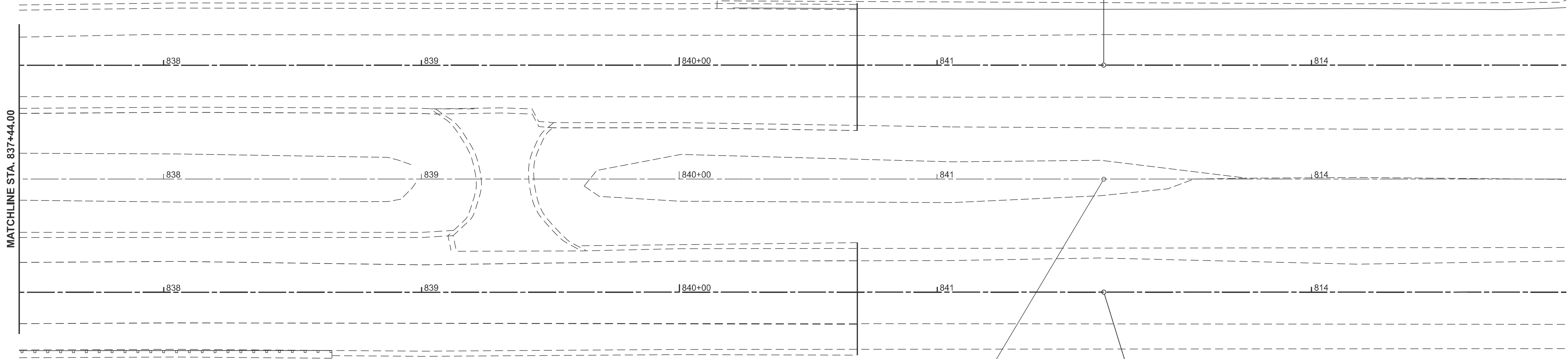
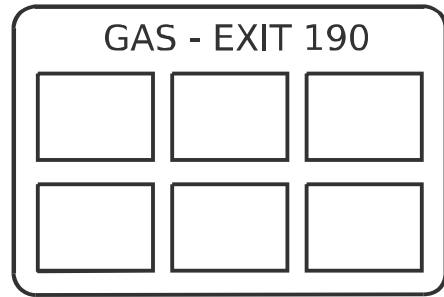


MODEL: Ex157CL - North End 1e4 (Sheet)
FILE NAME: c:\pwworking\hartzel\0852852\0774435-sheets-Roadway\SigningPlan.dgn



STA 814+35
LOGO SERVICE SIGN
180X120



** SEE BELOW
FOR
ADDITIONAL
SIGNS

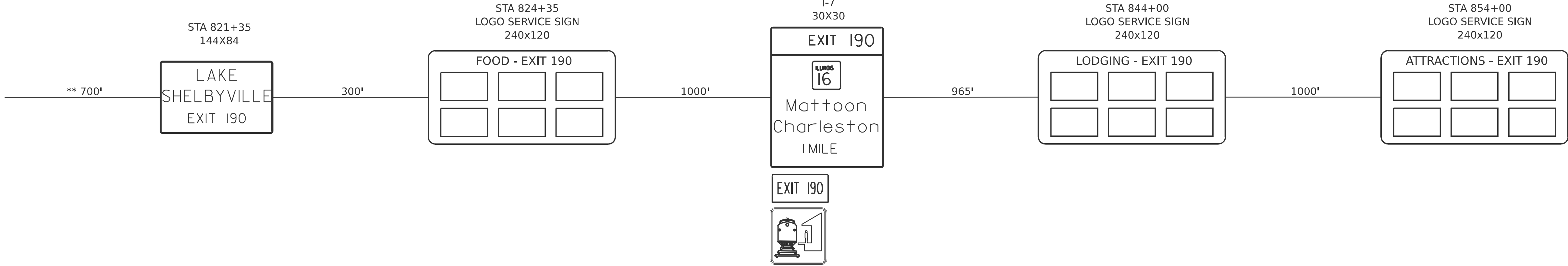


STA 814+35
36X30
D9-5A
36X36

EQN: STA 841+64.63 BK =
STA. 813+19.43 AH

EQN: STA 841+64.63 BK =
STA. 813+19.43 AH

EQN: STA 841+64.63 BK =
STA. 813+19.43 AH



USER NAME	= kaleb.hirtzel	DESIGNED	-	REVISED	-
		DRAWN	-	REVISED	-
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PLOT DATE	= 8/21/2024	DATE	-	REVISED	-

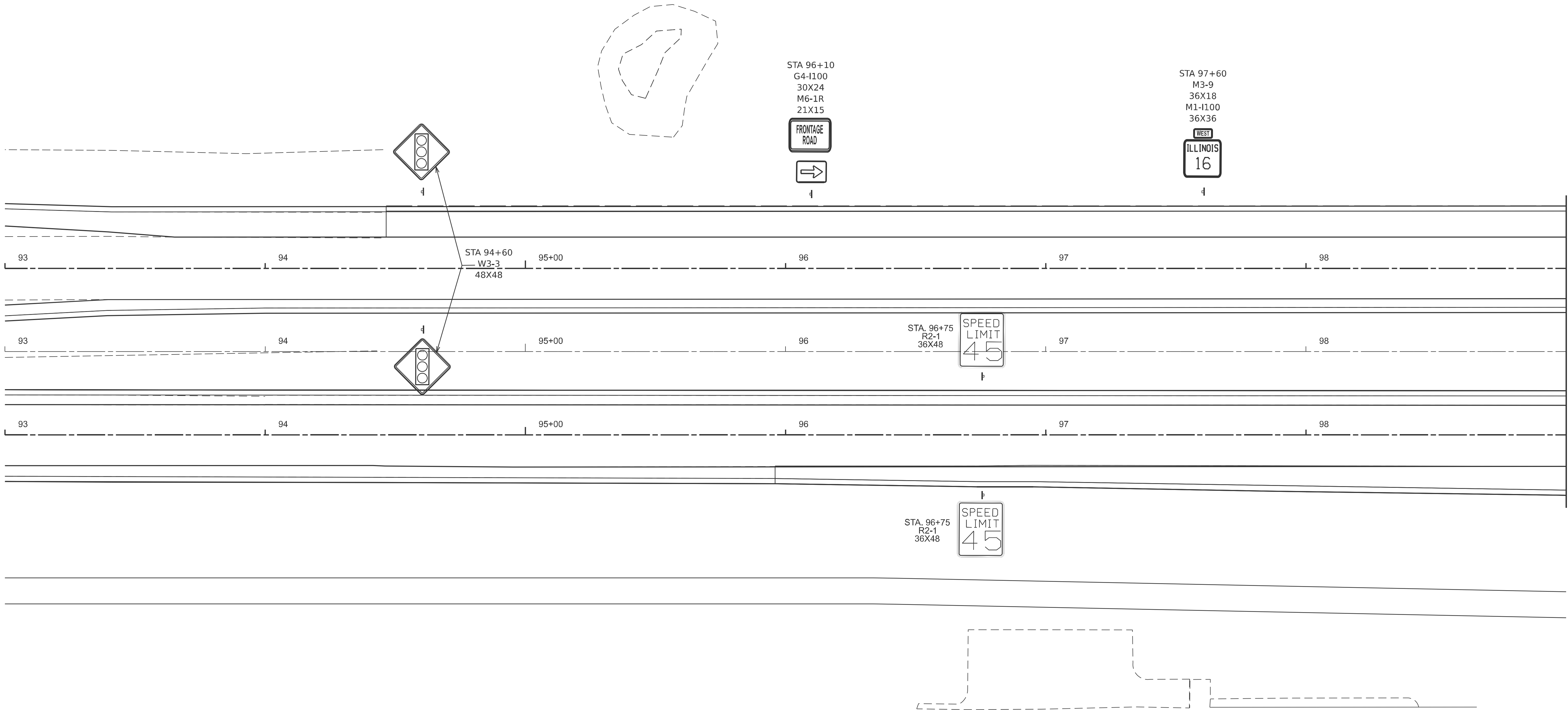
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROADWAY SIGNS
I-57

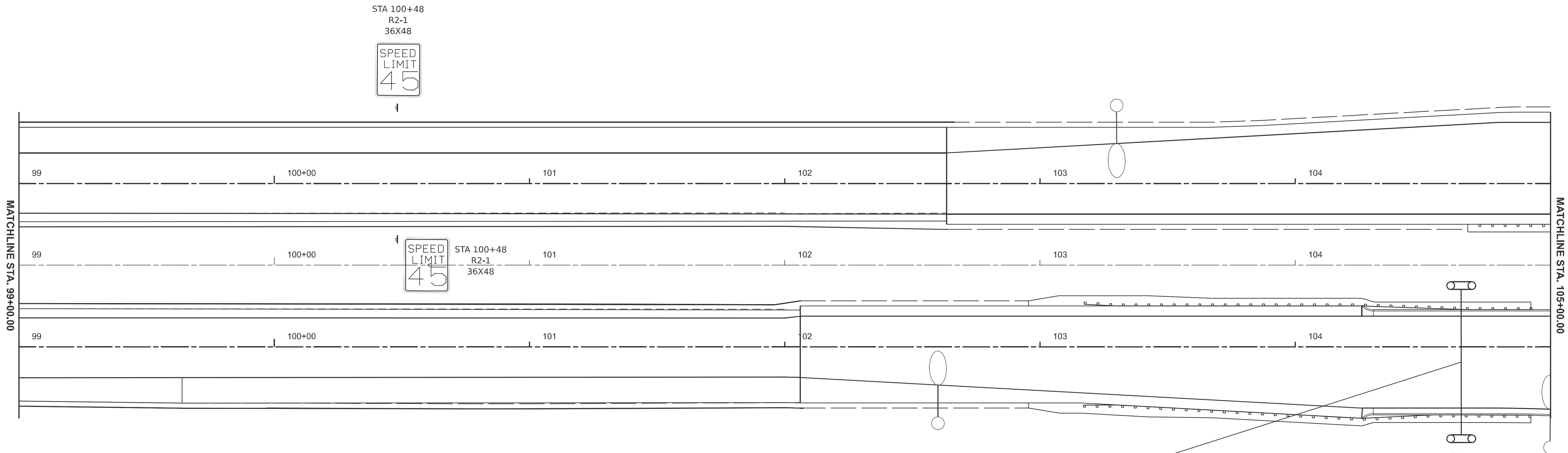
SCALE: 1"=20' SHEET 16 OF 29 SHEETS STA. 837+44.00 TO STA. 814+98.80

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	601
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

MODEL: Exit 16 - East IL 16 (Sheet)
FILE NAME: c:\p\work\pwh\hrtz\kld0852852\D774435-sheets-Roadway\Signing\Plan.dgn



	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ROADWAY SIGNS IL 16			F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE = \$SCALE\$	DRAWN -	REVISED -					57	(15-22HB-4)BR (15-22)R	COLES	1086	602
	PLOT DATE = 8/21/2024	CHECKED -	REVISED -		SCALE: 1"=20'			CONTRACT NO. 74435				
		DATE -	REVISED -		SHEET 17	OF 29 SHEETS	STA. 93+00.00	TO STA. 99+00.00	ILLINOIS FED. AID PROJECT			

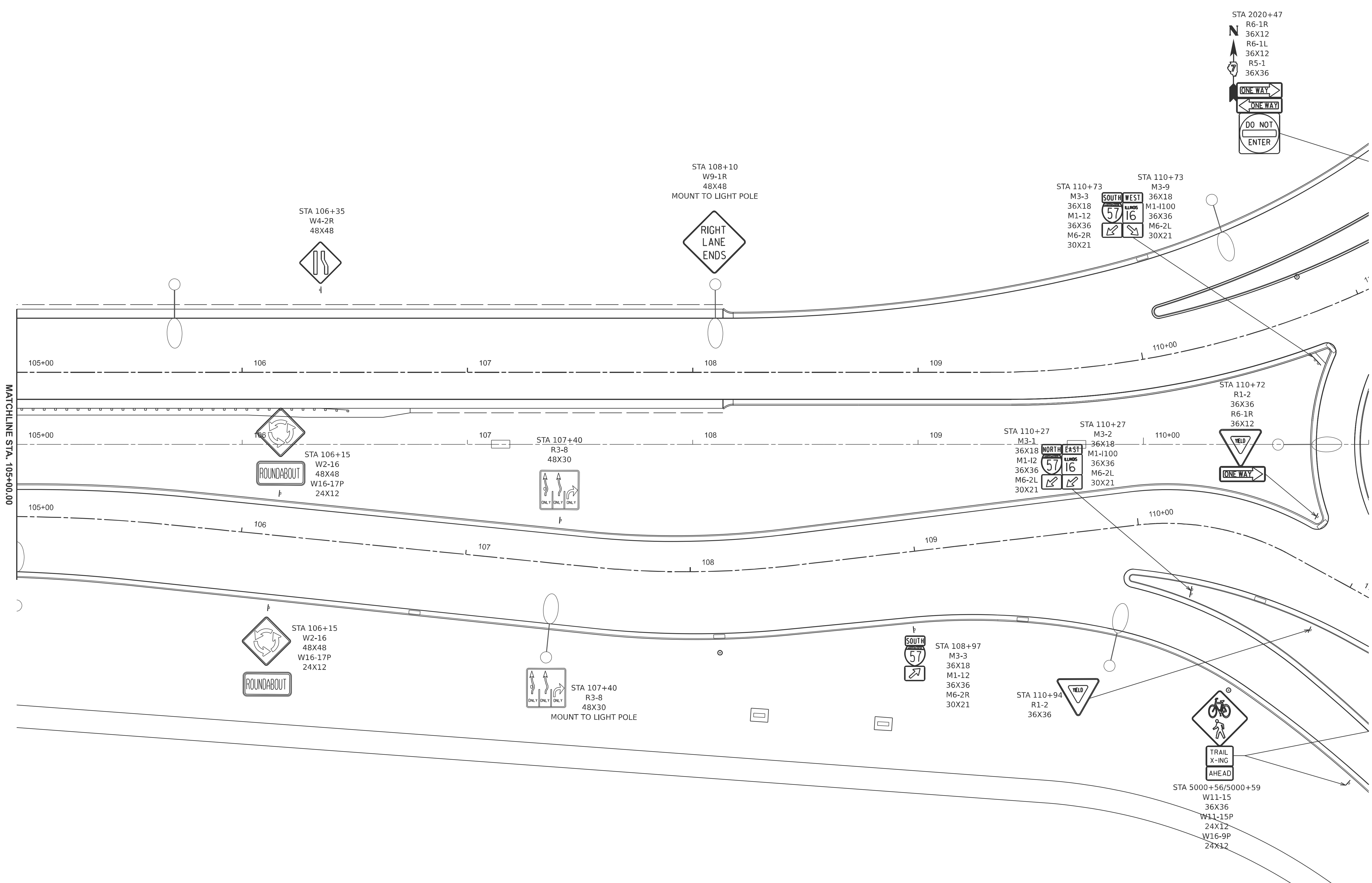


SCALE: 1"=20'	SHEET 18	OF 29	SHEETS	STA. 99+00.00	TO STA. 105+00.00
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F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	603
		CONTRACT NO. 74435		
ILLINOIS		FED. AID PROJECT		

MODEL: ExIL16 - East IL 17 [Sheet]
FILE NAME: c:\pw_ work\pwidot\hirzelk\ld0852852\D774435-sheets-RoadwaySigningPlan.dgn

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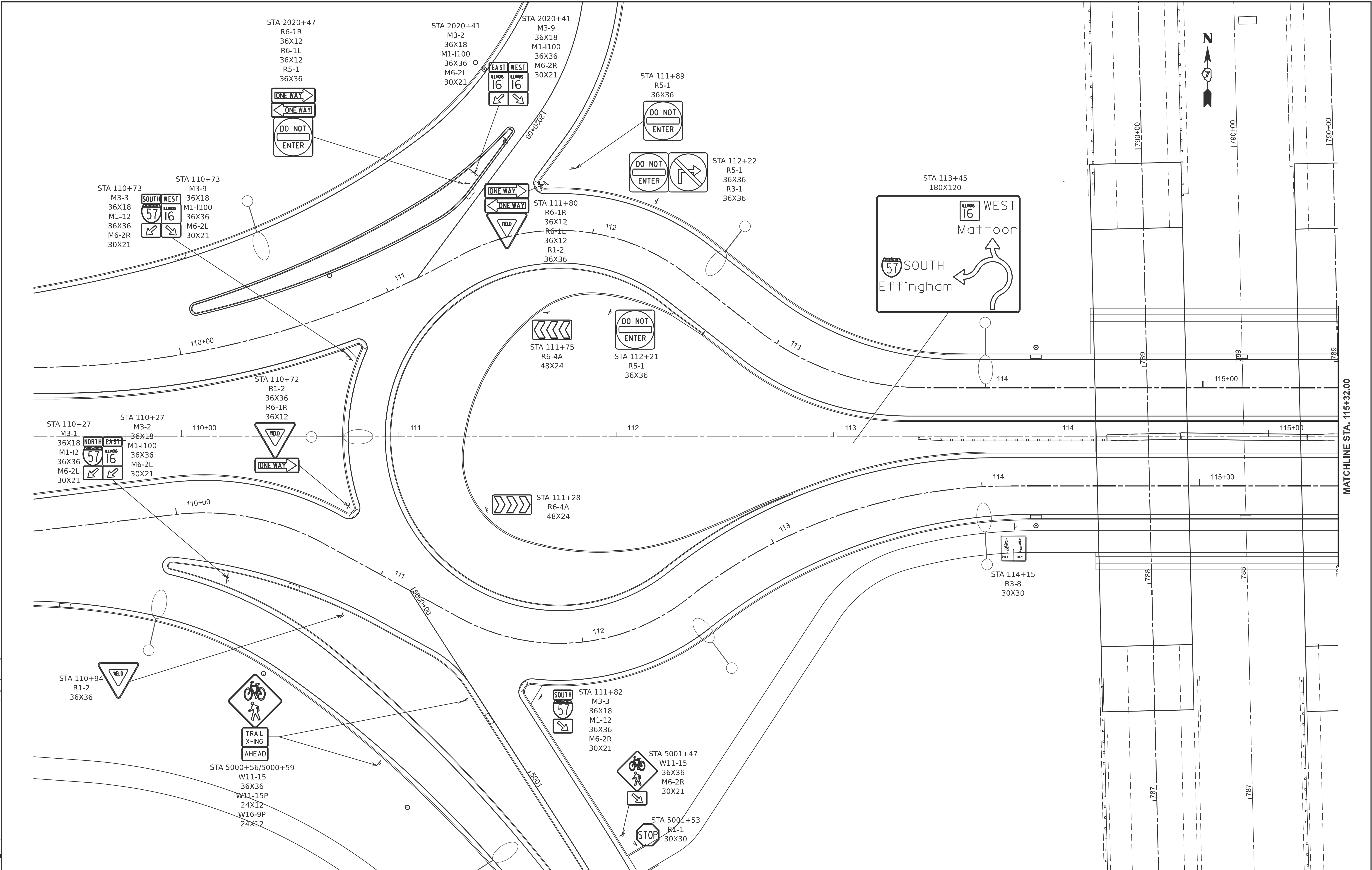


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		DATE	-	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

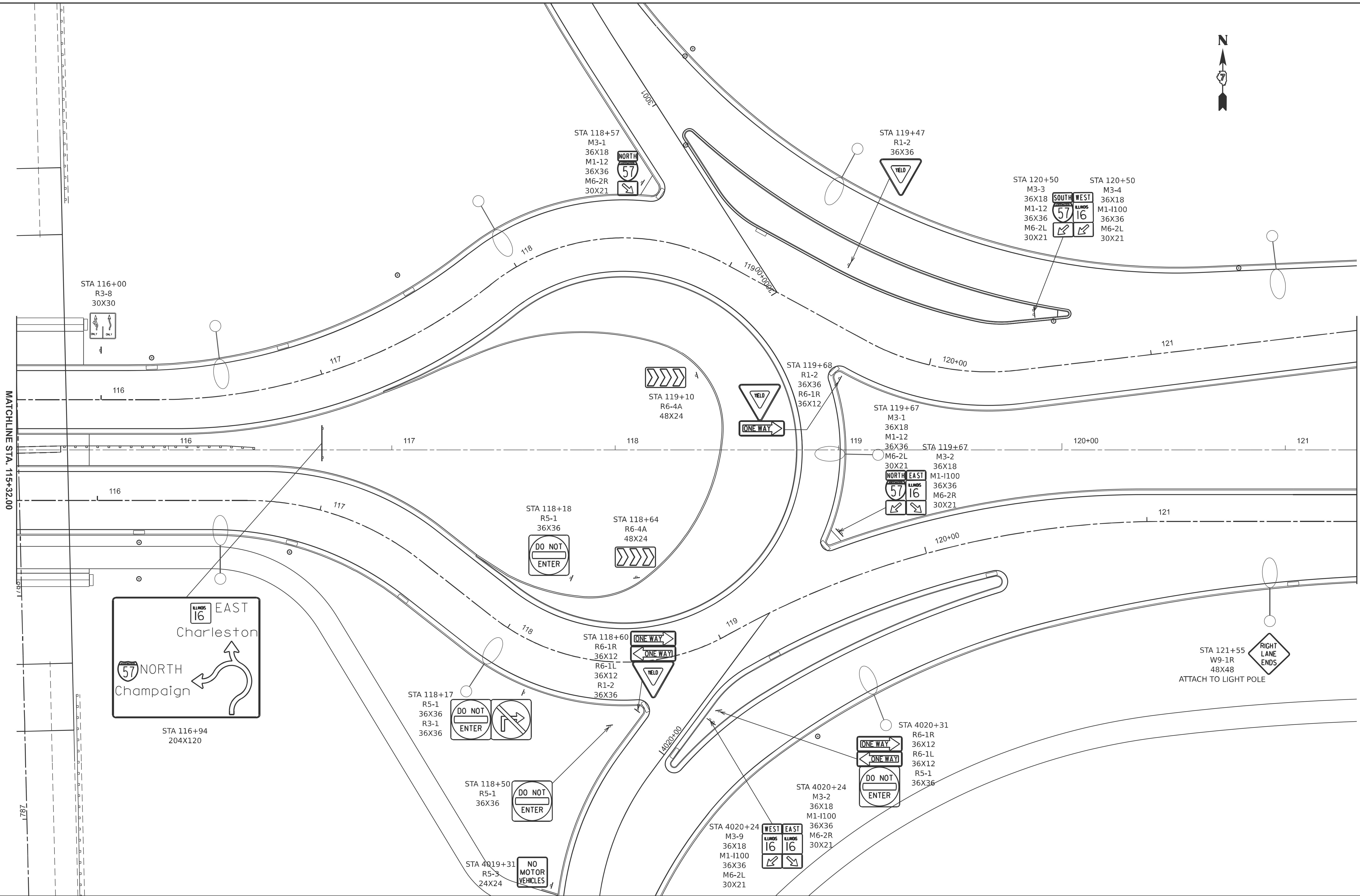
ROADWAY SIGNS			F.A.I	SECTION	COUNTY	TOTAL	SHEET
IL 16			RTE.			SHEETS	NO.
SCALE: 1"=20'			57	(15-22HB-4)BR (15-22)R	COLES	1086	604
SHEET 19			OF 29 SHEETS		CONTRACT NO. 74435		
STA. 105+00.00			TO STA. 111+00.00		ILLINOIS		
					FED. AID PROJECT		

MODEL: Exit 16 - West IL 16 (Sheet)
FILE NAME: c:\p\work\civil\hrtz\akid0852852\0774435-sheets-Roadway\SigningPlan.dgn



USER NAME = kaleb.hirtzel		DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		ROADWAY SIGNS IL 16		FA I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DRAWN -		CHECKED -	REVISED -					57	(15-22HB-4)BR (15-22)R	COLES	1086	605
PLOT SCALE = \$SCALE\$		DATE -	REVISED -					CONTRACT NO. 74435				
PLOT DATE = 8/21/2024								ILLINOIS FED. AID PROJECT				
				SCALE: 1"=20'		SHEET 20	OF 29 SHEETS	STA. 109+32.00		TO STA. 115+32.00		

MODEL: Exit 16 - West IL 17 (Sheet)
FILE NAME: c:\p\work\p\hrtz\kld0852852\0774435-sheets-Roadway\Signing\Plan.sgn

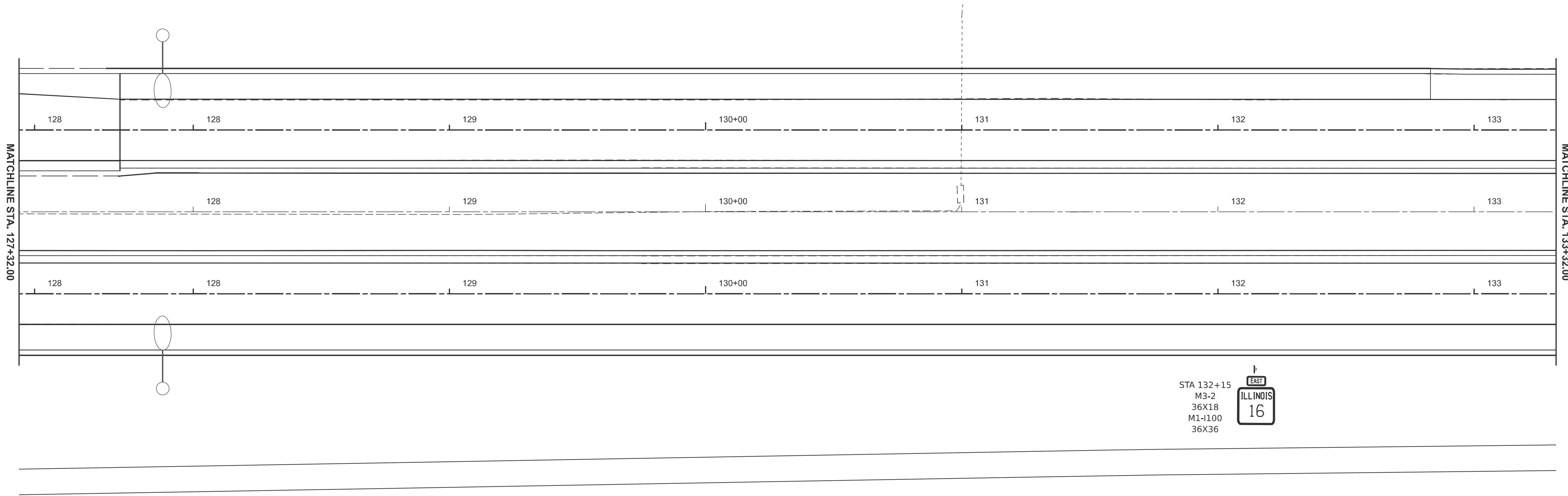


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PLOT DATE	= 8/21/2024	DATE	-	REVISED	-

STATE OF ILLINOIS	
DEPARTMENT OF TRANSPORTATION	

ROADWAY SIGNS			
IL 16			
SCALE: 1"=20'	SHEET 21	OF 29 SHEETS	STA. 115+32.00 TO STA. 121+32.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	606
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



STA 132+15
M3-2
36X18
M1-I100
36X36

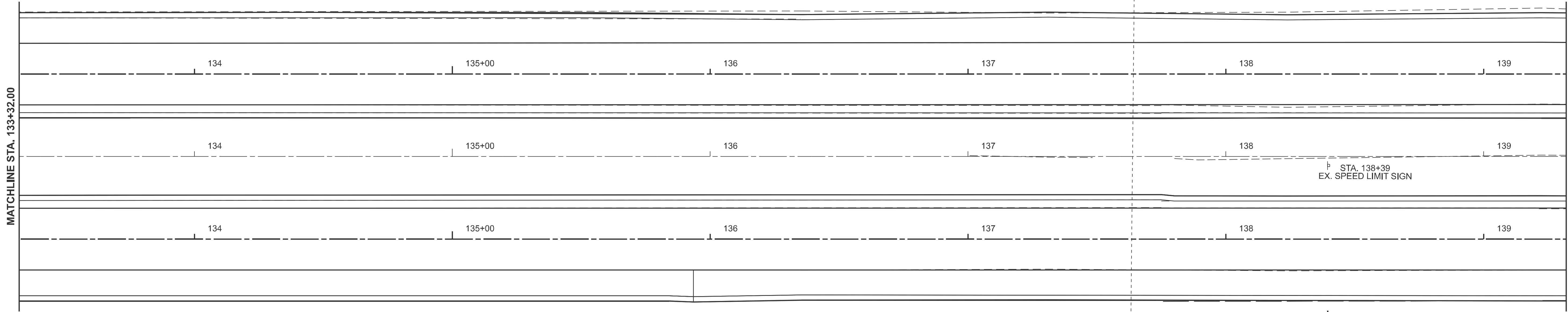


The diagram shows a bridge structure with a sign. The sign is rectangular with a black border and contains the text "ILLINOIS" in a stylized font, with the number "16" below it. Above the sign is a small rectangular box with the word "EAST" inside. Above that box is a small black square with the letter "P" inside. The bridge structure is represented by a thick black line forming a frame around the sign.

MODEL: ExIL 16 - West IL 19 [Sheet]
FILE NAME: c:\pw_work\pwwork\hrtzel\ld0852852\D774435-sheets-RoadwaySigningPlan.dgn

MODEL: Exit 16 - West IL 20 (Sheet)
FILE NAME: c:\p\work\pwh\hrtz\kld0852852\D77435-sheets-Roadway\Signing\Plan.dgn

MATCHLINE STA. 133+32.00



MATCHLINE STA. 139+32.00

CHARLESTON 9 STA. 135+15
120X24

STA. 138+39
R2-1
36X48
SPEED
LIMIT
45

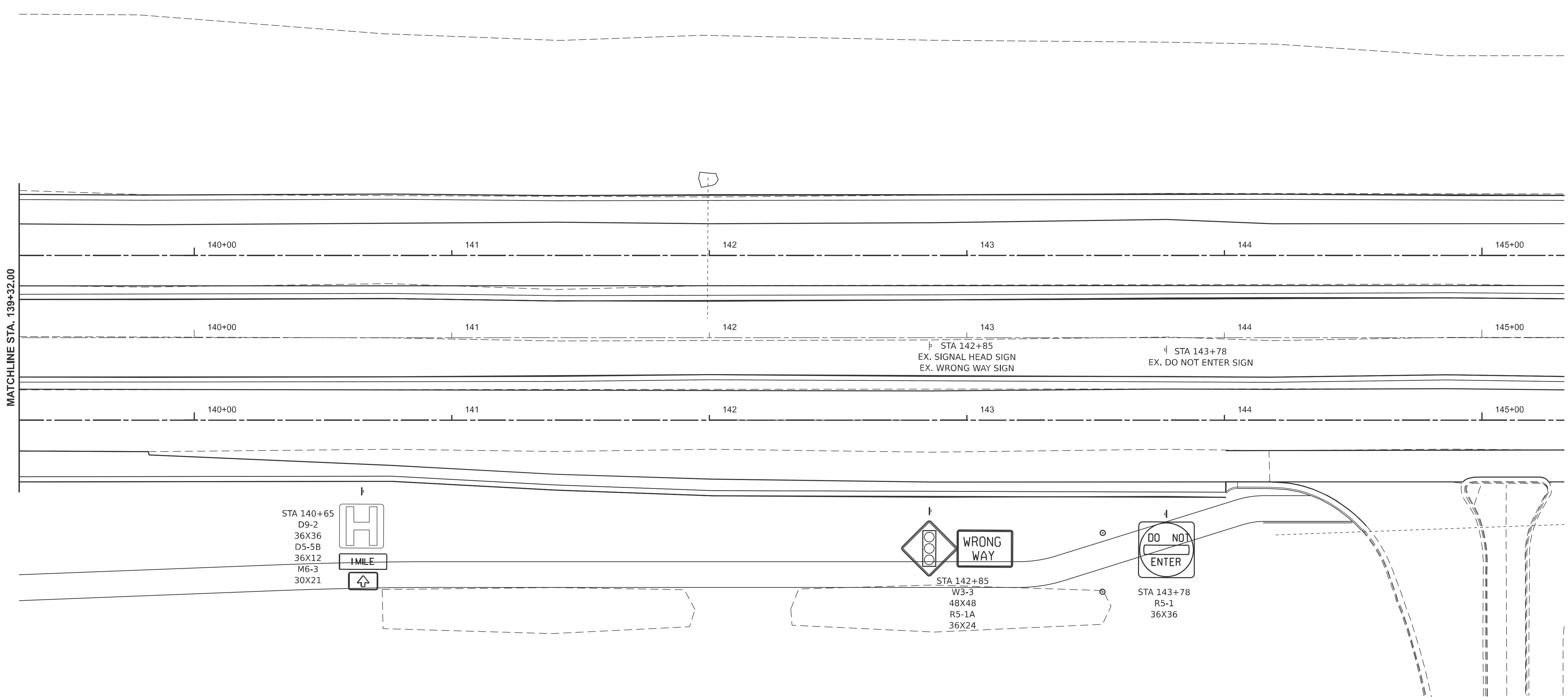
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		DRAWN	-	REVISED	-
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PLOT DATE	= 8/21/2024	DATE	-	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

ROADWAY SIGNS
IL 16

SCALE: 1"=20' SHEET 24 OF 29 SHEETS STA. 133+32.00 TO STA. 139+32.00

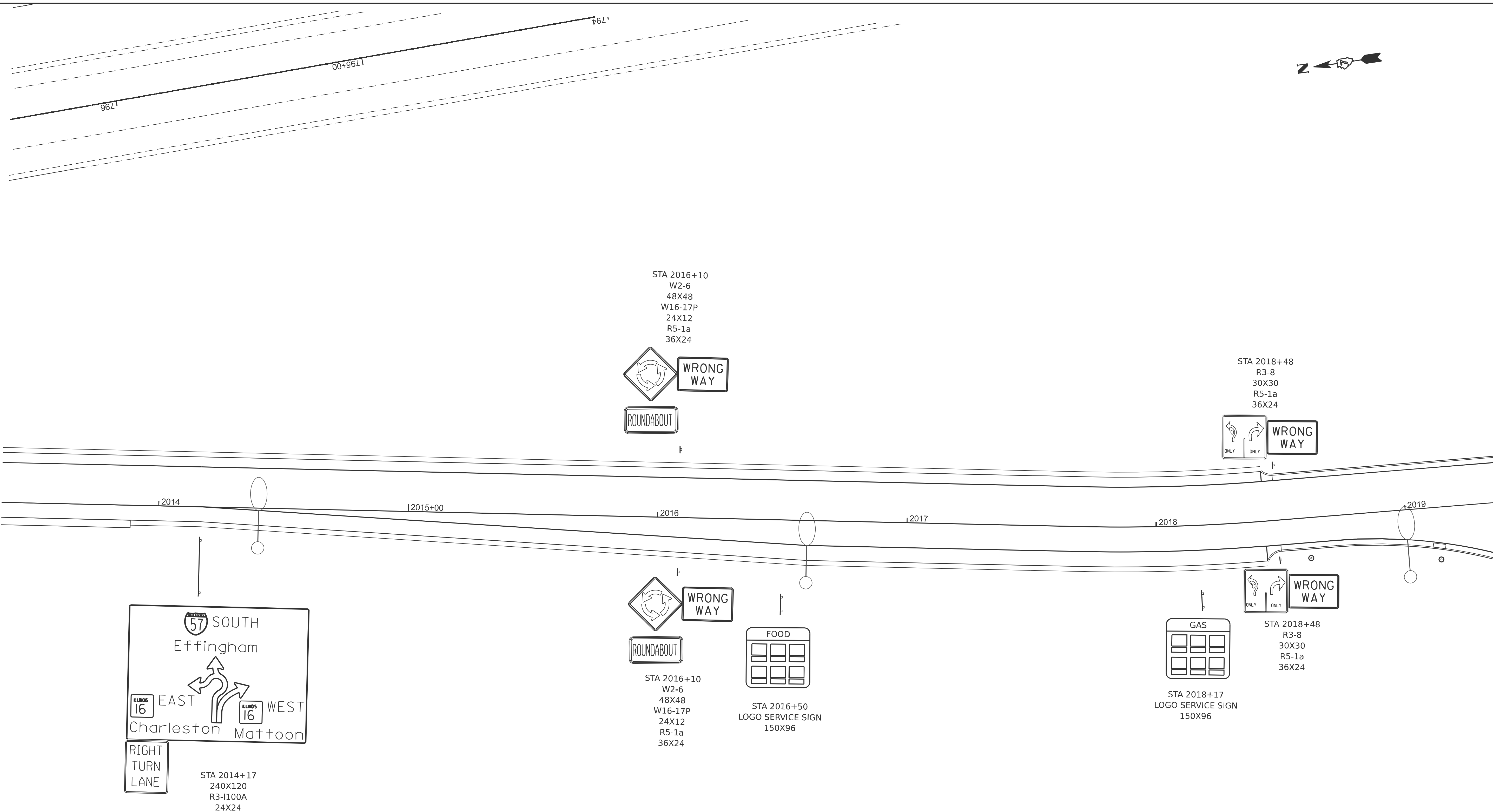
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	609
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



MATCHLINE STA: 139+32.00

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	610
		CONTRACT NO. 74435		
ILLINOIS		FED. AID PROJECT		

MODEL: RAMPAS-OFF - Ramp A [Sheet]
FILE NAME: c:\p\work\wtd\hrtz\kld\0852852\0774435-sheets-RoadwaySigningPlan.dgn



USER NAME	= kaleb.hirtzel	DESIGNED	-	REVISED	-
		DRAWN	-	REVISED	-
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PLOT DATE	= 8/21/2024	DATE	-	REVISED	-

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION		ROADWAY SIGNS RAMP A	

SCALE: 1"=20'	SHEET 26	OF 29 SHEETS	STA. 2013+37.00	TO STA. 2019+37.00
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F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	611
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -
	DRAWN -	REVISED -
PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -
PLOT DATE = 8/21/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

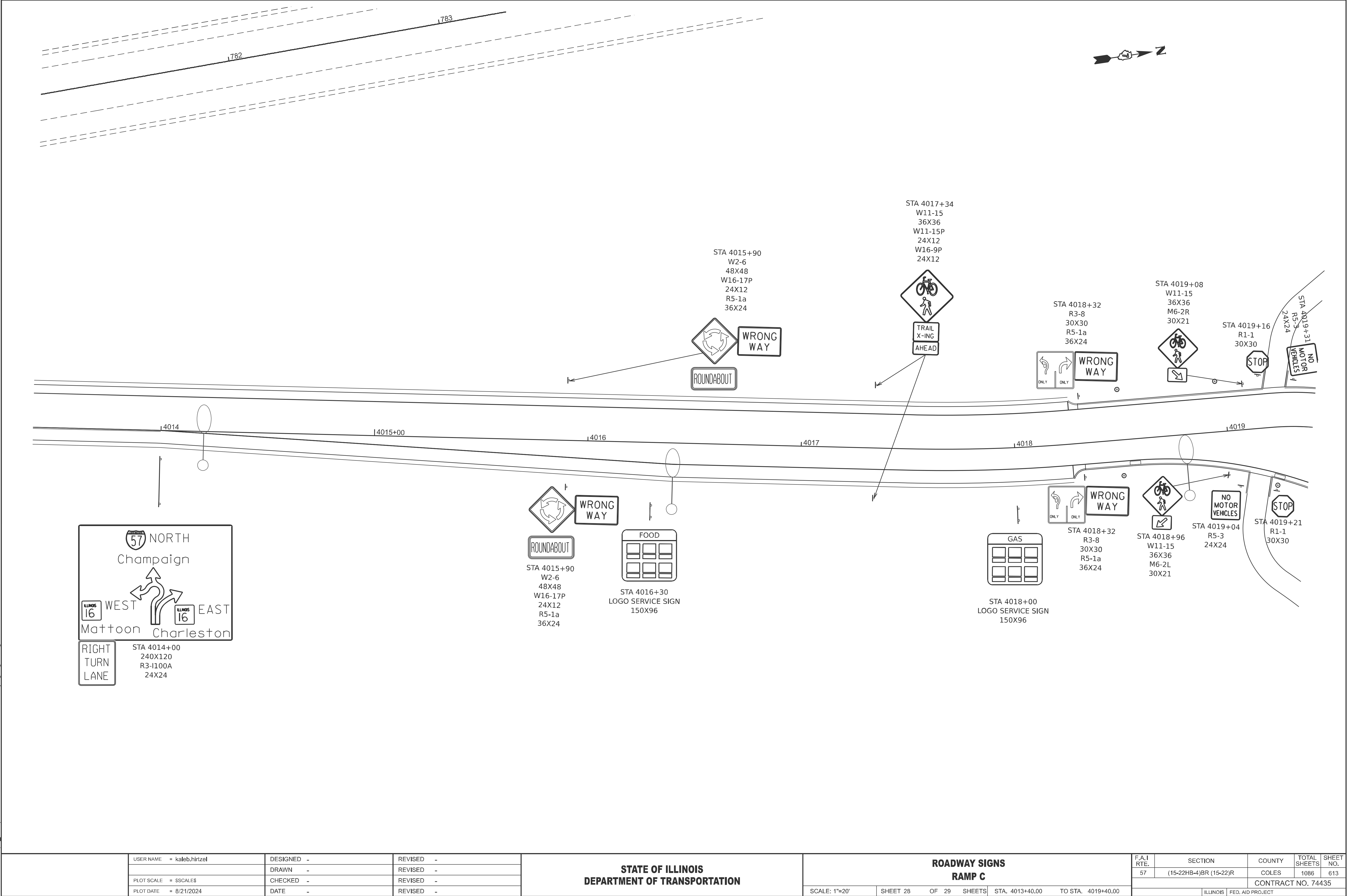
ROADWAY SIGNS

RAMP B

SCALE: 1"=20'	SHEET 27	OF 29	SHEETS	STA. 3001+15.00	TO STA. 3007+15.00
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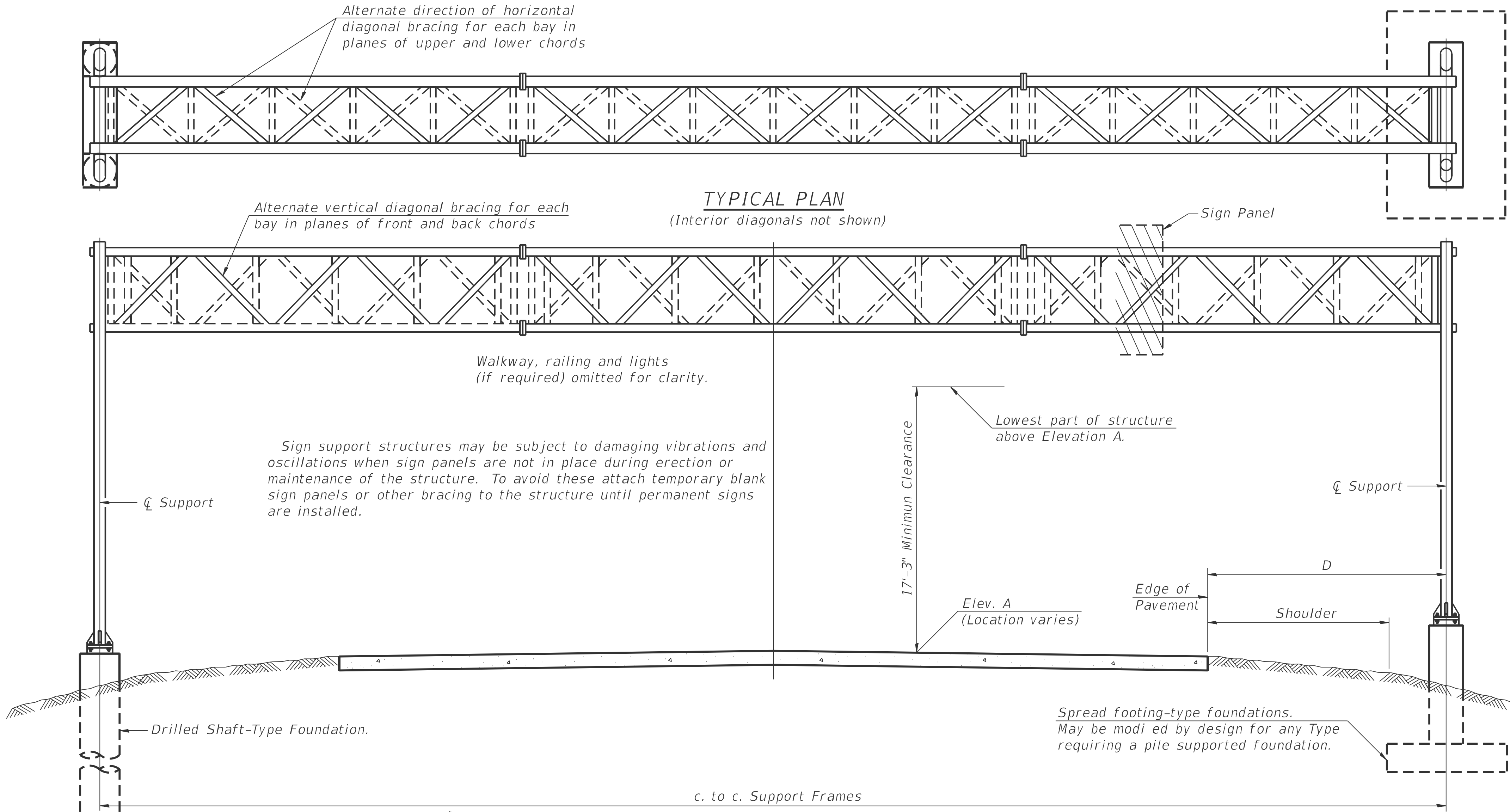
F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	612
		CONTRACT NO. 74435		
ILLINOIS		FED. AID PROJECT		

MODEL: RAMPC-NBOFF - Ramp C [Sheet]
FILE NAME: c:\p\work\p\work\hrtz\k\0852852\0774435-sheets-Roadway\Signing\Plan.sgn



	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ROADWAY SIGNS RAMP C				F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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		DATE -	REVISED -		SHEET 28 OF 29 SHEETS				ILLINOIS FED. AID PROJECT				

MODEL: Overhead Sign Str (Sheet)
FILE NAME: c:\pwworking\hrtzaki\0852852\0774435-sheets-OverheadSpanSignStrDetails.dgn



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.

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 natural 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.

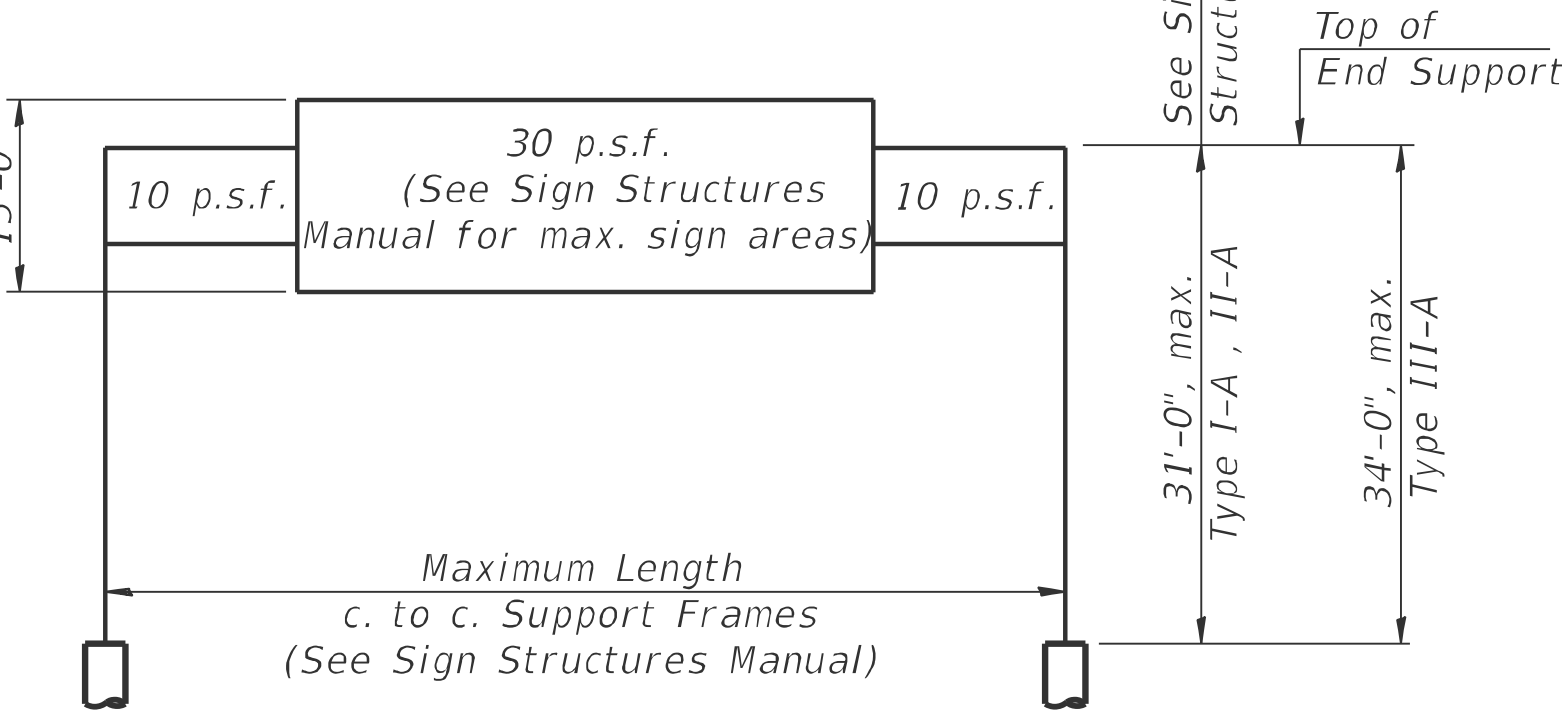
FOUNDATIONS: The contract unit price for Concrete Foundations and Drilled Shaft Concrete Foundations shall include reinforcement bars complete in place.

TOTAL BILL OF MATERIAL

ITEM	UNIT	TOTAL
OVERHEAD SIGN STRUCTURE SPAN TYPE I-A	Foot	120
OVERHEAD SIGN STRUCTURE SPAN TYPE II-A	Foot	-
OVERHEAD SIGN STRUCTURE SPAN TYPE III-A	Foot	-
OVERHEAD SIGN STRUCTURE WALKWAY TYPE A	Foot	-
CONCRETE FOUNDATIONS	Cu. Yds.	-
DRILLED SHAFT CONCRETE FOUNDATIONS	Cu. Yds	23.4

DESIGN WIND LOADING DIAGRAM

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.



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
7S015S016R008.07	104+65 (IL 16)	I-A	60'-0"	722.92	13'-6"	12'-6"	237.5 SQ FT
7S015S016L008.54	125+13 (IL 16)	I-A	60'-0"	715.14	13'-6"	12'-6"	237.5 SQ FT

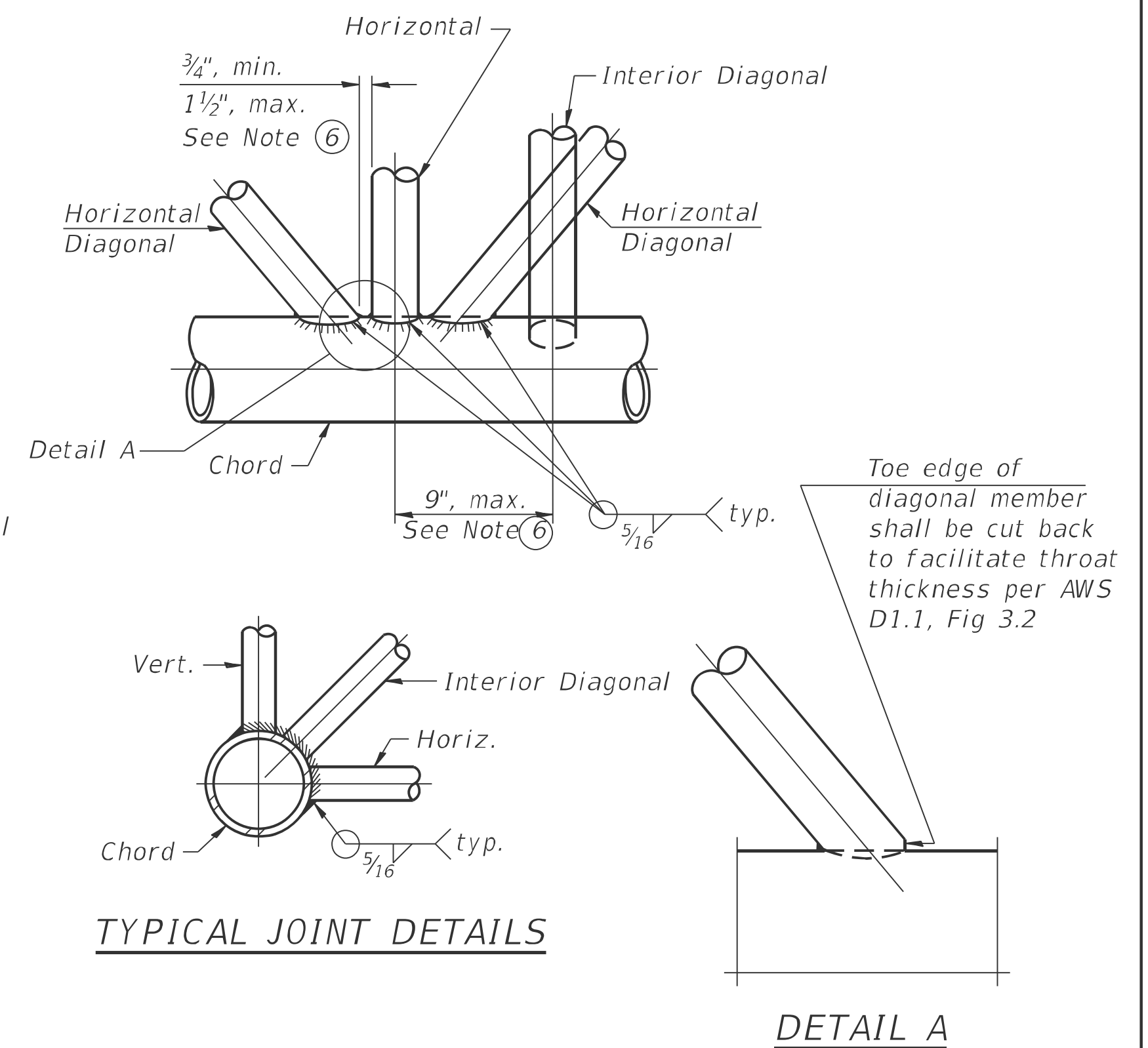
**Looking upstation for structures with signs both sides.

* 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.

05-A-1

2-17-2017

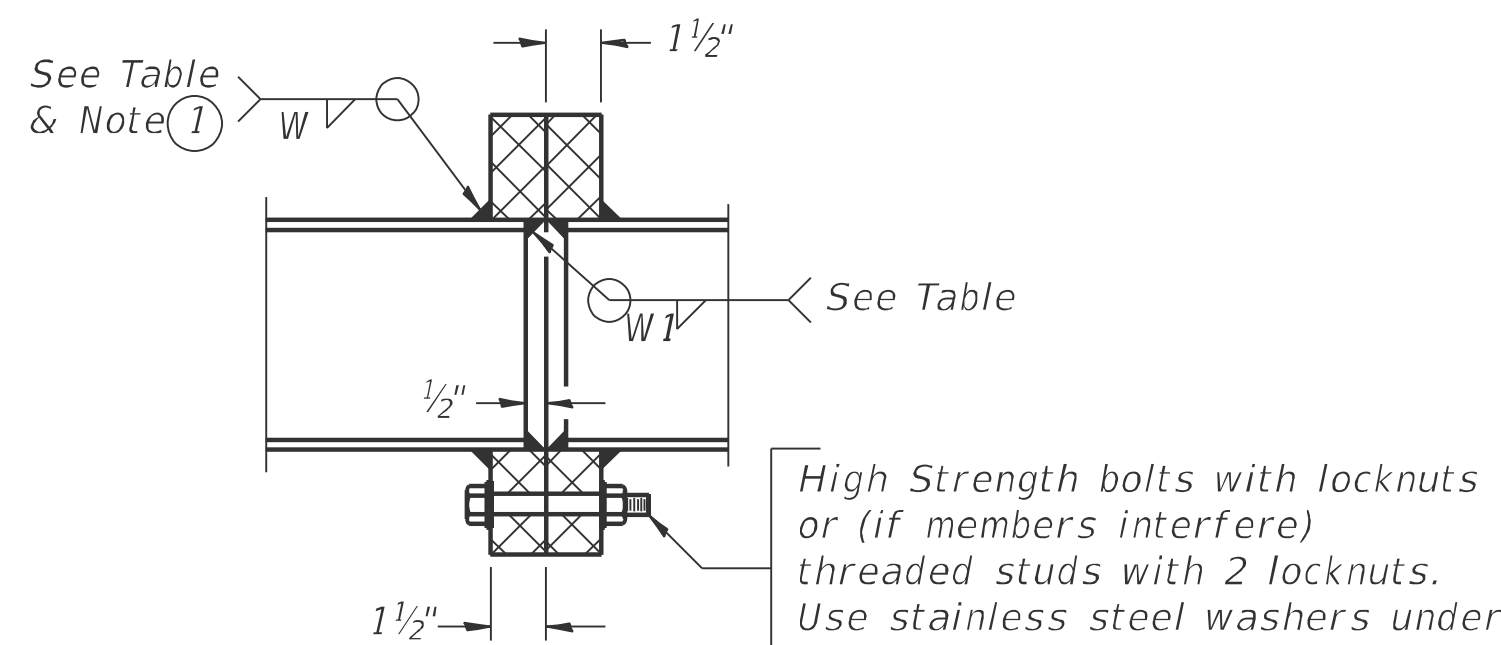
DESIGNED - DRAWN - CHECKED - DATE -	USER NAME = kaleb.hirtzel	DESIGNED - DRAWN - CHECKED - DATE -	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OVERHEAD SIGN STRUCTURES - GENERAL PLAN & ELEVATION - ALUMINUM TRUSS & STEEL SUPPORTS	SCALE: 1"=50'	SHEET 1 OF 9 SHEETS	STA. TO STA.	F&I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
									57	(15-22HB-4)BR (15-22)R	COLES	1086	615
									CONTRACT NO. 74435				
									ILLINOIS FED. AID PROJECT				



- ① Contractor may alternatively use standard aluminum drive- t cap to close end. $1\frac{1}{2}$ " Ø drain hole in end plate/drive- t cap. (Typ. at ends of all chords)
- ② $5\frac{1}{2}$ " 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 or 4'-0" and 5'-6" for Types II-A and III-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 o set from the panel point based on the following: O set shall be such as to provide a $\frac{3}{4}$ " minimum to $1\frac{1}{2}$ " maximum clearance between any diagonal and any horizontal or vertical member, and to provide clearance for U-bolt connections of signs or walkway brackets.

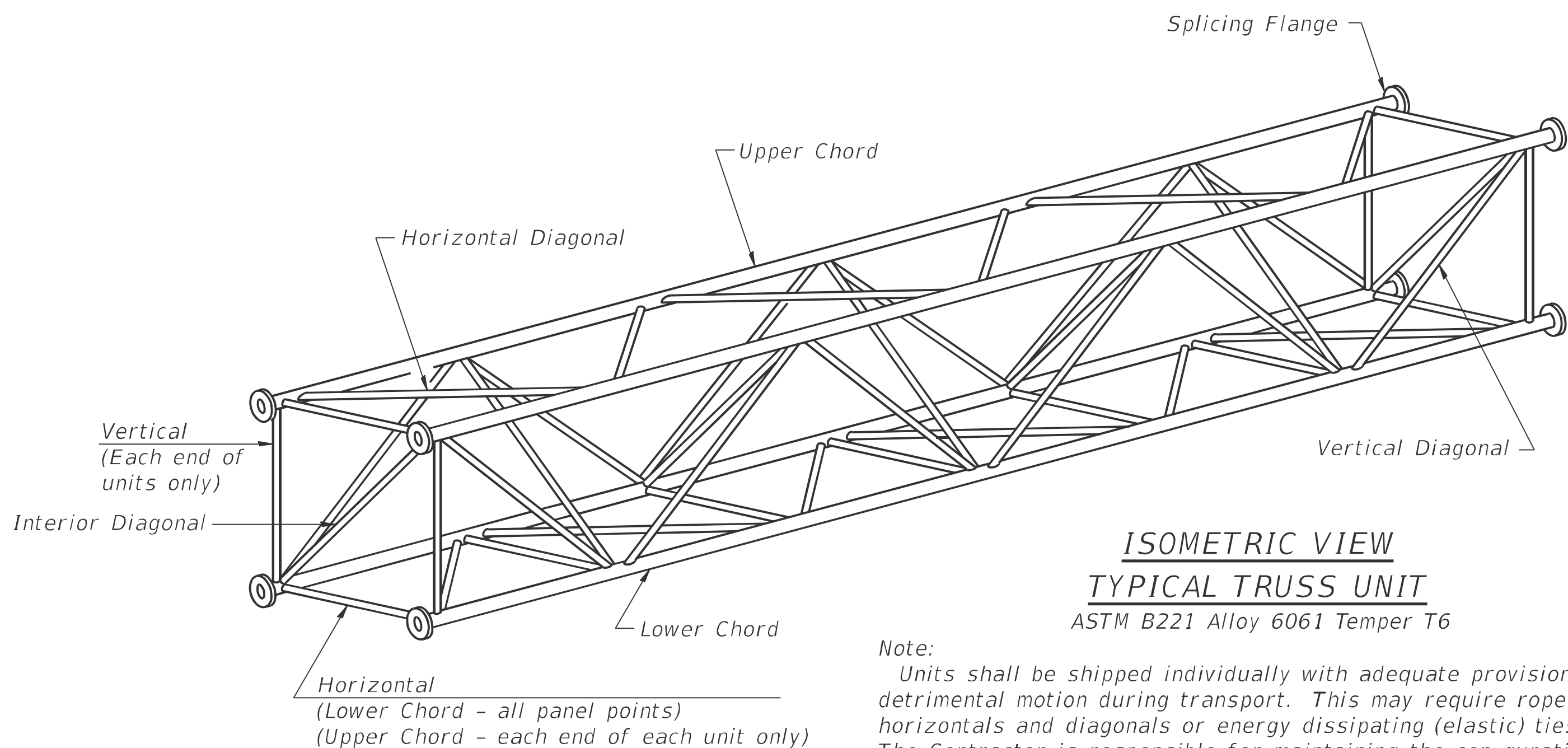
FILE NAME:	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS DETAILS FOR TRUSS TYPES I-A, II-A AND III-A	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -			57	(15-22HB-4)BR (15-22)R	COLES	1086	616	
	PLOT SCALE = \$SSCALE\$	CHECKED -	REVISED -			CONTRACT NO. 74435					
	PLOT DATE = 8/21/2024	DATE -	REVISED -								
	SCALE: 1"=50'	SHEET 2	OF 9			SHEETS	STA.	TO STA.			

TRUSS UNIT TABLE

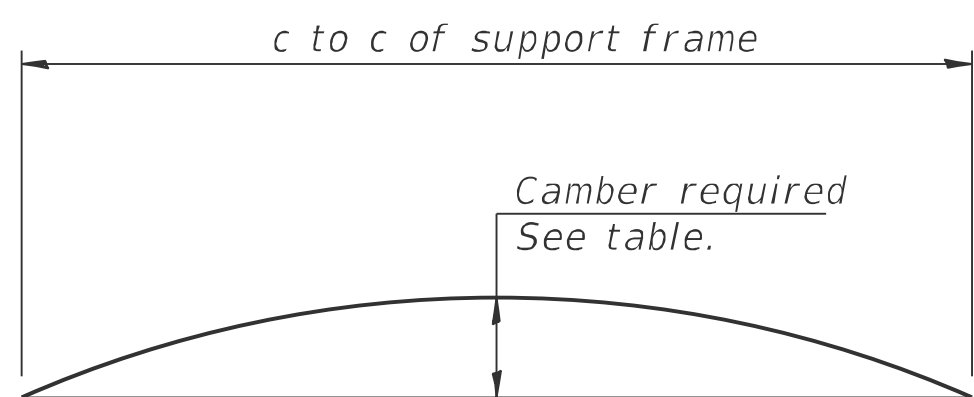
[illegible]

SECTION B-B

- 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 angle surfaces shall be shop bolted into full contact before welding. Sufficient external welds or tacks shall be made to secure angles until remaining welds are made after disassembly. Adjacent angles shall be "match marked" to insure proper field assembly.*



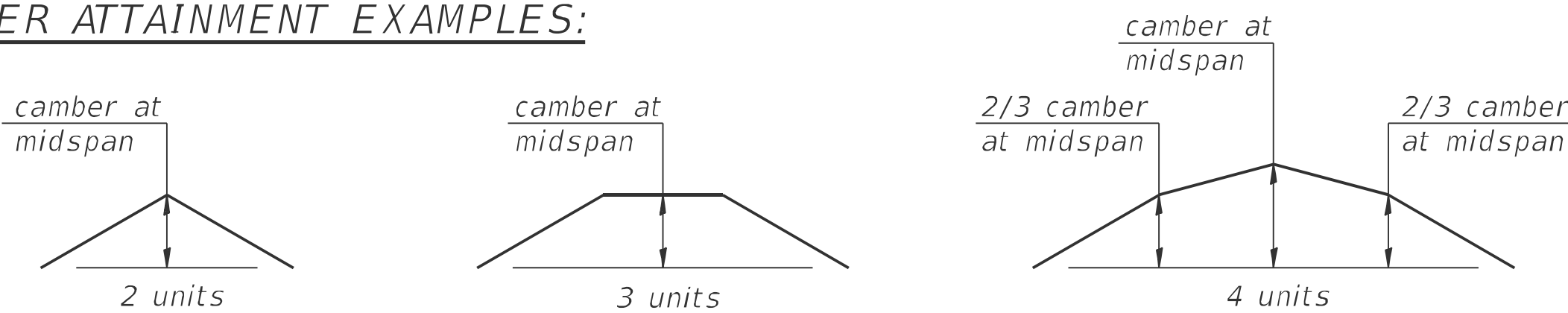
Note:
Units shall be shipped individually with adequate provision to prevent detrimental motion during transport. This may require ropes between horizontals and diagonals or energy dissipating (elastic) ties to the vehicle. The Contractor is responsible for maintaining the con guuration and protection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



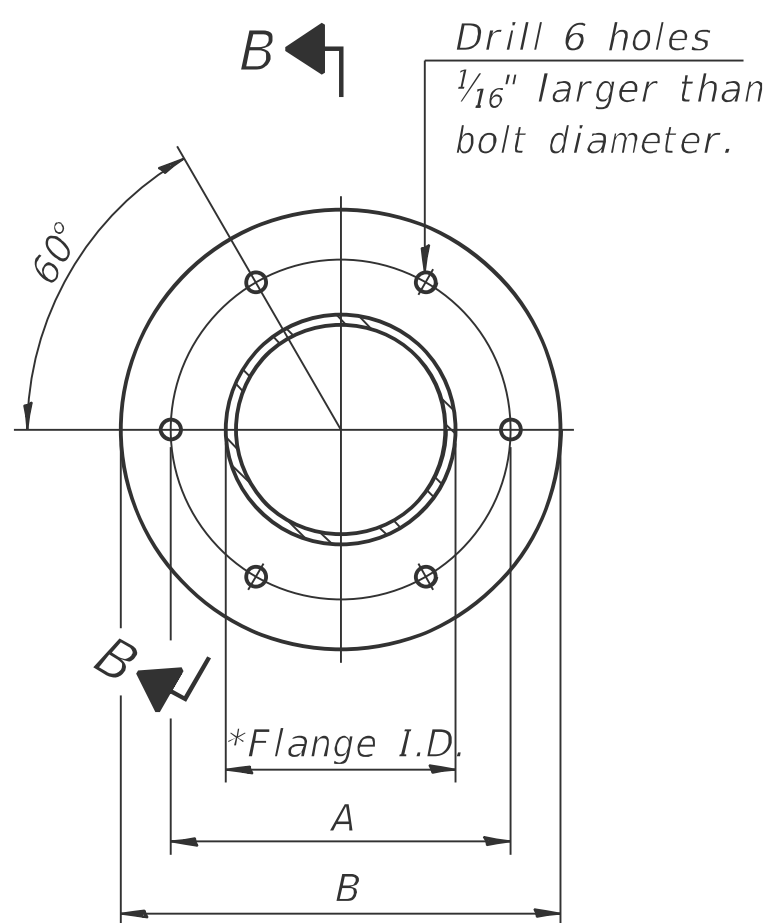
CAMBER DIAGRAM

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

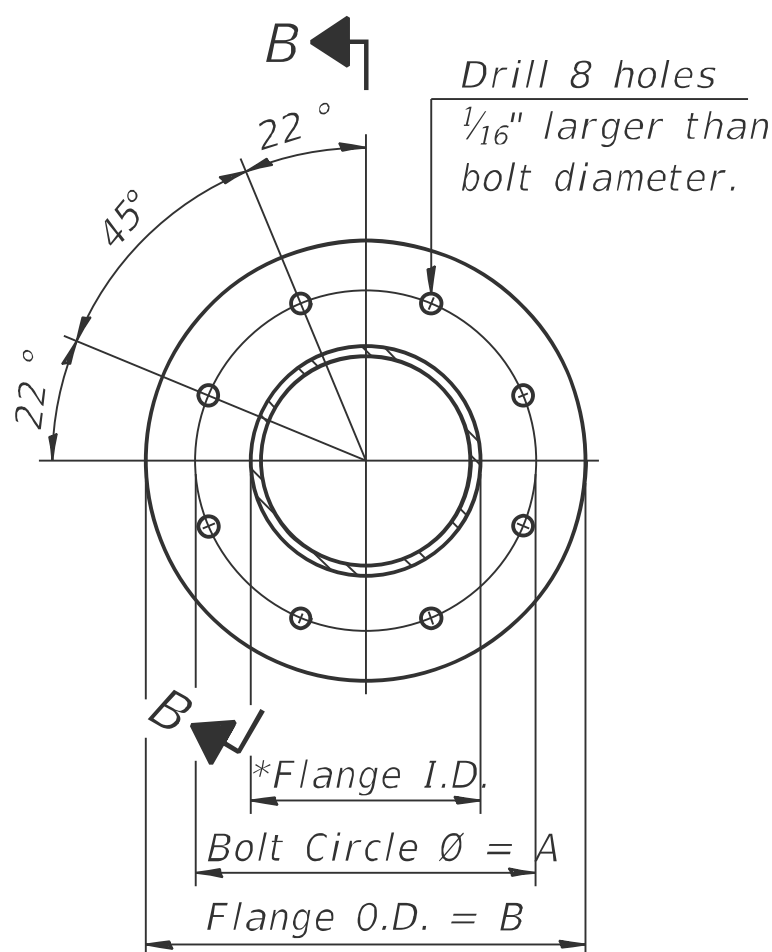
CAMBER ATTAINMENT EXAMPLES:



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



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

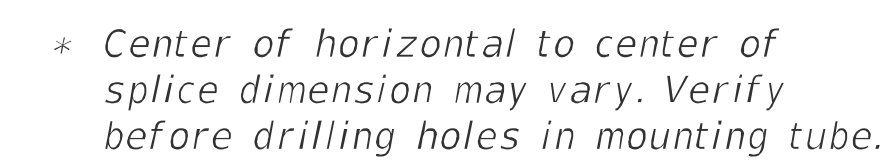


TRUSS TYPES II-A & III-A

SPLICING FLANGES

ASTM B221, Alloy 6061-T6
or ASTM B209, Alloy 6061-T651
*To t O.D. of Chord with maximum gap of $\frac{1}{16}$ ".

	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	OVERHEAD SIGN STRUCTURES - ALUMINUM TRUSS DETAILS FOR TRUSS TYPES I-A, II-A AND III-A				F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -						57	(15-22HB-4)BR (15-22)R	COLES	1086	617
	PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -		CONTRACT NO. 74435								
	PLOT DATE = 8/21/2024	DATE -	REVISED -		SCALE: 1"=50'	SHEET 3	OF 9 SHEETS	STA.	TO STA.				
									ILLINOIS	FED. AID PROJECT			



PLAN DETAIL "C"
 @ Span at @ Chord Splice

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...

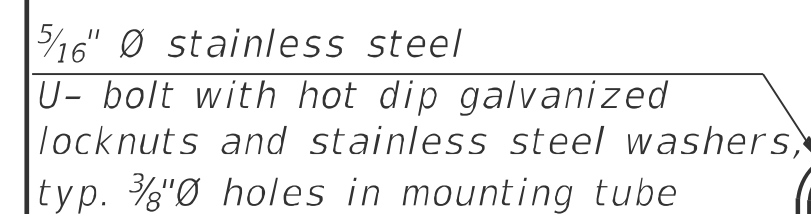
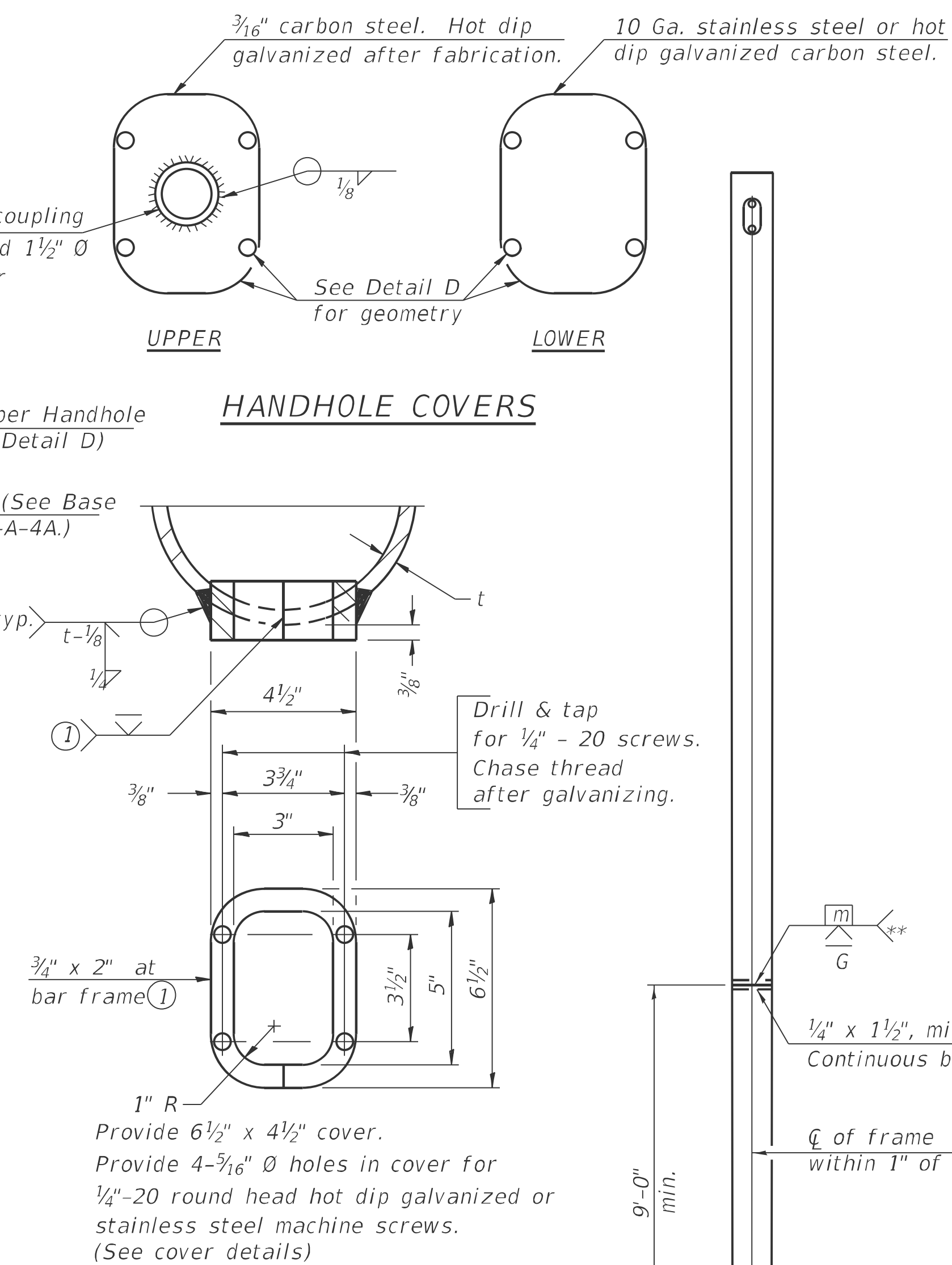
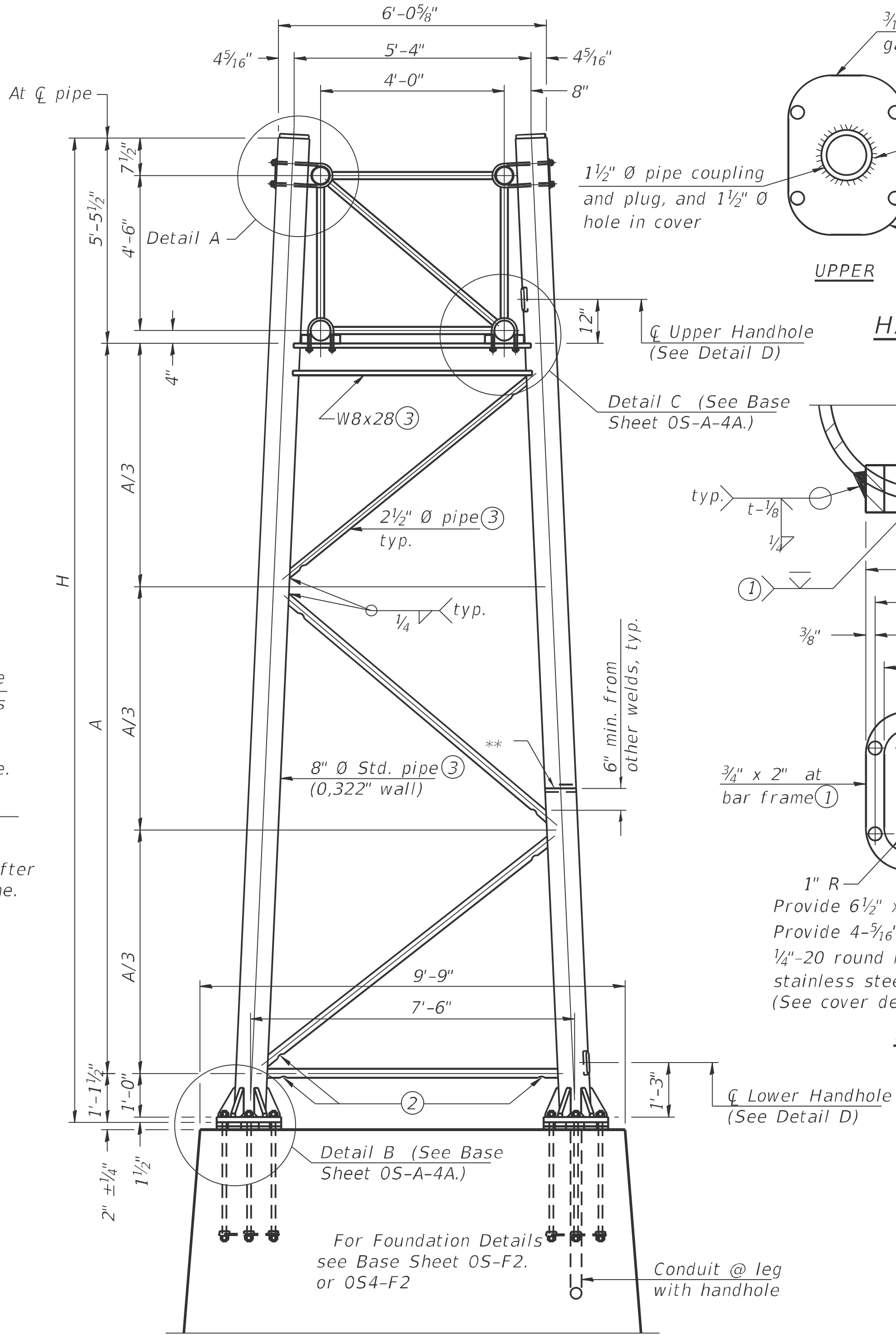
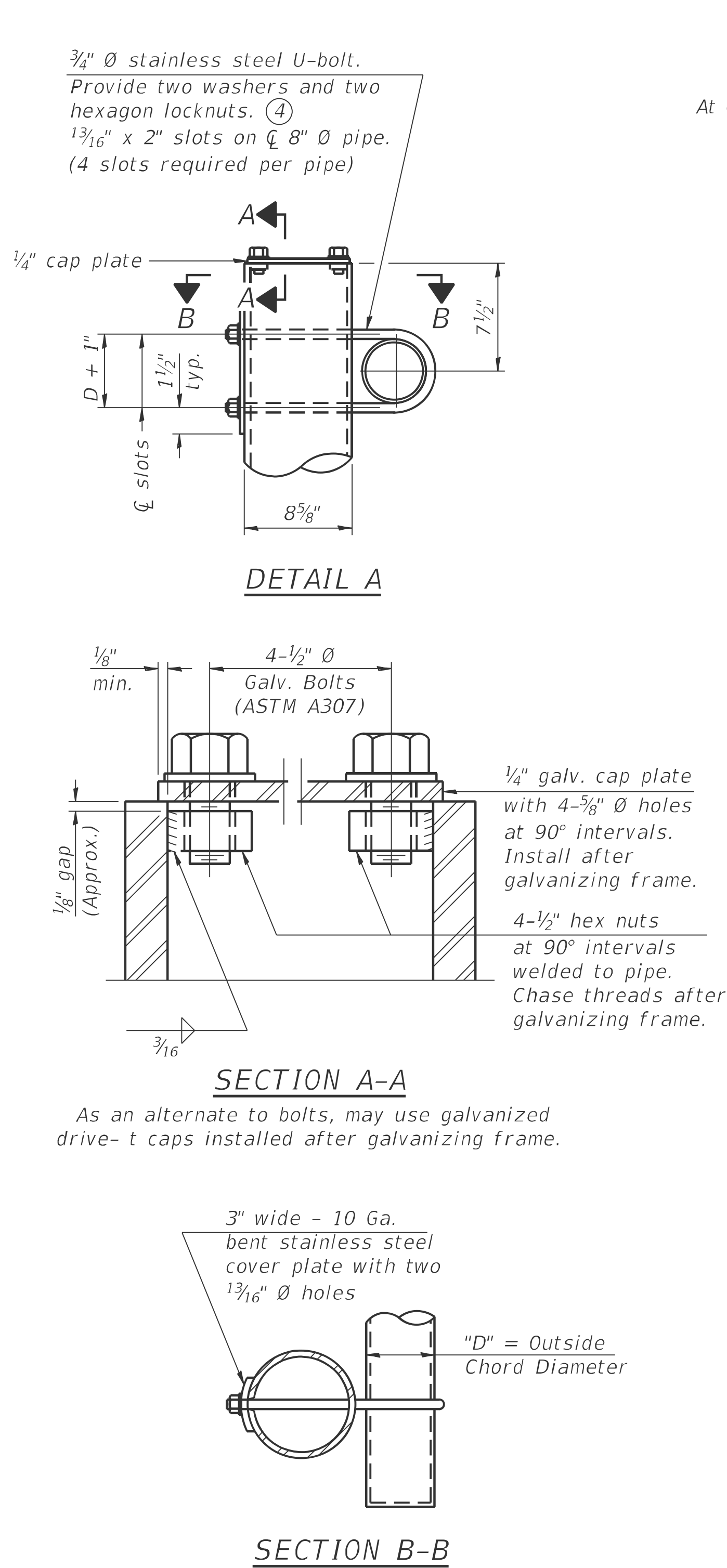


Figure 1 shows the geometry of the U-shaped pipe. The vertical section has a length of $\frac{D}{2} + 3\frac{3}{4}$ inches. The horizontal section has a radius of $R = \frac{D}{2} + \frac{1}{4}$ inches. The pipe has a thickness of 1 inch. The coordinate system (x, y) is shown at the bottom left corner.

TOP CHORD TO CROSS TUBE
U-BOLT DETAIL
(Typical - Detail "A" and "B")



MODEL: Overhead Sign Str 5 [Sheet]
FILE NAME: c:\pwy\work\hrtz\akl\0852852\0774435-sheets-OverheadSpanSignStr\Details.dgn



Support Design Loads: See Base Sheet 05-A-1 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 veri ed or amended as appropriate.

⑥ "H" based on 15'-0" or actual sign height, whichever is greater.

Back II shall be placed prior to erection of support frame

8" $\varnothing$ 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.

END ELEVATION

Structure Number	Station	Support		H ⑥	A
		Left	Right		
7S015S016R008.07	104+65 (IL 16)	X	X	26'-6"	19'-9"
7S015S016L008.54	125+13 (IL 16)	X	X	26'-0"	19'-3"

05-A-4

2-17-2017

USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -
DRAWN -	REVISED -	
PLOT SCALE = \$\$SCALE\$	CHECKED -	REVISED -
PLOT DATE = 8/21/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

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

SCALE: 1"=50'

SHEET 5

OF

9

SHEETS

STA.

TO STA.

F.A.I
RTE.

SECTION

COUNTY

TOTAL
SHEETS

SHEET
NO.

