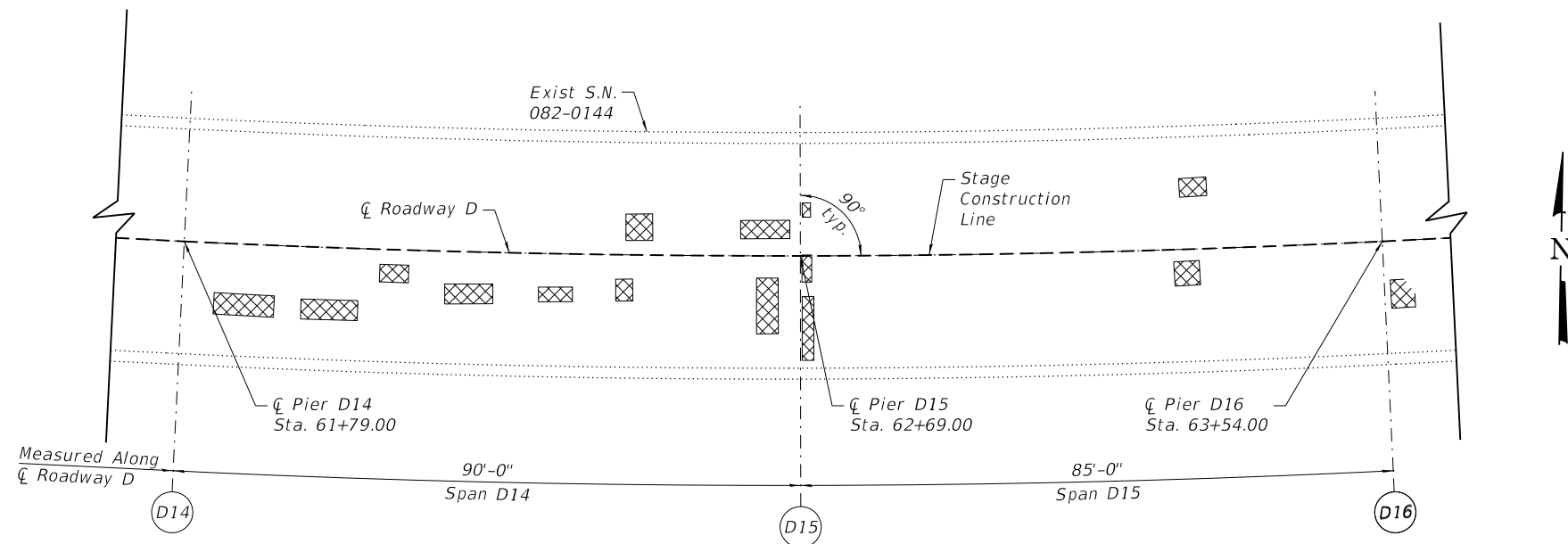
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**DECK PLAN (SPANS D10 THRU D13)
S.N. 082-0144**

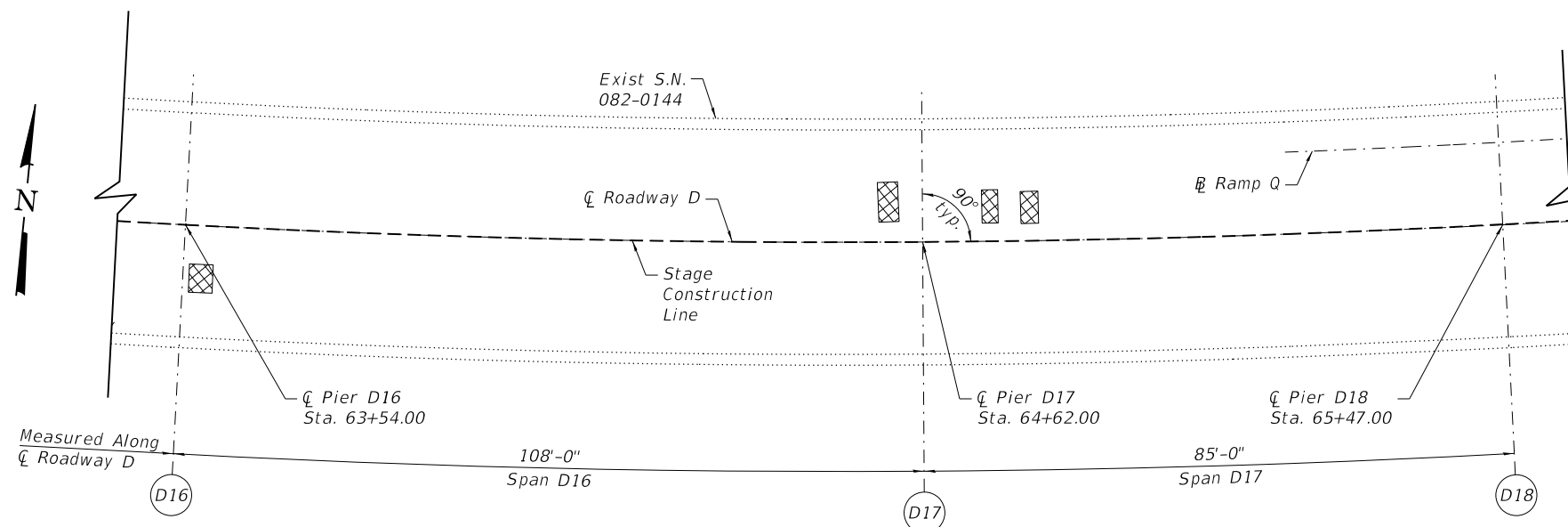
SHEET NO. 11 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	175
CONTRACT NO. 76945				
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PLAN (SPANS D14 & D15)



PLAN (SPANS D16 & D17)

SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
D14	19	1	20
D15	6	1	7
D16	4	1	5
D17	3	1	4

Deck Slab Repair

Note:
Deck sounding was performed in March 2018, with quantities increased to account for anticipated growth. The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin. For details of full depth or partial depth patching, see Sheet 22 of 23.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type I)	Sq Yd	4
Deck Slab Repair (Partial)	Sq Yd	32

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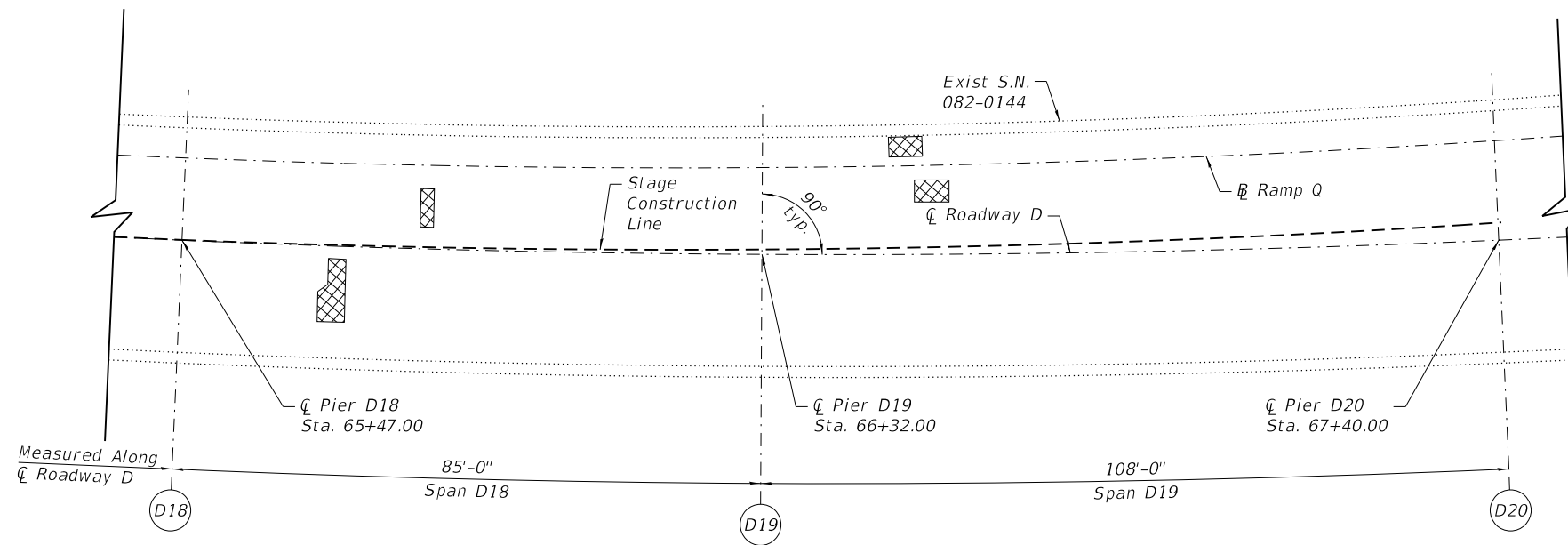
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**DECK PATCHING REPAIRS (SPANS D14 THRU D17)
S.N. 082-0144**

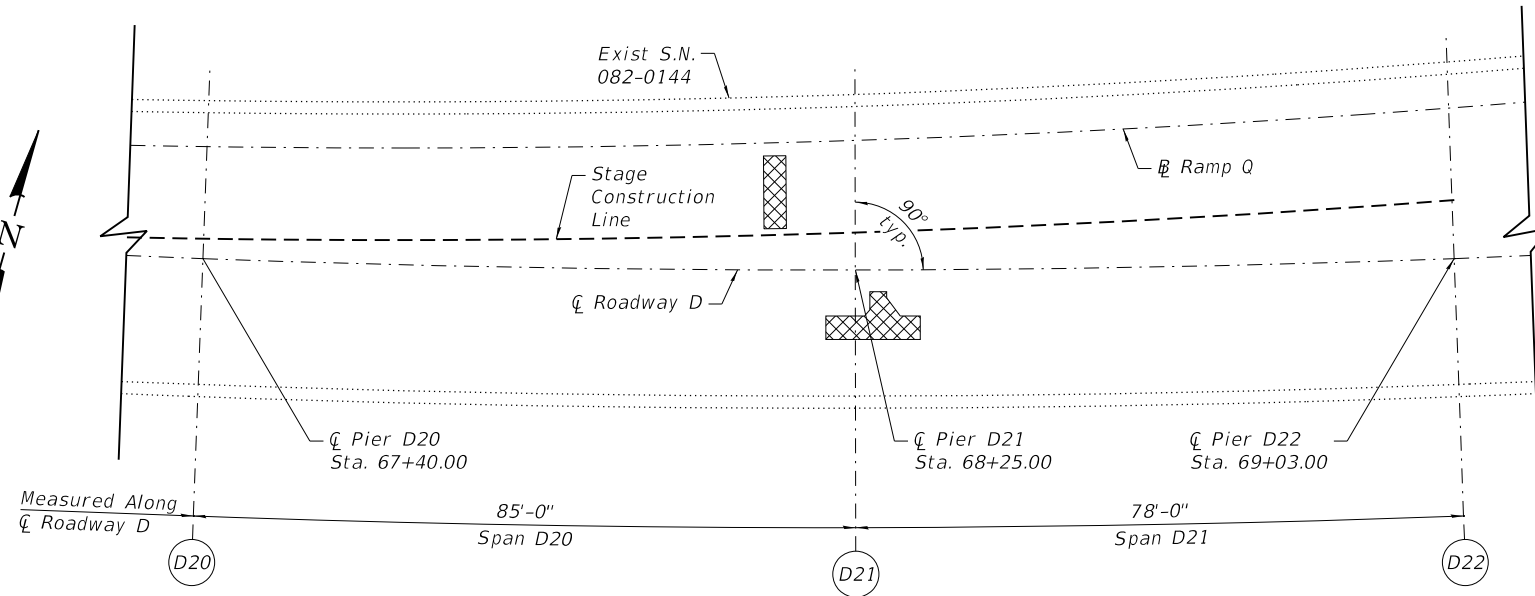
SHEET NO. 12 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
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PLAN (SPANS D18 & D19)



PLAN (SPANS D20 & D21)

SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
D18	5	1	6
D19	4	1	5
D20	5	1	6
D21	4	1	5

Deck Slab Repair

Note:
Deck sounding was performed in March 2018, with quantities increased to account for anticipated growth. The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin. For details of full depth or partial depth patching, see Sheet 22 of 23.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type 1)	Sq Yd	4
Deck Slab Repair (Partial)	Sq Yd	18

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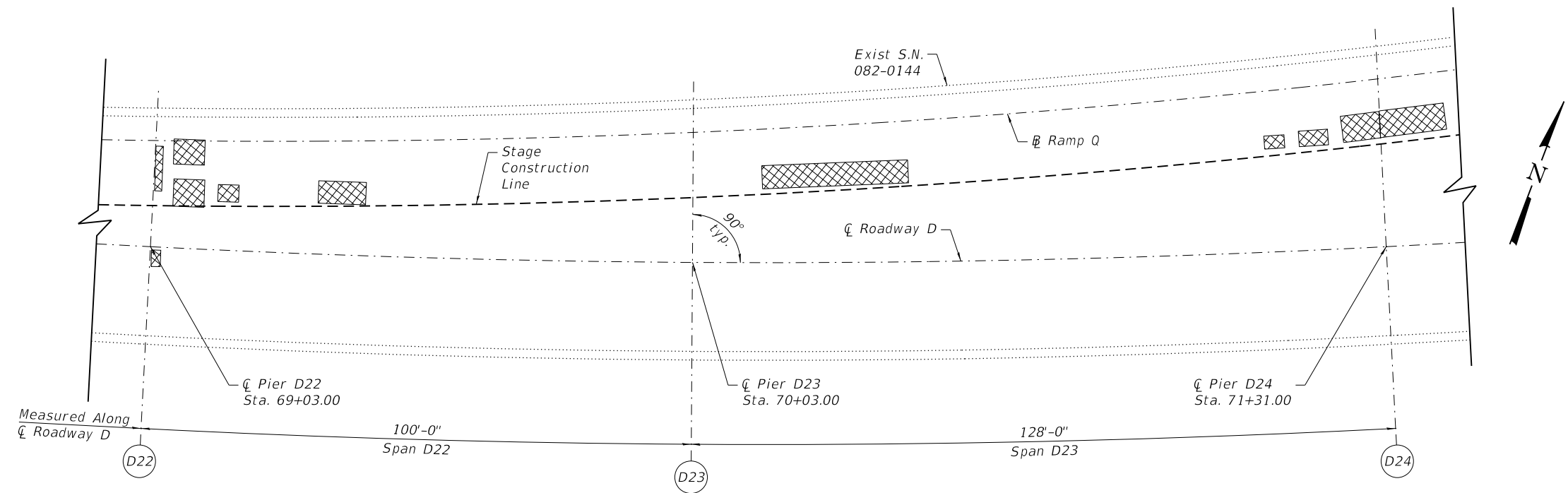
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**DECK PATCHING REPAIRS (SPANS D18 THRU D21)
S.N. 082-0144**

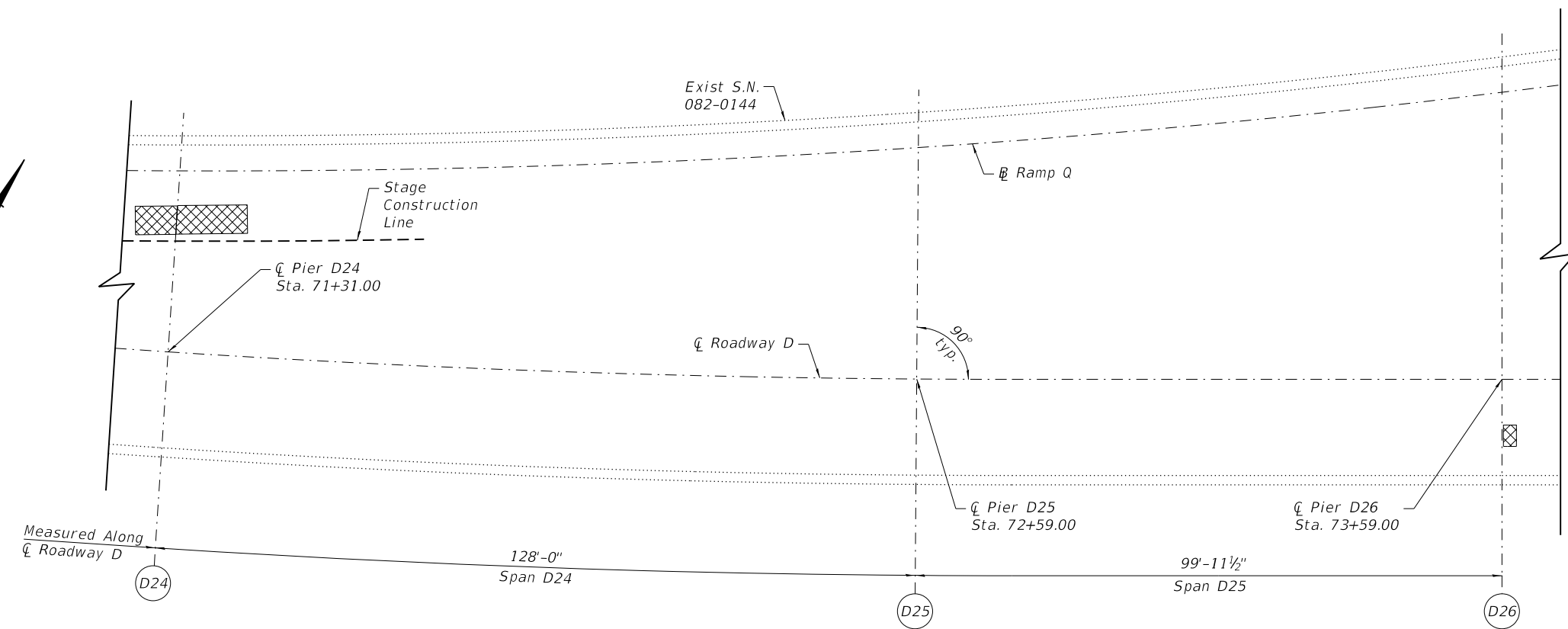
SHEET NO. 13 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
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PLAN (SPANS D22 & D23)



PLAN (SPANS D24 & D25)

SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
D22	14	1	15
D23	20	2	22
D24	7	1	8
D25	0	0	0

Deck Slab Repair

Note:
Deck sounding was performed in March 2018, with quantities increased to account for anticipated growth. The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin.
For details of full depth or partial depth patching, see Sheet 22 of 23.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type I)	Sq Yd	4
Deck Slab Repair (Partial)	Sq Yd	41