57

(15-22HB-4)BR (15-22)R

COLES

1086

619

CONTRACT NO. 74435

ILLINOIS FED. AID PROJECT

MODEL: Overhead Sign Str 6 (Sheet)
FILE NAME: c:\pwy\work\hrtz\akid0852852\074435-sheets-OverheadSpanSignStrDetails.dgn

05-A-4A

2-17-2017

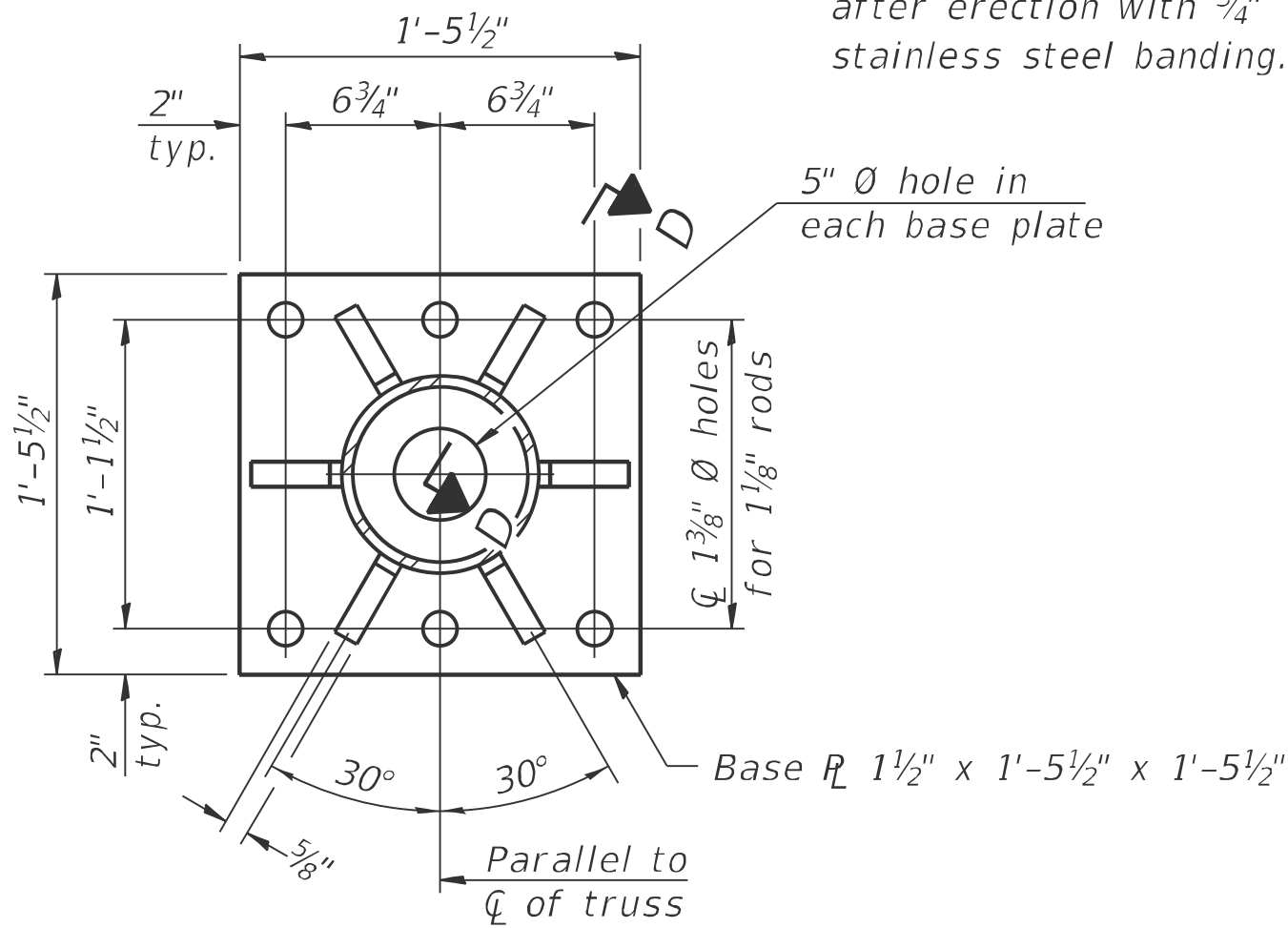
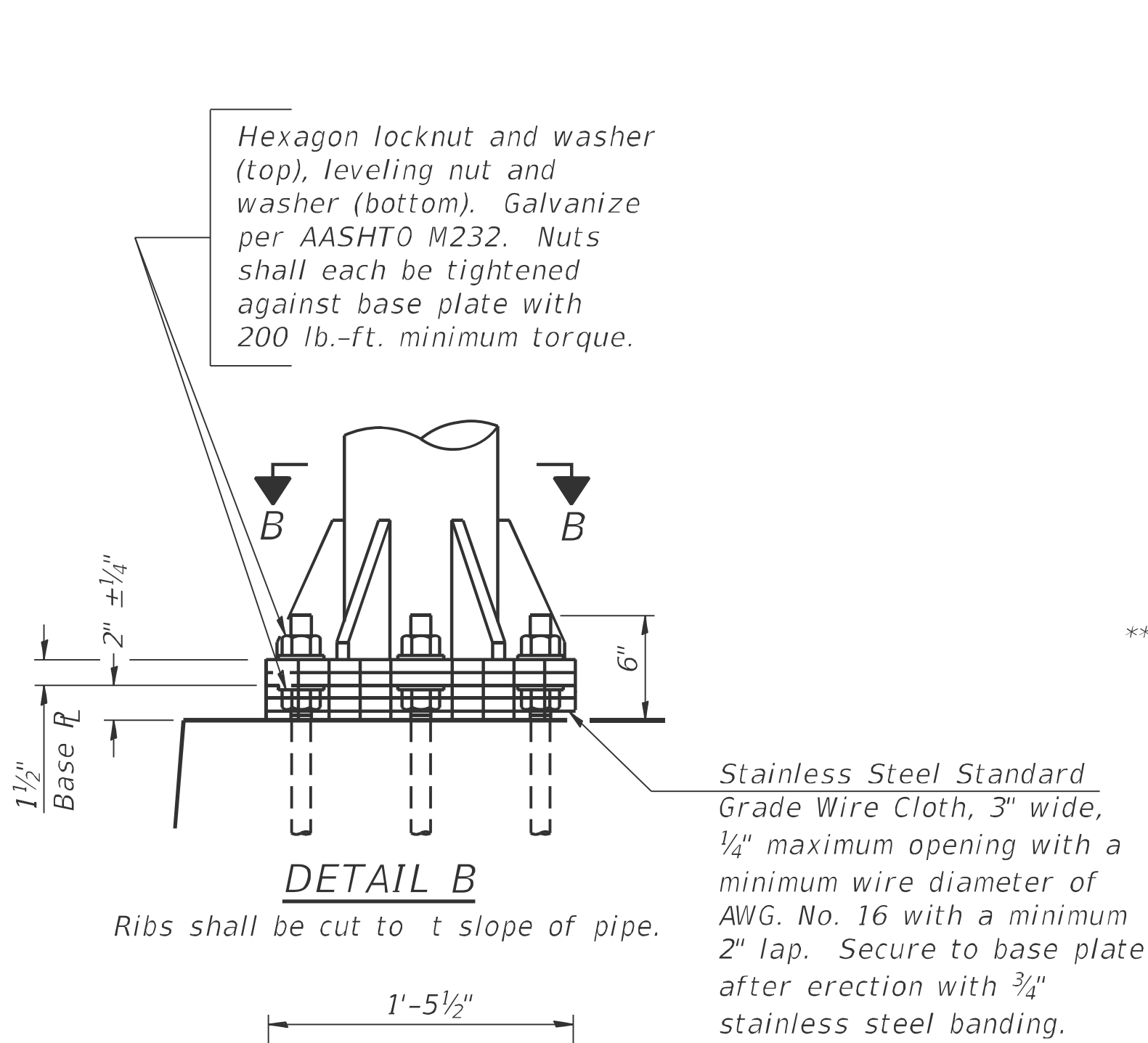
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DRAWN -	REVISED -	
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PLOT DATE = 8/21/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

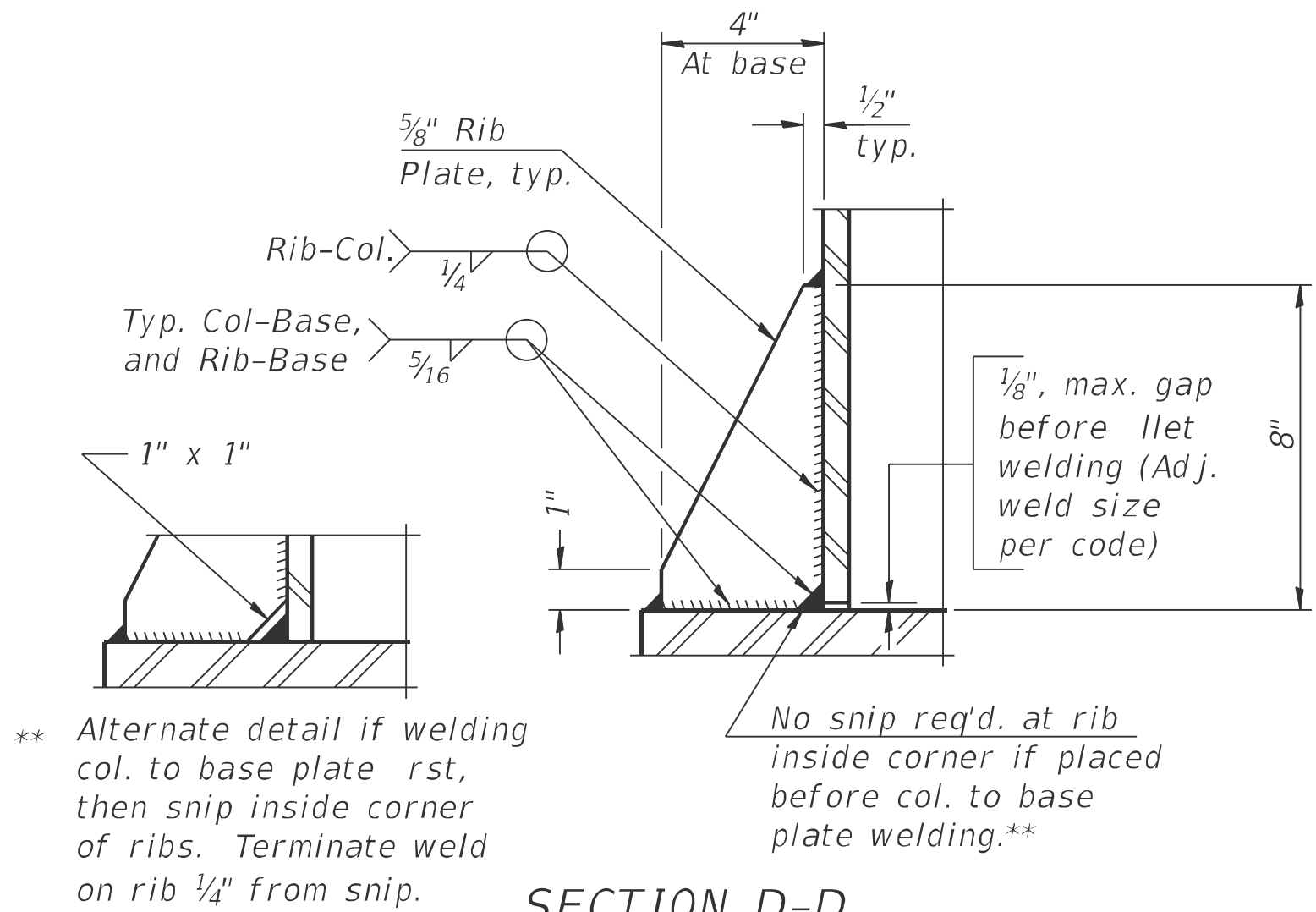
OVERHEAD SIGN STRUCTURES
SUPPORT FRAME DETAILS - ALUMINUM TRUSS

SCALE: 1"=50' SHEET 6 OF 9 SHEETS STA. TO STA.

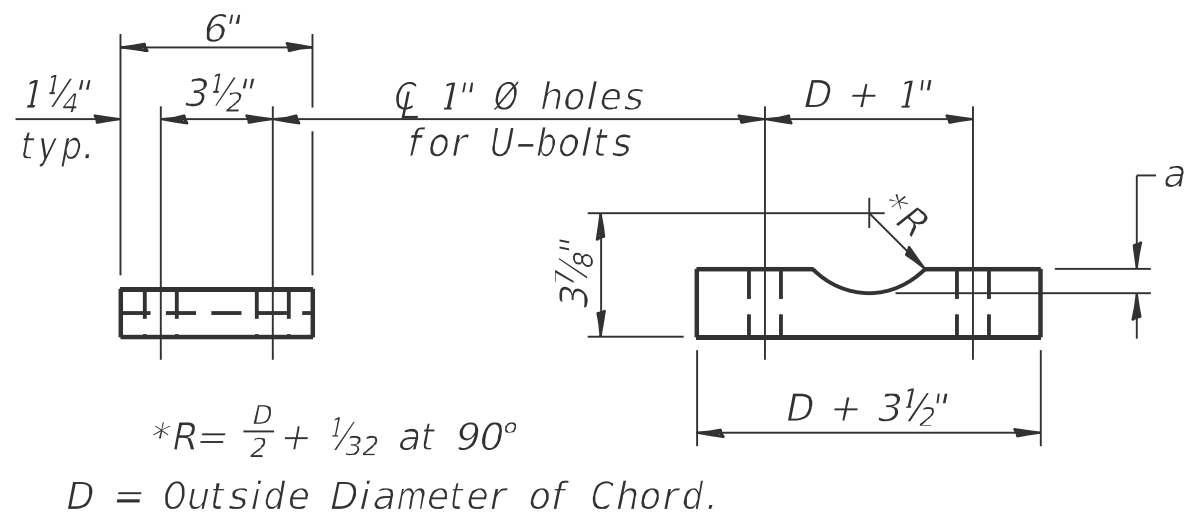
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57	(15-22HB-4)BR (15-22)R	COLES	1086	620
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



SECTION B-B



SECTION D-D



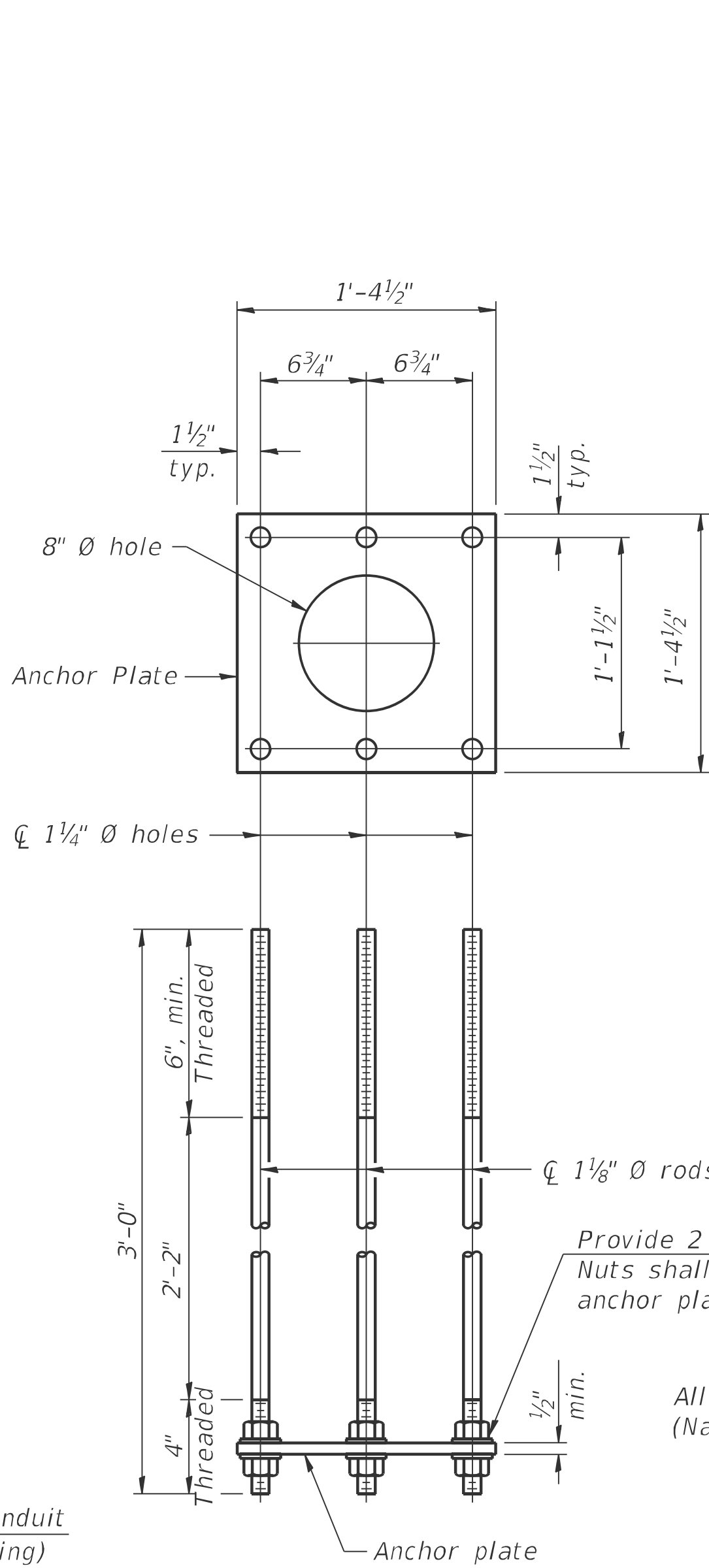
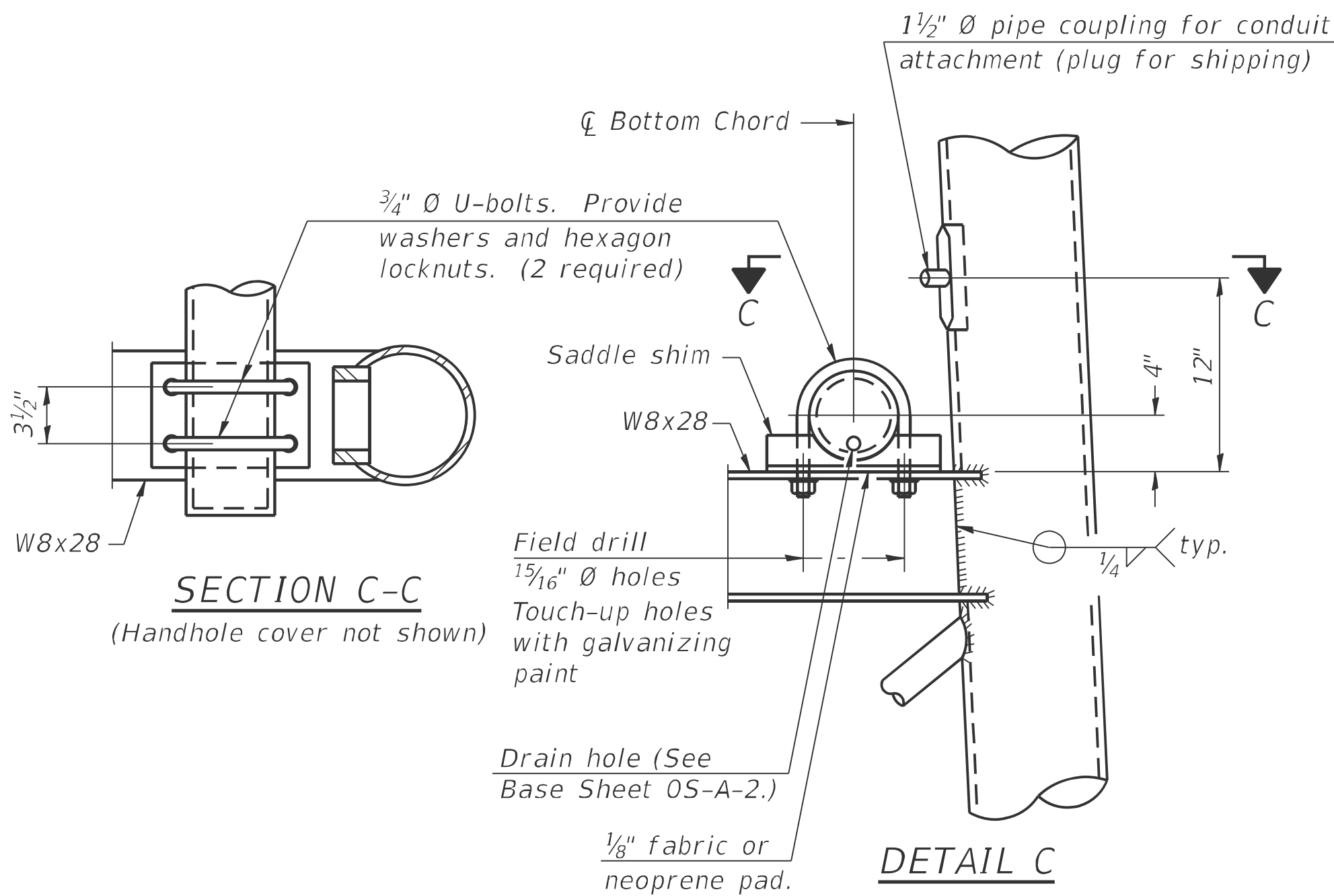
SADDLE SHIM DETAIL

ASTM B26 Alloy 356-F

or

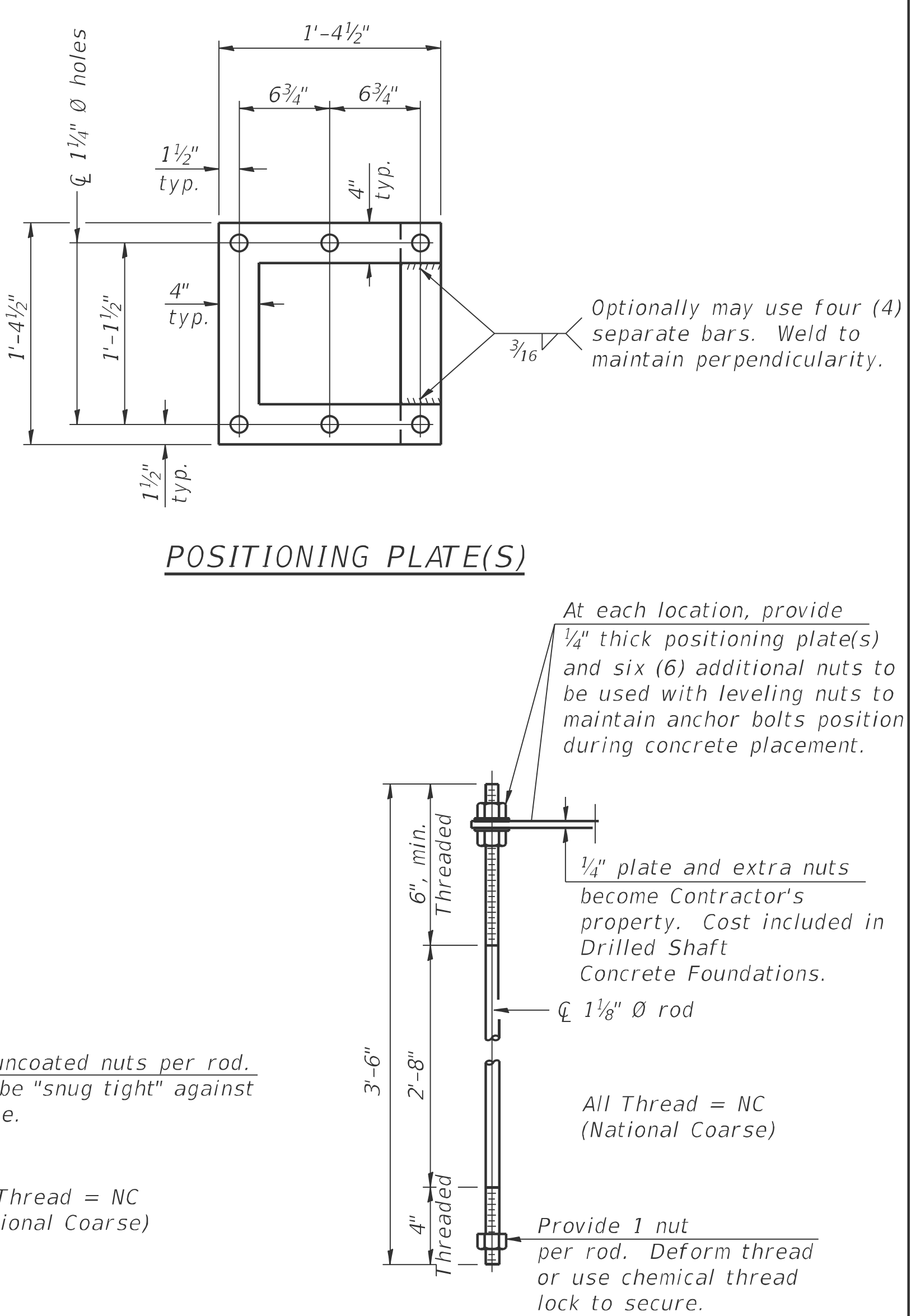
ASTM B209 Alloy 6061-T651
(4 required per sign truss)

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

Spread Footing Foundation

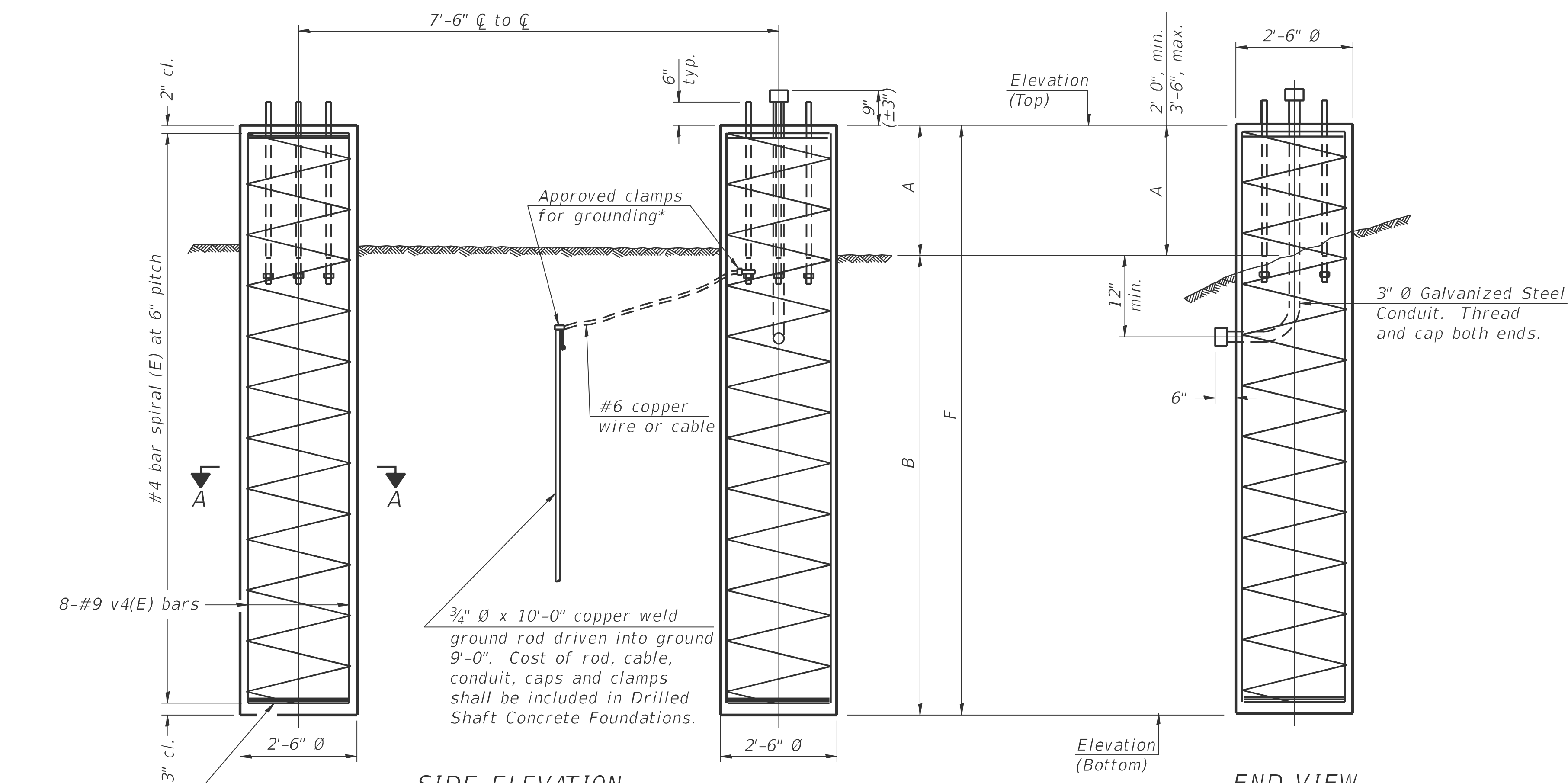


ANCHOR ROD DETAIL

Drilled Shaft Foundation

Anchor rods shall conform to ASTM F1554 Grade 105. Galvanize upper 12" minimum per AASHTO M232. No welding shall be permitted on rods.

TYPE I-A TRUSS
8" Ø PIPE SUPPORT FRAME DETAILS



BAR LIST - EACH FOUNDATION

<i>Bar</i>	<i>Number</i>	<i>Size</i>	<i>Length</i>	<i>Shape</i>
v4(E)	16	#9	F less 5"	————
#4 bar spiral (E) - see Side Elevation				

NOTES:

The foundation dimensions shown are based on the presence of mostly cohesive soils with an average Unconfined Compressive Strength (Q_u) of at least 1.25 tsf, which must be determined by previous soil investigations at the jobsite. When other conditions are indicated, the boring data will be included in the plans and the foundation dimensions shown will be the result of site specific designs.

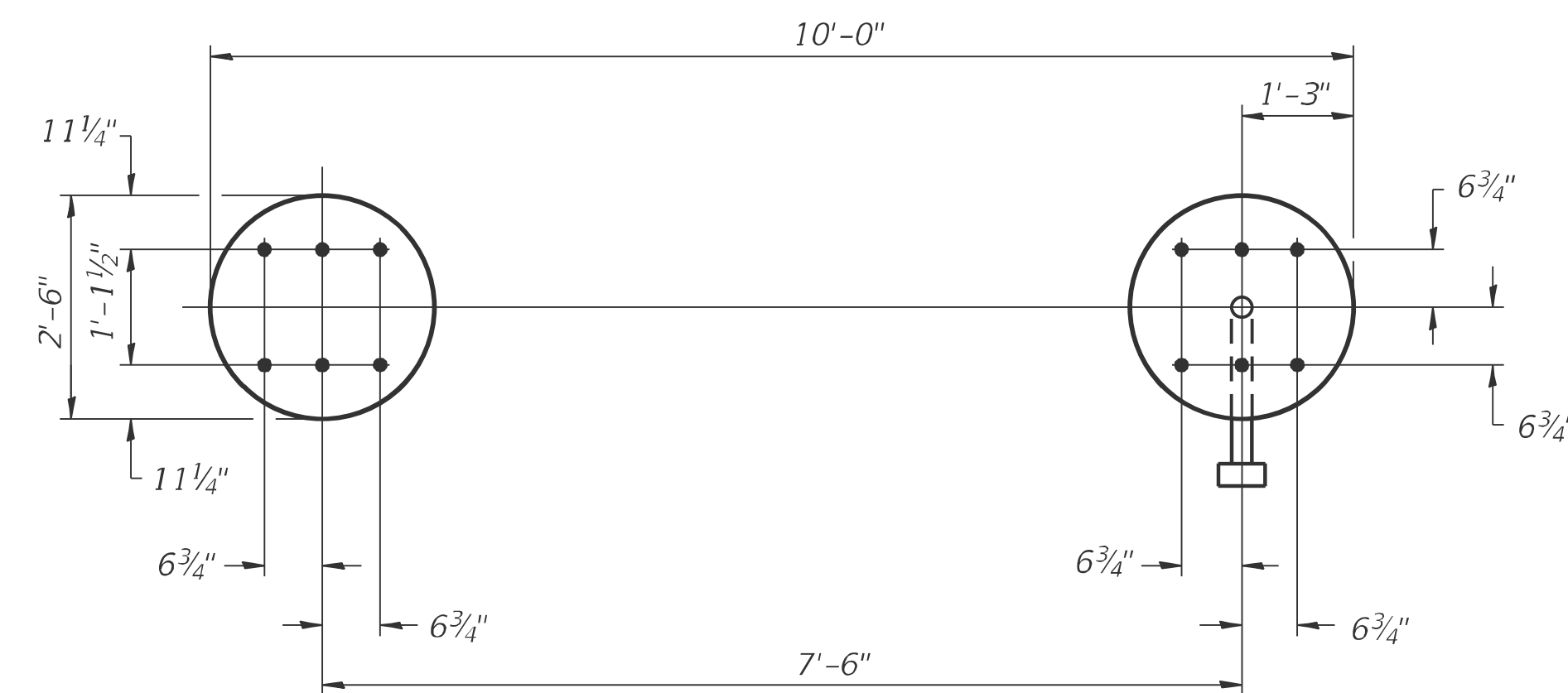
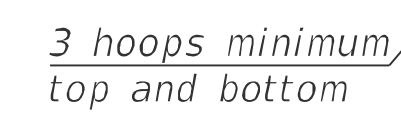
If the conditions encountered are different than those indicated, the Contractor shall notify the Engineer to determine if the foundation dimensions need to be modified. If dimensions "B" or "F" are revised by more than 12" by the Contractor, "as-built" plans shall be prepared and submitted to the District Bureau of Operations for future reference.

*No sonotubes or decomposable forms shall be used below the lower conduit entrance.
Permanent metal forms or other shielding may not be left in place below that elevation
without the Engineer's written permission.*

Concrete shall be placed monolithically, without construction joints.

Back II shall be placed per Article 502 of Standard Specification and prior to erection of support column.

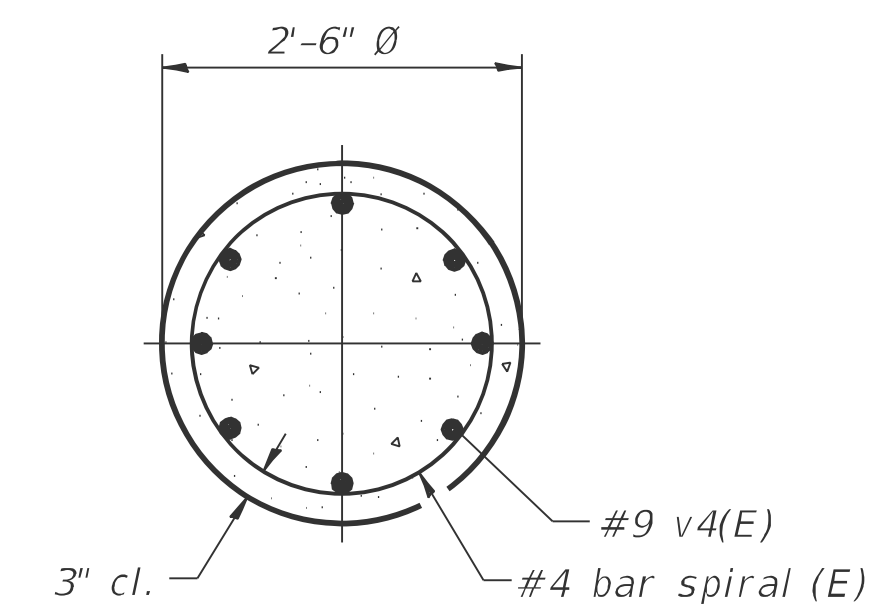
A normal surface finish followed by a Concrete Sealer application will be required on concrete surfaces above the lowest elevation 6" below finished ground line. Cost included in Drilled Shaft Concrete Foundation.



PLAN

For anchor rod size and placement,
see Support Frame Detail Sheet.

* Anchor rod shall be ground or
led to bright metal at clamp
and cable connection location.



SECTION A-A

DETAILS FOR 8" Ø SUPPORT FRAME
TYPE I-A TRUSS

[illegible]

054-F2

2-17-2017

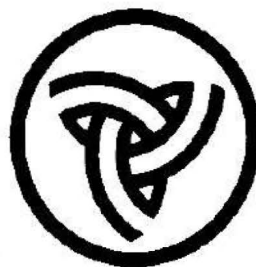
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	DRAWN -	REVISED -
PLOT SCALE = \$Scales	CHECKED -	REVISED -
PLOT DATE = 8/21/2024	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

OVERHEAD SIGN STRUCTURES DRILLED SHAFT DETAILS

SCALE: 1"=50'	SHEET 7	OF 9	SHEETS	STA.	TO STA.
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F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	621
		CONTRACT NO. 74435		
ILLINOIS FED. AID PROJECT				



Illinois Department
of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 5/4/23

ROUTE IL 16 DESCRIPTION Sign Truss Foundation LOGGED BY Sandschafer

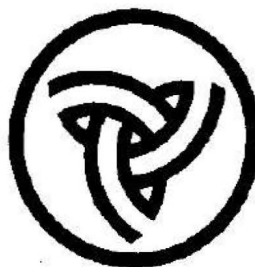
SECTION (15-22HB-4)BR (15-22)R LOCATION E 1/2, SEC. 17, TWP. 12 N, RNG. 8 E, 3rd PM, Latitude W 88.318159, Longitude N 39.484483

COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER Auto ETR=91.8% @ 57.4 bpm

STRUCT. NO. Station	Type I-A Aluminum Sign 125+13	D E P T H (ft)	B L O W S (/6")	U C S (tsf)	M O I S T (%)	Surface Water Elev. N/A ft	D E P T H (ft)	B L O W S (/6")	U C S (tsf)	M O I S T (%)
						Stream Bed Elev. N/A ft				
BORING NO.	3 (Median)					Groundwater Elev.:				
Station	125+19					First Encounter Dry ft				
Offset	11.0 ft RT					Upon Completion Dry ft				
Ground Surface Elev.	99.66	ft	(ft)	(/6")	(tsf)	After 24 Hrs. 93.7 ft	ft	(ft)	(/6")	(tsf)
3-inches of Asphalt over 10-inches of Concrete over 7-inches of Gravel						Very stiff, wet, grey, SILTY CLAY LOAM	78.66	4	2.1	20
Brown, SANDY CLAY LOAM						Benchmark: TBM - IL 16 Westbound Centerline at Sta. 124+50. Assumed Elevation = 100.00 feet. End of Boring				
Soft, wet							-5	2	0.4	19
Medium							1	0.6	17	
Stiff, moist, grey, CLAY LOAM TILL							1	1.0	14	
Very stiff							2	1.7	12	
							1	2.1	13	
							2	1.8	12	
							1			
							-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), WH-Weight of Hammer,
NT-Not Tested.

BBS, form 137 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
Illinois Department of Transportation

SOIL BORING LOG

Page 1 of 1

Date 5/4/23

ROUTE IL 16 DESCRIPTION Sign Truss Foundaion LOGGED BY Sandschafer

SECTION (15-22HB-4)BR (15-22)R LOCATION E 1/2, SEC. 17, TWP. 12 N, RNG. 8 E, 3rd PM, Latitude W 88.318191, Longitude N 39.484562

COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER Auto ETR=91.8% @ 57.4 bpm

STRUCT. NO. Station	Type I-A Aluminum Sign 125+13	D E P T H (ft)	B L O W S (/6")	U C S (tsf)	M O I S T (%)	Surface Water Elev. N/A ft	D E P T H (ft)	B L O W S (/6")	U C S (tsf)	M O I S T (%)
						Stream Bed Elev. N/A ft				
BORING NO.	4 (North)					Groundwater Elev.:				
Station	125+19					First Encounter Dry ft				
Offset	31.0 ft LT					Upon Completion Dry ft				
Ground Surface Elev.	98.57	ft	(ft)	(/6")	(tsf)	After 24 Hrs. 92.6 ft	ft	(ft)	(/6")	(tsf)
Topsoil						Stiff, moist, grey, CLAY LOAM Till	77.57	6	2.0	13
Brown, SANDY CLAY LOAM						Benchmark: TBM - IL 16 Westbound Centerline at Sta. 124+50. Assumed Elevation = 100.00 feet. End of Boring				
Stiff							2	1.5	16	
Very soft, wet							-5	1	0.2	15
Stiff, moist							1	1.0	13	
Soft, moist, grey, Gravely SANDY LOAM							3	0.5	8	
Very stiff, moist, grey, CLAY LOAM Till							1	2.5	12	
Stiff							2	1.9	12	
							1	1.7	13	
							2			
							-20			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206), WH-Weight of Hammer,
NT-Not Tested.

BBS, form 137 (Rev. 8-99)

054-F2

2-17-2017

MODEL: Overhead Sign Str 9 (Sheet)
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DRAWN -	REVISED -	
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PLOT DATE = 8/23/2024	DATE -	REVISED -

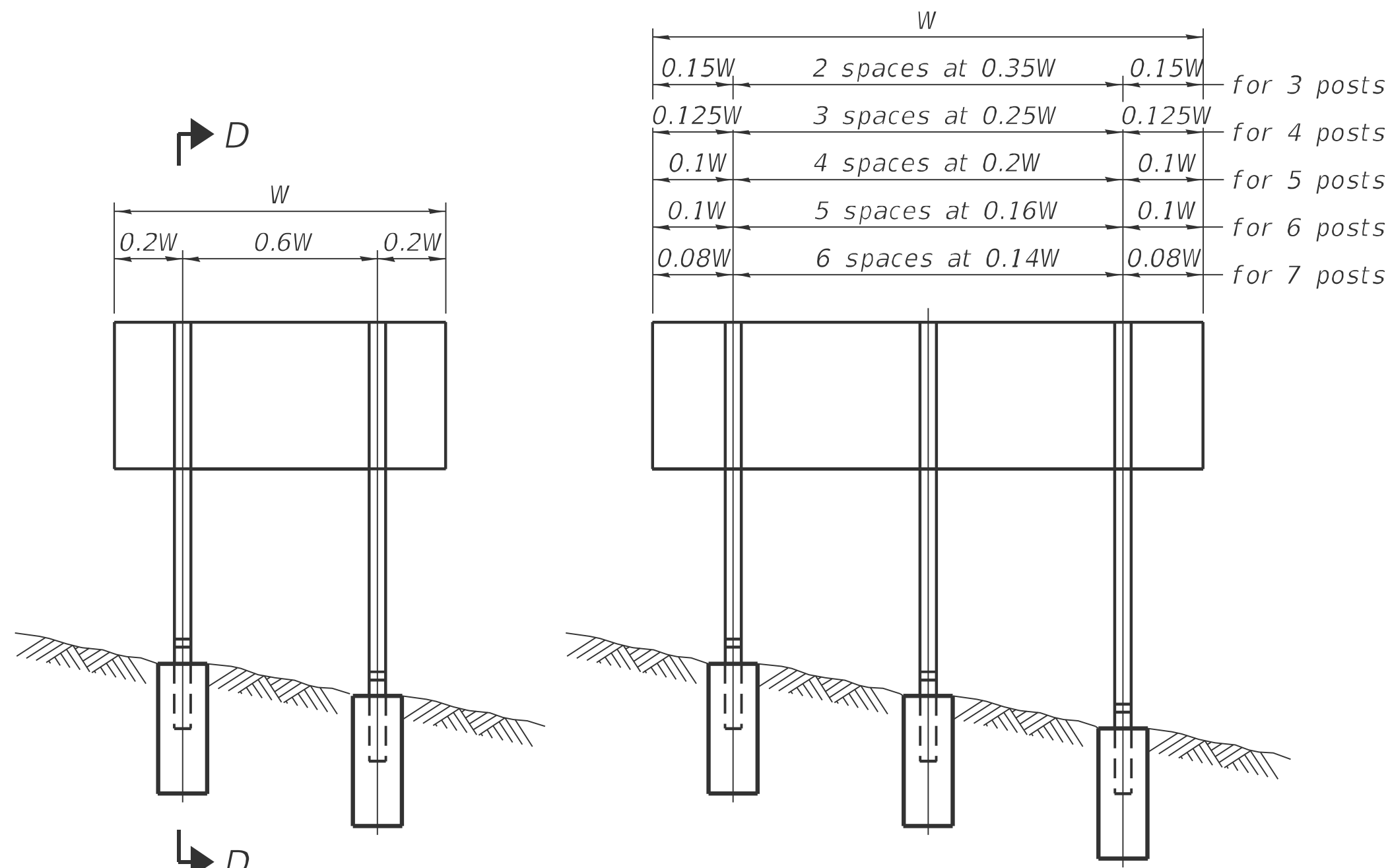
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORINGS
STRUCTURE 7S015S016L008.54

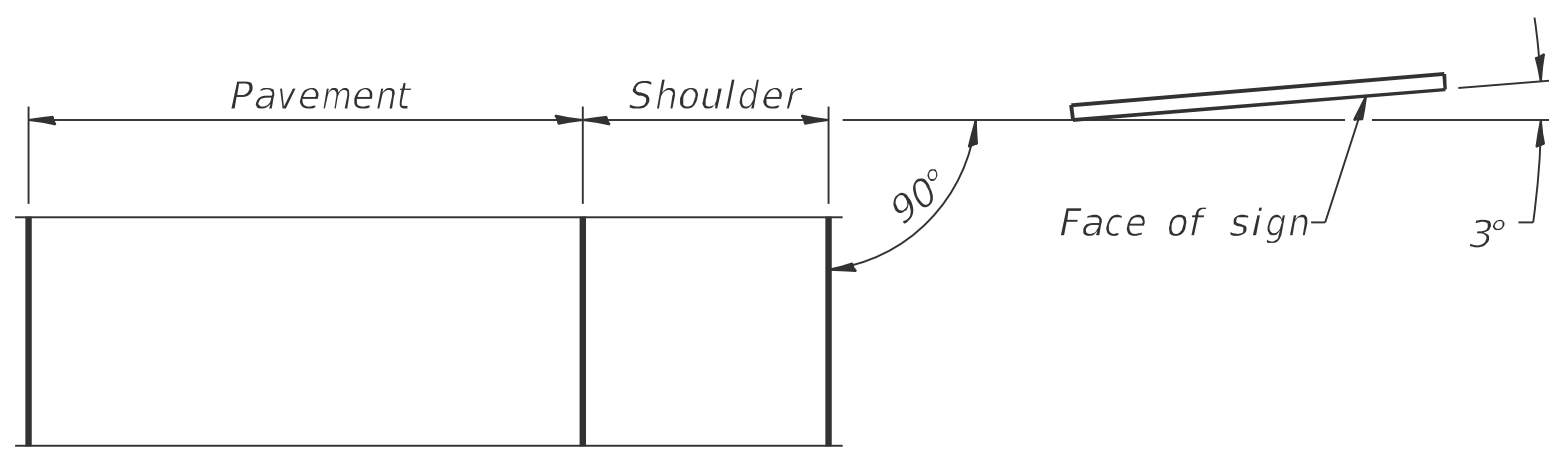
SCALE: 1"=50' SHEET 9 OF 9 SHEETS STA. TO STA.

F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	623
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

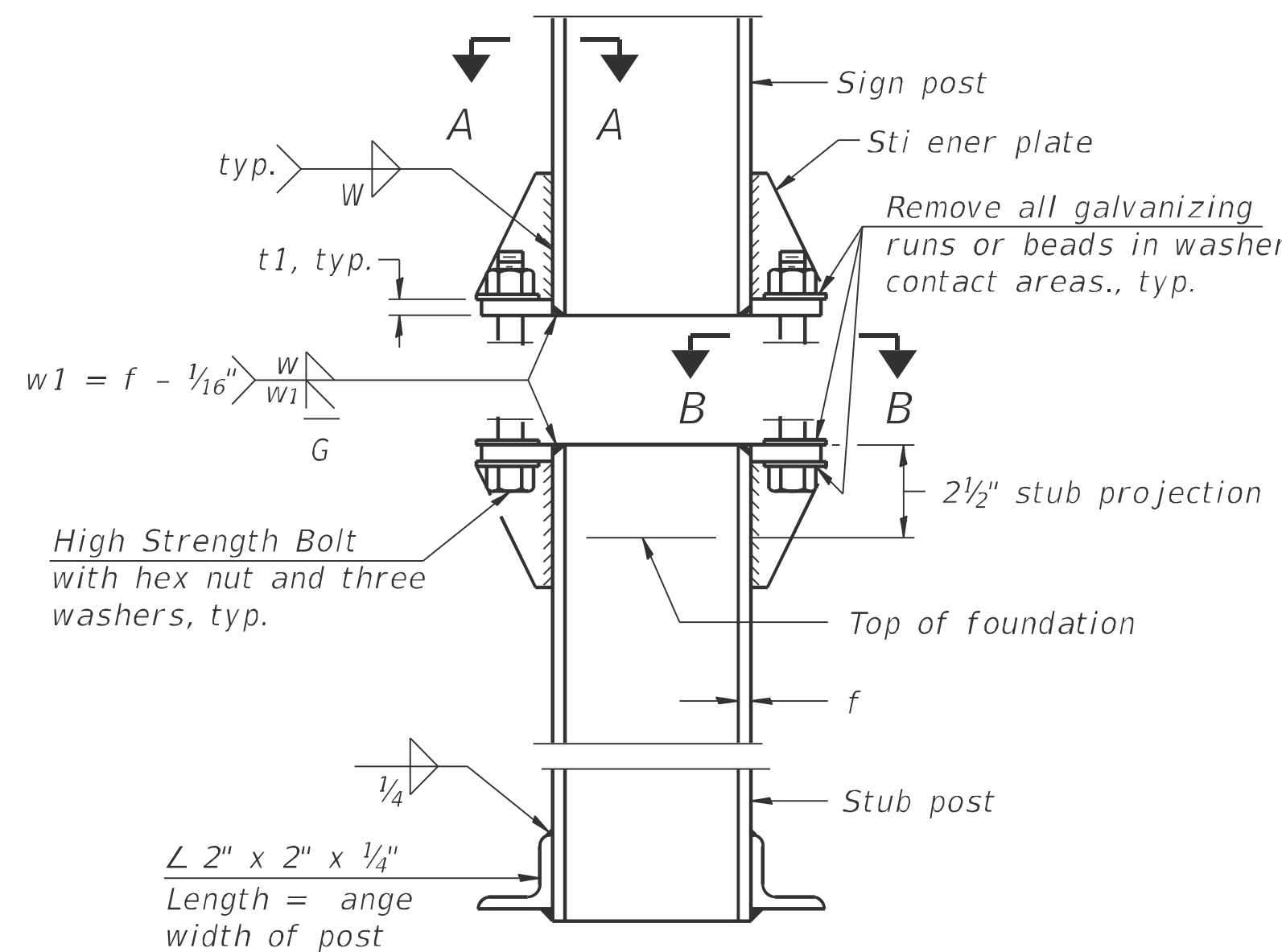
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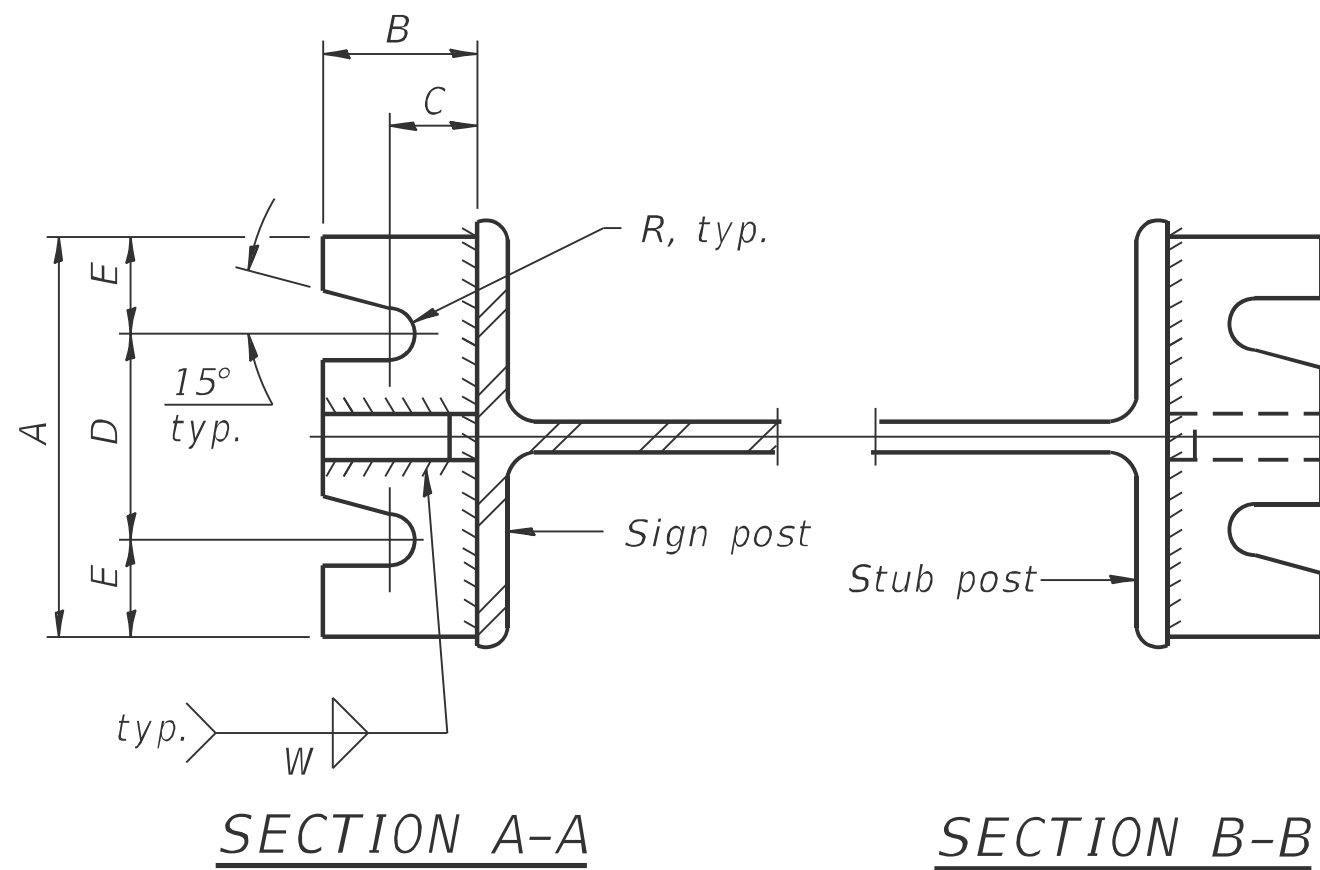
ELEVATION



LOCATION SKETCH

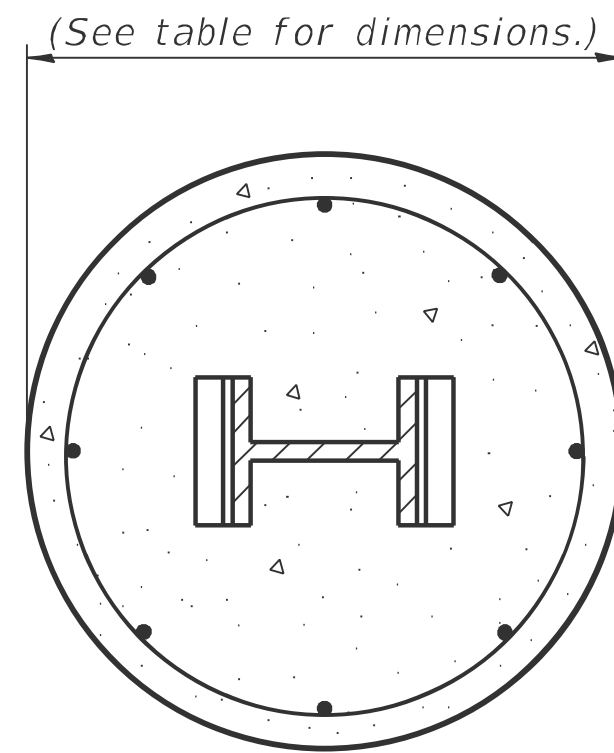


ELEVATION
SIGN POST & STUB POST

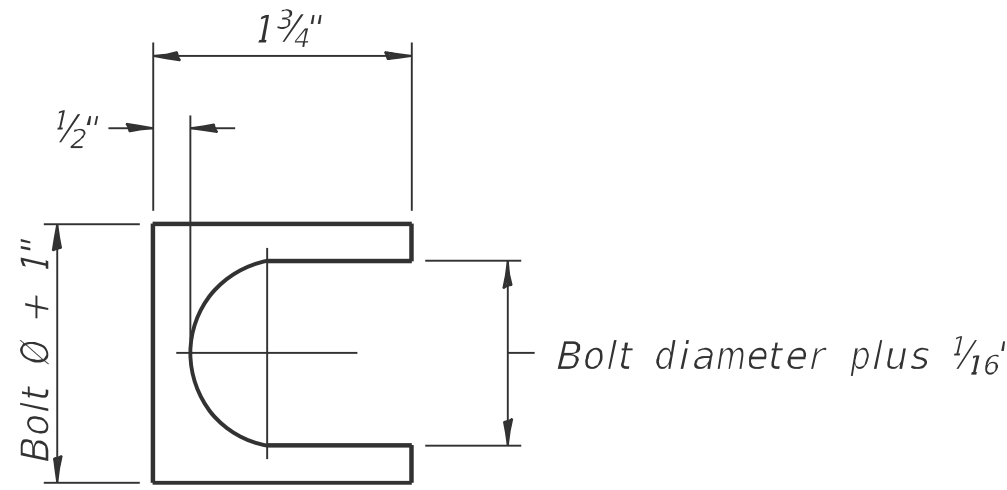


SECTION A-A

SECTION B-B

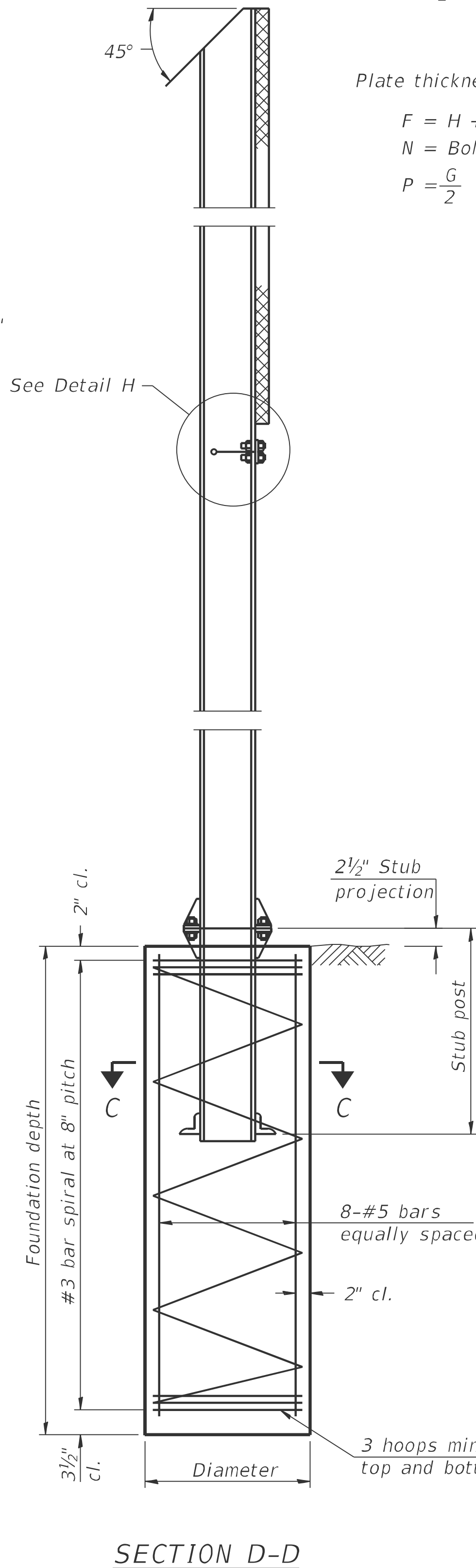


SECTION C-C

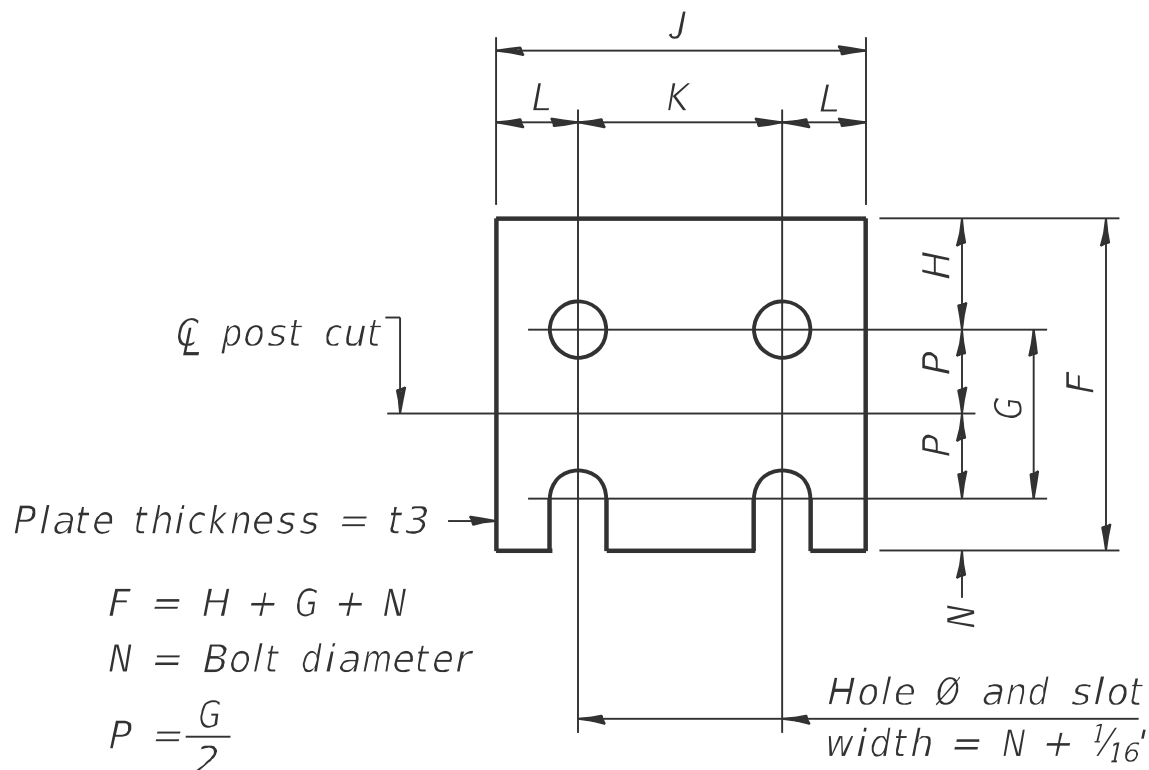


SHIM DETAIL

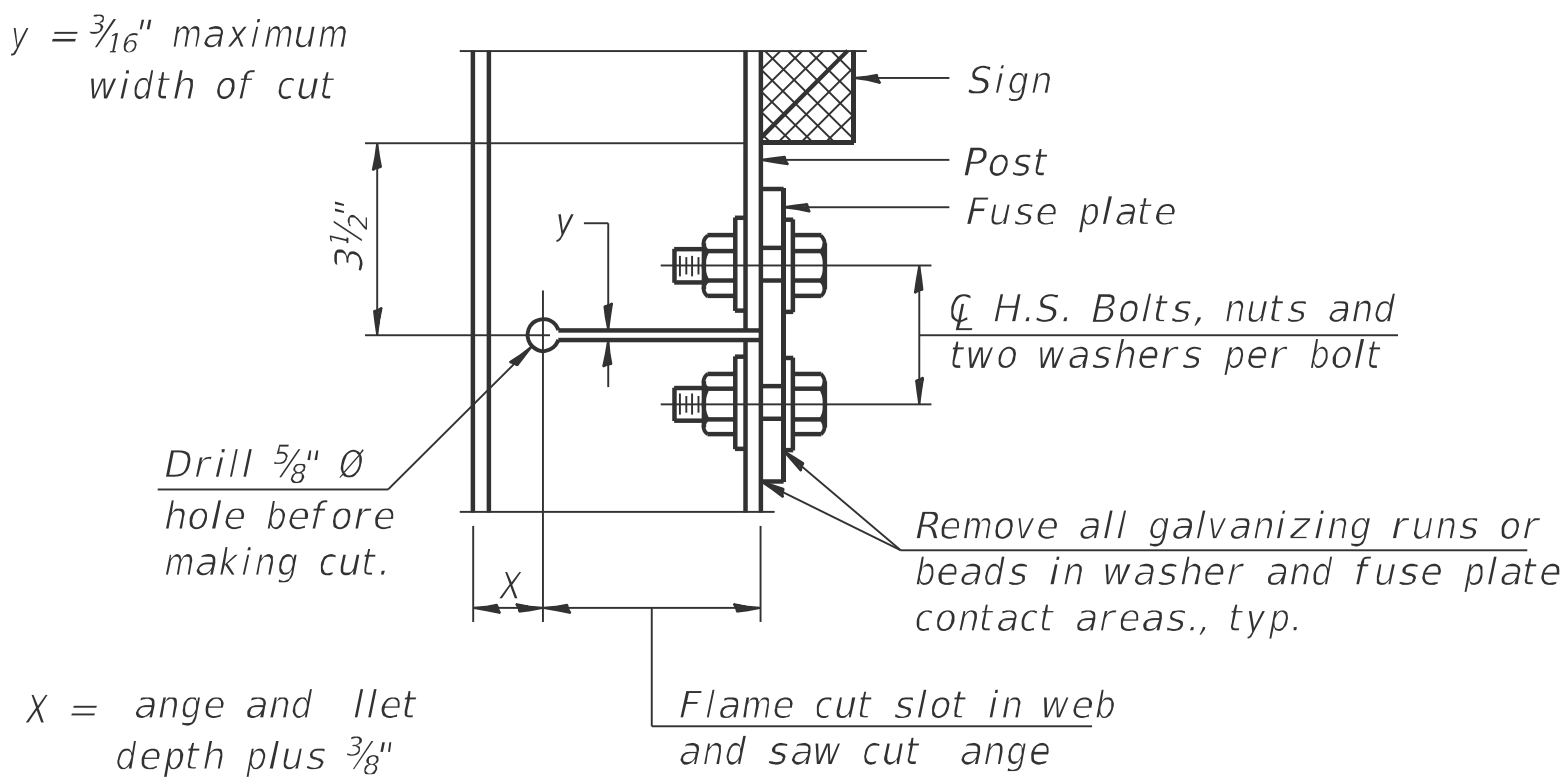
Furnish two 0.01" thick and two 0.03" thick stainless steel or brass (ASTM B36) shims per post.



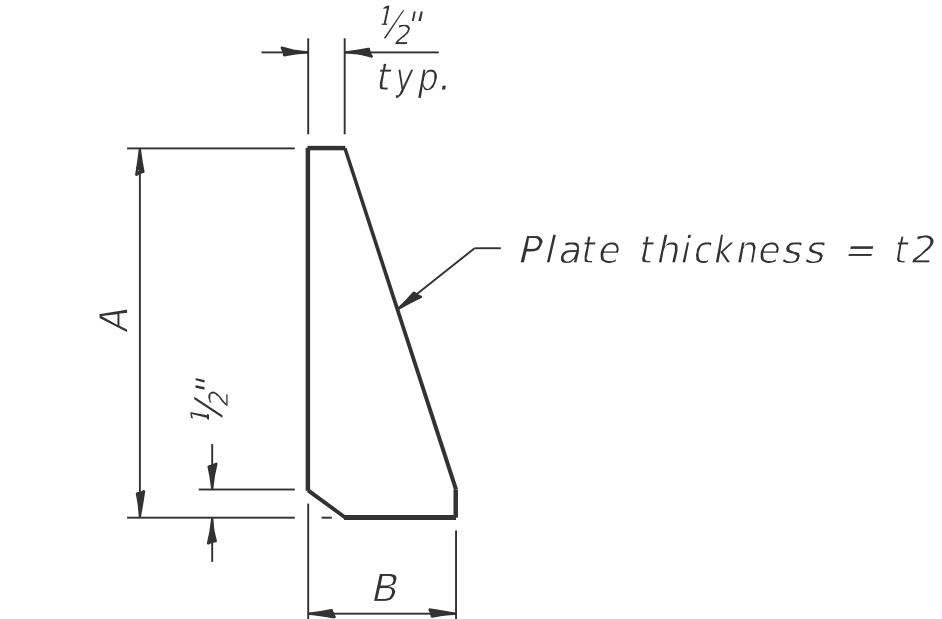
SECTION D-D



FUSE PLATE DETAIL
(Install with notches down.)



DETAIL H



STIFFENER PLATE DETAIL
Diameter

GENERAL NOTES

Posts shall be plumbed by using shims with post-to-stub post connection bolts snug tight only. Final tightening of all High Strength Bolts shall be in accordance with Article 727.05 and threads at the junction of the bolt and nut shall be burred or center punched to prevent the nut from loosening.

LOADING: 80 m.p.h. wind with 30% gust factor, normal to sign.

DESIGN STRESSES:
Structural steel - 20,000 p.s.i.
Reinforcing steel - 20,000 p.s.i.
Concrete - 1,400 p.s.i.
Footing soil pressure - 2,000 p.s.f.

After fabrication, the post, fuse plate and upper 6", min. of the stub post shall be hot-dip galvanized in accordance with AASHTO M111. All bolts, nuts and washers shall be hot-dip galvanized in accordance with AASHTO M232.

Work this sheet with Base Sheet BAW-A-2.

BAW-A-1

2-17-2017

(Sheet 1 of 2)

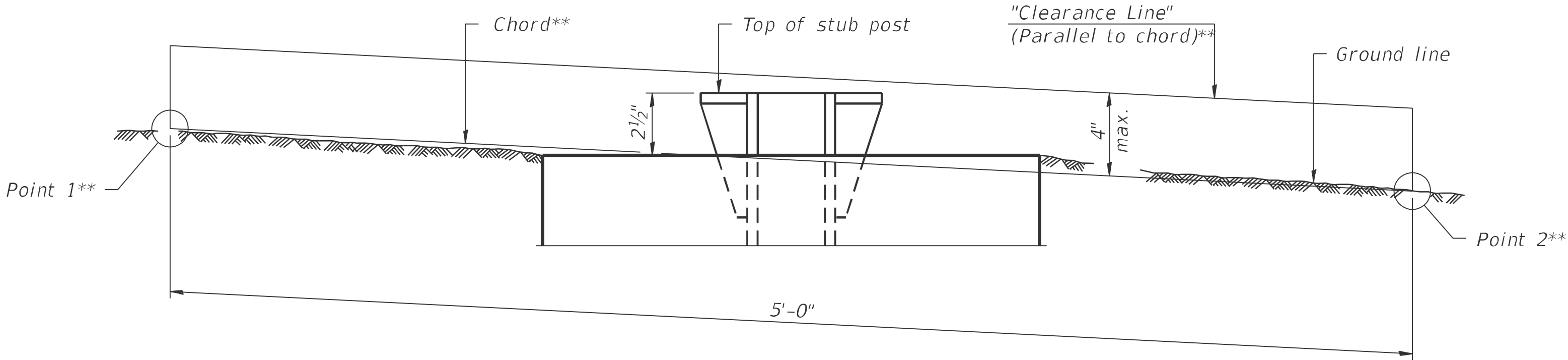
DESIGNED - DRAWN - CHECKED - DATE -	REVISD - REVISED - REVISED - REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BREAK-AWAY WIDE FLANGE STEEL SIGN POST DETAILS	SCALE: SHEET 1 OF 2 SHEETS STA. TO STA.	F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
					57	(15-22HB-4)BR (15-22)R	COLES	1086	624
					CONTRACT NO. 74435				
					ILLINOIS FED. AID PROJECT				

MODEL: Wide Flange Sign Post Details-1 [Sheet]
FILE NAME: c:\pwworking\hrtzsk\id652852\D774435-sheets-Break-Away-Wide-Flange-Sign-Post-Details.dgn

POST	CONCRETE FOUNDATION TABLE								POST TO STUB POST CONNECTION DATA										FUSE PLATE DATA			
	Foundation			Reinforcement				Stub Post	Bolt Size	A	B	C	D	E	t1	t2	R	W	J	K	L	t3
	Diameter*	Minimum Depth	Concrete ^① cu. yds.)	Vertical Bars Length	Bar Spirals Diameter	Length	lbs. ②															
W6x9	2'-0"	6'-0"	0.70	5'-9"	1'-8½"	79'-0"	78	2'-3"	⅝" x ¾"	6"	2¼"	1¼"	3½"	1¼"	¾"	½"	1⅜"	¼"	4"	2¼"	⅞"	¼"
W6x15	2'-0"	6'-0"	0.70	5'-9"	1'-8½"	79'-0"	78	2'-6"	⅝" x ¾"	6"	2¼"	1¼"	3½"	1¼"	¾"	½"	1⅜"	¼"	6"	3½"	1¼"	⅜"
W8x18	2'-0"	6'-0"	0.70	5'-9"	1'-8½"	79'-0"	78	2'-6"	¾" x 3¾"	6"	2½"	1⅜"	3¼"	1⅜"	1"	½"	1⅜"	⅝"	5¼"	2¾"	1¼"	⅜"
W10x22	2'-6"	6'-6"	1.18	6'-3"	2'-2½"	105'-0"	92	3'-0"	¾" x 3¾"	6"	2½"	1⅜"	3¼"	1⅜"	1"	½"	1⅜"	⅝"	5¾"	2¾"	1½"	½"
W10x26	2'-6"	7'-0"	1.27	6'-9"	2'-2½"	112'-0"	98	3'-0"	⅞" x 4"	7"	2¾"	1½"	4"	1½"	1"	¾"	1⅝"	⅜"	5¾"	2¾"	1½"	⅝"
W12x26	2'-6"	7'-9"	1.41	7'-6"	2'-2½"	119'-0"	107	3'-0"	⅞" x 4"	7"	2¾"	1½"	4"	1½"	1"	¾"	1⅝"	⅜"	6½"	3½"	1½"	⅝"
W14x30	3'-0"	7'-3"	1.90	7'-0"	2'-8½"	145'-0"	113	3'-0"	⅞" x 4"	7"	2¾"	1½"	4"	1½"	1"	¾"	1⅝"	⅜"	6¾"	3½"	1⅝"	½"
W14x38	3'-0"	8'-0"	2.09	7'-9"	2'-8½"	153'-0"	122	3'-6"	1" x 4½"	7½"	3"	1¾"	4"	1¾"	1¼"	¾"	1⅞"	⅜"	6¾"	3½"	1⅝"	½"
W16x45	3'-0"	8'-6"	2.23	8'-3"	2'-8½"	162'-0"	130	3'-6"	1" x 4½"	7½"	3"	1¾"	4"	1¾"	1¼"	¾"	1⅞"	⅜"	7"	3½"	1¾"	½"

*Dimensional changes required for varying site conditions shall be approved by the Engineer.

POST	FUSE PLATE BOLT SIZE																				
	Sign Height																				
	4'-0"	5'-0"	6'-0"	7'-0"	8'-0"	9'-0"	10'-0"	11'-0"	12'-0"	13'-0"	14'-0"	15'-0"	16'-0"	17'-0"	18'-0"	19'-0"	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"
W6x9	½" x 1½"	½" x 1½"	½" x 1½"	½" x 1½"	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
W6x15	½" x 1¾"	½" x 1¾"	½" x 1¾"	5⁄8" x 2"	5⁄8" x 2"	¾" x 2"	¾" x 2"	¾" x 2"	¾" x 2"	—	—	—	—	—	—	—	—	—	—	—	—
W8x18	½" x 1¾"	½" x 1¾"	½" x 1¾"	½" x 1¾"	5⁄8" x 2"	5⁄8" x 2"	¾" x 2"	¾" x 2"	¾" x 2"	¾" x 2"	—	—	—	—	—	—	—	—	—	—	—
W10x22	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	5⁄8" x 2"	5⁄8" x 2"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	—	—	—	—	—	—	—	—
W10x26	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	5⁄8" x 2¼"	5⁄8" x 2¼"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	—	—	—	—	—	—	—
W12x26	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	5⁄8" x 2¼"	5⁄8" x 2¼"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	—	—	—	—	—	—
W14x30	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	5⁄8" x 2"	5⁄8" x 2"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	¾" x 2¼"	—	—	—	—
W14x38	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	5⁄8" x 2¼"	5⁄8" x 2¼"	¾" x 2½"	¾" x 2½"	¾" x 2½"	¾" x 2½"	7⁄8" x 2½"	7⁄8" x 2½"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"
W16x45	—	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	½" x 2"	5⁄8" x 2¼"	5⁄8" x 2¼"	5⁄8" x 2¼"	¾" x 2½"	¾" x 2½"	7⁄8" x 2½"	7⁄8" x 2½"	7⁄8" x 2½"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"	1" x 2¾"



** For all "Point 1" and "Point 2" locations, "Clearance Line" must be at or above top of stub post.

- ① Quantity includes all concrete necessary for one foundation.
- ② Includes reinforcement bars and spiral hooping for one foundation.

BAW-A-2

2-17-2017

(Sheet 2 of 2)

	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BREAK-AWAY WIDE FLANGE STEEL SIGN POST TABLES				F.A.I RTE.	SECTION		COUNTY	TOTAL SHEETS	SHEET NO.	
		DRAWN -	REVISED -						57	(15-22HB-4)BR (15-22)R		COLES	1086	625	
		CHECKED -	REVISED -						CONTRACT NO. 74435						
	PLOT DATE = 8/21/2024	DATE -	REVISED -						SCALE:		SHEET 2	OF 2	SHEETS	STA.	TO STA.

Model: Default
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GENERAL NOTES

THIS PROJECT IS LOCATED CROSSING THE NORTH BOUND AND SOUTH BOUND EXIT RAMPS OFF OF I-57 MATTOON INTERCHANGE IN COLES COUNTY. THE WORK INCLUDED IN THIS SECTION CONSISTS OF INSTALLING POST MOUNTED SIGNS WITH RRFB BEACONS, PEDESTRIAN PUSH BUTTONS, TEMPORARY SIGNALS AND ALL OTHER WORK NECESSARY TO COMPLETE THIS SECTION.

THE LOCATION OF ALL FLASHING BEACON COMPONENTS AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. THE FINAL LOCATION SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE EXISTING UTILITY LINES ARE SHOWN ON THE PLANS TO INDICATE THEIR PRESENCE AND APPROXIMATE LOCATION. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION. CALL J.U.L.I.E. AT 1-800-892-0123. THE TRAFFIC SIGNAL UTILITY LINES WILL BE LOCATED BY IDOT, CALL 217-342-5677.

THE TRAFFIC SIGNAL ENGINEER AT THE ILLINOIS DEPARTMENT OF TRANSPORTATION SHALL BE NOTIFIED AT 217-342-5677 AT LEAST 72 HOURS PRIOR TO TURNING ON ANY FLASHER OR CONTROLLER UNIT.

THE SIZE OF THE CABLE SUPPLIED SHALL BE EQUAL TO OR GREATER THAN THE SIZE OF THE CABLE REQUIRED TO CARRY THE LOAD BETWEEN THE CONTROLLER AND THE SERVICE INSTALLATION.

ALL NEW FLASHER SIGNAL WIRING SHALL EXTEND FROM FLASHER CONTROLLER TO THE FLASHER BEACONS.

ALL HARDWARE SHALL BE TIGHTENED AND WELL SECURED. CABLES SHALL BE NEATLY WOUND IN HANDHOLES. CABLES SHALL BE NEATLY TRAINED IN THE CONTROLLER CABINET.

ALL THREADS OF BOLTS USED IN ASSEMBLY OF TRAFFIC SIGNAL COMPONENTS SHALL BE COATED WITH A NON-LEAD BASED ANTI-SEIZE COMPOUND, SIMILAR TO LEAD PLATE, PRIOR TO ASSEMBLY.

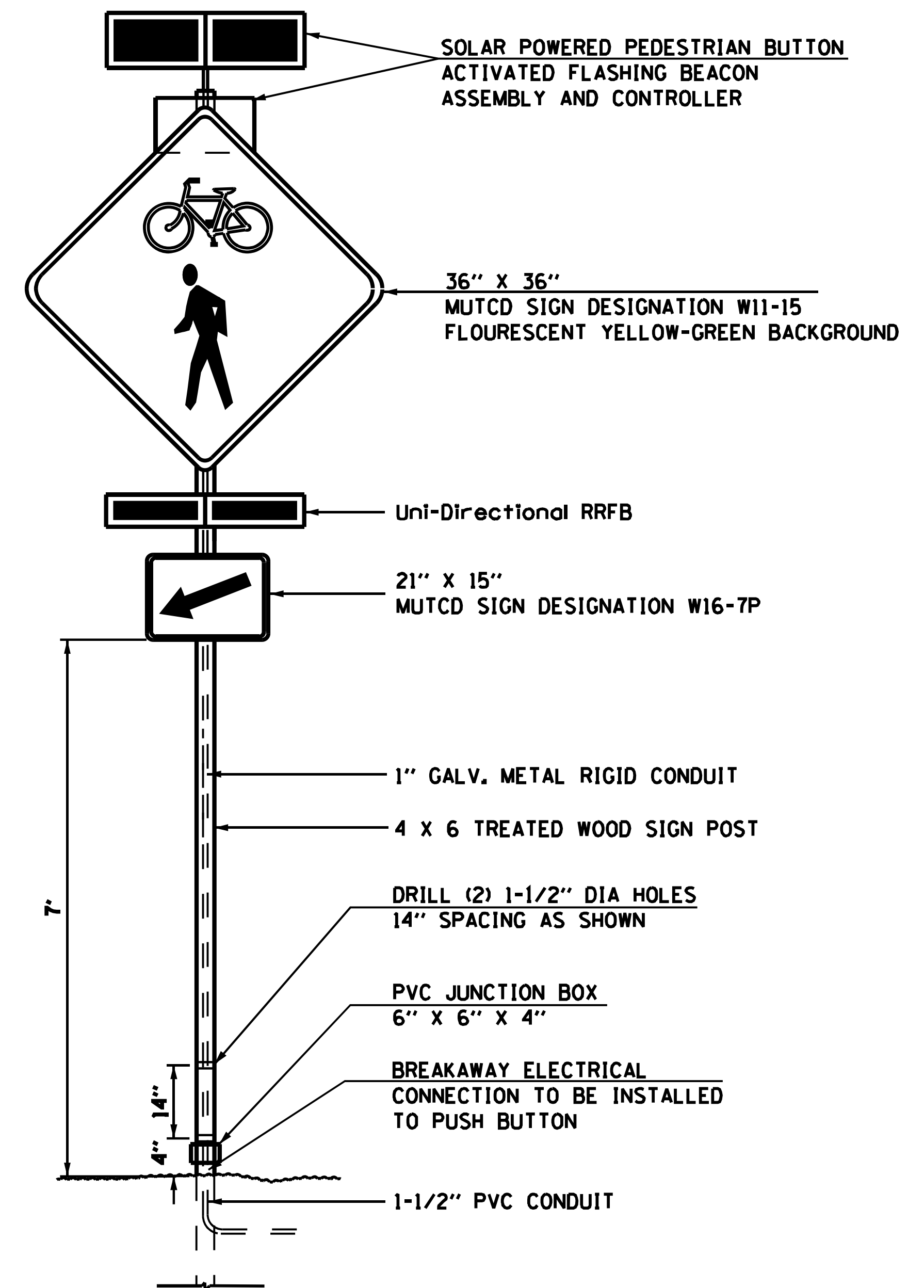
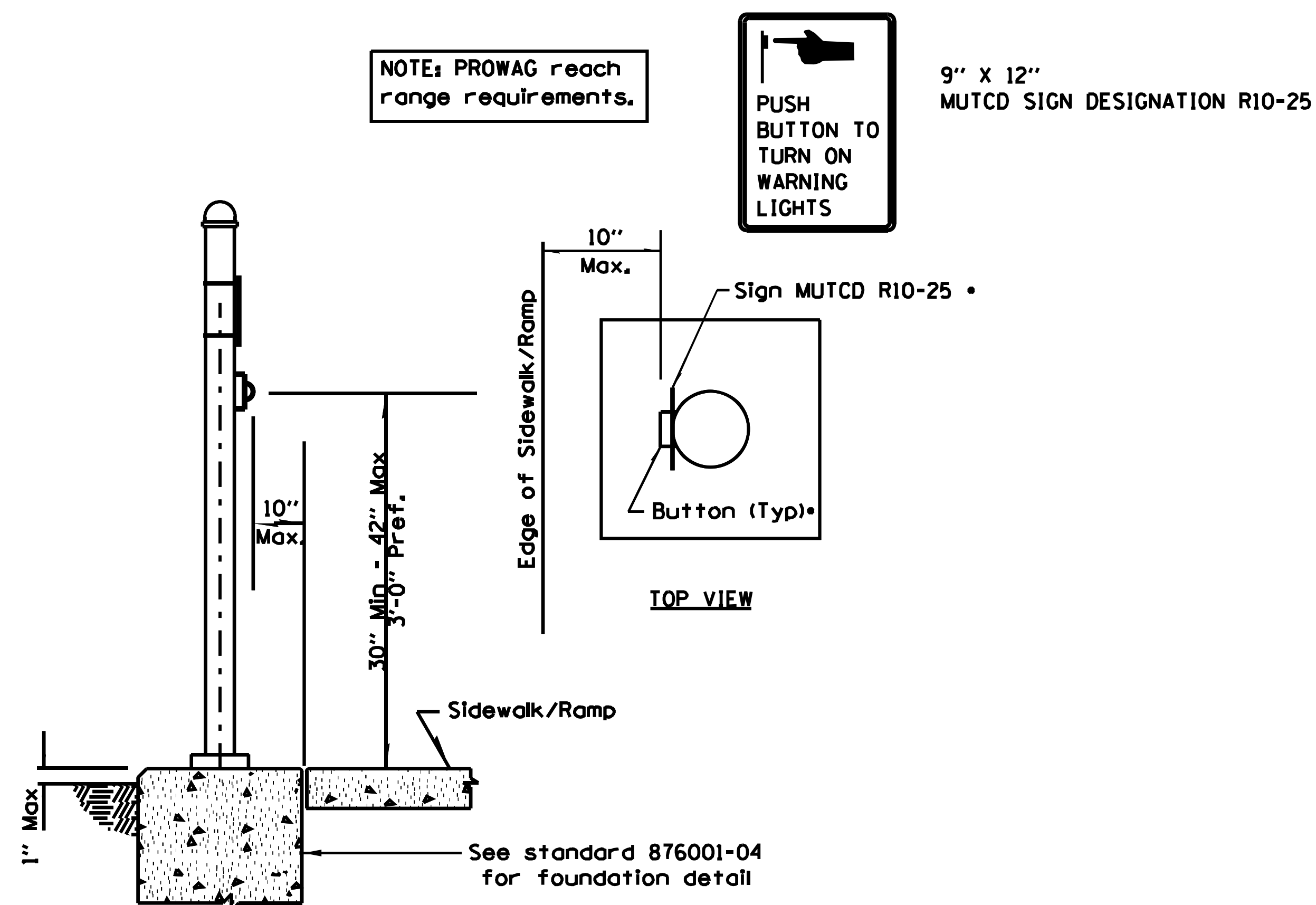
NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR PLACING CONDUIT AT GREATER THAN 2 FOOT MINIMUM DEPTH TO AVOID OBSTACLES SUCH AS UNDERGROUND UTILITIES.

THE CONTRACTOR IS RESPONSIBLE FOR UNCOVERING OR HAND DIGGING AROUND UTILITIES AS NECESSARY. THE COST OF THIS WORK IS TO BE INCLUDED WITH THE ELECTRICAL WORK PAY ITEM.

THE NUMBER OF CONDUCTORS FOR ELECTRIC CABLES AS SHOWN ON THE PLANS SHALL BE THE MINIMUM NUMBER OF CONDUCTORS FURNISHED FOR EACH LOCATION. THE CONTRACTOR MAY SUBSTITUTE AN ELECTRIC CABLE WITH MORE CONDUCTORS THAN SPECIFIED BUT NO ADDITIONAL COMPENSATION WILL BE MADE FOR THE EXTRA CONDUCTORS.

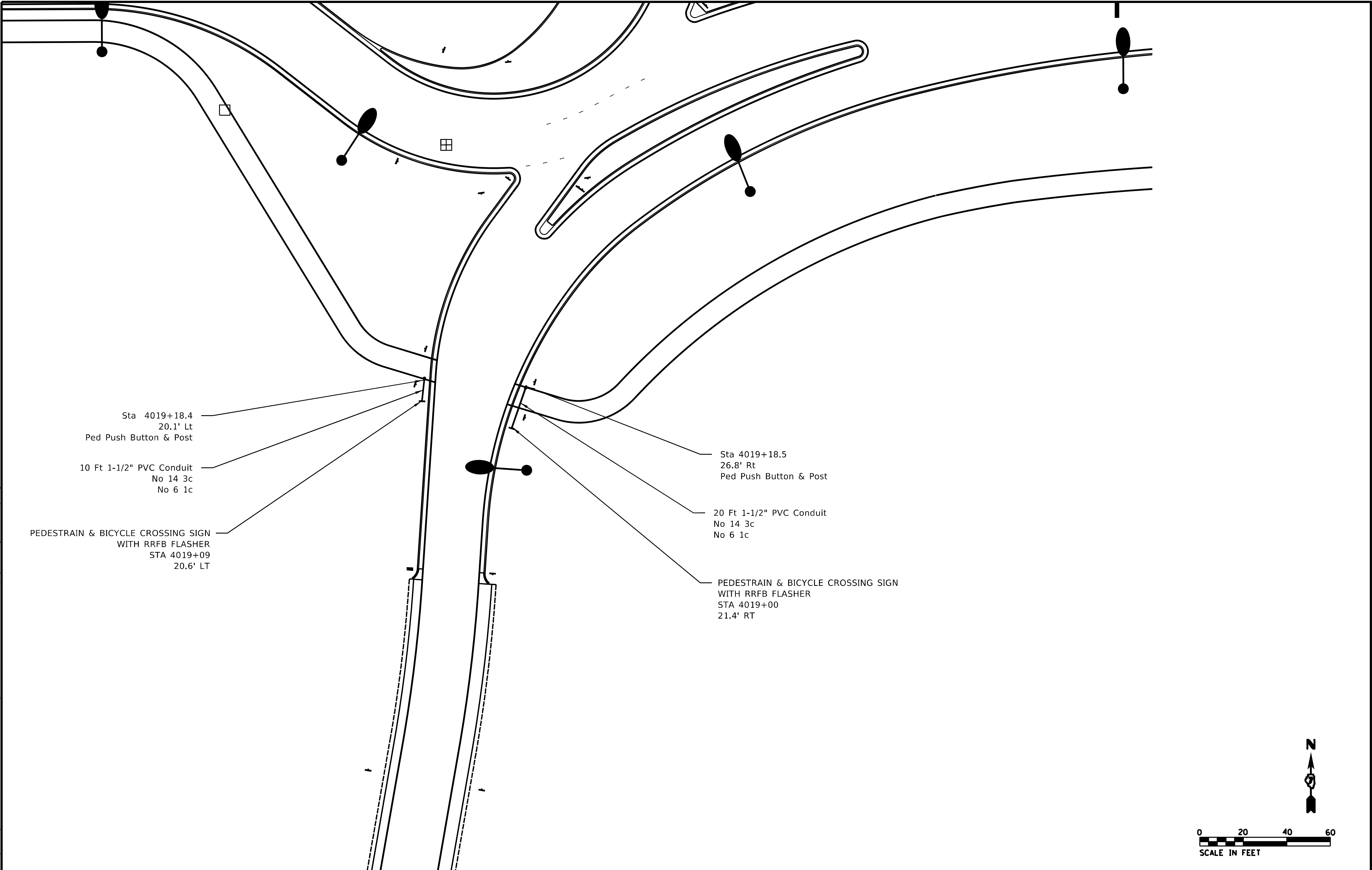
BILL OF MATERIALS

CODE	ITEM	UNIT	QUANTITY
81028340	UNDERGROUND CONDUIT, PVC, 1-1/2" DIA	FOOT	83
81100300	CONDUIT ATTACHED TO STRUCTURE, 1" DIA., GALVANIZED STEEL	FOOT	52
87301225	ELECTRIC CABLE IN CONDUIT, NO 14 3C	FOOT	145
87301900	ELECTRIC CABLE IN CONDUIT, EQUIPMENT GROUNDING CONDUCTOR, NO 6 1C	FOOT	95
87601100	PEDESTRIAN PUSH-BUTTON POST, GALVANIZED STEEL, TYPE 1	EACH	4
89000100	TEMPORARY TRAFFIC SIGNAL INSTALLATION	EACH	2
X1400326	RECTANGULAR RAPID FLASHING BEACON ASSEMBLY (COMPLETE)	EACH	4



FILE NAME: D:\2024\11-22-HB\11-22-HB.dwg	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PED/BICYCLE CROSSING DETAILS				F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -						57	(15-22HB)BR(15-22)R	COLES	1086	627
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	PLOT DATE = 8/23/2024	DATE -	REVISED -		SCALE:	SHEET 1	OF 1	SHEETS	STA.	TO STA.			
										ILLINOIS	FED. AID PROJECT		

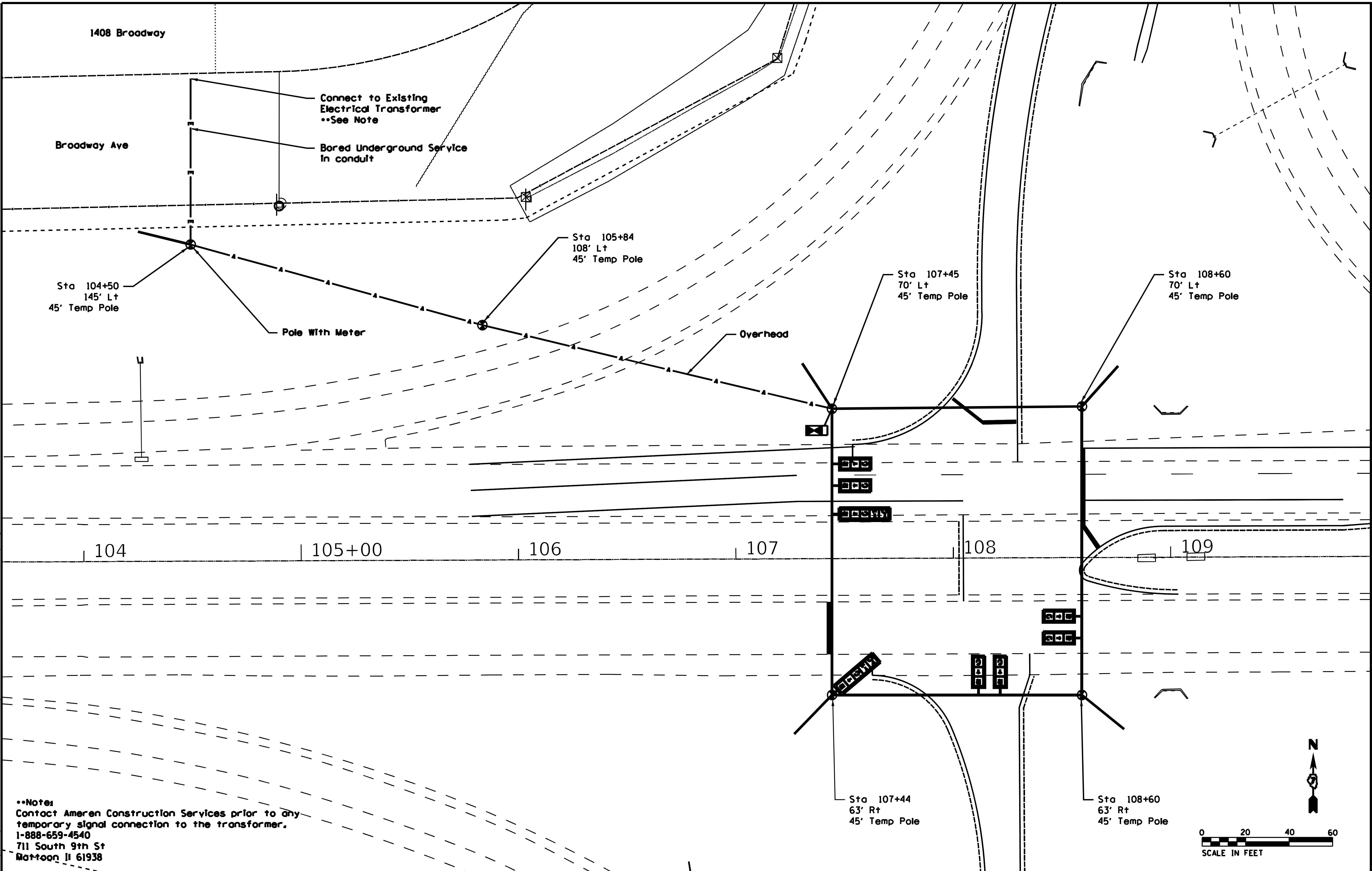
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Project: 74435
User: kahlert
Date: 8/23/2024



	USER NAME = kahlert	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PED/BICYCLE CROSSING EAST SIDE SHARED-USE PATH & PR RAMP C		F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT DATE = 8/23/2024	DATE -	REVISED -				ILLINOIS FED. AID PROJECT				
SCALE:		SHEET 1	OF 1	SHEETS	STA.	TO STA.					



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PROJECT: 1408 Broadway - Signal - 74435 - 11.dwg
SHEET: 1408 Broadway - Signal - 74435 - 11.dwg



••Note:
Contact Ameren Construction Services prior to any
temporary signal connection to the transformer.
1-888-659-4540
711 South 9th St
Mattoon IL 61938

	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TEMPORARY SIGNAL WEST I-57 & IL-16				F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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	PLOT SCALE = 40,0000 ' / in.	CHECKED -	REVISED -						CONTRACT NO. 74435				
	PLOT DATE = 8/23/2024	DATE -	REVISED -										
					SCALE:	SHEET	OF	SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		



LEGEND

	R	EXISTING ELECTRIC SERVICE TO BE REMOVED.
		PROPOSED ELECTRIC SERVICE, 120/240V.
	R	EXISTING LIGHTING CONTROLLER TO BE REMOVED.
		PROPOSED LIGHTING CONTROLLER, 240V, 60A.
	R	EXISTING HIGH MAST TOWER LIGHTING UNIT AND FOUNDATION TO BE REMOVED.
	FR	EXISTING TOWER FOUNDATION TO BE REMOVED.
		PROPOSED LIGHTING UNIT, LUMINAIRE, LED, ROADWAY, OUTPUT DESIGNATION G, 45FT ALUMINUM POLE, 15 FT DAVIT ARM, METAL FOUNDATION, BREAKAWAY COUPLINGS WITH SS SCREEN, 15 FT SETBACK FROM EOP.
	R	EXISTING SIGN LUMINAIRE TO BE REMOVED AND SALVAGED.
		PROPOSED PEDESTRIAN UNDERPASS LUMINAIRE.
		EXISTING ELECTRIC CABLE IN CONDUIT TO BE REMOVED.
		PROPOSED UNIT DUCT, 600V, 2-1C NO.6, 1/C NO.6 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE (UNLESS STATED OTHERWISE)
		PROPOSED COILABLE NONMETALLIC CONDUIT 2" DIA. LENGTH AS NOTED

BILL OF MATERIALS

DESCRIPTION	UNIT	QUANTITY
ELECTRIC SERVICE INSTALLATION	EACH	2
UNDERGROUND CONDUIT, COILABLE NONMETALLIC, 2" DIA.	FOOT	780
CONDUIT ATTACHED TO STRUCTURE, 1" DIA., STAINLESS STEEL	FOOT	245
CONDUIT EMBEDDED IN STRUCTURE, 1" DIA., PVC	FOOT	20
JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 10" X 8" X 6"	EACH	2
UNIT DUCT, 600V, 2-1C NO.6, 1/C NO.6 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE	FOOT	14,236
UNIT DUCT, 600V, 4-1C NO.8, 1/C NO.8 GROUND, (XLP-TYPE USE), 1 1/4" DIA. POLYETHYLENE	FOOT	75
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 8	FOOT	1,265
LUMINAIRE, LED, ROADWAY, OUTPUT DESIGNATION H	EACH	48
LUMINAIRE, LED, UNDERPASS, WALLMOUNT, OUTPUT DESIGNATION E	EACH	9
LIGHTING CONTROLLER, POLE MOUNTED, 240VOLT, 30AMP	EACH	1
LIGHTING CONTROLLER, PEDESTAL MOUNTED, 240VOLT, 60AMP	EACH	1
LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8 5/8" X 6'	EACH	48
LIGHT POLE, ALUMINUM, 45 FT. M.H., 15 FT. DAVIT ARM	EACH	48
BREAKAWAY DEVICE, COUPLING WITH STAINLESS STEEL SCREEN	EACH	192
REMOVAL OF TEMPORARY LIGHTING UNIT	EACH	5
REMOVAL OF LIGHTING TOWER, NO SALVAGE	EACH	2
REMOVAL OF LIGHTING CONTROLLER	EACH	1
REMOVAL OF ELECTRIC SERVICE INSTALLATION	EACH	1
REMOVAL OF LIGHTING CONTROLLER FOUNDATION	EACH	1
REMOVE ELECTRIC CABLE FROM CONDUIT	FOOT	22,080
REMOVAL OF EXISTING SIGN LIGHTING UNIT WITH NO SALVAGE	EACH	19
REMOVAL OF TOWER FOUNDATION	EACH	6

GENERAL NOTES

1. ELECTRICAL WORK SHALL CONFROM TO NATIONAL, STATE, AND LOCAL CODES.
2. THE CONTRACTOR SHALL SET LIGHT POLES 15' BEHIND EDGE OF PAVEMENT.

HIGHWAY STANDARDS

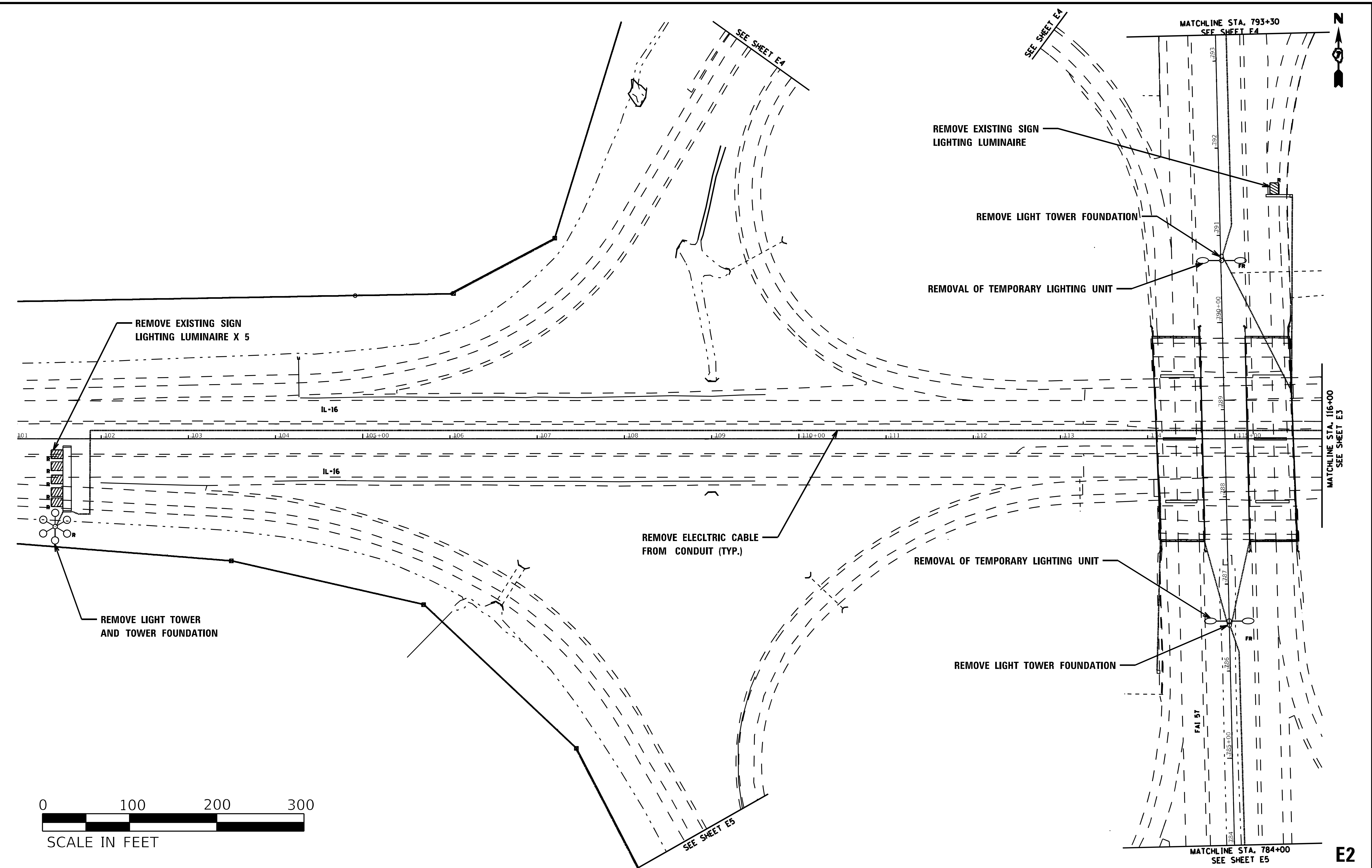
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825001-04	LIGHTING CONTROLLER POLE MOUNTED, 240V
825011-04	LIGHTING CONTROLLER PEDESTAL MOUNTED, 240V
830006-05	LIGHT POLE ALUMINUM DAVIT ARM
836001-04	LIGHT POLE FOUNDATION
838001-01	BREAKAWAY DEVICES

INDEX OF SHEETS

- E1 GENERAL NOTES, HIGHWAY STANDARDS, INDEX OF SHEETS, LEGEND, AND SUMMARY OF QUANTITIES
- E2 LIGHTING REMOVAL PLAN I-57 AND IL-16
- E3 LIGHTING REMOVAL PLAN I-57 AND IL-16
- E4 LIGHTING REMOVAL PLAN I-57 AND IL-16
- E5 LIGHTING REMOVAL PLAN I-57 AND IL-16
- E6 PROPOSED LIGHTING PLAN I-57 AND IL-16
- E7 PROPOSED LIGHTING PLAN I-57 AND IL-16
- E8 PROPOSED LIGHTING PLAN I-57 AND IL-16
- E9 PROPOSED LIGHTING PLAN I-57 AND IL-16
- E10 CULVERT LIGHTING PLAN
- E11 WIRING DIAGRAM
- E12 LUMINAIRE PERFORMANCE TABLES

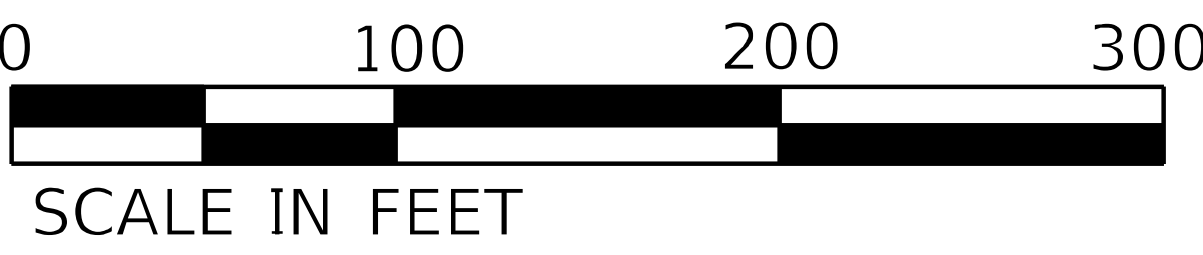
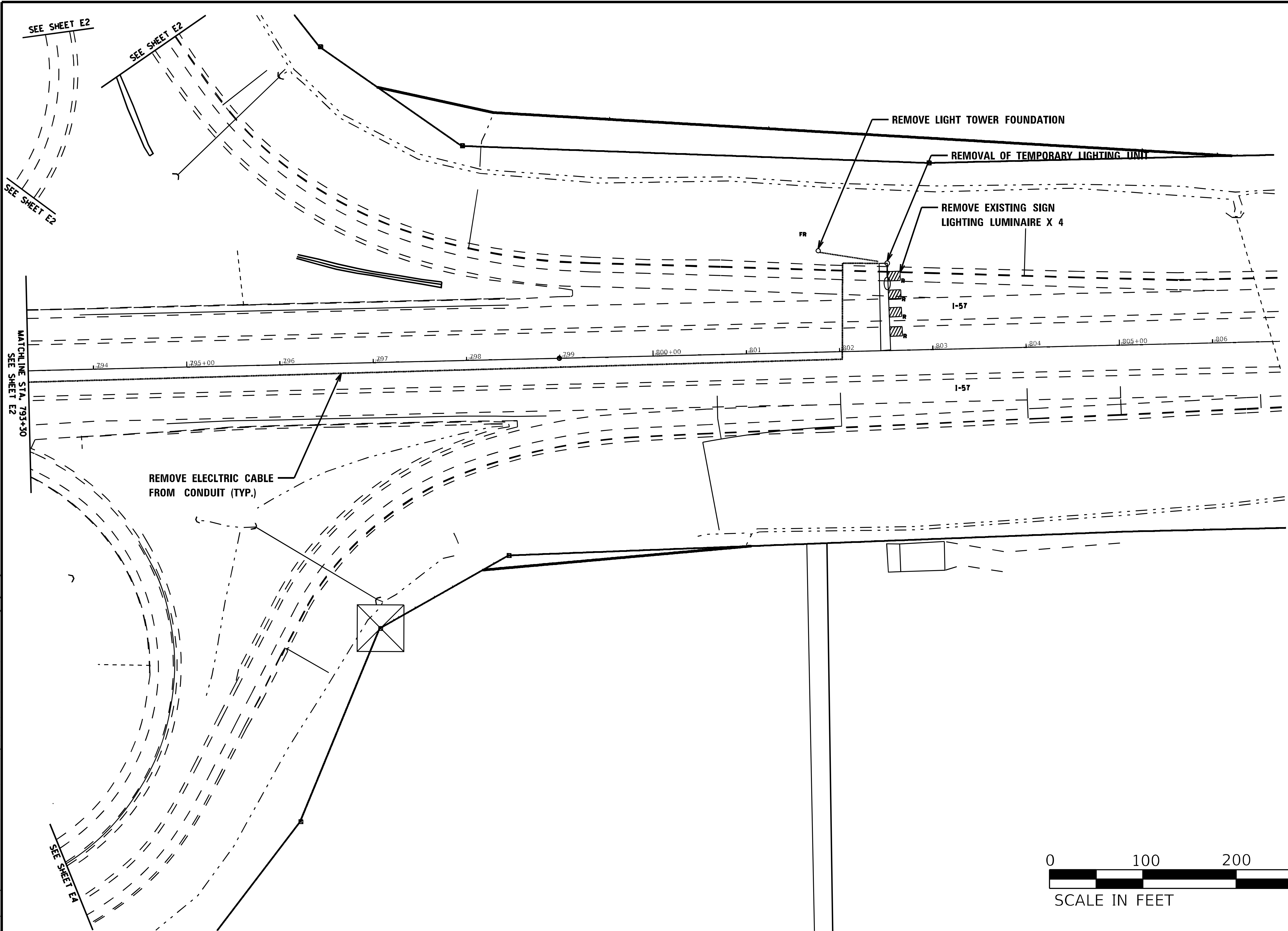
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	PLOT DATE = 8/23/2024	DATE -	REVISED -				ILLINOIS FED. AID PROJECT				
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E2



E4

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING REMOVAL PLAN
I-57 & IL-16

SCALE:	SHEET 4	OF 12	SHEETS	STA.	TO STA.
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F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

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STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LIGHTING REMOVAL PLAN
I-57 & IL-16

SCALE: SHEET 5 OF 12 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	636
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

E5

SEE SHEET E3

MATCHLINE STA. 784+00
SEE SHEET E2



SEE SHEET E2

REMOVE ELECTRIC CABLE
FROM CONDUIT (TYP.)

REMOVAL OF TEMPORARY LIGHTING UNIT

REMOVE LIGHT TOWER FOUNDATION

REMOVAL OF TEMPORARY LIGHTING UNIT

REMOVE EXISTING SIGN
LIGHTING LUMINAIRE X 4

I-57

I-57

FR

779+00

771

772

773

774

775+00

776

777

778

779

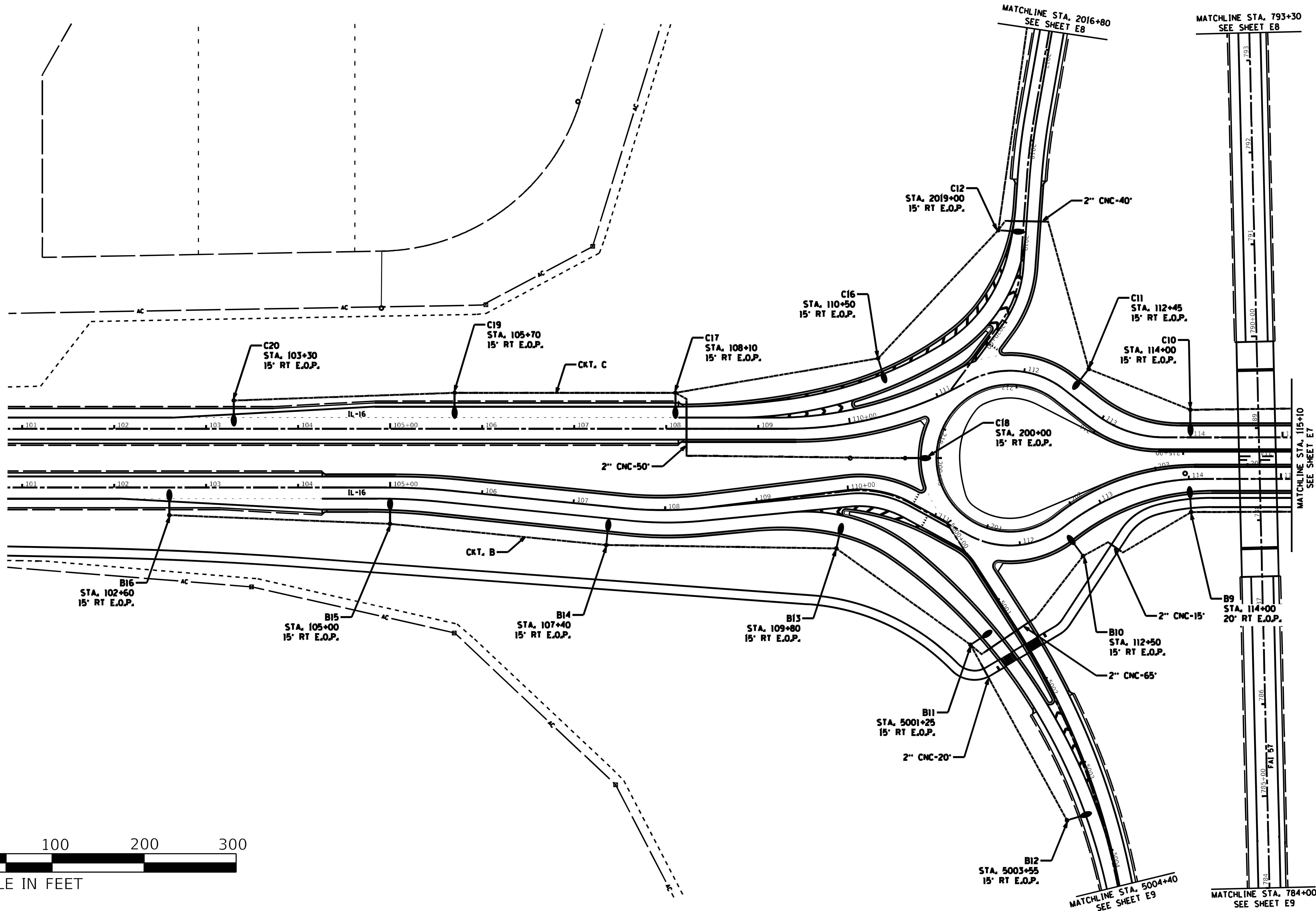
780+00

781

782

783

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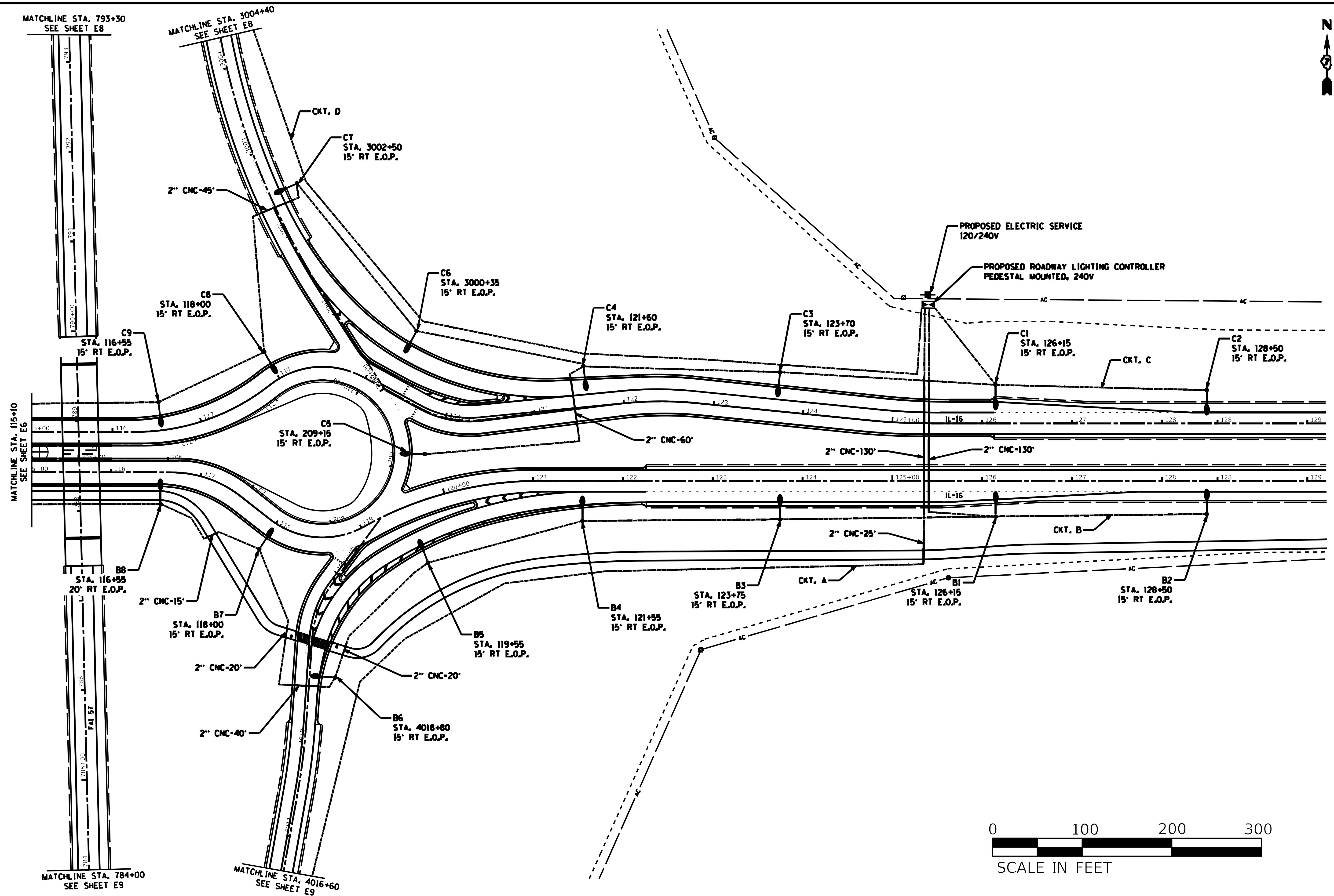


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PROPOSED LIGHTING PLAN
I-57 & IL 16

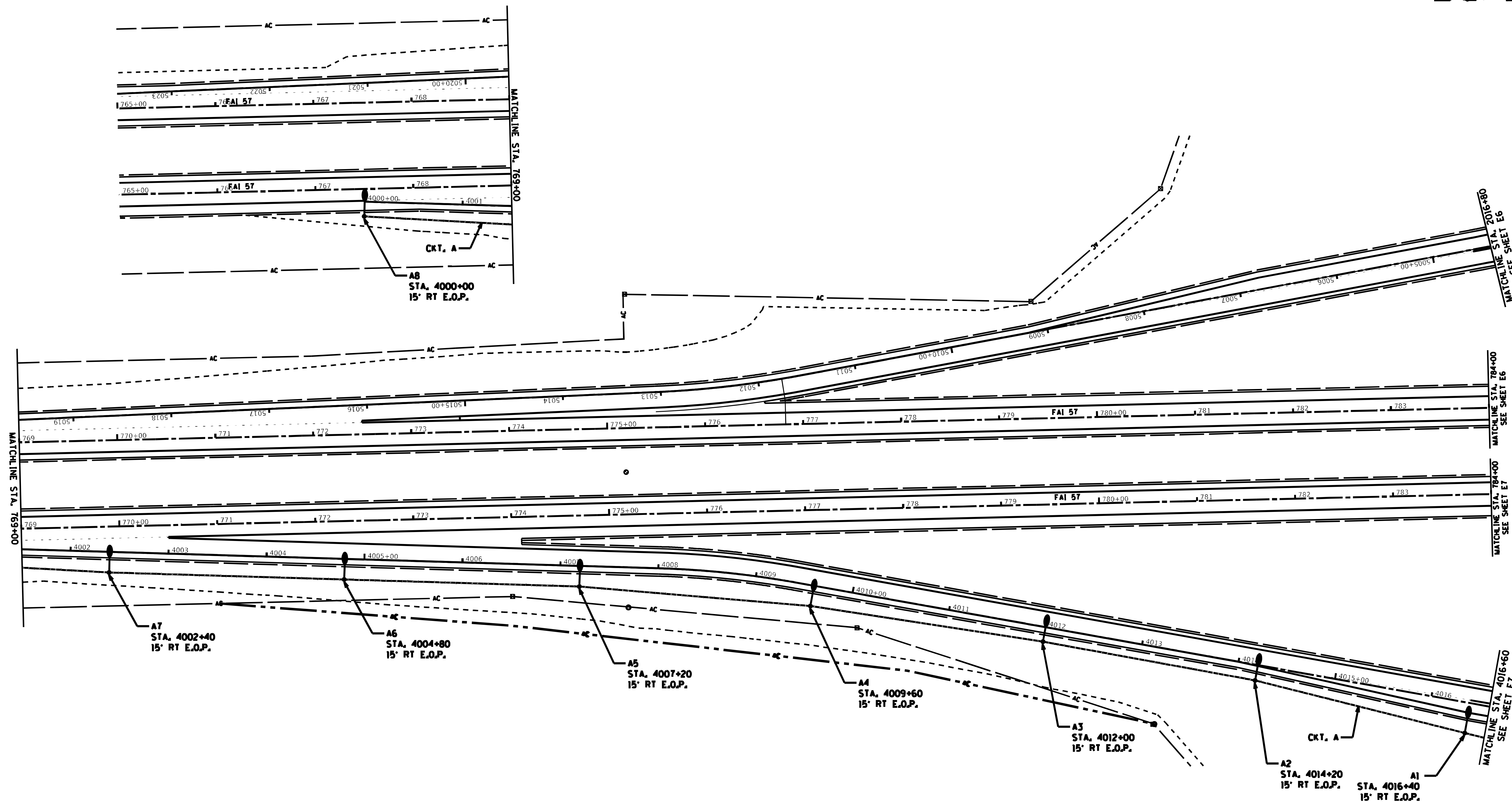
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CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



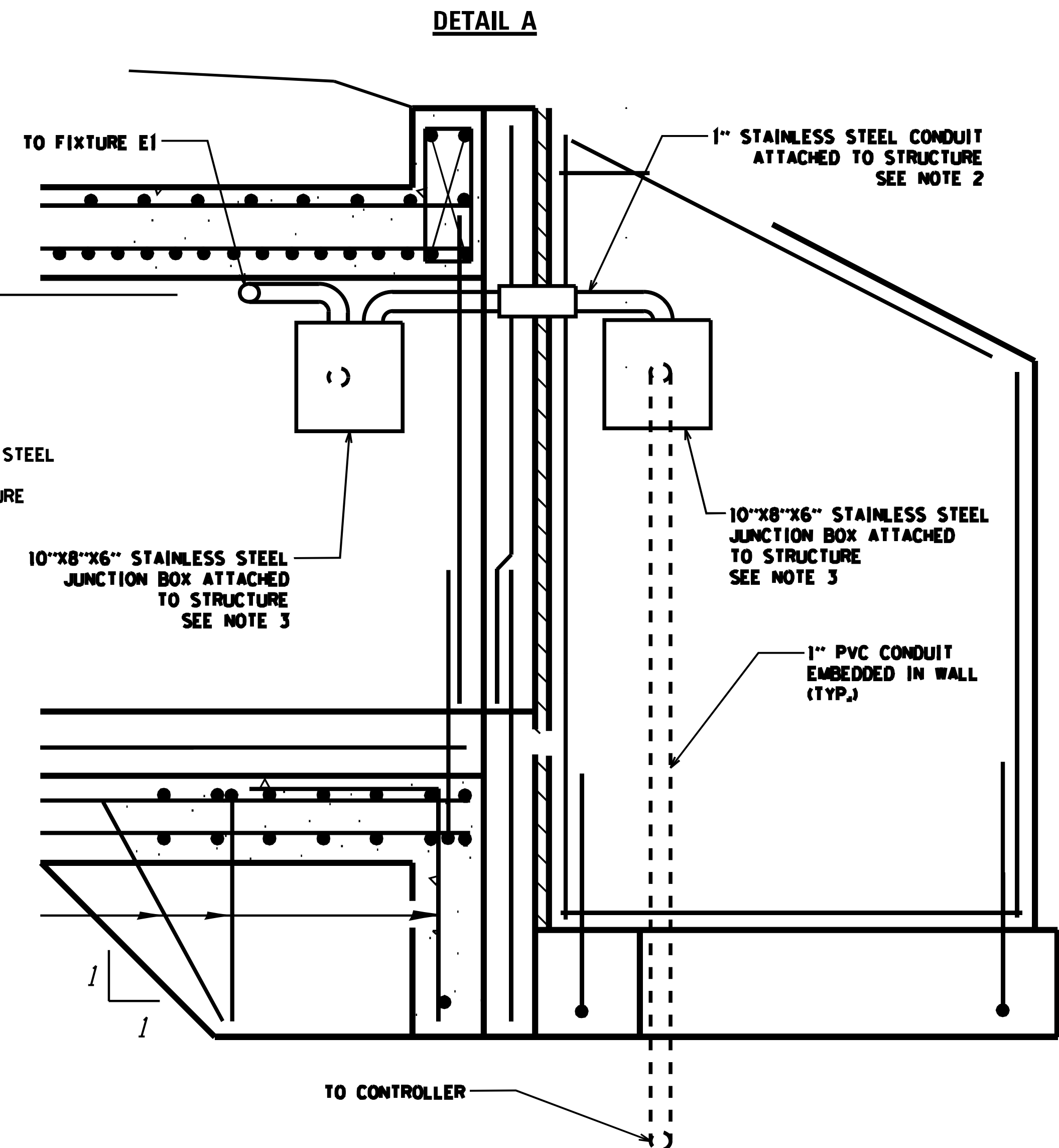
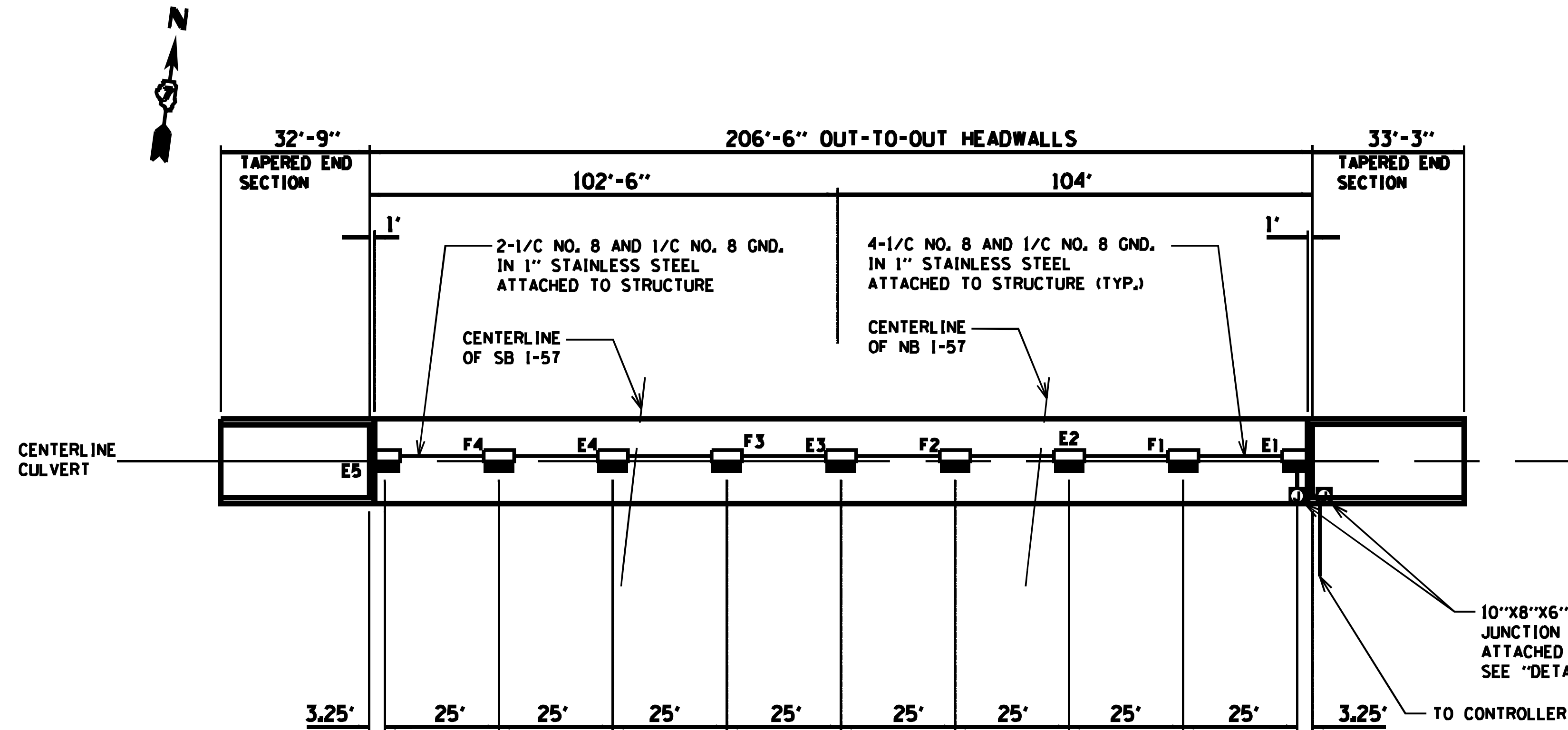
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USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	PROPOSED LIGHTING PLAN I-57 & IL-16			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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E9

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	PLOT DATE = 8/23/2024	DATE -	REVISED -		SCALE:	SHEET 9	OF 12 SHEETS	STA.	TO STA.				
										ILLINOIS	FED. AID PROJECT		



NOTES:

- UNDERGROUND MARKING TAPE SHALL BE INSTALLED 18" BELOW FINAL GRADE AS PER ARTICLE 1066.05. THE COST OF THIS WORK IS INCIDENTAL TO PAY ITEM "UNIT DUCT, 600V, 2-1C NO.6, 1/C NO.6 GROUND, (XLP-TYPE USE), 3/4" DIA. POLYETHYLENE" (81703034).
- CONTRACTOR SHALL PROVIDE DEFLECTION/EXPANSION FITTING AND 45° ELBOWS. THE CONDUIT AND ALL ACCESSORIES BETWEEN JUNCTION BOXES SHALL NOT BE MEASURED FOR PAYMENT BUT SHALL BE INCLUDED IN THE COST OF PAY ITEM "JUNCTION BOX, STAINLESS STEEL, ATTACHED TO STRUCTURE, 10" X 8" X 6" (81300420).
- CONTRACTOR SHALL MOUNT JUNCTION BOX AS HIGH AS POSSIBLE TO AVOID VANDALISM.
- SEE SHEET E-11 FOR WIRING DIAGRAM.

E10

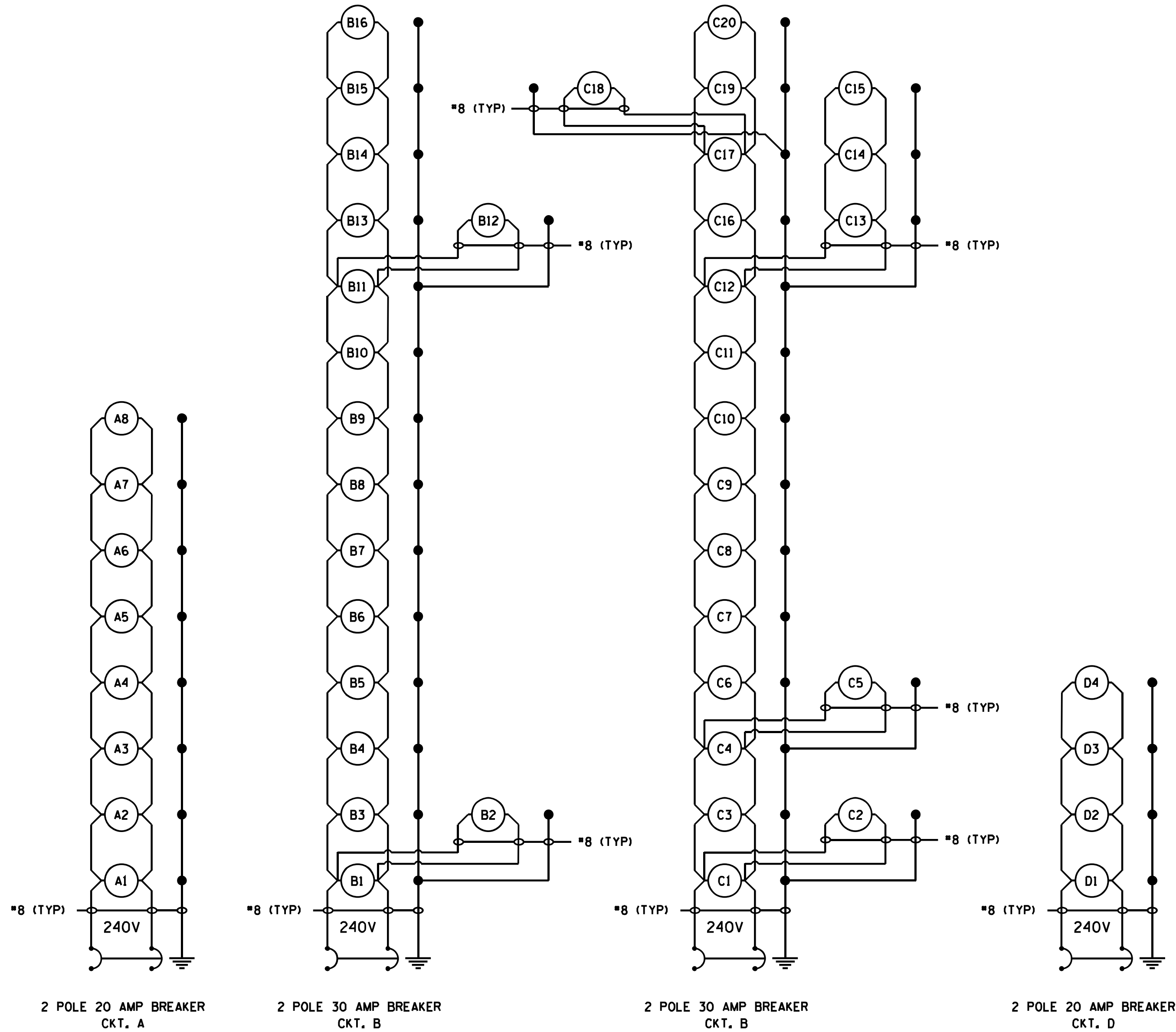
**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

CULVERT LIGHTING PLAN

SCALE: SHEET 10 OF 12 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	641
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

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LEGEND:

-  PROPOSED LIGHTING UNIT
-  PROPOSED PEDESTRIAN UNDERPASS LUMINAIRE
-  GROUND ROD

NOTES:

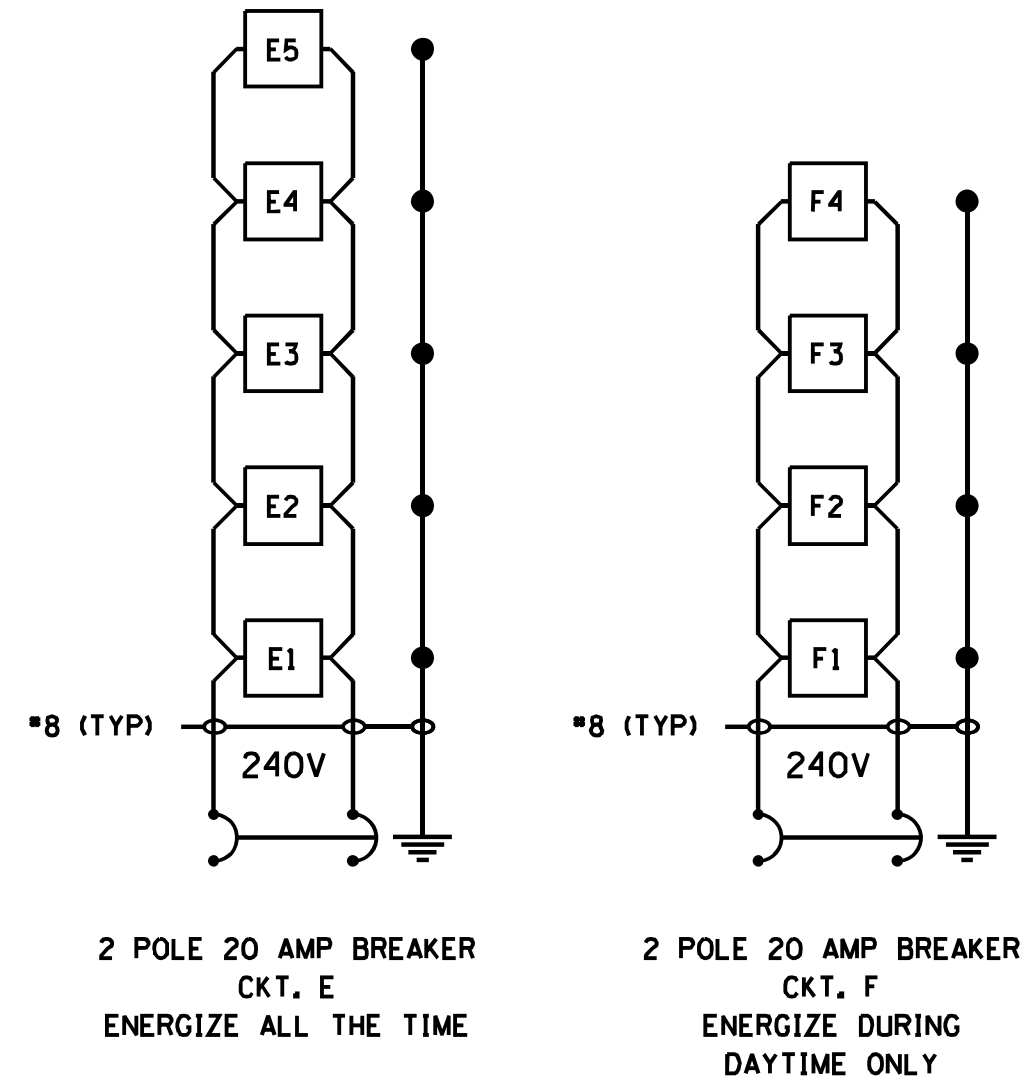
- ALL NECESSARY REVISIONS TO THE WIRING SHOWN ON THIS SHEET SHALL BE MADE AT NO ADDITIONAL COST TO THE DEPARTMENT AND TO THE SATISFACTION OF THE ENGINEER.

I-57 AND IL-16

PROPOSED LIGHTING CONTROLLER,
PEDESTAL MOUNTED, 240V, 60AMP

LINCOLN PAIRIE GRASS TRAIL

PROPOSED CULVERT LIGHTING CONTROLLER,
POLE MOUNTED, 240V, 30AMP



	USER NAME = kaleb.hirtzel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	WIRING DIAGRAM			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -					57	(15-22HB-4)BR (15-22)R	COLES	1086	642
	PLOT SCALE = 100,0000 ' / in.	CHECKED -	REVISED -					CONTRACT NO. 74435				
	PLOT DATE = 8/23/2024	DATE -	REVISED -		SCALE:	SHEET 11	OF 12 SHEETS	STA.	TO STA.	ILLINOIS FED. AID PROJECT		

Luminaire Performance Table
Roadway Luminaire

Project

Date	Contract Number	Section Number	County
02/03/2023	74435	N/A	COLES

Marked Route Number	Municipality
I-57 AND IL-16	N/A

Roadway

Lane Width	# of Lanes	Median Width	I.E.S. Surface Classification	0-Zero Value
20	2	N/A	R3	0.07

Structure

Mounting Height	Arm Length	Set Back	Number of Luminaires (Highmast & Sign Lighting Only)
45 FT	15 FT	15 FT	N/A

Luminaire

Description	I.E.S. Lateral Distribution	I.E.S. Vertical Distribution
ROADWAY LUMINAIRE, LED, OUTPUT DESIGNATION H	TYPE III	MEDIUM

Total Light Loss Factor (LLF)	BUG Rating	Shields	Dimming Protocol
0.7	U = 0	N/A	10V

Layout

Spacing (to Nearest 5 Ft) Configuration (Opposite, Staggered, 1 Sided, or Median)

190 FT	SINGLE SIDED
--------	--------------

Performance

Average Illuminance, E_{avg} (fc)	Uniformity Ratio, E_{avg}/E_{min}
0.8	3.0

Average Luminance, L_{avg} (cd/m ²)	Uniformity Ratio, L_{avg}/L_{min}	Uniformity Ratio, L_{max}/L_{min}	Veiling Luminance Ratio, L_v/L_{min}
N/A	N/A	N/A	0.31

Light Trespass

Distance to ROW (behind pole)	Max. Horizontal Illuminance at ROW, E	Max. Vertical Illuminance at ROW, E
N/A	N/A	N/A

Notes

- Set Back is from Edge of Pavement (white line) except for sign luminaires when it is vertical and horizontal distance from the sign to the luminaire.
- Lighting calculations shall be performed with all luminaires oriented toward and perpendicular to roadway.
- Total Light Loss Factor (LLF) = the product of "Lumen Maintenance" (LLD) = 0.9, "Dirt Depreciation" (LDD) = 0.8, and "Equipment Factors" (EF) = 0.95.
- Performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions above.

CALCULATIONS ARE TO BE PERFORMED IN ONE DIRECTION ONLY.

COMPLIANCE WITH PERFORMANCE CRITERIA SHALL BE HELD TO ONE SIGNIFICATN DIGIT.

Luminaire Performance Table
Pedestrian Underpass Luminaire

Project

Date	Contract Number	Section Number	County
02/03/2023	74435	N/A	COLES

Marked Route Number	Municipality
I-57 AND IL-16	N/A

Roadway

Lane Width	# of Lanes	Median Width	I.E.S. Surface Classification	0-Zero Value
14	1	N/A	R3	0.07

Structure

Mounting Height	Arm Length	Set Back	Number of Luminaires (Highmast & Sign Lighting Only)
14 FT	N/A	1 FT	N/A

Luminaire

Description	I.E.S. Lateral Distribution	I.E.S. Vertical Distribution
UNDERPASS LUMINAIRE, LED, OUTPUT DESIGNATION E	TYPE V	MEDIUM

Total Light Loss Factor (LLF)	BUG Rating	Shields	Dimming Protocol
0.7	U = 0	N/A	10V

Layout

Spacing (to Nearest 5 Ft) Configuration (Opposite, Staggered, 1 Sided, or Median)

20 FT	SINGLE SIDED
-------	--------------

Performance

Average Illuminance, E_{avg} (fc)	Uniformity Ratio, E_{avg}/E_{min}
4.0	3.0

Average Luminance, L_{avg} (cd/m ²)	Uniformity Ratio, L_{avg}/L_{min}	Uniformity Ratio, L_{max}/L_{min}	Veiling Luminance Ratio, L_v/L_{min}
N/A	N/A	N/A	N/A

Light Trespass

Distance to ROW (behind pole)	Max. Horizontal Illuminance at ROW, E	Max. Vertical Illuminance at ROW, E
N/A	N/A	N/A

Notes

- Set Back is from Edge of Pavement (white line) except for sign luminaires when it is vertical and horizontal distance from the sign to the luminaire.
- Lighting calculations shall be performed with all luminaires oriented toward and perpendicular to roadway.
- Total Light Loss Factor (LLF) = the product of "Lumen Maintenance" (LLD) = 0.9, "Dirt Depreciation" (LDD) = 0.8, and "Equipment Factors" (EF) = 0.95.
- Performance requirements shall be the minimum acceptable standards of photometric performance for the luminaire, based on the given conditions above.

CALCULATIONS ARE TO BE PERFORMED IN ONE DIRECTION ONLY.

COMPLIANCE WITH PERFORMANCE CRITERIA SHALL BE HELD TO ONE SIGNIFICATN DIGIT.

Model: Default
File Name: \\p01d01-cw.bentley.com\\p01d01-Data\\Documents\\DOT Office\\District 7\\Projects\\74435\\CADD\\Data\\CAD\\sheets\\D74435-shr-ess-LuminaRlans.dgn

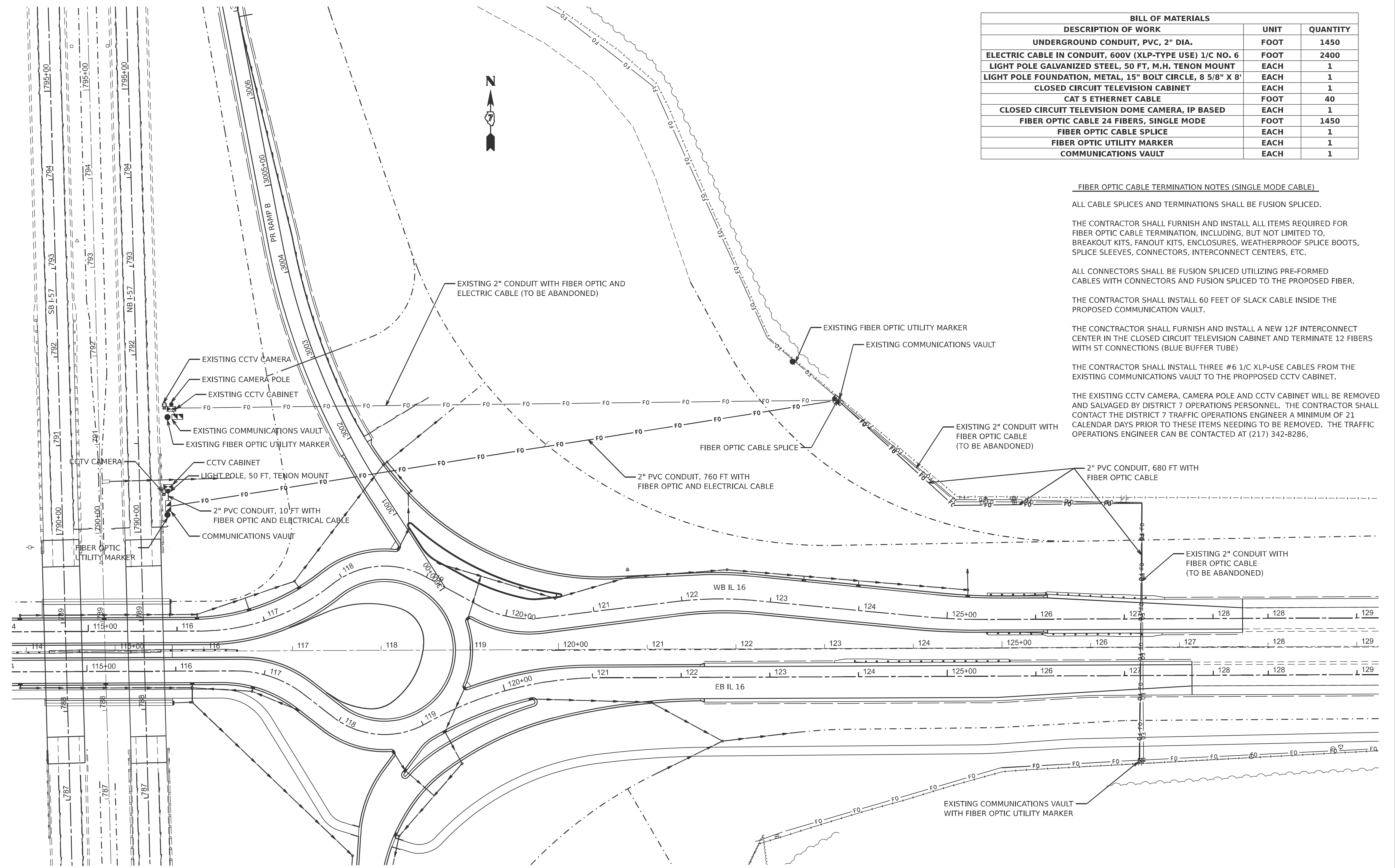
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

LUMINAIRE PERFORMANCE TABLES

SCALE: SHEET 12 OF 12 SHEETS STA. TO STA.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	643
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

MODEL: CCTV CAMERA [Sheet]
FILE NAME: c:\p\p\work\hrt\hrtzak\0852852\0774435-sheets-CCTV\camera.dgn



BILL OF MATERIALS		
DESCRIPTION OF WORK	UNIT	QUANTITY
UNDERGROUND CONDUIT, PVC, 2" DIA.	FOOT	1450
ELECTRIC CABLE IN CONDUIT, 600V (XLP-TYPE USE) 1/C NO. 6	FOOT	2400
LIGHT POLE GALVANIZED STEEL, 50 FT, M.H. TENON MOUNT	EACH	1
LIGHT POLE FOUNDATION, METAL, 15" BOLT CIRCLE, 8 5/8" X 8"	EACH	1
CLOSED CIRCUIT TELEVISION CABINET	EACH	1
CAT 5 ETHERNET CABLE	FOOT	40
CLOSED CIRCUIT TELEVISION DOME CAMERA, IP BASED	EACH	1
FIBER OPTIC CABLE 24 FIBERS, SINGLE MODE	FOOT	1450
FIBER OPTIC CABLE SPLICER	EACH	1
FIBER OPTIC UTILITY MARKER	EACH	1
COMMUNICATIONS VAULT	EACH	1

FIBER OPTIC CABLE TERMINATION NOTES (SINGLE MODE CABLE)

ALL CABLE SPLICES AND TERMINATIONS SHALL BE FUSION SPLICED.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS REQUIRED FOR FIBER OPTIC CABLE TERMINATION, INCLUDING, BUT NOT LIMITED TO, BREAKOUT KITS, FANOUT KITS, ENCLOSURES, WEATHERPROOF SPLICE BOOTS, SPLICE SLEEVES, CONNECTORS, INTERCONNECT CENTERS, ETC.

ALL CONNECTORS SHALL BE FUSION SPLICED UTILIZING PRE-FORMED CABLES WITH CONNECTORS AND FUSION SPLICED TO THE PROPOSED FIBER.

THE CONTRACTOR SHALL INSTALL 60 FEET OF SLACK CABLE INSIDE THE PROPOSED COMMUNICATION VAULT.

THE CONCTRATOR SHALL FURNISH AND INSTALL A NEW 12F INTERCONNECT CENTER IN THE CLOSED CIRCUIT TELEVISION CABINET AND TERMINATE 12 FIBERS WITH ST CONNECTIONS (BLUE BUFFER TUBE)

THE CONTRACTOR SHALL INSTALL THREE #6 1/C XLP-USE CABLES FROM THE EXISTING COMMUNICATIONS VAULT TO THE PROPOSED CCTV CABINET.

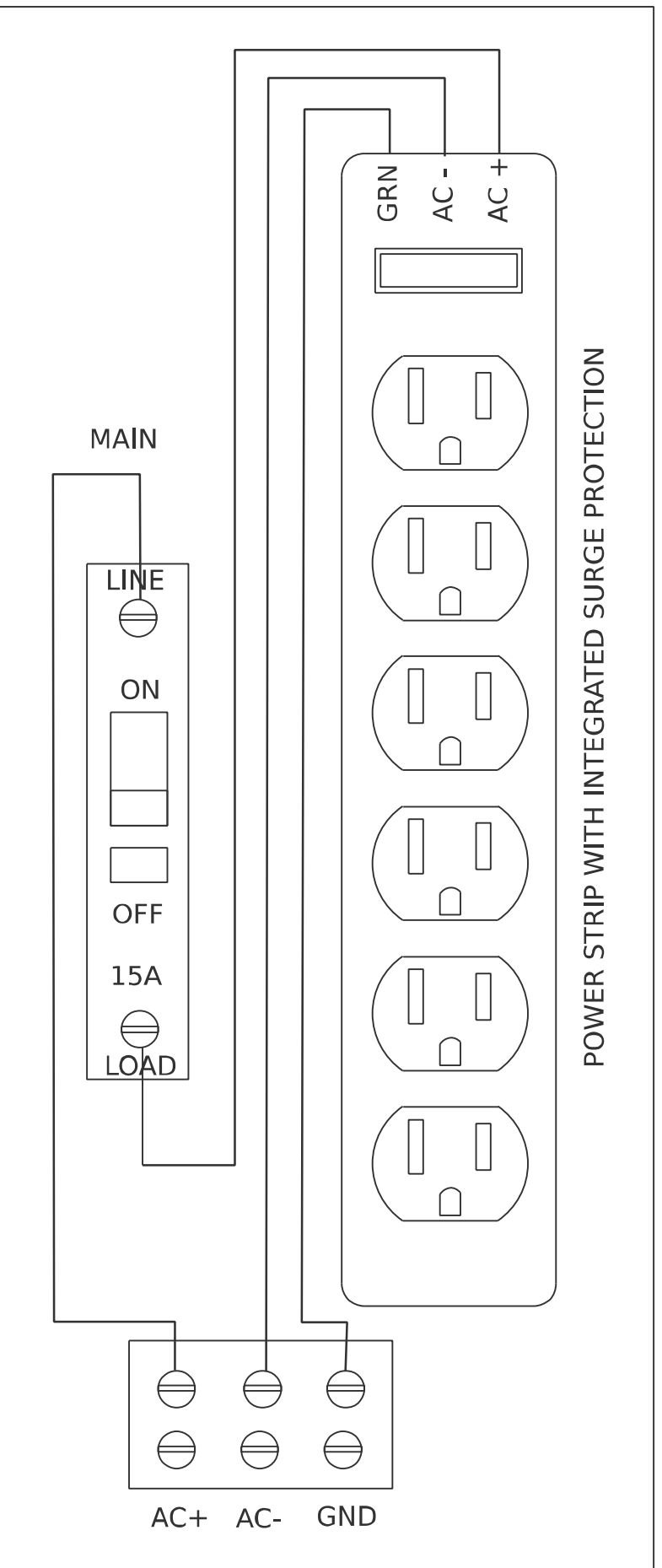
THE EXISTING CCTV CAMERA, CAMERA POLE AND CCTV CABINET WILL BE REMOVED AND SALVAGED BY DISTRICT 7 OPERATIONS PERSONNEL. THE CONTRACTOR SHALL CONTACT THE DISTRICT 7 TRAFFIC OPERATIONS ENGINEER A MINIMUM OF 21 CALENDAR DAYS PRIOR TO THESE ITEMS NEEDING TO BE REMOVED. THE TRAFFIC OPERATIONS ENGINEER CAN BE CONTACTED AT (217) 342-8286,

USER NAME	= kaleb.hirtzel	DESIGNED	-	REVISED	-
		DRAWN	-	REVISED	-
		CHECKED	-	REVISED	-
PLOT DATE	= 7/18/2024	DATE	-	REVISED	-

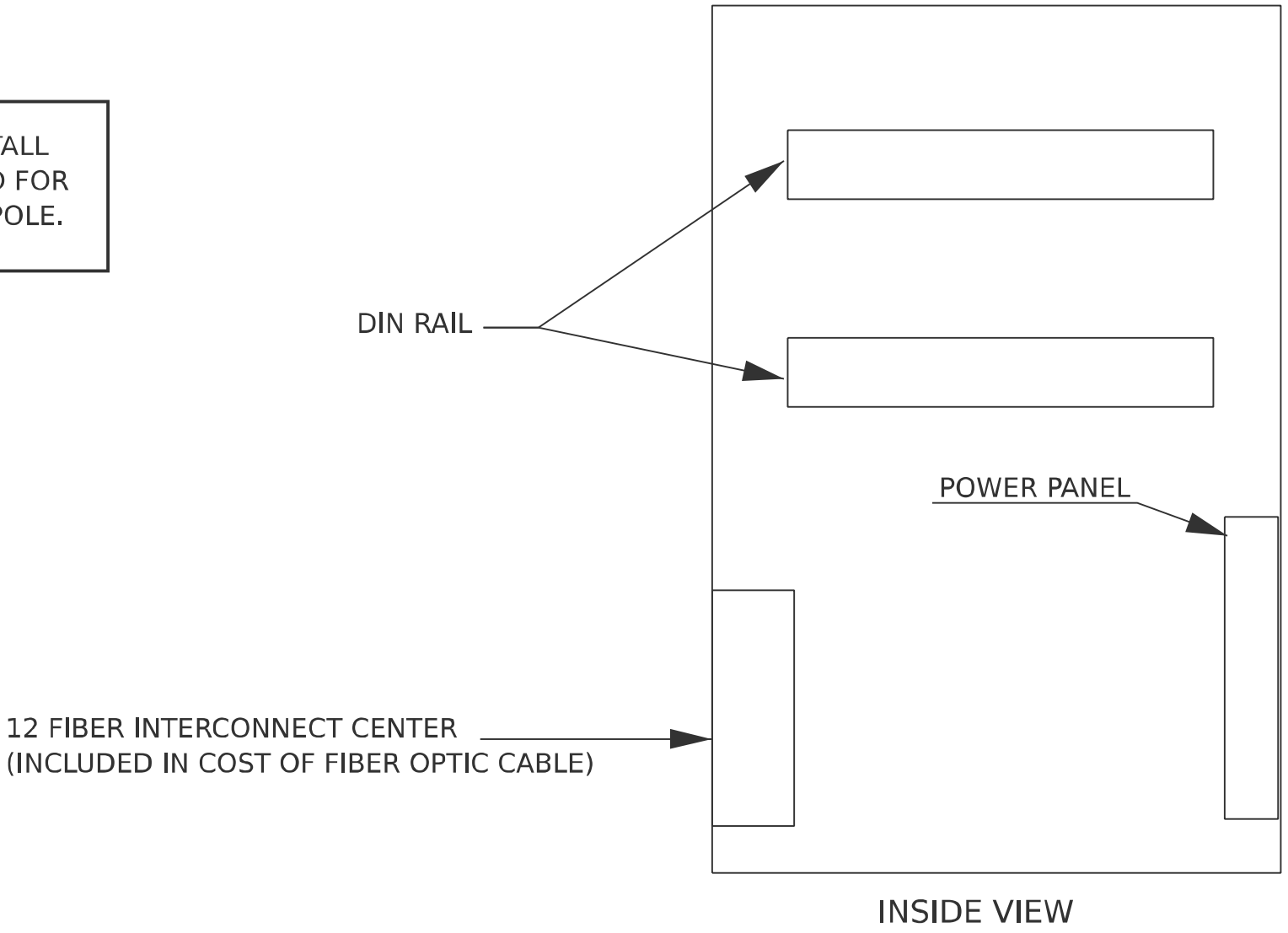
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CCTV CAMERA DETAILS					
SCALE:	SHEET 1	OF 2	SHEETS	STA.	TO STA.

F&I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	644
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



THE CONTRACTOR SHALL FURNISH AND INSTALL ALL BRACKETING AND HARDWARE REQUIRED FOR CABINET INSTALLATION ON THE PROPOSED POLE.



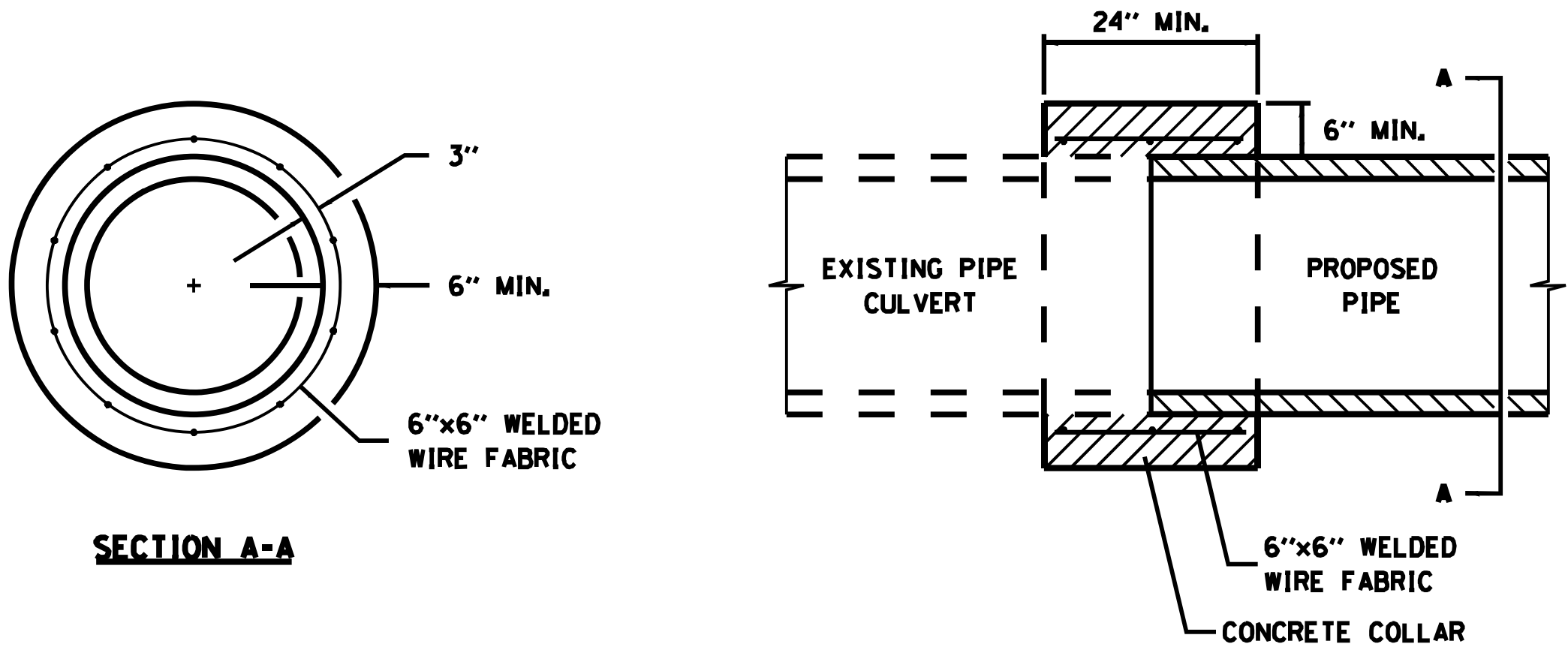
THE ITS EQUIPMENT CABINET SHALL BE A NEMA TYPE 3R CABINET WITH MINIMUM OUTSIDE DIMENSIONS OF 20' (H) X 14' (W) X 10" (D) (NOMINAL), THE CABINET SHALL BE CONSTRUCTED FROM 0.125" THICK ALUMINUM AND HAVE A NATURAL FINISH.

THE CABINET SHALL BE EQUIPPED WITH A #2 CORBIN SLAM LOCK AND ALL STAINLESS STEEL HARDWARE.

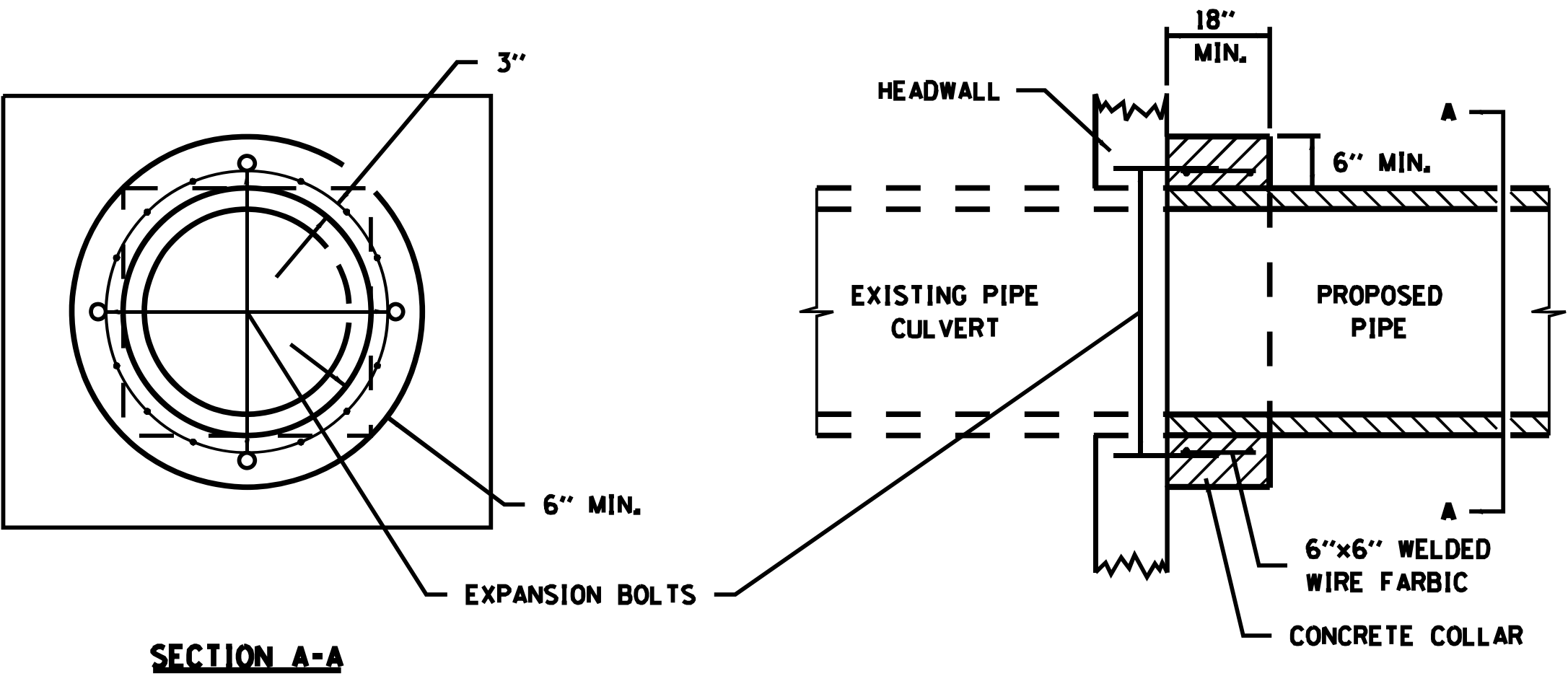
	USER NAME = kaleb.hrizel	DESIGNED -	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CCTV CAMERA DETAILS					F.A.I RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		DRAWN -	REVISED -		57	(15-22HB-4)BR (15-22)R	COLES	1086	645					
	PLOT SCALE = \$SCALE\$	CHECKED -	REVISED -				CONTRACT NO. 74435							
	PLOT DATE = 8/21/2024	DATE -	REVISED -		SCALE: 1"=50'	SHEET 2	OF 2	SHEETS	STA.	TO STA.				

MODEL: CCTVcamera-1 [Sheet]
FILE NAME: c:\pw work\pwidot\hirtzel\ld0852852\D774435-sheets-CCTVcamera.dgn

EXISTING PIPE CULVERT WITHOUT HEADWALLS
(TO BE USED WITH UNLIKE DIAMETERS & MATERIALS.)



EXISTING PIPE CULVERT OR BOX CULVERT WITH HEADWALLS

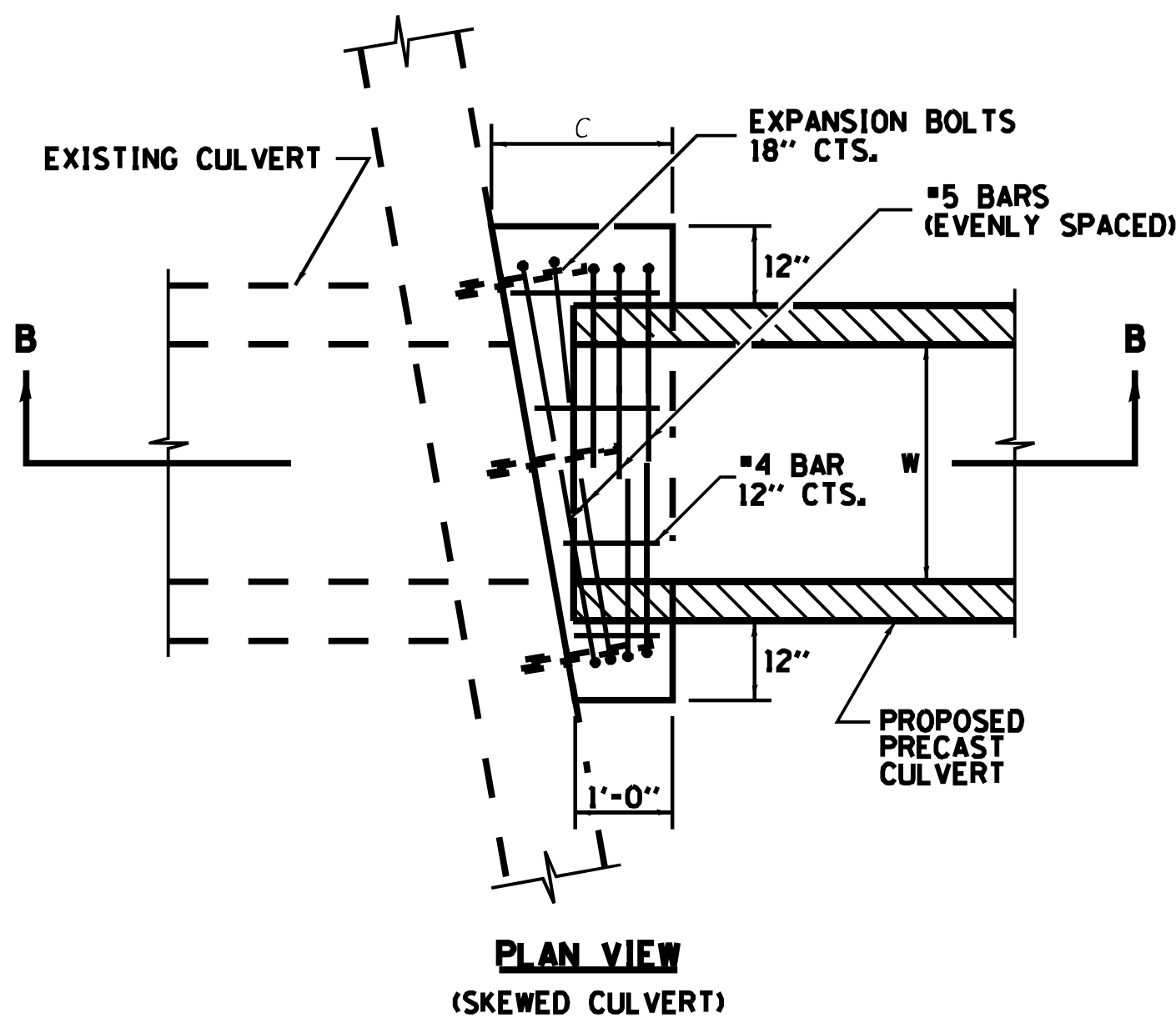
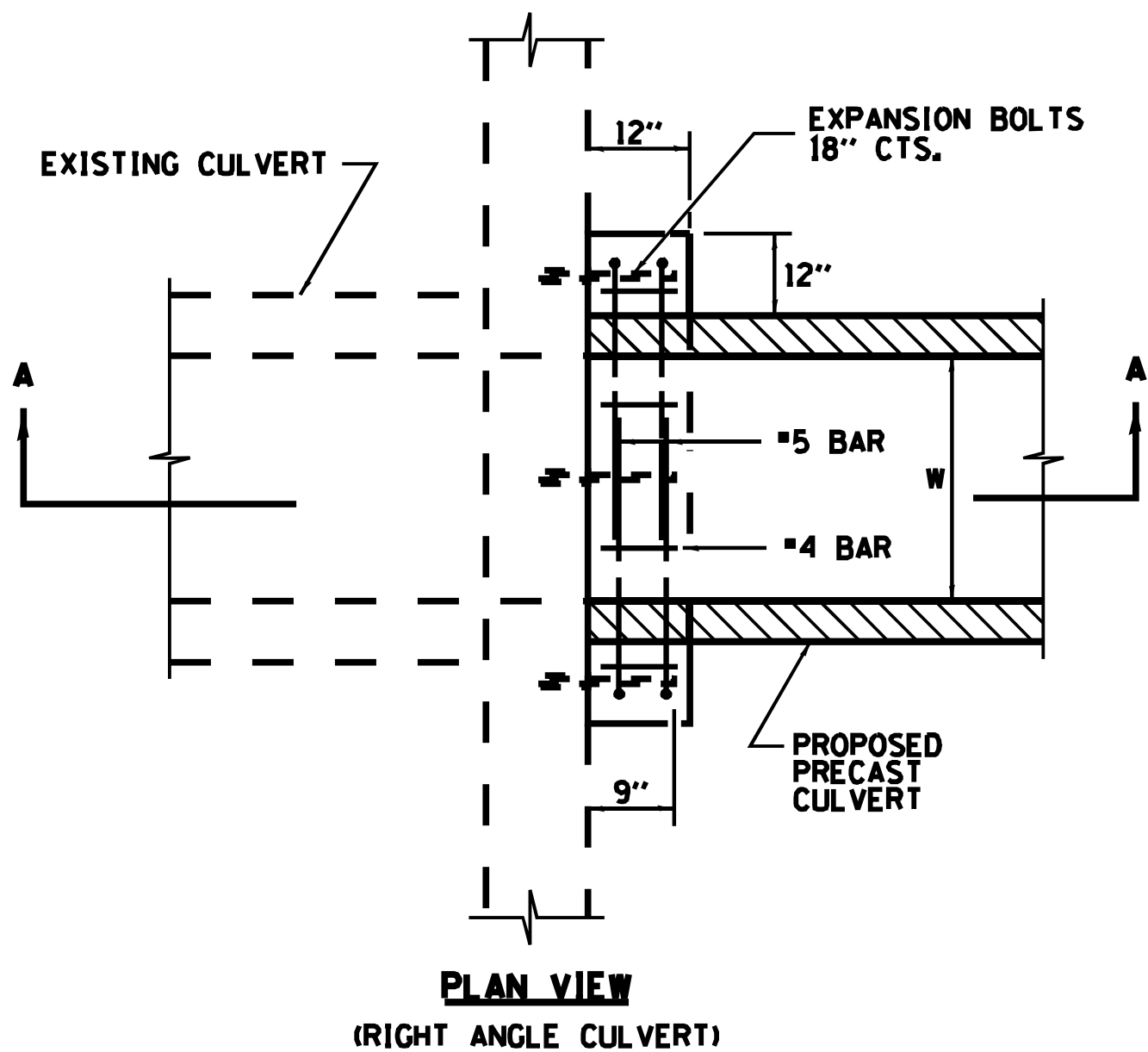


NOTE: EXPANSION BOLTS SHALL CONSIST OF SELF-DRILLING EXPANSION SHIELDS AND 3/4" DIAMETER HOOKED BOLTS IN ACCORDANCE WITH SECTION 1006.09. HOOKED BOLTS SHALL EXTEND A MINIMUM 6" INTO NEW CONCRETE.