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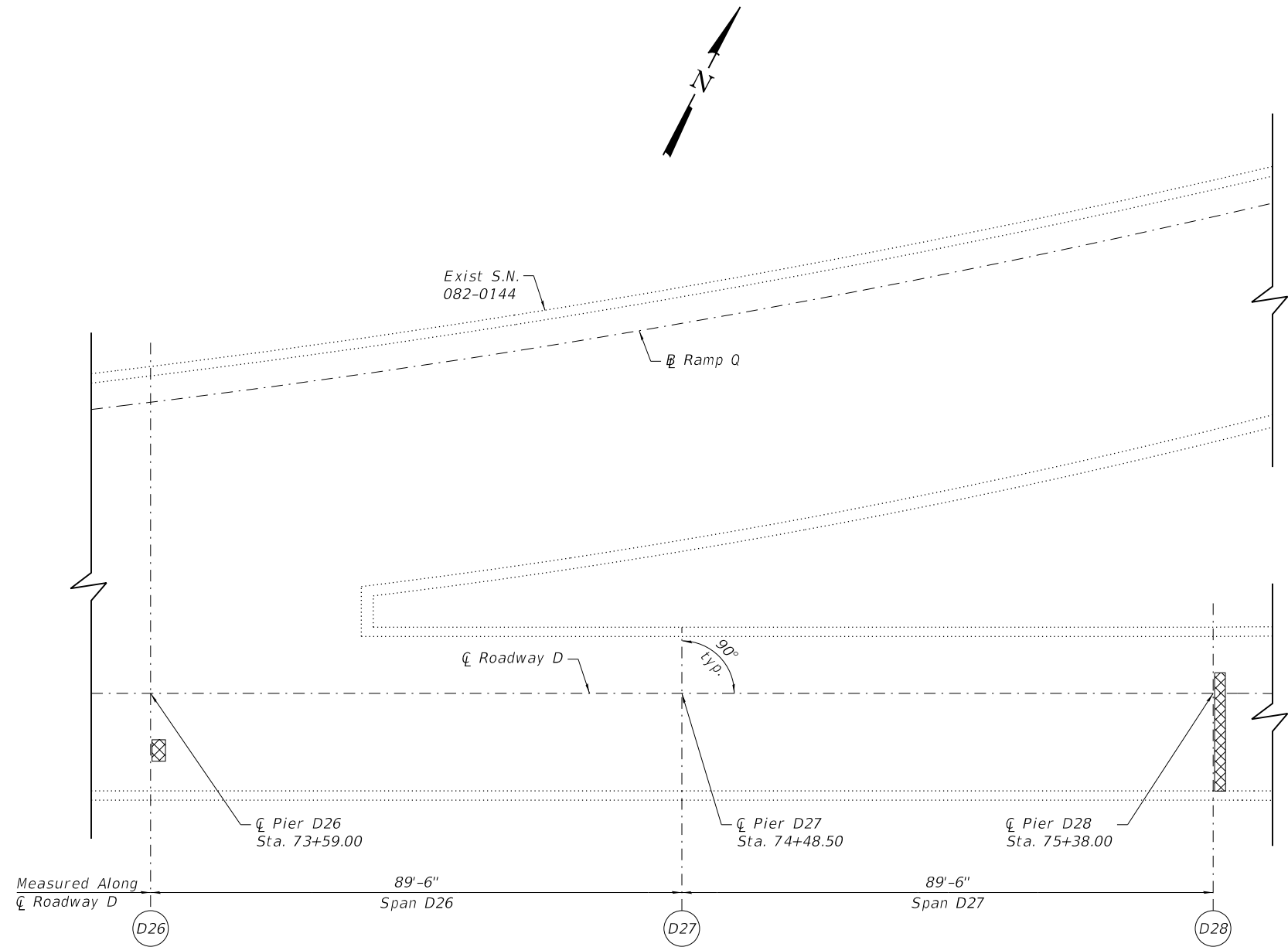
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**DECK PATCHING REPAIRS (SPANS D22 THRU D25)
S.N. 082-0144**

SHEET NO. 14 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	178
CONTRACT NO. 76945				
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PLAN (SPANS D26 & D27)

SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
D26	1	1	2
D27	0	0	0

Deck Slab Repair

Note:
 Deck sounding was performed in March 2018, with quantities increased to account for anticipated growth.
 The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin.
 For details of full depth or partial depth patching, see Sheet 22 of 23.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type 1)	Sq Yd	1
Deck Slab Repair (Partial)	Sq Yd	1

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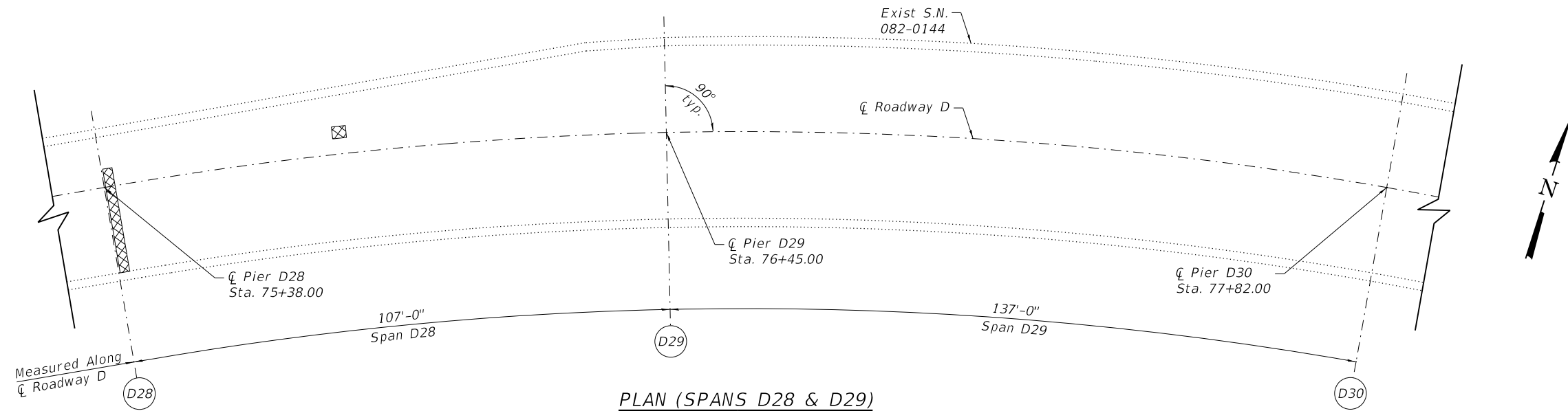
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**DECK PATCHING REPAIRS (SPANS D26 & D27)
 S.N. 082-0144**

SHEET NO. 15 OF 23 SHEETS

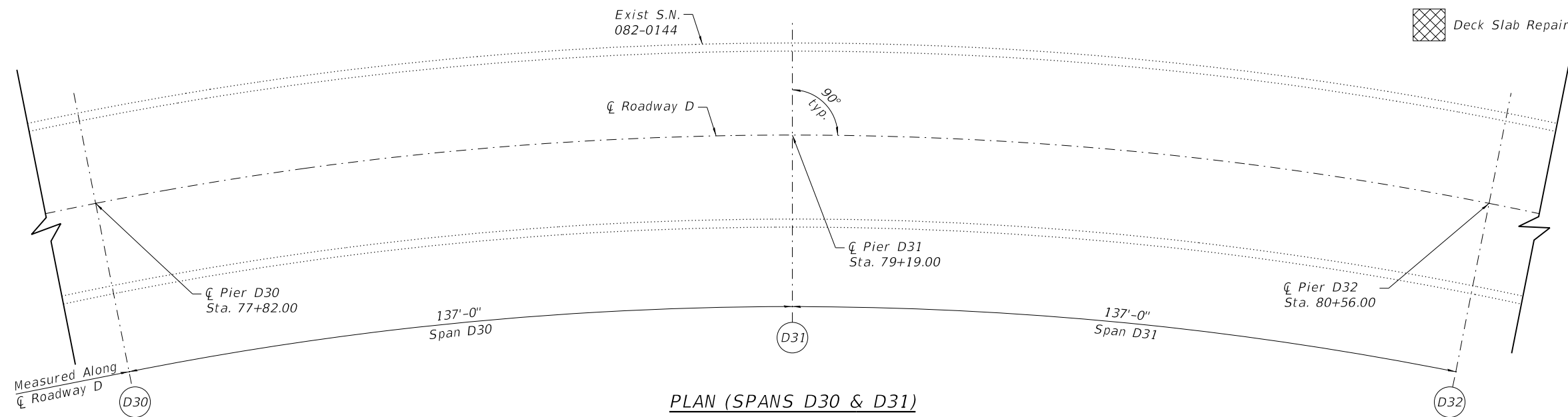
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PLAN (SPANS D28 & D29)

SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
D28	6	1	7
D29	0	0	0
D30	0	0	0
D31	0	0	0



PLAN (SPANS D30 & D31)

Deck Slab Repair

Note:
 Deck sounding was performed in March 2018, with quantities increased to account for anticipated growth.
 The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin.
 For details of full depth or partial depth patching, see Sheet 22 of 23.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type I)	Sq Yd	1
Deck Slab Repair (Partial)	Sq Yd	6

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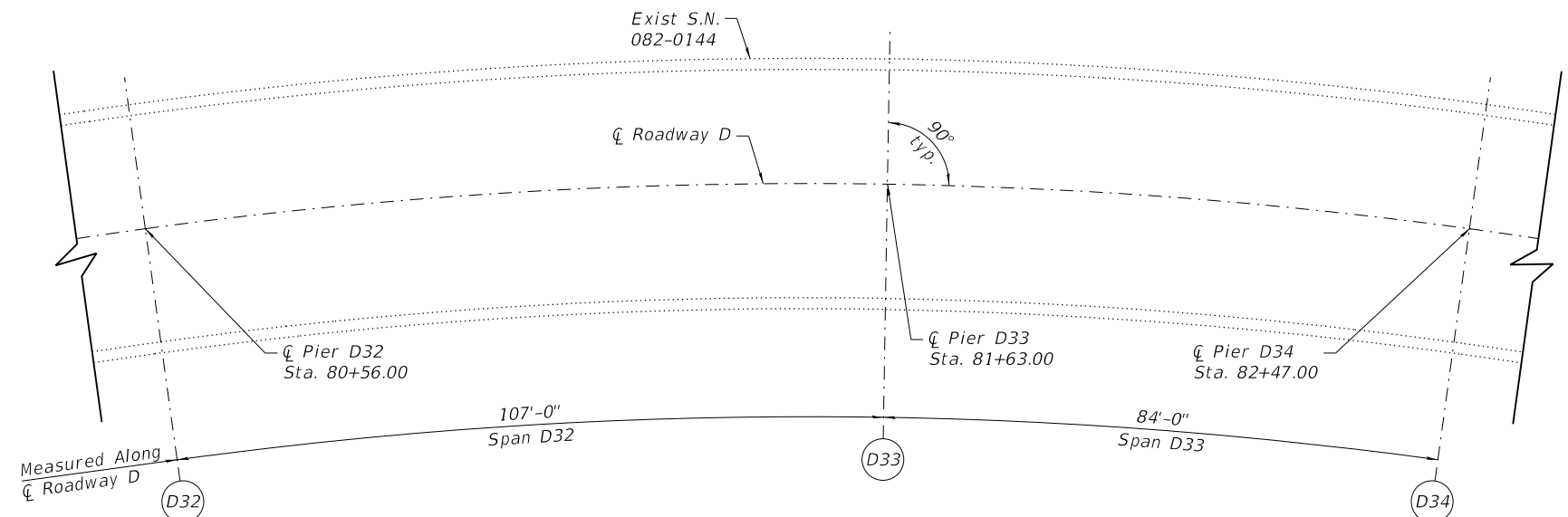
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**DECK PATCHING REPAIRS (SPANS D28 THRU D31)
 S.N. 082-0144**

SHEET NO. 16 OF 23 SHEETS

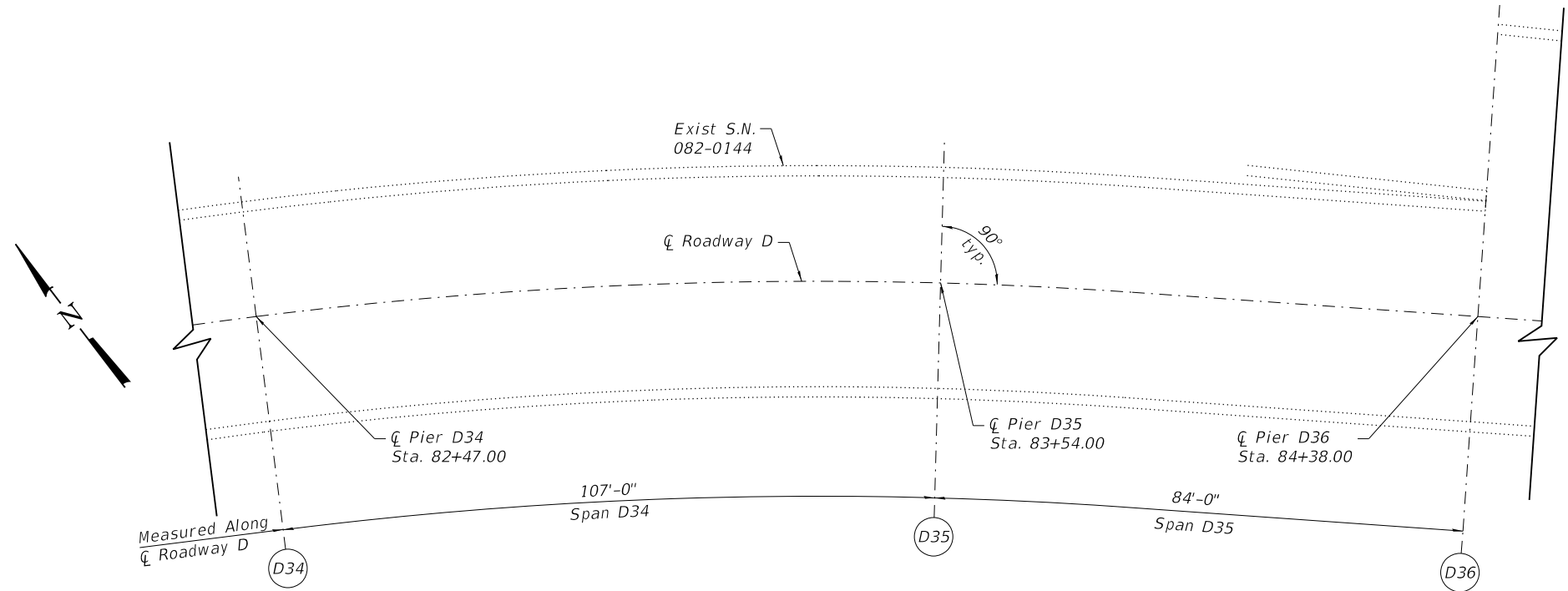
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945			ILLINOIS FED. AID PROJECT	

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PLAN (SPANS D32 & D33)

SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
D32	0	0	0
D33	0	0	0
D34	0	0	0
D35	0	0	0



PLAN (SPANS D34 & D35)

Deck Slab Repair

Note:
Deck sounding was performed in March 2018, with quantities increased to account for anticipated growth. The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin. For details of full depth or partial depth patching, see Sheet 22 of 23.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type 1)	Sq Yd	0
Deck Slab Repair (Partial)	Sq Yd	0

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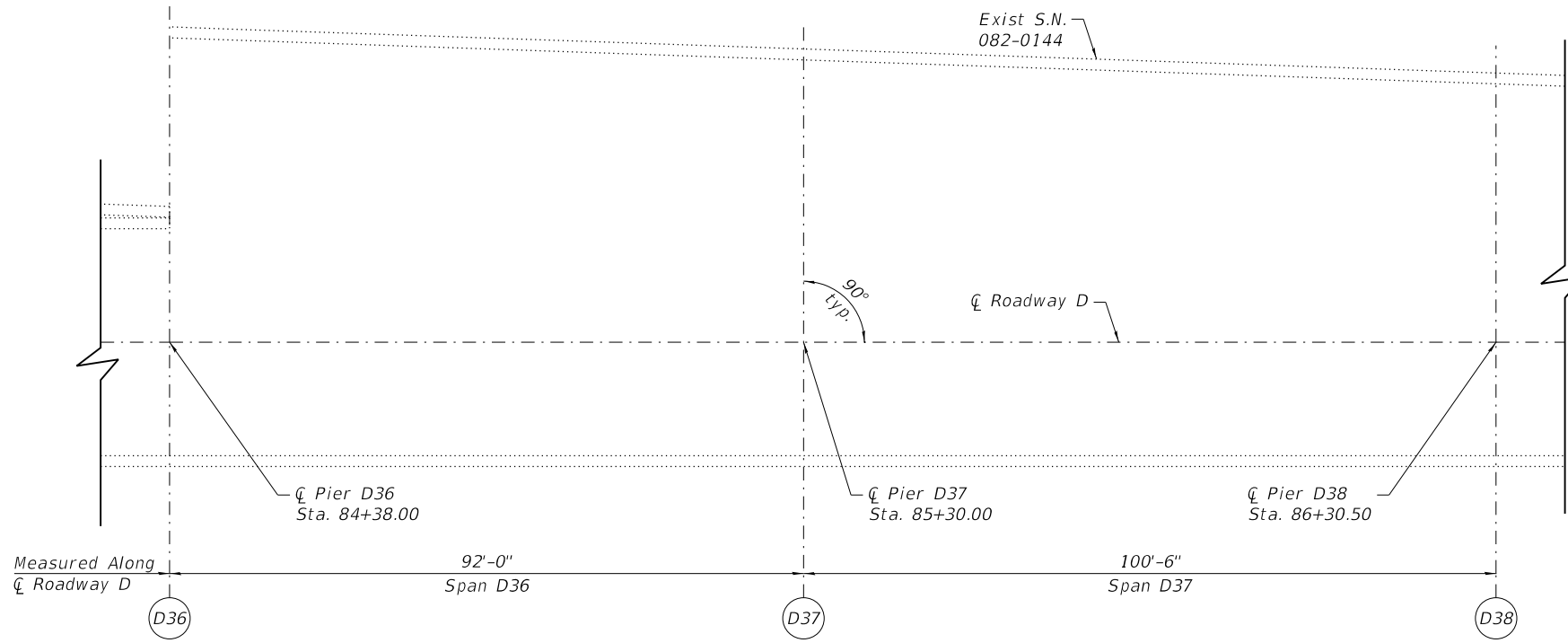
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**DECK PATCHING REPAIRS (SPANS D32 THRU D35)
S.N. 082-0144**

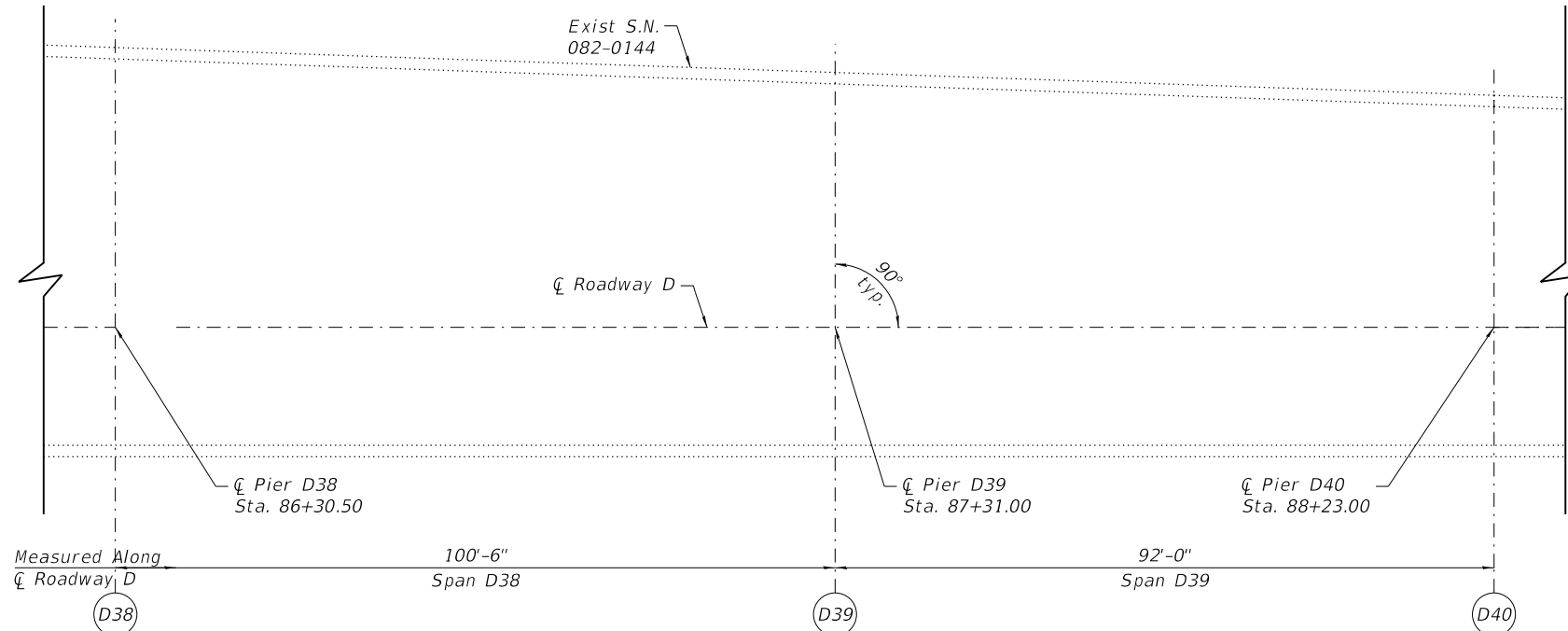
SHEET NO. 17 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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PLAN (SPANS D36 & D37)