6"x6" WELDED WIRE FABRIC SHALL BE INCLUDED IN THE COST OF THE CONCRETE COLLAR.

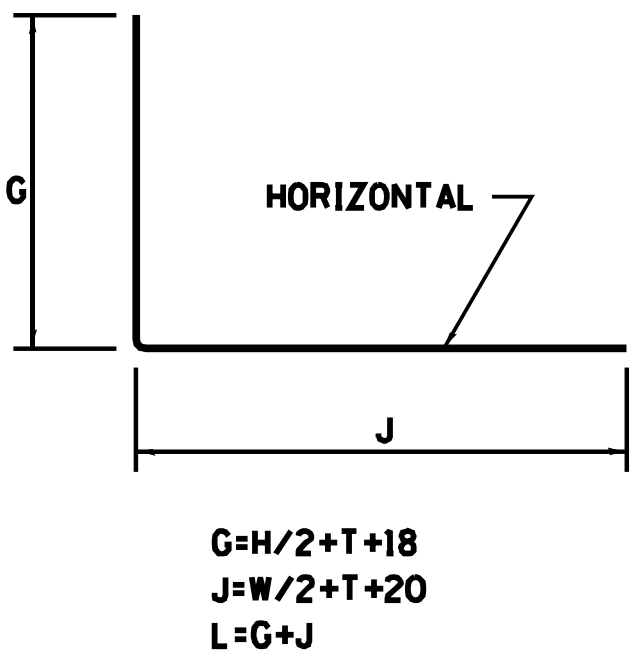
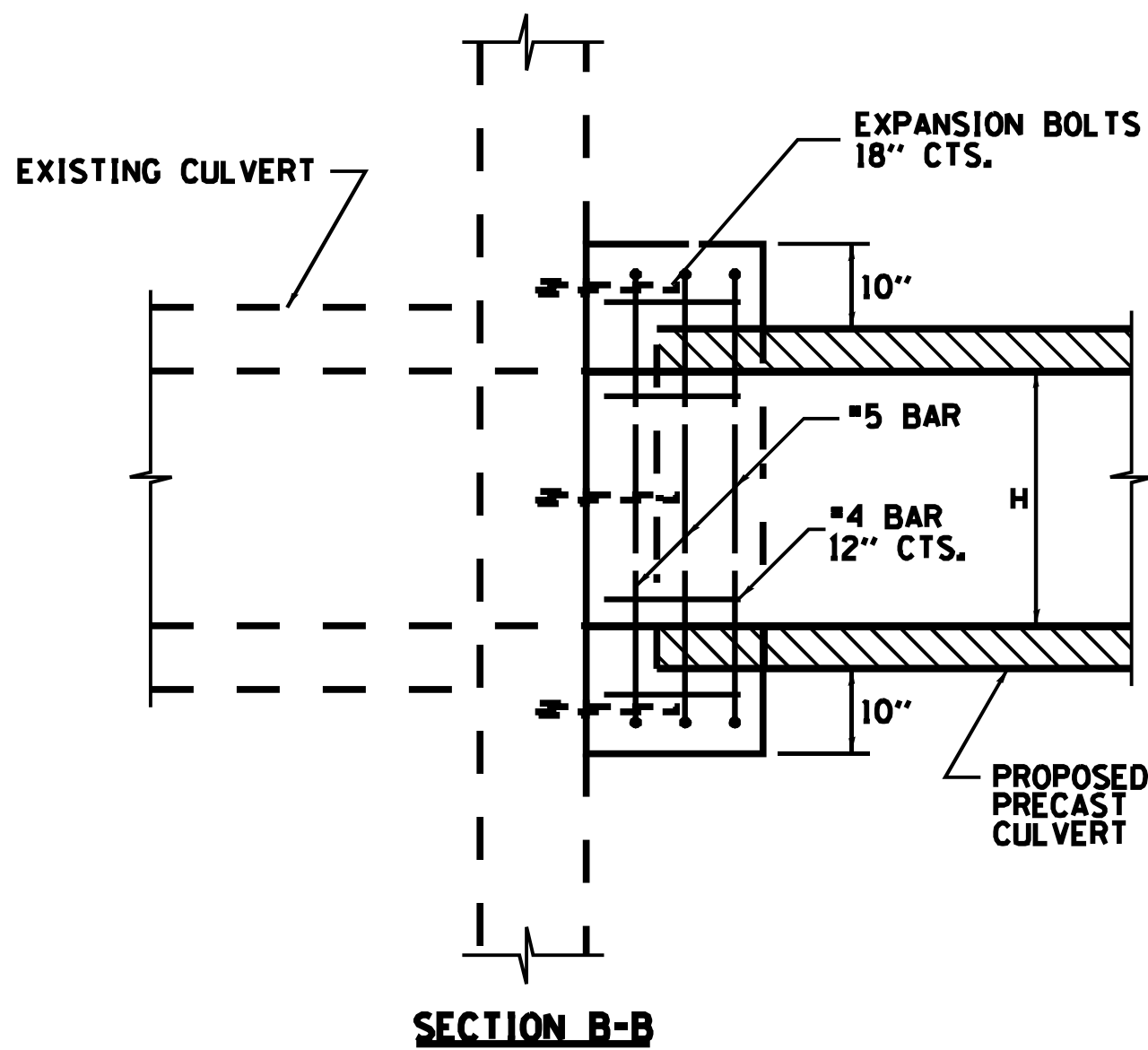
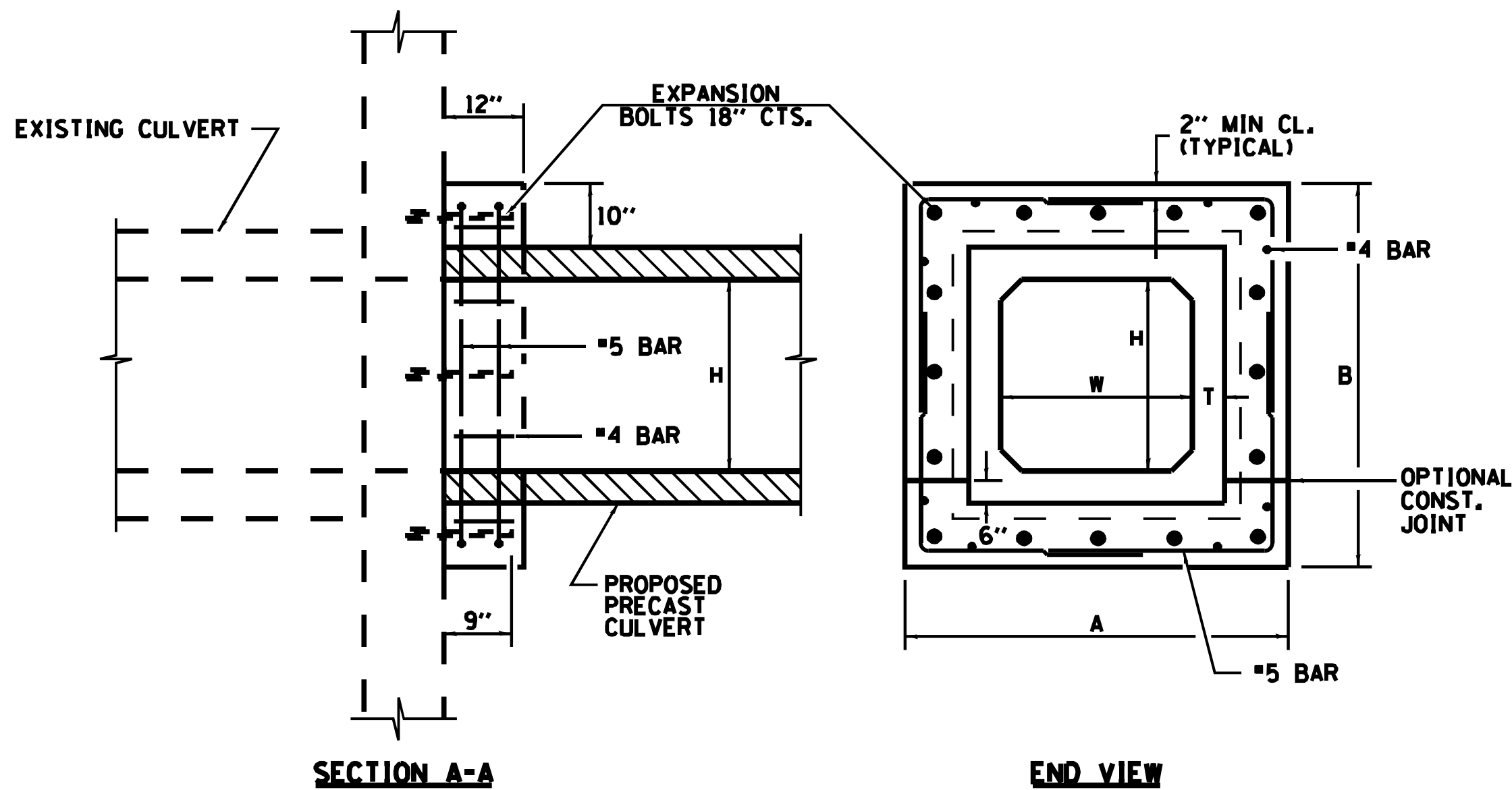
FILE NAME : pww\idot-pr-bentley.com\PWIDOT\Documents\IDOT Offices\District 7\Projects\74435\CADD\DRAINAGE\Drawings\74435-sheets\DrainageSheet\74435-10.dwg	USER NAME : kaleb.hirtzel	DESIGNED -	REVISED - MAD 8-11	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	CONCRETE COLLAR FOR PIPE CULVERT EXTENSIONS			F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	PLOT SCALE : 100.0000' / in.	CHECKED -	REVISED -					57	(15-22)B-41BR (15-22)R	COLES	1086	646
	PLOT DATE : 8/23/2024	DATE -	REVISED -		SCALE: SHEET NO. OF SHEETS STA. TO STA.			CONTRACT NO. 74435				
								ILLINOIS FED. AID PROJECT				

DETAIL OF CONCRETE COLLAR FOR BOX CULVERT EXTENSIONS

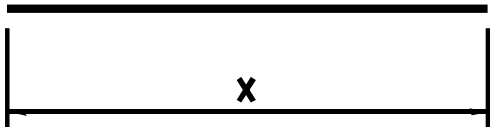


		DIMENSIONS						REINFORCEMENT BARS						EXPANSION BOLTS, 3/4"
		A	B	C	W	H	T	G	J	L	X	NUMBER BARS	POUND	
SIDE	STATION	IN	IN	IN	IN	IN	IN	IN	IN	IN	IN	EA		
RT	807+00	136"	84"	36"	96"	48"	8"	50"	76"	126"	42	20 19	220 50	24
LT	806+29	136"	84"	36"	96"	48"	8"	50"	76"	126"	42	20 19	220 50	24
TOTAL =													540	48

NOTE: EXPANSION BOLTS SHALL CONSIST OF SELF-DRILLING EXPANSION SHIELDS AND HOOKED BOLTS. HOOKED BOLTS SHALL EXTEND A MINIMUM OF 9" INTO THE NEW CONCRETE.



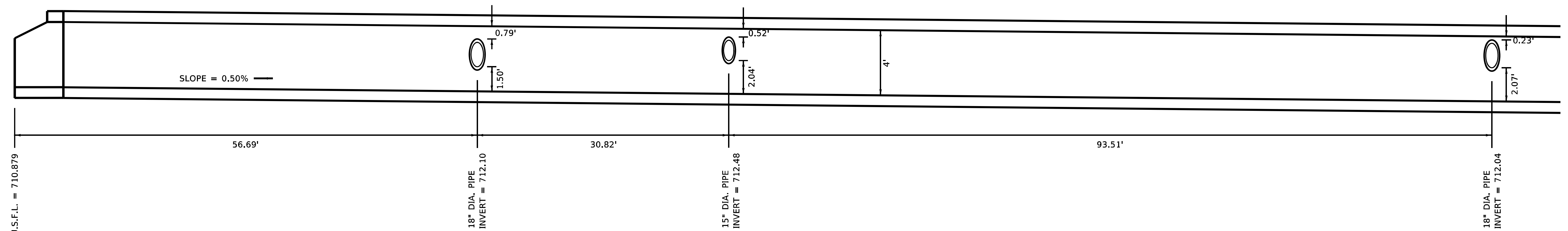
#5 BAR DETAIL



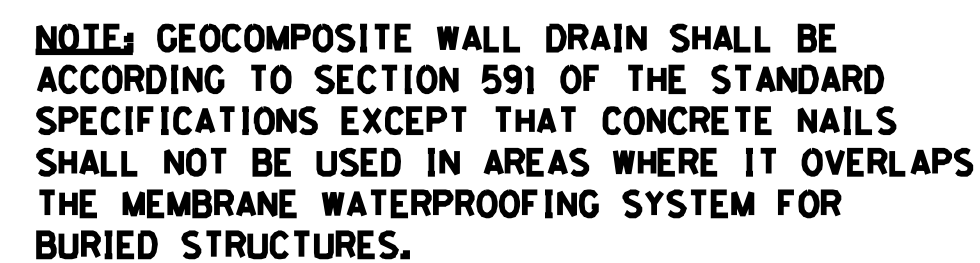
$X = 9 + C - 3$
ORDER BARS X LENGTH.
CUT BARS TO FIT. USE
REMAINDER ON OPPOSITE
SIDE OF BOX CENTERLINE.

#4 BAR DETAIL

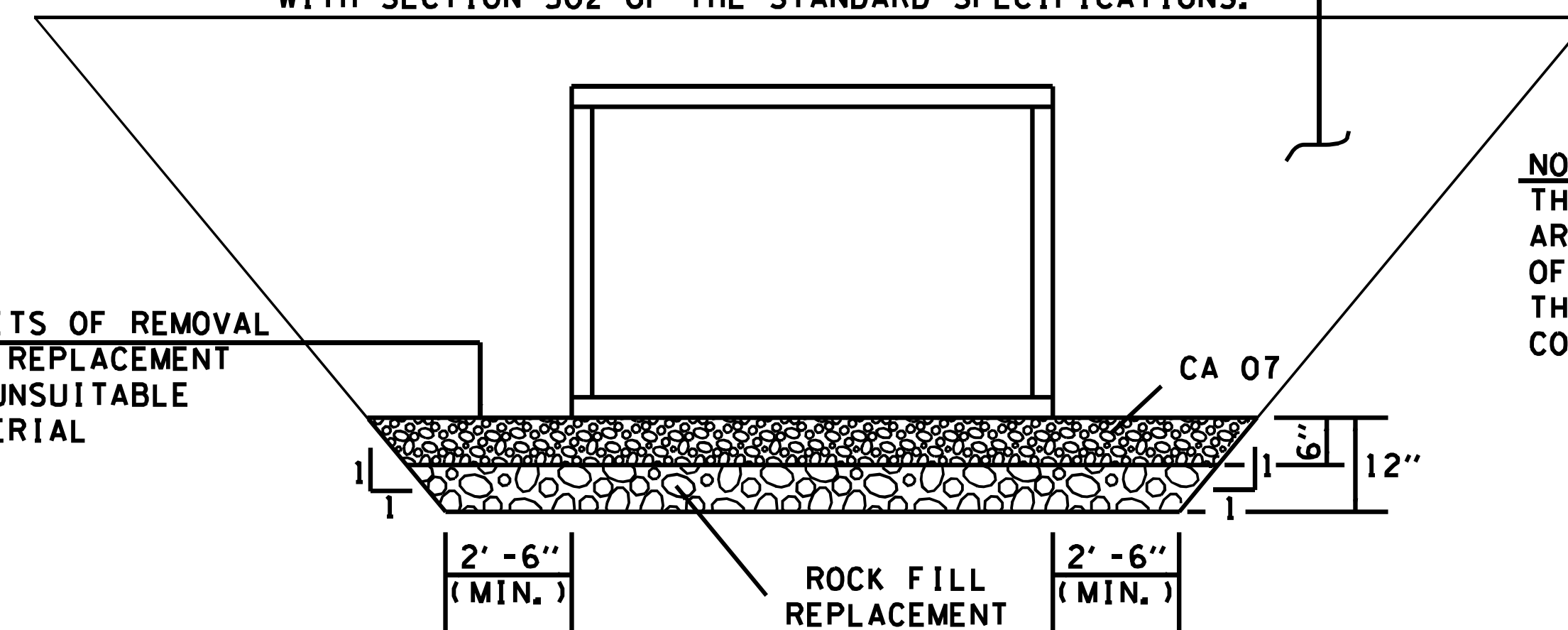
EAST SIDE VIEW



**POROUS GRANULAR BACKFILL WITHIN LIMITS
OF PROPOSED ROADWAY AND PAVED SHOULDERS.
OUTSIDE LIMITS OF PAVED SHOULDERS THE
CULVERT SHALL BE BACKFILLED IN ACCORDANCE
WITH SECTION 502 OF THE STANDARD SPECIFICATIONS.**



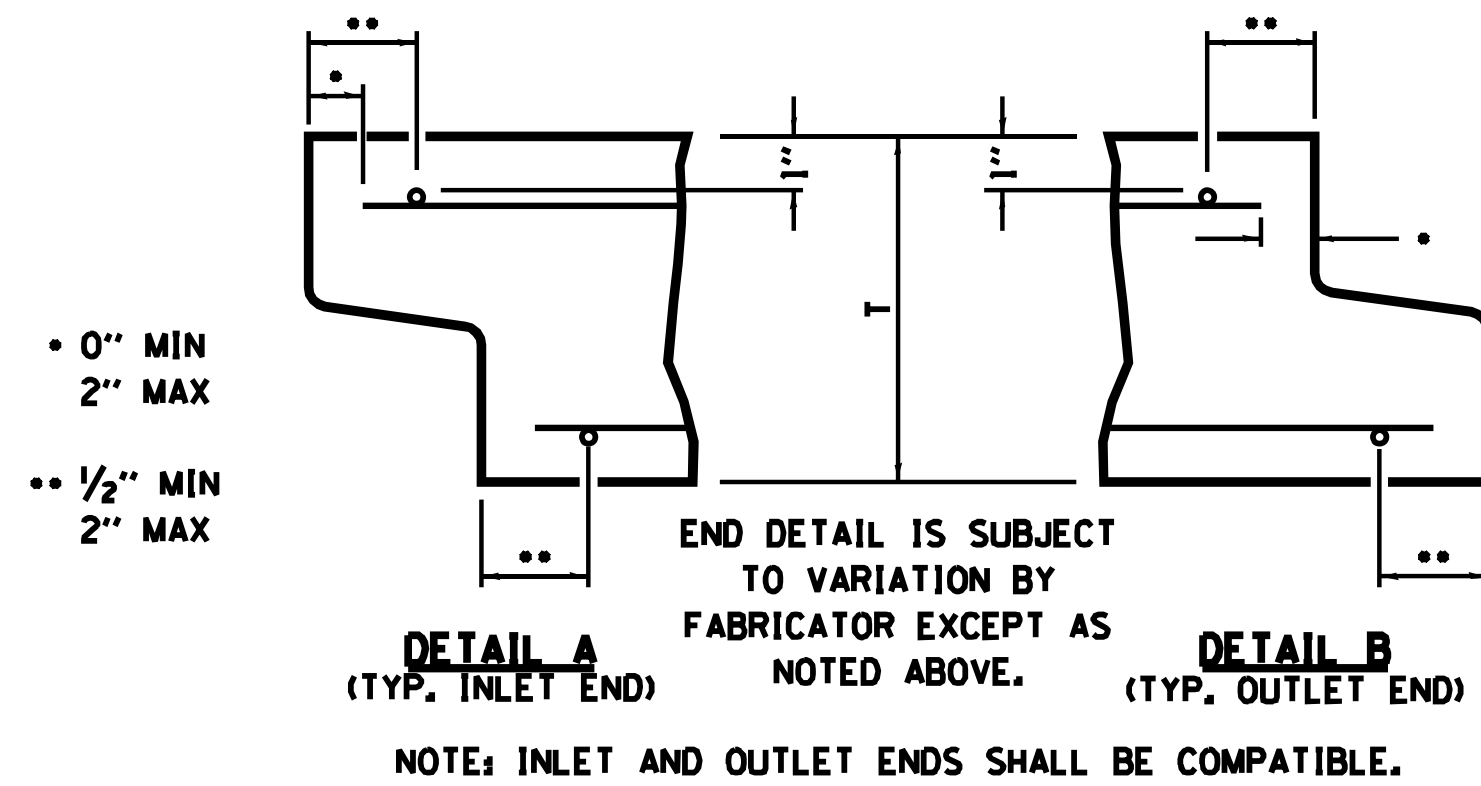
LIMITS OF REMOVAL AND REPLACEMENT OF UNSUITABLE MATERIAL



NOTE:
THE LIMITS AND QUANTITIES SHOWN
ARE ESTIMATED. THE FINAL DEPTH
OF UNDERCUT WILL BE DETERMINED BY
THE ENGINEER AT THE TIME OF
CONSTRUCTION.

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR (15-22)R	COLES	1086	648
		CONTRACT NO. 74435		
		ILLINOIS FED. AID PROJECT		

DETAIL OF PRECAST CONCRETE BOX CULVERT ASTM C1577



DESIGN LOADING:
COMBINED EARTH DEAD LOAD
AND AASHTO HL-93 LIVE LOAD

GENERAL NOTES

SHOP PLANS FOR THE REINFORCEMENT SHALL BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 540.06 OF THE STANDARD SPECIFICATIONS, AND THE CURRENT POLICY MEMORANDUM "QUALITY CONTROL/QUALITY ASSURANCE PROGRAM FOR PRECAST CONCRETE PRODUCTS."

MINIMUM CONCRETE STRENGTH SHALL BE 5000 PSI AFTER 28 DAYS.

THE JOINTS OF THE PRECAST BOX SECTIONS SHALL BE SEALED
IN ACCORDANCE WITH ARTICLE 540.06 OF THE STANDARD
SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

THE TERMS A_{s1} , A_{s2} , A_{s3} , A_{s4} , A_{s5} , A_{s6} , A_{s7} , AND A_{s8} , DENOTE THE REQUIRED STEEL AREAS FOR REINFORCEMENT AS SPECIFIED IN ASTM C1577. REINFORCEMENT SHALL BE WELDED WIRE FABRIC CONFORMING TO AASHTO SPECIFICATIONS M55 (A185) OR M221 (A497), OR REINFORCEMENT BARS, GRADE 60, CONFORMING TO A706.

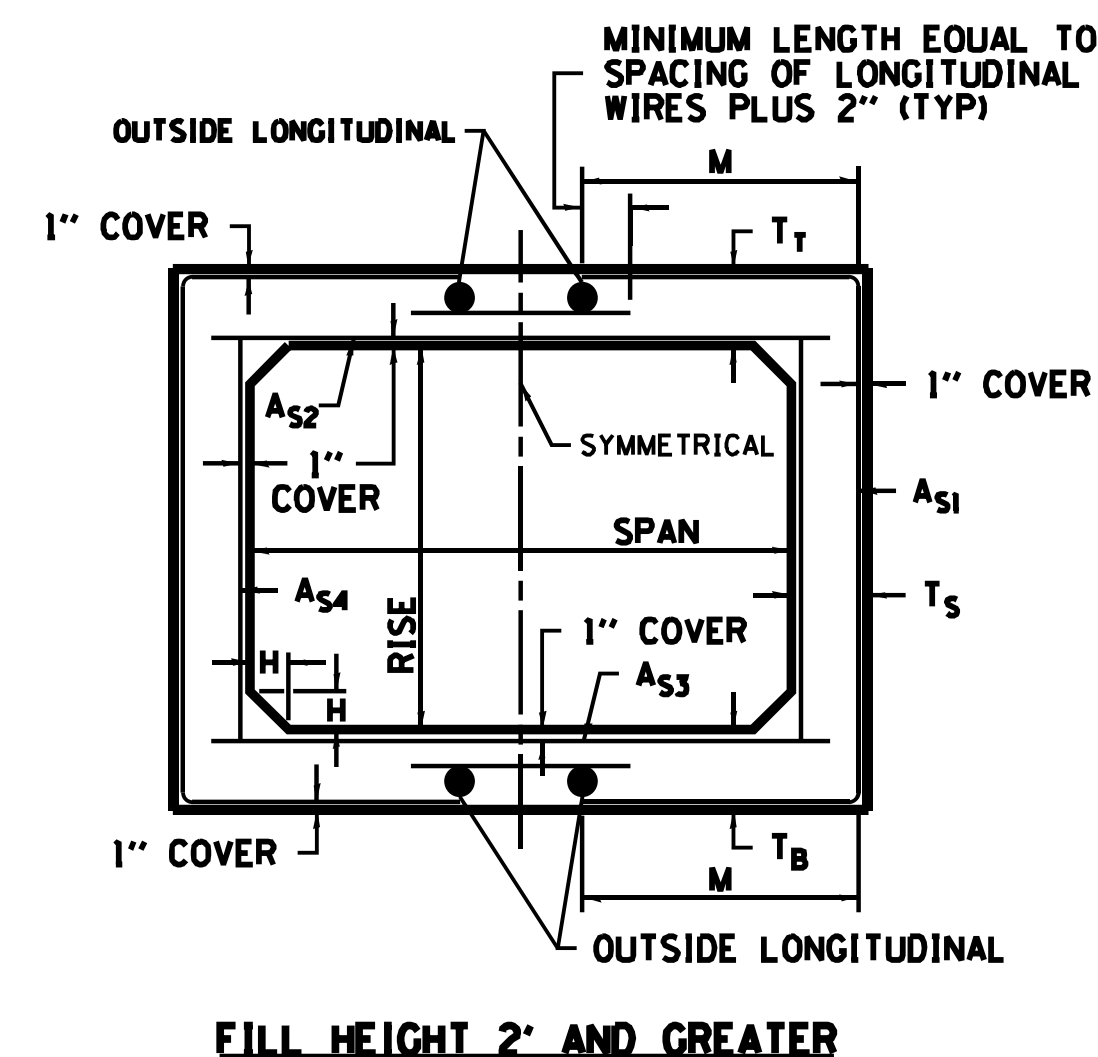
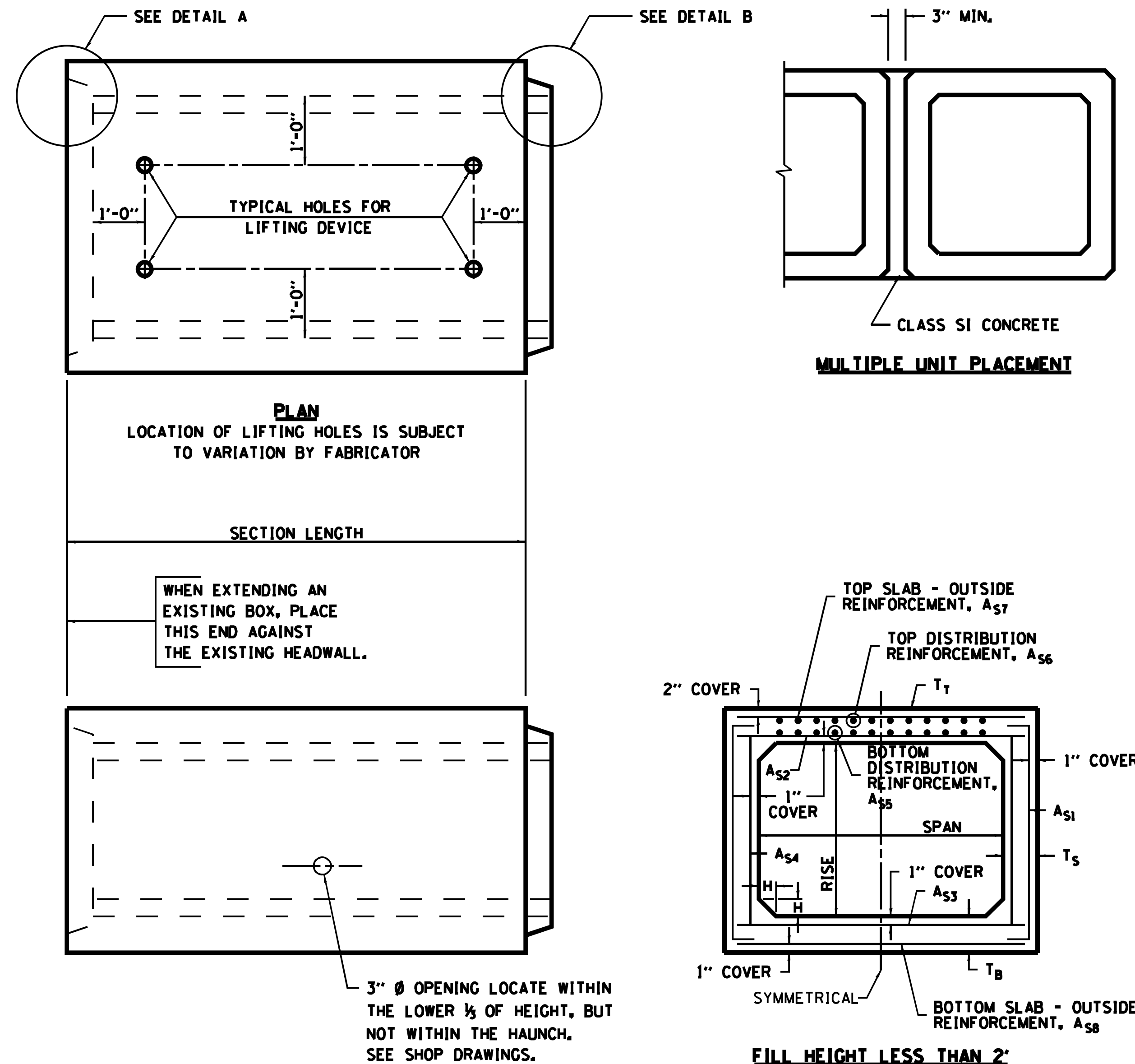
LIFTING HOLES SHALL BE FILLED IN ACCORDANCE WITH 540.06
OR PROJECT SPECIAL PROVISIONS.

DRAINAGE OPENINGS SHALL BE PROVIDED IN ACCORDANCE WITH ARTICLE 503.11 OF THE STANDARD SPECIFICATIONS. LOCATION AND SPACING OF THE OPENINGS SHALL BE SHOWN ON THE SHOP DRAWINGS.

DESIGN FILL HEIGHT (F):

MAXIMUM FILL HEIGHT ($f_{\max}$) AND MINIMUM FILL HEIGHT ($f_{\min}$)
ARE MEASURED BETWEEN THE EXTREME EDGES OF SHOULDER.

DESIGN FILL HEIGHTS APPLY TO ENTIRE CULVERT, INCLUDING
EXTENSIONS AND END SECTIONS.

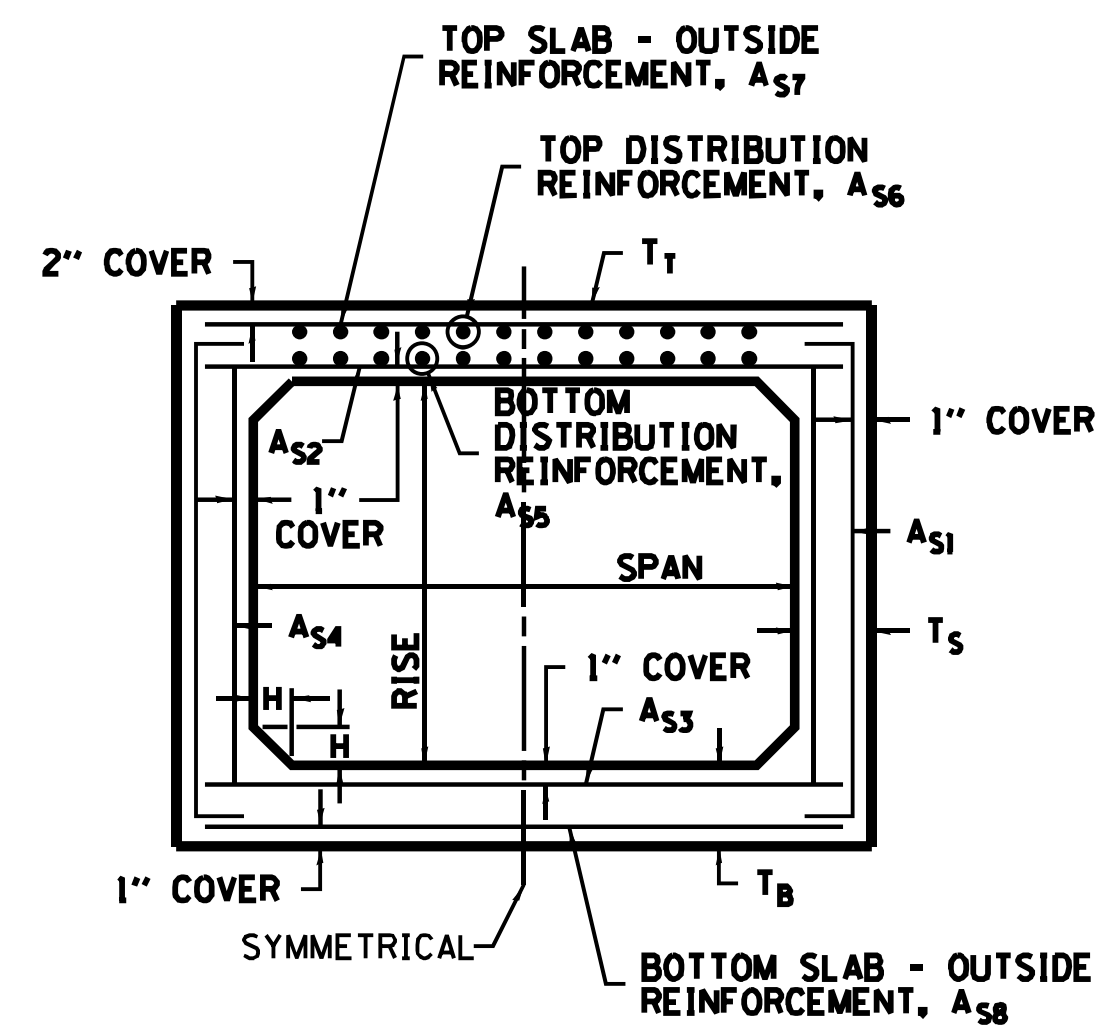


Standard Sizes							
Span	x	Rise	Design Earth	Ts	Tt	Tb	Max Earth
(ft)		(ft)	Cover (ft)	(in)	(in)	(in)	Cover (ft)
3	x	2	0 < 2	4	7	6	N/A
3	x	2	≥ 2	4	4	4	35
3	x	3	0 < 2	4	7	6	N/A
3	x	3	≥ 2	4	4	4	35
4	x	2	0 < 2	5	7.5	6	N/A
4	x	2	≥ 2	5	5	5	30
4	x	3	0 < 2	5	7.5	6	N/A
4	x	3	≥ 2	5	5	5	30
4	x	4	0 < 2	5	7.5	6	N/A
4	x	4	≥ 2	5	5	5	30
5	x	3	0 < 2	6	8	7	N/A
5	x	3	≥ 2	6	6	6	30
5	x	4	0 < 2	6	8	7	N/A
5	x	4	≥ 2	6	6	6	30
5	x	5	0 < 2	6	8	7	N/A
5	x	5	≥ 2	6	6	6	30
6	x	3	0 < 2	7	8	7	N/A
6	x	3	≥ 2	7	7	7	30
6	x	4	0 < 2	7	8	7	N/A
6	x	4	≥ 2	7	7	7	30
6	x	5	0 < 2	7	8	7	N/A
6	x	5	≥ 2	7	7	7	30
6	x	6	0 < 2	7	8	7	N/A
6	x	6	≥ 2	7	7	7	30
7	x	4	≤ 30	8	8	8	30
7	x	5	≤ 30	8	8	8	30
7	x	6	≤ 30	8	8	8	30
7	x	7	≤ 30	8	8	8	30
8	x	4	≤ 20	8	8	8	20
8	x	5	≤ 20	8	8	8	20
8	x	6	≤ 20	8	8	8	20
8	x	7	≤ 20	8	8	8	20
8	x	8	≤ 20	8	8	8	20
9	x	5	≤ 25	9	9	9	25
9	x	6	≤ 25	9	9	9	25
9	x	7	≤ 20	9	9	9	20
9	x	8	≤ 20	9	9	9	20
9	x	9	≤ 20	9	9	9	20
10	x	5	≤ 25	10	10	10	25
10	x	6	≤ 25	10	10	10	25
10	x	7	≤ 25	10	10	10	25
10	x	8	≤ 20	10	10	10	20
10	x	9	≤ 20	10	10	10	20
10	x	10	≤ 20	10	10	10	20
11	x	4	≤ 25	11	11	11	25
11	x	6	≤ 25	11	11	11	25
11	x	8	≤ 25	11	11	11	25
11	x	10	≤ 20	11	11	11	20
11	x	11	≤ 20	11	11	11	20
12	x	4	≤ 25	12	12	12	25
12	x	6	≤ 25	12	12	12	25
12	x	8	≤ 25	12	12	12	25
12	x	10	≤ 25	12	12	12	25
12	x	12	≤ 20	12	12	12	20

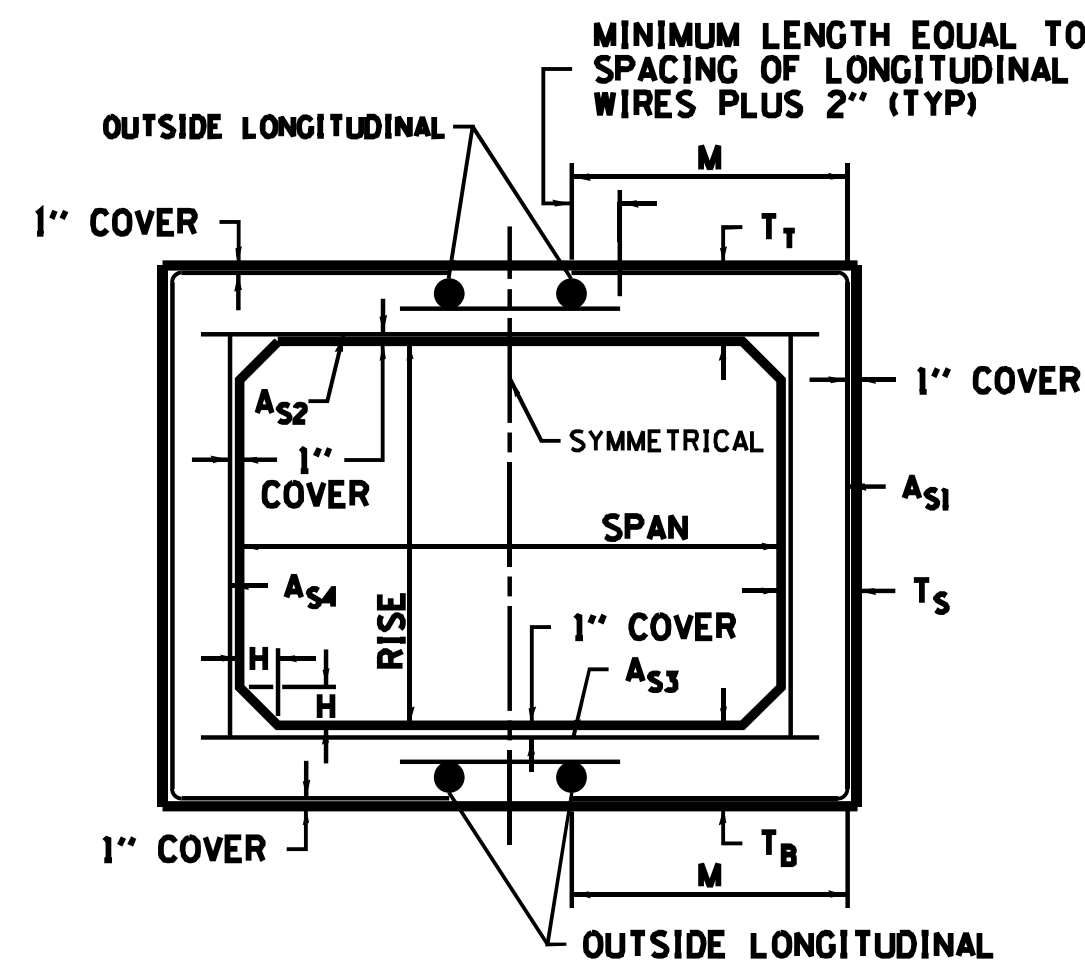
NOTE: Ts, Tt and Tb are minimums, per ASTM C1577.

- "T" MAY BE LARGER THAN SHOWN ON TABLE, PER ASTM C1577 SPECIFICATIONS.

DETAIL OF PRECAST CONCRETE BOX CULVERT END SECTION ASTM C1577



FILL HEIGHT LESS THAN 2'



FILL HEIGHT 2' AND GREATER

DESIGN LOADING:
COMBINED EARTH DEAD LOAD
AND AASHTO HL-93 LIVE LOAD

GENERAL NOTES

SHOP PLANS FOR THE REINFORCEMENT SHALL BE SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 540.06 OF THE STANDARD SPECIFICATIONS, AND THE CURRENT POLICY MEMORANDUM "QUALITY CONTROL/QUALITY ASSURANCE PROGRAM FOR PRECAST CONCRETE PRODUCTS."

MINIMUM CONCRETE STRENGTH SHALL BE 5000 PSI AFTER 28 DAYS.

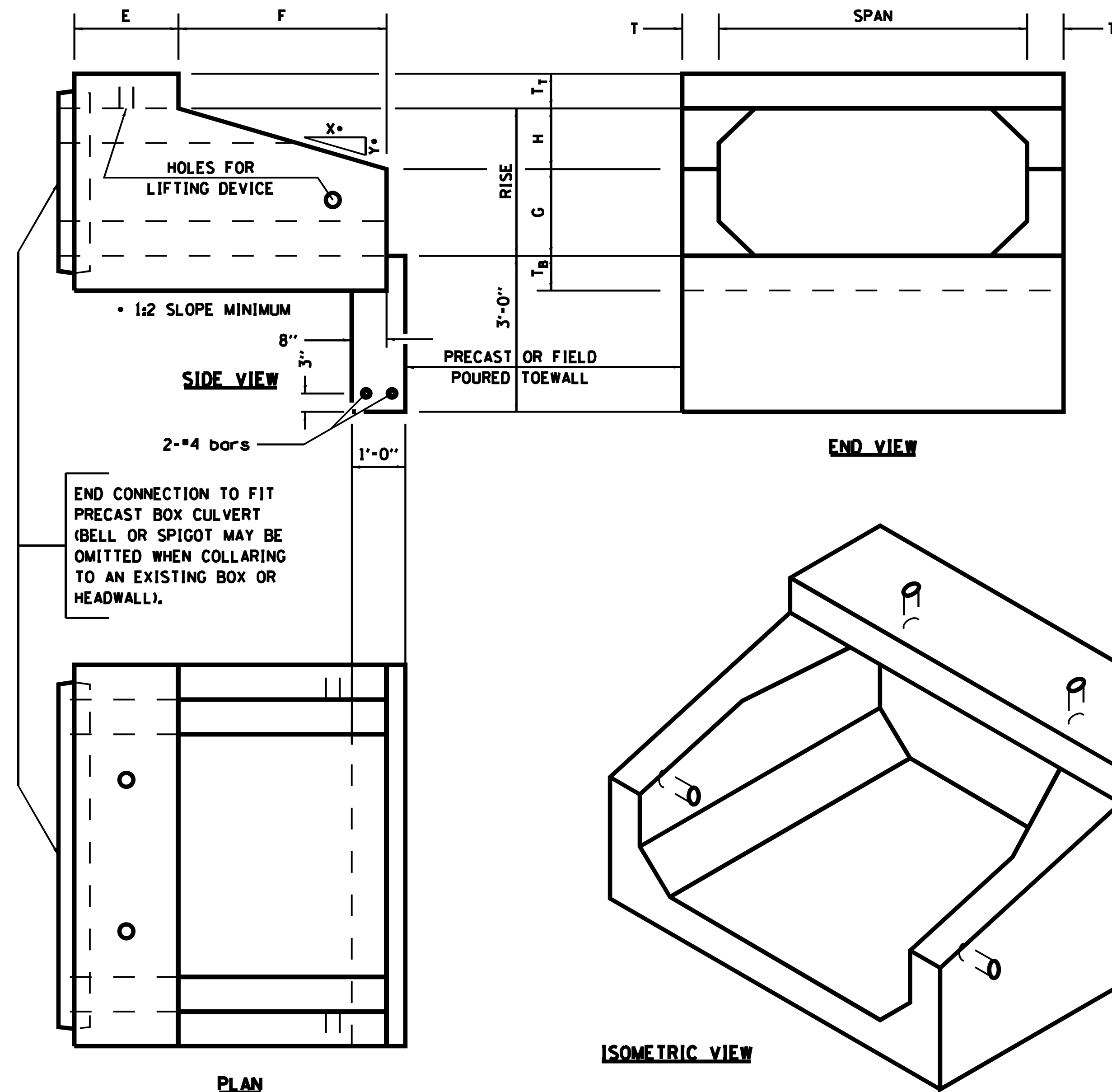
THE JOINTS OF THE PRECAST BOX SECTIONS SHALL BE SEALED
IN ACCORDANCE WITH ARTICLE 540.06 OF THE STANDARD
SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

THE TERMS A_{s1} , A_{s2} , A_{s3} , A_{s4} , A_{s5} , A_{s6} , A_{s7} , AND A_{s8} , DENOTE THE REQUIRED STEEL AREAS FOR REINFORCEMENT AS SPECIFIED IN ASTM C1577. REINFORCEMENT SHALL BE WELDED WIRE FABRIC CONFORMING TO AASHTO SPECIFICATIONS M55 (A185) OR M221 (A497), OR REINFORCEMENT BARS, GRADE 60, CONFORMING TO A706.

LIFTING HOLES SHALL BE FILLED IN ACCORDANCE WITH 540.06
OR PROJECT SPECIAL PROVISIONS.

DESIGN FILL HEIGHT (F):

MAXIMUM FILL HEIGHT (f_{max}) AND MINIMUM FILL HEIGHT (f_{min}) ARE MEASURED BETWEEN THE EXTREME EDGES OF SHOULDER. DESIGN FILL HEIGHTS APPLY TO ENTIRE CULVERT, INCLUDING EXTENSIONS AND END SECTIONS.



Standard Sizes							
Span (ft)	x	Rise (ft)	Design Earth Cover (ft)	Ts (in)	Tt (in)	Tb (in)	Max Earth Cover (ft)
3	x	2	0 < 2	4	7	6	N/A
3	x	2	≥ 2	4	4	4	35
3	x	3	0 < 2	4	7	6	N/A
3	x	3	≥ 2	4	4	4	35
4	x	2	0 < 2	5	7.5	6	N/A
4	x	2	≥ 2	5	5	5	30
4	x	3	0 < 2	5	7.5	6	N/A
4	x	3	≥ 2	5	5	5	30
4	x	4	0 < 2	5	7.5	6	N/A
4	x	4	≥ 2	5	5	5	30
5	x	3	0 < 2	6	8	7	N/A
5	x	3	≥ 2	6	6	6	30
5	x	4	0 < 2	6	8	7	N/A
5	x	4	≥ 2	6	6	6	30
5	x	5	0 < 2	6	8	7	N/A
5	x	5	≥ 2	6	6	6	30
6	x	3	0 < 2	7	8	7	N/A
6	x	3	≥ 2	7	7	7	30
6	x	4	0 < 2	7	8	7	N/A
6	x	4	≥ 2	7	7	7	30
6	x	5	0 < 2	7	8	7	N/A
6	x	5	≥ 2	7	7	7	30
6	x	6	0 < 2	7	8	7	N/A
6	x	6	≥ 2	7	7	7	30
7	x	4	≤ 30	8	8	8	30
7	x	5	≤ 30	8	8	8	30
7	x	6	≤ 30	8	8	8	30
7	x	7	≤ 30	8	8	8	30
8	x	4	≤ 20	8	8	8	20
8	x	5	≤ 20	8	8	8	20
8	x	6	≤ 20	8	8	8	20
8	x	7	≤ 20	8	8	8	20
8	x	8	≤ 20	8	8	8	20
9	x	5	≤ 25	9	9	9	25
9	x	6	≤ 25	9	9	9	25
9	x	7	≤ 20	9	9	9	20
9	x	8	≤ 20	9	9	9	20
9	x	9	≤ 20	9	9	9	20
10	x	5	≤ 25	10	10	10	25
10	x	6	≤ 25	10	10	10	25
10	x	7	≤ 25	10	10	10	25
10	x	8	≤ 20	10	10	10	20
10	x	9	≤ 20	10	10	10	20
10	x	10	≤ 20	10	10	10	20
11	x	4	≤ 25	11	11	11	25
11	x	6	≤ 25	11	11	11	25
11	x	8	≤ 25	11	11	11	25
11	x	10	≤ 20	11	11	11	20
11	x	11	≤ 20	11	11	11	20
12	x	4	≤ 25	12	12	12	25
12	x	6	≤ 25	12	12	12	25
12	x	8	≤ 25	12	12	12	25
12	x	10	≤ 25	12	12	12	25
12	x	12	≤ 20	12	12	12	20

NOTE: Ts, Tt and Tb are minimums, per ASTM C1577.

- "T" MAY BE LARGER THAN SHOWN ON TABLE, PER ASTM C1577 SPECIFICATIONS.

BM 352: Brass disk in top of concrete parapet on the SE corner of SN 015-0052 on northbound I-57 over bike trail; Sta. 807+80, 68' right, Elev. 741.38

SN 015-0051 (SB) and SN 015-0052 (NB) were originally constructed in 1965 as F.A.I. Route 57, Section 15-22VB-1. In 2000, the concrete deck, wingwalls and bearings at the abutments were replaced on both structures as F.A.I. Route 57, Section 15-22(HB,VB-1,HB-5)BR. Each three-span structure consists of a concrete deck made composite (positive moment regions only) with continuous rolled W27 steel beams supported by stub abutments and multi-column piers with crashwalls. Abutments are founded on concrete piles and piers are founded on treated timber piles. Each structure is 141'-5" back-to-back of abutments, 44'-7½" out-to-out of deck and skewed 6°-35'-35" right forward.

Lincoln Prairie Grass (Bike) Trail to be closed during construction. Interstate traffic to be maintained utilizing median crossovers.

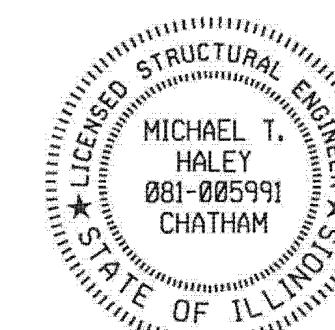
Allow 50 psf for future wearing surface

2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

FIELD UNITS

$f'_c = 3,500 \text{ psi (concrete)}$
 $f_y = 60,000 \text{ psi (reinforcement)}$

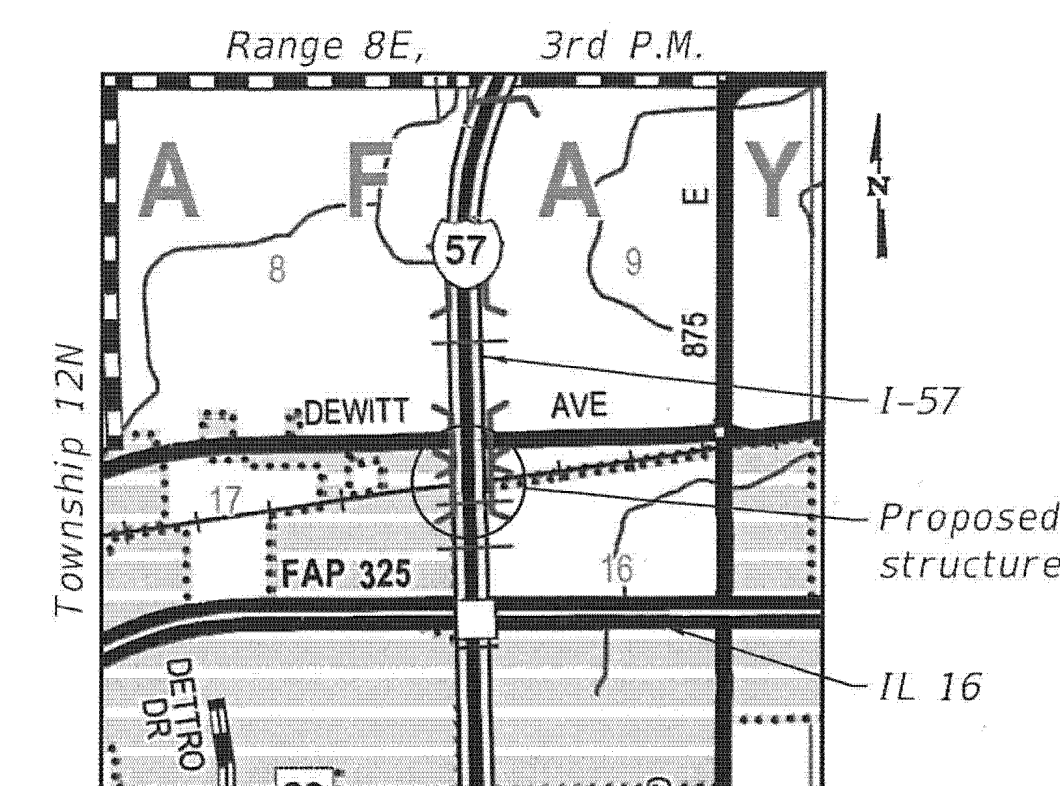
1. *General Plan*
- 2.-3. *General Data*
4. *Stage Construction Details*
- 5.-6. *Culvert Details*
7. *Bicycle Railing Details*
- 8.-10. *Soil Boring Logs*



Michael T. Haley 10/23/2023
Michael T. Haley Date
Licensed Structural Engineer
State of Illinois No. 081-005991
Expires 11/30/2024

APPROVED
For Structural Adequacy Only

Engineer of Bridges & Structures



LOCATION SKETCH

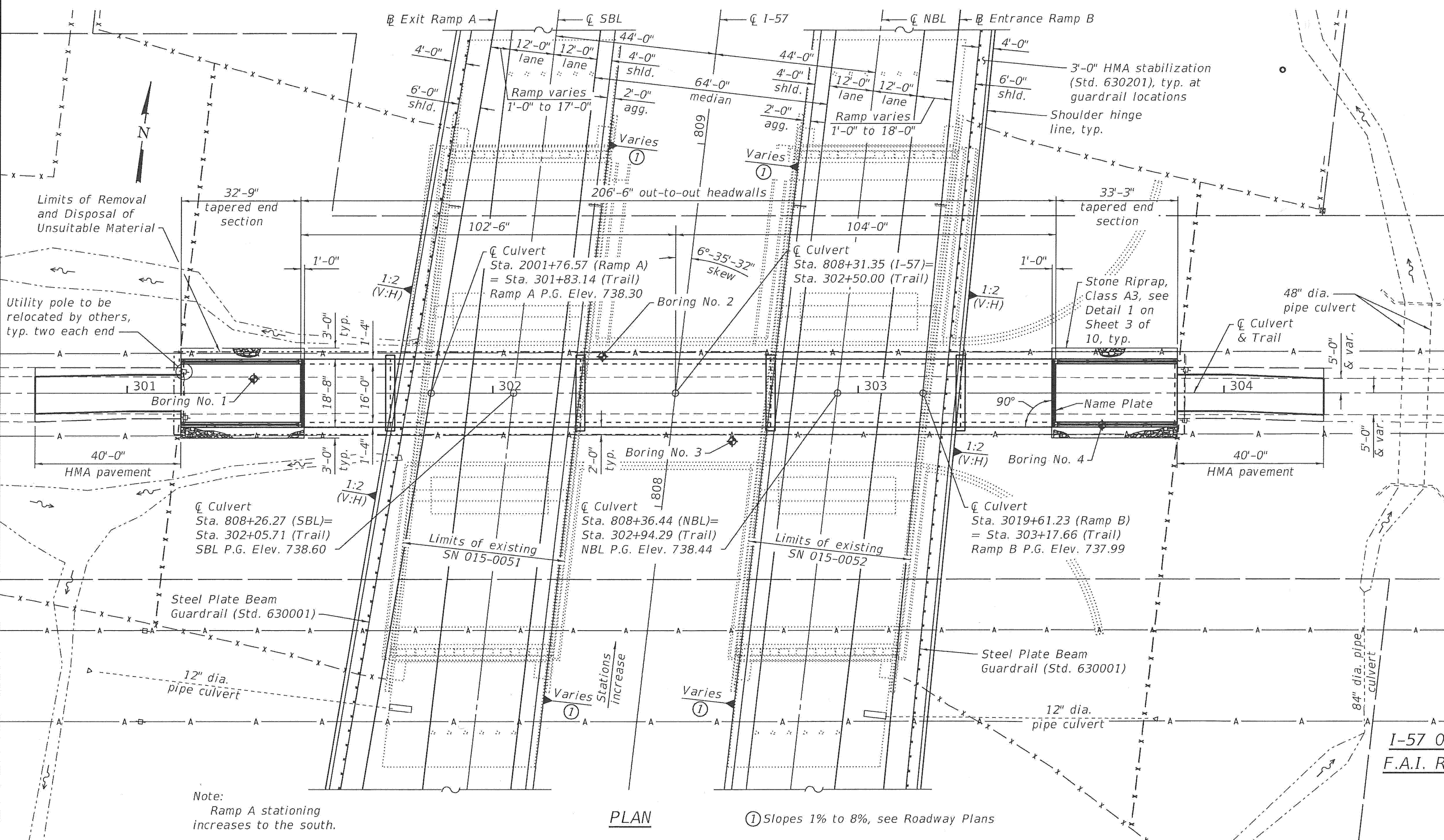
GENERAL PLAN

I-57 OVER LINCOLN PRAIRIE GRASS (BIKE) TRAIL
F.A.I. ROUTE 57 - SECTION (15-22HB-4)BR(15-22)R

COLES COUNTY

STATION 808+31.35

STRUCTURE NO. 015-2026



Note:
Ramp A stationing
increases to the south.

PLAN

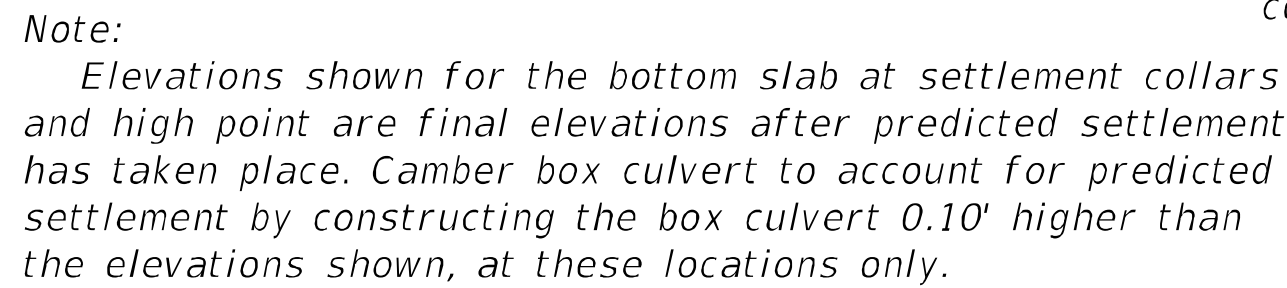
① Slopes 1% to 8%, see Roadway Plans

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)8R(15-22)R	COLES	1086	651
		CONTRACT NO. 74435		
		ILLINOIS	FED. AID PROJECT	

Dimensions @ right
angle to $\angle I-57$



Precast alternate is not allowed.

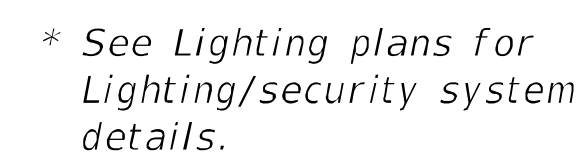
The limits and quantities of removal and replacement of unsuitable material for structures shown are based on the boring data and may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.

The Rock Fill shall be capped with 6 in. of CA7 and satisfy the Standard Specifications unless otherwise indicated in the Special Provisions. The cost of the capping material shall be included in the pay item for Rock Fill - Replacement.

Removal of SN 015-0051 (SB) will be paid for as Removal of Existing Structures No. 3, and removal of SN 015-0052 (NB) will be paid for as Removal of Existing Structures No. 4.

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

ITEM	UNIT	TOTAL
Removal and Disposal of Unsuitable Material for Structures	Cu. Yd.	1,442
Stone Riprap, Class A3	Sq. Yd.	52
Filter Fabric	Sq. Yd.	52
Removal of Existing Structures No. 3	Each	1
Removal of Existing Structures No. 4	Each	1
Slope Wall Removal	Sq. Yd.	1,477
Reinforcement Bars	Pound	176,150
Bicycle Railing	Foot	179
Name Plates	Each	1
Concrete Box Culverts	Cu. Yd.	951.5
Geocomposite Wall Drain	Sq. Yd.	1,433
Pipe Underdrains for Structures 6"	Foot	700
Membrane Waterproofing System for Buried Structures	Sq. Yd.	469.5
Rock Fill - Replacement	Cu. Yd.	929

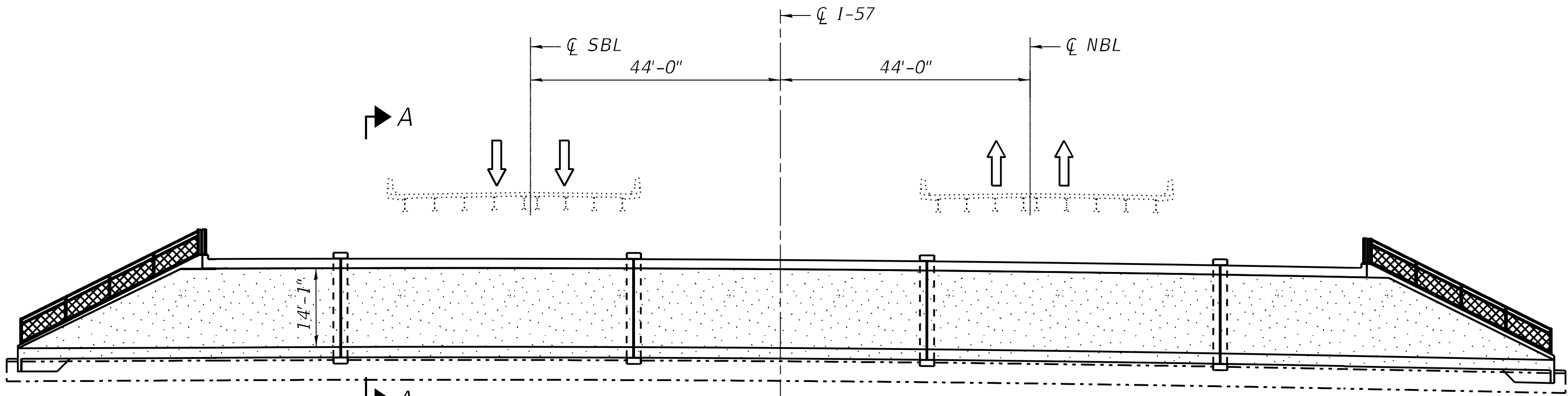


(Dimensions at right angle to barrel)

(Sheet 1 of 2)

MONITORING OF EXISTING STRUCTURES:

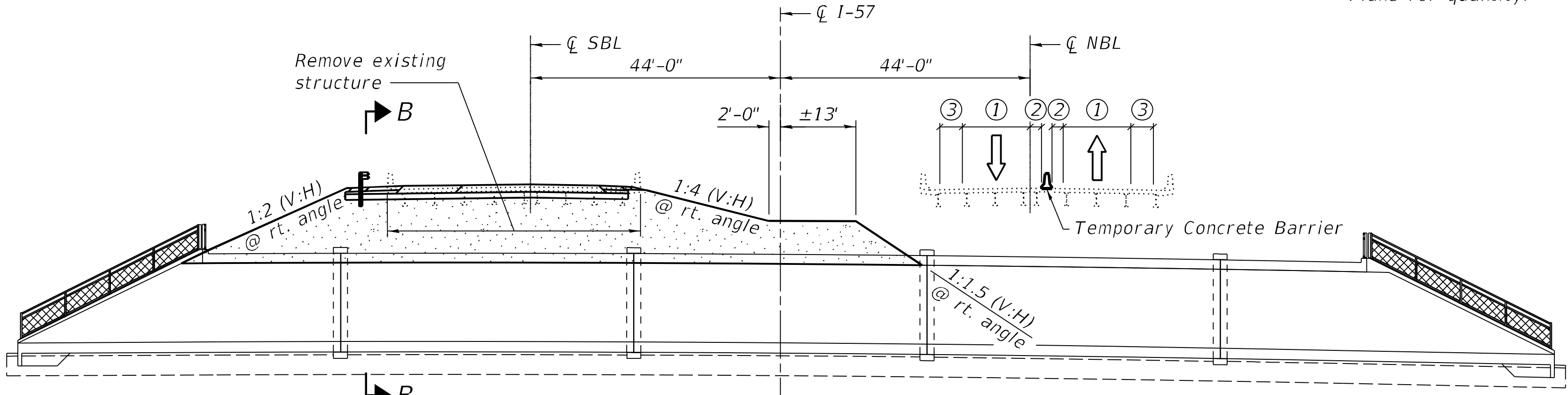
The existing structures shall be monitored during construction of the box culvert and placement of embankment. The Engineer shall establish control points on each end of each existing pier prior to the start of box culvert construction. The Engineer shall monitor the control points daily during the period when embankment is being placed adjacent to or under the bridges. After embankment construction is completed, control points shall be monitored at least once per week as long as traffic is using the existing structures. Settlement or movement of a control point exceeding 1" in any direction will require closing the affected structure to traffic. In the event of an emergency closure, it shall be the Contractor's responsibility to set up a detour on an approved route, and the work will be paid for according to Article 109.04.



STAGE I
(Looking north)
(All lanes open to traffic)



Patterned areas indicate limits of embankment placed beside and on top of new box culvert. See Roadway Plans for quantity.



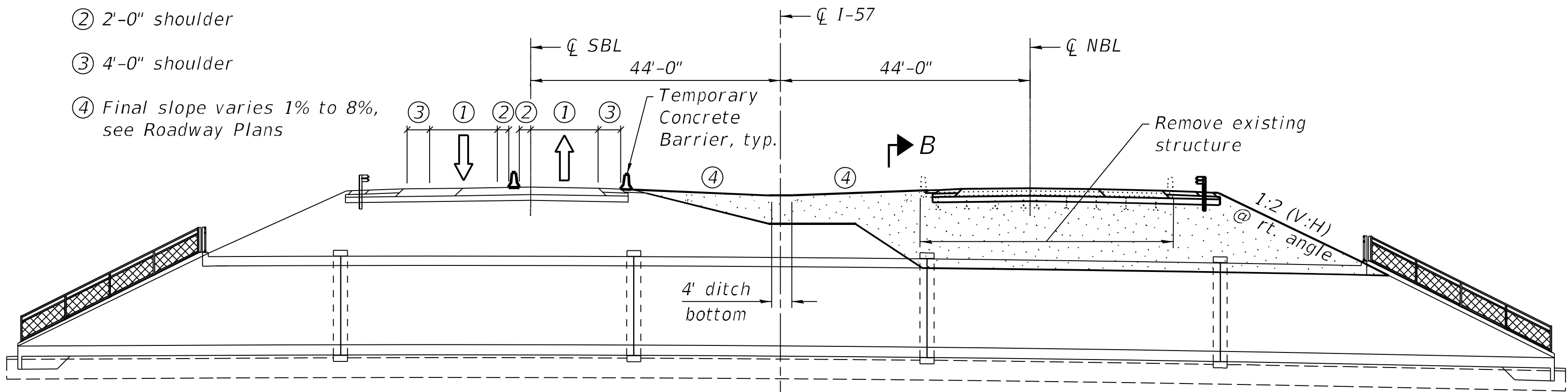
STAGE II
(Looking north)
(SB lanes closed, two-way traffic on NB lanes)

① 12'-0" traffic lane

② 2'-0" shoulder

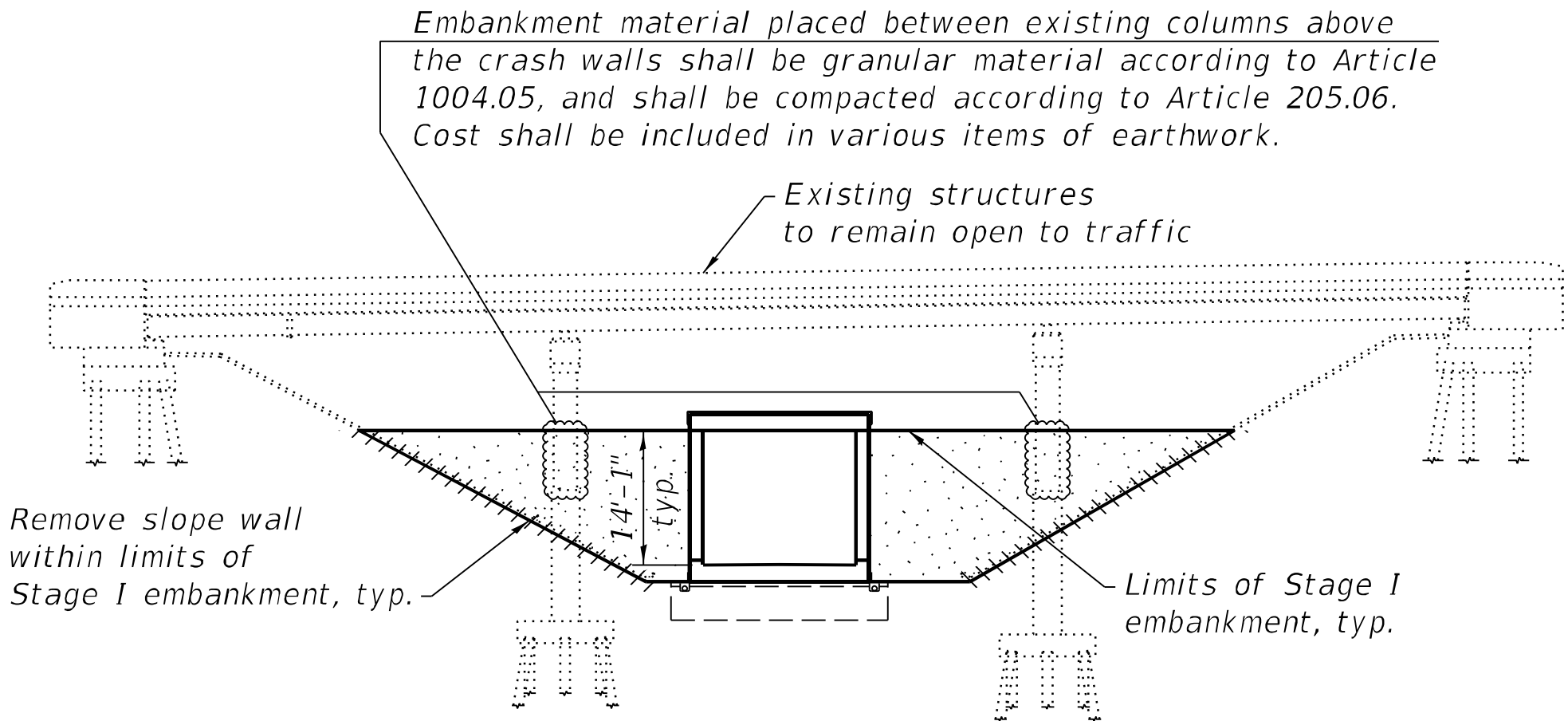
③ 4'-0" shoulder

④ Final slope varies 1% to 8%, see Roadway Plans

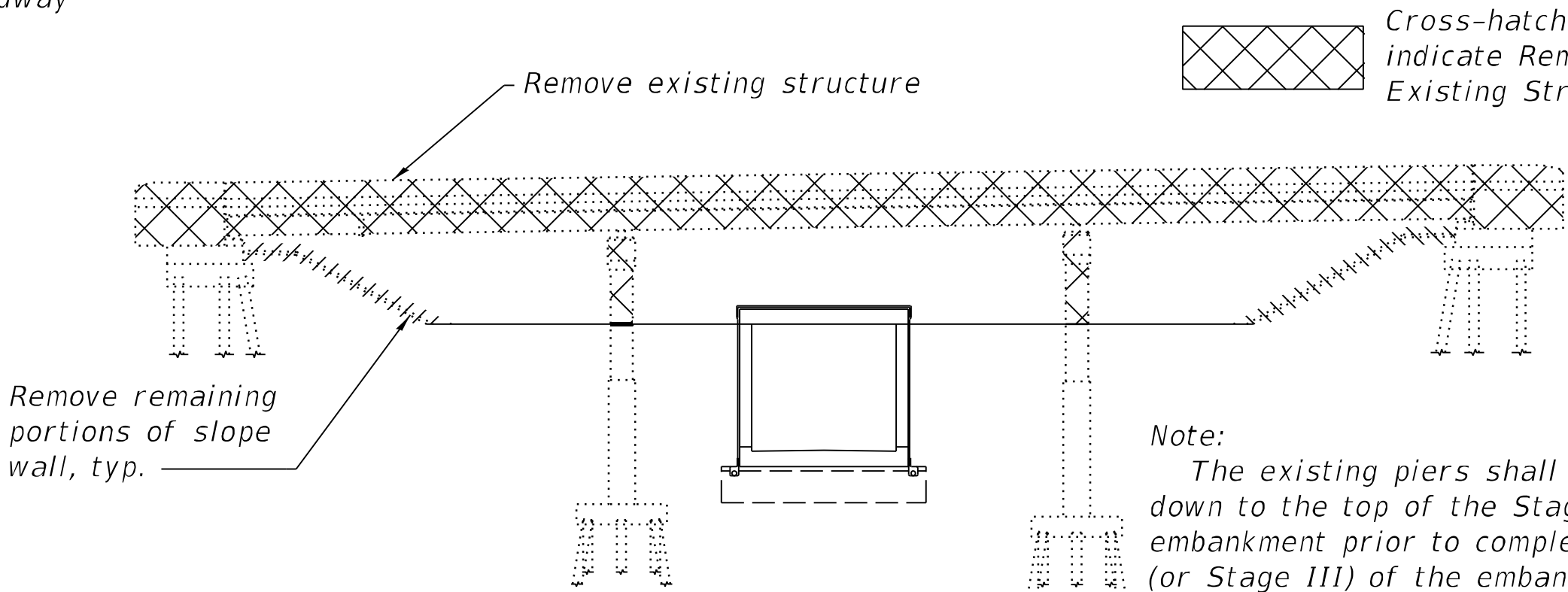


STAGE III
(Looking north)

(NB lanes closed, two-way traffic on SB lanes)

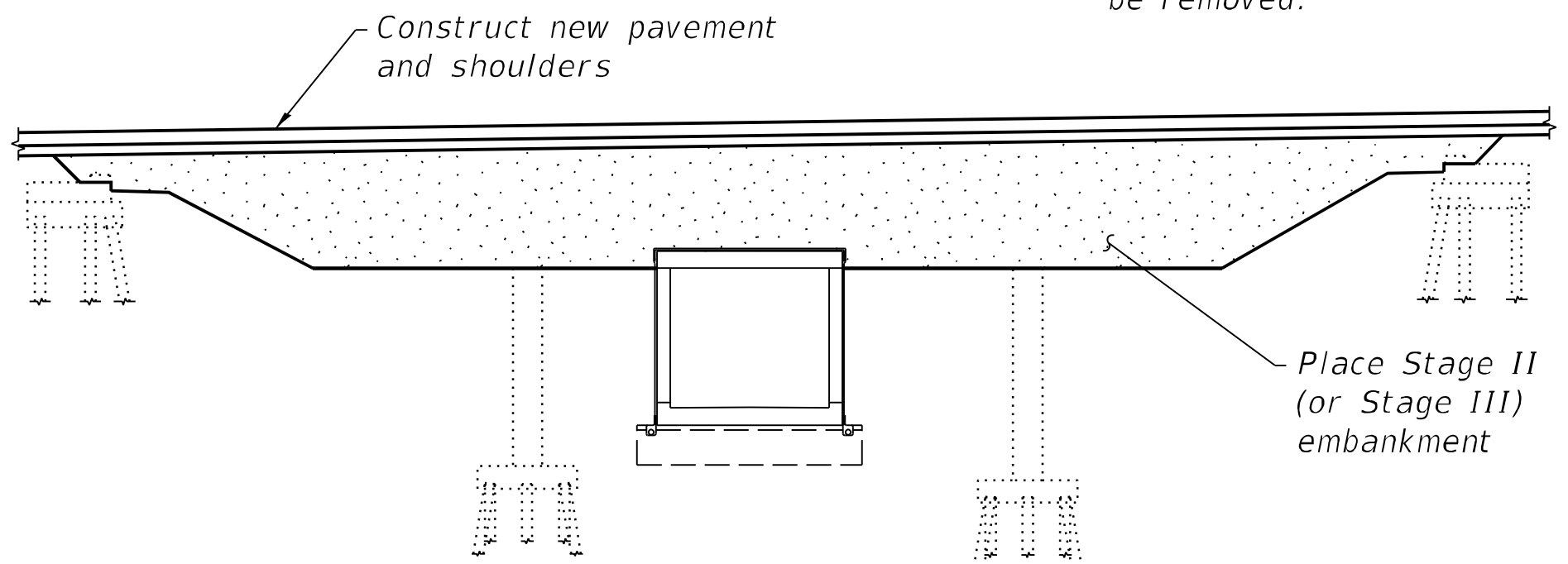


SECTION A-A



SECTION B-B
(Showing removal)

Note:
The existing piers shall be removed down to the top of the Stage I embankment prior to completing Stage II (or Stage III) of the embankment. Existing abutment wing walls and backwalls shall be removed down to the abutment seats. Abutment caps shall be left in place. Existing slope walls shall be removed.



SECTION B-B
(Showing construction)

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8/21/2024 11:38:53 AM

LINE ENGINEERING, LTD.
Consulting Engineers
Springfield, Illinois

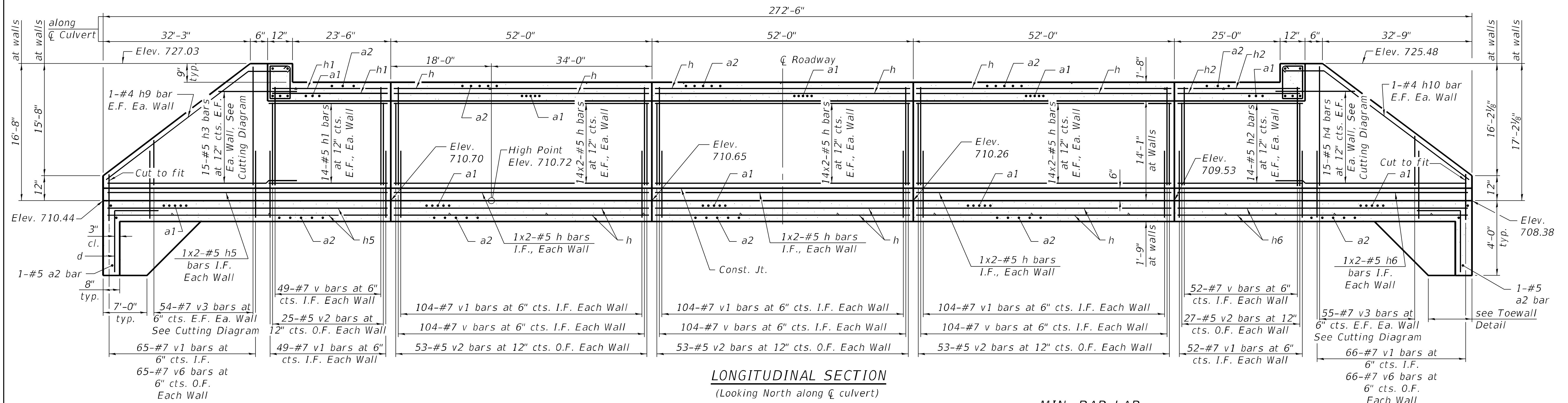
USER NAME	=	_____	DESIGNED	-	NB	REVISED	-	_____
PLOT SCALE	=	_____	CHECKED	-	CZ	REVISED	-	_____
PLOT DATE	=	8/21/2024	DRAWN	-	AJF	REVISED	-	_____
			CHECKED	-	MTH	REVISED	-	_____

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STAGE CONSTRUCTION DETAILS
STRUCTURE NO. 015-2026

SHEET 4 OF 10 SHEETS

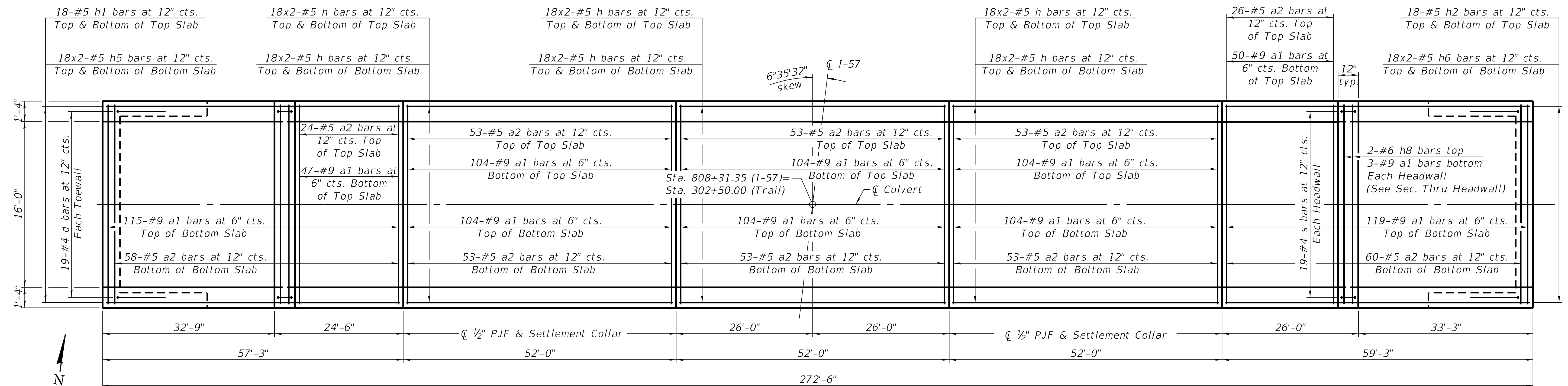
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	654
CONTRACT NO. 74435				
ILLINOIS FED.AID PROJECT				



MIN. BAR LAP

#5 bar = 2'-9"
#7 bar = 3'-0"

#7 bar = 3'-0



Notes:

At the Contractor's option, a longer v1 bar may be ordered to replace the v bar. No reduction in quantities shall be made for this substitution.

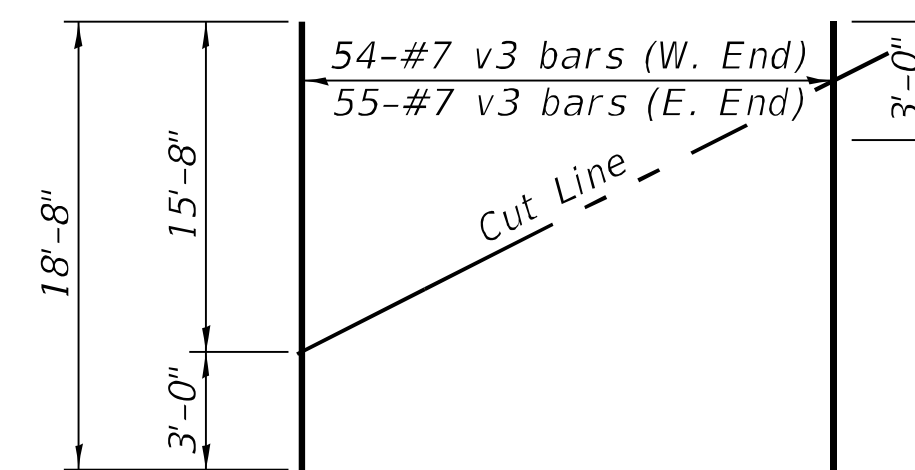
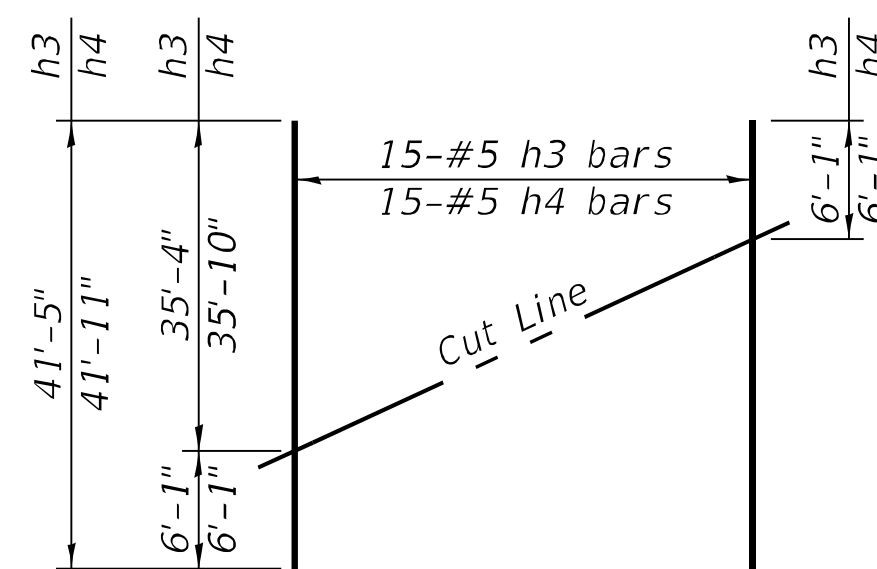
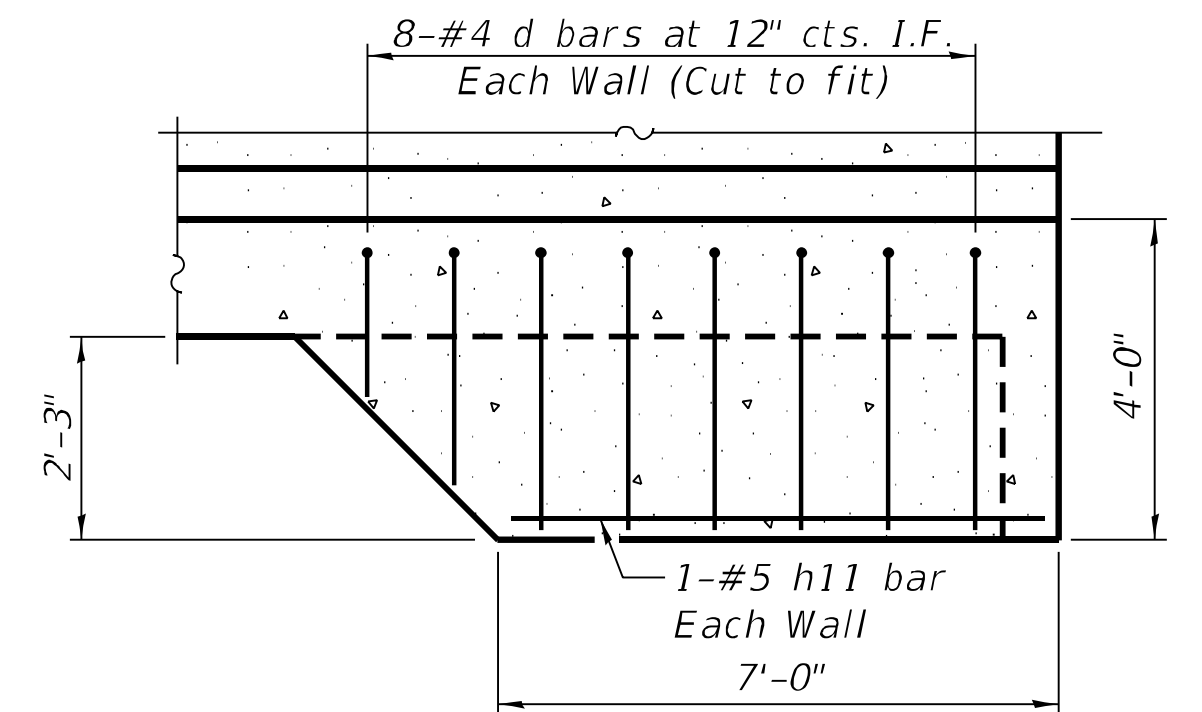
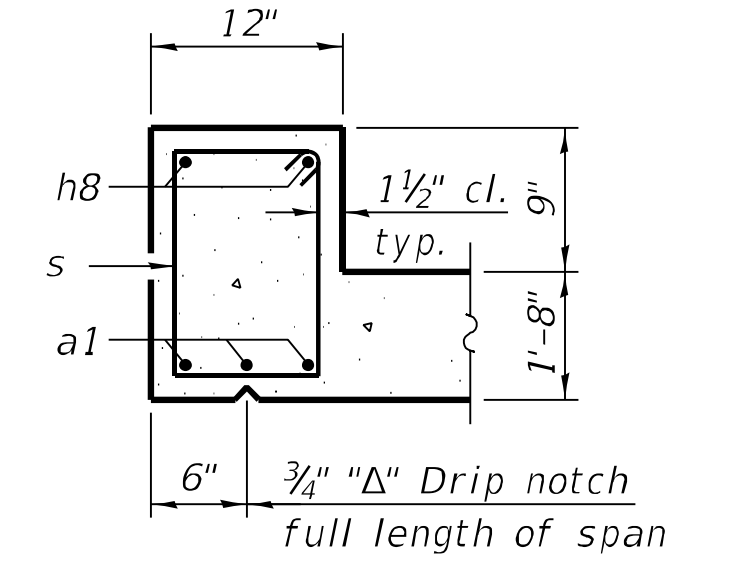
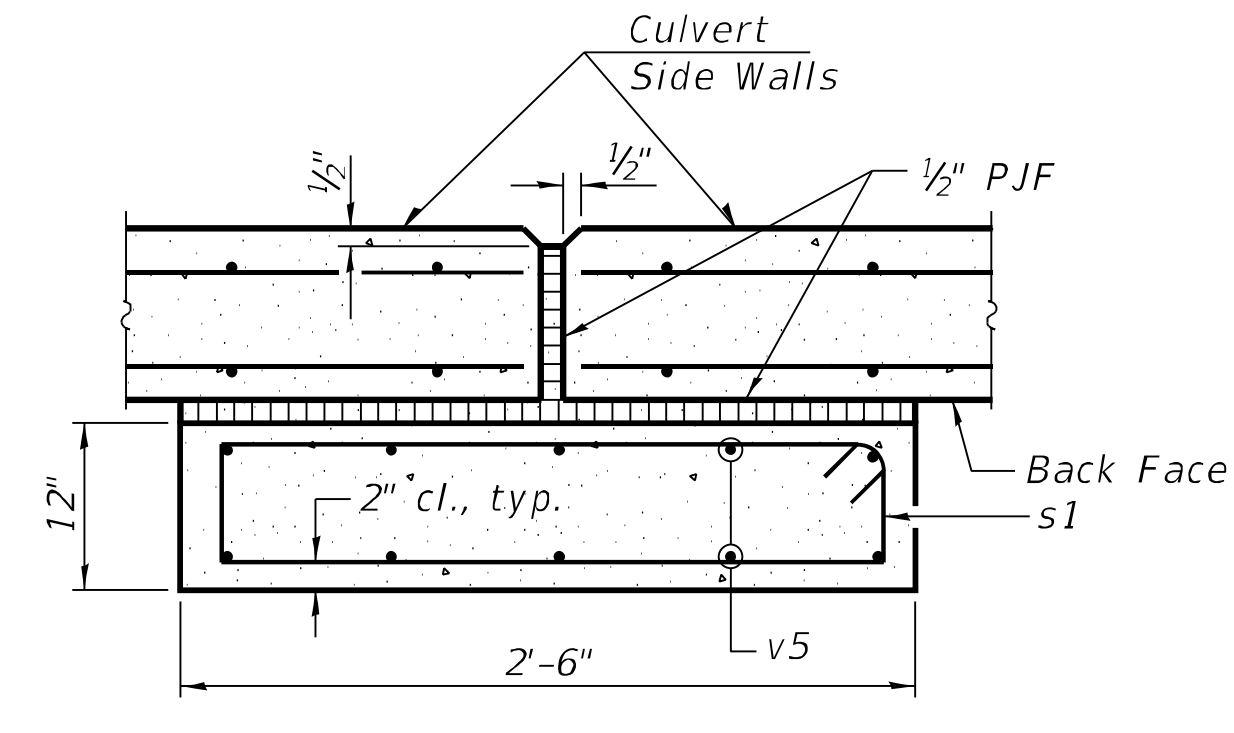
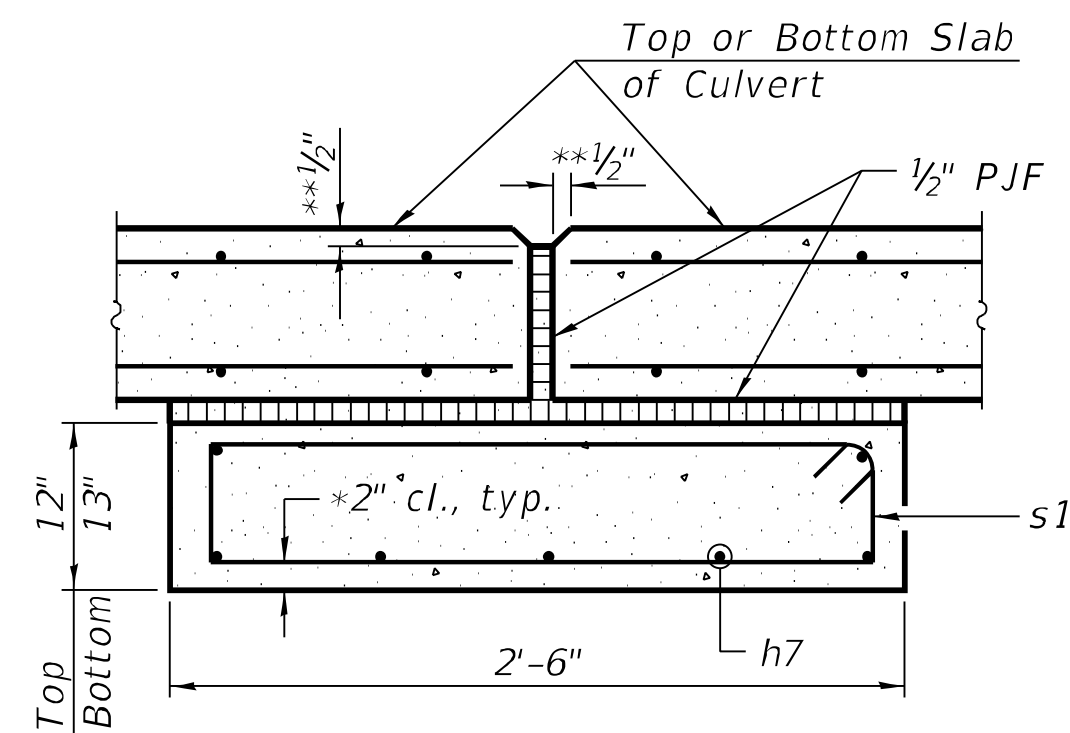
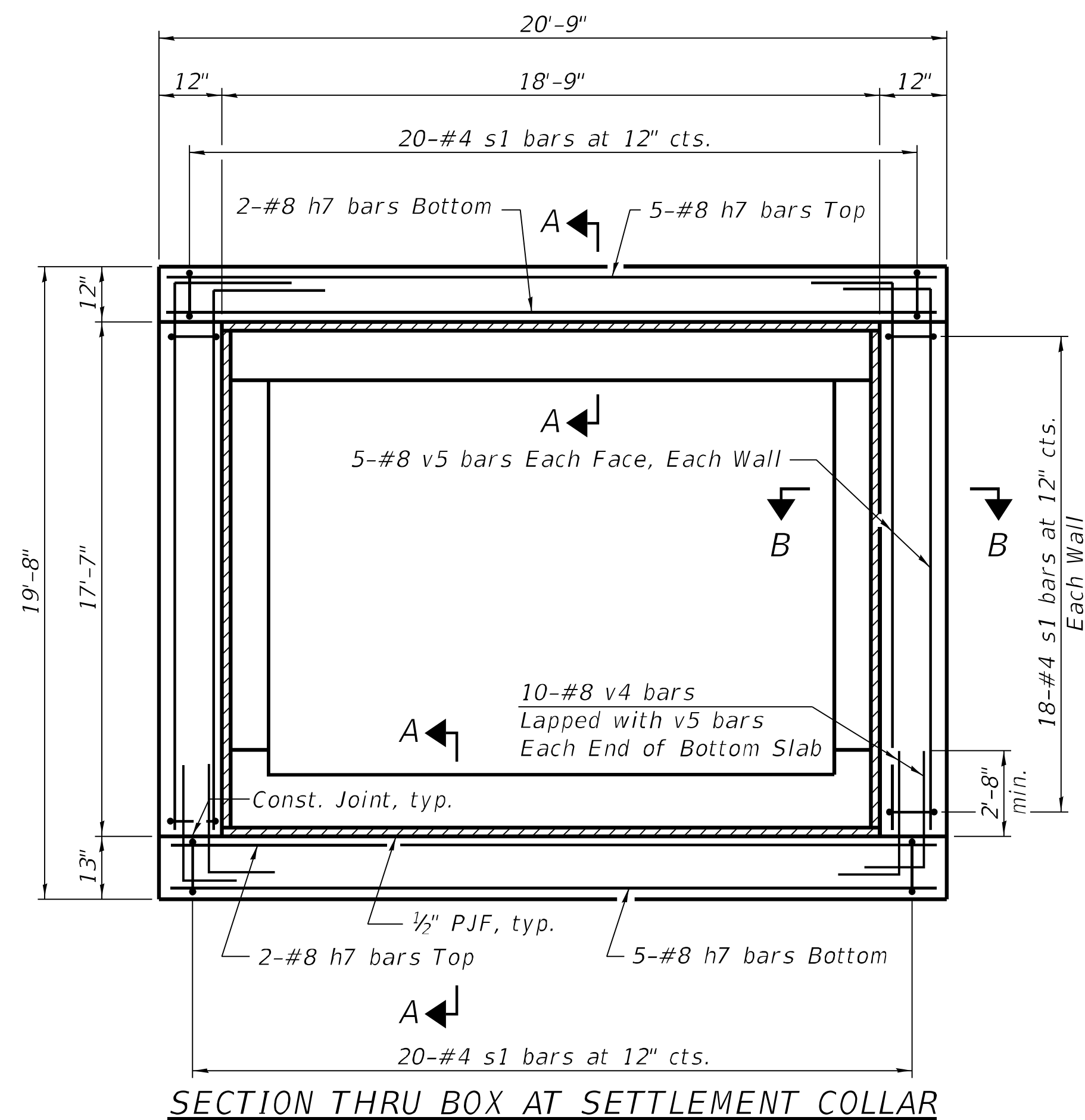
See sheet 6 of 10 for Sections, bar bend details, bill of material, and Settlement Collar details.

Settlement collars not shown for clarity.

Note:

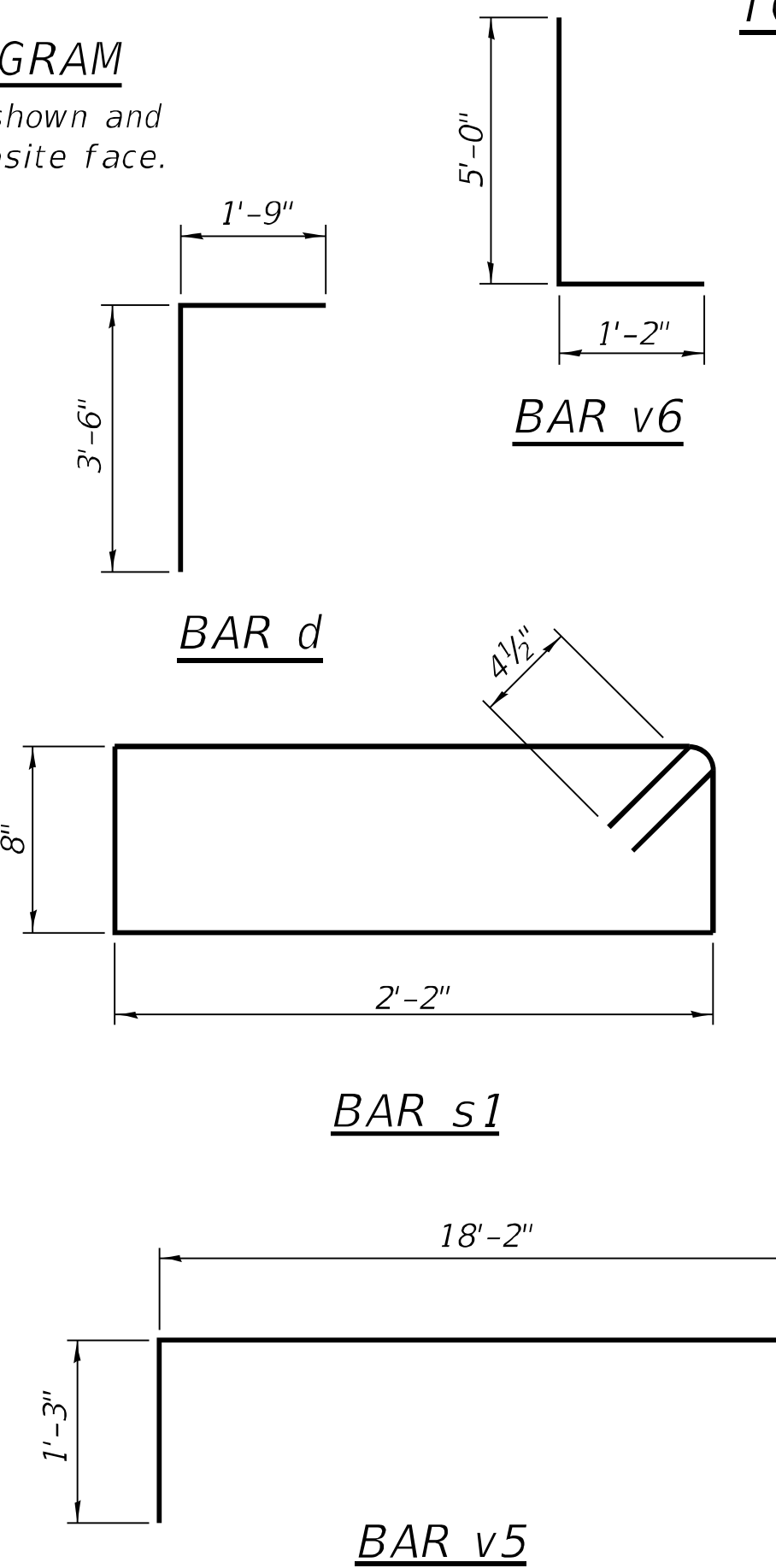
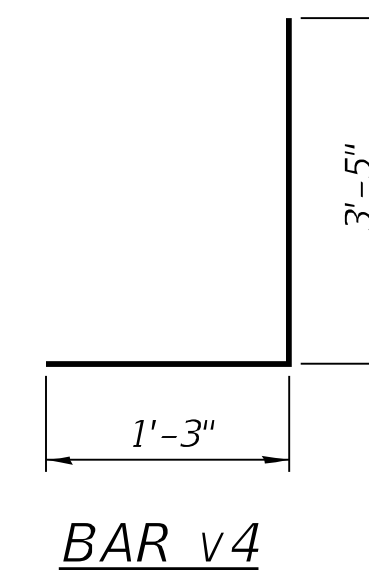
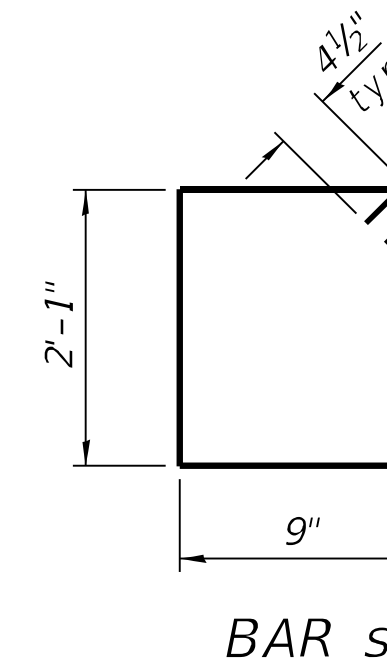
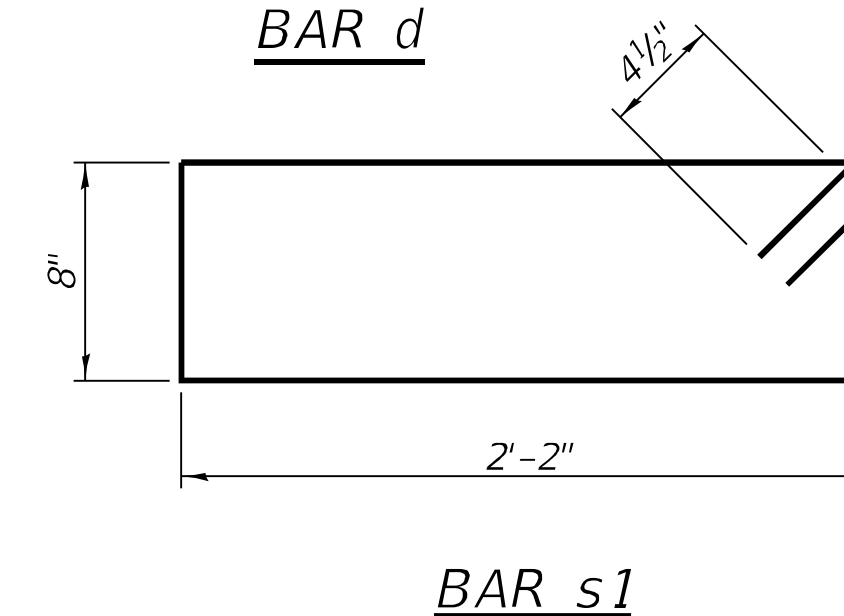
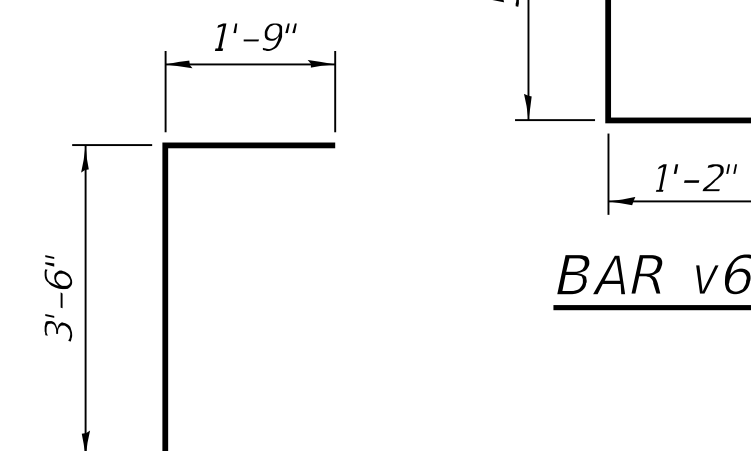
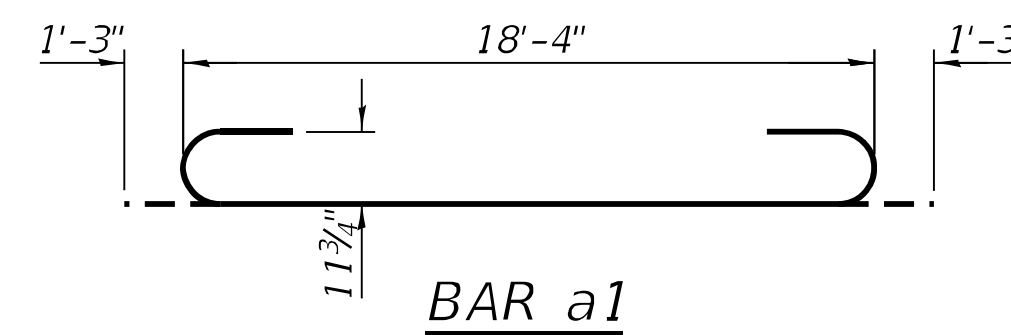
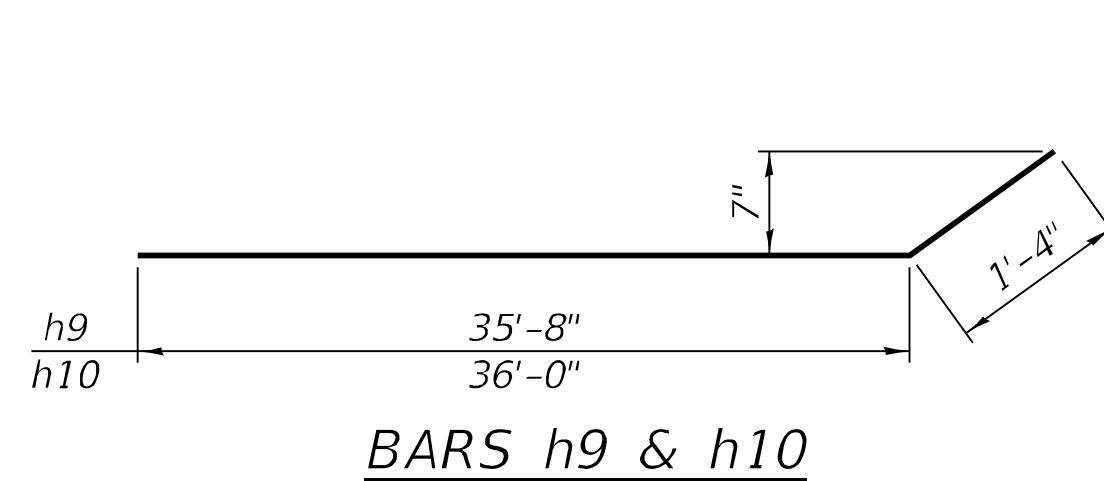
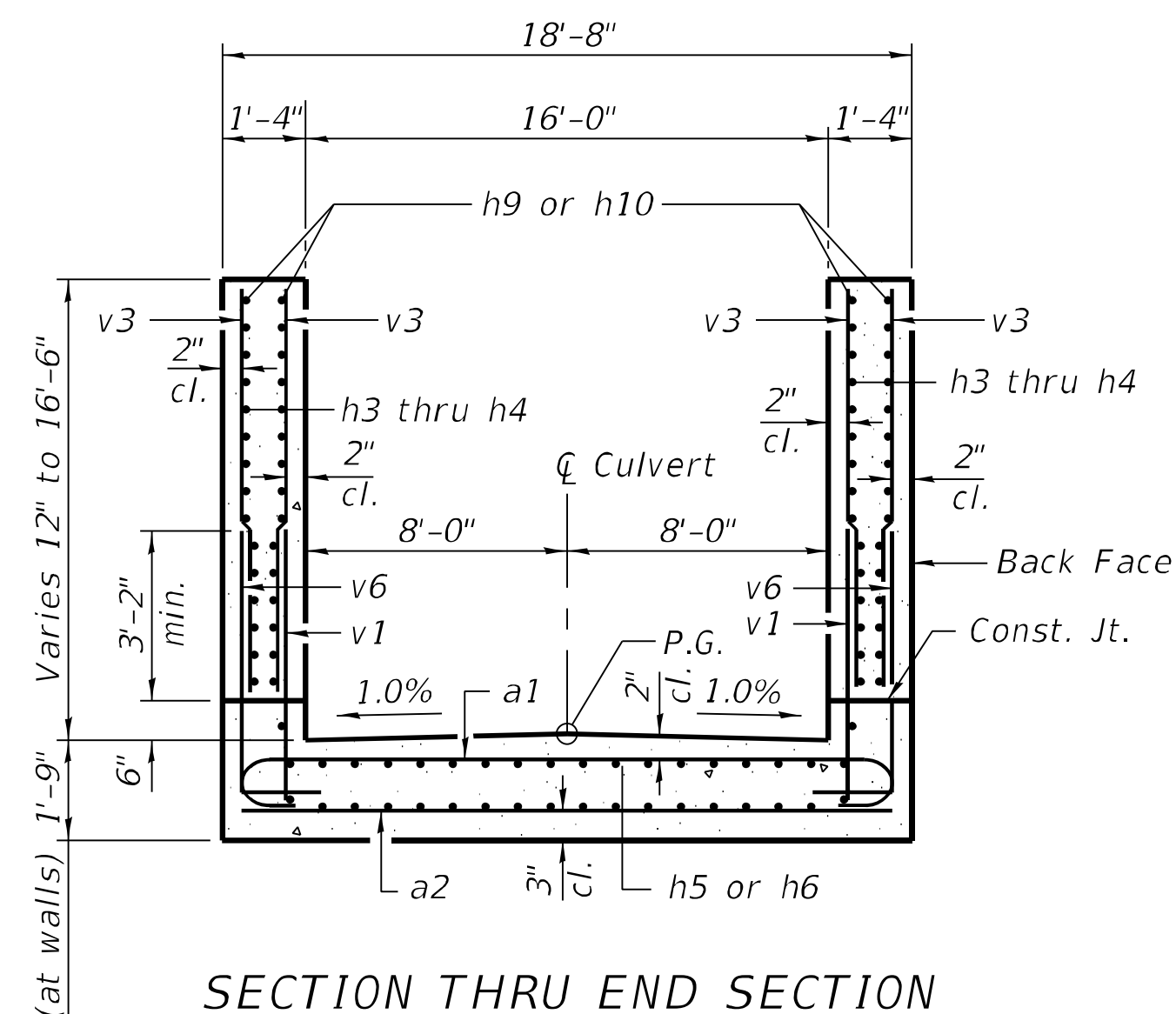
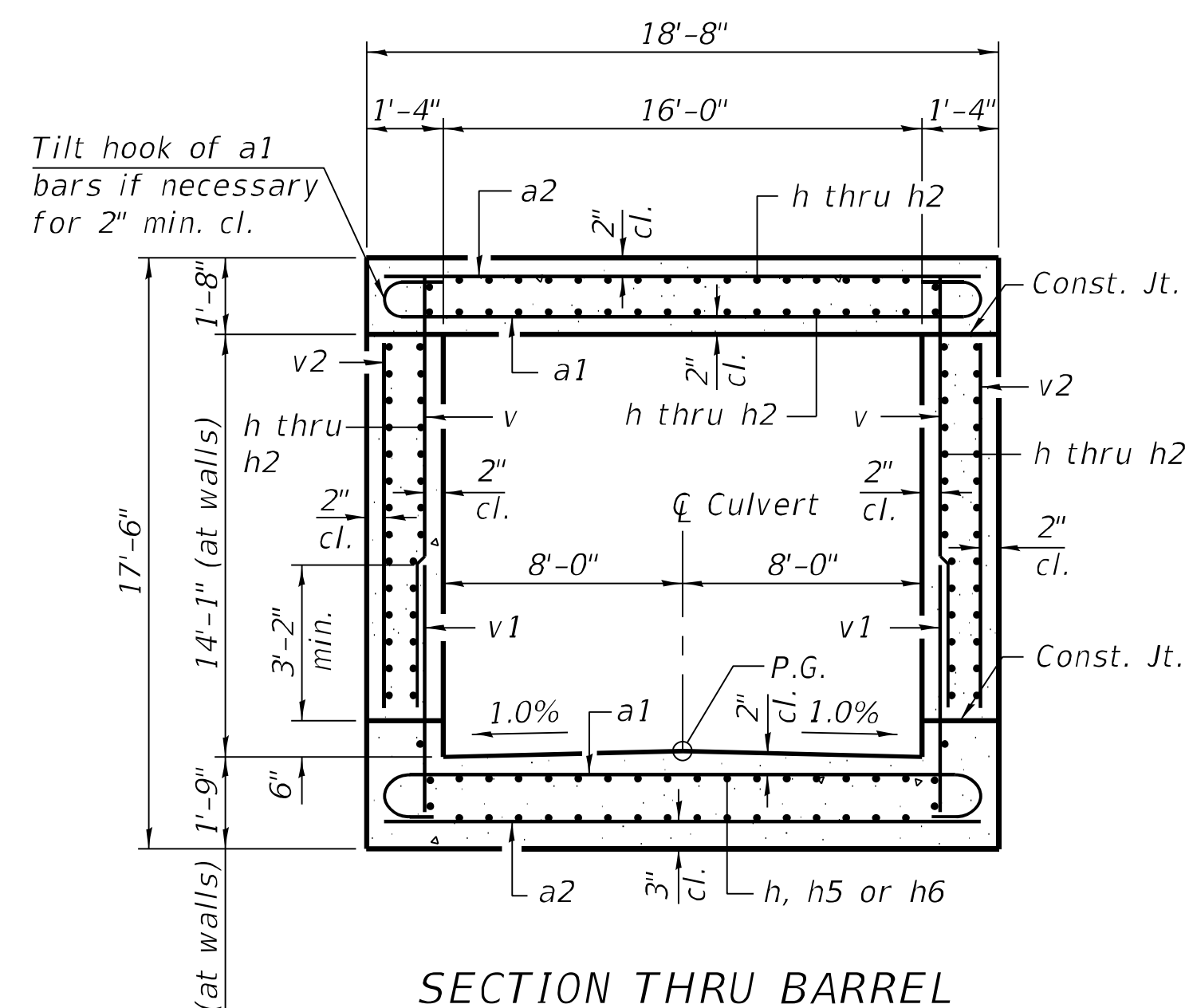
Elevations shown for the bottom slab at settlement collars and high point are final elevations after predicted settlement has taken place. Camber box culvert to account for predicted settlement by constructing the box culvert 0.10' higher than the elevations shown, at these locations only.

(Sheet 1 of 2)

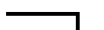
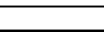
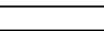
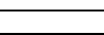
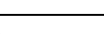
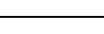
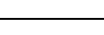
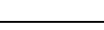
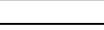
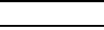
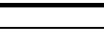


Notes:

Cost of 1/2" PJF and excavation for Settlement Collar is included with Concrete Box Culverts. Settlement Collar concrete shall be paid for as Concrete Box Culverts.

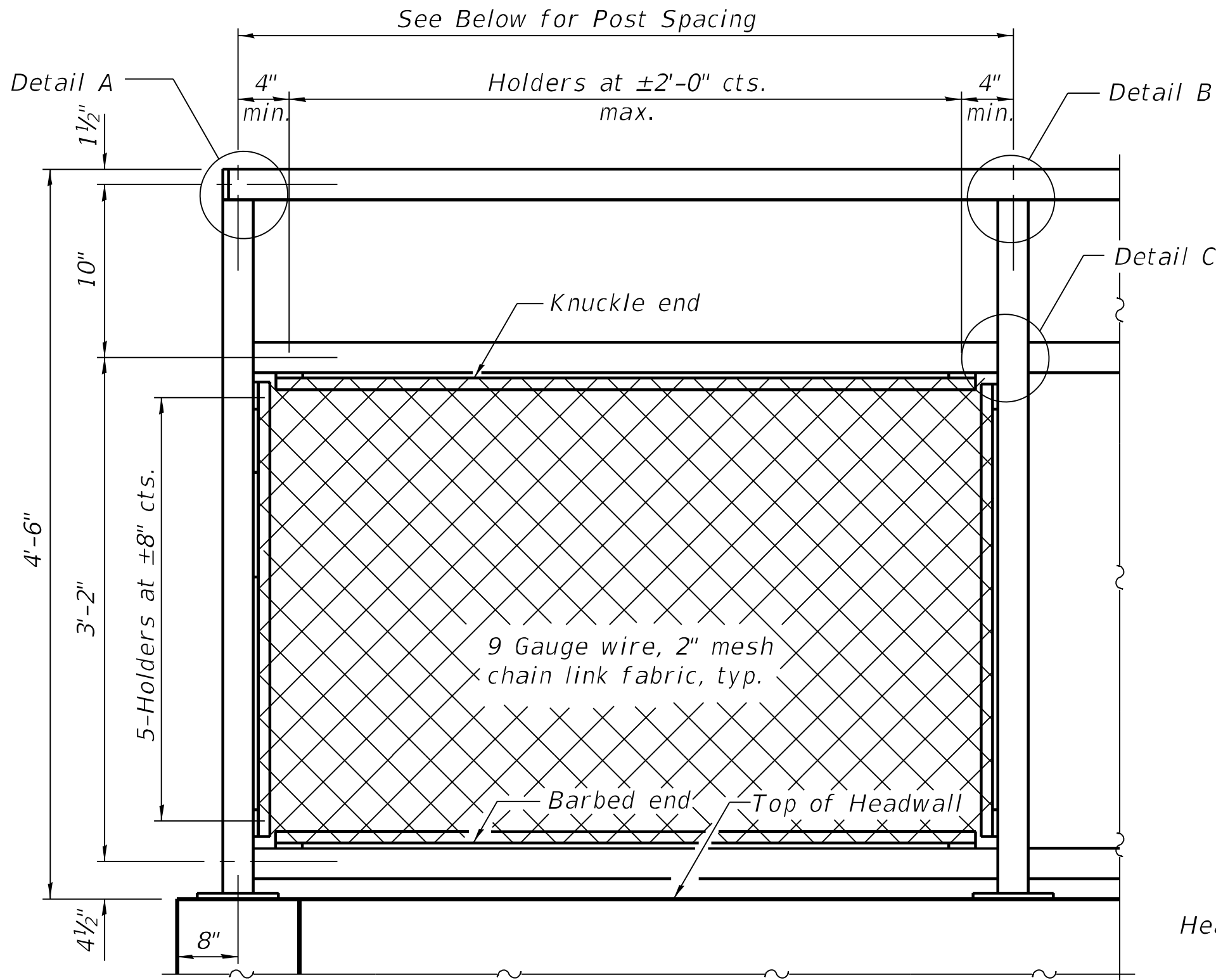


BILL OF MATERIAL

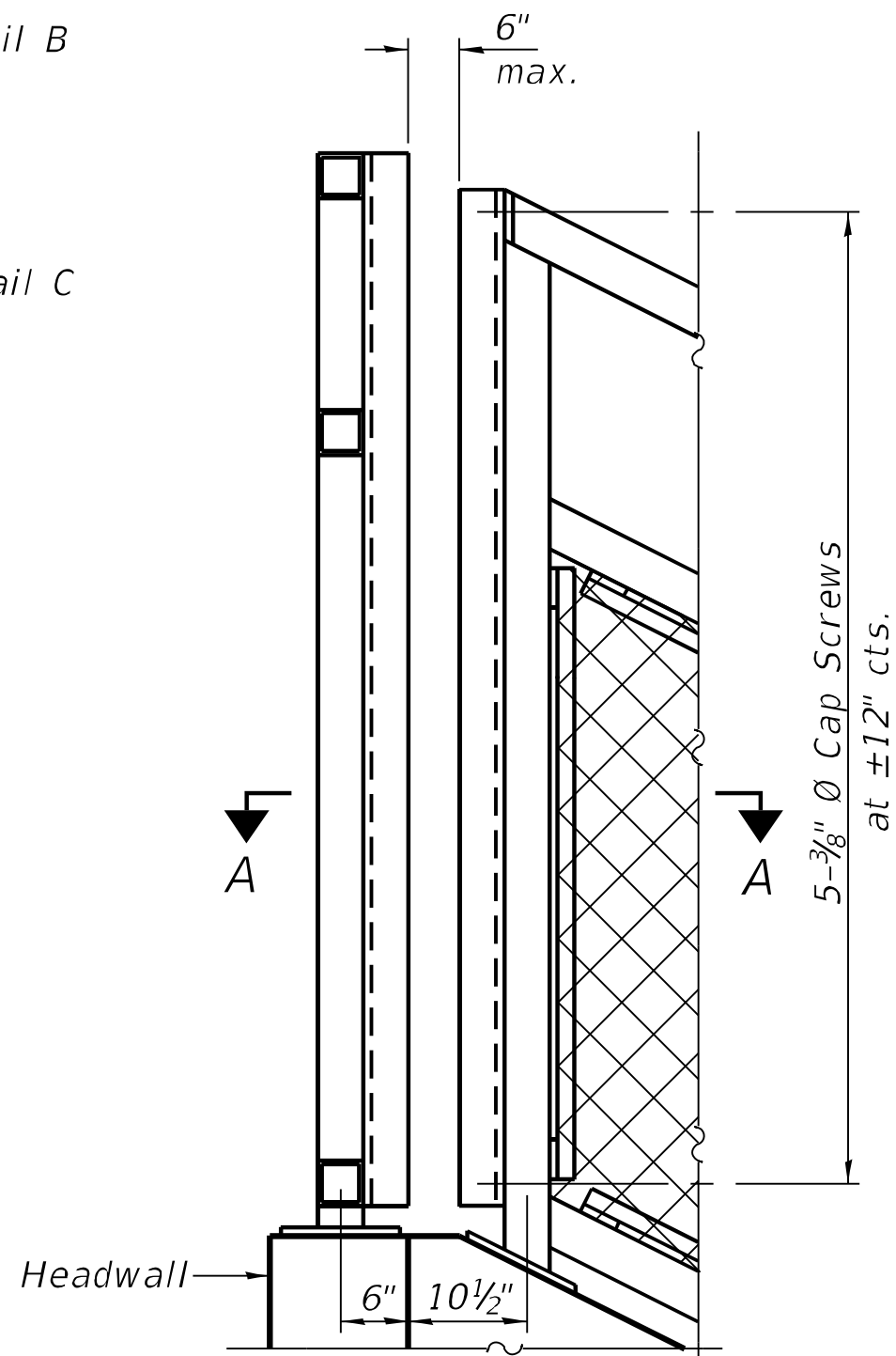
Bar	No.	Size	Length	Shape
a1	961	#9	20'-10"	
a2	488	#5	18'-4"	
d	70	#4	5'-3"	
h	780	#5	27'-3"	
h1	92	#5	24'-2"	
h2	92	#5	25'-8"	
h3	30	#5	41'-5"	
h4	30	#5	41'-11"	
h5	76	#5	29'-10"	
h6	76	#5	30'-10"	
h7	56	#8	20'-5"	
h8	4	#6	18'-4"	
h9	4	#4	37'-0"	
h10	4	#4	37'-4"	
h11	4	#5	6'-10"	
s	38	#4	6'-5"	
s1	304	#4	6'-5"	
v	826	#7	14'-11"	
v1	1,088	#7	5'-2"	
v2	422	#5	13'-3"	
v3	218	#7	18'-8"	
v4	80	#8	4'-8"	
v5	80	#8	19'-5"	
v6	262	#7	6'-2"	
Concrete Box Culverts			Cu. Yd.	951.5
Reinforcement Bars			Pound	175,700

(Sheet 2 of 2)

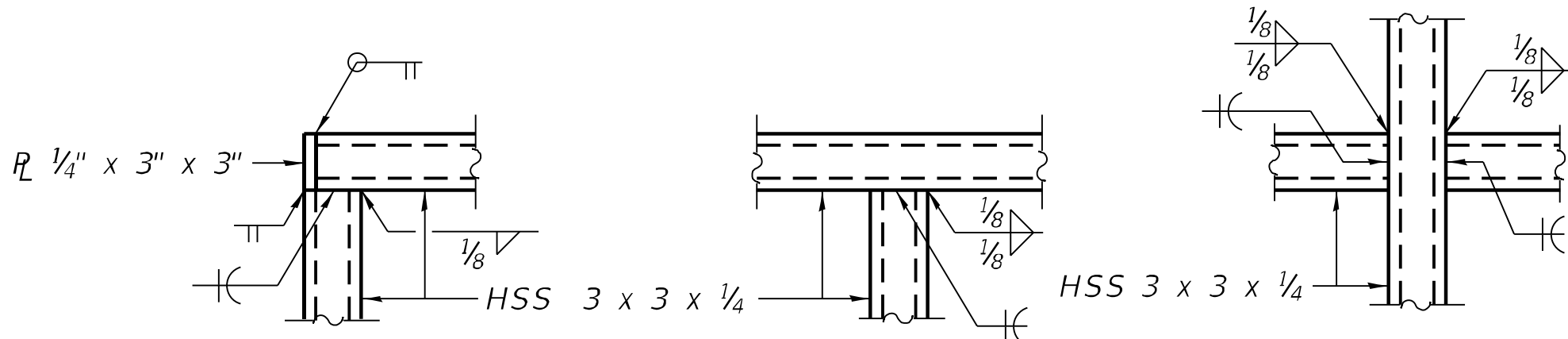
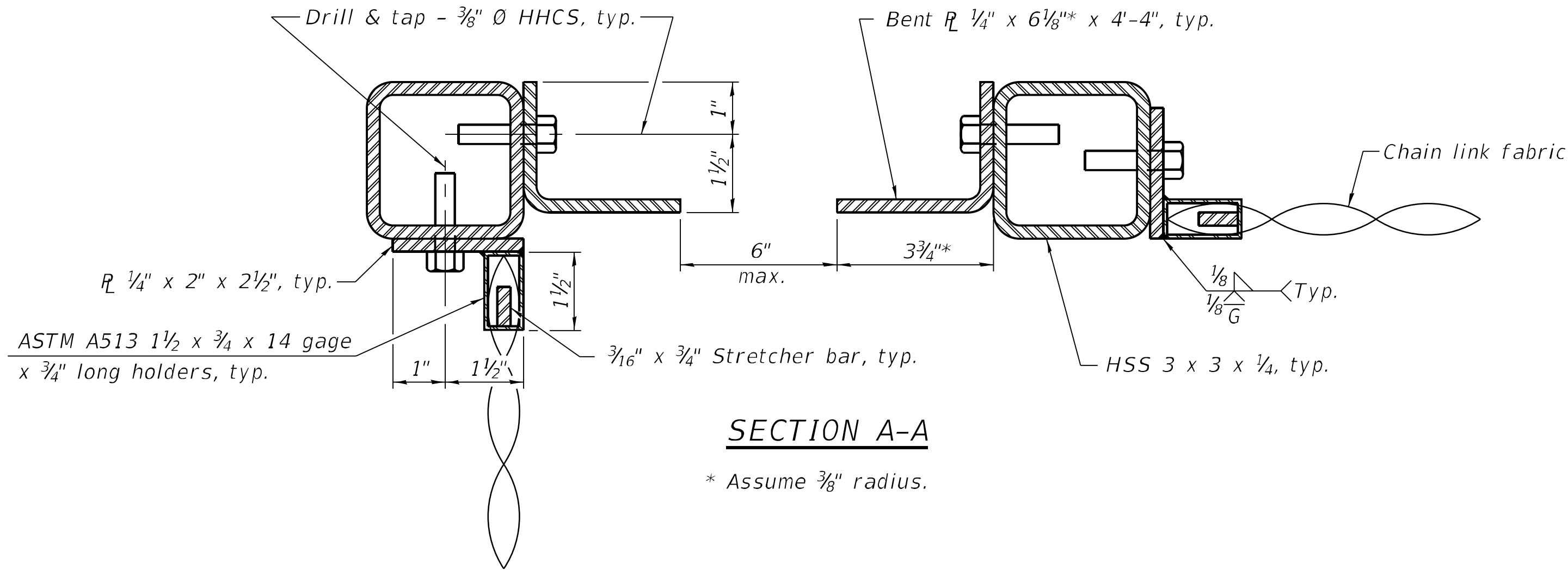
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BICYCLE RAILING



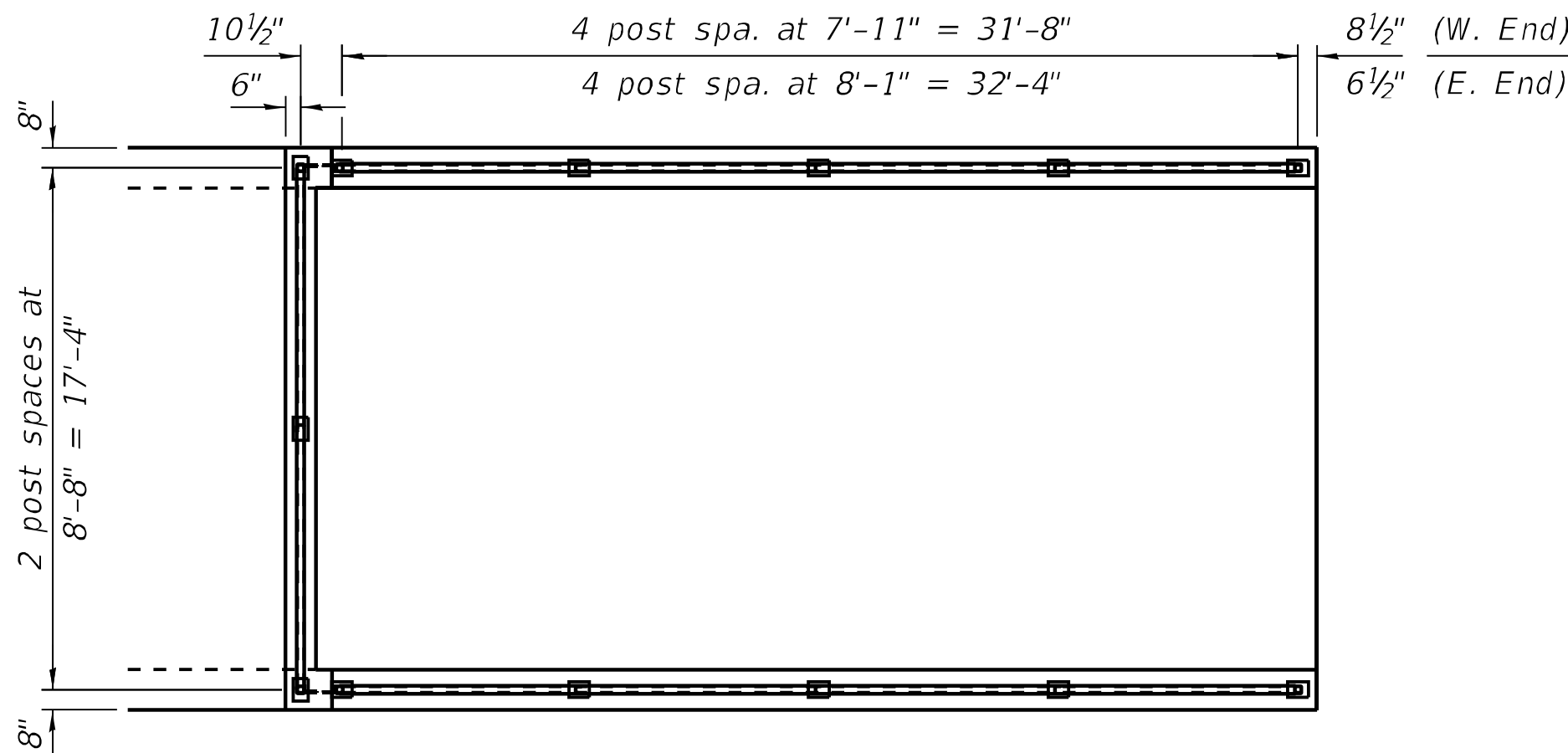
BICYCLE RAILING AT CORNER



DETAIL A

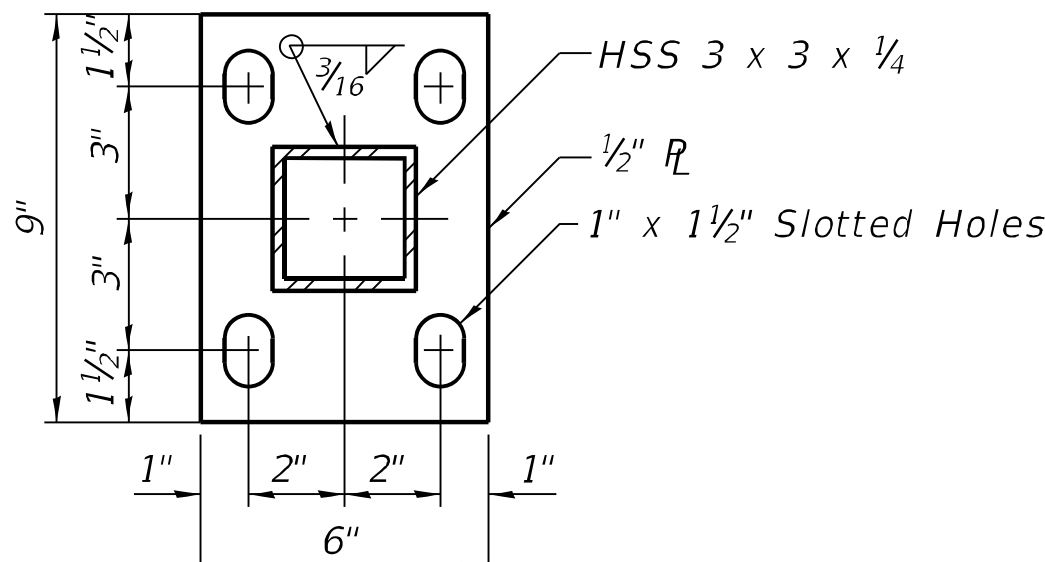
DETAIL B

DETAIL C

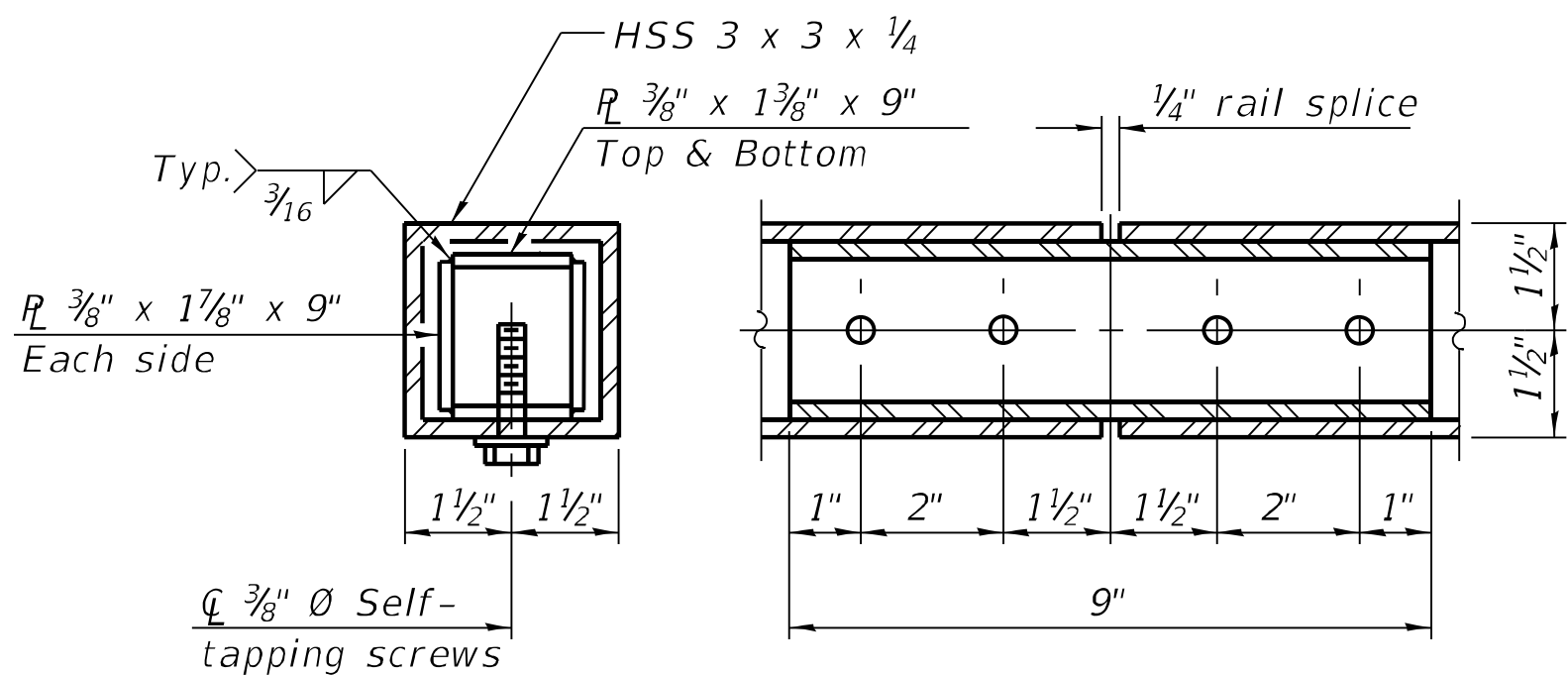


RAIL POST LAYOUT

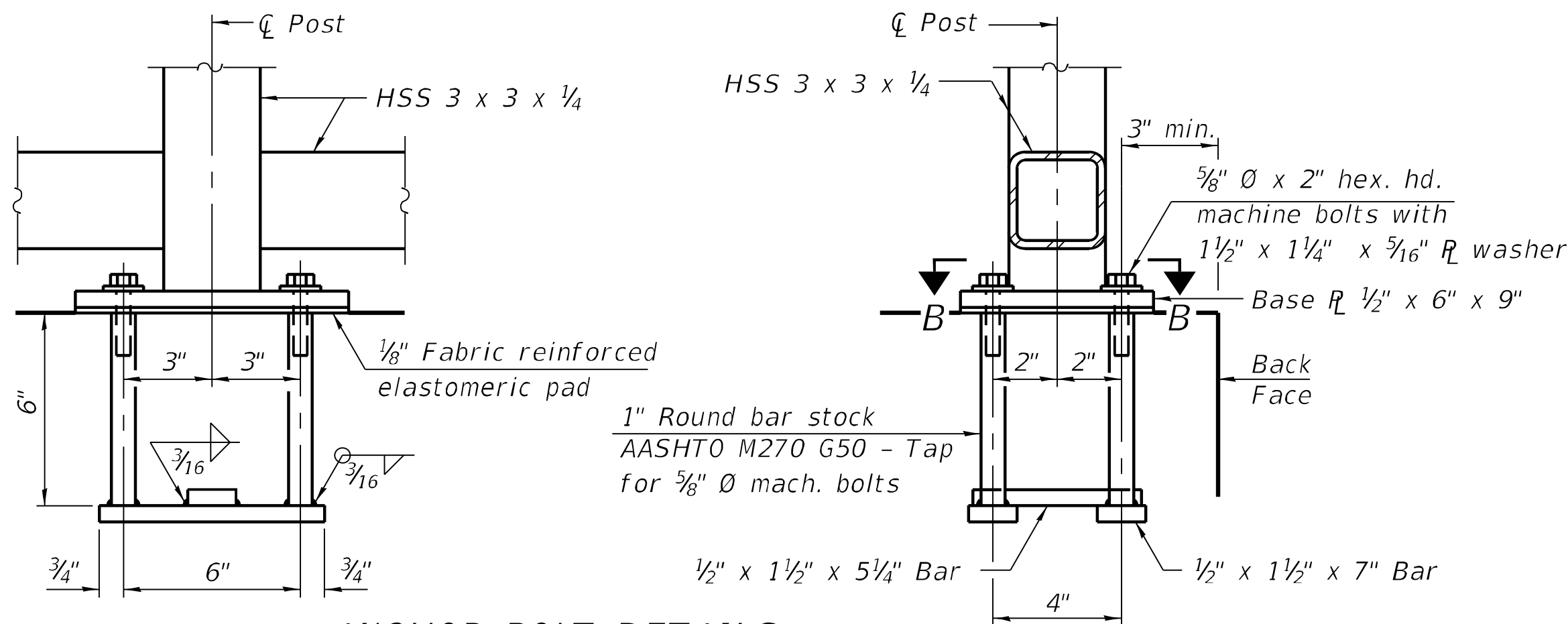
(at Each End of Culvert)
(Measured along horizontal line)



SECTION B-B



RAIL SPLICE



ANCHOR BOLT DETAILS

In lieu of the cast-in-place anchor device shown, the Contractor has the option of drilling and setting 5/8" $\emptyset$ anchor rods according to Article 509.06 of the Standard Specifications. Embedment shall be according to the manufacturer's specifications.

BILL OF MATERIAL

Item	Unit	Quantity
Bicycle Railing	Foot	179

RAILING CRITERIA

Bicycle Railing Weight (plf)	50
Max Post Spacing	10'-0"

Notes:
Place reinforcement bars to miss anchor rod locations.
CVN testing is not required for the HSS tubing used in the Bicycle Railing.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
All posts shall be vertical. Rails shall follow slope of end section walls.

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BICYCLE RAILING DETAILS
STRUCTURE NO. 015-2026

SHEET 7 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	657
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

Page 1 of 2

Date 8/1/19

ROUTE	FAI Route 57	DESCRIPTION	I-57 over Lincoln Prairie Grass Bike Trail	LOGGED BY	Sandschafer
-------	--------------	-------------	--	-----------	-------------

SECTION	15-22VB-1	LOCATION	200' North of IL 16 in Mattoon, SEC. 16, TWP. 12N, RNG. 8E, 3 rd PM, Latitude 39.489732, Longitude -88.322466
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COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO.	015-0051	D	B	U	M	Surface Water Elev.	None	ft	D	B	U	M
Station	808+28.51	E	L	C	O	Stream Bed Elev.	None	ft	E	L	C	O
		P	T	S	I				P	T	S	I
BORING NO.	1 West Side	H	W	Q	T	Groundwater Elev.:			H	W	Q	T
Station	808+22					First Encounter	675.2	ft				
Offset	115.0 ft West					Upon Completion	683.2	ft				
Ground Surface Elev.	710.20	ft	(ft)	(ft)	(tsf)	After 24 Hrs.	701.7	ft	(ft)	(ft)	(tsf)	(%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Page 2 of 2Date 8/1/19

ROUTE FAI Route 57 DESCRIPTION I-57 over Lincoln Prairie Grass Bike Trail LOGGED BY Sandschafer

SECTION 15-22VB-1 LOCATION 200' North of IL 16 in Mattoon, SEC. 16, TWP. 12N, RNG. 8E, 3rd PM.
Latitude 39.489732, Longitude -88.322466

COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO.	015-0051	D	B	U	M	Surface Water Elev.	None	ft	D	B	U	M
Station	808+28.51	E	L	C	O	Stream Bed Elev.	None	ft	E	L	C	O
		P	T	S	I				P	T	S	I
BORING NO.	First West	H	W	Q	T	Groundwater Elev.:			H	W	Q	T
Station	808+22					First Encounter	675.2	ft				
Offset	115.0 ft West					Upon Completion	683.2	ft				
Ground Surface Elev.	710.20	ft	(ft)	(6")	(tsf)	After 24 Hrs.	701.7	ft	(ft)	(6")	(tsf)	(%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

Page 1 of 2

Date 8/13/19

ROUTE	FAI Route 57	DESCRIPTION	I-57 over Lincoln Prairie Grass Bike Trail	LOGGED BY	Sandschafe
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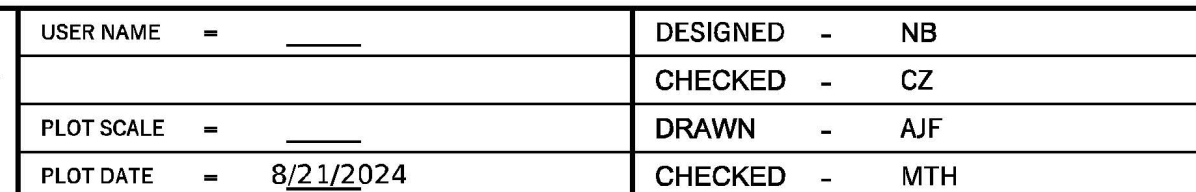
SECTION	15-22VB-1	LOCATION	200' North of IL 16 in Mattoon, SEC. 16, TWP. 12N, RNG. 8E, 3 rd PM, Latitude 39.489777, Longitude -88.322144
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COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO.	015-0051	D	B	U	M	Surface Water Elev.	None	ft	D	B	U	M
Station	809+28.51	E	L	C	O	Stream Bed Elev.	None	ft	E	L	C	O
		P	T	W	I				P	T	W	I
		H	S	Q	T				H	S	Q	T
BORING NO.	2 East Side					Groundwater Elev.:						
Station	808+39					First Encounter	655.8	ft ▼				
Offset	21.0 ft West					Upon Completion	683.8	ft ▼				
Ground Surface Elev.	710.84	ft	(ft)	(ft)	(%)	After 24 Hrs.	700.8	ft ▼	(ft)	(ft)	(%)	(%)

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

SOIL BORING LOGS
STRUCTURE NO. 015-2026

SHEET 8 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	658
		CONTRACT NO. 74435		
ILLINOIS		FED. AID PROJECT		

MODEL: Default
FILE NAME: Y:\IDOT\1343-08_74435\CLIENT\SP SN 015-2026\CADD_Sheets\0152026-74435-009-SoilBoringLogs.dgn

LIN ENGINEERING, LTD.
Consulting Engineers
Springfield, Illinois

USER NAME	=	DESIGNED	-	NB	REVISED	-	
		CHECKED	-	CZ	REVISED	-	
PLOT SCALE	=	DRAWN	-	AJF	REVISED	-	
PLOT DATE	=	CHECKED	-	MTH	REVISED	-	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOIL BORING LOGS
STRUCTURE NO. 015-2026

SHEET 9 OF 10 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	659
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



Illinois Department
of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 2 of 2
Date 8/13/19

ROUTE FAI Route 57 DESCRIPTION I-57 over Lincoln Prairie Grass Bike Trail LOGGED BY: Sandschafer
SECTION 15-22VB-1 LOCATION 200' North of IL 16 in Mattoon, SEC. 16, TWP. 12N, RNG. 8E, 3rd PM,
Latitude 39.489777, Longitude -88.322144
COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 015-0051 Station 808+28.51	D E P T H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. None ft Stream Bed Elev. None ft	D E P T H	B L O W S	U C S Qu	M O I S T
BORING NO. 2 East Side Station 808+39 Offset 21.0 ft West Ground Surface Elev. 710.84 ft	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.: First Encounter 655.8 ft Upon Completion 683.8 ft After 24 Hrs. 700.8 ft	(ft)	(/6")	(tsf)	(%)
Stiff, moist, grey, CLAY LOAM Till	3 4	1.2 B	13		Very stiff, moist, grey, CLAY LOAM Till 650.04 Very stiff, moist, grey, SILTY CLAY of Boring 649.84	15 13	2.3 B		12
Medium	-45 9 13	4 0.8 B	14		Benchmark: BM-352 brass disk in top of concrete headwall on southeast corner of Structure No. 015-0052 on northbound I-57 over bike trail.	-65			
Soft	-50 1 4	1 0.6 E	13			-70			
Very stiff, moist, grey, SANDY CLAY Till	656.54 16	18 3.5 B	10			-75			
Medium, moist, grey, Gravelly SAND	655.14 10								
	651.34 3					-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 1 of 2
Date 8/2/19

ROUTE FAI Route 57 DESCRIPTION I-57 over Lincoln Prairie Grass Bike Trail LOGGED BY: Sandschafer
SECTION 15-22VB-1 LOCATION 200' North of IL 16 in Mattoon, SEC. 16, TWP. 12N, RNG. 8E, 3rd PM,
Latitude 39.489739, Longitude -88.321999
COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 015-0052 Station 808+28.51	D E P T H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. None ft Stream Bed Elev. None ft	D E P T H	B L O W S	U C S Qu	M O I S T
BORING NO. 3 West Side Station 808+20 Offset 17.0 ft East Ground Surface Elev. 710.42 ft	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.: First Encounter 651.4 ft Upon Completion 679.4 ft After 264 Hrs. 698.4 ft	(ft)	(/6")	(tsf)	(%)
CLAY with cinders					Stiff, moist, grey, CLAY LOAM Till	6 7	1.0 B	14	
Stiff, moist, brown with cinders	3 5 5		1.5 P	26		4 5 8		2.0 B	12
Medium, dark brown with cinders	-5 1 1	2 1.0 P	27			-25 6 8	4 1.6 B	13	
Very stiff, brown	1 3	0.6 B	30			4 6 7	1.3 B	13	
Medium, moist, brown, SILTY CLAY	-10 3 4	2.3 B	30			-30 3 5 7	1.3 B	13	
Soft, moist, brown SILTY CLAY	698.42 2 3	0.6 B	27						
Hard, moist, brown, CLAY LOAM Till	695.92 1 5 10	6.6 B	16			-35 4 6	1.2 B	13	
	694.82 8 13 19	7.6 B	15						
	690.42 5					670.42 1			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)



Illinois Department
of Transportation
Division of Highways
IDOT

SOIL BORING LOG

Page 2 of 2
Date 8/2/19

ROUTE FAI Route 57 DESCRIPTION I-57 over Lincoln Prairie Grass Bike Trail LOGGED BY: Sandschafer
SECTION 15-22VB-1 LOCATION 200' North of IL 16 in Mattoon, SEC. 16, TWP. 12N, RNG. 8E, 3rd PM,
Latitude 39.489739, Longitude -88.321999
COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 015-0052 Station 808+28.51	D E P T H	B L O W S	U C S Qu	M O I S T	Surface Water Elev. None ft Stream Bed Elev. None ft	D E P T H	B L O W S	U C S Qu	M O I S T
BORING NO. 3 West Side Station 808+20 Offset 17.0 ft East Ground Surface Elev. 710.42 ft	(ft)	(/6")	(tsf)	(%)	Groundwater Elev.: First Encounter 651.4 ft Upon Completion 679.4 ft After 264 Hrs. 698.4 ft	(ft)	(/6")	(tsf)	(%)
Stiff, moist, grey, CLAY LOAM Till	4 6	1.2 B	13		Stiff, moist, grey, CLAY LOAM Till 649.42	11 15	1.2 P	14	
Very stiff	-45 3 6 9	3.7 B	11		End of Boring				
Stiff	-50 7 10 8	1.1 B	14		Benchmark: BM-352 brass disk in top of concrete headwall on southeast corner of Structure No. 015-0052 on northbound I-57 over bike trail.	-70			
	650.42 14					-80			

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

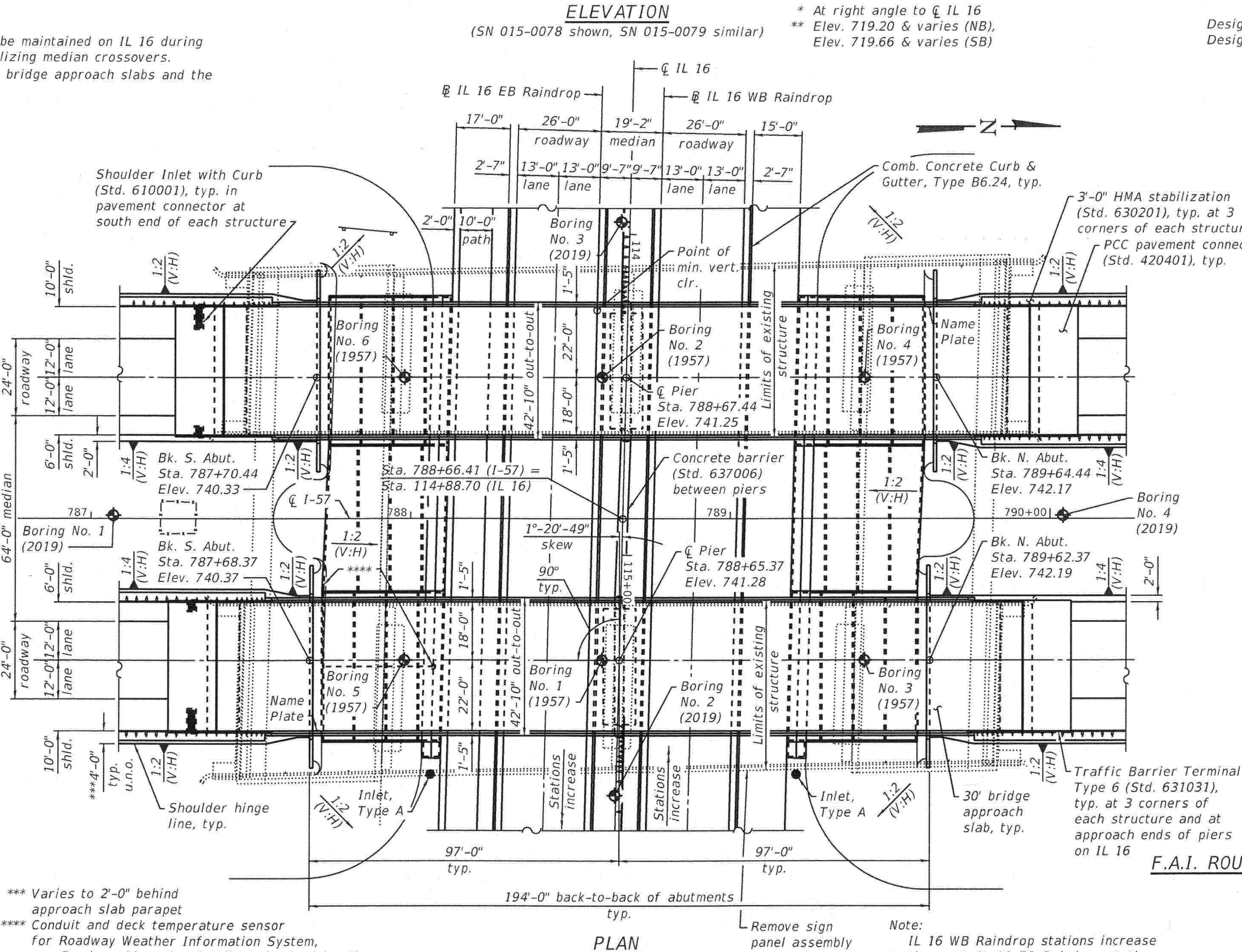
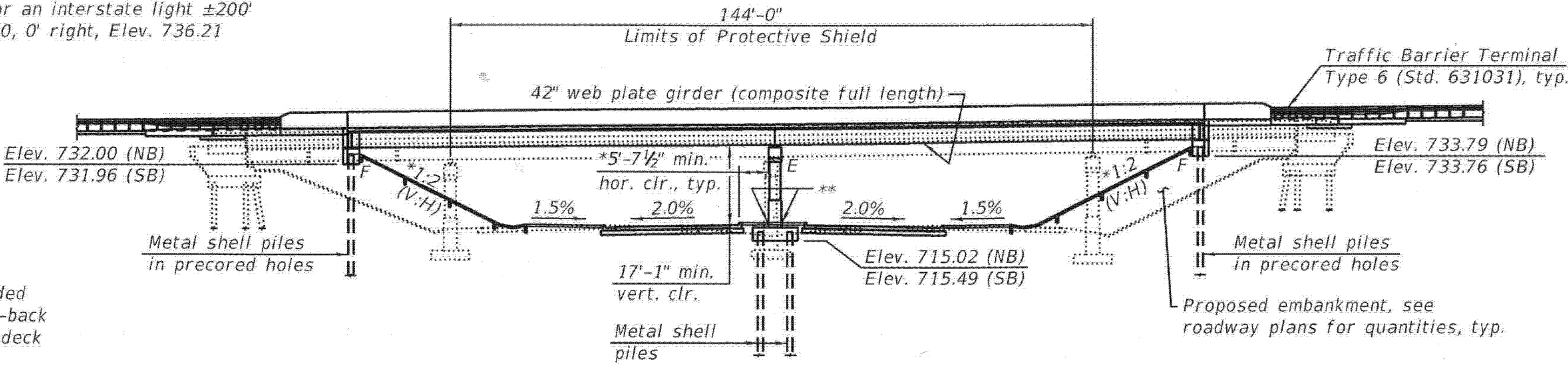
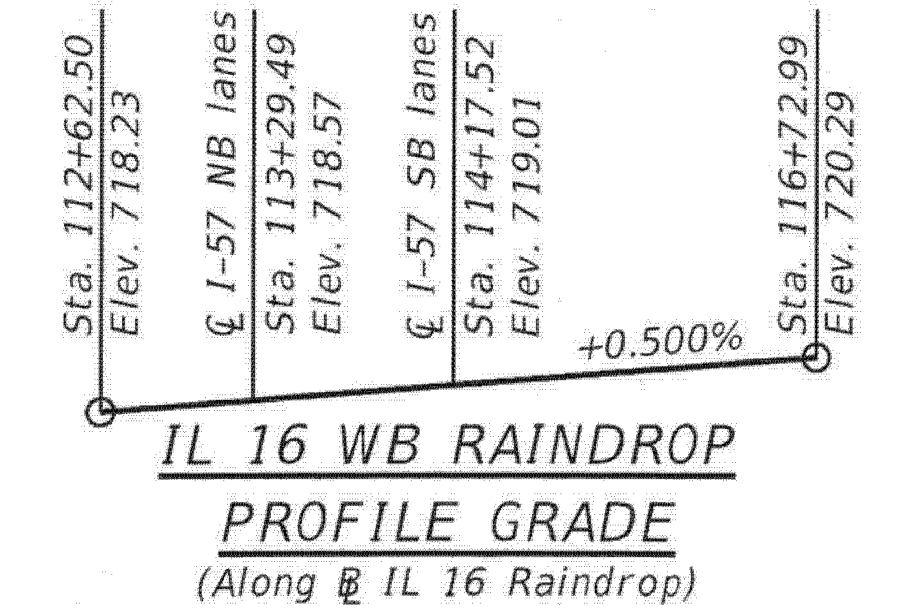
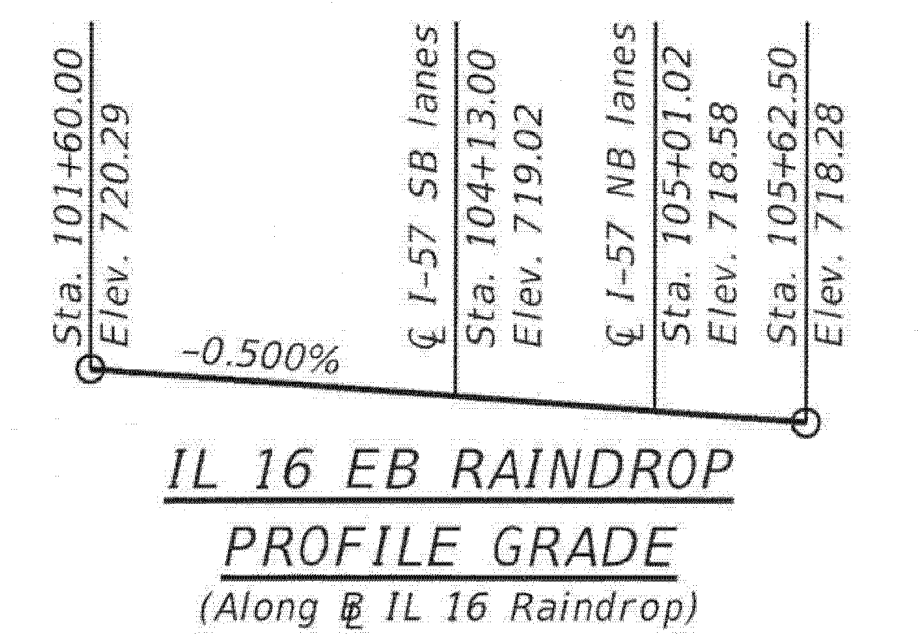
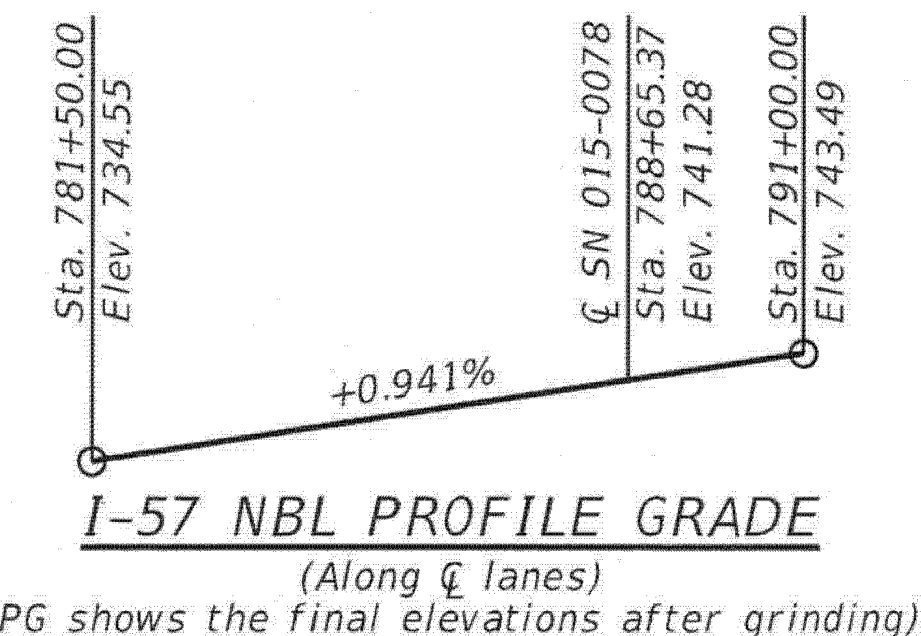
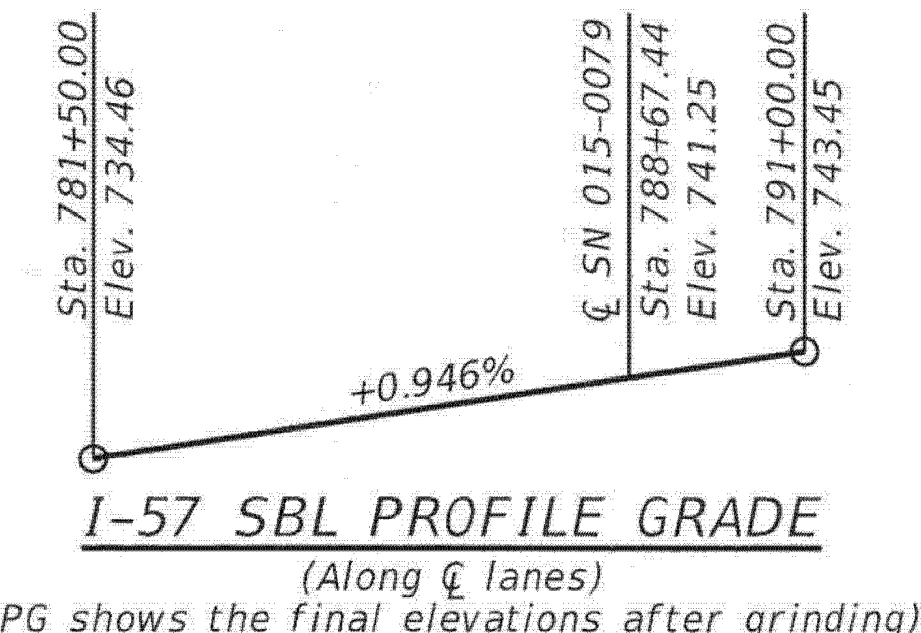
BBS, form 137 (Rev. 8-99)

(Sheet 2 of 3)

BENCHMARK:
BM #300: Chiseled "X" on the north bolt of a light base for an interstate light $\pm 200'$ south of IL 16 in the center of the interstate; Station 786+50, 0' right, Elev. 736.21

EXISTING STRUCTURES:
SN 015-0005 (NB) and SN 015-0006 (SB) were originally constructed in 1963 as F.A.I. Route 57, Section 15-22HB-4. In 1989, concrete parapets were replaced, deck was patched and overlaid, and expansion joints at the abutments were reconstructed on both structures as F.A.I. Route 57, Section 15-22HB-4-I. Each four-span structure consists of a concrete deck supported on non-composite continuous rolled W36 steel beams supported by stub abutments and multi-column piers with crashwalls. Abutments are founded on concrete piles and piers are founded on spread footings on soil. Each structure is 237'-8" back-to-back of abutments and skewed 1°-23'-50" left forward. Out-to-out deck width varies from 51'-5" to 55'-5" on each structure.

NOTES:
No Salvage.
At least one lane of traffic in each direction to be maintained on IL 16 during construction. Interstate traffic to be maintained utilizing median crossovers.
Up to 1/4" may be ground off the bridge deck, the bridge approach slabs and the pavement connectors.