PLAN (SPANS D38 & D39)

SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
D36	0	0	0
D37	0	0	0
D38	0	0	0
D39	0	0	0

Deck Slab Repair

Note:
Deck sounding was performed in March 2018, with quantities increased to account for anticipated growth. The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin. For details of full depth or partial depth patching, see Sheet 22 of 23.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type 1)	Sq Yd	0
Deck Slab Repair (Partial)	Sq Yd	0

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330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - SMG	REVISED -
CHECKED - ARB/RW	REVISIONS -	
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PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

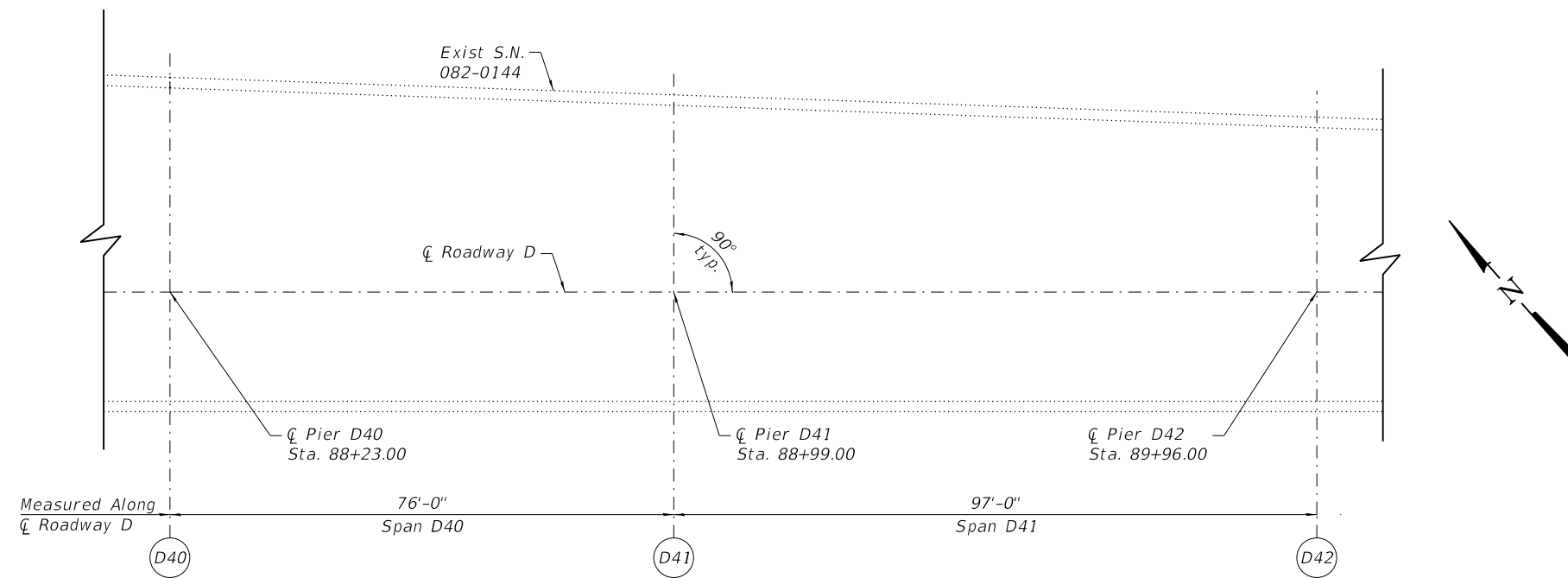
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK PATCHING REPAIRS (SPANS D36 THRU D39)
S.N. 082-0144**

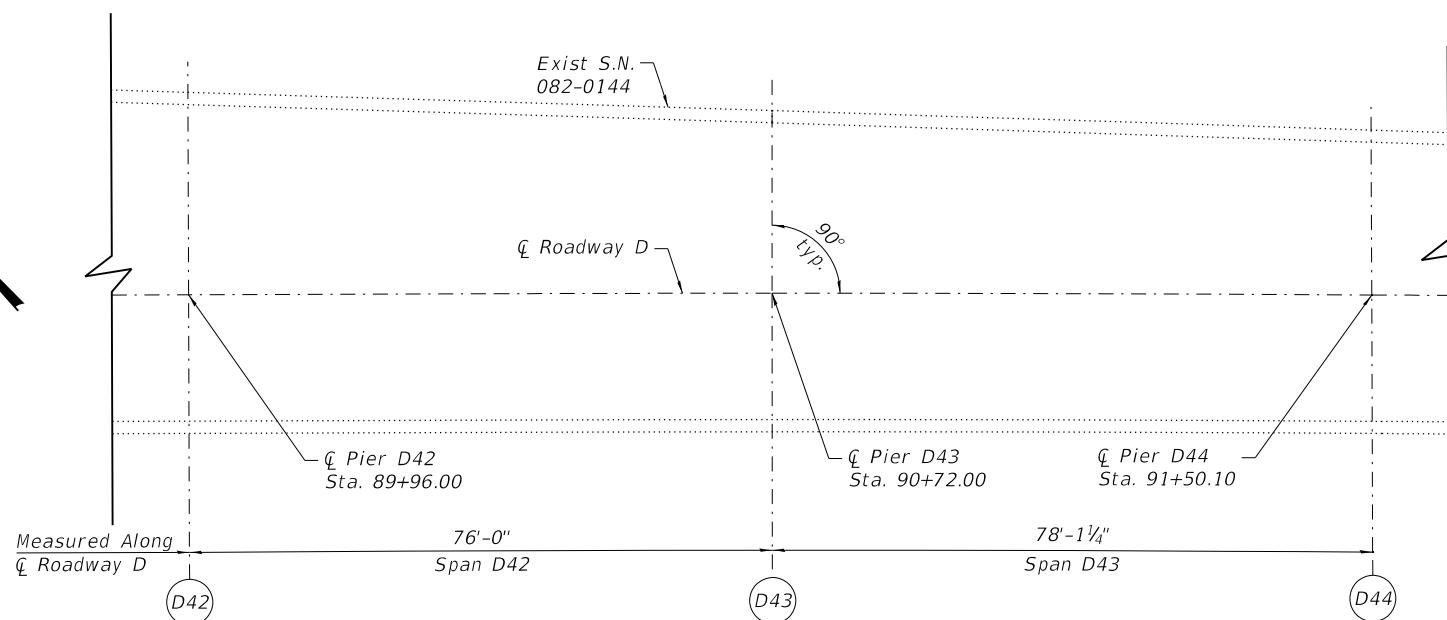
SHEET NO. 18 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	182
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

PRINT DATE: 9/28/2018 11:28:30 AM Z:\5052 Poplar Street Complex\DCN\Bridges\Final\Plotsheets\Roadway D\019_Rdwy D_Deck Plan1(040-D43).dgn



PLAN (SPANS D40 & D41)



PLAN (SPANS D42 & D43)

SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
D40	0	0	0
D41	0	0	0
D42	0	0	0
D43	0	0	0

Deck Slab Repair

Note:
Deck sounding was performed in March 2018, with quantities increased to account for anticipated growth. The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin. For details of full depth or partial depth patching, see Sheet 22 of 23.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type 1)	Sq Yd	0
Deck Slab Repair (Partial)	Sq Yd	0

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - SMG	REVISED -
	CHECKED - ARB/RW	REVISED -
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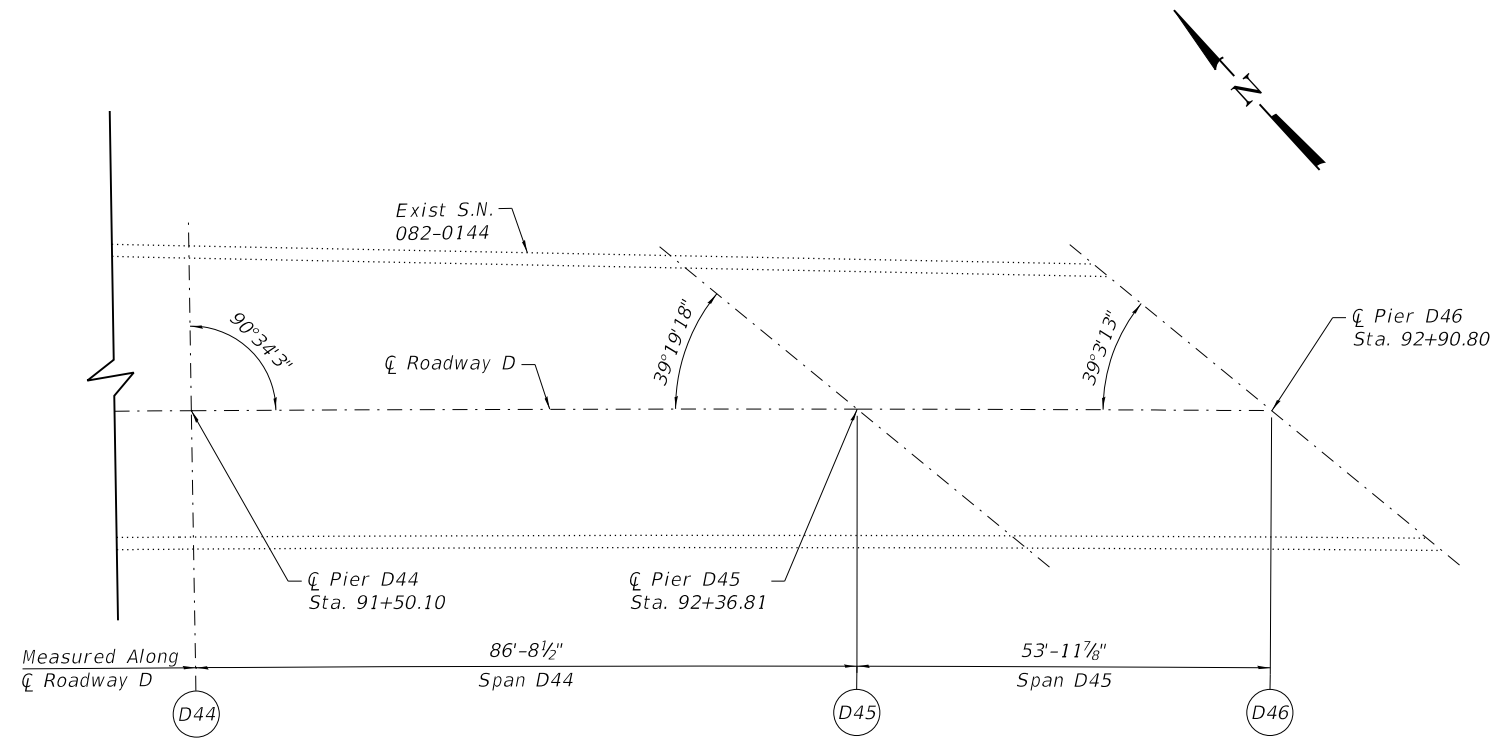
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK PATCHING REPAIRS (SPANS D40 THRU D43)
S.N. 082-0144**

SHEET NO. 19 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	183
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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PLAN (SPANS D44 & D45)

SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
D44	0	0	0
D45	0	0	0

Deck Slab Repair

Note:
 Deck sounding was performed in March 2018, with quantities increased to account for anticipated growth.
 The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin.
 For details of full depth or partial depth patching, see Sheet 22 of 23.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type 1)	Sq Yd	0
Deck Slab Repair (Partial)	Sq Yd	0

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 Wss, Janney, Elstner Associates, Inc.
 330 Pfingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax
 www.wje.com

USER NAME = acb	DESIGNED - SMG	REVISED -
CHECKED - ARB/RW	DRAWN - ACB	REVISED -
PLOT SCALE = 0.1667' / 1" =	DATE - 09/28/2018	REVISED -
PLOT DATE = 9/28/2018		

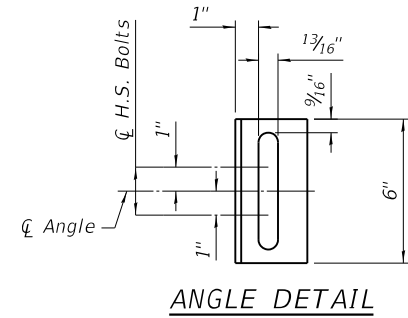
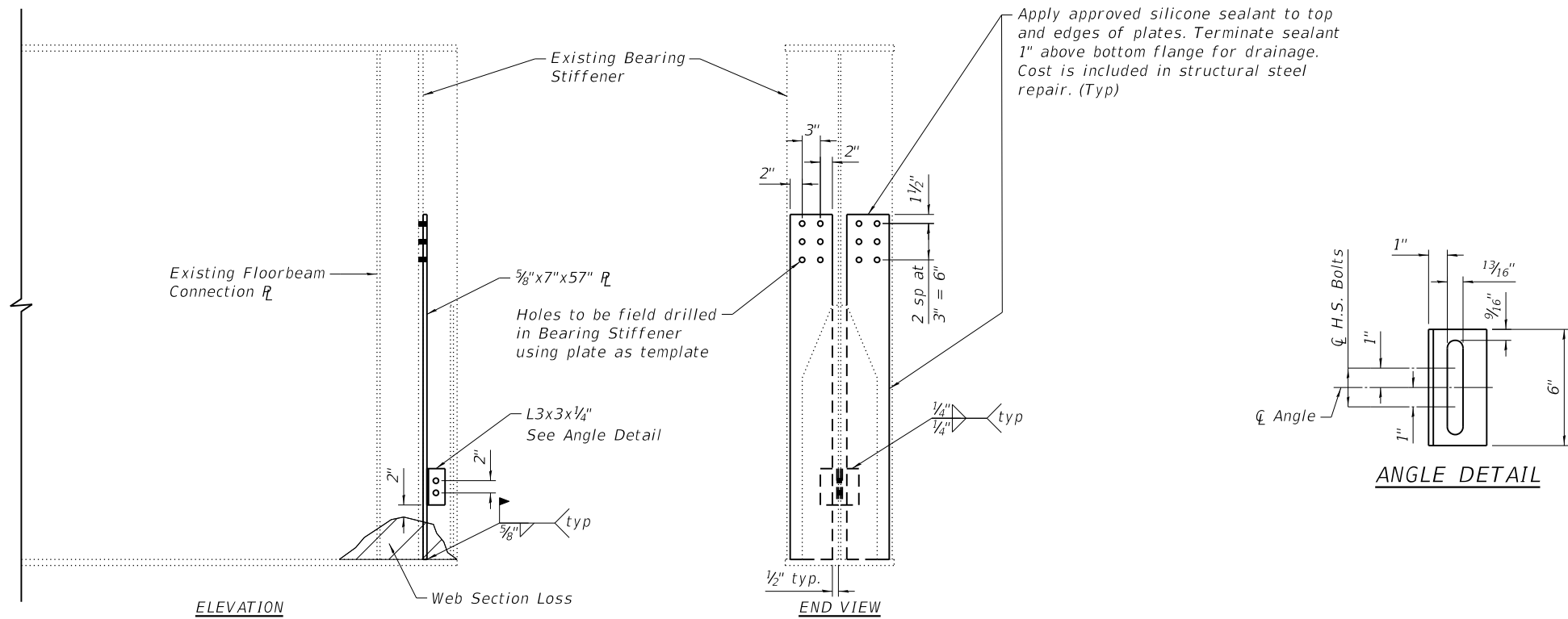
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**DECK PATCHING REPAIRS (SPANS D44 & D45)
 S.N. 082-0144**

SHEET NO. 20 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	184
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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BEARING STIFFENER REPAIR
 Span D1, Girder 1
 Span D5, Girder 2
 Span D5, Girder 2

BILL OF MATERIAL

Item	Unit	Total
Structural Steel Repair	Pound	480

Notes:
 Clip angle leg as necessary to avoid partial height stiffener.

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Pfingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ARB/SMG	REVISED -
PLOT SCALE = 0.1667' / 1"	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

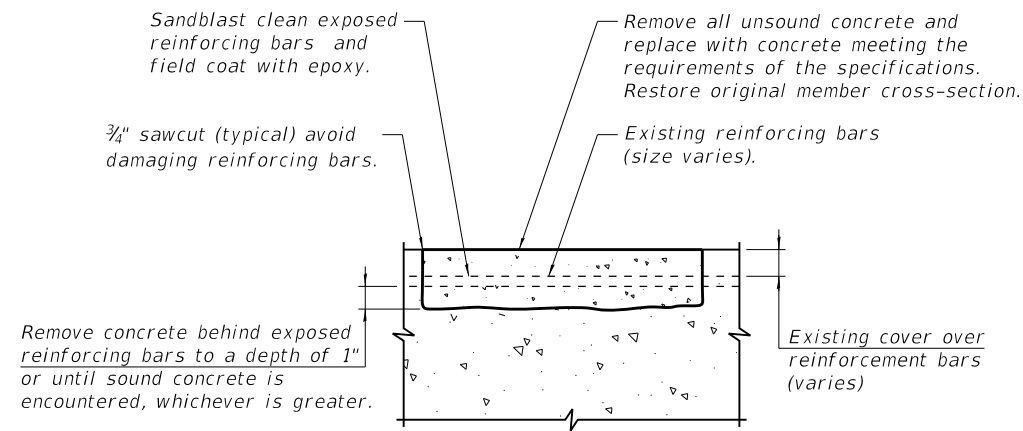
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING STIFFENER REPAIR
S.N. 082-0144

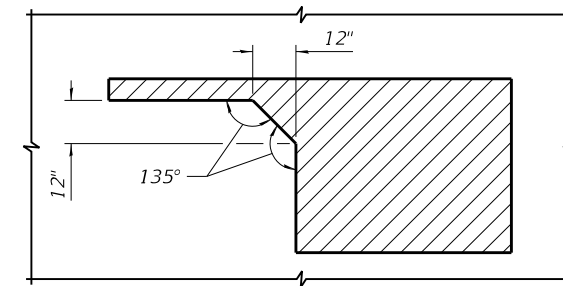
SHEET NO. 21 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

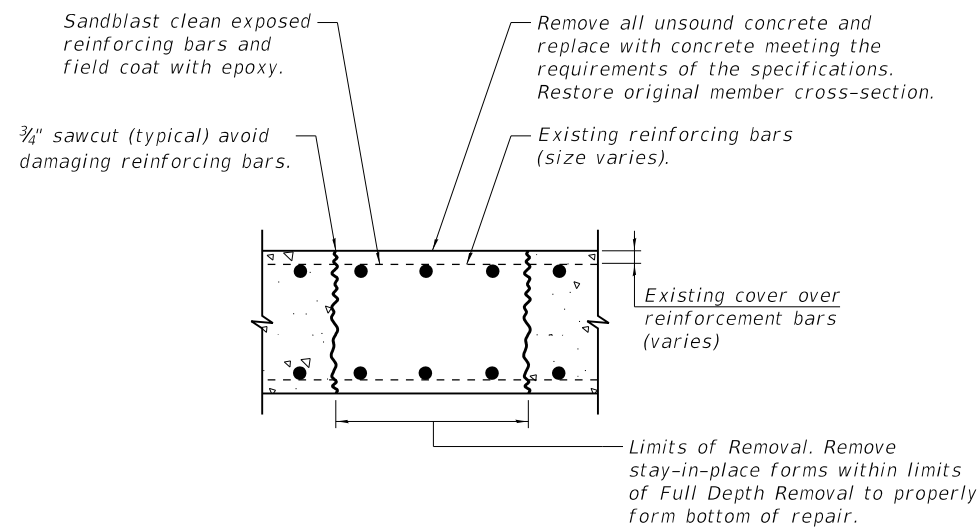
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HORIZONTAL SURFACE REPAIR (PARTIAL DEPTH)
 At bridge deck.

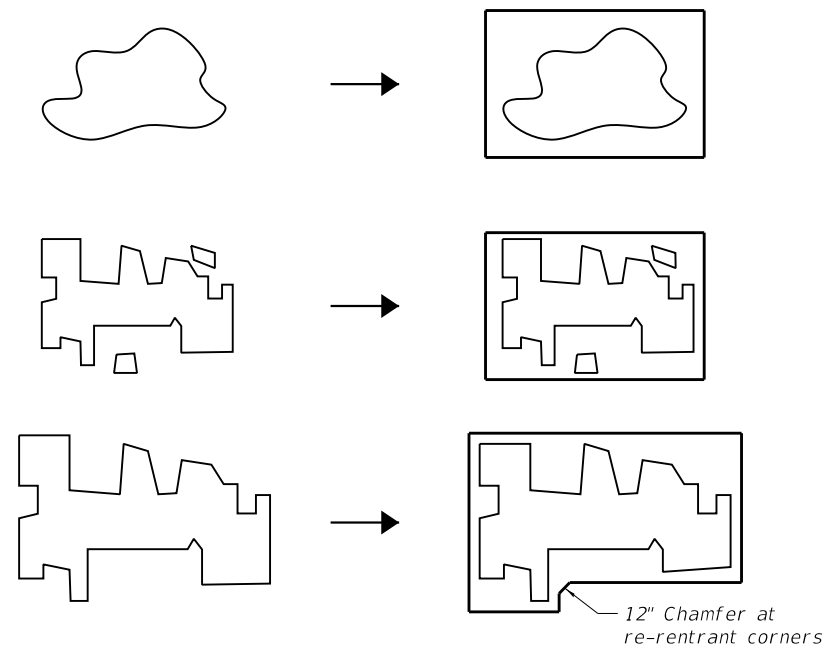


RE-ENTRANT CORNER MODIFICATIONS



HORIZONTAL SURFACE REPAIR (FULL DEPTH)
 At bridge deck

Note:
 Where construction joints occur within patches due to staging requirements, concrete removal shall extend 1" into previously repaired regions such that all existing steel is cleaned and coated. See Roadway Plans for traffic control staging requirements.



GENERAL SHAPE OF DETERIORATION

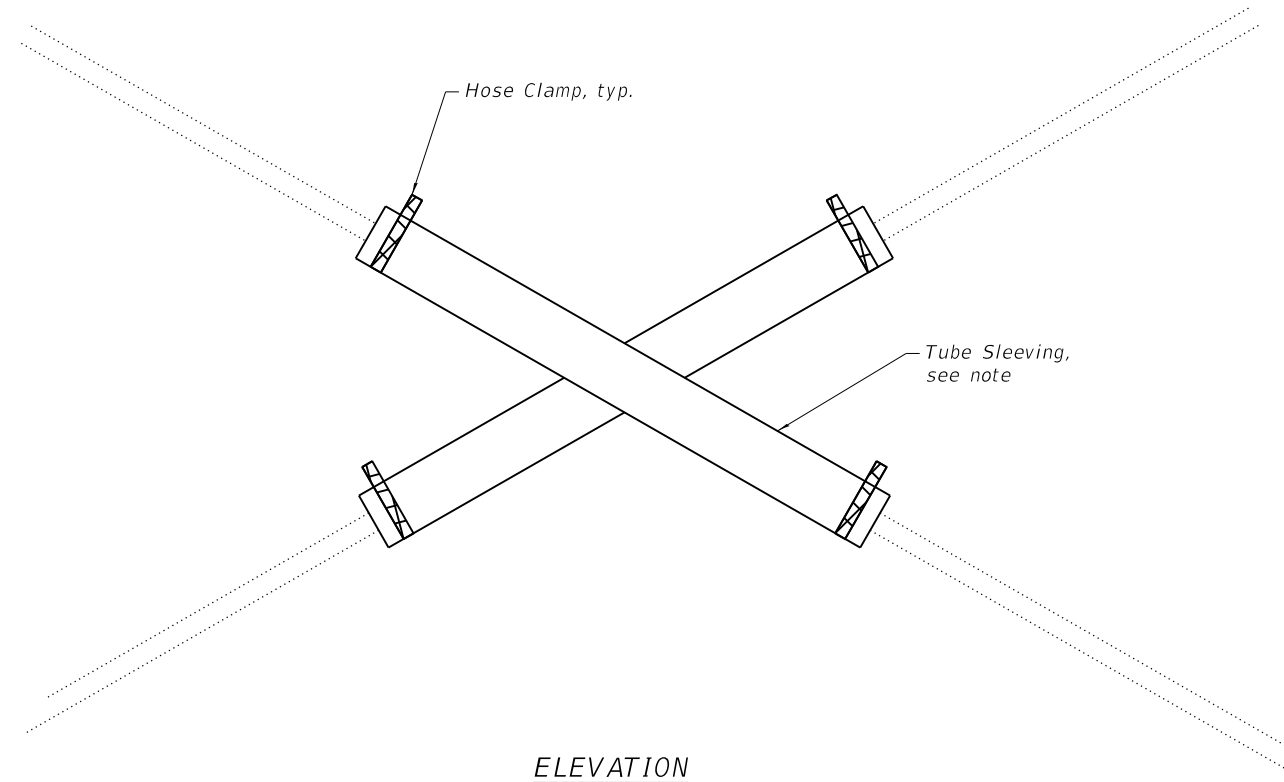
REMOVAL GEOMETRY

TYPICAL CONCRETE REPAIR GEOMETRY

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	CHECKED - RW	REVISED -
PLOT SCALE = 0.1667' / 1"	DRAWN - ACB	REVISED -
PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	186
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

PRINT DATE: 9/28/2018 11:28:32 AM Z:\5052 Poplar Street Complex\DCN\Bridge\Final\Plotsheets\Roadway D\023_Rawy_D_Cable Protection Details.dgn



Note:
 Tube sleeving is to be 3/4" I.D. PVC plastic tube sleeving (McMaster-Carr product number 1508T37 or approved equal). Tubes will be slit longitudinally and placed around each cable and secured in place by hose clamps. Care shall be taken to ensure that the sheathing laps correctly as the hose clamps are tightened and does not crush.

Cable protection required at 2 locations - over Pier D11 and Pier D22.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Cable Protection Repairs	Each	2

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Pfingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax
 www.wje.com

USER NAME = acb	DESIGNED - ARB/SMG	REVISED -
	CHECKED - RW	REVISED -
PLOT SCALE = 0.1667' / 1" =	DRAWN - ACB	REVISED -
PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CABLE PROTECTION DETAILS
S.N. 082-0144
 SHEET NO. 23 OF 23 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	187
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

Bench Mark: Cut "X" on top northwest hex bolt on hydrant, 23' southeast of the intersection of Bond Avenue and South 4th Street. Elev. 414.63.

Existing Structure: S.N. 082-0253 was originally built in 1969 as F.A.I. 70, Section 82-3HVB-1. The superstructure/deck and most of the substructure elements were replaced in 1990, under Section 82-3HVB-2R-1. The current structure consists of a 6-span superstructure supported on multi-column piers, which are founded on pile supported footings. The structure width varies and the total length is 675' from Pier A21 to Pier G1. The superstructure framing is arranged in three span units between expansion joints, and is noncomposite with the deck.

Salvage: None

SCOPE OF WORK

1. Remove and Replace Strip Seal joint at Pier R3-1.
2. Replacement of the existing preformed joint seal membrane at the longitudinal joints.
3. Remove and reconstruct barrier walls at Gore with Ramp O, and install new crash attenuator.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition
 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges
 1995 FHWA Seismic Retrofitting Manual

SEISMIC DATA

Seismic Performance Category (SPC) = B
 Acceleration Coefficient (A) = 0.12g
 Site Coefficient (S) = 1.0

DESIGN STRESSES

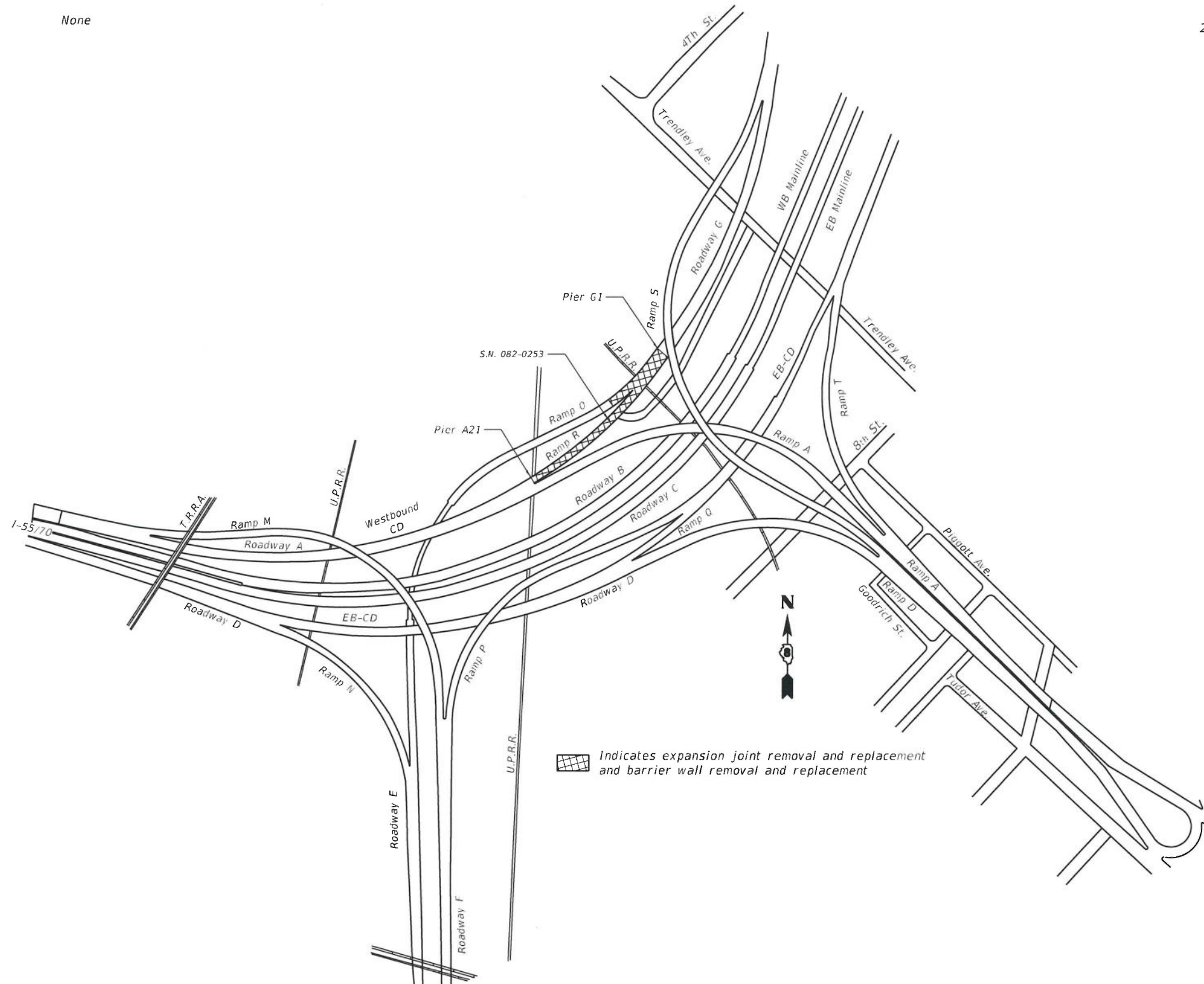
FIELD UNITS

NEW CONSTRUCTION

f'_c = 4,000 psi
 f_y = 60,000 psi (Reinforcement)
 f_y = 36,000 psi (Structural Steel)

EXISTING CONSTRUCTION

f'_c = 1,400 psi (1969 Construction)
 f'_c = 3,500 psi (1990 Reconstruction)
 f_s = 20,000 psi (Reinforcement 1969 Construction)
 f_y = 60,000 psi (Reinforcement 1990 Reconstruction)
 f_s = 20,000 psi (Structural Steel 1969 Construction)
 f_y = 36,000 psi & 50,000 psi (Structural Steel 1990 Reconstruction)

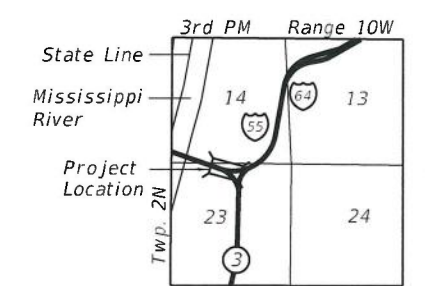


Indicates expansion joint removal and replacement and barrier wall removal and replacement

GENERAL PLAN



Signature: *Richard A. Walther*
 Date Signed: 9-28-18
 License Expires: 11/30/2020



LOCATION SKETCH

GENERAL PLAN
F.A.I. 70 (I-55/I-64)
WB CD "R" RAMP
SEC. 82-3HVB-2R-(2,1)-I-2
ST. CLAIR COUNTY
STATION 68+90.64
STRUCTURE NO. 082-0253

PRINT DATE: 9/28/2018 7:20:59 AM Z:\15052 Poplar Street Complex\DGN\Bridges\Final\Plot sheets\Roadway R\001.Rdwy_R_Title Sheet.dgn

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS Wis. Janney, Elstner Associates, Inc. 330 Pflugman Road Northbrook, Illinois 60062 847.272.7400 tel 847.281.5595 fax	USER NAME = eob	DESIGNED - ACB	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	GENERAL PLAN S.N. 082-0253	F.A.I. RTE. 70	SECTION 82-3HVB-2R-(2,1)-I-2	COUNTY ST. CLAIR	TOTAL SHEETS 238	SHEET NO. 188
	PLT SCALE = 0:2" = 1'-0"	CHECKED - RW	REVISED -			CONTRACT NO. 76945				
	PLT DATE = 9/28/2018	DRAWN - ACB	REVISED -			ILLINOIS FED. AID PROJECT				
	DATE - 09/28/2018	DATE - 09/28/2018	REVISED -							

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	10.4	0	10.4
Concrete Superstructure	Cu. Yd.	24.8	0	24.8
Reinforcement Bars, Epoxy Coated	Pound	3200	0	3200
Preformed Joint Seal, 1-1/4"	Foot	353.5	0	353.5
Preformed Joint Strip Seal	Foot	42	0	42

GENERAL NOTES

- Dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to field verify such dimensions and details and make necessary approved adjustments prior to construction or ordering materials. Such variation shall not be cause for additional compensation for a change in the scope of 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.
- Reinforcing bars designated (E) shall be epoxy-coated. Damage to the epoxy coating during handling, placement, etc., shall be repaired according to the Special Provision "Field Coating Reinforcing Bars".
- All accessories including bolsters, chairs, tie wire, etc., used to tie or support the epoxy-coated bars shall be epoxy coated.
- The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of false work, in addition to allowance for dead load deflection.
- Design and construction of form work shall be the responsibility of the Contractor and shall be performed in accordance with ACI 347 and the Standard Specification.
- Joint openings shall be adjusted according to Article 520.04 of the Standard Specification when closure concrete is placed at an ambient temperature other than 50°F.

CONCRETE REPAIR NOTES

- Concrete repair areas for SN 082-0253 as appropriate are estimated based on inspection data from April/May, 2017.
- The exact locations shall be determined by the Engineer. The Engineer shall show actual repair areas and their dimensions on as-built plans.
- For full depth deck repairs at joints, saw cut perimeter of repair area and remove all concrete 3 ft each side of joint. Extreme caution shall be exercised while removing concrete adjacent to beams. Any damage to beams shall be repaired at the Contractor's expense. Removal of existing expansion joint and stay-in-place metal pans shall be included in the cost of Concrete Removal.
- The Contractor shall take all measures necessary to ensure that no debris or other construction materials or equipment is allowed to infringe on the railroad construction envelope, per the Minimum Construction Clearance Envelope detail on Sheet 2 of the Roadway Plans.
- Existing reinforcing bars shall be field-coated with epoxy, in accordance with the Special Provision "Field Coating Reinforcing Bars with Epoxy".
- New concrete deck surfaces adjacent to expansion joints and at horizontal surface patches shall have a tined finish as per Article 420.09(e)(1) of the Standard Specifications. Cost included with Concrete Superstructure.
- At locations where the roadway will be open to traffic within two weeks or less of concrete placement due to construction staging, an accelerating admixture from IDOT Qualified Product List of Concrete Admixtures shall be used for concrete superstructure and deck slab repairs. Refer to the Roadway Plans and project schedule.

INDEX OF SHEETS

- General Plan
- General Data
- General Plan and Elevation (Spans A21-R thru 01-R)
- Expansion Joint Removal Details
- Expansion Joint Replacement Details (Pier R3-1)
- Preformed Joint Strip Seal
- Longitudinal Joint Replacement Details
- Barrier Wall Replacement at Ramp 0 Gore

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 Northbrook, Illinois 60062
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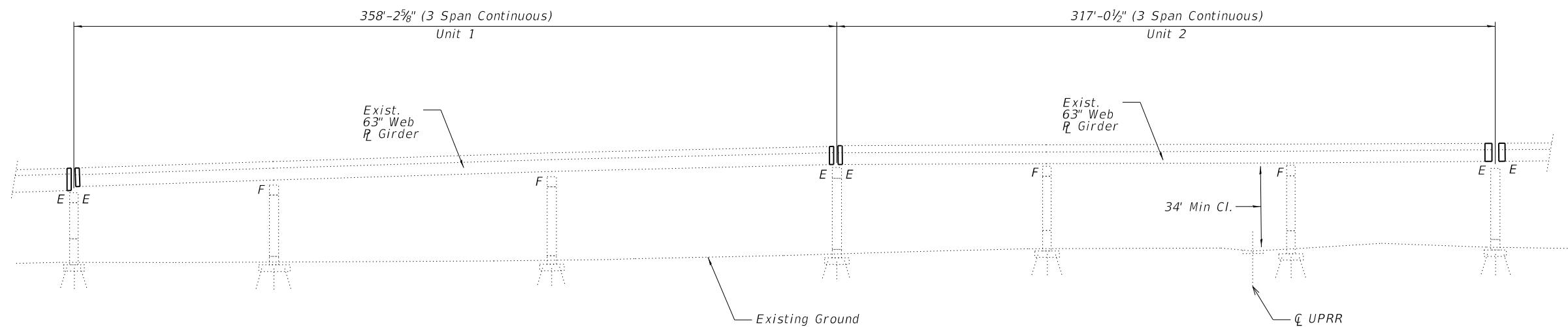
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA
 S.N. 082-0253**

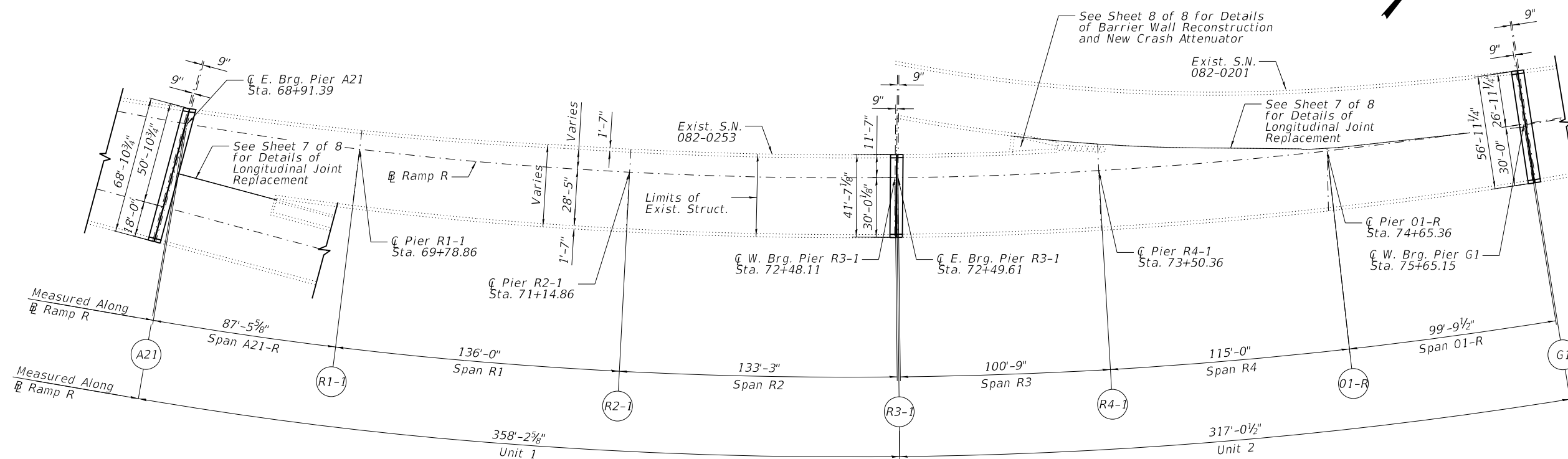
SHEET NO. 2 OF 8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	189
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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ELEVATION



PLAN (SPANS A21-R thru 01-R)

Note: Substructure and joint work at Pier A21 and Pier G1 shown with SN 082-0141 and SN 082-0254, respectively.