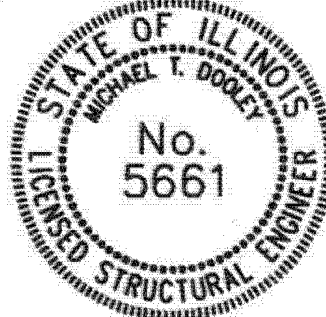
LOADING HL-93
Allow 50 psf for future wearing surface

DESIGN SPECIFICATIONS
2020 AASHTO LRFD Bridge Design Specifications, 9th Edition

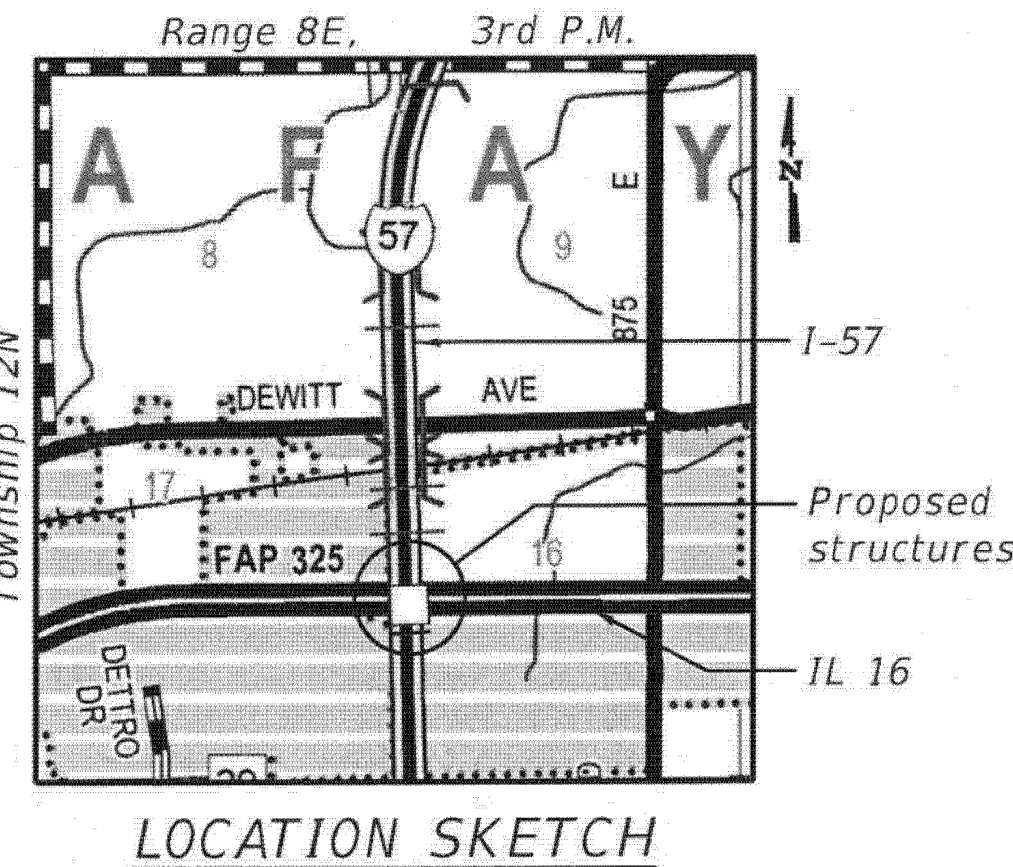
DESIGN STRESSES
FIELD UNITS
f'c = 3,500 psi (substructure concrete)
f'c = 4,000 psi (superstructure concrete)
fy = 50,000 psi (AASHTO M270, Grade 50)
fy = 60,000 psi (reinforcement)

SEISMIC DATA
Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.176 g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.360 g
Site Soil Class = D

APPROVED
For Structural Adequacy Only
Michael F. Dooley
Engineer of Bridges & Structures



EXPIRES 11-30-24
Michael F. Dooley
SIGNATURE
10-19-2023
DATE



GENERAL PLAN & ELEVATION
I-57 OVER IL 16
F.A.I. ROUTE 57 - SECTION (15-22HB-4)BR(15-22)R
COLES COUNTY
STATION 788+66.41
STRUCTURE NO. 015-0078 (NB)
STRUCTURE NO. 015-0079 (SB)

MODEL: PLOT
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10/19/2023 10:37:45 AM



USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - PRH 01/22	REVISED -
PLOT SCALE	DRAWN - KAH/NHC 10/23	REVISED -
PLOT DATE = 10/19/2023	CHECKED - MTD/ELH 10/23	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET 1 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	661
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

GENERAL NOTES

1. Fasteners shall be ASTM F3125 Grade A325 Type 1, hot-dip galvanized bolts in metallized areas. Bolts 7/8 in. diameter, holes 15/16 in. diameter, unless otherwise noted. See Special Provision for "Metallizing of Structural Steel."

2. Calculated weight of Structural Steel = 438,640 lbs. (Grade 50)
= 39,120 lbs. (Grade 36)

3. No field welding is permitted except as specified in the contract documents.

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

5. Bearing seat surfaces shall be constructed or adjusted to the designated elevations within a tolerance of 1/8 in. (0.01 ft.). Adjustment shall be made either by grinding the surface or by shimming the bearings.

6. A film forming Concrete Sealer shall be applied to the designated areas of the piers.

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

8. All structural steel shall be metallized. See Special Provision for "Metallizing of Structural Steel."

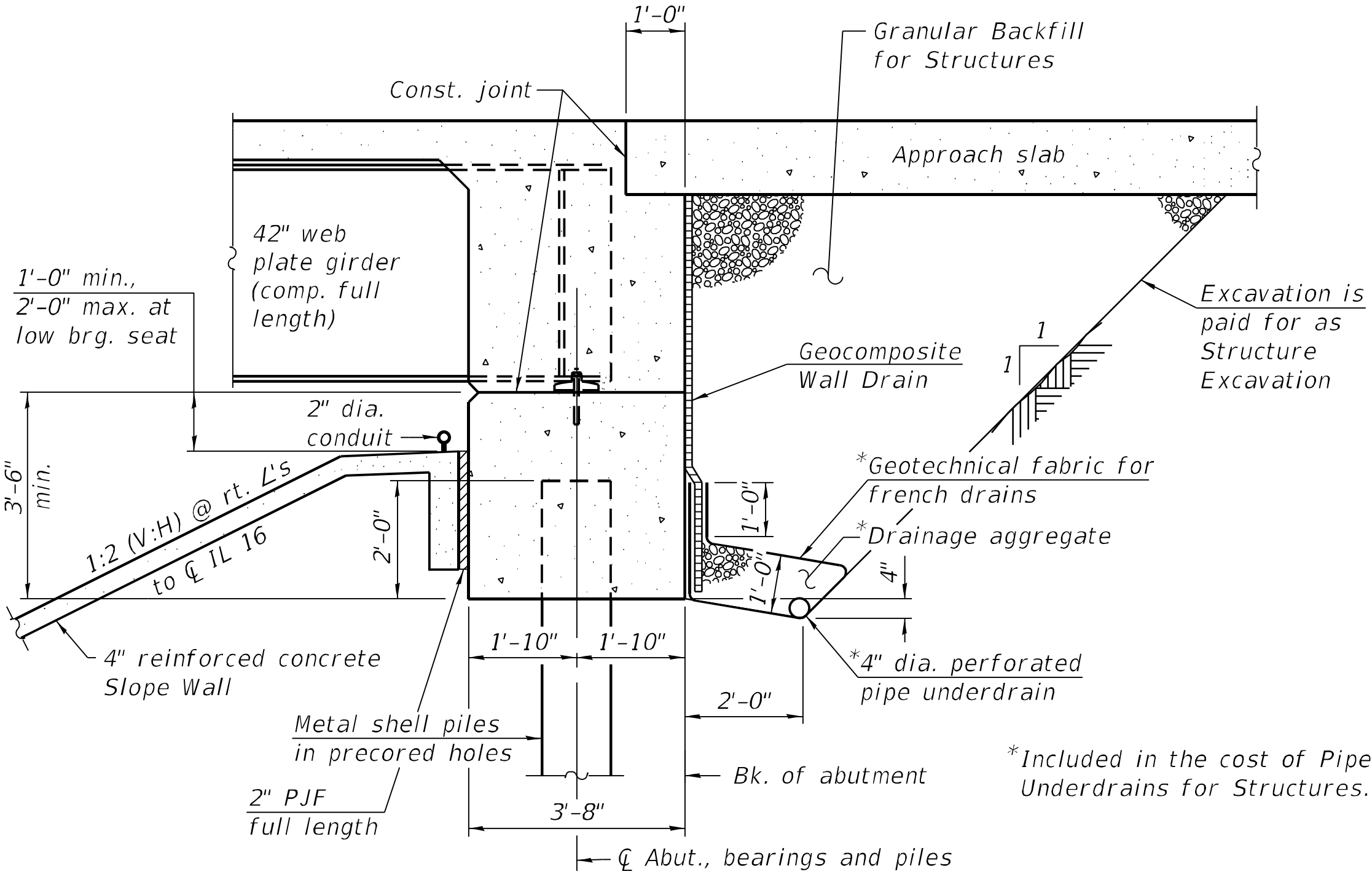
9. The embankment configuration shown shall be the minimum that must be placed and compacted prior to construction of the abutments.

10. Removal of SN 015-0006 (SB) will be paid for as Removal of Existing Structures No. 1, and removal of SN 015-0005 (NB) will be paid for as Removal of Existing Structures No. 2. Removal of the sign panel assembly supported on the east side of SN 015-0005 (NB) is included in the cost of Removal of Existing Structures No. 2.

11. Cost of slope wall removal included in Removal of Existing Structures.

12. Two-way interstate traffic will be carried on the existing northbound structure (SN 015-0005) during construction of the proposed southbound structure (SN 015-0079). Two-way interstate traffic will then be carried on the new southbound structure (SN 015-0079) during construction of the proposed northbound structure (SN 015-0078).

13. Quantities of Deck Slab Repair are included to repair SN 015-0005 prior to allowing two-way traffic over the structure. The locations and quantities used shall be determined by the Engineer.



SECTION THRU INTEGRAL ABUTMENT

Notes:
All drainage system components shall extend to 2'-0" from the end of each wingwall except an outlet pipe shall extend until intersecting with the side slopes. The pipes shall drain into concrete headwalls. (See Article 601.05 of the Standard Specifications and Highway Standard 601101).
The 2" diameter conduit shown in the Section Thru Integral Abutment is for wiring for a Roadway Weather Information System. See sheet 3 of 41 for additional information.

STRUCTURE INDEX OF SHEETS

General Plan & Elevation	Sheet No. 1 of 41
General Data	Sheet No. 2 of 41
Slope Wall Layout and Details	Sheet No. 3 of 41
Substructure Layout	Sheet No. 4 of 41
Bridge Deck Patching - SN 015-0005 (NB)	Sheet No. 5-6 of 41
Temporary Concrete Barrier	Sheet No. 7 of 41
Top of Slab Elevations (SB)	Sheet No. 8-9 of 41
Top of Slab Elevations (NB)	Sheet No. 10-11 of 41
Top of Approach Slab Elevations (SB)	Sheet No. 12 of 41
Top of Approach Slab Elevations (NB)	Sheet No. 13 of 41
Superstructure (SB)	Sheet No. 14 of 41
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Superstructure Details	Sheet No. 16 of 41
Diaphragm Details	Sheet No. 17 of 41
Bridge Approach Slab (SB)	Sheet No. 18 of 41
Bridge Approach Slab (NB)	Sheet No. 19 of 41
Bridge Approach Slab Details	Sheet No. 20 of 41
Steel Framing Plans	Sheet No. 21 of 41
Steel Framing Details	Sheet No. 22-23 of 41
Bearing Details	Sheet No. 24 of 41
South Abutment (SB)	Sheet No. 25 of 41
North Abutment (SB)	Sheet No. 26 of 41
South Abutment (NB)	Sheet No. 27 of 41
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Pier (SB)	Sheet No. 29-30 of 41
Pier (NB)	Sheet No. 31-32 of 41
Metal Shell Pile Details	Sheet No. 33 of 41
Bar Splicer Assembly and Mechanical Splicer Details	Sheet No. 34 of 41
Concrete Parapet Slipforming Option	Sheet No. 35 of 41
Boring Logs	Sheet No. 36-41 of 41

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Bituminous Materials (Tack Coat)	Pound	400		400
Polymerized Hot-Mix Asphalt Surface Course, IL-9.5, Mix "D", N90	Ton	200		200
Hot-Mix Asphalt Surface Removal, 2"	Sq. Yd.	1,760		1,760
Removal of Existing Structures No. 1	Each	1		1
Removal of Existing Structures No. 2	Each	1		1
Protective Shield	Sq. Yd.	1,710		1,710
Structure Excavation	Cu. Yd.		630	630
Concrete Structures	Cu. Yd.		318.2	318.2
Concrete Superstructure	Cu. Yd.	659.0		659.0
Protective Coat	Sq. Yd.	2,688		2,688
Concrete Superstructure (Approach Slab)	Cu. Yd.	238.4		238.4
Furnishing and Erecting Structural Steel	L Sum	1		1
Stud Shear Connectors	Each	11,556		11,556
Reinforcement Bars, Epoxy Coated	Pound	236,760	70,000	306,760
Mechanical Splicers	Each		120	120
Slope Wall 4 Inch	Sq. Yd.		1,336	1,336
Furnishing Metal Shell Piles 14" x 0.312"	Foot		3,609	3,609
Driving Piles	Foot		3,609	3,609
Test Pile Metal Shells	Each		6	6
Name Plates	Each	2		2
Elastomeric Bearing Assembly, Type I	Each	12		12
Anchor Bolts, 1"	Each		48	48
Anchor Bolts, 1 1/2"	Each		24	24
Granular Backfill for Structures	Cu. Yd.		340	340
Concrete Sealer	Sq. Ft.		2,470	2,470
Geocomposite Wall Drain	Sq. Yd.		176	176
Pipe Underdrains for Structures 4"	Foot		320	320
Bridge Deck Grooving (Longitudinal)	Sq. Yd.	1,504		1,504
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	20		20
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	20		20
Deck Slab Repair (Partial)	Sq. Yd.	110		110
Diamond Grinding (Bridge Section)	Sq. Yd.	3,616		3,616

STATION 788+65.37
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RT. 57 SECTION
(15-22HB-4)BR(15-22)R
LOADING HL-93
STR. NO. 015-0078

NORTHBOUND NAME PLATE
See Std. 515001

STATION 788+67.44
BUILT 20__ BY
STATE OF ILLINOIS
F.A.I. RT. 57 SECTION
(15-22HB-4)BR(15-22)R
LOADING HL-93
STR. NO. 015-0079

SOUTHBOUND NAME PLATE
See Std. 515001

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL DATA
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 2 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	662
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



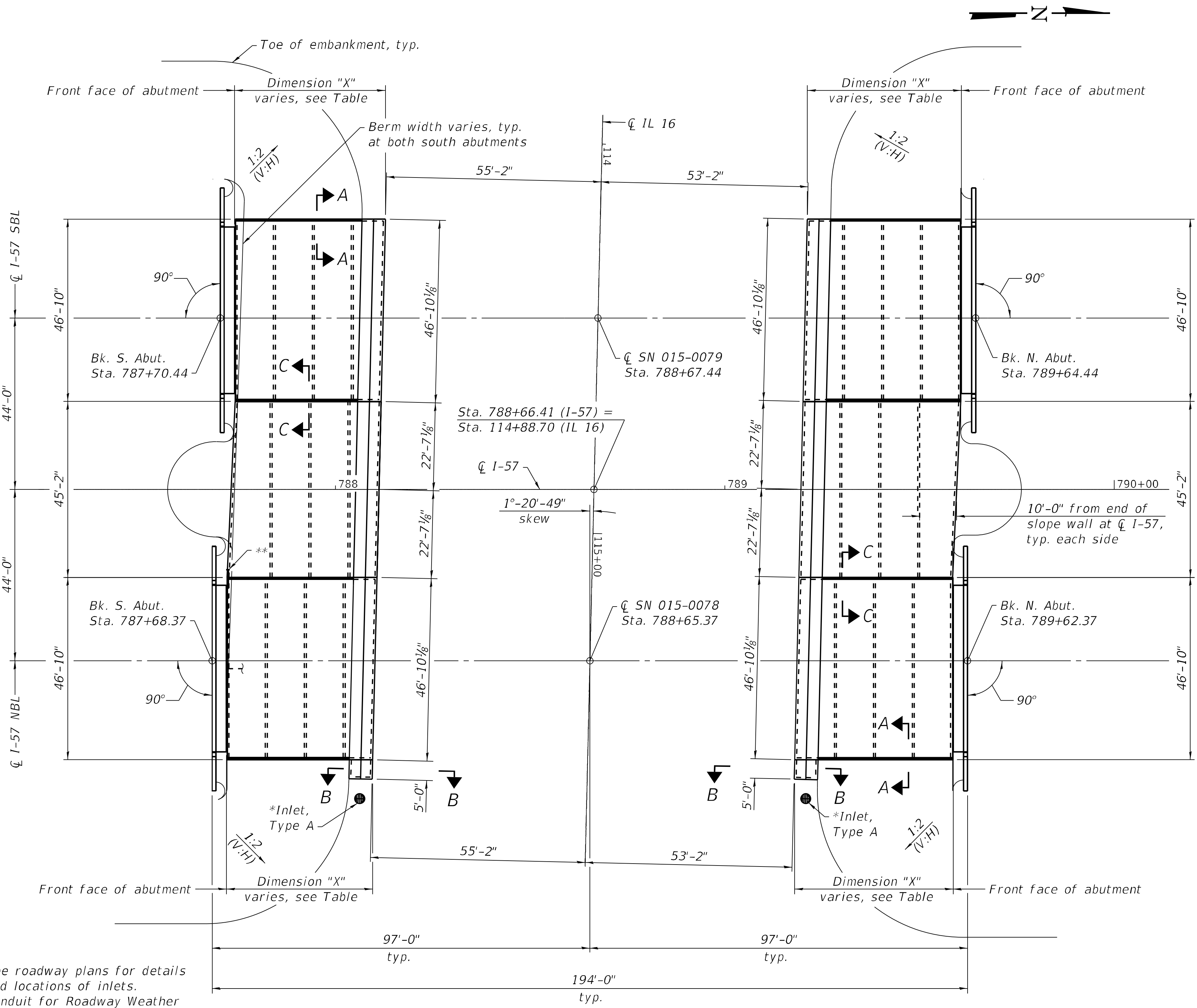
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ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

DESIGNED - MTD 12/21
CHECKED - PRH 01/22
DRAWN - KAH/NHC 10/23
CHECKED - MTD/ELH 10/23

REVISED -
REVISED -
REVISED -
REVISED -

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-02-GenData.dgn
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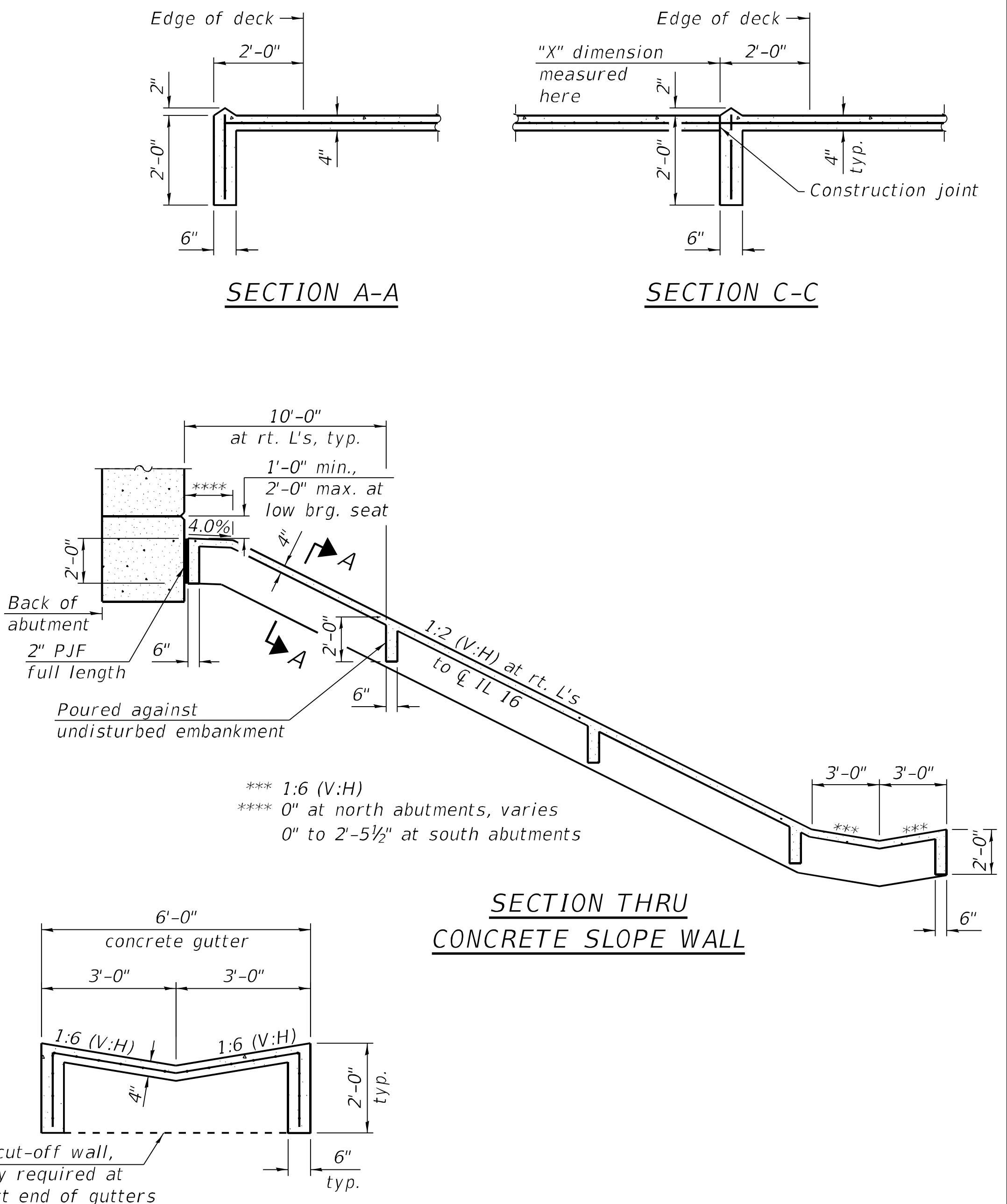
Notes:
Slope wall and concrete gutter shall be reinforced with welded wire fabric, 6 in. x 6 in. - W4.0 x W4.0, weighing 58 lbs. per 100 sq. ft.
2" diameter conduit shall be attached to the south slope wall of SN 015-0078, near the front face of the south abutment and according to Section 811 of the Standard Specifications. See roadway plans for additional details and conduit quantities.
The concrete gutters at the bottoms of the slope walls and the 5'-0" gutter extensions on the east side will be paid for as Slope Wall 4 Inch.
A 1/2" thick preformed joint filler shall be placed at all junctions between concrete gutter extensions and slope wall. Cost included in Slope Wall 4 Inch.



SLOPE WALL PLAN

TABLE OF "X" DIMENSIONS

Location	West side	East side
SN 015-0078 (NB)		
S. Abut. Slope Wall	38'-7 ⁷ / ₈ "	37'-6 ⁵ / ₈ "
N. Abut. Slope Wall	39'-7 ³ / ₄ "	40'-9"
SN 015-0079 (SB)		
S. Abut. Slope Wall	38'-9"	37'-7 ³ / ₄ "
N. Abut. Slope Wall	39'-6 ⁵ / ₈ "	40'-7 ¹ / ₈ "



SECTION B-B

SECTION THRU CONCRETE SLOPE WALL

BILL OF MATERIAL

Item	Unit	Total
Slope Wall 4 Inch	Sq. Yd.	1,336

MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP SN 015-0078_0079\0150078-74435-03-SlopeWall.dgn



USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - PRH 01/22	REVISED -
PLOT SCALE	DRAWN - KAH/NHC 10/23	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD/ELH 10/23	REVISED -

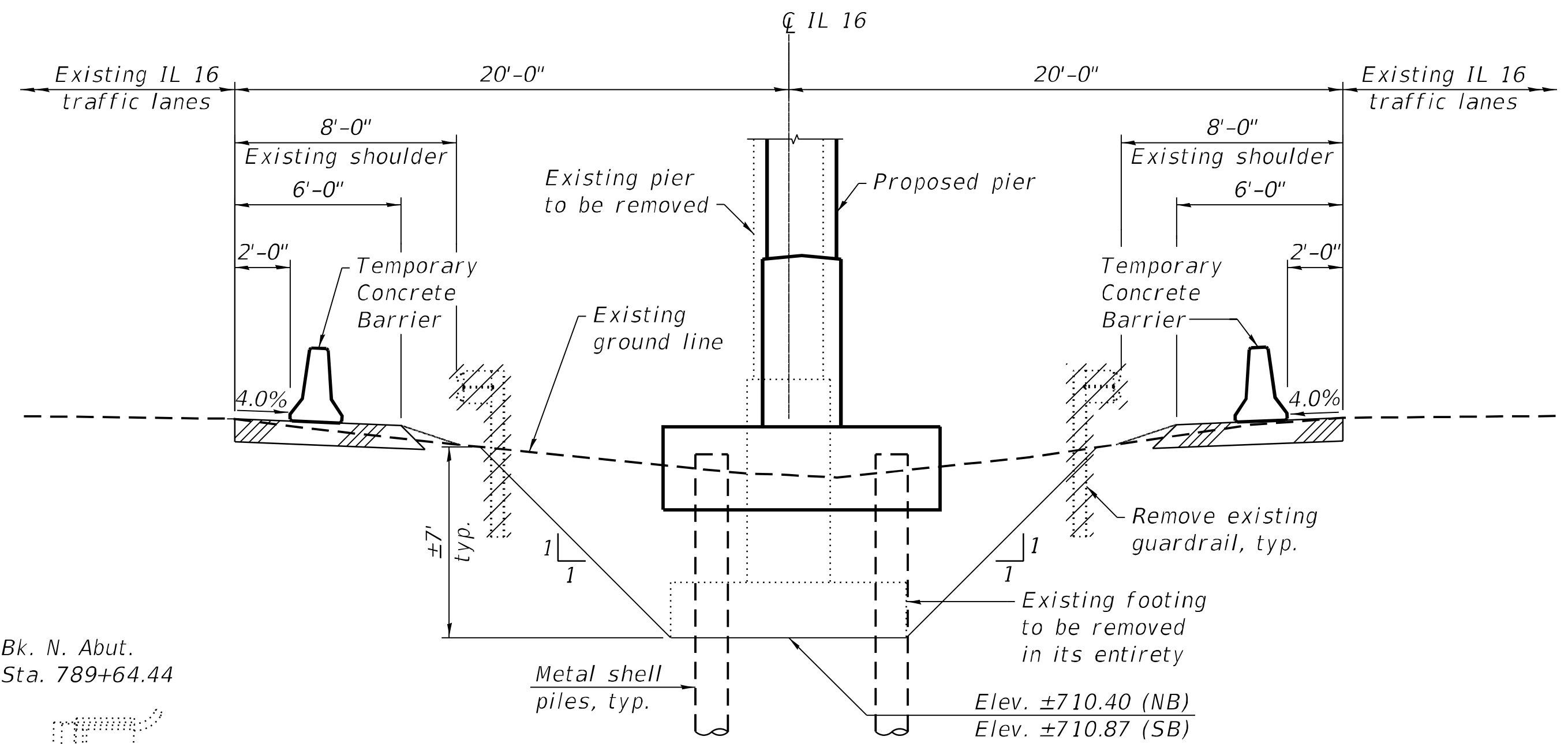
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SLOPE WALL LAYOUT AND DETAILS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 3 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	663
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

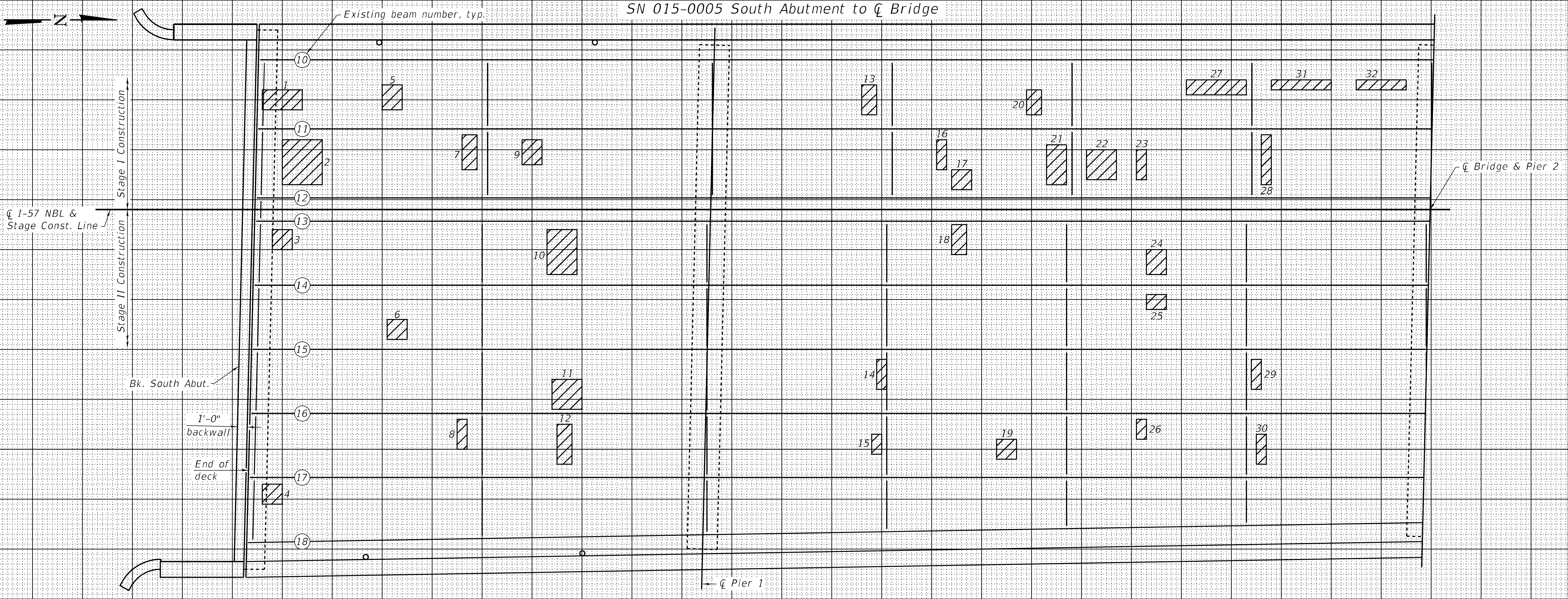
See roadway plans for details and quantities of guardrail removal, temporary concrete barrier and shoulder reconstruction along IL 16.



Note:
Cost of excavation required for removal of footing
included with Removal of Existing Structures.

1. *Perform excavation and pier removal for SN 015-0079 (SB) after installation of Temporary Concrete Barrier and removal of guardrail along IL 16.*
2. *Backfill to the elevation of the bottom of proposed pier footing according to Article 502.10 of the Standard Specifications.*
3. *Drive piles and construct pier.*
4. *Complete backfilling according to Article 502.10 of the Standard Specifications.*
5. *Repeat sequence for SN 015-0078 (NB) after construction of the southbound bridge is complete and the new bridge is in service.*

SN 015-0005 South Abutment to ¢ Bridge



Patch	Size (ft. x ft.)		Deck Slab Repair (Full Depth)	
			Type I	Type II
No.	Length	Width	Sq. Yd.	Sq. Yd.
1	4.0	2.0		0.9
2	4.0	4.5		2.0
3	2.0	2.0	0.5	
4	2.0	2.0	0.5	
5	2.0	2.5	0.6	
6	2.0	2.0	0.5	
7	1.5	3.5		0.6
8	1.0	3.0	0.3	
9	2.0	2.5	0.6	
10	3.0	4.5		1.5
11	3.0	3.0		1.0
12	1.5	4.0		0.7
13	1.5	3.0	0.5	
14	1.0	3.0	0.3	
15	1.0	2.0	0.2	
16	1.0	3.0	0.3	
Sub-totals			4.3	6.7

Patch	Size (ft. x ft.)		Deck Slab Repair (Full Depth)	
			Type I	Type II
No.	Length	Width	Sq. Yd.	Sq. Yd.
17	2.0	2.0	0.4	
18	1.5	3.0	0.5	
19	2.0	2.0	0.5	
20	1.5	2.5	0.4	
21	2.0	4.0		0.9
22	3.0	3.0		1.0
23	1.0	3.0	0.3	
24	2.0	2.5	0.6	
25	2.0	1.5	0.3	
26	1.0	2.0	0.2	
27	6.0	1.5		1.0
28	1.0	5.0	0.6	
29	1.0	3.0	0.3	
30	1.0	3.0	0.3	
31	6.0	1.0		0.7
32	5.0	1.0	0.6	
Sub-totals			5.0	3.6

Notes:

Areas of deck slab repairs shown on this sheet and on sheet 6 of 41 are estimated. The Engineer shall determine actual locations and limits of deck slab repairs.

The following quantities were estimated from overall deck condition:

Deck Slab Repair (Partial) = 110 Sq. Yd.

The existing HMA surface course on SN 015-0005 and for a distance of 40 ft. on each approach to SN 015-0005 shall be removed and replaced. Thickness of HMA surface removal on the bridge deck is estimated to be 2" but may vary. Removal shall be to a depth that exposes the bare concrete deck. Thickness of HMA surface removal on the approaches shall match the removal depth at the abutments.

HMA surface removal will be paid for as Hot-Mix Asphalt Surface Removal, 2", regardless of actual depth removed.

A tack coat, according to Section 406 of the Standard Specifications, with a residual asphalt rate of 0.025 lb./sq. ft. shall be applied to the top of the concrete deck and approaches before the hot-mix asphalt surfacing is placed.

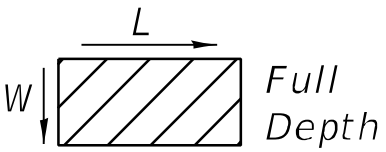
Prior to applying the tack coat, the top of the existing concrete deck shall be cleaned according to Article 406.05(b)(1) of the Standard Specifications.

The quantity of Polymerized Hot-Mix Asphalt Surface Course is calculated based on 2" uniform thickness and a placement factor of 112 lbs./sq. yd./inch. Actual thickness and cross slope of proposed HMA surface course shall be constructed to match existing elevations.

Staging sections shown on sheet 6 of 41 only apply to HMA surface removal and replacement and bridge deck patching for existing SN 015-0005. This work shall be completed prior to utilizing the crossovers to construct the proposed bridges (SN 015-0078 & 015-0079).

See roadway plans for crossovers and traffic control details.

The locations and sizes shown graphically above are approximate. See Table for actual sizes.



Date of Survey: Jan. 13, 2022
Survey By: D. Macklin
Method of Survey: Visual

BILL OF MATERIAL

Item	Unit	Quantity
Bituminous Materials (Tack Coat)	Pound	400
Polymerized Hot-Mix Asphalt Surface Course, IL-9.5, Mix "D", N90	Ton	200
Hot-Mix Asphalt Surface Removal, 2"	Sq. Yd.	1,765
Deck Slab Repair (Full Depth, Type I)	Sq. Yd.	20
Deck Slab Repair (Full Depth, Type II)	Sq. Yd.	20
Deck Slab Repair (Partial)	Sq. Yd.	110

See roadway plans for quantity of Temporary Concrete Barrier.

(Sheet 1 of 2)

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING – SN 015-0005 (NB)
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 5 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	665
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

MODEL: PLOT
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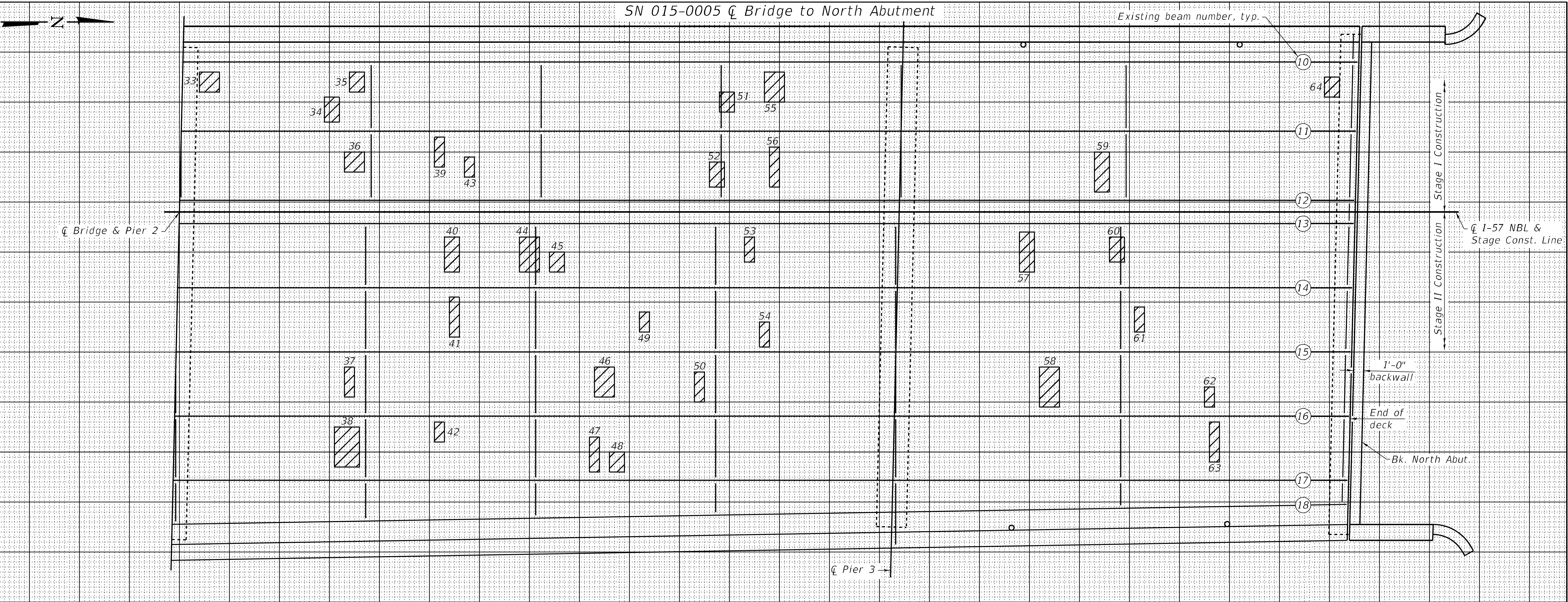
USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

DESIGNED - D. Macklin	01/22
CHECKED - MTD	01/22
DRAWN - NHC	01/22
CHECKED - MTD	01/22

REVISED -
REVISED -
REVISED -
REVISED -

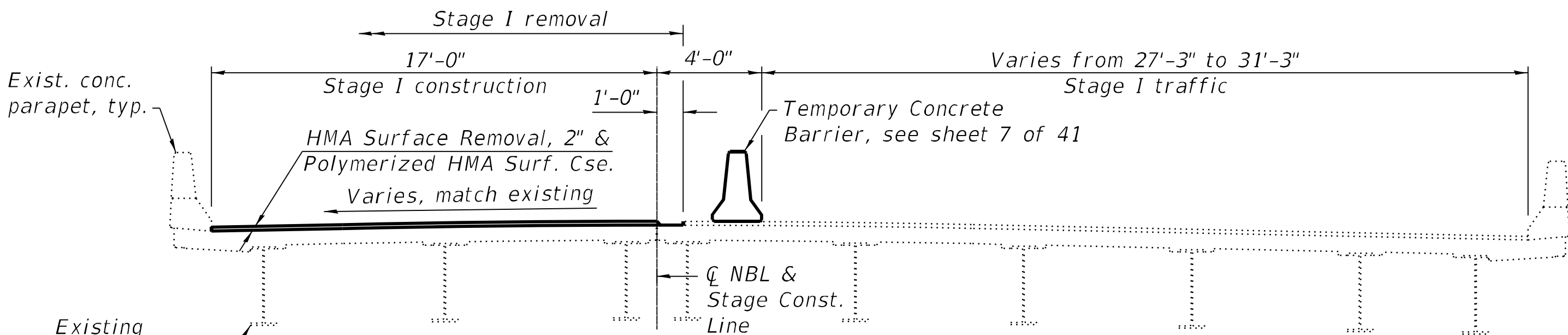
8/21/2024 1:22:08 PM

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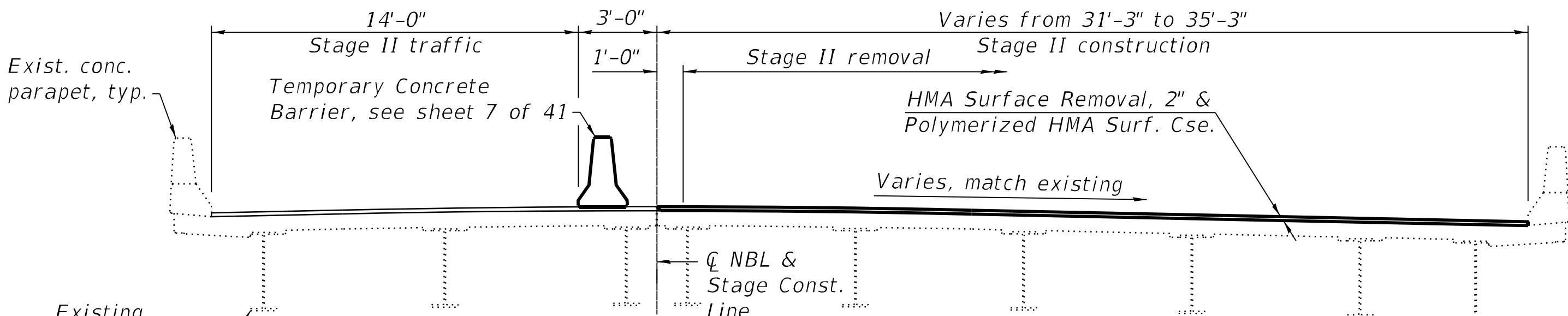


Patch	Size (ft. x ft.)		Deck Slab Repair (Full Depth)	
			Type I Sq. Yd.	Type II Sq. Yd.
No.	Length	Width		
33	2.0	2.0	0.5	
34	1.5	2.5	0.4	
35	1.5	2.0	0.3	
36	2.0	2.0	0.5	
37	1.0	3.0	0.3	
38	2.5	4.0		1.1
39	1.0	3.0	0.3	
40	1.5	3.5		0.6
41	1.0	4.0	0.5	
42	1.0	2.0	0.2	
43	1.0	2.0	0.2	
44	2.0	3.5		0.8
45	1.5	2.0	0.3	
46	2.0	3.0		0.7
47	1.0	3.5	0.4	
48	1.5	2.0	0.3	
Sub-totals			4.2	3.2

Patch	Size (ft. x ft.)		Deck Slab Repair (Full Depth)	
			Type I Sq. Yd.	Type II Sq. Yd.
No.	Length	Width		
49	1.0	2.0	0.2	
50	1.0	3.0	0.3	
51	1.5	2.0	0.3	
52	1.5	2.5	0.4	
53	1.0	2.5	0.3	
54	1.0	2.5	0.3	
55	2.0	3.0		0.7
56	1.0	4.0	0.5	
57	1.5	4.0		0.7
58	2.0	4.0		0.9
59	1.5	4.0		0.7
60	1.5	2.5	0.4	
61	1.0	2.5	0.3	
62	1.0	2.0	0.2	
63	1.0	4.0	0.5	
64	1.5	2.0	0.3	
Sub-totals			4.0	3.0

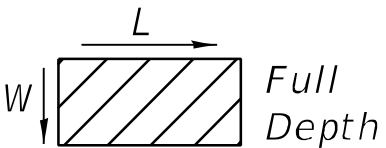


STAGE I CROSS SECTION
(SN 015-0005 looking north)

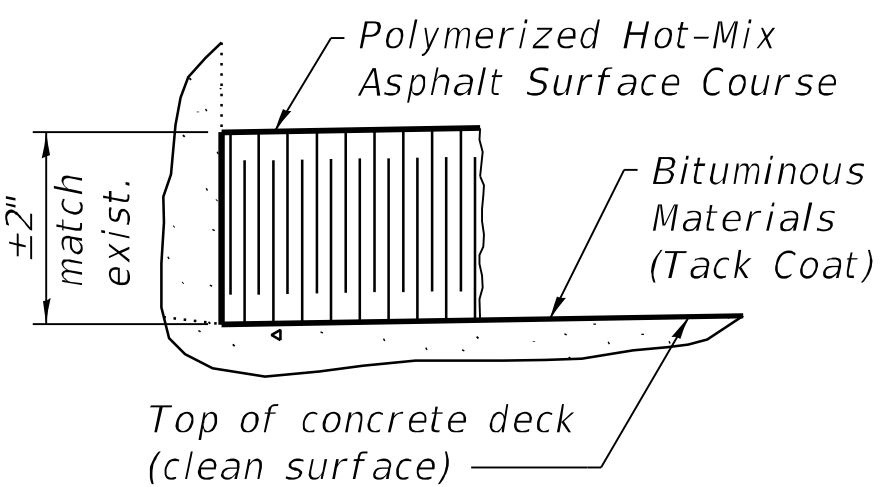


STAGE II CROSS SECTION
(SN 015-0005 looking north)

The locations and sizes shown graphically above are approximate. See Table for actual sizes.



Date of Survey: Jan. 13, 2022
Survey By: D. Macklin
Method of Survey: Visual



PROPOSED DECK SURFACING



USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

DESIGNED - D. Macklin 01/22
CHECKED - MTD 01/22
DRAWN - NHC 01/22
CHECKED - MTD 01/22

REVISED -
REVISED -
REVISED -
REVISED -

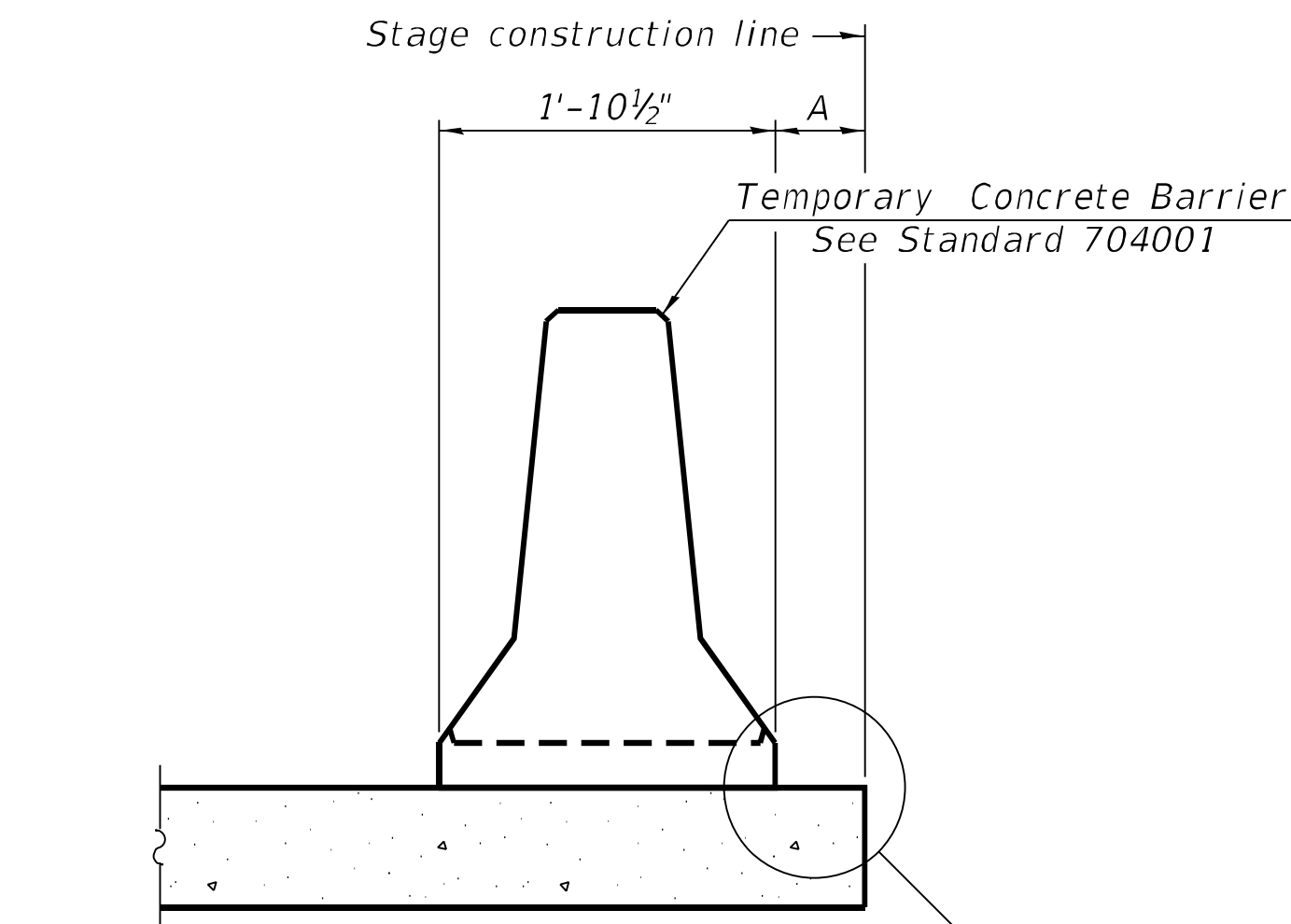
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BRIDGE DECK PATCHING - SN 015-0005 (NB)
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 6 OF 41 SHEETS

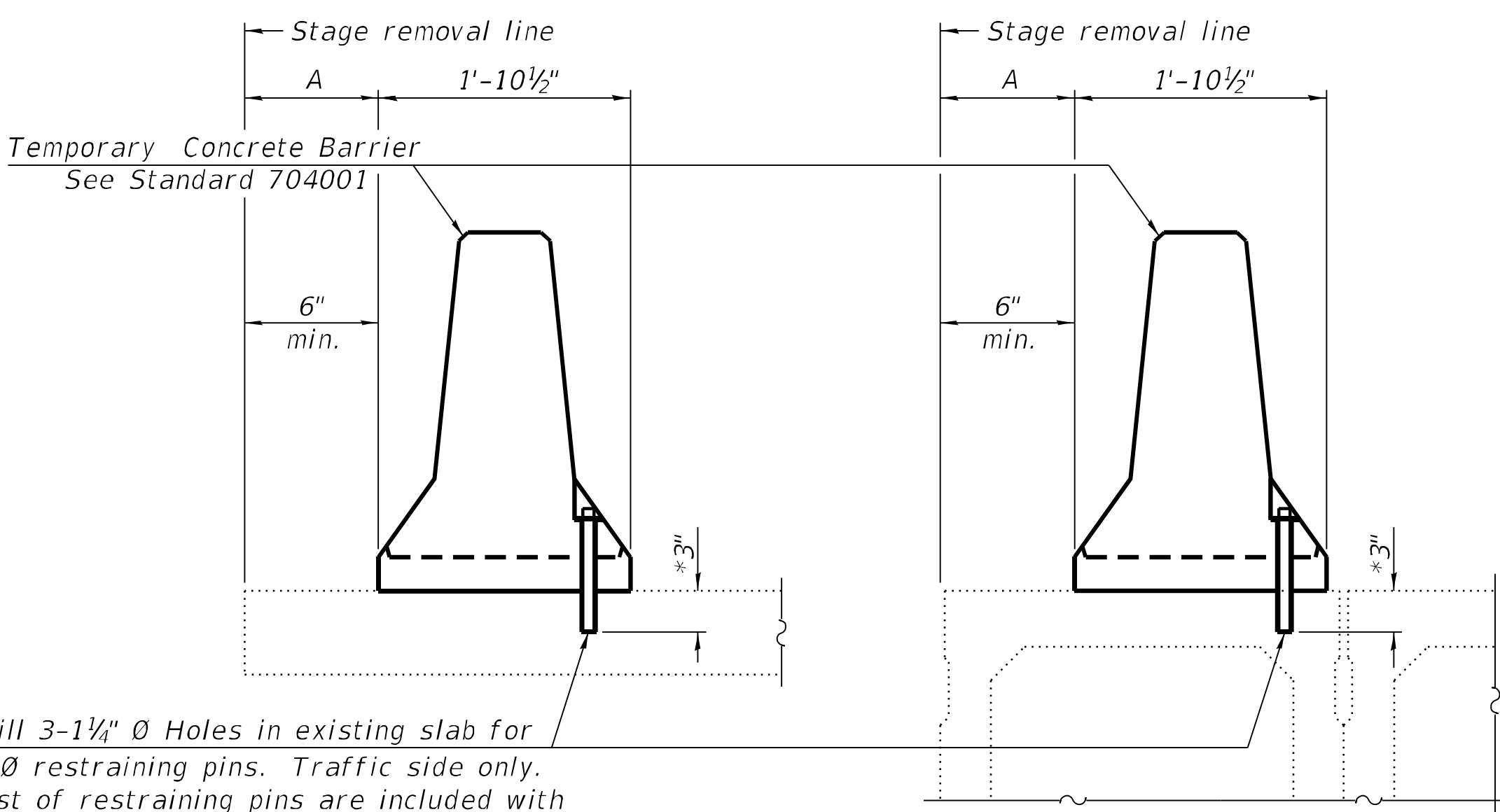
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	666
CONTRACT NO. 74435				

ILLINOIS | FED. AID PROJECT



When "A" is 3'-1" or less, the temporary concrete barrier shall be restrained to the new slab according to Detail I, II or III. No restraint is required when "A" is greater than 3'-1".

NEW SLAB OR NEW DECK BEAM

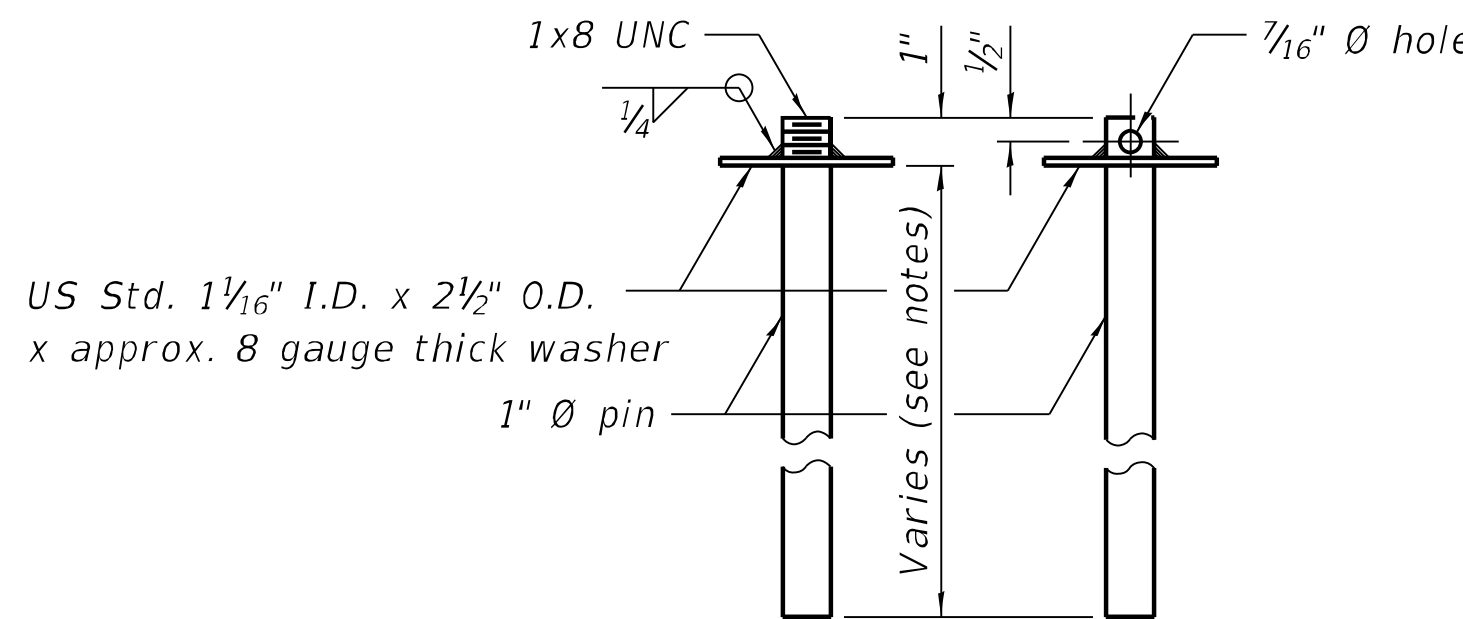


Drill 3-1 1/4" Ø Holes in existing slab for 1" Ø restraining pins. Traffic side only. Cost of restraining pins are included with Temporary Concrete Barrier. No restraint is required when "A" is greater than 3'-1".

EXISTING SLAB

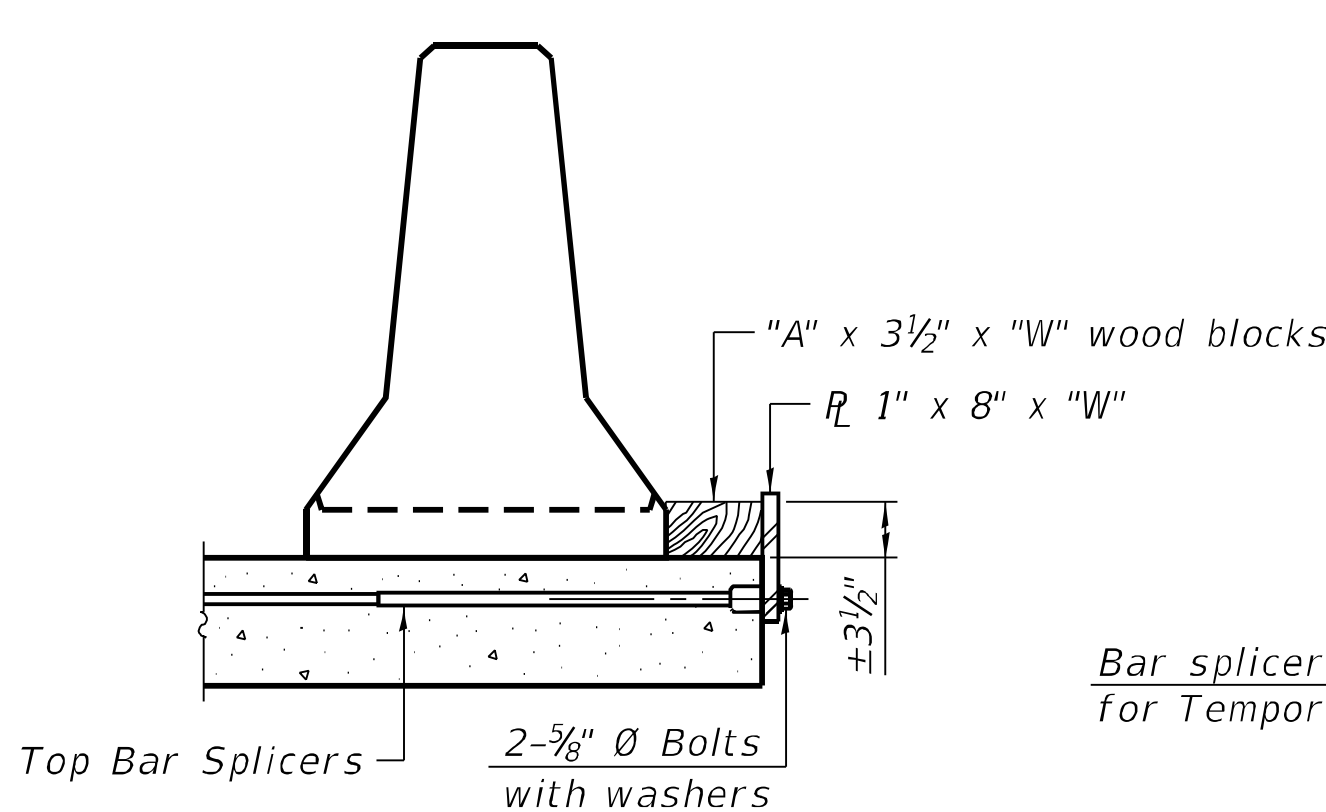
* When hot-mix asphalt wearing surface is present, embedment shall be 3" plus the wearing surface depth.

EXISTING DECK BEAM

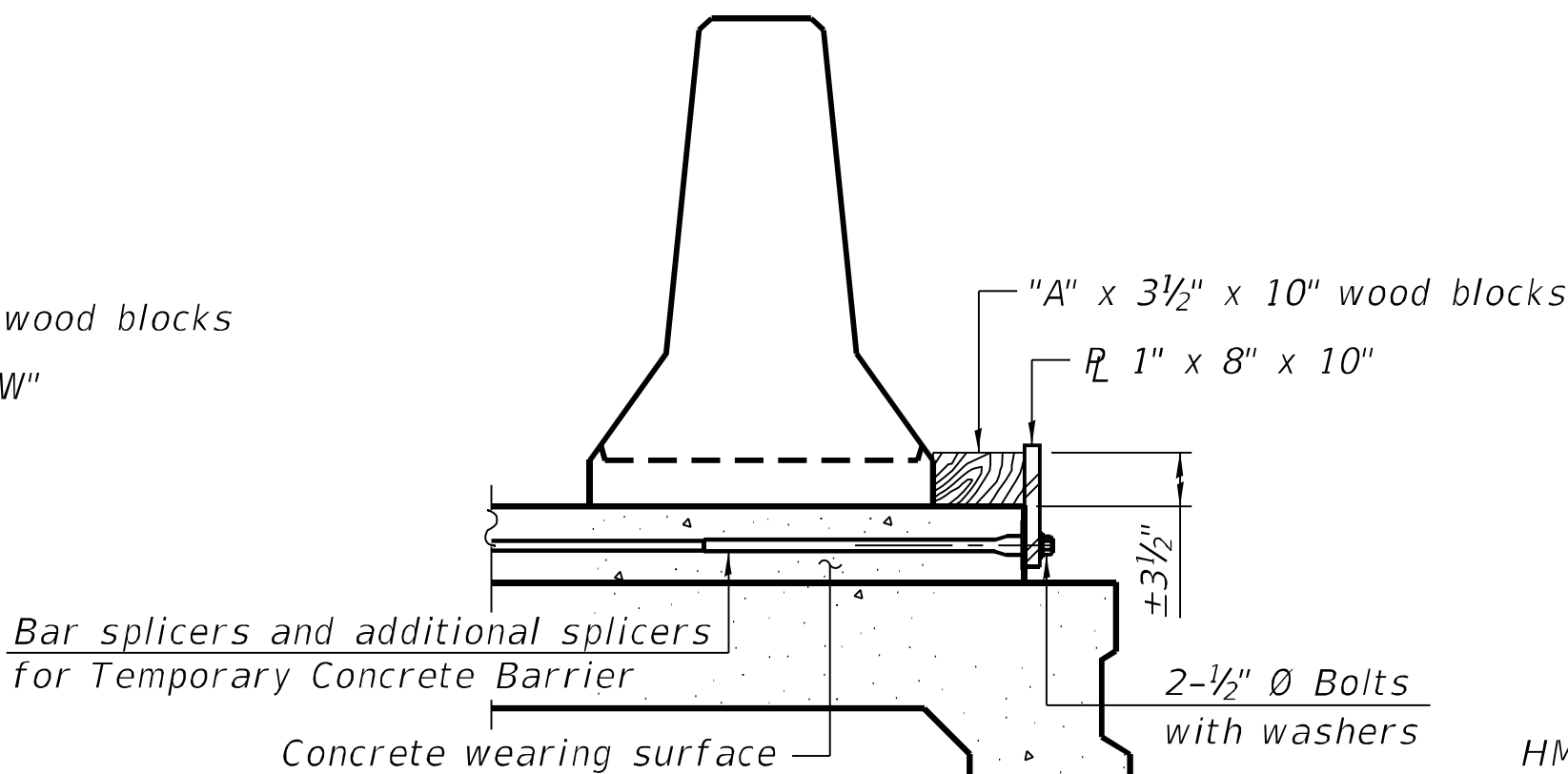


RESTRAINING PIN

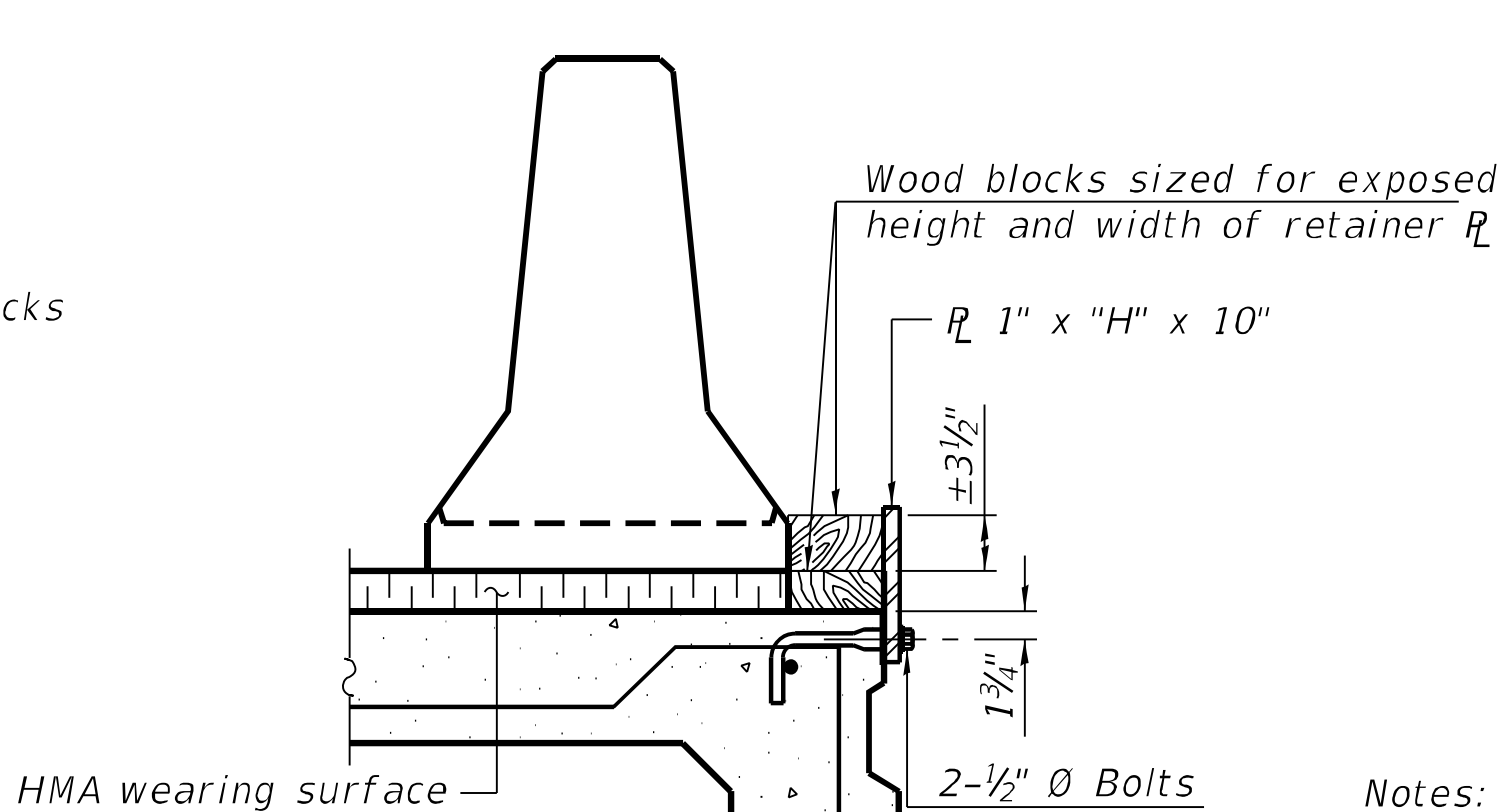
SECTIONS THRU SLAB OR DECK BEAM



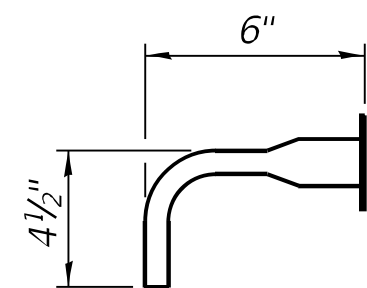
DETAIL I



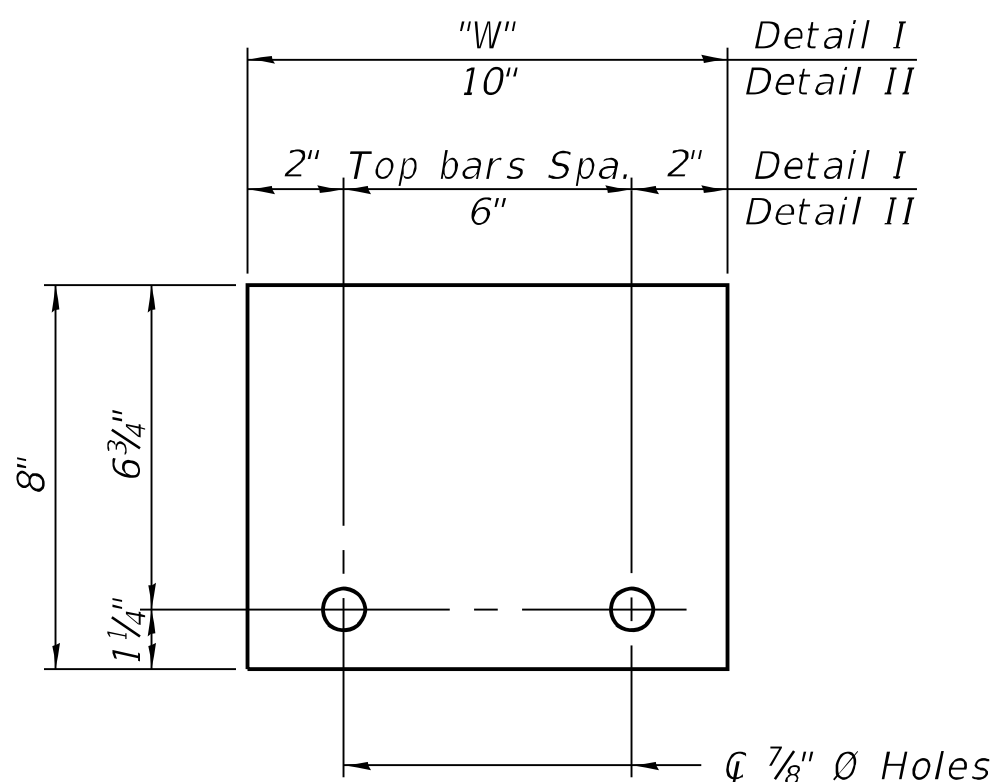
DETAIL II



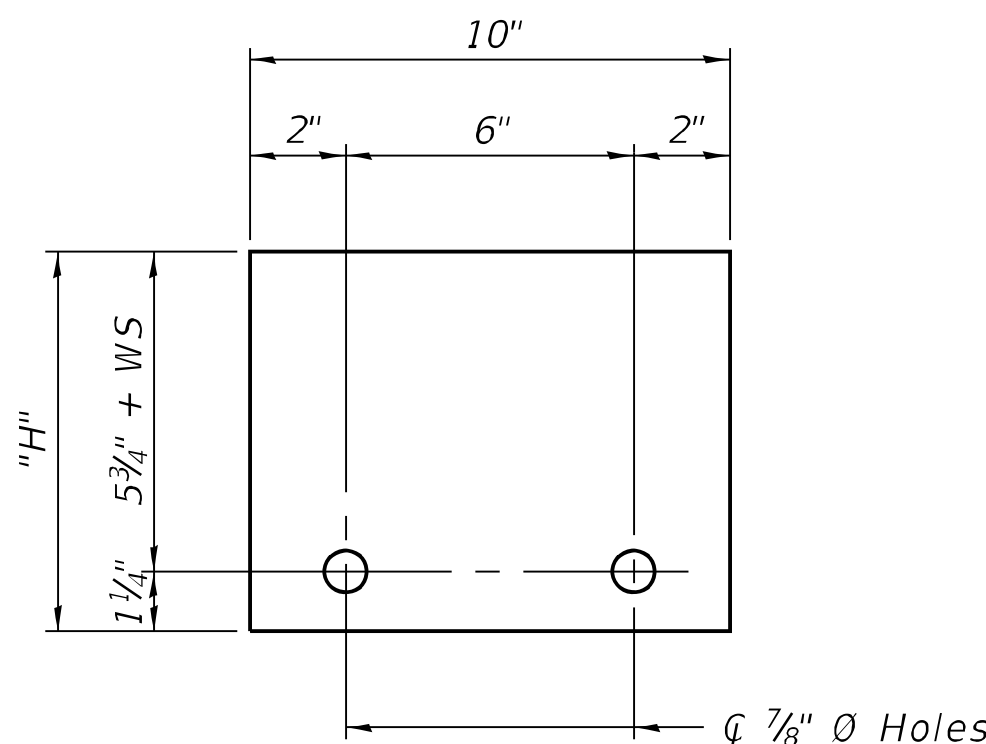
DETAIL III



BAR SPLICER FOR #4 BAR - DETAIL III



STEEL RETAINER R 1" x 8" x "W"
(Detail I and II)



STEEL RETAINER R 1" x "H" x 10"
(Detail III)

Notes:
Cost of retainer assembly is included with Temporary Concrete Barrier.
A retainer assembly shall be located at the approximate C of each temporary concrete barrier.
The retainer plate shall not be removed until the concrete on the adjacent stage is ready to be poured. For Detail III applications the retainer plate shall not be removed until just prior to placing the adjacent beam.
When the 'A' dimension is less than 1 1/2", the wood block shall be omitted and the barrier shall be placed in direct contact with the steel retainer plate. For deck beam applications the minimum required 'A' distance is 6" to accommodate the shear key clamping device.

Detail I - Installation for a new bridge deck or bridge slab.
Detail II - Installation for a new deck beam with an initial concrete wearing surface. Additional bar splicers shall be provided at 6'-0" centers and paired with the bar splicers of the concrete wearing surface reinforcement to accommodate the installation of the retainer assemblies. The cost of the additional bar splicers is included with the concrete wearing surface.
Detail III - Installation for a new deck beam with no initial wearing surface or with an initial hot-mix asphalt (HMA) wearing surface present. The deck beam directly beneath the temporary concrete barrier shall be fabricated with bar splicer inserts in the side of the beam, as detailed, to accommodate the installation of the retainer assemblies. A pair of bar splicers, 6" apart, shall be placed at 6'-0" centers along the length of the beam. The cost of the bar splicers is included with the deck beam.

RAILING CRITERIA

NCHRP 350 Test Level	3
Railing Weight (plf)	440

R-27

10-12-2021

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-07-TCB.dgn



USER NAME	= nhc
ESCA PROJECT NO.	1343.08
PLOT SCALE	
PLOT DATE	= 8/21/2024

DESIGNED	-	MTD	12/21
CHECKED	-	PRH	01/22
DRAWN	-	KAH	12/21
CHECKED	-	MTD	01/22

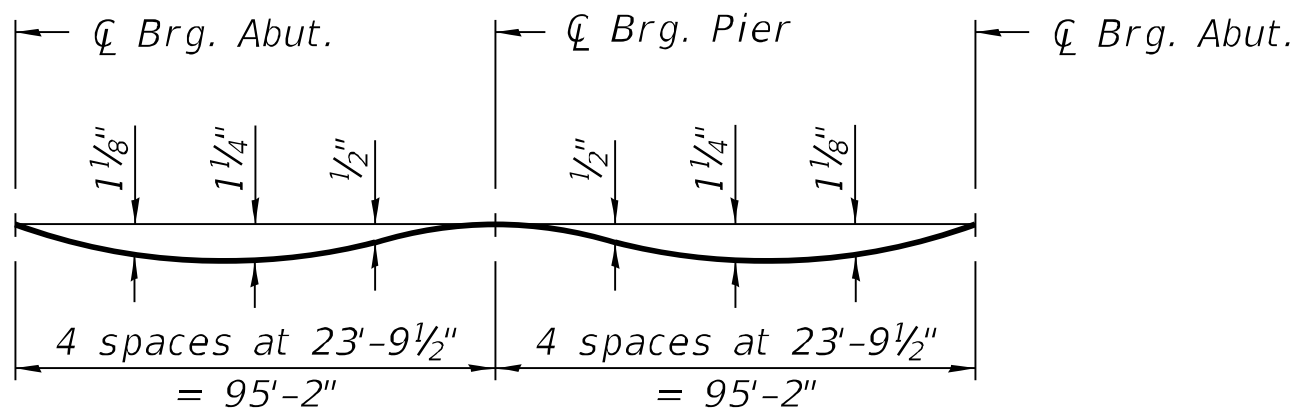
REVISED	-
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REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE BARRIER
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 7 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	667
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

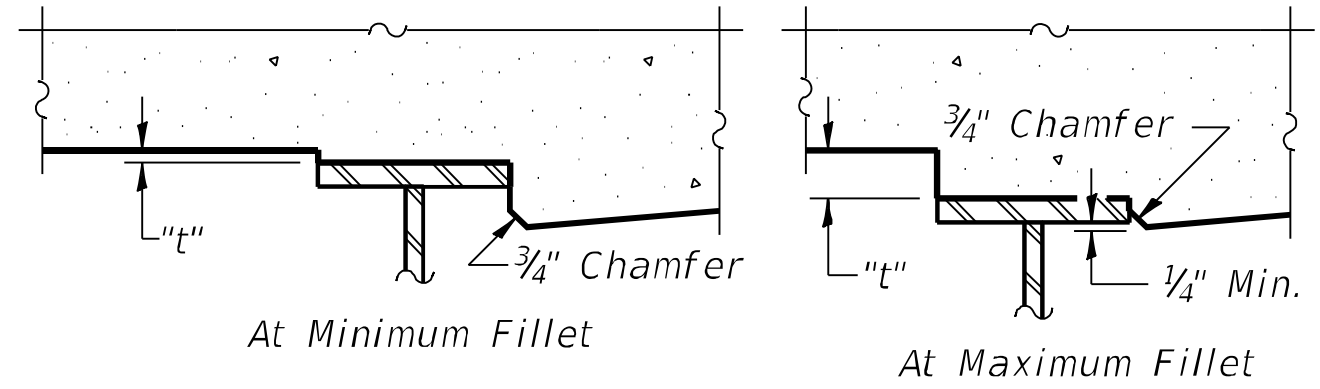


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

Note:

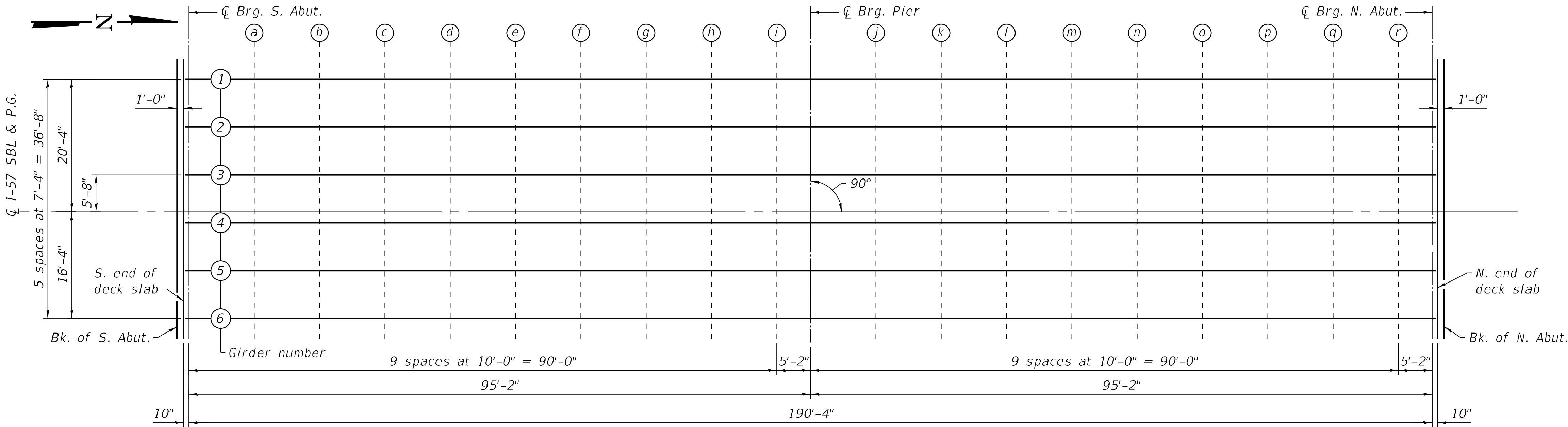
The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown on sheet 9 of 41.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown on sheet 9 of 41, minus the initial slab thickness prior to grinding, equals the fillet heights "t" above top flange of girders.

The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown on sheet 9 of 41. For grinding the deck, see Special Provisions.

FILLET HEIGHTS



PLAN (SB)

(Sheet 1 of 2)

MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-08-TSlabElevSB.dgn



USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - SHL 02/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS (SB)
STRUCTURE NO. 015-0079 (SB)

SHEET 8 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	668
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-09-TslabSB.dgn

GIRDER 1				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	-20.33	739.98	740.00
S. end of slab	787+71.44	-20.33	739.99	740.01
☒ Brg. S. Abut.	787+72.27	-20.33	740.00	740.02
a	787+82.27	-20.33	740.09	740.16
b	787+92.27	-20.33	740.19	740.29
c	788+02.27	-20.33	740.28	740.41
d	788+12.27	-20.33	740.38	740.51
e	788+22.27	-20.33	740.47	740.59
f	788+32.27	-20.33	740.57	740.66
g	788+42.27	-20.33	740.66	740.73
h	788+52.27	-20.33	740.76	740.80
i	788+62.27	-20.33	740.85	740.87
☒ Brg. Pier	788+67.44	-20.33	740.90	740.92
j	788+77.44	-20.33	741.00	741.03
k	788+87.44	-20.33	741.09	741.14
l	788+97.44	-20.33	741.18	741.27
m	789+07.44	-20.33	741.28	741.39
n	789+17.44	-20.33	741.37	741.50
o	789+27.44	-20.33	741.47	741.60
p	789+37.44	-20.33	741.56	741.68
q	789+47.44	-20.33	741.66	741.74
r	789+57.44	-20.33	741.75	741.80
☒ Brg. N. Abut.	789+62.61	-20.33	741.80	741.82
N. end of slab	789+63.44	-20.33	741.81	741.83
Bk. of N. Abut.	789+64.44	-20.33	741.82	741.84

GIRDER 4				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	1.67	740.30	740.32
S. end of slab	787+71.44	1.67	740.31	740.33
☒ Brg. S. Abut.	787+72.27	1.67	740.32	740.34
a	787+82.27	1.67	740.42	740.48
b	787+92.27	1.67	740.51	740.61
c	788+02.27	1.67	740.61	740.73
d	788+12.27	1.67	740.70	740.83
e	788+22.27	1.67	740.79	740.91
f	788+32.27	1.67	740.89	740.98
g	788+42.27	1.67	740.98	741.05
h	788+52.27	1.67	741.08	741.12
i	788+62.27	1.67	741.17	741.20
☒ Brg. Pier	788+67.44	1.67	741.22	741.24
j	788+77.44	1.67	741.32	741.35
k	788+87.44	1.67	741.41	741.46
l	788+97.44	1.67	741.51	741.59
m	789+07.44	1.67	741.60	741.71
n	789+17.44	1.67	741.70	741.82
o	789+27.44	1.67	741.79	741.92
p	789+37.44	1.67	741.89	742.00
q	789+47.44	1.67	741.98	742.07
r	789+57.44	1.67	742.07	742.12
☒ Brg. N. Abut.	789+62.61	1.67	742.12	742.14
N. end of slab	789+63.44	1.67	742.13	742.15
Bk. of N. Abut.	789+64.44	1.67	742.14	742.16

GIRDER 2				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	-13.00	740.13	740.15
S. end of slab	787+71.44	-13.00	740.14	740.16
☒ Brg. S. Abut.	787+72.27	-13.00	740.15	740.17
a	787+82.27	-13.00	740.24	740.31
b	787+92.27	-13.00	740.34	740.44
c	788+02.27	-13.00	740.43	740.55
d	788+12.27	-13.00	740.52	740.65
e	788+22.27	-13.00	740.62	740.74
f	788+32.27	-13.00	740.71	740.81
g	788+42.27	-13.00	740.81	740.88
h	788+52.27	-13.00	740.90	740.94
i	788+62.27	-13.00	741.00	741.02
☒ Brg. Pier	788+67.44	-13.00	741.05	741.07
j	788+77.44	-13.00	741.14	741.17
k	788+87.44	-13.00	741.24	741.29
l	788+97.44	-13.00	741.33	741.41
m	789+07.44	-13.00	741.43	741.53
n	789+17.44	-13.00	741.52	741.65
o	789+27.44	-13.00	741.62	741.74
p	789+37.44	-13.00	741.71	741.83
q	789+47.44	-13.00	741.80	741.89
r	789+57.44	-13.00	741.90	741.94
☒ Brg. N. Abut.	789+62.61	-13.00	741.95	741.97
N. end of slab	789+63.44	-13.00	741.96	741.98
Bk. of N. Abut.	789+64.44	-13.00	741.97	741.99

GIRDER 5				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	9.00	740.19	740.21
S. end of slab	787+71.44	9.00	740.20	740.22
☒ Brg. S. Abut.	787+72.27	9.00	740.21	740.23
a	787+82.27	9.00	740.31	740.37
b	787+92.27	9.00	740.40	740.50
c	788+02.27	9.00	740.50	740.62
d	788+12.27	9.00	740.59	740.72
e	788+22.27	9.00	740.68	740.80
f	788+32.27	9.00	740.78	740.87
g	788+42.27	9.00	740.87	740.94
h	788+52.27	9.00	740.97	741.01
i	788+62.27	9.00	741.06	741.09
☒ Brg. Pier	788+67.44	9.00	741.11	741.13
j	788+77.44	9.00	741.21	741.24
k	788+87.44	9.00	741.30	741.35
l	788+97.44	9.00	741.40	741.48
m	789+07.44	9.00	741.49	741.60
n	789+17.44	9.00	741.59	741.71
o	789+27.44	9.00	741.68	741.81
p	789+37.44	9.00	741.78	741.89
q	789+47.44	9.00	741.87	741.96
r	789+57.44	9.00	741.96	742.01
☒ Brg. N. Abut.	789+62.61	9.00	742.01	742.03
N. end of slab	789+63.44	9.00	742.02	742.04
Bk. of N. Abut.	789+64.44	9.00	742.03	742.05

GIRDER 3				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	-5.67	740.24	740.26
S. end of slab	787+71.44	-5.67	740.25	740.27
☒ Brg. S. Abut.	787+72.27	-5.67	740.26	740.28
a	787+82.27	-5.67	740.36	740.42
b	787+92.27	-5.67	740.45	740.55
c	788+02.27	-5.67	740.55	740.67
d	788+12.27	-5.67	740.64	740.77
e	788+22.27	-5.67	740.73	740.85
f	788+32.27	-5.67	740.83	740.92
g	788+42.27	-5.67	740.92	740.99
h	788+52.27	-5.67	741.02	741.06
i	788+62.27	-5.67	741.11	741.14
☒ Brg. Pier	788+67.44	-5.67	741.16	741.18
j	788+77.44	-5.67	741.26	741.29
k	788+87.44	-5.67	741.35	741.40
l	788+97.44	-5.67	741.45	741.53
m	789+07.44	-5.67	741.54	741.65
n	789+17.44	-5.67	741.64	741.76
o	789+27.44	-5.67	741.73	741.86
p	789+37.44	-5.67	741.83	741.94
q	789+47.44	-5.67	741.92	742.01
r	789+57.44	-5.67	742.01	742.06
☒ Brg. N. Abut.	789+62.61	-5.67	742.06	742.08
N. end of slab	789+63.44	-5.67	742.07	742.09
Bk. of N. Abut.	789+64.44	-5.67	742.08	742.10

GIRDER 6				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	16.33	740.06	740.08
S. end of slab	787+71.44	16.33	740.07	740.09
☒ Brg. S. Abut.	787+72.27	16.33	740.08	740.10
a	787+82.27	16.33	740.17	740.24
b	787+92.27	16.33	740.27	740.37
c	788+02.27	16.33	740.36	740.49
d	788+12.27	16.33	740.46	740.59
e	788+22.27	16.33	740.55	740.67
f	788+32.27	16.33	740.65	740.74
g	788+42.27	16.33	740.74	740.81
h	788+52.27	16.33	740.84	740.88
i	788+62.27	16.33	740.93	740.95
☒ Brg. Pier	788+67.44	16.33	740.98	741.00
j	788+77.44	16.33	741.08	741.11
k	788+87.44	16.33	741.17	741.22
l	788+97.44	16.33	741.26	741.35
m	789+07.44	16.33	741.36	741.47
n	789+17.44	16.33	741.45	741.58
o	789+27.44	16.33	741.55	741.68
p	789+37.44	16.33	741.64	741.76
q	789+47.44	16.33	741.74	741.82
r	789+57.44	16.33	741.83	741.88
☒ Brg. N. Abut.	789+62.61	16.33	741.88	741.90
N. end of slab	789+63.44	16.33	741.89	741.91
Bk. of N. Abut.	789+64.44	16.33	741.90	741.92

CENTERLINE SBL & PROFILE GRADE				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+70.44	0.00	740.33	740.35
S. end of slab	787+71.44	0.00	740.34	740.36
☒ Brg. S. Abut.	787+72.27	0.00	740.35	740.37
a	787+82.27	0.00	740.44	740.51
b	787+92.27	0.00	740.54	740.64
c	788+02.27	0.00	740.63	740.75
d	788+12.27	0.00	740.72	740.85
e	788+22.27	0.00	740.82	740.94
f	788+32.27	0.00	740.91	741.01
g	788+42.27	0.00	741.01	741.08
h	788+52.27	0.00	741.10	741.14
i	788+62.27	0.00	741.20	741.22
☒ Brg. Pier	788+67.44	0.00	741.25	741.27
j	788+77.44	0.00	741.34	741.37
k	788+87.44	0.00	741.44	741.49
l	788+97.44	0.00	741.53	741.61
m	789+07.44	0.00	741.63	741.73
n	789+17.44	0.00	741.72	741.85
o	789+27.44	0.00	741.82	741.94
p	789+37.44	0.00	741.91	742.03
q	789+47.44	0.00	742.00	742.09
r	789+57.44	0.00	742.10	742.14
☒ Brg. N. Abut.	789+62.61	0.00	742.15	742.17
N. end of slab	789+63.44	0.00	742.16	742.18
Bk. of N. Abut.	789+64.44	0.00	742.17	742.19

(Sheet 2 of 2)



USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

DESIGNED - MTD	12/21
CHECKED - SHL	02/22
DRAWN - KAH	12/21
CHECKED - MTD	01/22

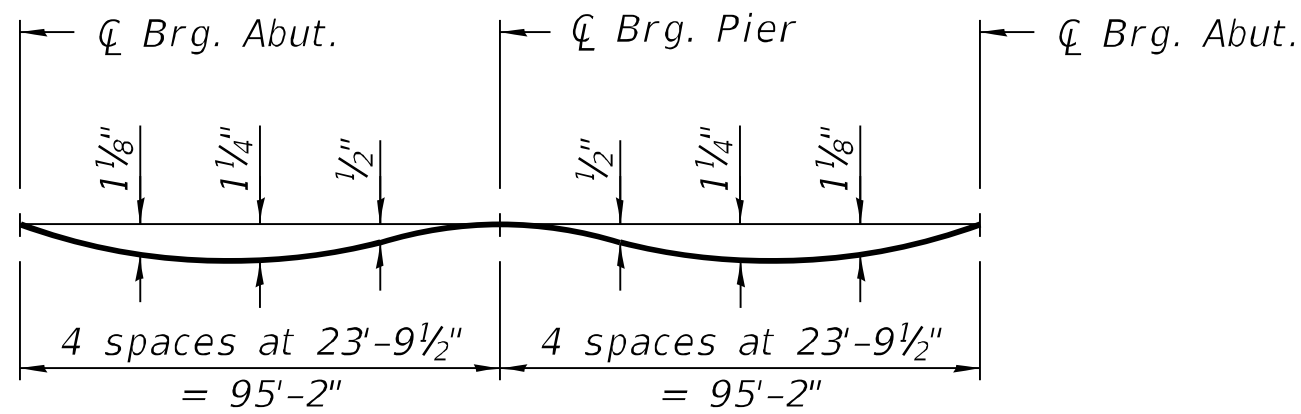
REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS (SB)
STRUCTURE NO. 015-0079 (SB)

SHEET 9 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	669
		CONTRACT NO. 74435		
		ILLINOIS	FED. AID PROJECT	

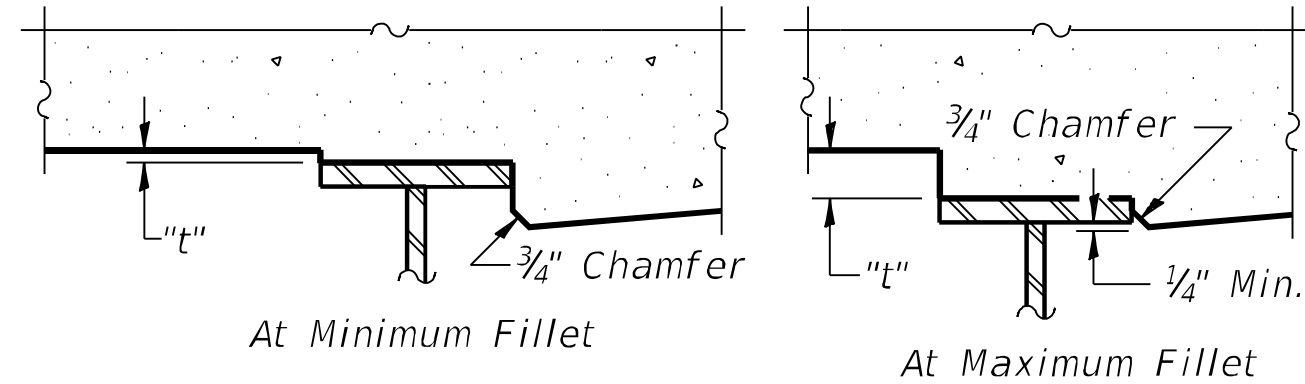


DEAD LOAD DEFLECTION DIAGRAM

(Includes weight of concrete only.)

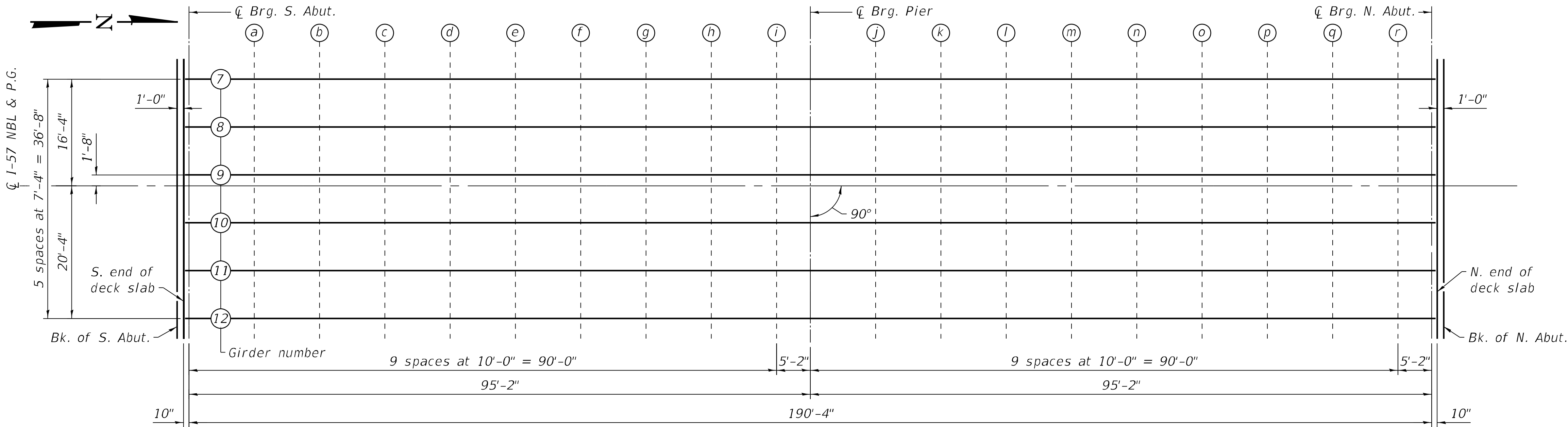
Note:

The above deflections are not to be used in the field if the Engineer is working from the grade elevations adjusted for dead load deflections and grinding as shown on sheet 11 of 41.



To determine "t": After all structural steel has been erected, elevations of the top flanges of the girders shall be taken at intervals shown below. These elevations subtracted from the "Theoretical Grade Elevations Adjusted for Dead Load Deflection and Grinding" shown on sheet 11 of 41, minus the initial slab thickness prior to grinding, equals the fillet heights "t" above top flange of girders.
The slab is to be ground after curing to achieve smoothness, but the slab is not to be ground to elevations below the "Theoretical Grade Elevations" shown on sheet 11 of 41. For grinding the deck, see Special Provisions.

FILLET HEIGHTS



PLAN (NB)

(Sheet 1 of 2)

MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-10-TSlabElevNB.dgn



USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - SHL 02/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF SLAB ELEVATIONS (NB)
STRUCTURE NO. 015-0078 (NB)

SHEET 10 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	670
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-11-TSlabNBL.dgn

GIRDER 7				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+68.37	-16.33	740.10	740.12
S. end of slab	787+69.37	-16.33	740.11	740.13
☒ Brg. S. Abut.	787+70.20	-16.33	740.12	740.14
a	787+80.20	-16.33	740.21	740.28
b	787+90.20	-16.33	740.31	740.41
c	788+00.20	-16.33	740.40	740.53
d	788+10.20	-16.33	740.49	740.62
e	788+20.20	-16.33	740.59	740.71
f	788+30.20	-16.33	740.68	740.78
g	788+40.20	-16.33	740.78	740.84
h	788+50.20	-16.33	740.87	740.91
i	788+60.20	-16.33	740.97	740.99
☒ Brg. Pier	788+65.37	-16.33	741.01	741.03
j	788+75.37	-16.33	741.11	741.14
k	788+85.37	-16.33	741.20	741.26
l	788+95.37	-16.33	741.30	741.38
m	789+05.37	-16.33	741.39	741.50
n	789+15.37	-16.33	741.49	741.61
o	789+25.37	-16.33	741.58	741.71
p	789+35.37	-16.33	741.67	741.79
q	789+45.37	-16.33	741.77	741.85
r	789+55.37	-16.33	741.86	741.91
☒ Brg. N. Abut.	789+60.54	-16.33	741.91	741.93
N. end of slab	789+61.37	-16.33	741.92	741.94
Bk. of N. Abut.	789+62.37	-16.33	741.93	741.95

GIRDER 10				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+68.37	5.67	740.28	740.30
S. end of slab	787+69.37	5.67	740.29	740.31
☒ Brg. S. Abut.	787+70.20	5.67	740.30	740.32
a	787+80.20	5.67	740.39	740.46
b	787+90.20	5.67	740.49	740.59
c	788+00.20	5.67	740.58	740.71
d	788+10.20	5.67	740.68	740.81
e	788+20.20	5.67	740.77	740.89
f	788+30.20	5.67	740.86	740.96
g	788+40.20	5.67	740.96	741.03
h	788+50.20	5.67	741.05	741.09
i	788+60.20	5.67	741.15	741.17
☒ Brg. Pier	788+65.37	5.67	741.20	741.22
j	788+75.37	5.67	741.29	741.32
k	788+85.37	5.67	741.38	741.44
l	788+95.37	5.67	741.48	741.56
m	789+05.37	5.67	741.57	741.68
n	789+15.37	5.67	741.67	741.79
o	789+25.37	5.67	741.76	741.89
p	789+35.37	5.67	741.86	741.97
q	789+45.37	5.67	741.95	742.04
r	789+55.37	5.67	742.04	742.09
☒ Brg. N. Abut.	789+60.54	5.67	742.09	742.11
N. end of slab	789+61.37	5.67	742.10	742.12
Bk. of N. Abut.	789+62.37	5.67	742.11	742.13

GIRDER 8				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+68.37	-9.00	740.23	740.25
S. end of slab	787+69.37	-9.00	740.24	740.26
☒ Brg. S. Abut.	787+70.20	-9.00	740.25	740.27
a	787+80.20	-9.00	740.34	740.41
b	787+90.20	-9.00	740.44	740.54
c	788+00.20	-9.00	740.53	740.66
d	788+10.20	-9.00	740.63	740.76
e	788+20.20	-9.00	740.72	740.84
f	788+30.20	-9.00	740.81	740.91
g	788+40.20	-9.00	740.91	740.98
h	788+50.20	-9.00	741.00	741.04
i	788+60.20	-9.00	741.10	741.12
☒ Brg. Pier	788+65.37	-9.00	741.15	741.17
j	788+75.37	-9.00	741.24	741.27
k	788+85.37	-9.00	741.33	741.39
l	788+95.37	-9.00	741.43	741.51
m	789+05.37	-9.00	741.52	741.63
n	789+15.37	-9.00	741.62	741.74
o	789+25.37	-9.00	741.71	741.84
p	789+35.37	-9.00	741.81	741.92
q	789+45.37	-9.00	741.90	741.99
r	789+55.37	-9.00	741.99	742.04
☒ Brg. N. Abut.	789+60.54	-9.00	742.04	742.06
N. end of slab	789+61.37	-9.00	742.05	742.07
Bk. of N. Abut.	789+62.37	-9.00	742.06	742.08

GIRDER 11				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+68.37	13.00	740.17	740.19
S. end of slab	787+69.37	13.00	740.18	740.20
☒ Brg. S. Abut.	787+70.20	13.00	740.18	740.20
a	787+80.20	13.00	740.28	740.34
b	787+90.20	13.00	740.37	740.48
c	788+00.20	13.00	740.47	740.59
d	788+10.20	13.00	740.56	740.69
e	788+20.20	13.00	740.66	740.77
f	788+30.20	13.00	740.75	740.85
g	788+40.20	13.00	740.84	740.91
h	788+50.20	13.00	740.94	740.98
i	788+60.20	13.00	741.03	741.06
☒ Brg. Pier	788+65.37	13.00	741.08	741.10
j	788+75.37	13.00	741.18	741.21
k	788+85.37	13.00	741.27	741.32
l	788+95.37	13.00	741.36	741.44
m	789+05.37	13.00	741.46	741.57
n	789+15.37	13.00	741.55	741.68
o	789+25.37	13.00	741.65	741.78
p	789+35.37	13.00	741.74	741.86
q	789+45.37	13.00	741.83	741.92
r	789+55.37	13.00	741.93	741.97
☒ Brg. N. Abut.	789+60.54	13.00	741.98	742.00
N. end of slab	789+61.37	13.00	741.99	742.01
Bk. of N. Abut.	789+62.37	13.00	741.99	742.01

GIRDER 9				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+68.37	-1.67	740.34	740.36
S. end of slab	787+69.37	-1.67	740.35	740.37
☒ Brg. S. Abut.	787+70.20	-1.67	740.36	740.38
a	787+80.20	-1.67	740.45	740.52
b	787+90.20	-1.67	740.55	740.65
c	788+00.20	-1.67	740.64	740.77
d	788+10.20	-1.67	740.74	740.87
e	788+20.20	-1.67	740.83	740.95
f	788+30.20	-1.67	740.92	741.02
g	788+40.20	-1.67	741.02	741.09
h	788+50.20	-1.67	741.11	741.15
i	788+60.20	-1.67	741.21	741.23
☒ Brg. Pier	788+65.37	-1.67	741.26	741.28
j	788+75.37	-1.67	741.35	741.38
k	788+85.37	-1.67	741.44	741.50
l	788+95.37	-1.67	741.54	741.62
m	789+05.37	-1.67	741.63	741.74
n	789+15.37	-1.67	741.73	741.85
o	789+25.37	-1.67	741.82	741.95
p	789+35.37	-1.67	741.92	742.03
q	789+45.37	-1.67	742.01	742.10
r	789+55.37	-1.67	742.10	742.15
☒ Brg. N. Abut.	789+60.54	-1.67	742.15	742.17
N. end of slab	789+61.37	-1.67	742.16	742.18
Bk. of N. Abut.	789+62.37	-1.67	742.17	742.19

GIRDER 12				
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted For Dead Load Deflection and Grinding
Bk. of S. Abut.	787+68.37	20.33	740.02	740.04
S. end of slab	787+69.37	20.33	740.03	740.05
☒ Brg. S. Abut.	787+70.20	20.33	740.04	740.06
a	787+80.20	20.33	740.13	740.20
b	787+90.20	20.33	740.23	740.33
c	788+00.20	20.33	740.32	740.45
d	788+10.20	20.33	740.41	740.54
e	788+20.20	20.33	740.51	740.63
f	788+30.20	20.33	740.60	740.70
g	788+40.20	20.33	740.70	740.76
h	788+50.20	20.33	740.79	740.83
i	788+60.20	20.33	740.89	740.91
☒ Brg. Pier	788+65.37	20.33	740.93	740.95
j	788+75.37	20.33	741.03	741.06
k	788+85.37	20.33	741.12	741.18
l	788+95.37	20.33	741.22	741.30
m	789+05.37	20.33	741.31	741.42
n	789+15.37	20.33	741.41	741.53
o	789+25.37	20.33	741.50	741.63
p	789+35.37	20.33	741.59	741.71
q	789+45.37	20.33	741.69	741.77
r	789+55.37	20.33	741.78	741.83
☒ Brg. N. Abut.	789+60.54	20.33	741.83	741.85
N. end of slab	789+61.37	20.33	741.84	741.86
Bk. of N. Abut.	789+62.37	20.33	741.85	741.87

(Sheet 2 of 2)

	USER NAME = nhc	DESIGNED - MTD	12/21	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	TOP OF SLAB ELEVATIONS (NB) STRUCTURE NO. 015-0078 (NB)		F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	ESCA PROJECT NO. 1343.08	CHECKED - SHL	02/22	REVISED -				57	(15-22HB-4)BR(15-22)R	COLES	1086	671
	PLOT SCALE	DRAWN - KAH	12/21	REVISED -				CONTRACT NO. 74435				
	PLOT DATE = 8/21/2024	CHECKED - MTD	01/22	REVISED -				SHEET 11 OF 41 SHEETS				ILLINOIS FED. AID PROJECT

SOUTH APPROACH SLAB (SB)

WEST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Aprpr.	787+41.44	-22.00	739.67	739.69
A1	787+51.44	-22.00	739.77	739.79
A2	787+61.44	-22.00	739.86	739.88
N. end of S. Aprpr.	787+71.44	-22.00	739.96	739.98

WEST EDGE OF ROADWAY

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Aprpr.	787+41.44	-12.00	739.87	739.89
A1	787+51.44	-12.00	739.97	739.99
A2	787+61.44	-12.00	740.06	740.08
N. end of S. Aprpr.	787+71.44	-12.00	740.16	740.18

CENTERLINE SBL & P.G.

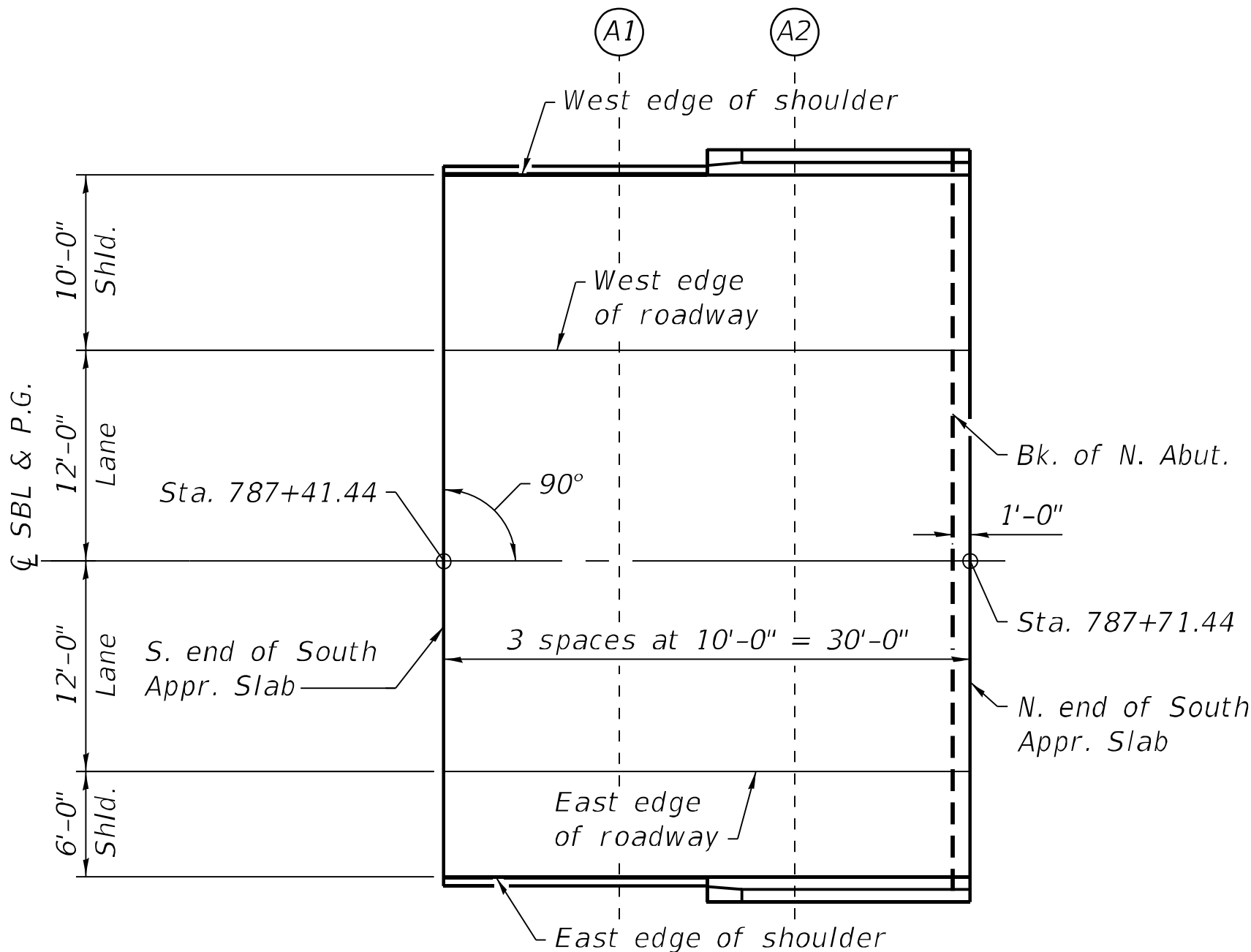
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Aprpr.	787+41.44	0.00	740.05	740.07
A1	787+51.44	0.00	740.15	740.17
A2	787+61.44	0.00	740.24	740.26
N. end of S. Aprpr.	787+71.44	0.00	740.34	740.36

EAST EDGE OF ROADWAY

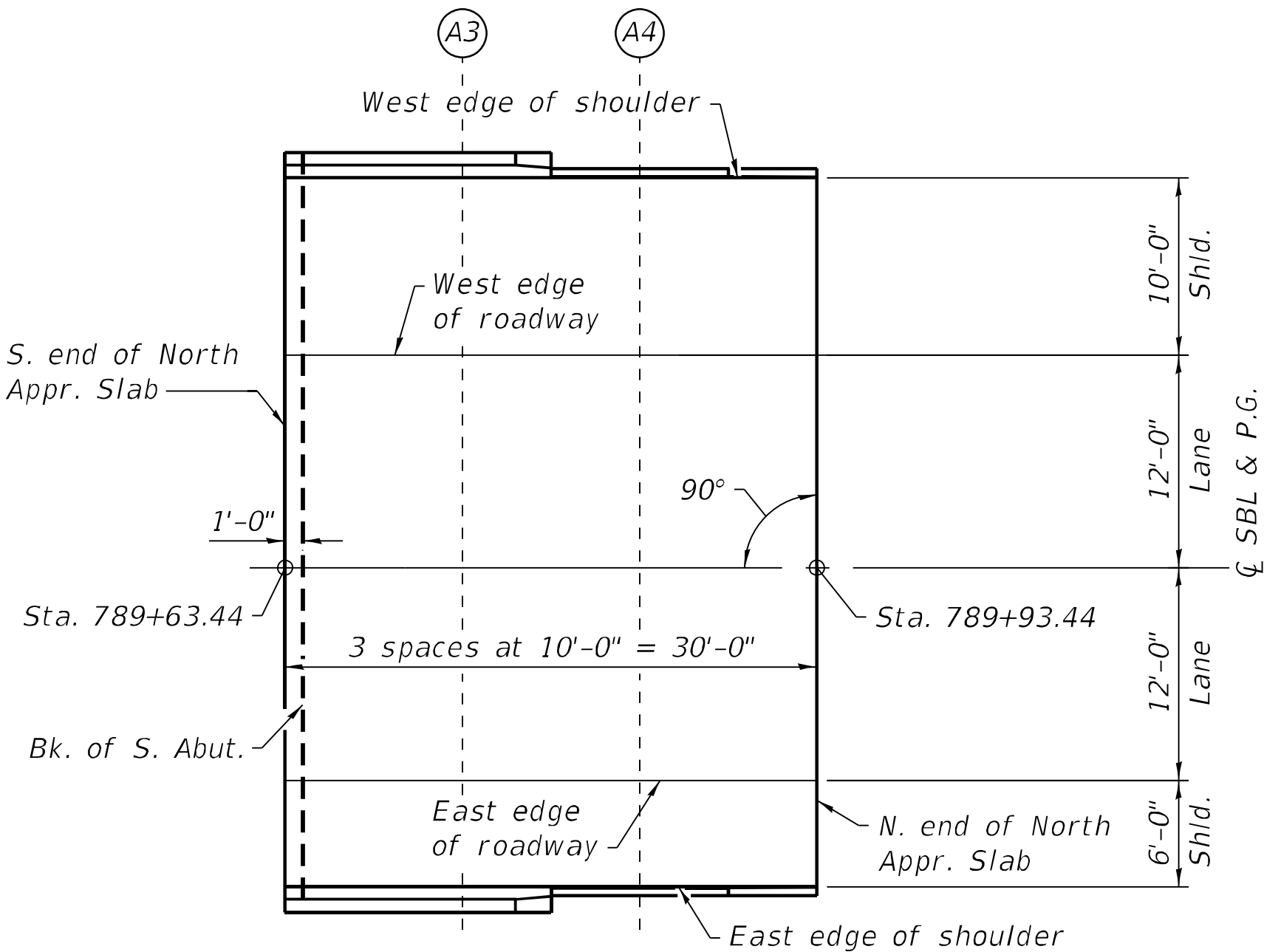
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Aprpr.	787+41.44	12.00	739.87	739.89
A1	787+51.44	12.00	739.97	739.99
A2	787+61.44	12.00	740.06	740.08
N. end of S. Aprpr.	787+71.44	12.00	740.16	740.18

EAST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Aprpr.	787+41.44	18.00	739.75	739.77
A1	787+51.44	18.00	739.85	739.87
A2	787+61.44	18.00	739.94	739.96
N. end of S. Aprpr.	787+71.44	18.00	740.04	740.06



SOUTH APPROACH SLAB PLAN (SB)



NORTH APPROACH SLAB PLAN (SB)

NORTH APPROACH SLAB (SB)

WEST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Aprpr.	789+63.44	-22.00	741.78	741.80
A3	789+73.44	-22.00	741.87	741.89
A4	789+83.44	-22.00	741.97	741.99
N. end of N. Aprpr.	789+93.44	-22.00	742.06	742.08

WEST EDGE OF ROADWAY

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Aprpr.	789+63.44	-12.00	741.98	742.00
A3	789+73.44	-12.00	742.07	742.09
A4	789+83.44	-12.00	742.17	742.19
N. end of N. Aprpr.	789+93.44	-12.00	742.26	742.28

CENTERLINE SBL & P.G.

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Aprpr.	789+63.44	0.00	742.16	742.18
A3	789+73.44	0.00	742.25	742.27
A4	789+83.44	0.00	742.35	742.37
N. end of N. Aprpr.	789+93.44	0.00	742.44	742.46

EAST EDGE OF ROADWAY

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Aprpr.	789+63.44	12.00	741.98	742.00
A3	789+73.44	12.00	742.07	742.09
A4	789+83.44	12.00	742.17	742.19
N. end of N. Aprpr.	789+93.44	12.00	742.26	742.28

EAST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Aprpr.	789+63.44	18.00	741.86	741.88
A3	789+73.44	18.00	741.95	741.97
A4	789+83.44	18.00	742.05	742.07
N. end of N. Aprpr.	789+93.44	18.00	742.14	742.16

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USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - SHL 02/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS (SB)
STRUCTURE NO. 015-0079 (SB)

SHEET 12 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	672
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

SOUTH APPROACH SLAB (NB)

WEST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Aprpr.	787+39.37	-18.00	739.79	739.81
A1	787+49.37	-18.00	739.89	739.91
A2	787+59.37	-18.00	739.98	740.00
N. end of S. Aprpr.	787+69.37	-18.00	740.08	740.10

WEST EDGE OF ROADWAY

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Aprpr.	787+39.37	-12.00	739.91	739.93
A1	787+49.37	-12.00	740.01	740.03
A2	787+59.37	-12.00	740.10	740.12
N. end of S. Aprpr.	787+69.37	-12.00	740.20	740.22

CENTERLINE NBL & P.G.

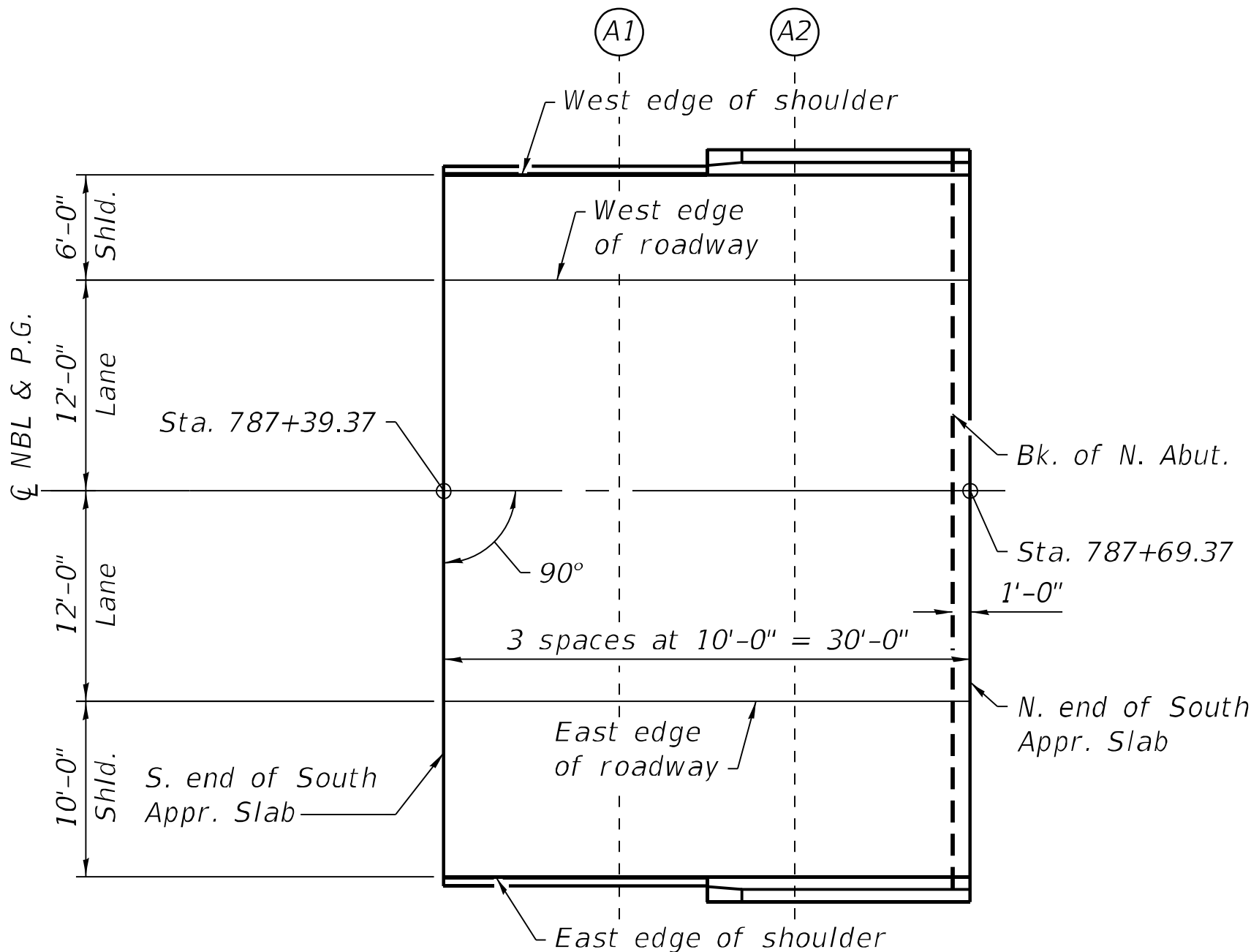
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Aprpr.	787+39.37	0.00	740.09	740.11
A1	787+49.37	0.00	740.19	740.21
A2	787+59.37	0.00	740.28	740.30
N. end of S. Aprpr.	787+69.37	0.00	740.38	740.40

EAST EDGE OF ROADWAY

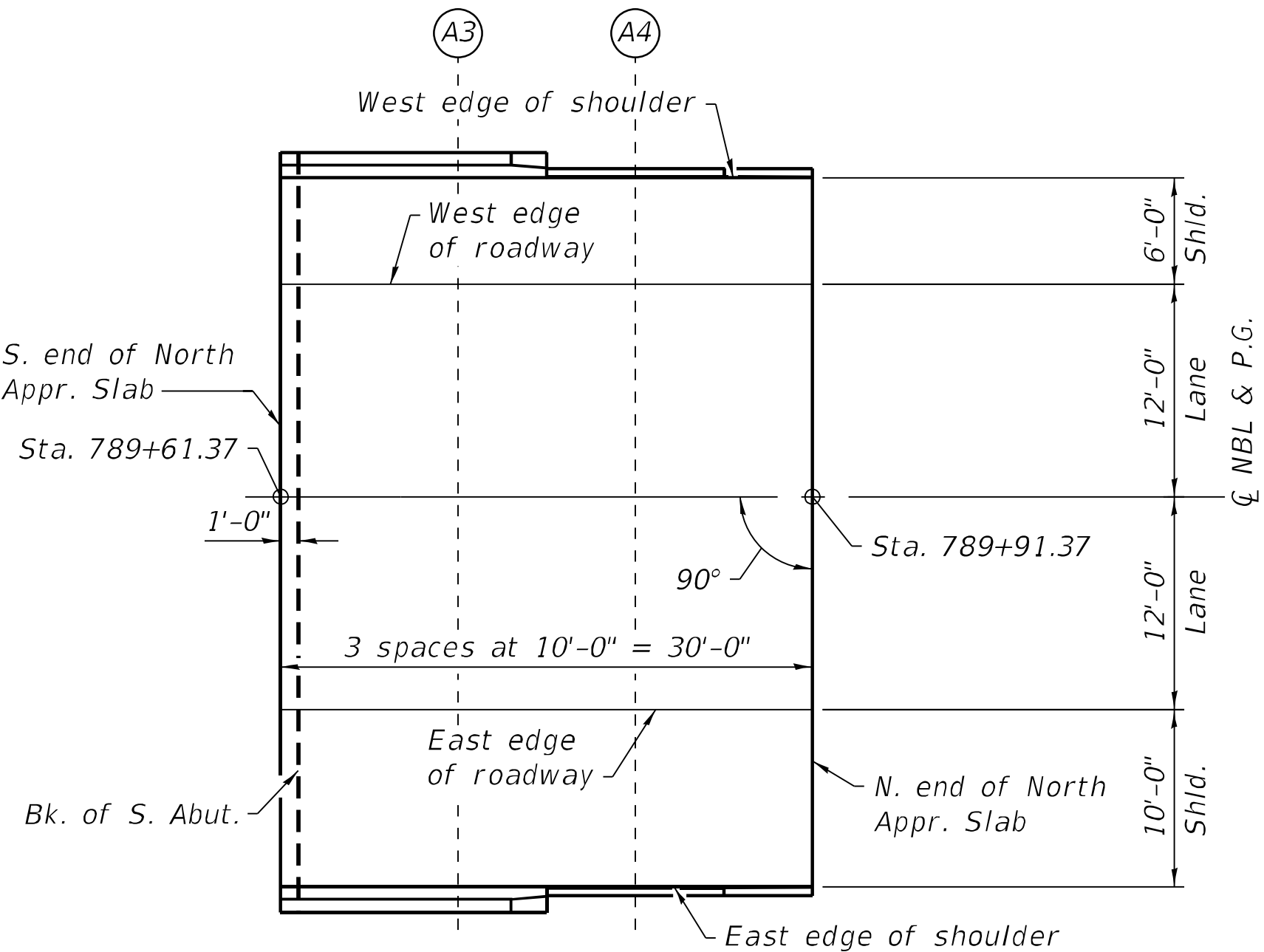
Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Aprpr.	787+39.37	12.00	739.91	739.93
A1	787+49.37	12.00	740.01	740.03
A2	787+59.37	12.00	740.10	740.12
N. end of S. Aprpr.	787+69.37	12.00	740.20	740.22

EAST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of S. Aprpr.	787+39.37	22.00	739.71	739.73
A1	787+49.37	22.00	739.81	739.83
A2	787+59.37	22.00	739.90	739.92
N. end of S. Aprpr.	787+69.37	22.00	740.00	740.02



SOUTH APPROACH SLAB PLAN (NB)



NORTH APPROACH SLAB PLAN (NB)

NORTH APPROACH SLAB (NB)

WEST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Aprpr.	789+61.37	-18.00	741.89	741.91
A3	789+71.37	-18.00	741.98	742.00
A4	789+81.37	-18.00	742.07	742.09
N. end of N. Aprpr.	789+91.37	-18.00	742.17	742.19

WEST EDGE OF ROADWAY

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Aprpr.	789+61.37	-12.00	742.01	742.03
A3	789+71.37	-12.00	742.10	742.12
A4	789+81.37	-12.00	742.19	742.21
N. end of N. Aprpr.	789+91.37	-12.00	742.29	742.31

CENTERLINE NBL & P.G.

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Aprpr.	789+61.37	0.00	742.19	742.21
A3	789+71.37	0.00	742.28	742.30
A4	789+81.37	0.00	742.37	742.39
N. end of N. Aprpr.	789+91.37	0.00	742.47	742.49

EAST EDGE OF ROADWAY

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Aprpr.	789+61.37	12.00	742.01	742.03
A3	789+71.37	12.00	742.10	742.12
A4	789+81.37	12.00	742.19	742.21
N. end of N. Aprpr.	789+91.37	12.00	742.29	742.31

EAST EDGE OF SHOULDER

Location	Station	Offset (ft.)	Theoretical Grade Elevations	Theoretical Grade Elevations Adjusted for Grinding
S. end of N. Aprpr.	789+61.37	22.00	741.81	741.83
A3	789+71.37	22.00	741.90	741.92
A4	789+81.37	22.00	741.99	742.01
N. end of N. Aprpr.	789+91.37	22.00	742.09	742.11

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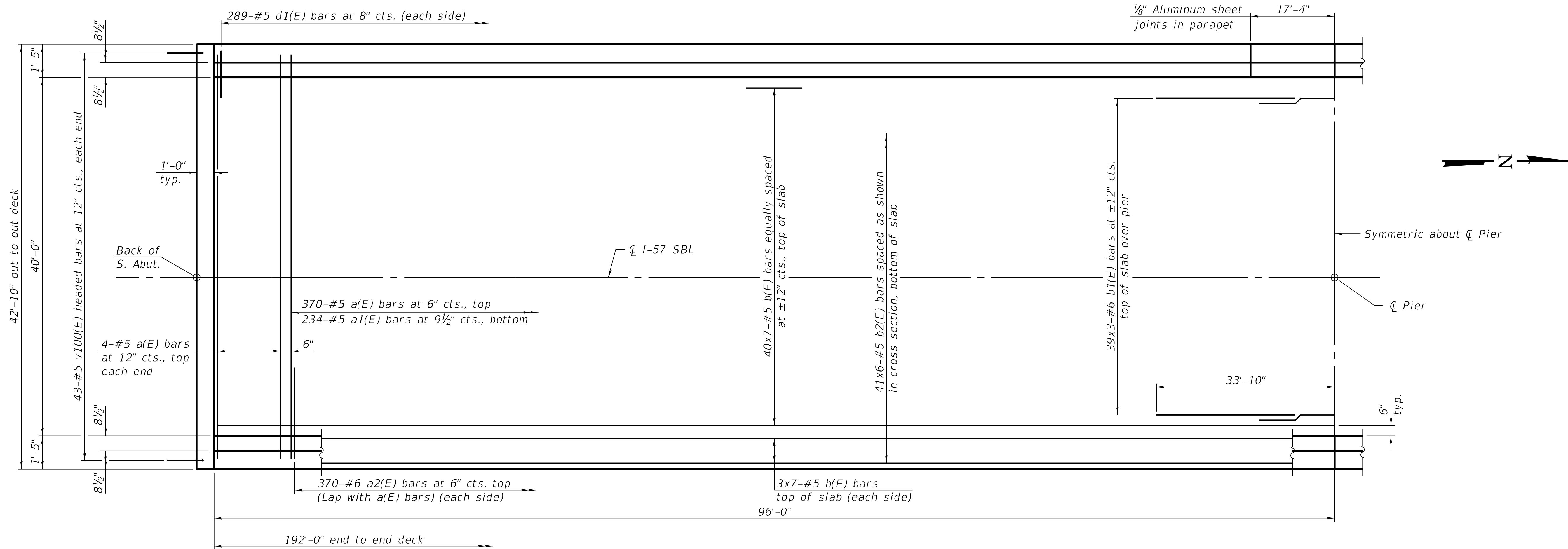
USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - SHL 02/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

TOP OF APPROACH SLAB ELEVATIONS (NB)
STRUCTURE NO. 015-0078 (NB)

SHEET 13 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	673
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

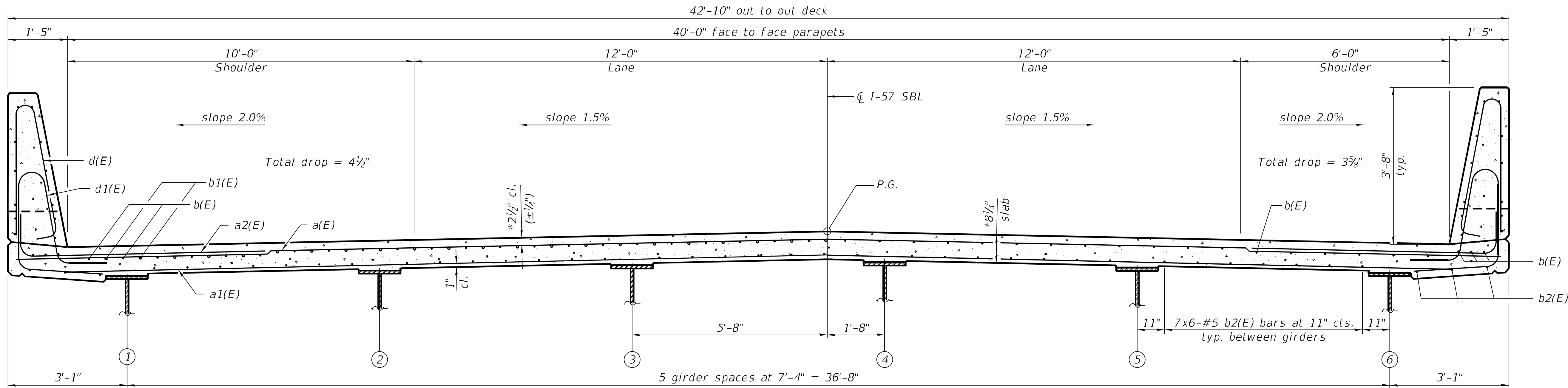


MINIMUM BAR LAP

#5 bar = 3'-6"
#6 bar = 3'-7"

PARTIAL PLAN

Notes:
See sheet 16 of 41 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.



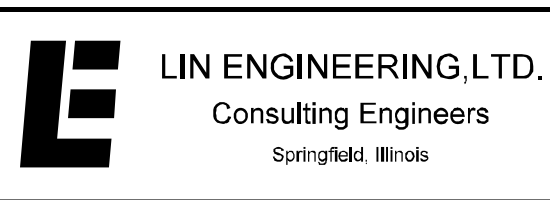
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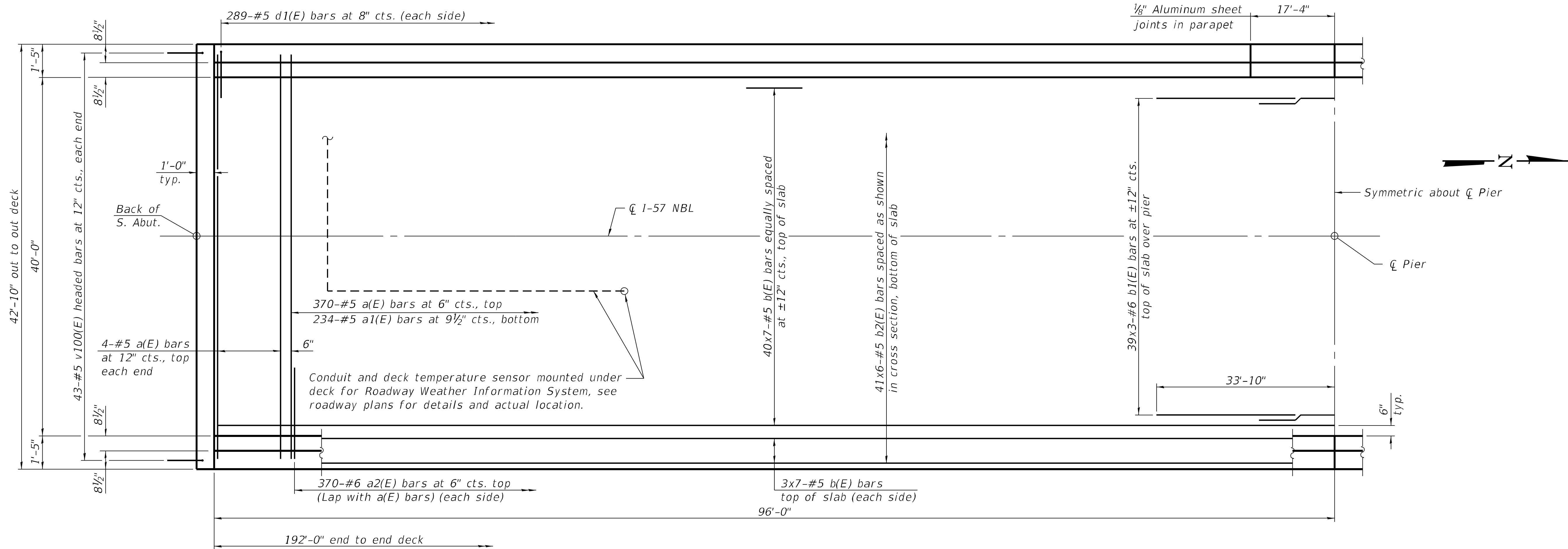
CROSS SECTION
(Looking North)

NEAR MIDSPAN

* Prior to grinding

MODEL: Default
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	USER NAME =	DESIGNED - AML	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE (SB) STRUCTURE NO. 015-0079 (SB)	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CHECKED - MTH	CHECKED - MTH	REVISED -			57	(15-22HB-4)BR(15-22)R	COLES	1086	674
	PLOT SCALE =	DRAWN - AJF	REVISED -			CONTRACT NO. 74435				
	PLOT DATE = 8/21/2024	CHECKED - MTH	REVISED -			ILLINOIS FED. AID PROJECT				

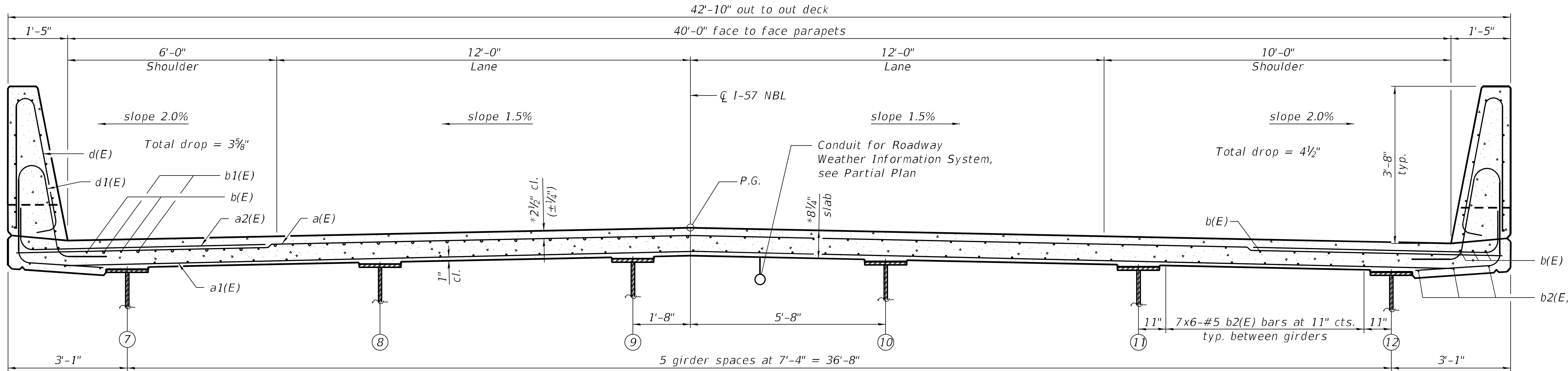


MINIMUM BAR LAP

#5 bar = 3'-6"
#6 bar = 3'-7"

PARTIAL PLAN

Notes:
See sheet 16 of 41 for superstructure details and Bill of Material.
Bars indicated thus 20 x 3-#5 etc. indicates 20 lines of bars with 3 lengths per line.



NEAR PIER

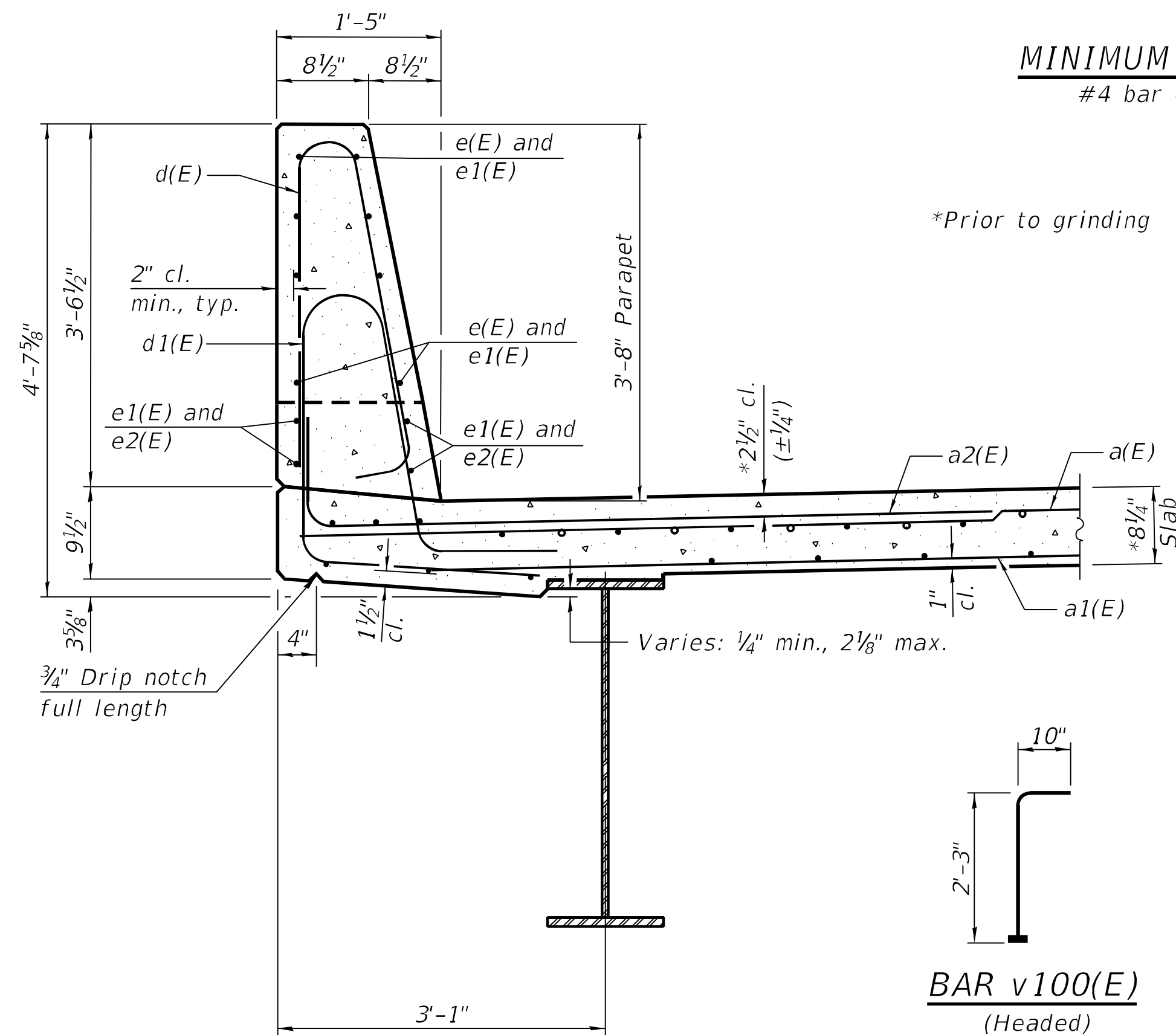
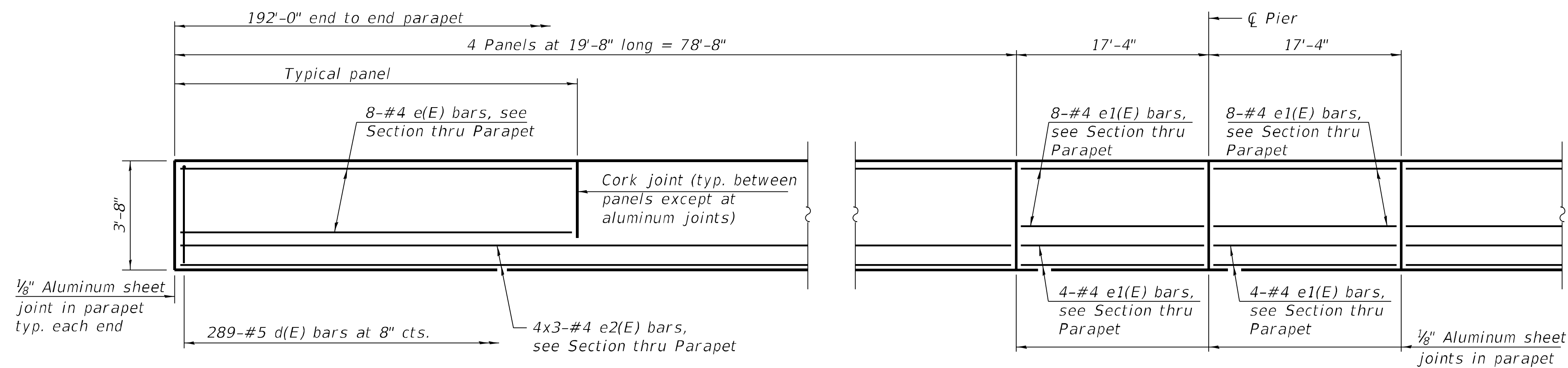
CROSS SECTION
(Looking North)

NEAR MIDSPAN

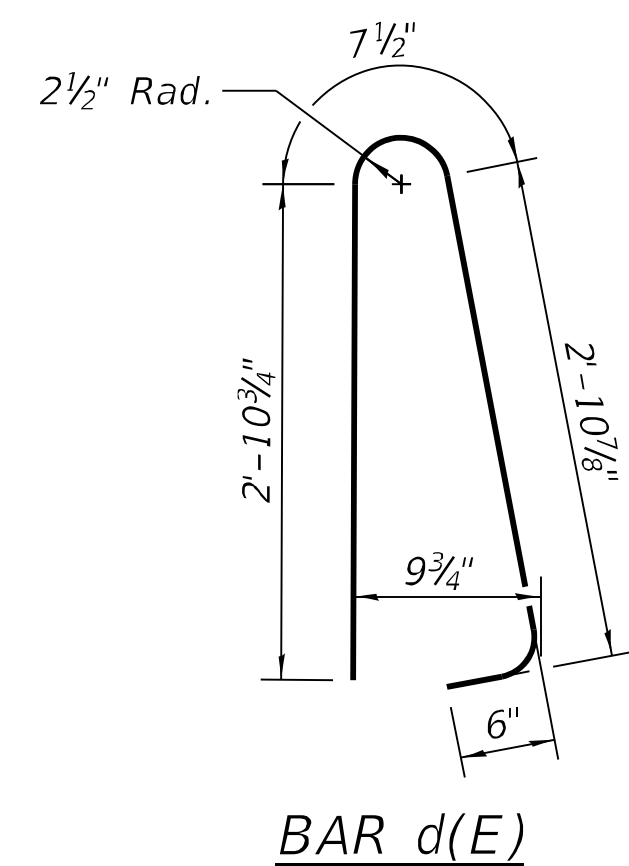
* Prior to grinding

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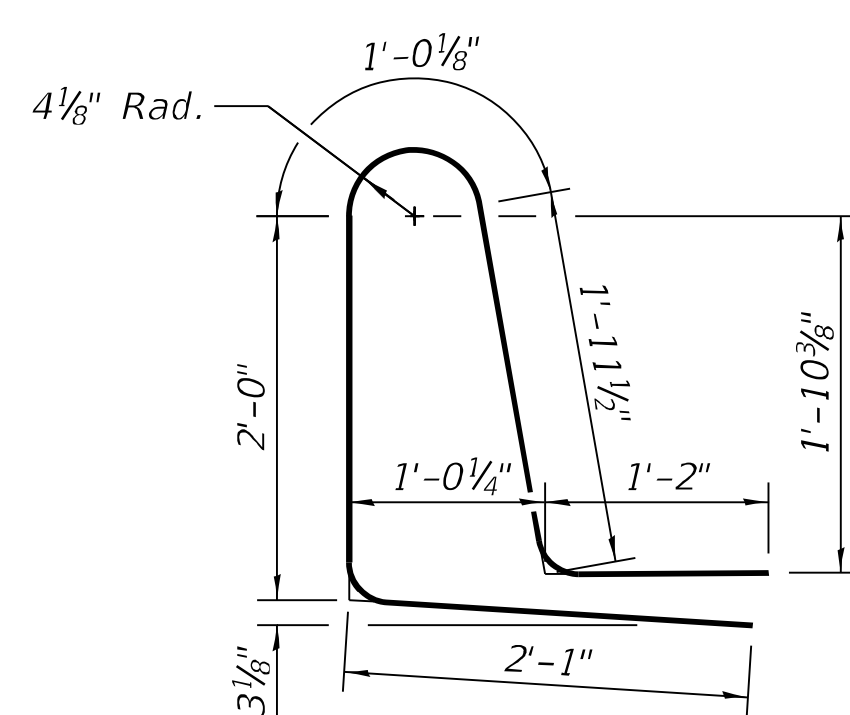
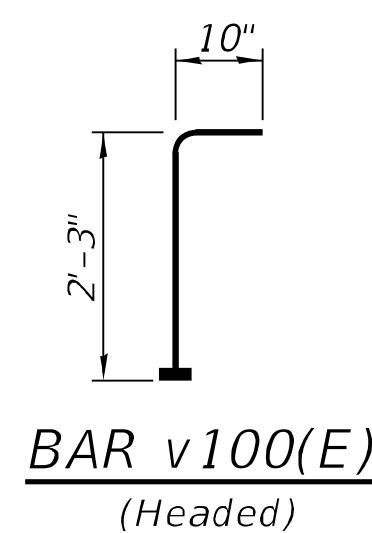
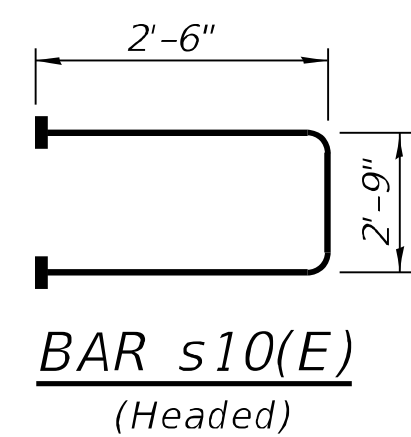
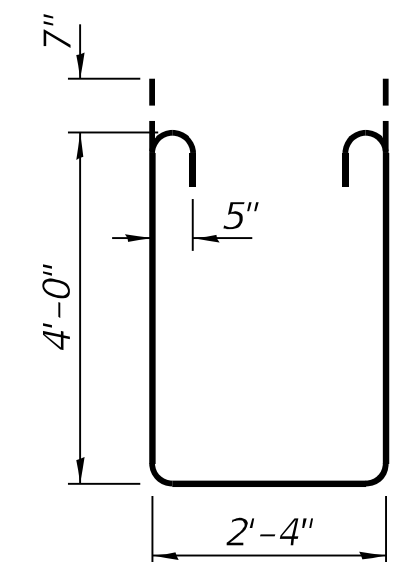
 LIN ENGINEERING, LTD. Consulting Engineers Springfield, Illinois	USER NAME =	DESIGNED - AML	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUPERSTRUCTURE (NB) STRUCTURE NO. 015-0078 (NB)	SHEET 15 OF 41 SHEETS	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	CHECKED - MTH	CHECKED - MTH	REVISED -				57	(15-22HB-4)BR(15-22)R	COLES	1086	675
	PLOT SCALE =	DRAWN - AJF	REVISED -				CONTRACT NO. 74435				
	PLOT DATE = 8/21/2024	CHECKED - MTH	REVISED -				ILLINOIS FED. AID PROJECT				



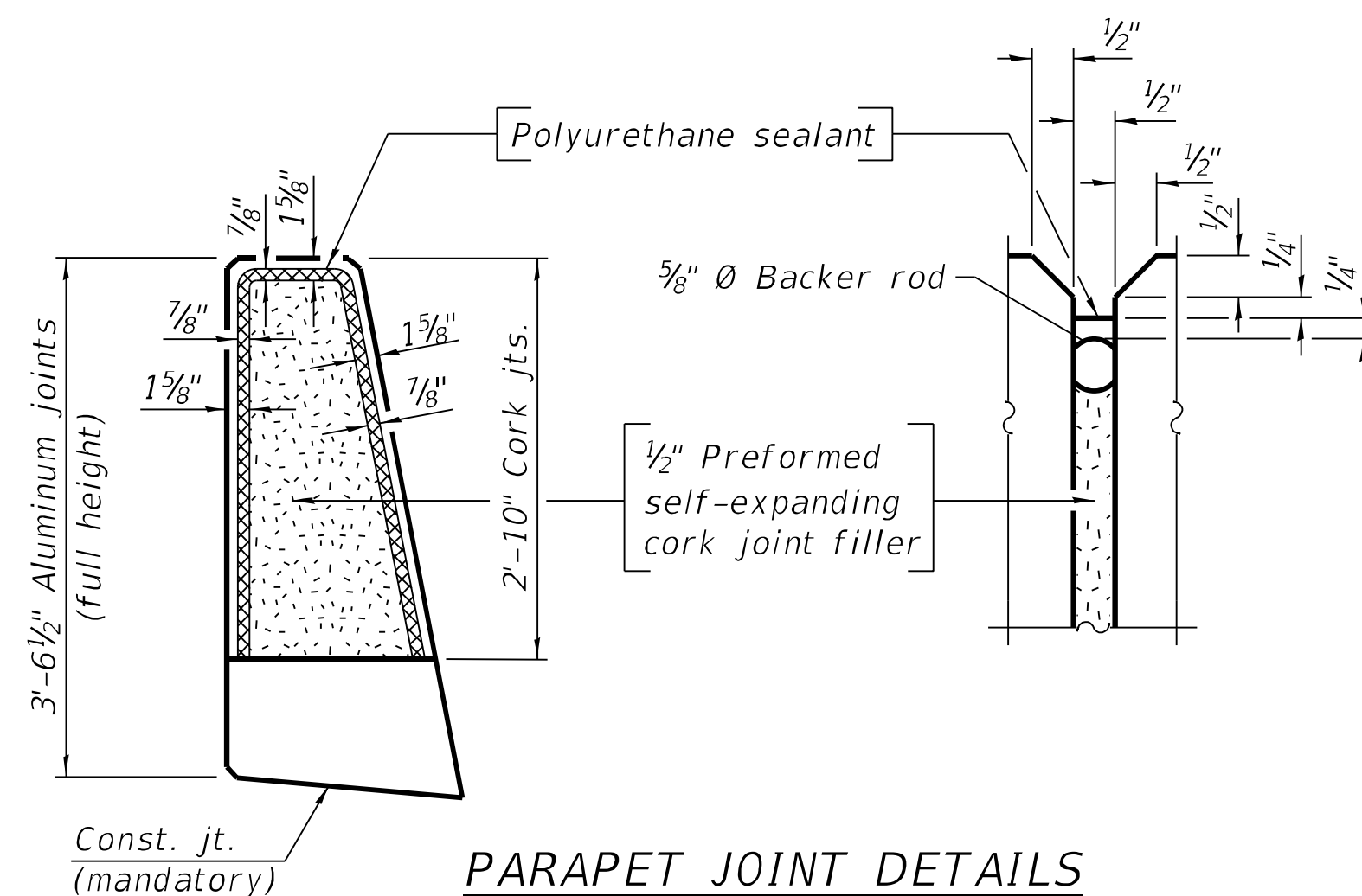
SECTION THRU PARAPET



BAR $d(E)$

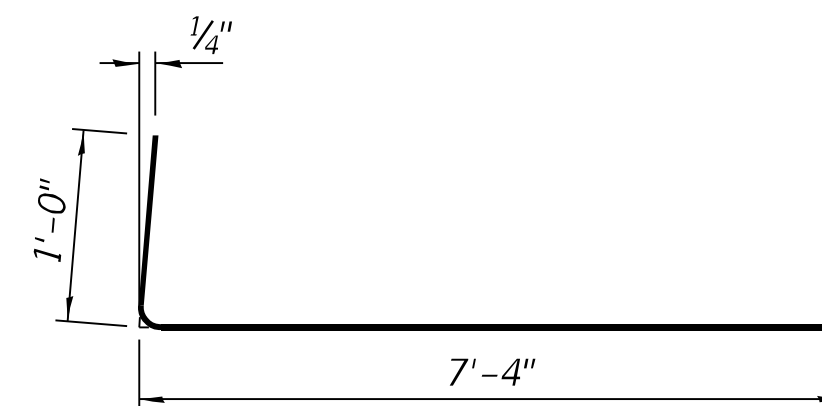

$$\underline{BAR \ d1(E)}$$

$$\frac{BAR \ v100(E)}{(Headed)}$$

$$\frac{BAR \ s10(E)}{(Headed)}$$


BAR s11(E)



PARAPET JOINT DETAILS

INSIDE ELEVATION OF PARAPET



BAR a2(E)

Notes:

The 1/8" aluminum sheet shall be ASTM B 209 alloy 3003-H14 and coated to minimize reaction with wet concrete. Cost included with Concrete Superstructure.

The polyurethane sealant shall be according to Article 1050.04 of the Std. Spec. and the color shall be gray.

Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.

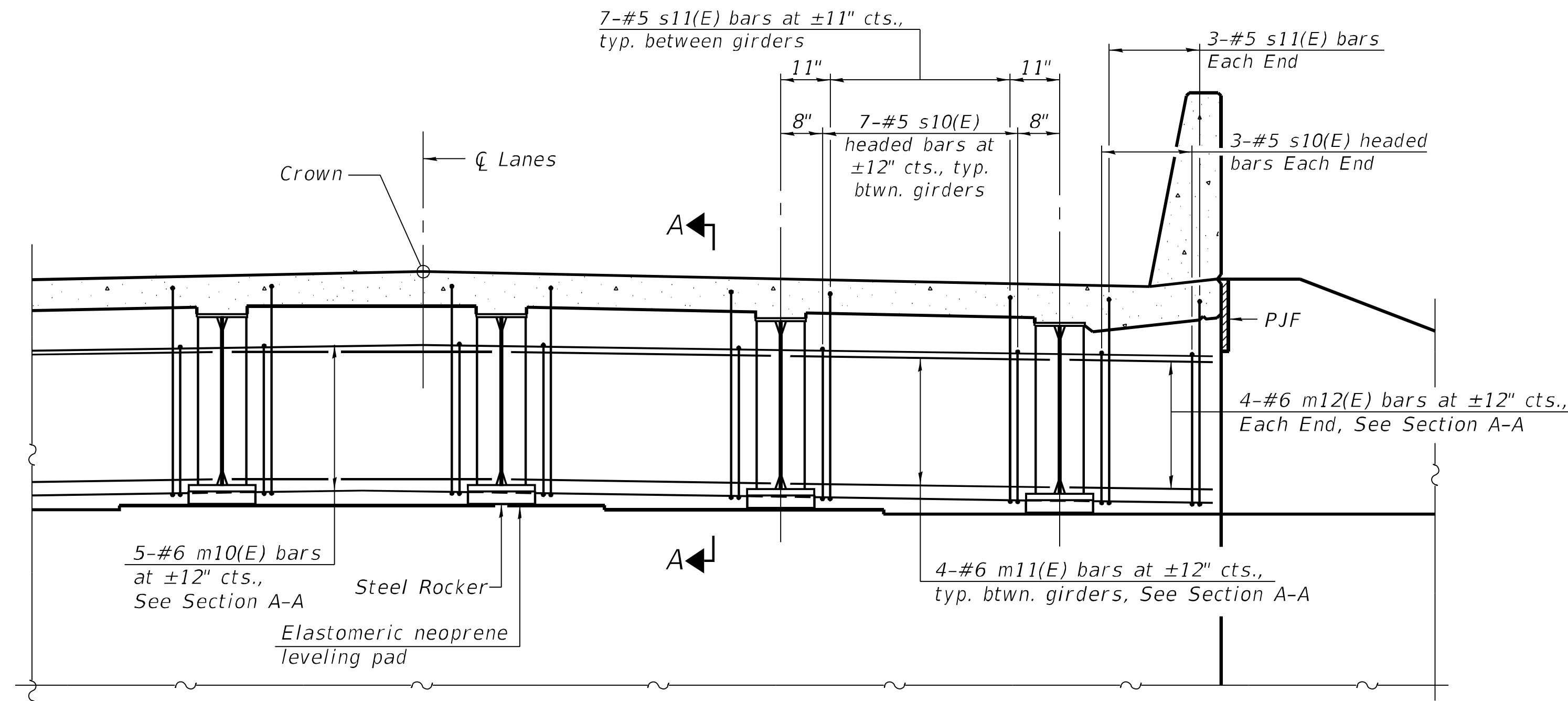
Bars indicated thus 1x2-#4 etc. indicates 1 line of bars with 2 lengths per line.

SOUTHBOUND (SB)
SUPERSTRUCTURE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	378	#5	42'-6"	—
a1(E)	234	#5	41'-6"	—
a2(E)	740	#6	8'-4"	L
b(E)	322	#5	30'-6"	—
b1(E)	117	#6	25'-0"	—
b2(E)	246	#5	34'-11"	—
d(E)	578	#5	7'-0"	⏏
d1(E)	578	#5	8'-3"	⏏
e(E)	128	#4	19'-4"	—
e1(E)	48	#4	17'-0"	—
e2(E)	48	#4	27'-9"	—
m10(E)	10	#6	42'-6"	—
m11(E)	40	#6	7'-0"	—
m12(E)	16	#6	2'-9"	—
s10(E)	82	#5	7'-9"	⏏
s11(E)	82	#5	11'-6"	⏏
v100(E)	86	#5	3'-1"	L
Reinforcement Bars, Epoxy Coated			Lbs.	75,080
Concrete Superstructure			Cu. Yds.	321.1

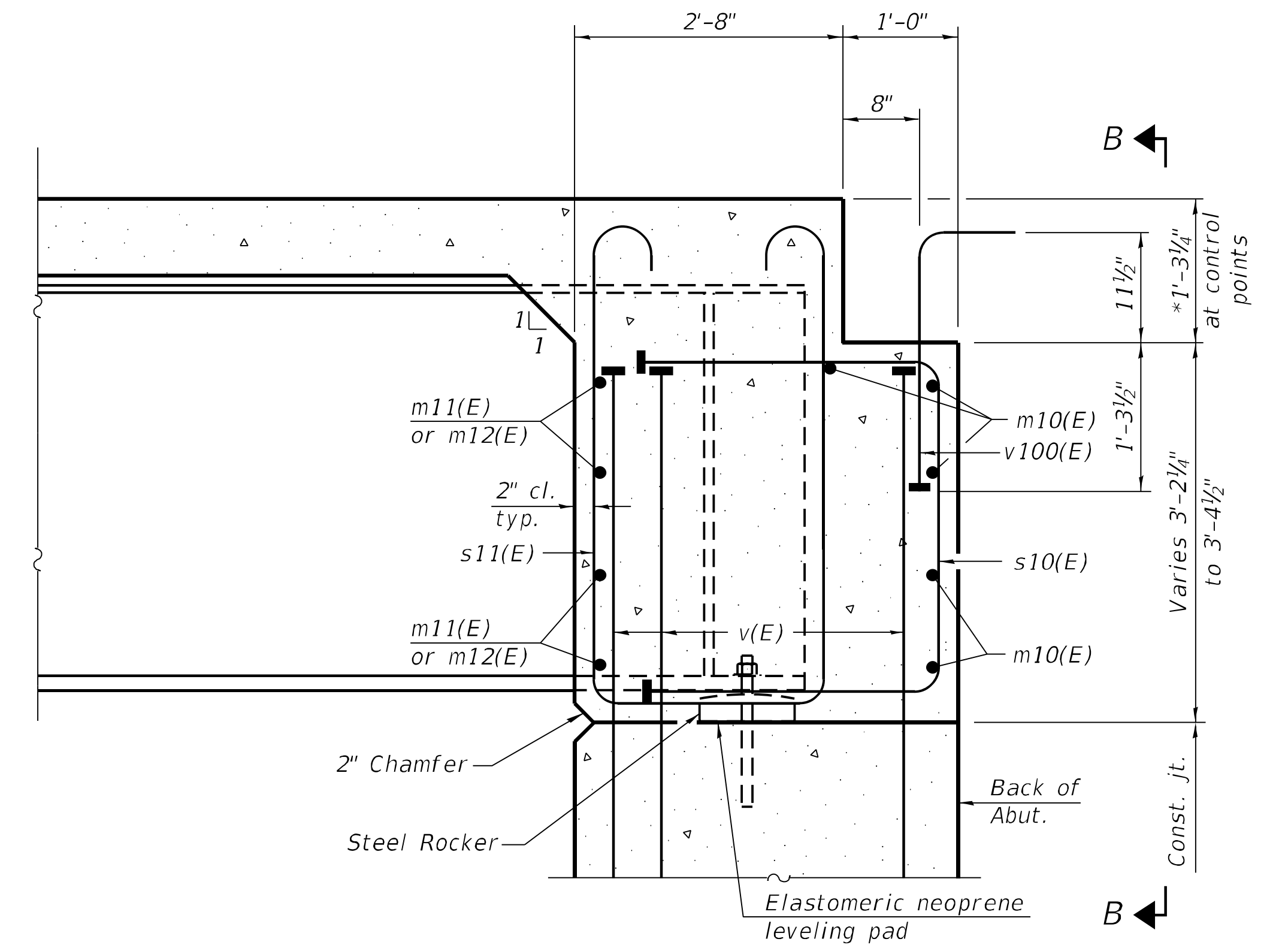
NORTHBOUND (NB)
SUPERSTRUCTURE
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a(E)	378	#5	42'-6"	=====
a1(E)	234	#5	41'-6"	=====
a2(E)	740	#6	8'-4"	=====
b(E)	322	#5	30'-6"	=====
b1(E)	117	#6	25'-0"	=====
b2(E)	246	#5	34'-11"	=====
d(E)	578	#5	7'-0"	=====
d1(E)	578	#5	8'-3"	=====
e(E)	128	#4	19'-4"	=====
e1(E)	48	#4	17'-0"	=====
e2(E)	48	#4	27'-9"	=====
m10(E)	10	#6	42'-6"	=====
m11(E)	40	#6	7'-0"	=====
m12(E)	16	#6	2'-9"	=====
s10(E)	82	#5	7'-9"	=====
s11(E)	82	#5	11'-6"	=====
v100(E)	86	#5	3'-1"	=====
Reinforcement Bars, Epoxy Coated			Lbs.	75,080
Concrete Superstructure			Cu. Yds.	321.1

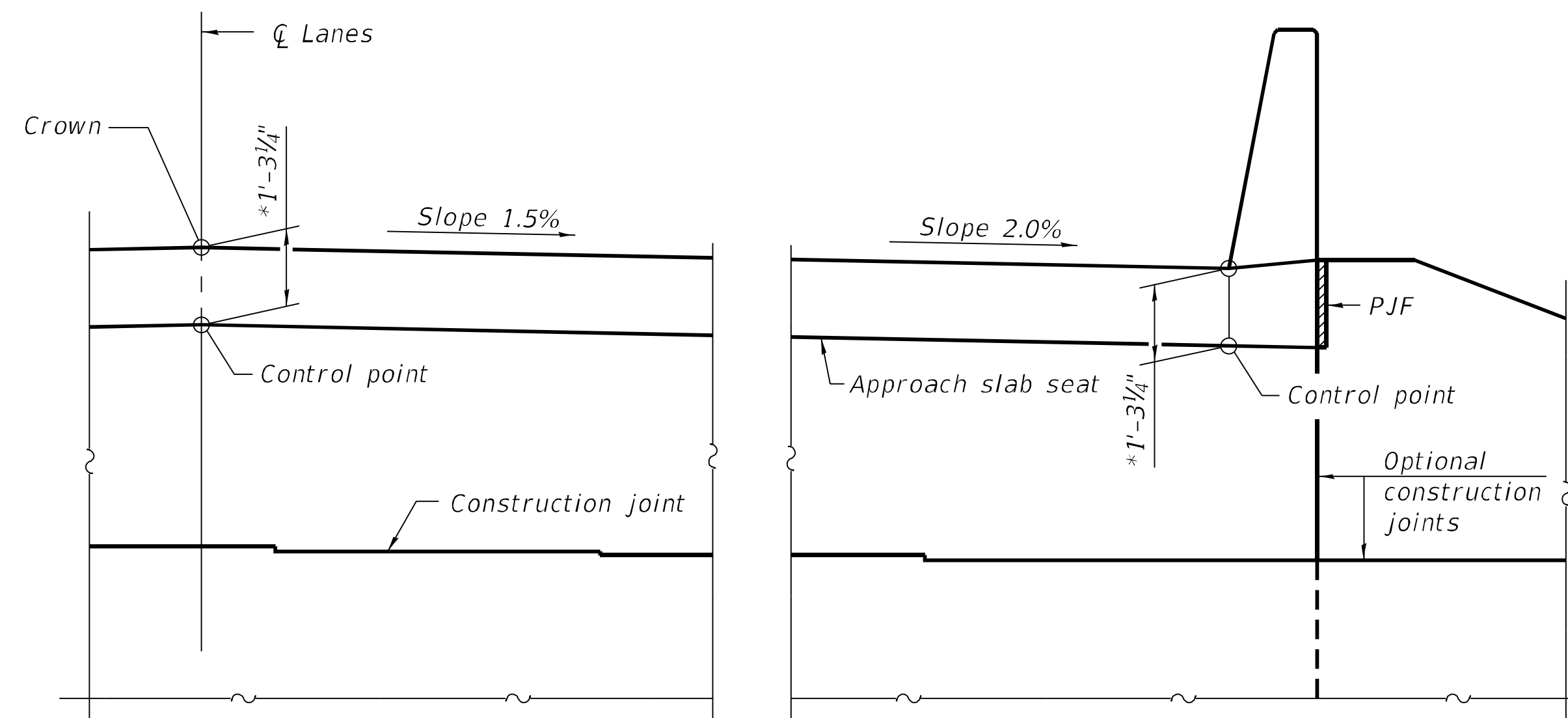


DIAPHRAGM AT ABUTMENT

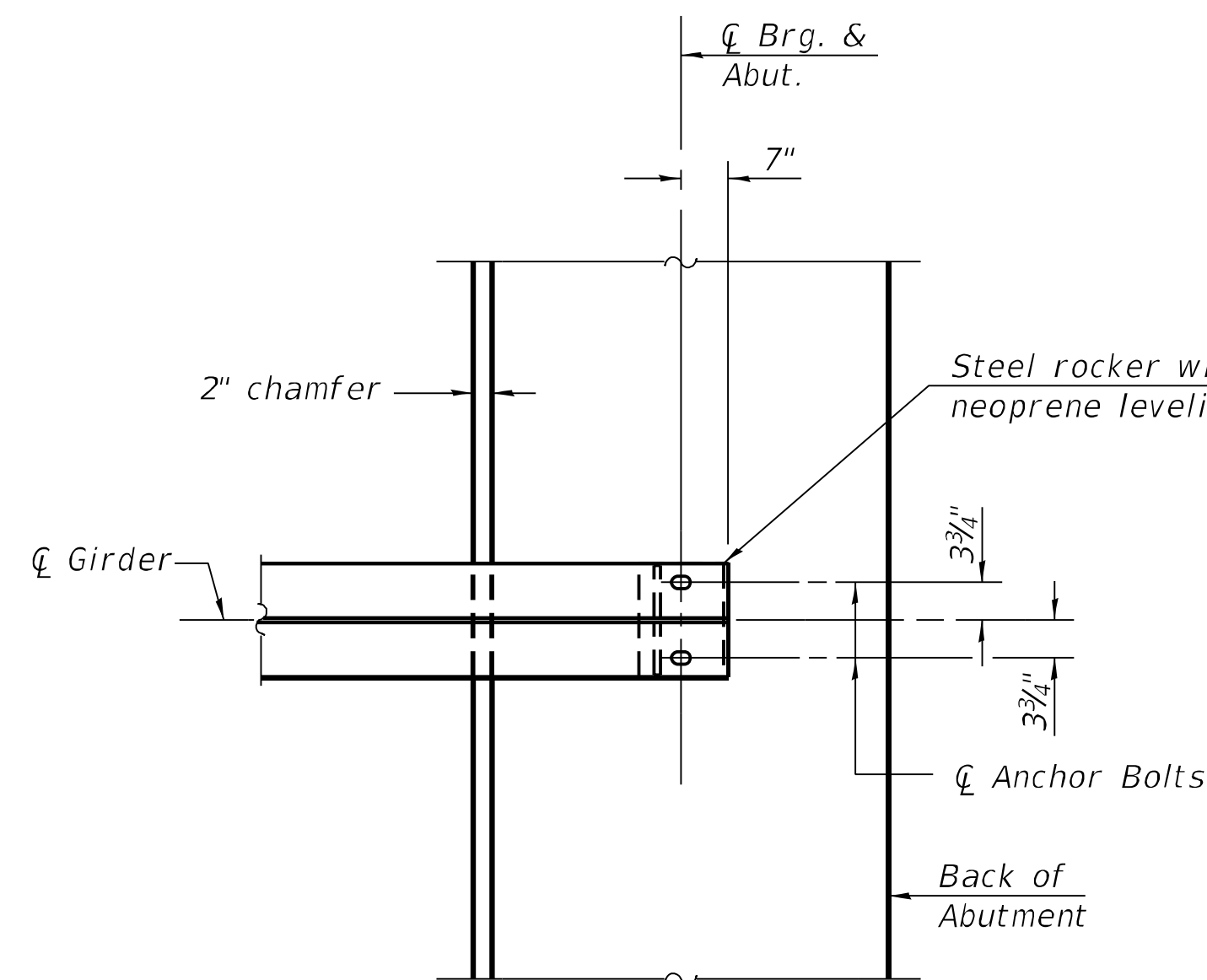
* Prior to grinding



SECTION A-A



VIEW B-B



PLAN AT ABUTMENT

(Showing bottom flange of girder)

Notes:
See sheet 16 of 41 for superstructure details and Bill of Material.
See sheet 18 or 19 of 41 for PJF details.
The approach slab seat shall have a constant slope determined from the control points shown.