GENERAL PLAN
F.A.I. 70 (I-55/I-64)
WB CD "R" RAMP
SEC. 82-3HVB-2R-(2,1)-1-2
ST. CLAIR COUNTY
STATION 68+90.64
STRUCTURE NO. 082-0253

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Pingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ACB	REVISED -
PLOT SCALE = 0.1667' / 1"	CHECKED - RW	REVISED -
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	DATE - 09/28/2018	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

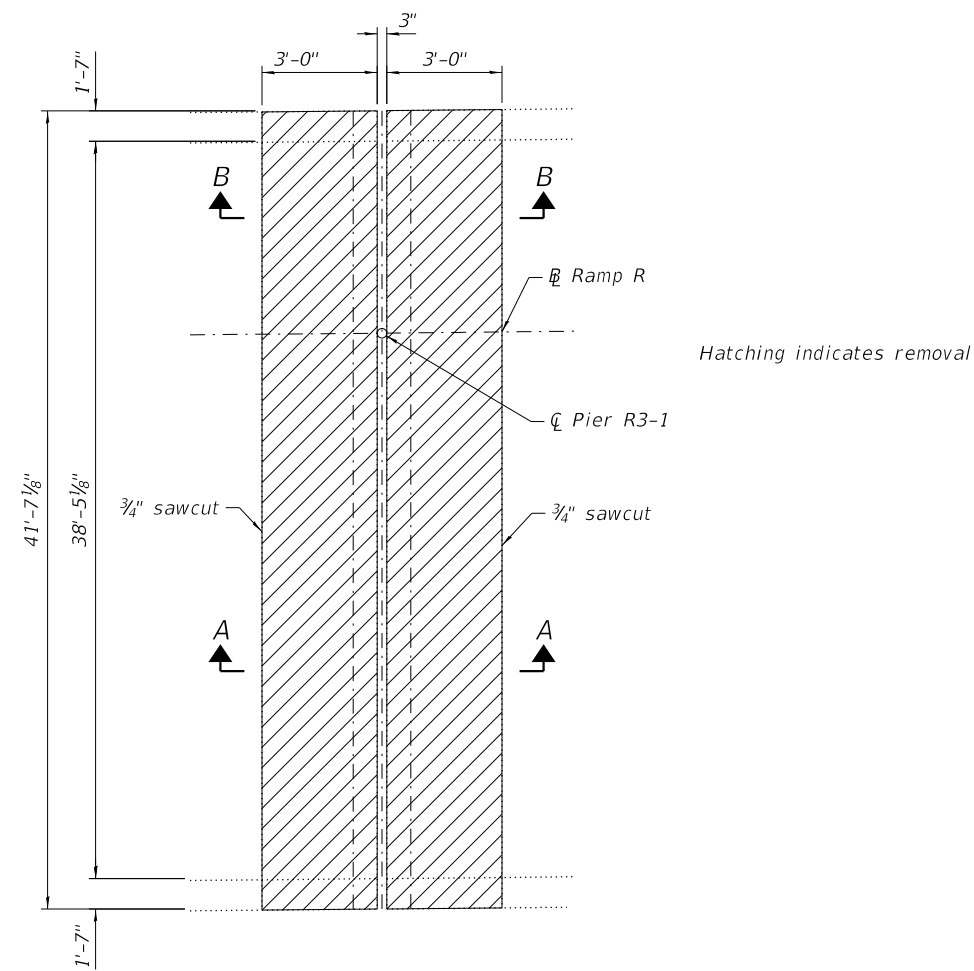
GENERAL PLAN & ELEVATION (SPANS A21-R THRU 01-R)
S.N. 082-0253

SHEET NO. 3 OF 8 SHEETS

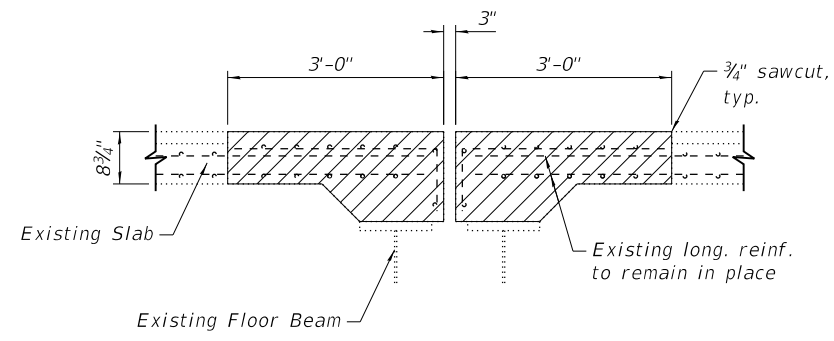
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	190
CONTRACT NO. 76945				

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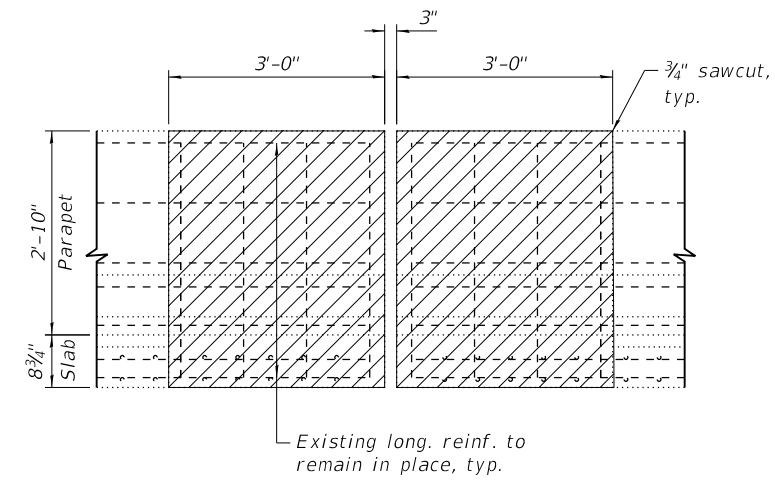
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PIER R3-1 PLAN SHOWING REMOVAL



SECTION A-A



VIEW B-B
(Showing Reinforcement)

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Concrete Removal	Cu. Yd.	10.4

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Plingsten Road
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 847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - SMG	REVISED -
PLOT SCALE = 0.1667' / 1" =	CHECKED - RW	REVISED -
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	DATE - 09/28/2018	REVISED -

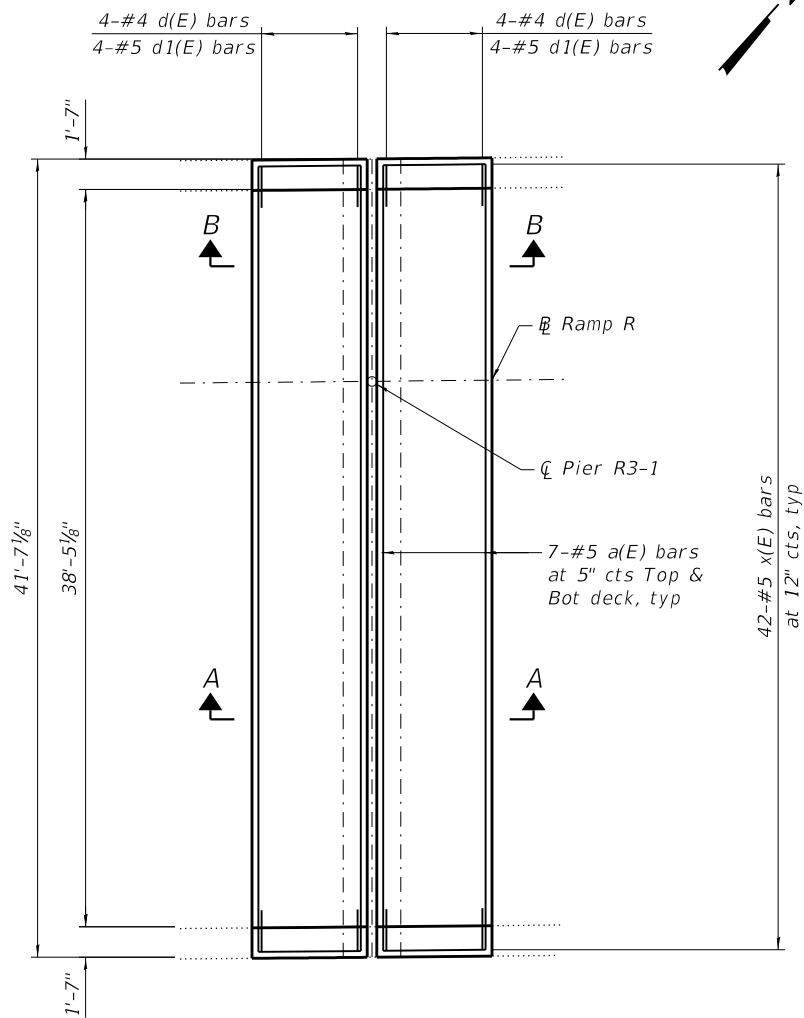
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REMOVAL DETAILS (PIER R3-1)
 S.N. 082-0253

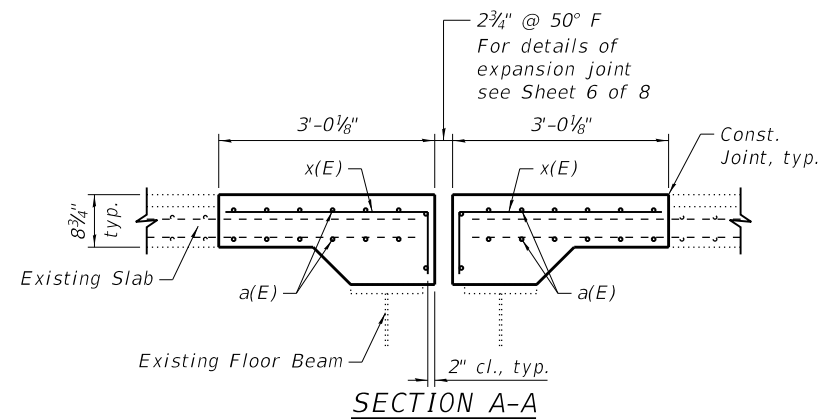
SHEET NO. 4 OF 8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

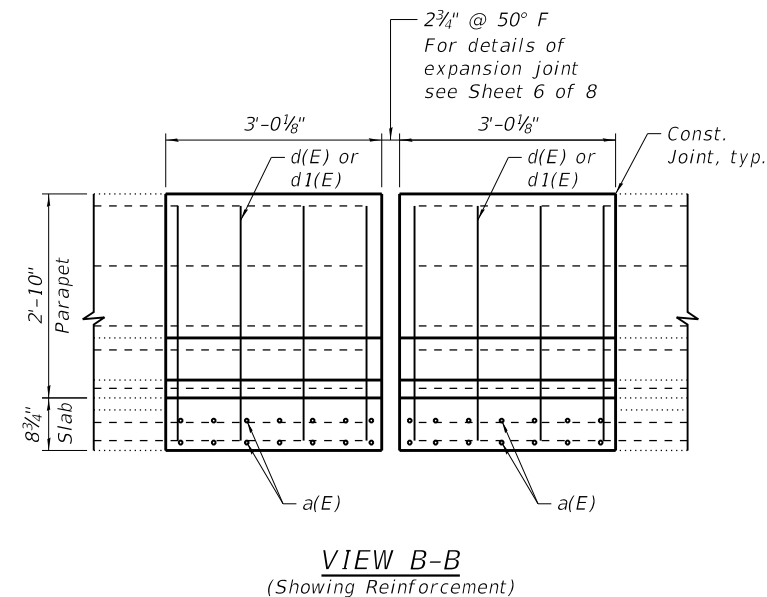
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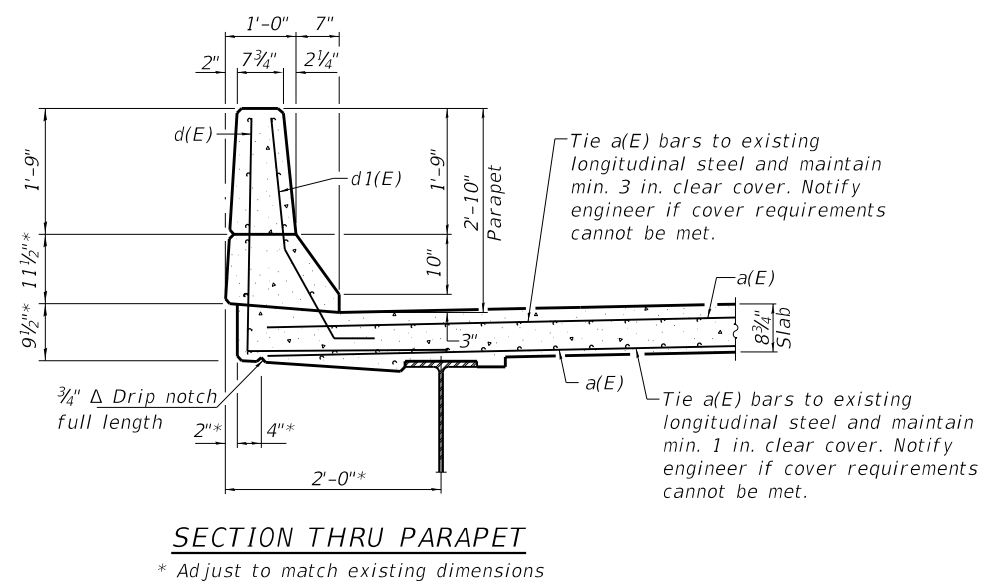
PIER R3-1 PLAN SHOWING REPLACEMENT



SECTION A-A

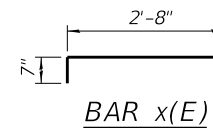


VIEW B-B (Showing Reinforcement)

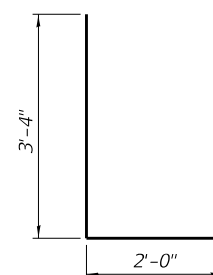


SECTION THRU PARAPET

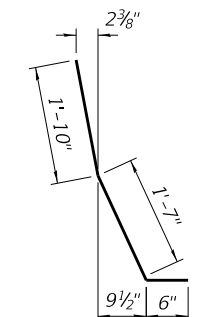
* Adjust to match existing dimensions



BAR x(E)



BAR d(E)



BAR d1(E)

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
a(E)	28	#5	41'-3"	—	
d(E)	16	#4	5'-4"	L	
d1(E)	16	#5	3'-11"	L	
x(E)	84	#5	3'-3"	—	
Reinforcement Bars, Epoxy Coated				Lbs.	1610
Concrete Superstructure				Cu. Yds.	10.4

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
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 330 Pingsten Road
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USER NAME = acb	DESIGNED - SMG	REVISED -
CHECKED - RW	DRAWN - ACB	REVISED -
PLOT SCALE = 0.1667' / 1"	DATE - 09/28/2018	REVISED -
PLOT DATE = 9/28/2018		

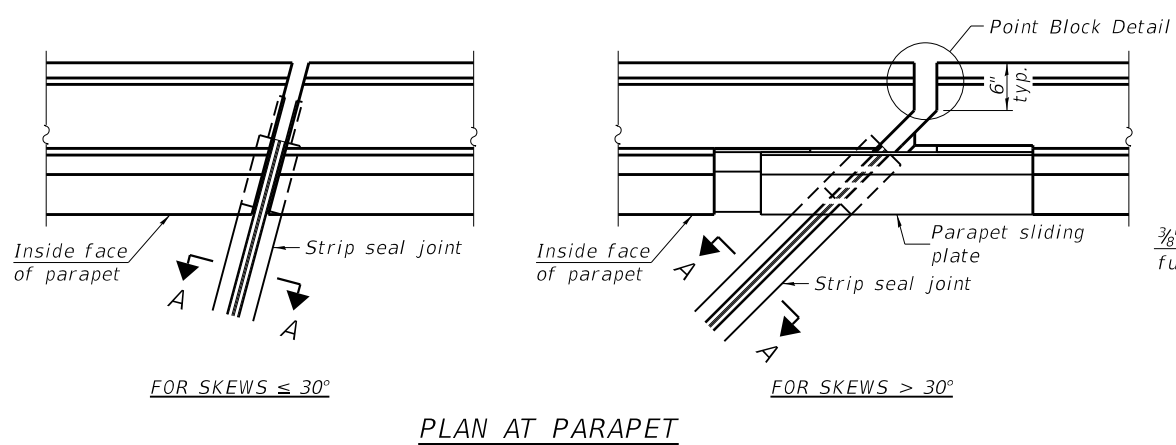
STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

EXPANSION JOINT REPLACEMENT DETAILS (PIER R3-1)
 S.N. 082-0253

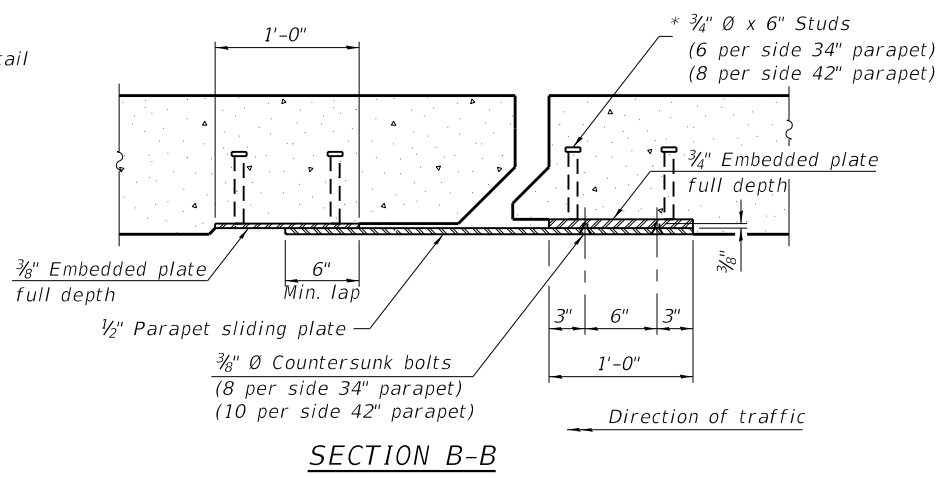
SHEET NO. 5 OF 8 SHEETS

F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	192
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

PRINT DATE: 9/28/2018 11:35:04 AM Z:\5052 Poplar Street Complex\DCN\Bridges\Final\Plotsheets\Roadway_R\006_Rawy_R_Preformed_Joint_Strip_Seal.dgn

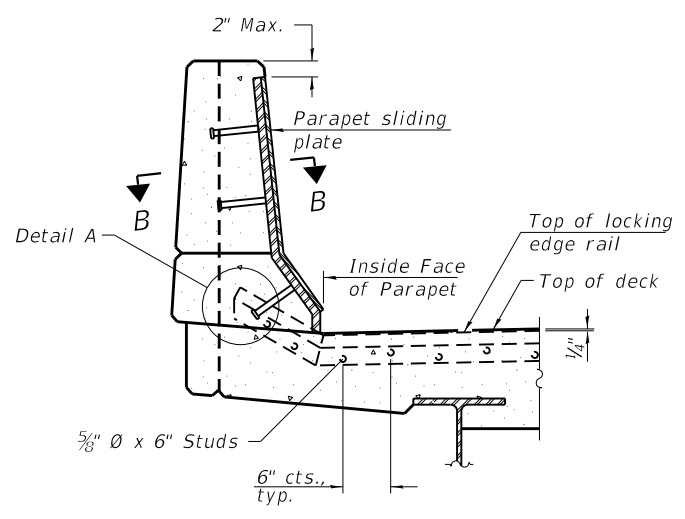


PLAN AT PARAPET



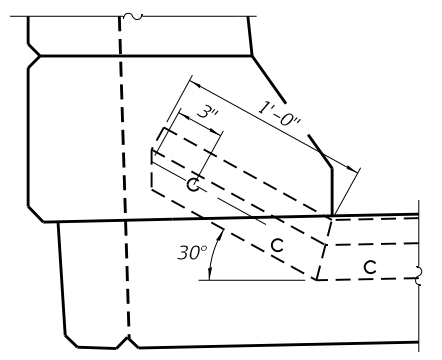
SECTION B-B

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

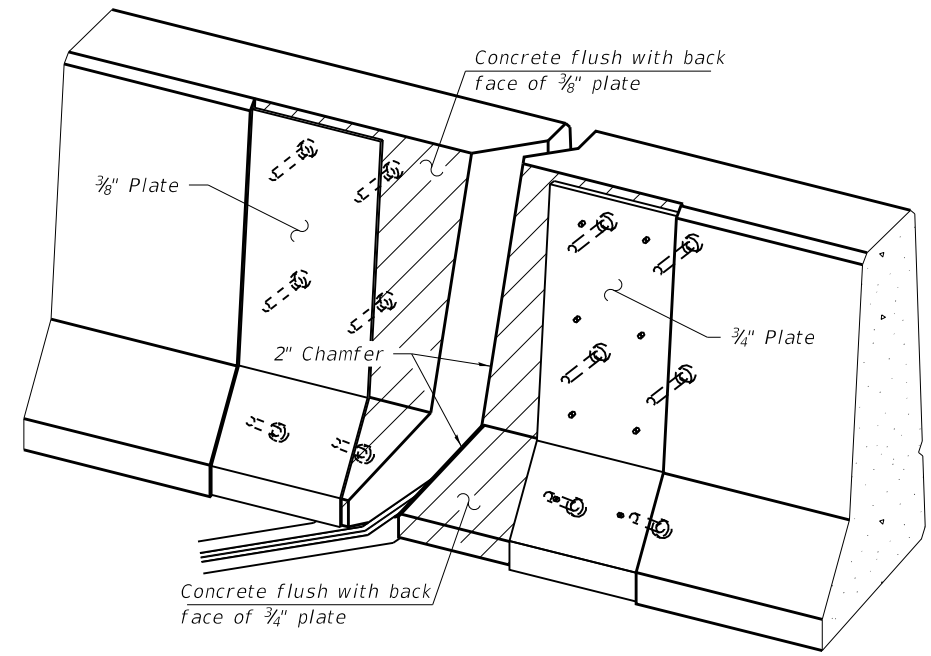


ELEVATION AT PARAPET

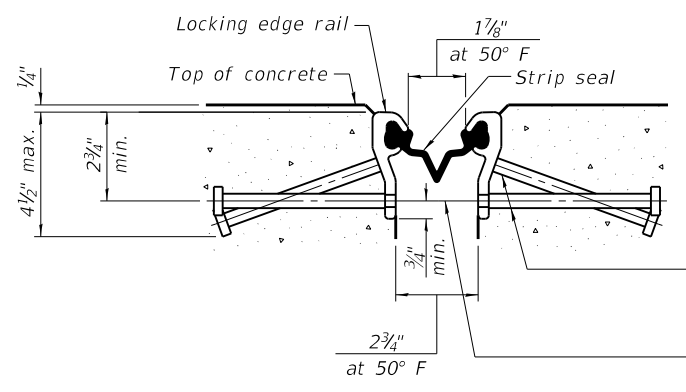
(Skews > 30° shown. Skews ≤ 30° similar except as shown in plan view.)



DETAIL A



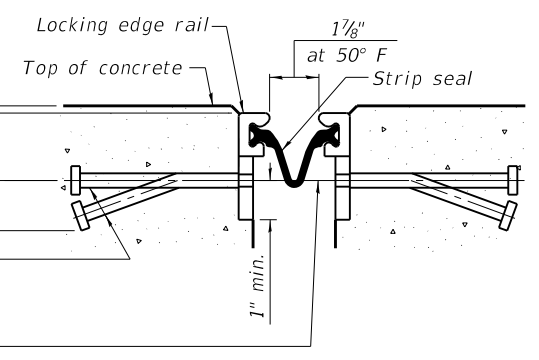
TRIMETRIC VIEW
(Showing embedded plates only)



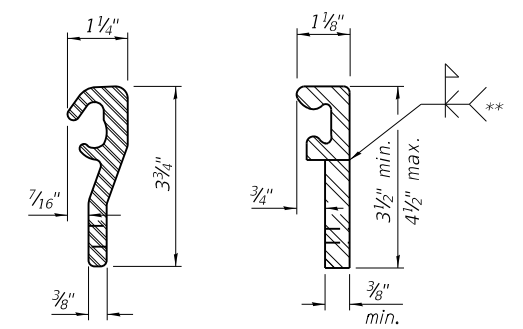
SHOWING ROLLED RAIL JOINT

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

3/8" Ø threaded rods in 7/16" Ø 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.

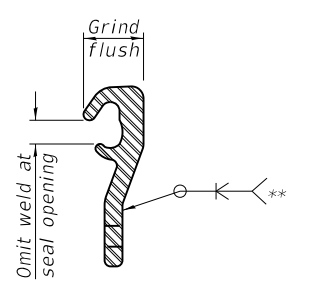


SHOWING WELDED RAIL JOINT



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.

SECTION A-A

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

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Strip Seal	Foot	42

EJ-SS

8-11-17

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Plingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - SMG	REVISED -
PLOT SCALE = 0:2.0000 '1' / in.	CHECKED - RW	REVISED -
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

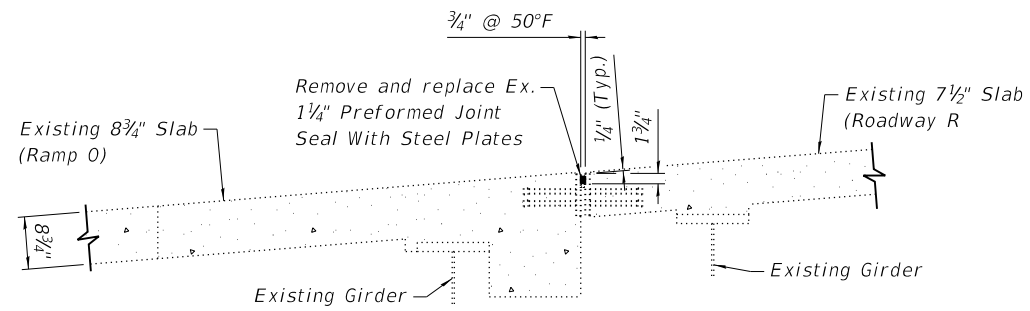
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PREFORMED JOINT STRIP SEAL
S.N. 082-0253

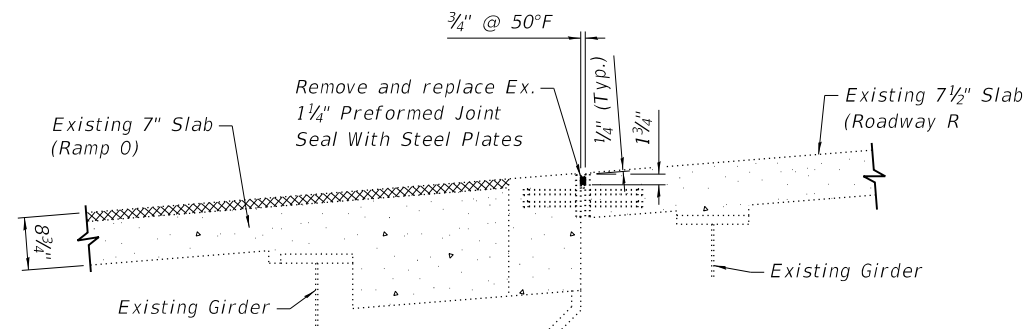
SHEET NO. 6 OF 8 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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			CONTRACT NO. 76945	
ILLINOIS FED. AID PROJECT				

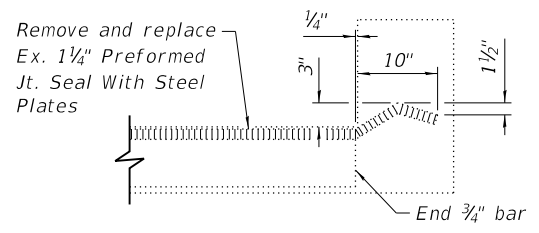
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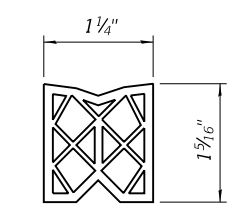
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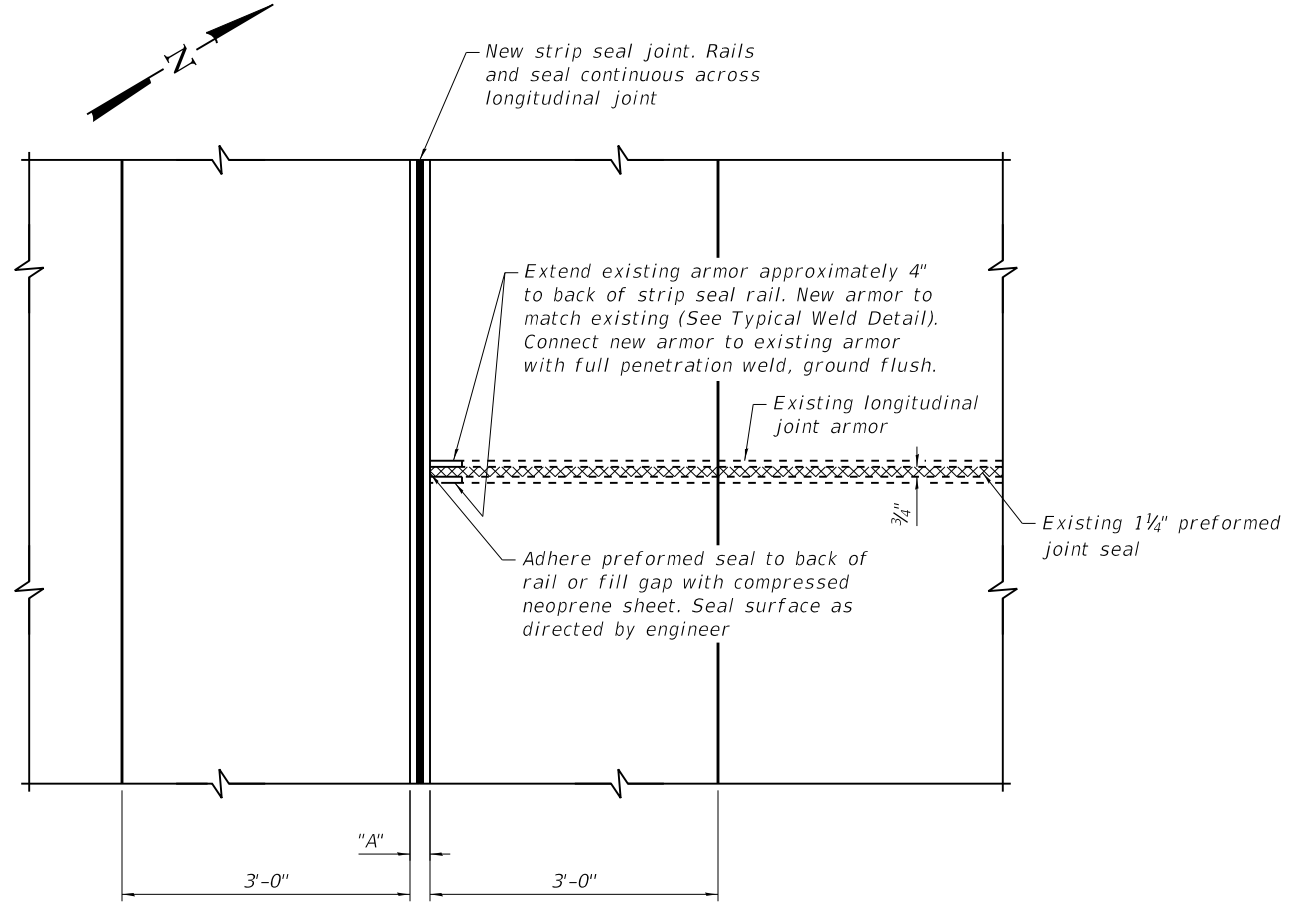
SECTION THRU 1-1/4\"/>



SECTION THRU 1-1/4\"/>



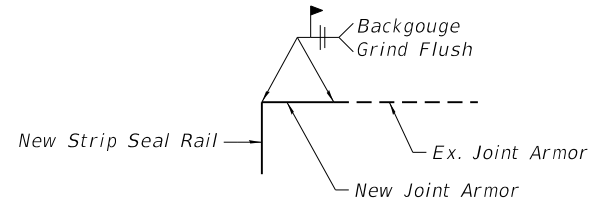
PREFORMED JOINT SEAL



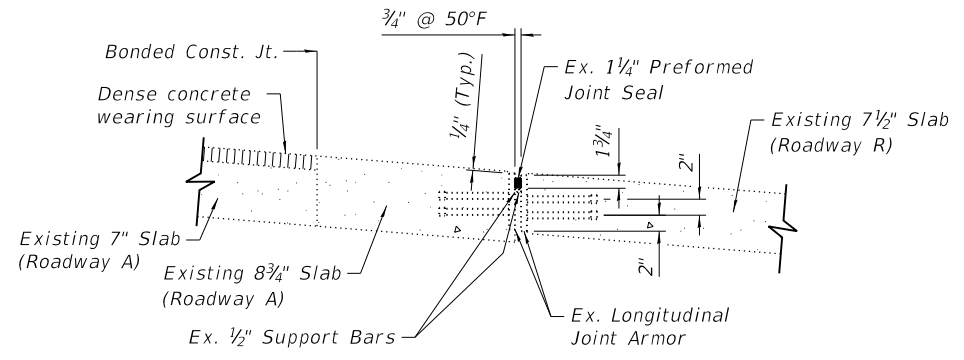
PART PLAN OF PROPOSED STRIP SEAL JOINT

(Pier A21 shown, Pier G1 similar)

Note: Incorporate longitudinal joint repairs into strip seal repairs at Pier A21 and Pier G1.



TYPICAL WELD DETAIL



TYPICAL SECTION OF EXISTING CONSTRUCTION

Longitudinal joint seal replacement procedure:
 Remove existing Preformed Joint Seals.
 Clean all exposed surfaces of steel plates and apply one field coat of paint as specified for existing structural steel.
 Install new Preformed Joint Seals after joint work at Pier A21 and Pier G1 has been completed and new rails have been set.

BILL OF MATERIAL

Item	Unit	Total
Preformed Joint Seal, 1-1/4"	Foot	354

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Plangsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ARB/SMG	REVISED -
PLOT SCALE = 2.0000' / 1"	CHECKED - RW	REVISED -
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	DATE - 09/28/2018	REVISED -

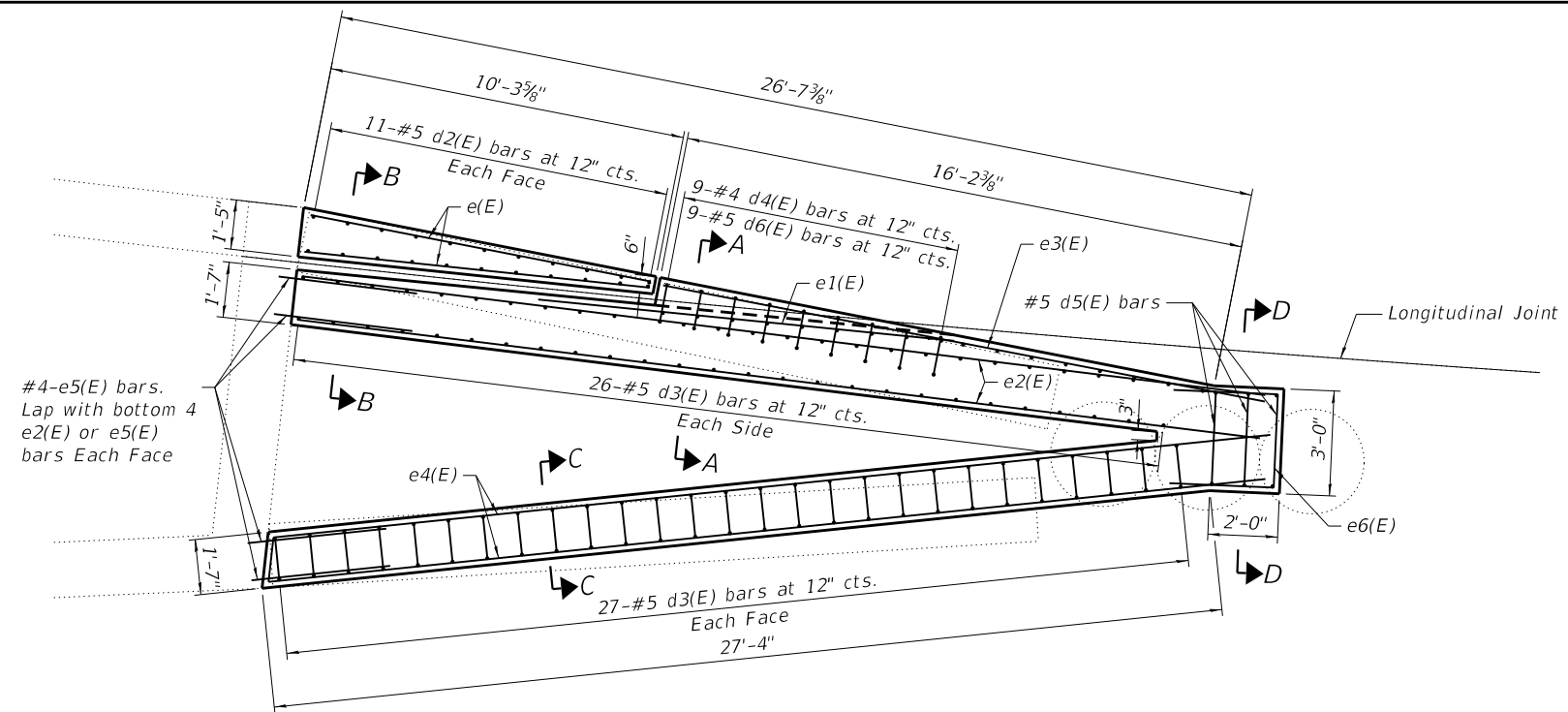
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

LONGITUDINAL JOINT REPLACEMENT DETAILS S.N. 082-0253

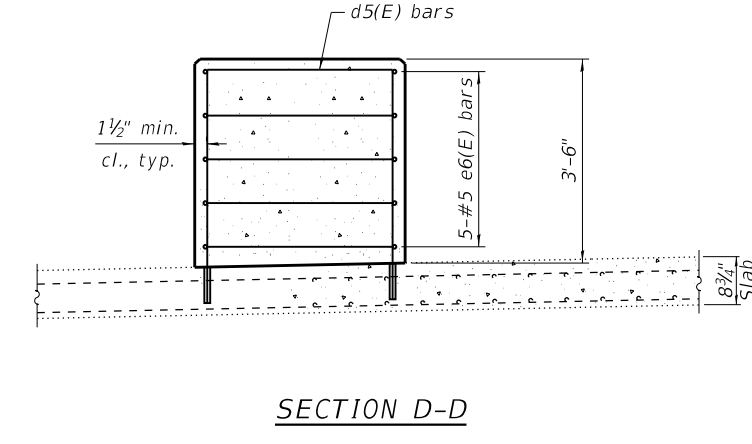
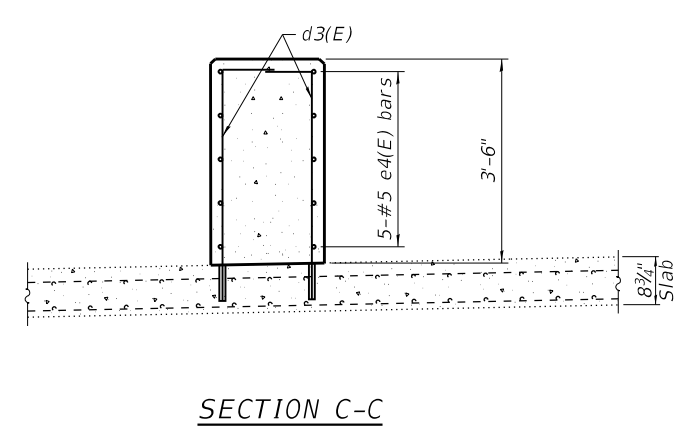
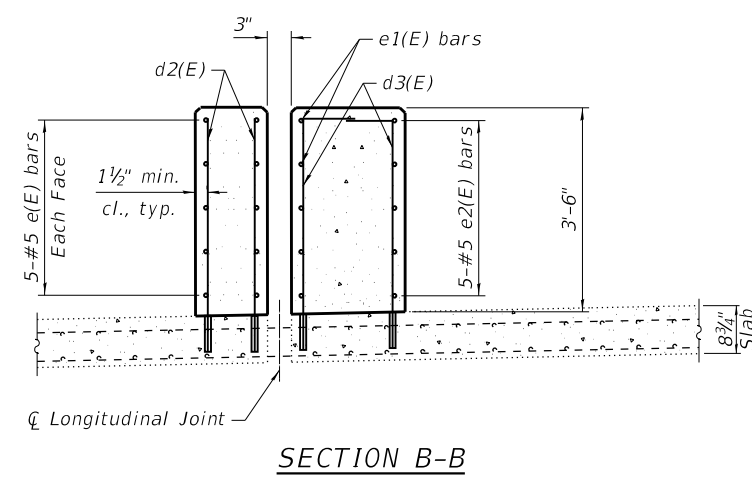
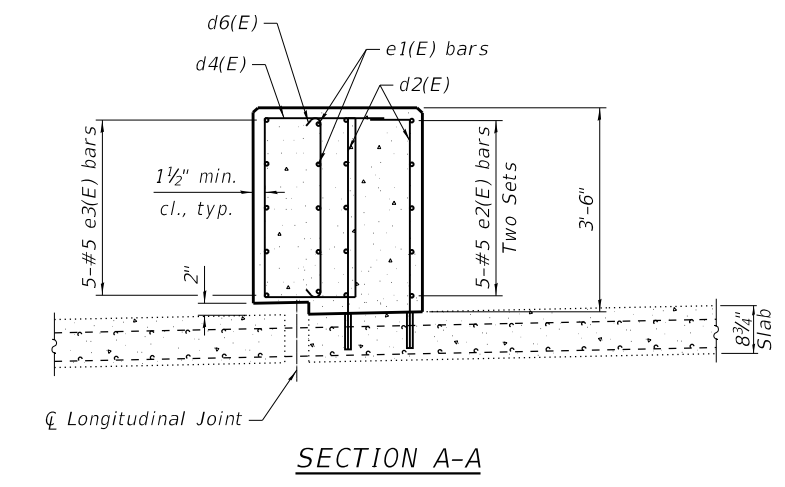
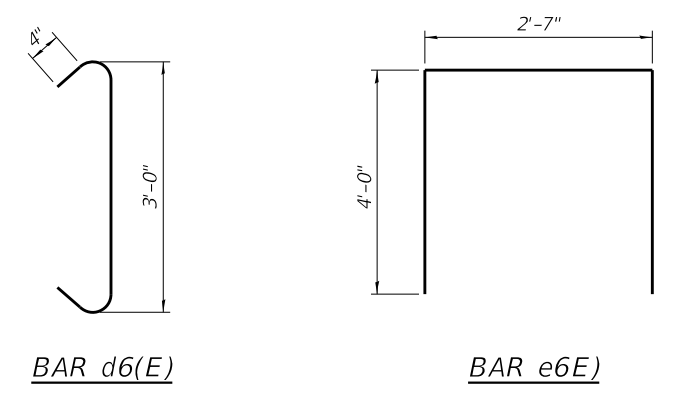
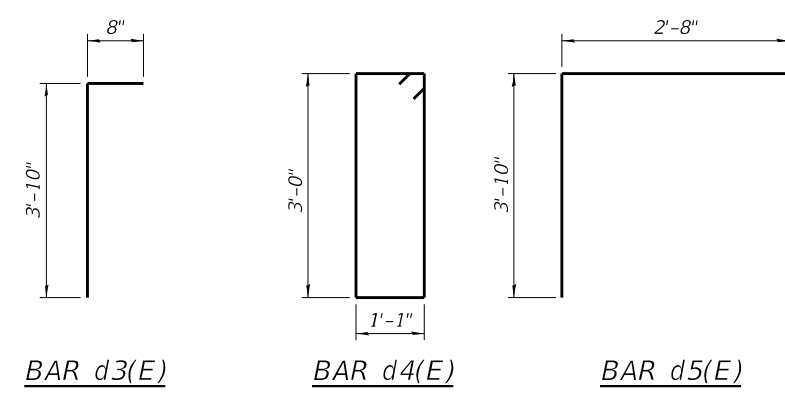
SHEET NO. 7 OF 8 SHEETS

F.A.I. RE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	194
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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#4-e5(E) bars. Lap with bottom 4 e2(E) or e5(E) bars Each Face



*Drill and epoxy #5 d2(E), d3(E), d5(E), and d6(E) bars according to epoxy manufacturer's recommendations. Maximum depth of hole shall not exceed 6". Anchoring epoxy shall be approved by engineer.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape	
d2(E)	22	#5	3'-9"	—	
d3(E)	106	#5	4'-6"	□	
d4(E)	9	#4	7'-10"	□	
d5(E)	3	#5	10'-4"	□	
d6(E)	9	#4	3'-10"	⌋	
e(E)	10	#4	10'-0"	—	
e1(E)	5	#4	12'-0"	—	
e2(E)	10	#5	27'-10"	—	
e3(E)	5	#4	17"-7"	—	
e4(E)	10	#5	28'-10"	—	
e5(E)	16	#5	4'-0"	—	
e6(E)	5	#5	10'-7"	—	
Reinforcement Bars, Epoxy Coated				Lbs.	1590
Concrete Superstructure				Cu. Yds.	14.4

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax

USER NAME = acb
DESIGNED -
CHECKED -
PLOT SCALE = 0.1667' / 1"
PLOT DATE = 9/28/2018
DRAWN -
DATE - 09/28/2018
REVISED -
REVISED -
REVISED -
REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**BARRIER WALL REPLACEMENT AT RAMP 0 GORE
S.N. 082-0253**

SHEET NO. 8 OF 8 SHEETS

F.A.I. RT.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HYB-2R-(2,1)-1-2	ST. CLAIR	238	195
CONTRACT NO. 76945				

ILLINOIS FED. AID PROJECT

Bench Mark: Cut "X" on top northwest hex bolt on hydrant, 23' southeast of the intersection of Bond Avenue and South 4th Street. Elev. 414.63.

Existing Structure: S.N. 082-0254 was originally built in 1968 as F.A.I. 70, Section 82-3HVB-1. The existing structure consists of a 13-span superstructure supported on multi-column piers, which are founded on pile supported footings. The structure width varies and the total length is 1244.83' from Pier G1 to Abutment G14. The superstructure framing is arranged in two, three, and four span units between expansion joints, and is noncomposite with the deck. The structure is to be closed to traffic during Construction.

Salvage: None

SCOPE OF WORK

1. Partial Depth Concrete repairs from Pier G1 to Pier G14.
2. Remove and Replace Strip Seal joints at Piers G1, G9, G12, and Abutment G14.
3. Remove and Replace Finger Plate joint at Pier G5.
4. Repair concrete substructure elements from Pier G1 through Abutment G14.
5. Remove and install new wingwall extensions to accept new guard rails at Abutment G14.
6. Remove existing sign structure and concrete pedestal at Piers G13 and G3. Install new overhead structure, signs, and pedestal.

DESIGN SPECIFICATIONS

2002 AASHTO Standard Specifications for Highway Bridges, 17th Edition
 2003 AASHTO Guide Specifications for Horizontally Curved Steel Girder Highway Bridges
 1995 FHWA Seismic Retrofitting Manual

SEISMIC DATA

Seismic Performance Category (SPC) = B
 Acceleration Coefficient (A) = 0.12g
 Site Coefficient (S) = 1.0

DESIGN STRESSES

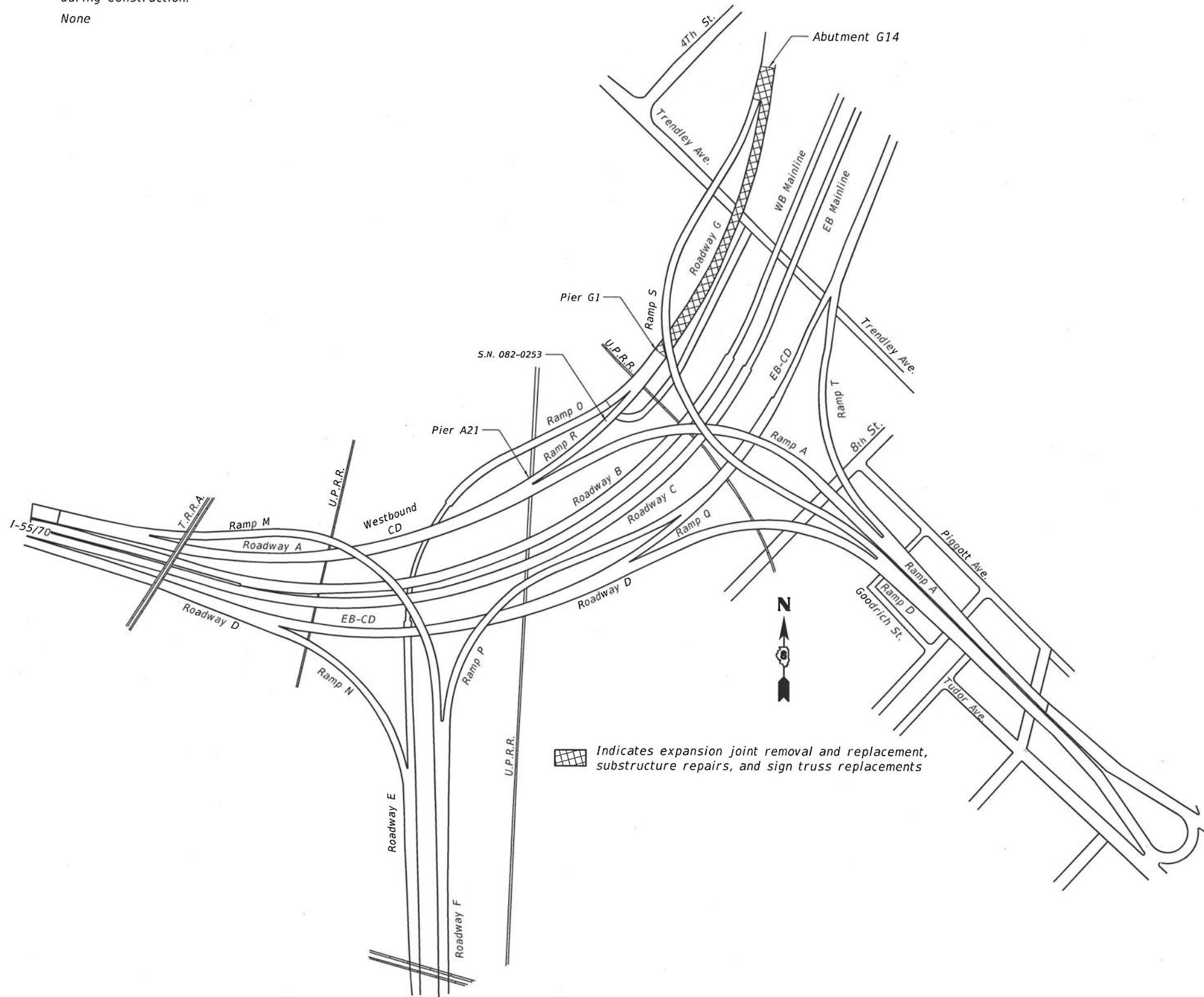
FIELD UNITS

NEW CONSTRUCTION

$f'_c = 4,000$ psi
 $f_y = 60,000$ psi (Reinforcement)
 $f_y = 36,000$ psi (Structural Steel)

EXISTING CONSTRUCTION

$f'_c = 1,400$ psi (1969 Construction)
 $f'_c = 3,500$ psi (1990 Reconstruction)
 $f_s = 20,000$ psi (Reinforcement 1969 Construction)
 $f_y = 60,000$ psi (Reinforcement 1990 Reconstruction)
 $f_y = 20,000$ psi (Structural Steel 1969 Construction)
 $f_y = 36,000$ psi & $50,000$ psi (Structural Steel 1990 Reconstruction)



GENERAL PLAN



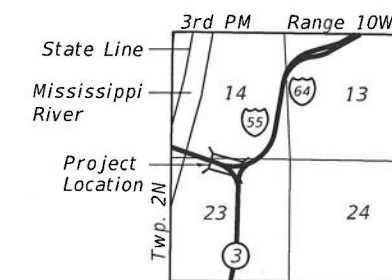
Signature: *Richard A. Walther*
 Date Signed: 9-28-18
 License Expires: 11/30/2020

The seal shown above is valid for the following sheets in these plans which were prepared under my direct supervision; Sheets 1-31 of 43



Signature: *Francis A. Smith*
 Date Signed: 9-28-18
 License Expires: 11/30/2018

The seal shown above is valid for the following sheets in these plans which were prepared under my direct supervision; Sheets 32-43 of 43



LOCATION SKETCH

GENERAL PLAN
F.A.I. 70 (I-55/I-64) WB CD "G"
OVER TRENDLEY AVENUE
SEC. 82-3HVB-2R-(2,1)-I-2
ST. CLAIR COUNTY
STATION 75+67.00
STRUCTURE NO. 082-0254

PRINT DATE: 9/28/2018 8:33:40 AM Z:\15052 Poplar Street Complex\DCM\Bridges\PlotSheets\Roadway_G\001_Rdwy_C_Title_Sheet.dgn

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 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

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PLOT SCALE = 0:2' = 1"	CHECKED - RW	REVISIONS
PLOT DATE = 9/28/2018	DRAWN - ACB	REVISIONS
	DATE - 09/28/2018	REVISIONS

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN
S.N. 082-0254
 SHEET NO. 1 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-I-2	ST. CLAIR	238	196
CONTRACT NO. 76945				

ILLINOIS FED. AID PROJECT

GENERAL NOTES

- Dimensions and details relative to the existing structure have been taken from existing plans and are subject to nominal construction variations. It shall be the Contractor's responsibility to field verify such dimensions and details and make necessary approved adjustments prior to construction or ordering materials. Such variation shall not be cause for additional compensation for a change in the scope of work, however, the Contractor will be paid for the quantity actually furnished at the unit price bid for the work.
- All structural steel shall be AASHTO M-270 Grade 50, unless noted otherwise.
- No field welding is permitted except as specified in the contract documents.
- Fasteners shall be ASTM A325, Type I, mechanically galvanized bolts. Bolts shall be 3/4 in. diameter and placed in 13/16 in. diameter holes unless noted otherwise.
- The existing structural steel coating contains lead. The Contractor shall take appropriate precautions to deal with the presence of lead on this project.
- 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".
- All new structural steel shall be shop painted with inorganic zinc rich primer per AASHTO M300, Type 1. Cost included with Furnishing and Erecting Structural Steel or Structural Steel Repair.
- Reinforcing bars designated (E) shall be epoxy-coated. Damage to the epoxy coating during handling, placement, etc., shall be repaired according to the Special Provision "Field Coating Reinforcing Bars".
- All accessories including bolsters, chairs, tie wire, etc., used to tie or support the epoxy-coated bars shall be epoxy coated.
- The Contractor shall make allowance for the deflection of forms, shrinkage and settlement of false work, in addition to allowance for dead load deflection.
- Design and construction of form work shall be the responsibility of the Contractor and shall be performed in accordance with ACI 347 and the Standard Specification.
- Joint openings shall be adjusted according to Article 520.04 of the Standard Specification when closure concrete is placed at an ambient temperature other than 50°F.
- All post tensioning will conform to ASTM A416 Grade 270.

CONCRETE REPAIR NOTES

- Concrete repair areas for SN 082-0254 as appropriate are estimated based on inspection data from April/May, 2017.
- It is expected that actual repair areas may be different in shape, size, and location than shown on the drawings. The exact locations shall be determined by the Engineer. The Engineer shall show actual repair areas and their dimensions on as-built plans.
- For partial depth repairs, saw cut perimeter of repair area and remove all unsound concrete and sufficient sound concrete to create minimum gaps around reinforcing bars and to permit minimum depths of concrete pours and as required for anode placement.
- For full depth deck repairs at joints, saw cut perimeter of repair area and remove concrete on each side of joint, as required for each joint location. Extreme caution shall be exercised while removing concrete adjacent to beams. Any damage to beams shall be repaired at the Contractor's expense. Removal of existing expansion joint and stay-in-place metal pans shall be included in the cost of Concrete Removal.
- The Contractor shall take all measures necessary to ensure that no debris or other construction materials or equipment is allowed to infringe on the railroad construction envelope, per Minimum Construction Clearance Envelope detail on Sheet 2 of the Roadway Plans.
- Existing reinforcing bars shall be field-coated with epoxy, in accordance with the Special Provision "Field Coating Reinforcing Bars".
- New concrete deck surfaces adjacent to expansion joints and at horizontal surface patches shall have a tined finish as per Article 420.09(e)(1) of the Standard Specifications. Cost included with Deck Slab Repair or Concrete Superstructure.
- A quantity of 25 square feet of Structural Repair of Concrete (depth greater than 5 inches) is included in the total bill of material to account for some repair areas shown on the plans extending deeper than 5 inches. This quantity applies to vertical repairs to substructure elements.
- At locations where the roadway will be open to traffic within two weeks or less of concrete placement due to construction staging, an accelerating admixture from the IDOT Qualified Product List of Concrete Admixtures shall be used for concrete superstructure and deck slab repairs. Refer to the Roadway Plans and project schedule.
- A quantity of 23 square yards of Deck Slab Repair (Full Depth - Type I) is included in the total bill of materials to account for some repair areas shown on the plans extending through the full deck depth. Actual depth of repairs to be verified by the Engineer.
- Use of shotcrete is not permitted.

INDEX OF SHEETS

- General Plan
- General Data
- General Plan and Elevation (Spans G1 thru G8)
- General Plan and Elevation (Spans G9 thru G13)
- Deck Patching Repairs (Spans G1 thru G4)
- Deck Patching Repairs (Spans G5 thru G8)
- Deck Patching Repairs (Spans G9 thru G13)
- Expansion Joint Removal Details
- Expansion Joint Removal Details (Pier G12)
- Expansion Joint Removal Details (Abutment G14)
- Expansion Joint Replacement Details (Pier G1)
- Expansion Joint Replacement Details (Pier G5)
- Expansion Joint Replacement Details (Pier G9)
- Expansion Joint Replacement Details (Pier G12)
- Expansion Joint Replacement Details (Pier G12)
- Expansion Joint Replacement Details (Abutment G14)
- Preformed Joint Strip Seal
- Finger Plate Replacement Details (Pier G5)
- Finger Plate Replacement Details (Pier G5)
- Finger Plate Replacement Details (Pier G5)
- Barrier Wall Replacement at Ramp S Gore
- Pier G1
- Pier G5
- Pier G9
- Pier G12
- Abutment G14
- Wingwall Modifications
- Wingwall Modifications
- Tie Beam Repairs
- Concrete Repair Details
- Cable Tensioned Strands
- Overhead Sign Structures - General Plan & Elevation - Aluminum Truss & Steel Supports
- Overhead Sign Structures - Aluminum Truss Details for Truss Types I-A, II-A and III-A
- Overhead Sign Structures - Aluminum Truss Details for Truss Types I-A, II-A and III-A
- Overhead Sign Structure Damping Device
- Overhead Sign Structures Support Frame for Type I-A Aluminum Truss
- Overhead Sign Structures Support Frame Details - Aluminum Truss
- Overhead Sign Structures Aluminum Walkway Details
- Overhead Sign Structures Aluminum Walkway Details
- Overhead Sign Structures Aluminum Handrail Details
- Overhead Sign Structures Slab Removal/Replacement Details
- Special Sign Details
- Location of Signs on Overhead Truss

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Concrete Removal	Cu. Yd.	59.6	7.0	66.6
Concrete Structures	Cu. Yd.	0	7	7
Concrete Superstructure	Cu. Yd.	69.3	0	69.3
Remove and Replace Seismic Retrofit Assembly	Each	0	2	2
Reinforcement Bars, Epoxy Coated	Pound	9810	660	10470
Bar Splicer	Each	10	0	10
Preformed Joint Strip Seal	Foot	186	0	186
Finger Plate Expansion Joint, 4"	Foot	38	0	38
Fabric Reinforced Elastomeric Trough	Foot	41	0	41
Epoxy Crack Injection	Foot	0	285	285
Galvanic Anode	Each	0	791	791
Column Tensioned Strands	Each	0	24	24
Structural Repair of Concrete (depth equal to or less than 5 inches)	Sq. Ft.	0	791	791
Structural Repair of Concrete (depth greater than 5 inches)	Sq. Ft.	0	25	25
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	23	0	23
Deck Slab Repair (Partial)	Sq. Yd.	324	0	324
Relocating Name Plate	Each	1	0	1

See Sheet 32 of 43 for the Total Bill of Material for all work relating to sign trusses.

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 847.272.7400 tel | 847.291.9595 fax
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USER NAME = acb	DESIGNED - ARB/SMG	REVISED -
	CHECKED - RW	REVISED -
PLOT SCALE = 0.1667' / 1"	DRAWN - ACB	REVISED -
PLOT DATE = 10/11/2018	DATE - 09/28/2018	REVISED -

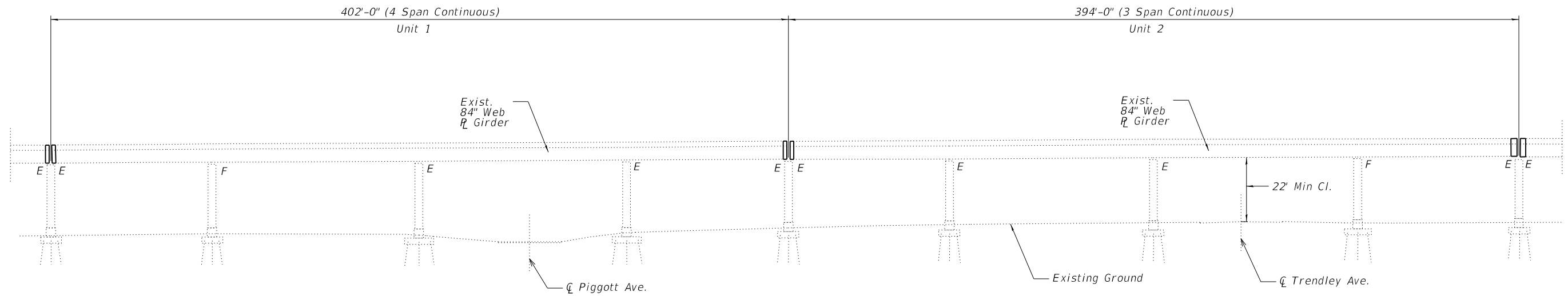
**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

**GENERAL DATA
 S.N. 082-0254**

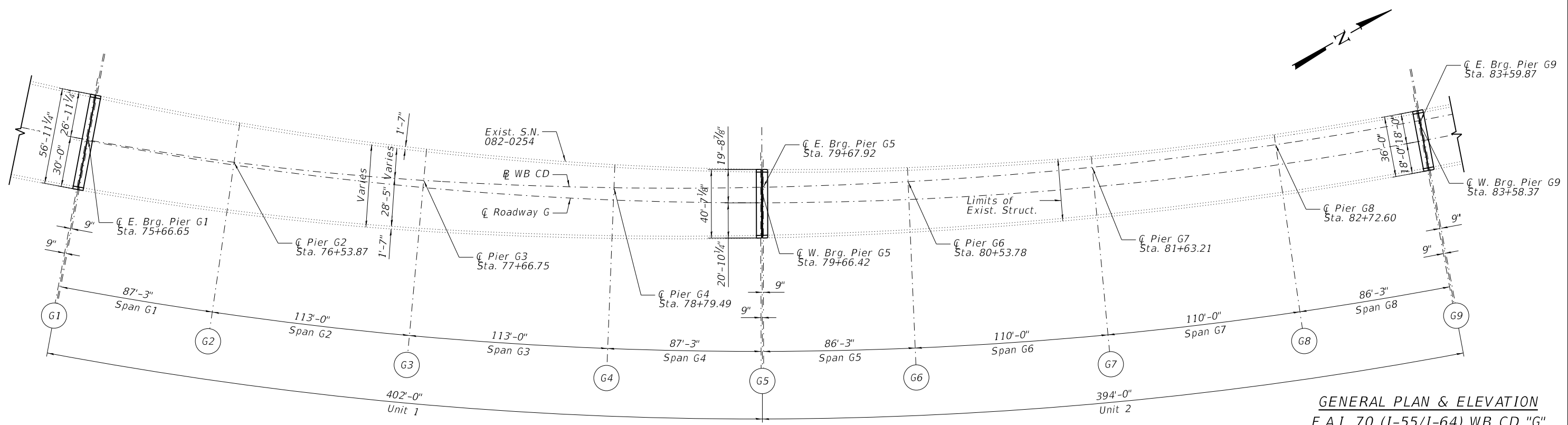
SHEET NO. 2 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	197
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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ELEVATION



PLAN (SPANS G1-G8)

Longitudinal dimensions measured along \bar{C} Roadway G

GENERAL PLAN & ELEVATION
F.A.I. 70 (I-55/I-64) WB CD "G"
OVER TRENDLEY AVENUE
SEC. 82-3HVB-2R-(2,1)-1-2
ST. CLAIR COUNTY
STATION 75+67.00
STRUCTURE NO. 082-0254

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Pfingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ACB	REVISED -
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PLOT DATE = 9/28/2018	DRAWN - ACB	REVISED -
	DATE - 09/28/2018	REVISED -

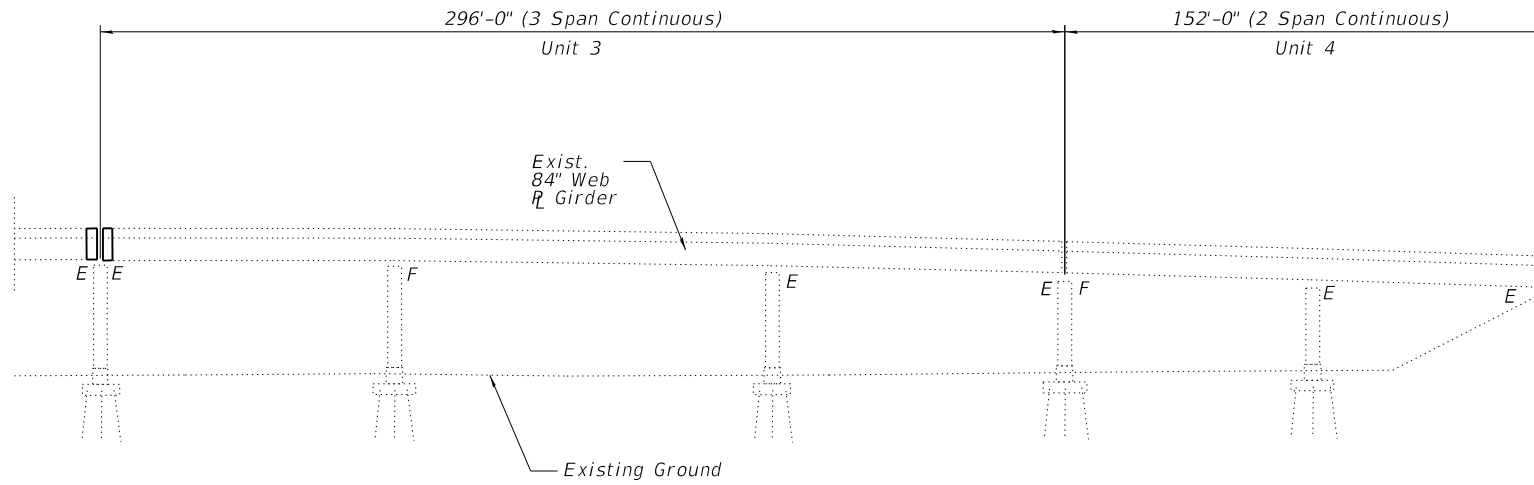
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
SPANS G1 THRU G8

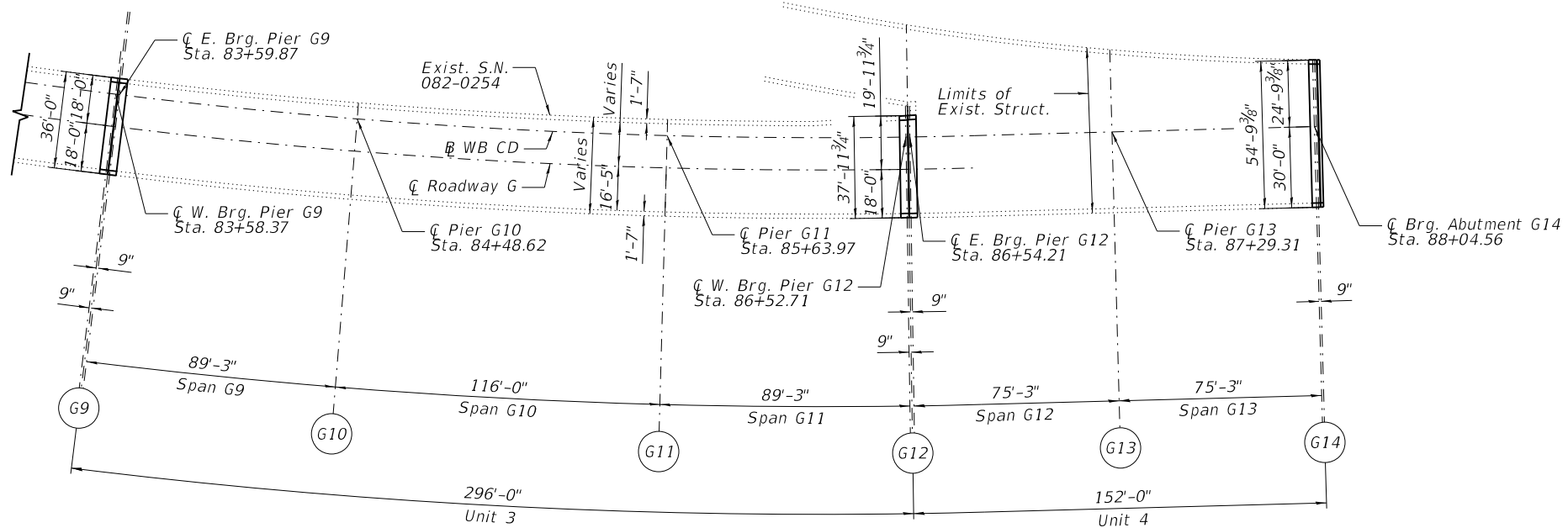
SHEET NO. 3 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	198
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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ELEVATION



PLAN (SPANS G9-G13)

Longitudinal dimensions measured along \bar{C} Roadway G

GENERAL PLAN & ELEVATION
F.A.I. 70 (I-55/I-64) WB CD "G"
OVER TRENDLEY AVENUE
SEC. 82-3HVB-2R-(2,1)-1-2
ST. CLAIR COUNTY
STATION 75+67.00
STRUCTURE NO. 082-0254

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
 Wss, Janney, Elstner Associates, Inc.
 330 Pfingsten Road
 Northbrook, Illinois 60062
 847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - ACB	REVISED -
	CHECKED - RW	REVISED -
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PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

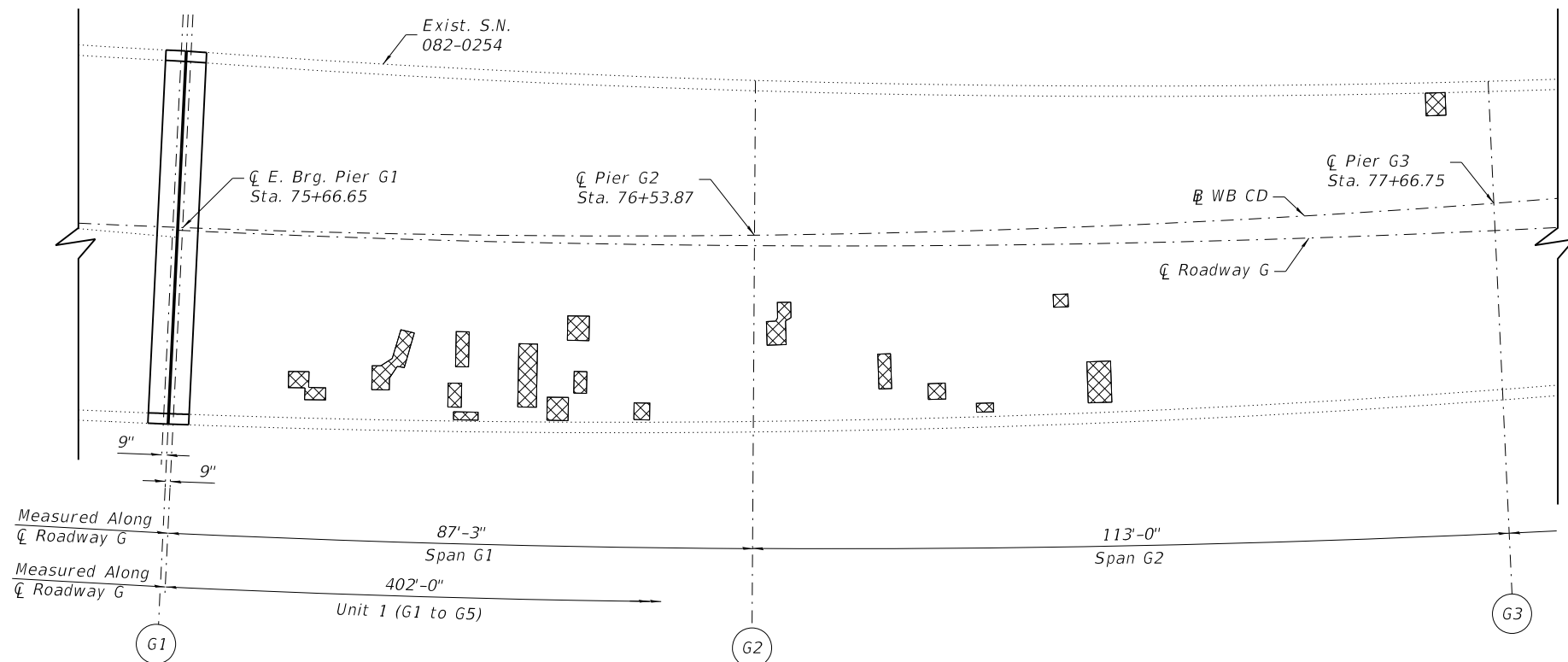
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN & ELEVATION
SPANS G9 THRU G13

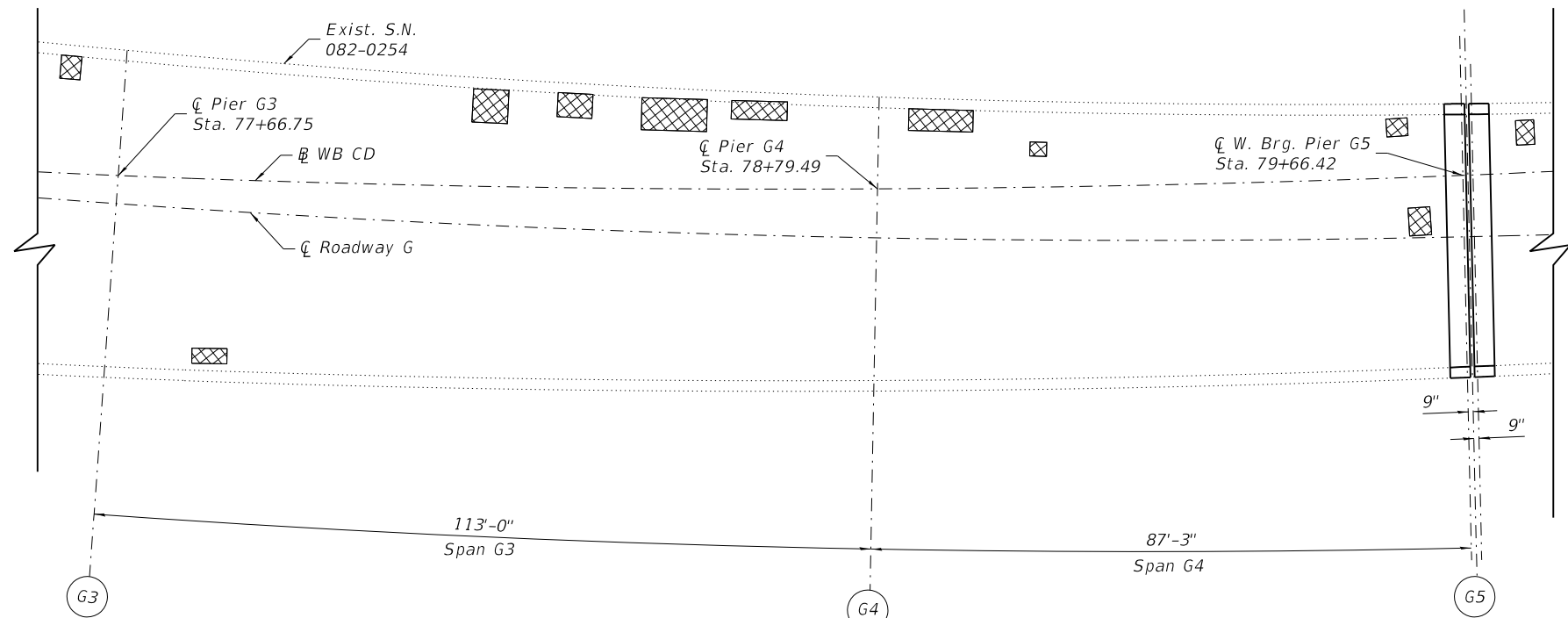
SHEET NO. 4 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	199
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				

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PLAN (SPANS G1 & G2)



PLAN (SPANS G3 & G4)

SPAN	PARTIAL DEPTH REPAIRS (Sq Yd)	FULL DEPTH REPAIRS (Sq Yd)	TOTAL (Sq Yd)
G1	15	1	16
G2	9	1	10
G3	15	1	16
G4	7	1	8

☐ Deck Slab Repair

Note:
Deck sounding was performed in April 2017, with quantities increased to account for anticipated growth. The Resident Engineer will determine final patch locations and quantities in the field before bridge deck patching operations begin.
For details of full depth or partial depth patching, see Sheet 30 of 43.

BILL OF MATERIAL

ITEM	UNIT	QUANTITY
Deck Slab Repair (Full Depth, Type I)	Sq Yd	4
Deck Slab Repair (Partial)	Sq Yd	46

WJE ENGINEERS ARCHITECTS MATERIAL SCIENTISTS
Wiss, Janney, Elstner Associates, Inc.
330 Pingsten Road
Northbrook, Illinois 60062
847.272.7400 tel | 847.291.9595 fax

USER NAME = acb	DESIGNED - SMG	REVISED -
	CHECKED - ARB/RW	REVISED -
PLOT SCALE = 0.1667' / 1"	DRAWN - ACB	REVISED -
PLOT DATE = 9/28/2018	DATE - 09/28/2018	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**DECK PATCHING REPAIRS (SPANS G1 THRU G4)
S.N. 082-0254**

SHEET NO. 5 OF 43 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
70	82-3HVB-2R-(2,1)-1-2	ST. CLAIR	238	200
CONTRACT NO. 76945				
ILLINOIS FED. AID PROJECT				