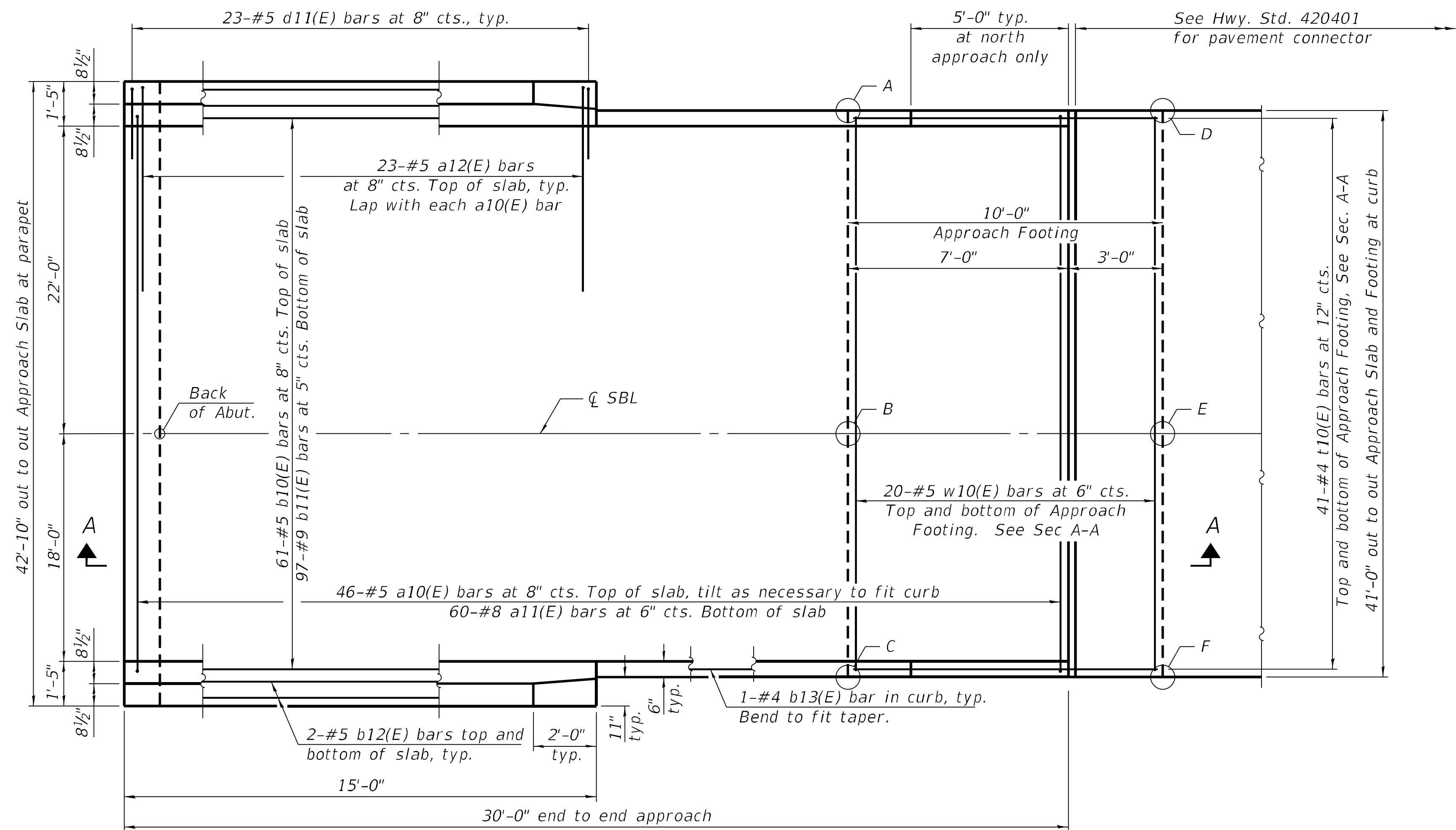
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

DIAPHRAGM DETAILS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 17 OF 41 SHEETS

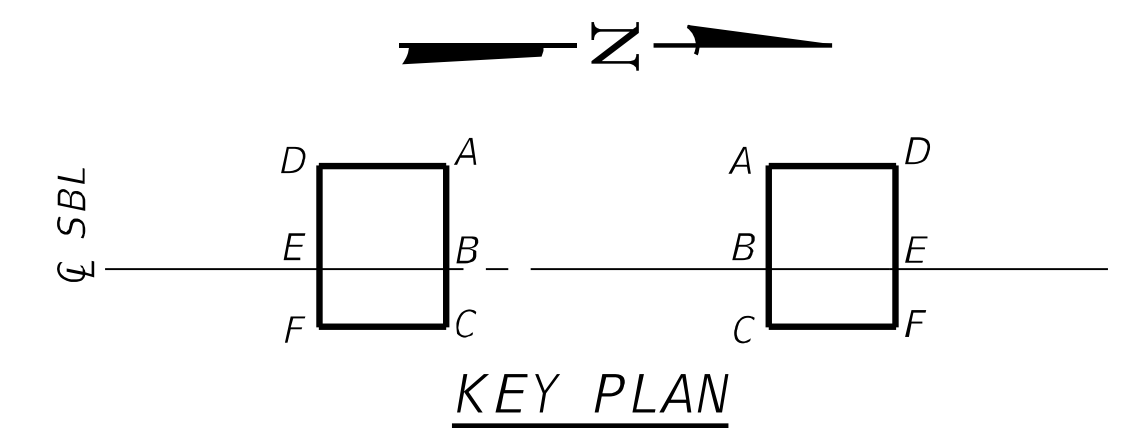
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	677
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

USER NAME =	DESIGNED - AML	REVISED -
CHECKED - MTH	REVISED -	
PLOT SCALE =	DRAWN - AJF	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTH	REVISED -



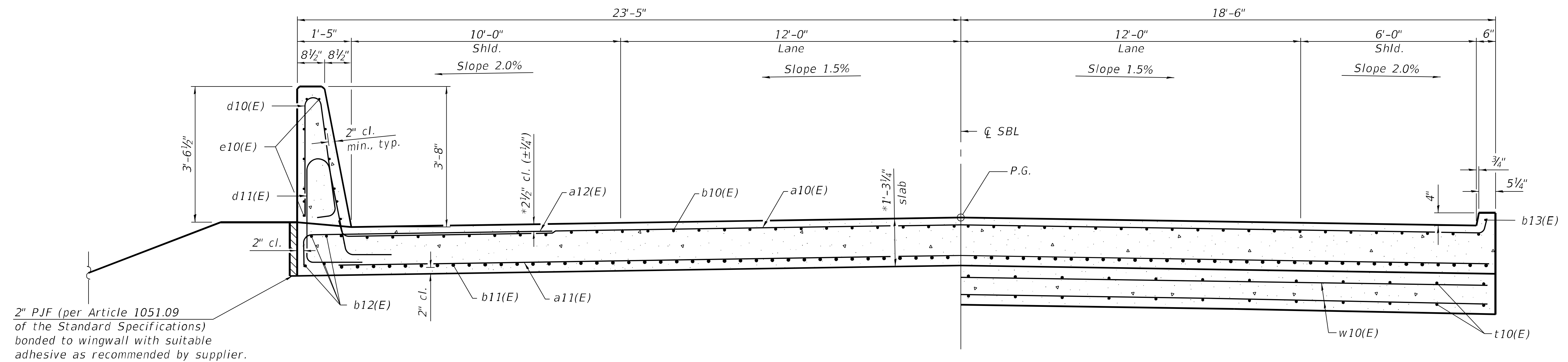
Note:
See sheet 20 of 41 for Section A-A, Bill of Material
and additional details.

TOP AND BOTTOM ELEVATIONS
FOR APPROACH FOOTING (SB)



PLAN

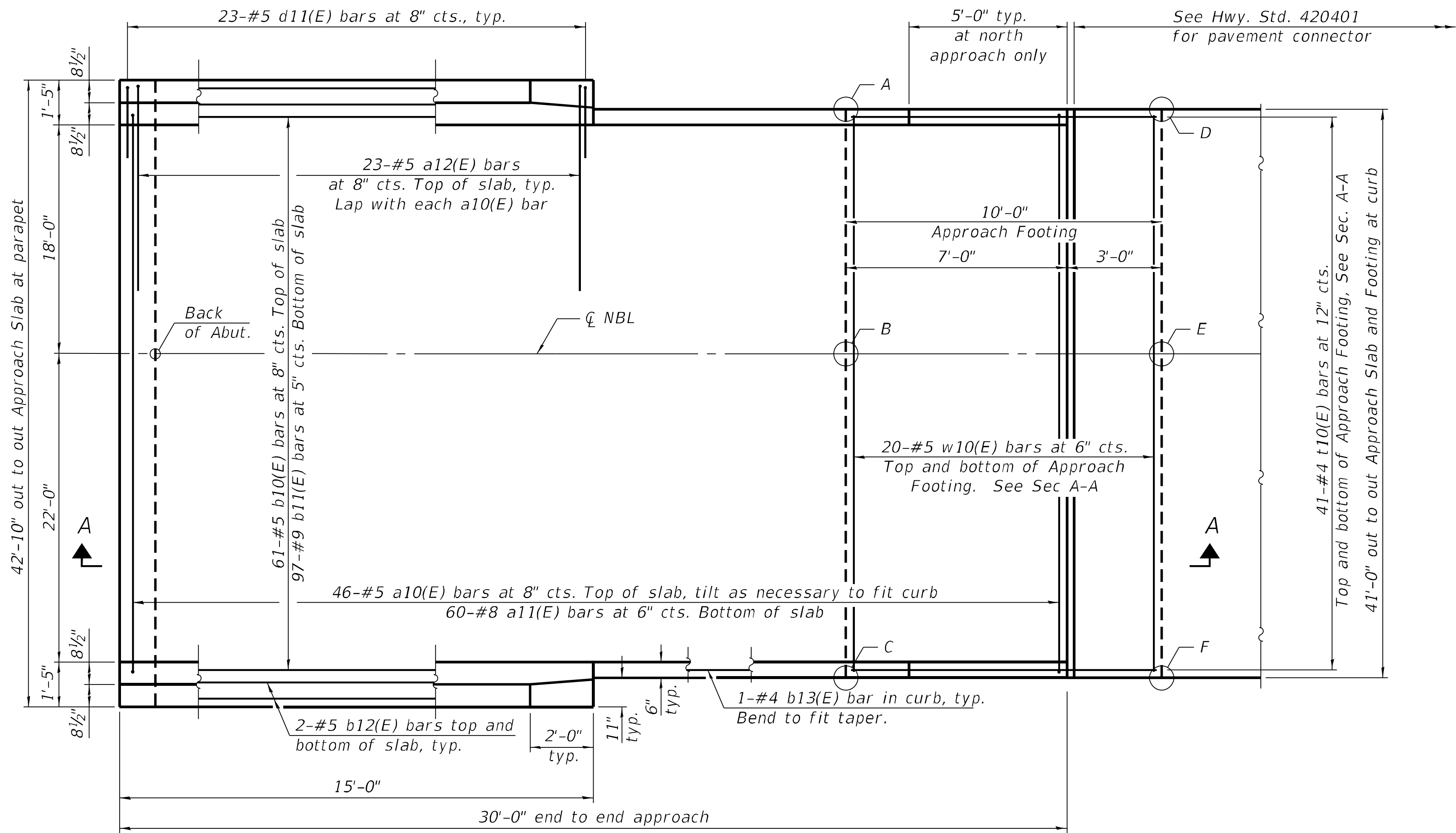
(North approach slab shown; South approach slab similar by opposite hand)



NEAR ABUTMENT

CROSS SECTION
(Looking North)

AT APPROACH FOOTING



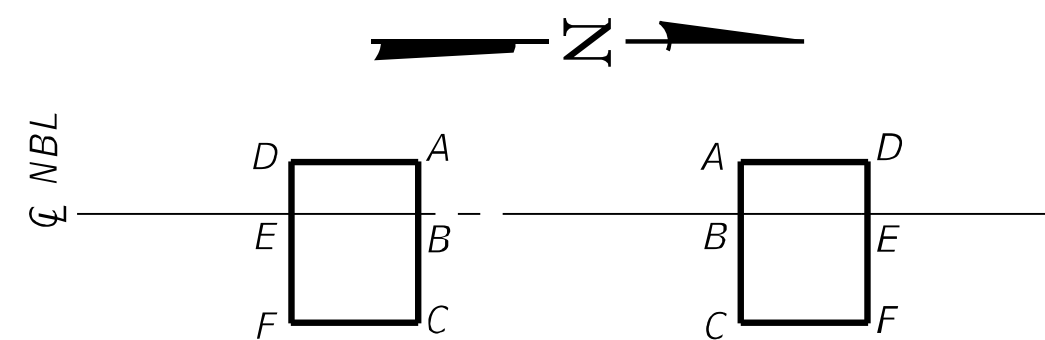
PLAN

(North approach slab shown; South approach slab similar by opposite hand)

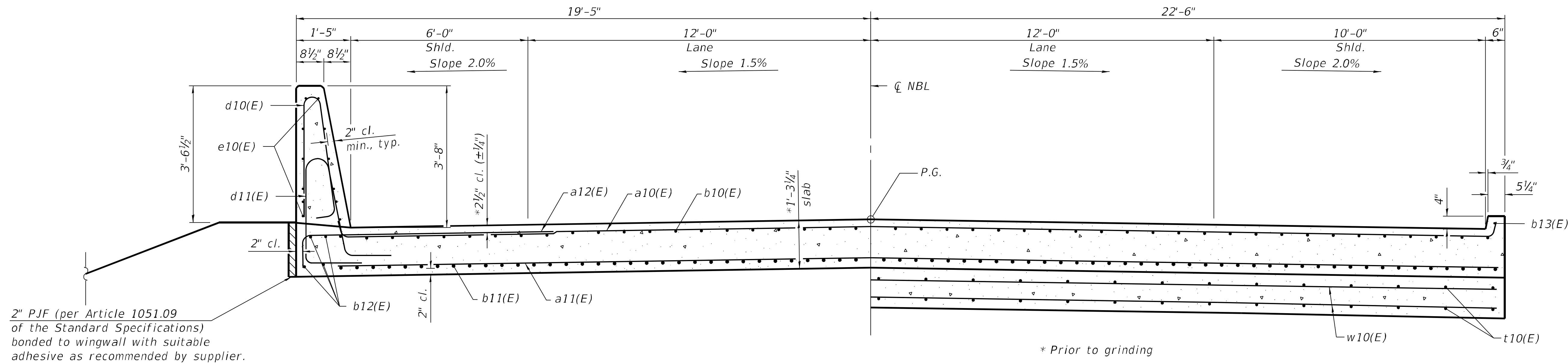
Note:
See sheet 20 of 41 for Section A-A, Bill of Material
and additional details.

TOP AND BOTTOM ELEVATIONS
FOR APPROACH FOOTING (NB)

South Approach			North Approach		
Point/ Location	Top	Bottom	Point/ Location	Top	Bottom
A	738.60	737.77	A	740.84	740.01
B	738.91	738.08	B	741.15	740.32
C	738.52	737.69	C	740.76	739.93
D	738.51	737.68	D	740.94	740.11
E	738.82	737.99	E	741.25	740.42
F	738.43	737.60	F	740.86	740.03



KEY PLAN



NEAR ABUTMENT

CROSS SECTION
(Looking North)

AT APPROACH FOOTING

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

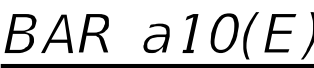
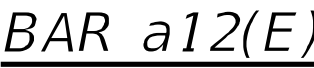
BRIDGE APPROACH SLAB (NB)
STRUCTURE NO. 015-0078 (NB)

SHEET 19 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	679
CONTRACT NO. 74435				

ILLINOIS FED. AID PROJECT

USER NAME =	DESIGNED - AML	REVISED -
PLOT SCALE =	CHECKED - MTH	REVISED -
PLOT DATE = 8/21/2024	DRAWN - AJF	REVISED -
	CHECKED - MTH	REVISED -



Notes:

The joint opening shall be adjusted for temperature per Article 520.04 of the Standard Specifications. However, since this detail is for jointless structures, the length of bridge used to calculate the adjustment shall be equal to half the total bridge length plus the length of the bridge approach slab.

Parapet concrete shall be paid for as Concrete Superstructure.

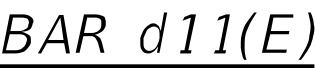
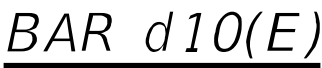
Approach slab shall be paid for as Concrete Superstructure (Approach Slab)

Approach footing concrete shall be paid for as Concrete Structures.

The approach footing maximum applied service bearing pressure (Q_{max}) = 2.0 ksf.

Cost of excavation for approach footing included with Concrete Structures.

For Granular Backfill for Structures and drainage treatment details, see sheet 2 of 41.



SOUTHBOUND (SB)
TWO APPROACHES
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
a10(E)	92	#5	41'-5"	
a11(E)	120	#8	40'-8"	
a12(E)	92	#5	7'-4"	
b10(E)	122	#5	29'-8"	
b11(E)	194	#9	29'-8"	
b12(E)	16	#5	14'-8"	
b13(E)	4	#4	14'-8"	
d10(E)	92	#5	7'-0"	
d11(E)	92	#5	8'-6"	
e10(E)	48	#4	14'-8"	
t10(E)	164	#4	9'-8"	
w10(E)	80	#5	40'-8"	
Concrete Superstructure			Cu. Yd.	8.4
Concrete Superstructure (Approach Slab)			Cu. Yd.	119.2
Concrete Structures			Cu. Yd.	25.4
Reinforcement Bars, Epoxy Coated			Pound	47,760

NORTHBOUND (NB)
TWO APPROACHES
BILL OF MATERIAL

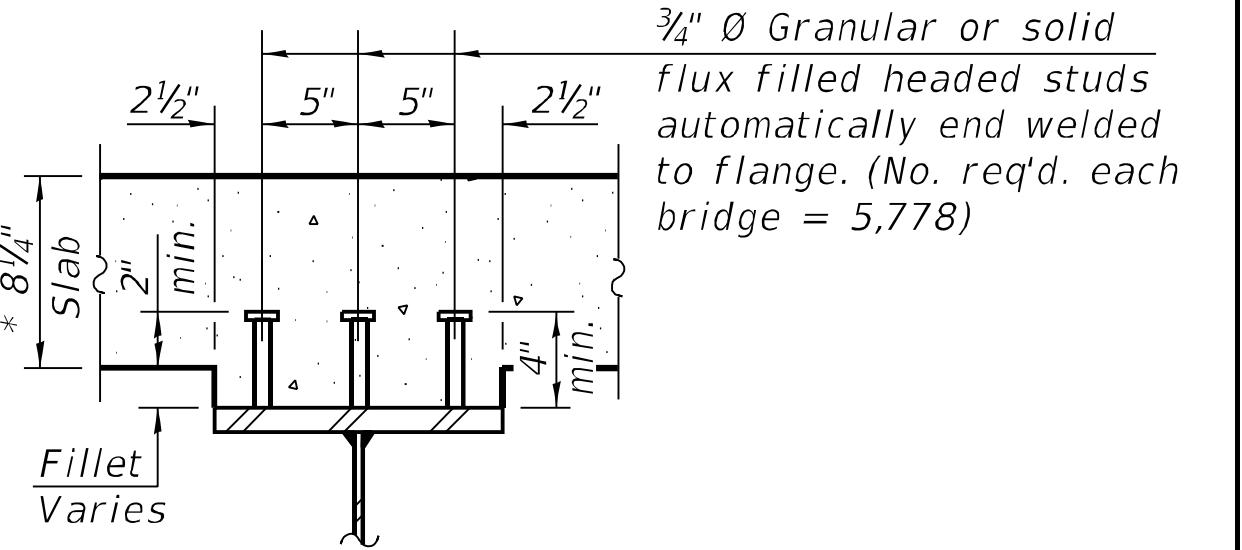
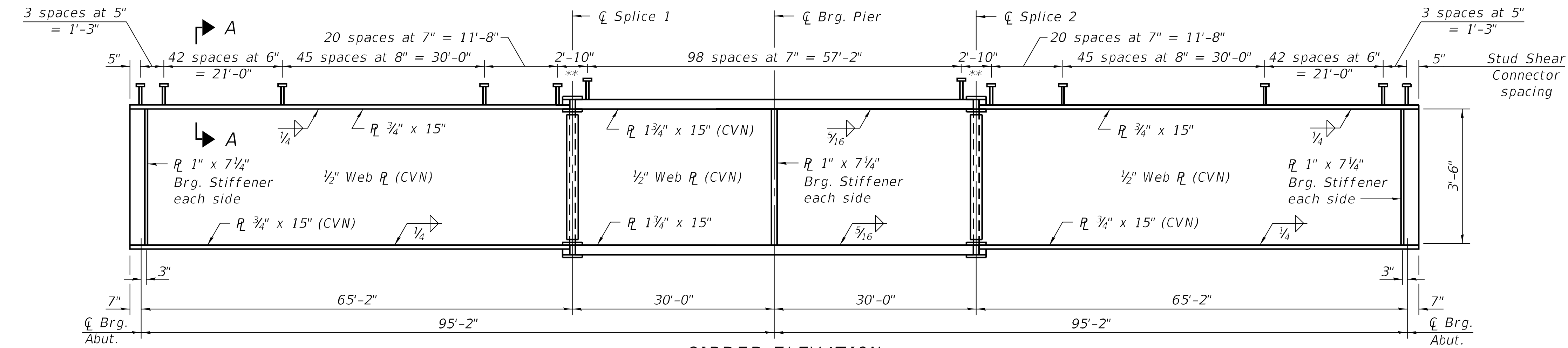
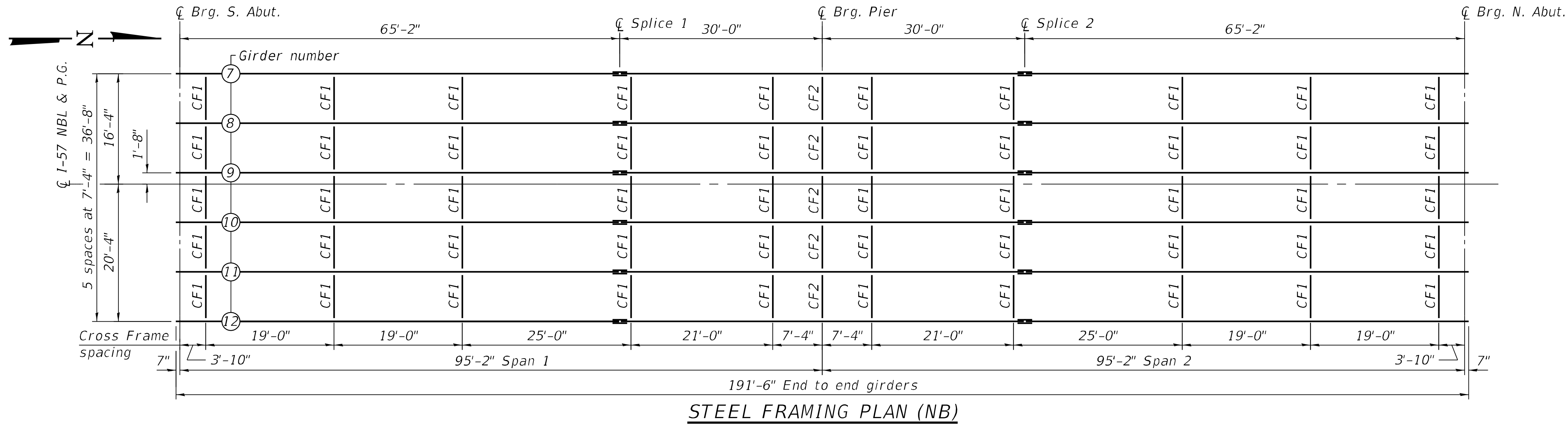
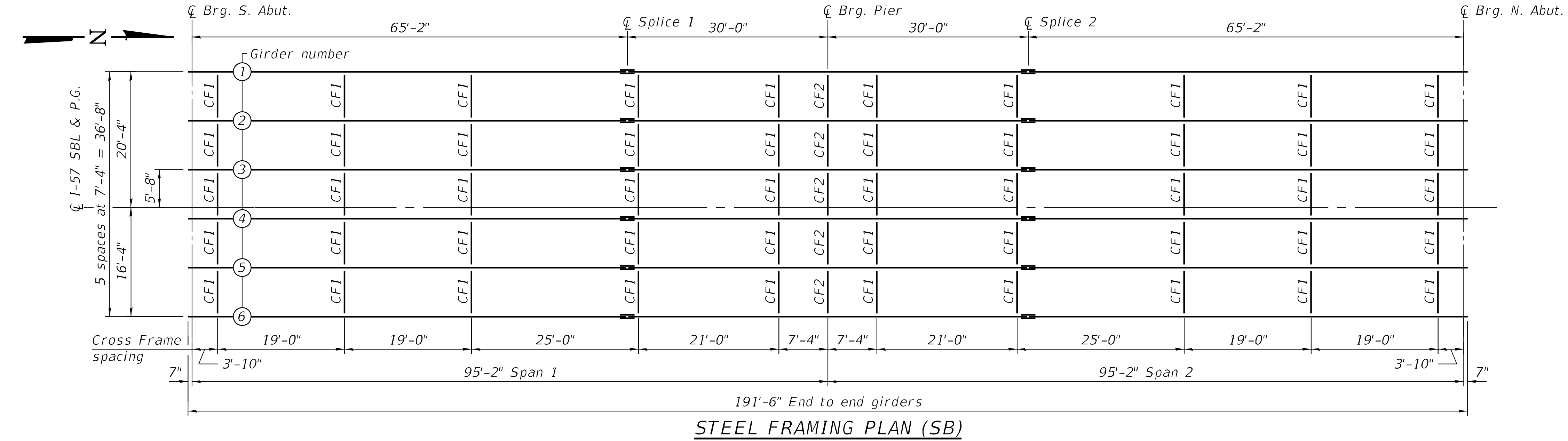
Bar	No.	Size	Length	Shape
a10(E)	92	#5	41'-5"	
a11(E)	120	#8	40'-8"	
a12(E)	92	#5	7'-4"	
b10(E)	122	#5	29'-8"	
b11(E)	194	#9	29'-8"	
b12(E)	16	#5	14'-8"	
b13(E)	4	#4	14'-8"	
d10(E)	92	#5	7'-0"	
d11(E)	92	#5	8'-6"	
e10(E)	48	#4	14'-8"	
t10(E)	164	#4	9'-8"	
w10(E)	80	#5	40'-8"	
Concrete Superstructure			Cu. Yd.	8.4
Concrete Superstructure (Approach Slab)			Cu. Yd.	119.2
Concrete Structures			Cu. Yd.	25.4
Reinforcement Bars, Epoxy Coated			Pound	47,760

* Prior to grinding

** Cost included with Concrete Superstructure (Approach Slab).

*** Per manufacturer recommendations

Notes:
See sheets 22 and 23 of 41 for additional steel details.
All cross frames shall be installed as steel is erected and secured with erection pins and bolts except as otherwise noted. Individual cross frames at supports may be temporarily disconnected to install bearing anchor rods.
All flange, web and bearing stiffener plates shall be AASHTO M270, Grade 50.



* Prior to grinding

** Omit shear connectors over splice plates

(CVN) denotes Charpy-V-Notch Impact Energy Requirements, Zone 2.

MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-21-Steel\mPlnDtls.dgn



USER NAME	= nhc
ESCA PROJECT NO.	1343.08
PLOT SCALE	
PLOT DATE	= 8/21/2024

DESIGNED	- MTD	12/21	REVISED	-
CHECKED	- PRH	01/22	REVISED	-
DRAWN	- KAH	12/21	REVISED	-
CHECKED	- MTD	01/22	REVISED	-

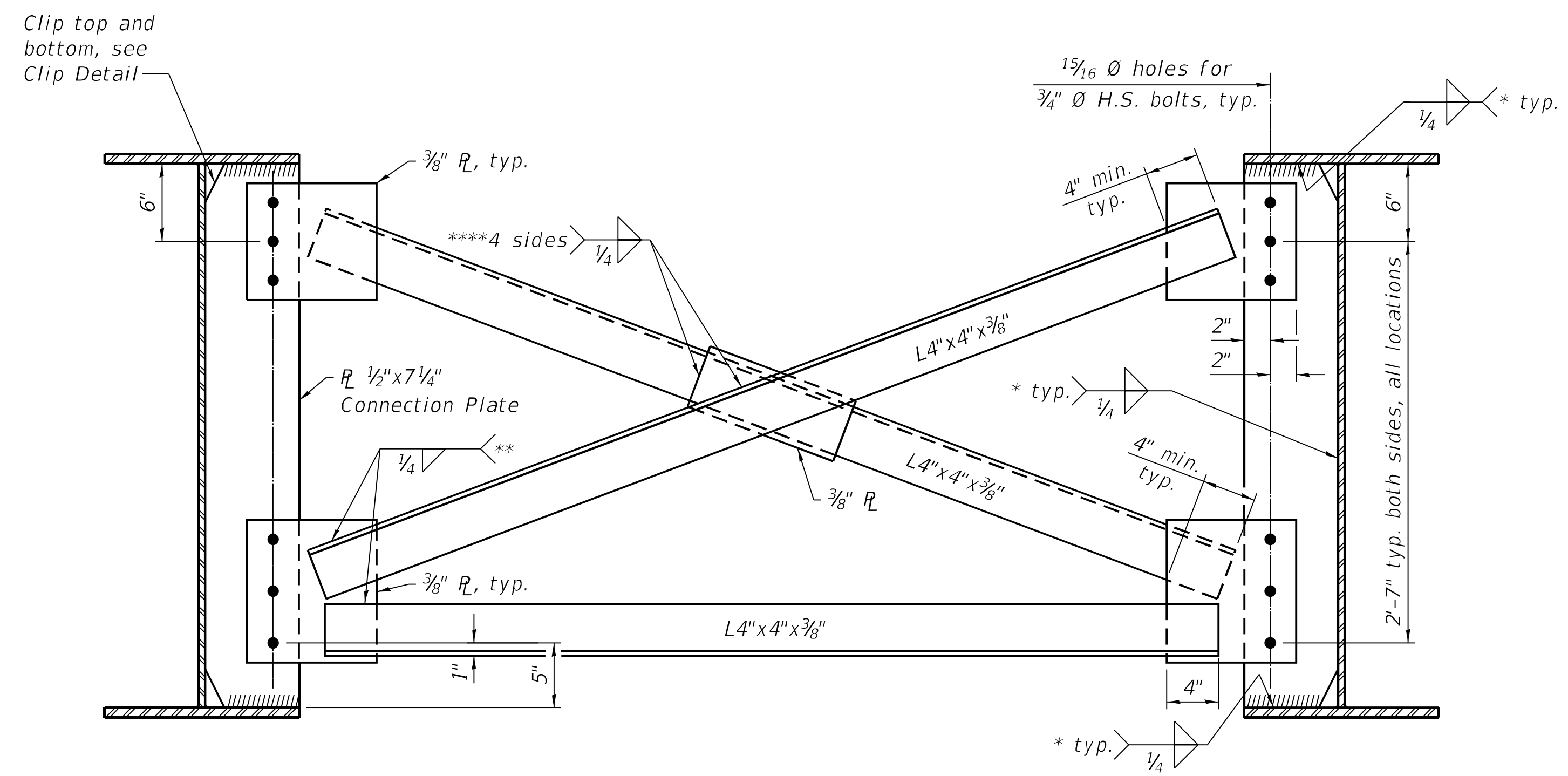
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL FRAMING PLANS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

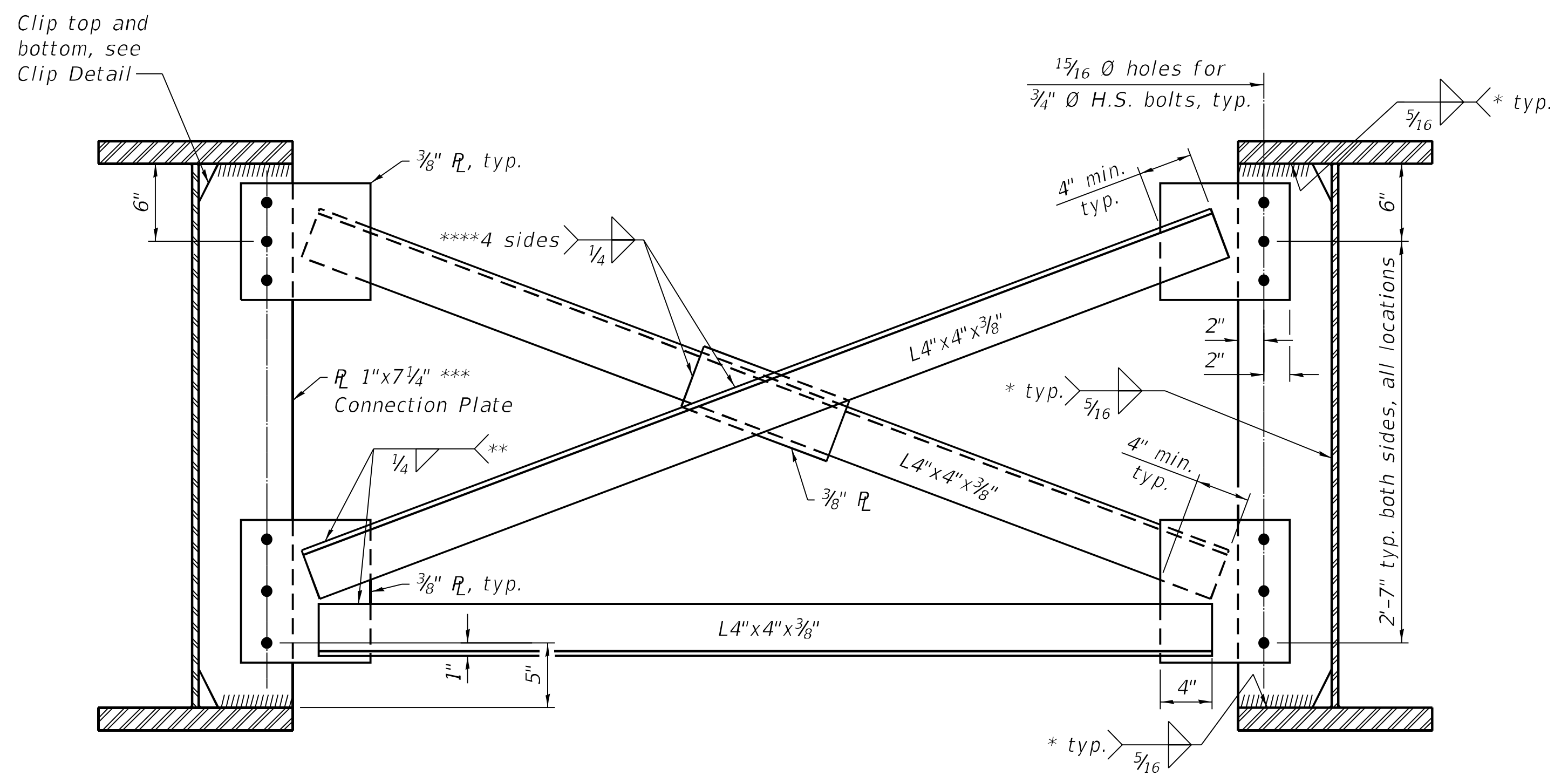
SHEET 21 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	681
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

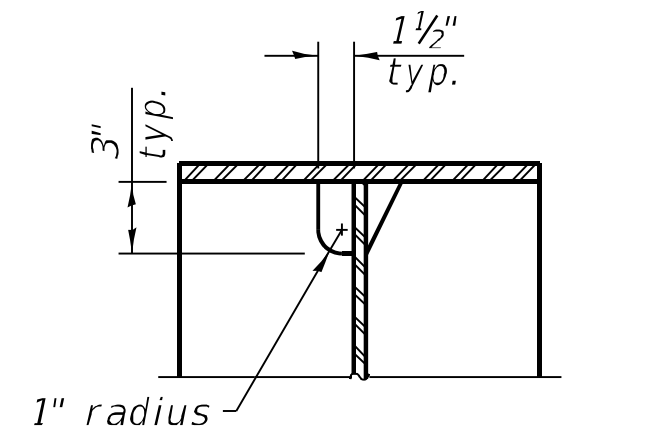
Notes:
Two hardened washers required for each set of oversized holes.
All splices are symmetrical about $\mathcal{C}$ splice except for fills.
All splice plates, except fill plates, shall be AASHTO M270, Grade 50.



INTERIOR CROSS FRAME - CF1
(No. req'd = 100)



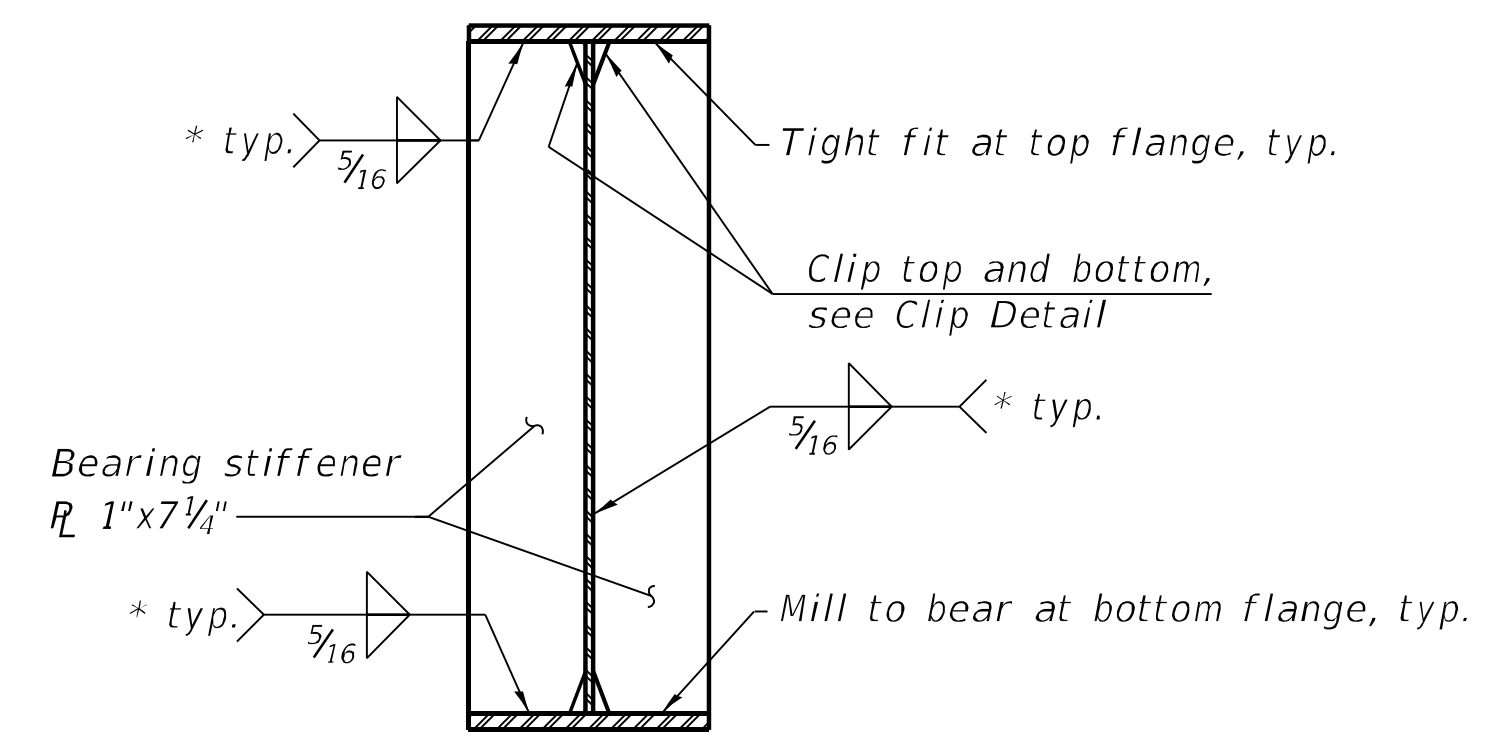
INTERIOR CROSS FRAME - CF2
(No. req'd = 10)



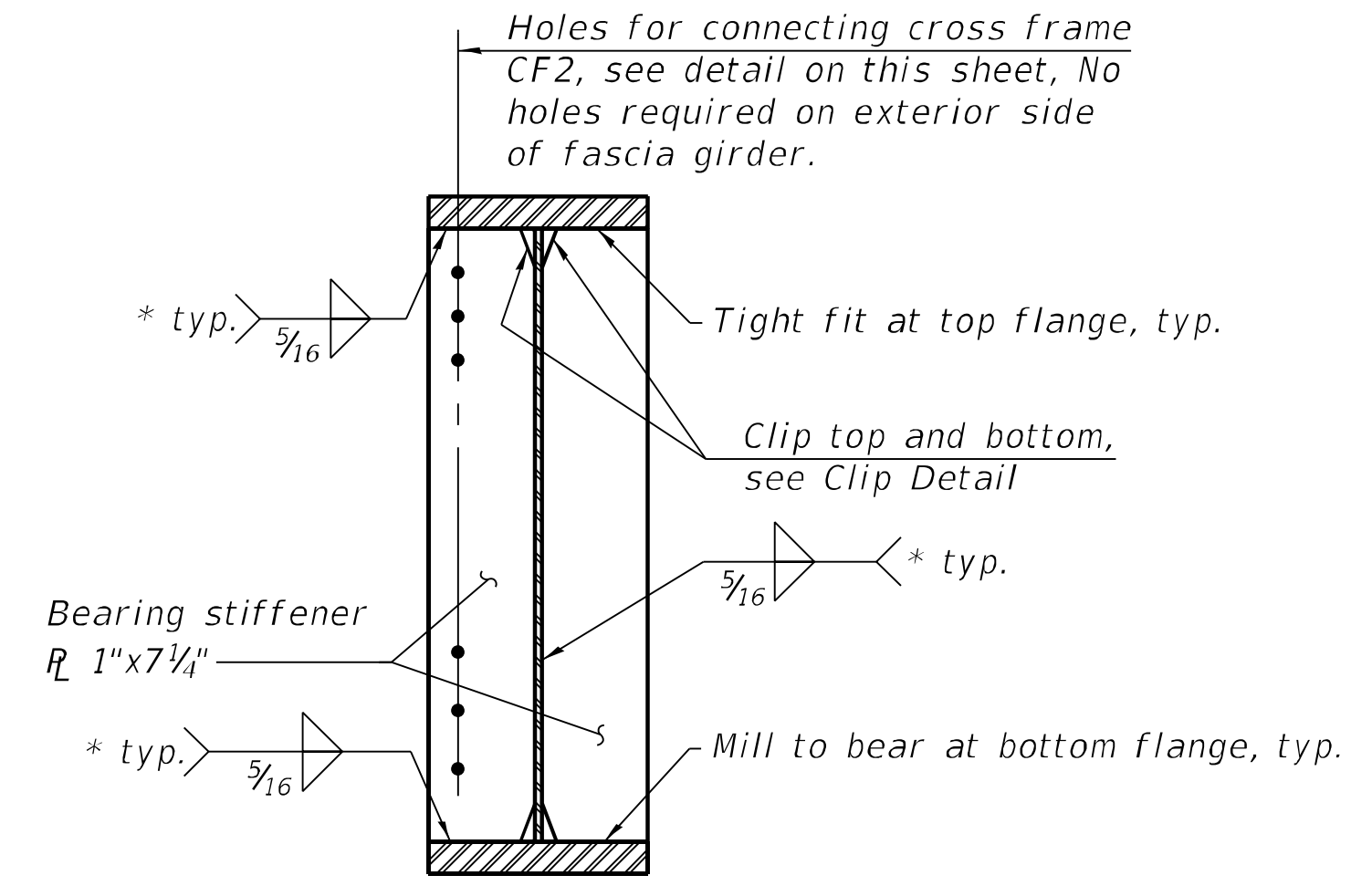
CLIP DETAIL

The Contractor has the option of using the standard clip or alternate clip. The clip detail selected shall be used for all connection plates and bearing stiffeners.

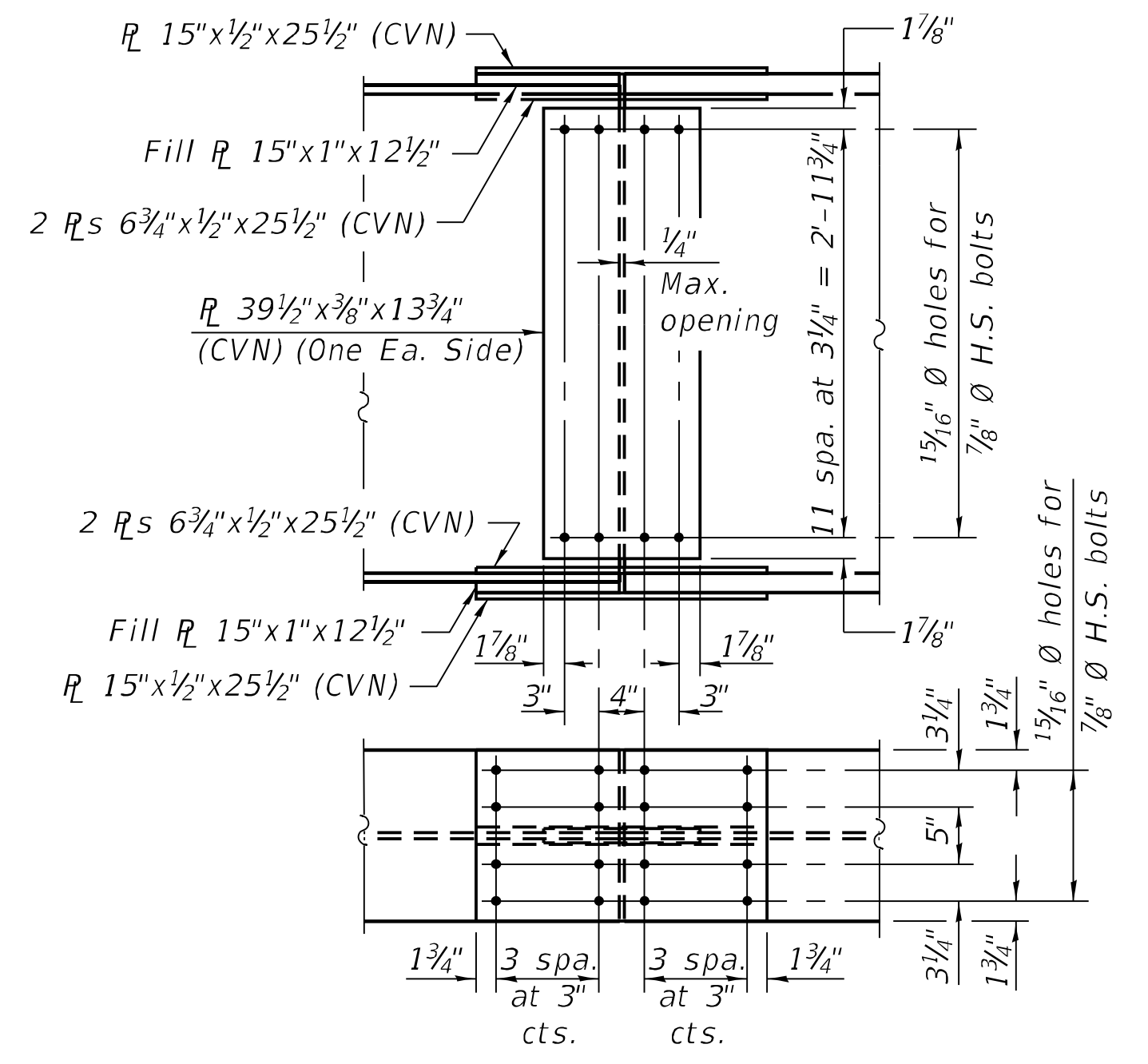
- * Terminate $\frac{1}{4}"$ ($\pm \frac{1}{8}"$) from edges of plate.
- ** Fillet weld angles along 3 sides on one face of gusset plate; however, if cross frames are galvanized, weld all-around.
- *** Also functions as bearing stiffener.
- **** If cross frames are galvanized, weld all-around.



SECTION AT ABUTMENT
(No. stiffeners req'd = 48)



SECTION AT PIER
(No. stiffeners req'd = 24)



FIELD SPLICE DETAIL

(CVN denotes Charpy-V-Notch Impact Energy Requirements, Zone 2)

(Sheet 1 of 2)

MODEL: PLOT
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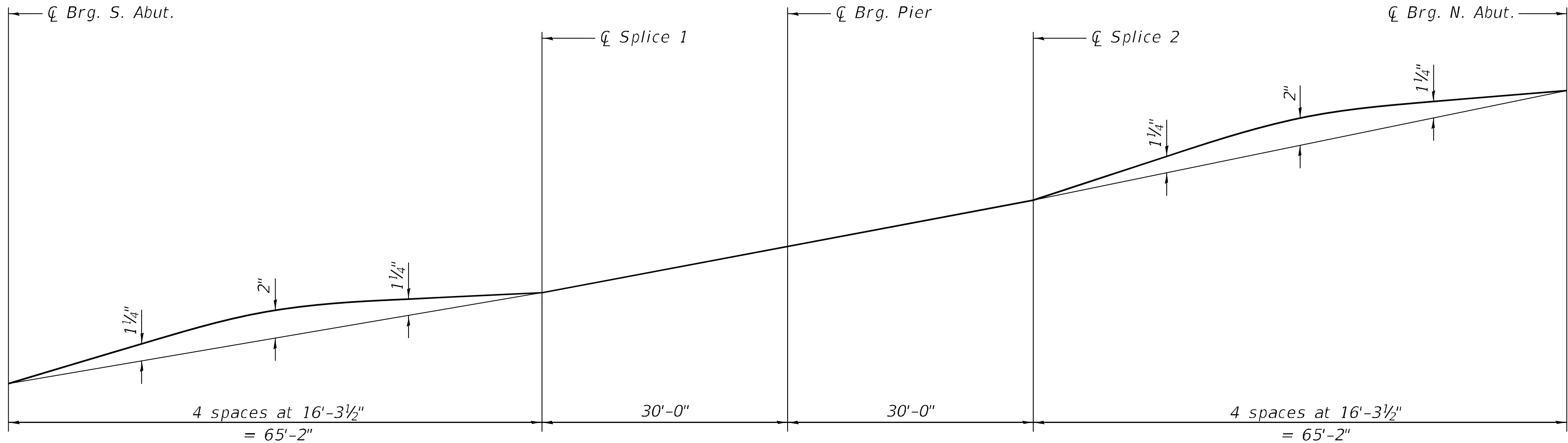
MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-23-StlFrmDtls.dgn

GIRDER REACTION TABLE				
	Abutment		Pier	
	Interior	Exterior	Interior	Exterior
LLDF	0.7672	0.6545	0.7672	0.6545
OCF	-	1.00	-	-
R_{DC1}	(k) 31.4	31.3	125.1	124.5
R_{DC2}	(k) 6.4	6.4	23.4	23.4
R_{DW}	(k) 11.2	11.2	41.0	41.0
$R_{\perp}$	(k) 68.8	58.6	135.5	115.6
R_{IM}	(k) 16.1	13.8	26.9	23.0
R_{Total}	(k) 133.9	121.3	351.9	327.5

INTERIOR GIRDER MOMENT TABLE		
	0.4 Sp. 1 or 0.6 Sp. 2	Pier
I_s	(in ⁴) 13,368	28,222
$I_c(n)$	(in ⁴) 33,783	58,630
$I_c(3n)$	(in ⁴) 25,822	44,437
$I_c(cr)$	(in ⁴) -	33,111
S_s	(in ³) 614.6	1,240.5
$S_c(n)$	(in ³) 854.9	1,544.8
$S_c(3n)$	(in ³) 789.3	1,437.7
$S_c(cr)$	(in ³) -	1,311.3
$DC1$	(k/ft) 0.957	1.054
$MDC1$	(k) 511.9	1,387.0
$DC2$	(k/ft) 0.190	0.190
$MDC2$	(k) 106.4	254.0
DW	(k/ft) 0.333	0.333
MDW	(k) 186.5	445.1
LLDF	0.5980	0.5980
$M_{\perp} + IM$	(k) 1,198.4	1,551.2
f_l (Strength I)	(ksi) 0	0
$M_u + \frac{1}{2} f_l S_{xc}$	(k) 3,149.8	5,433.5
$\phi f Mn$	(k) 4,189.4	6,042.3
$f_s DC1$	(ksi) 9.99	13.42
$f_s DC2$	(ksi) 1.62	2.32
$f_s DW$	(ksi) 2.84	4.07
$f_s (\perp + IM)$	(ksi) 16.82	14.20
f_l (Service II)	(ksi) 0	0
$f_s + \frac{1}{2} f_l$ (Service II)(ksi)	36.31	38.27
$0.95R_h F_{yf}$	(ksi) 47.50	47.50
$f_s + \frac{1}{2} f_l$ (Total)(Strength I)	(ksi) -	-
$\phi f F_n$	(ksi) -	-
V_f	(k) 68.8	69.7

- I_s , S_s : Non-composite moment of inertia and section modulus of the steel section used for computing f_s (Total-Strength I, and Service II) due to non-composite dead loads (in.⁴ and in.³).
- $I_c(n)$, $S_c(n)$: Composite moment of inertia and section modulus of the steel and deck based upon the modular ratio, "n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections due to short-term composite live loads (in.⁴ and in.³).
- $I_c(3n)$, $S_c(3n)$: Composite moment of inertia and section modulus of the steel and deck based upon 3 times the modular ratio, "3n", used for computing f_s (Total-Strength I, and Service II) in uncracked sections, due to long-term composite (superimposed) dead loads (in.⁴ and in.³).
- $I_c(cr)$, $S_c(cr)$: Composite moment of inertia and section modulus of the steel and longitudinal deck reinforcement, used for computing f_s (Total-Strength I, and Service II) in cracked sections, due to both short-term composite live loads and long-term composite (superimposed) dead loads (in.⁴ and in.³).
- $DC1$: Un-factored non-composite dead load (kips/ft.).
- $MDC1$: Un-factored moment due to non-composite dead load (kip-ft.).
- $DC2$: Un-factored long-term composite (superimposed excluding future wearing surface) dead load (kips/ft.).
- $MDC2$: Un-factored moment due to long-term composite (superimposed excluding future wearing surface) dead load (kip-ft.).
- DW : Un-factored long-term composite (superimposed future wearing surface only) dead load (kips/ft.).
- MDW : Un-factored moment due to long-term composite (superimposed future wearing surface only) dead load (kip-ft.).
- $M_{\perp} + IM$: Un-factored live load moment plus dynamic load allowance (impact) (kip-ft.).
- f_l (Strength I): Factored lateral flange stress (ksi).
- $M_u + \frac{1}{2} f_l S_{xc}$: Factored design moment (kip-ft.).
- $1.25 (MDC1 + MDC2) + 1.5 MDW + 1.75 M_{\perp} + IM + \frac{1}{2} f_l$ (Strength I) S_{xc}
- $\phi f Mn$: Compact composite positive moment capacity computed according to Article 6.10.7.1 or non-slender negative moment capacity according to Article A6.1.1 or A6.1.2 (kip-ft.).
- $f_s DC1$: Un-factored stress at edge of flange for controlling steel flange due to vertical non-composite dead loads as calculated below (ksi).
- $MDC1 / S_s$
- $f_s DC2$: Un-factored stress at edge of flange for controlling steel flange due to vertical composite dead loads as calculated below (ksi).
- $MDC2 / S_c(3n)$ or $MDC2 / S_c(cr)$ as applicable.
- $f_s DW$: Un-factored stress at edge of flange for controlling steel flange due to vertical composite future wearing surface loads as calculated below (ksi).
- $MDW / S_c(3n)$ or $MDW / S_c(cr)$ as applicable.
- $f_s (\perp + IM)$: Un-factored stress at edge of flange for controlling steel flange due to vertical composite live load plus impact loads as calculated below (ksi).
- $M_{\perp} + IM / S_c(n)$ or $M_{\perp} + IM / S_c(cr)$ as applicable.
- f_l (Service II): Un-factored lateral flange stress (ksi).
- $f_s + \frac{1}{2} f_l$ (Service II): Sum of stresses as computed below (ksi).
- $f_s DC1 + f_s DC2 + f_s DW + 1.3 f_s (\perp + IM) + \frac{1}{2} f_l$ (Service II)
- $0.95R_h F_{yf}$: Composite stress capacity for Service II loading according to Article 6.10.4.2 (ksi).
- $f_s + \frac{1}{2} f_l$ (Total)(Strength I): Sum of stresses as computed below on non-compact section (ksi).
- $1.25 (f_s DC1 + f_s DC2) + 1.5 f_s DW + 1.75 f_s (\perp + IM) + \frac{1}{2} f_l$ (Strength I)
- $\phi f F_n$: Non-compact composite positive or negative stress capacity for Strength I loading according to Article 6.10.7 or 6.10.8 (ksi).
- V_f : Maximum factored shear range in span computed according to Article 6.10.10.
- LLDF: Live Load Distribution Factor computed according to Table 4.6.2.2.2b-1, Table 4.6.2.2.2d-1, Table 4.6.2.2.3a-1 and Table 4.6.2.2.3b-1.
- OCF: Obtuse Correction Factor computed according to Table 4.6.2.2.3c-1 or as simplified in Section 3.3.1 of the Bridge Manual.

(Sheet 2 of 2)



CAMBER DIAGRAM

TOP OF WEB ELEVATIONS (SB)
(For fabrication only)

Girder	C Brg. S. Abut.	C Splice 1	C Brg. Pier	C Splice 2	C Brg. N. Abut.
1	739.20	739.73	740.02	740.30	741.00
2	739.34	739.87	740.16	740.44	741.14
3	739.46	739.99	740.28	740.56	741.26
4	739.52	740.05	740.34	740.62	741.32
5	739.41	739.94	740.23	740.51	741.21
6	739.28	739.81	740.10	740.38	741.08

TOP OF WEB ELEVATIONS (NB)
(For fabrication only)

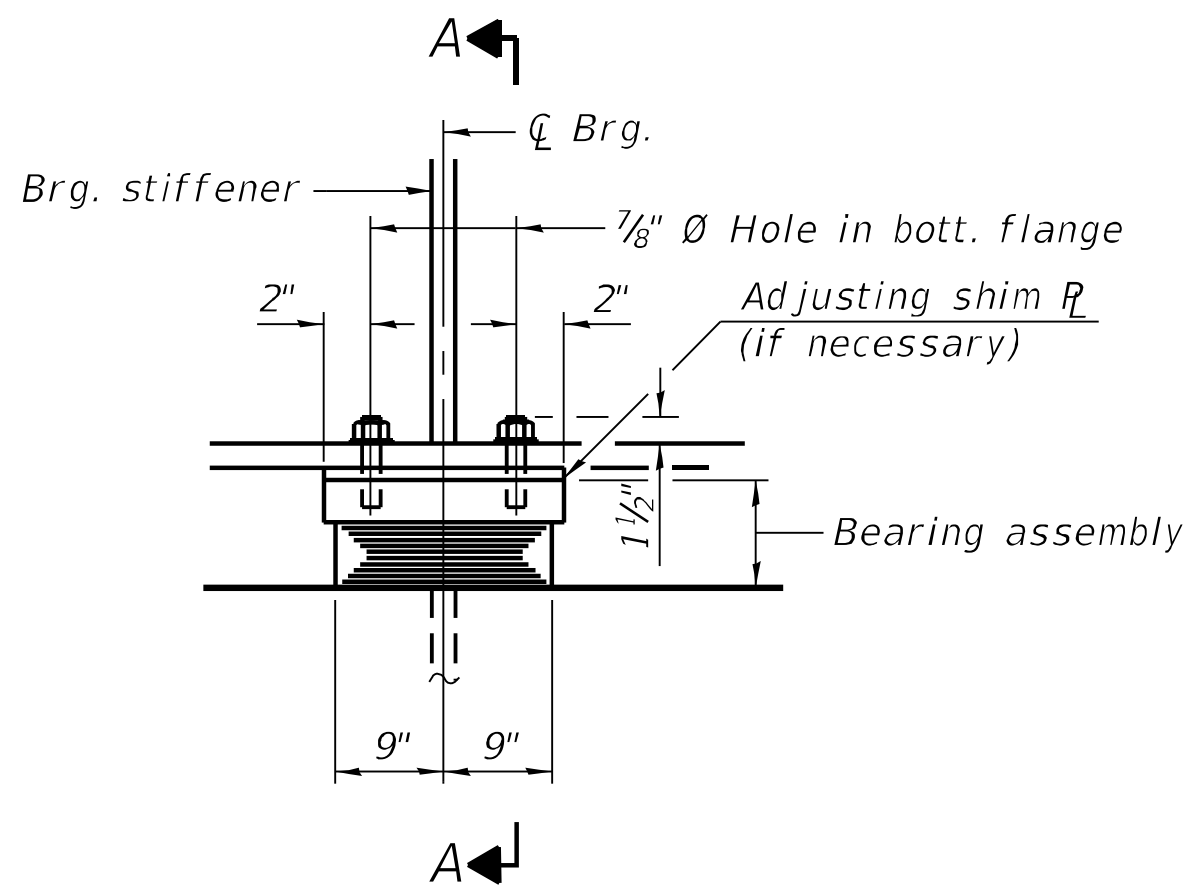
Girder	C Brg. S. Abut.	C Splice 1	C Brg. Pier	C Splice 2	C Brg. N. Abut.
7	739.32	739.85	740.13	740.41	741.11
8	739.45	739.98	740.26	740.54	741.24
9	739.56	740.09	740.37	740.65	741.35
10	739.50	740.03	740.31	740.59	741.29
11	739.38	739.91	740.19	740.47	741.17
12	739.24	739.77	740.05	740.33	741.03

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

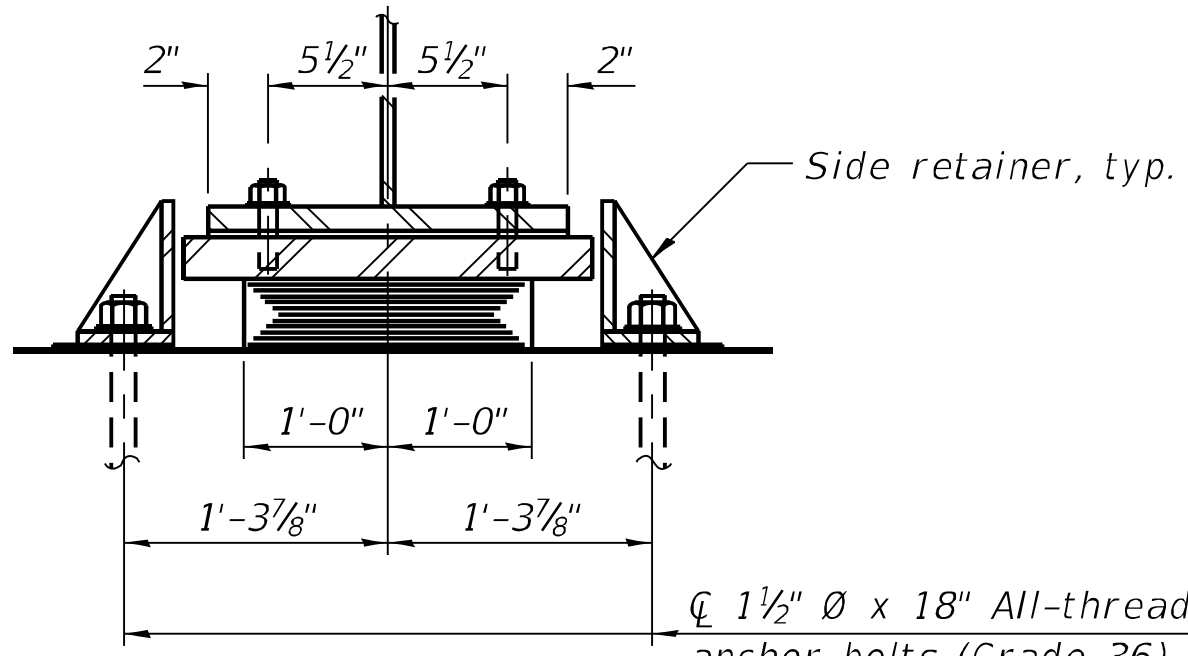
STEEL FRAMING DETAILS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 23 OF 41 SHEETS

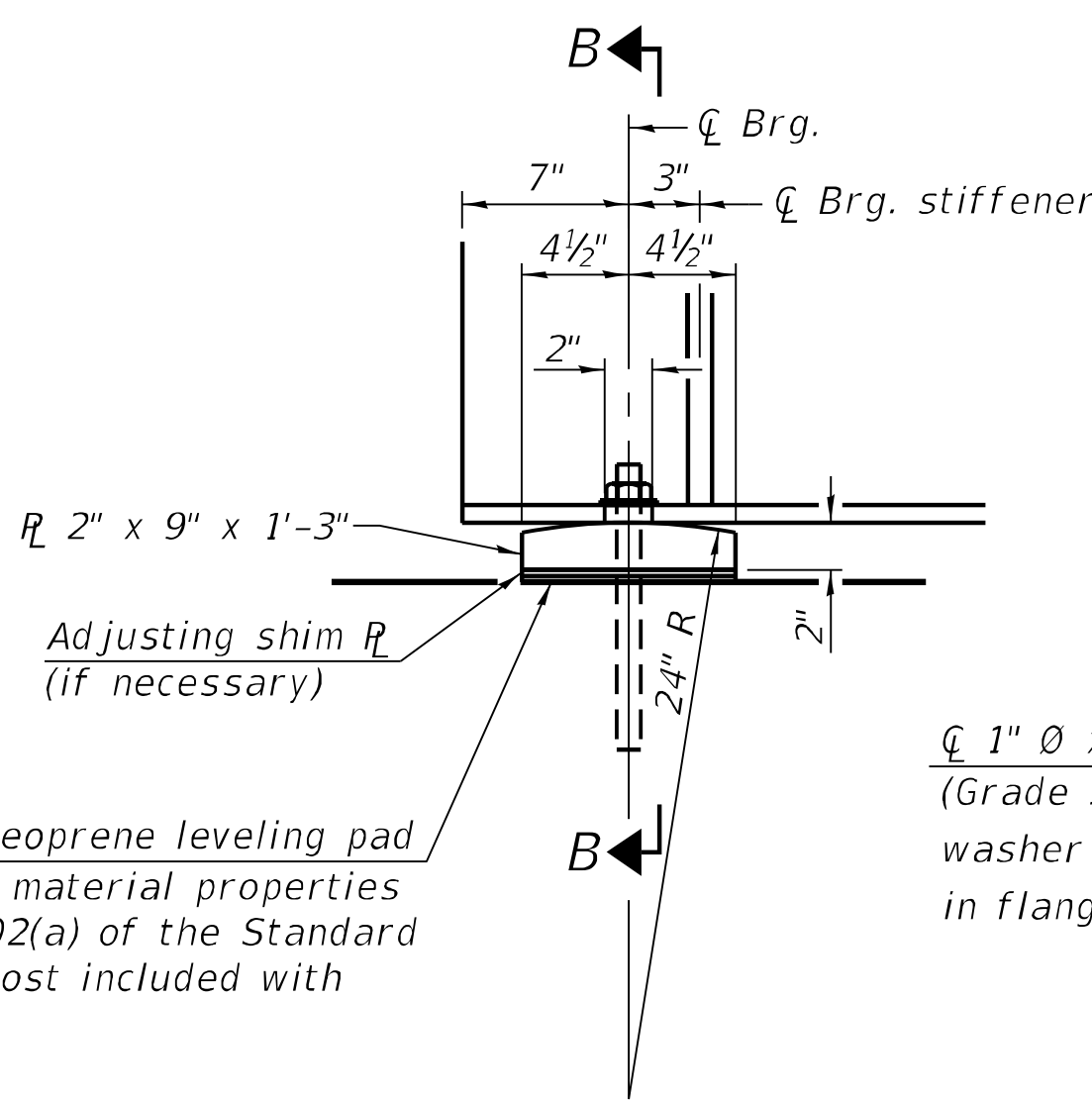
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	683
		CONTRACT NO. 74435		
		ILLINOIS	FED. AID PROJECT	



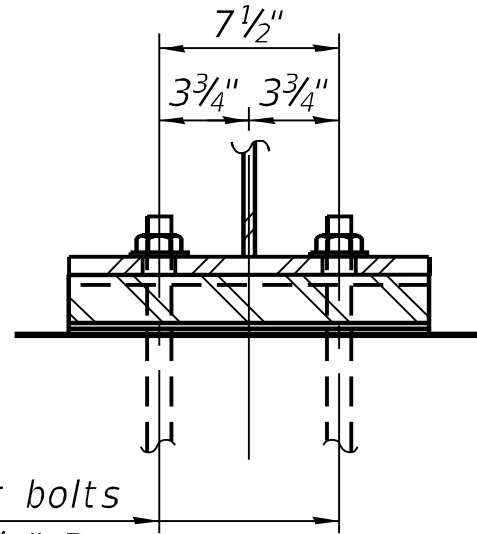
ELEVATION AT PIER



SECTION A-A

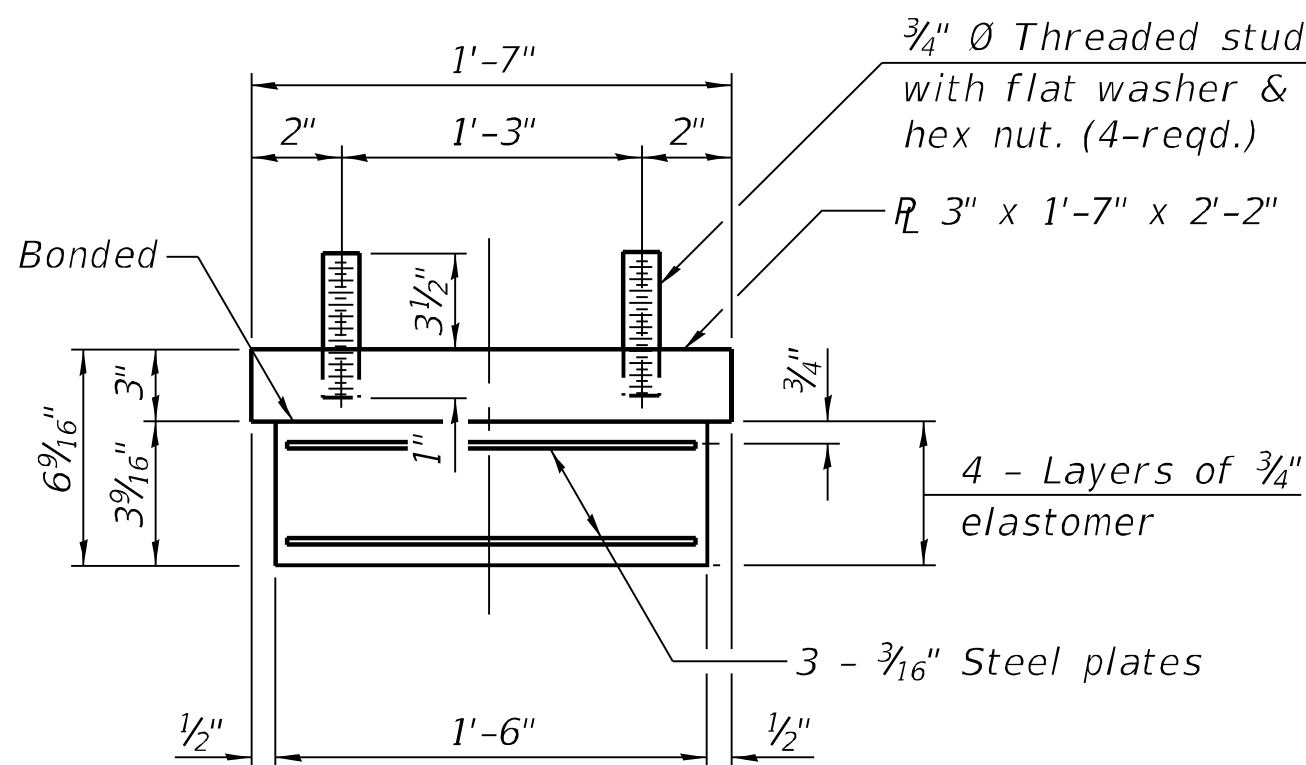


ELEVATION AT ABUT.



SECTION B-B

TYPE I ELASTOMERIC EXP. BRG.

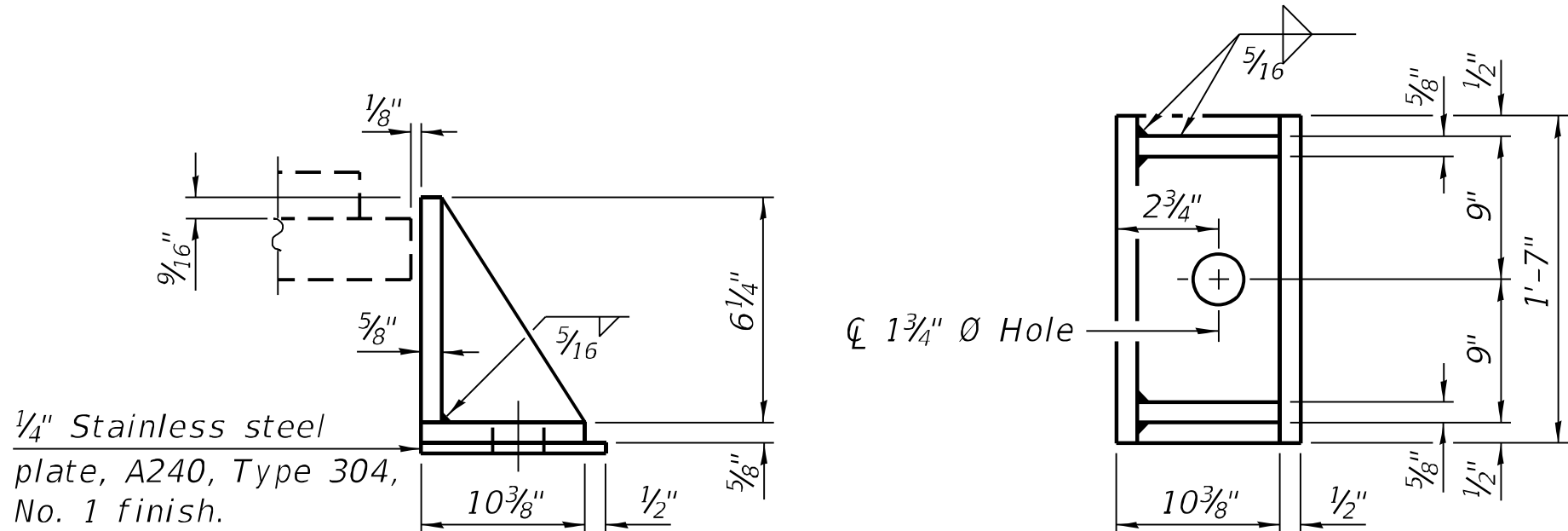


BEARING ASSEMBLY

Note:
Shim plates shall not be placed under bearing assembly.

Notes:
Side retainers and stainless steel plates shall be included in the cost of Elastomeric Bearing Assembly, Type I.
Anchor bolts and side retainers at all supports shall be installed as each member is erected unless an equivalent temporary means of lateral restraint is used.
Anchor bolts shall be according to Article 521.06 of the Standard Specifications.
Girders shall be braced for stability during erection and remain braced until deck is poured and cured.
Two 1/8 in. adjusting shims shall be provided for each bearing in addition to all other plates or shims and placed as shown on bearing details.
The pier anchor bolt sizes and grades shown constitute a calculated seismic structural fuse. Substitution of higher diameter and/or grade anchor bolts at the piers will not be allowed.
All (embedded and separate) bearing plates, side retainers, anchor bolts, nuts, washers and pintles shall be galvanized according to AASHTO M111 or M232 as applicable.

FIXED BEARING



SIDE RETAINER

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

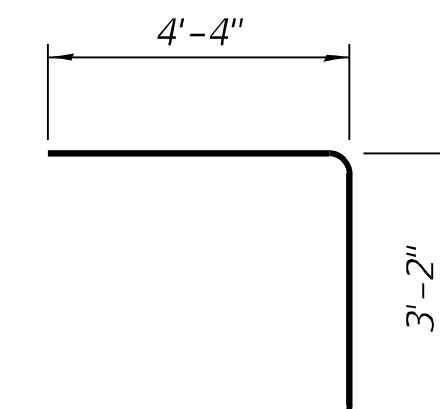
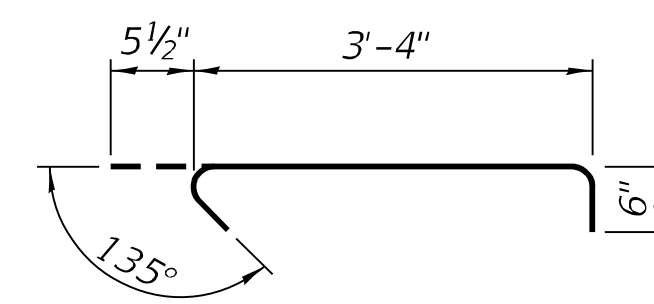
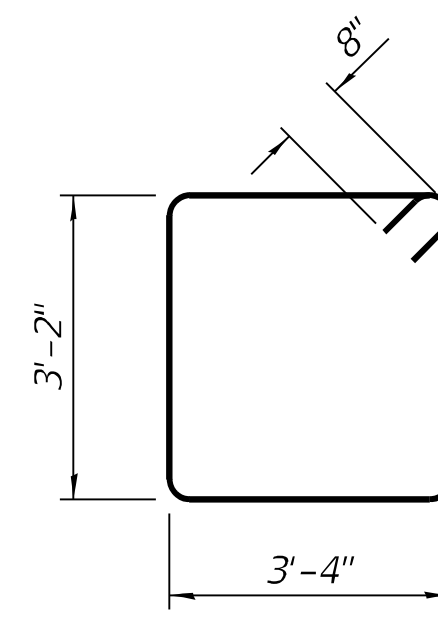
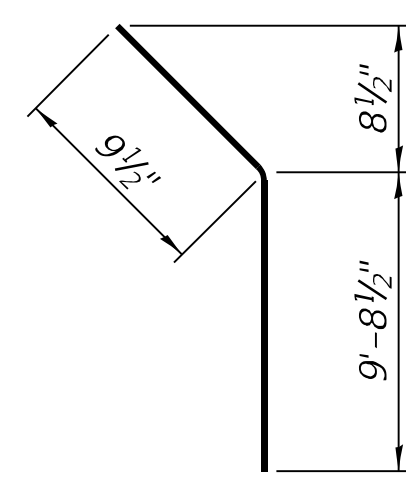
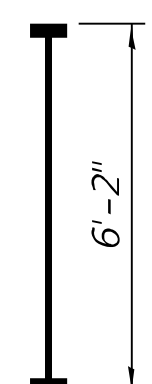
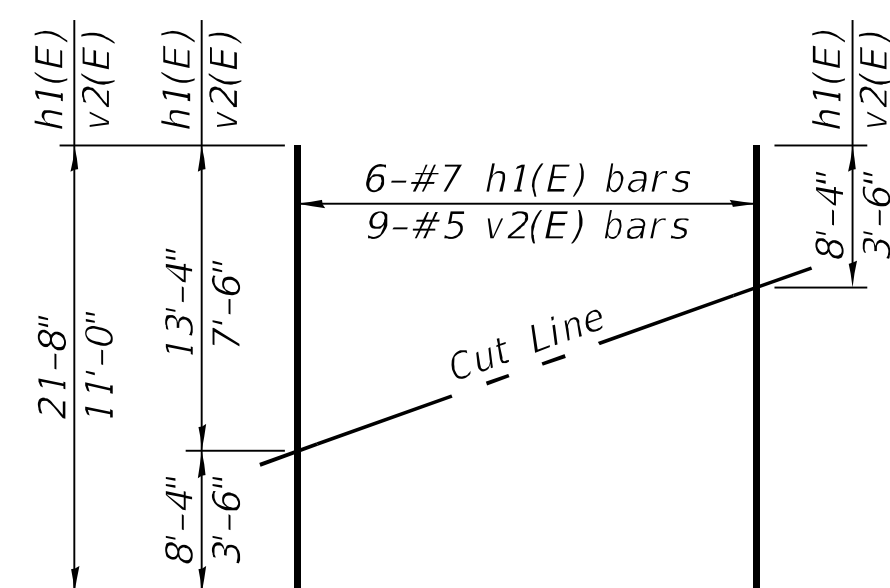
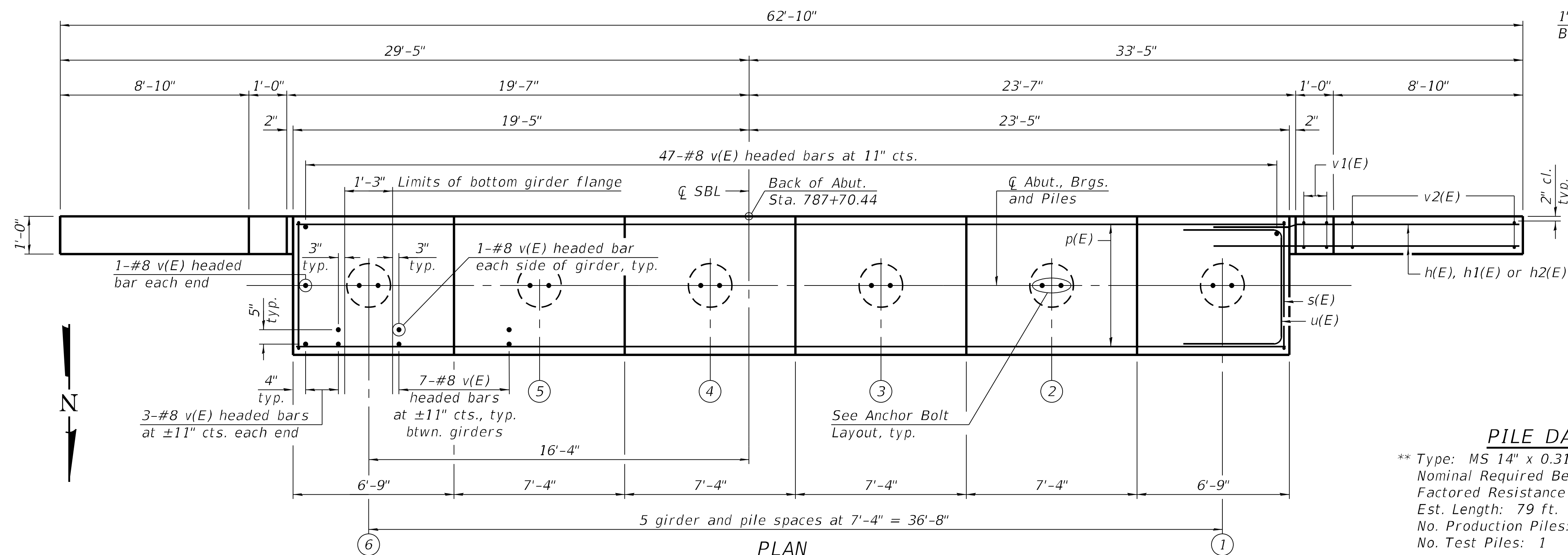
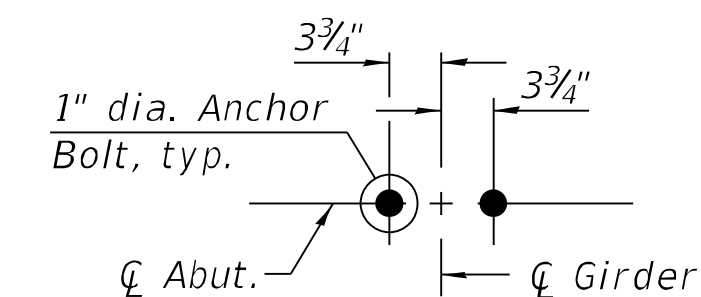
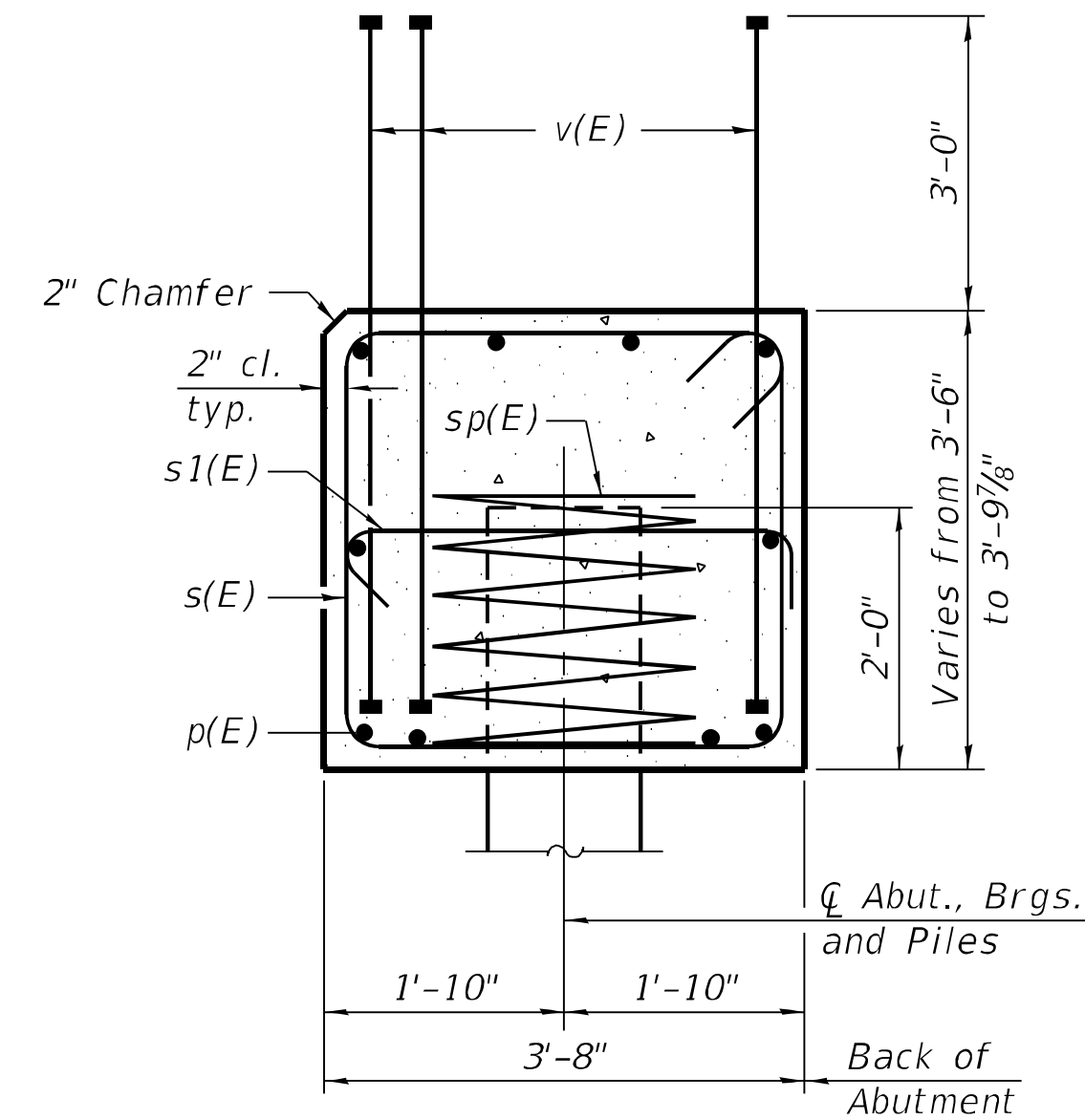
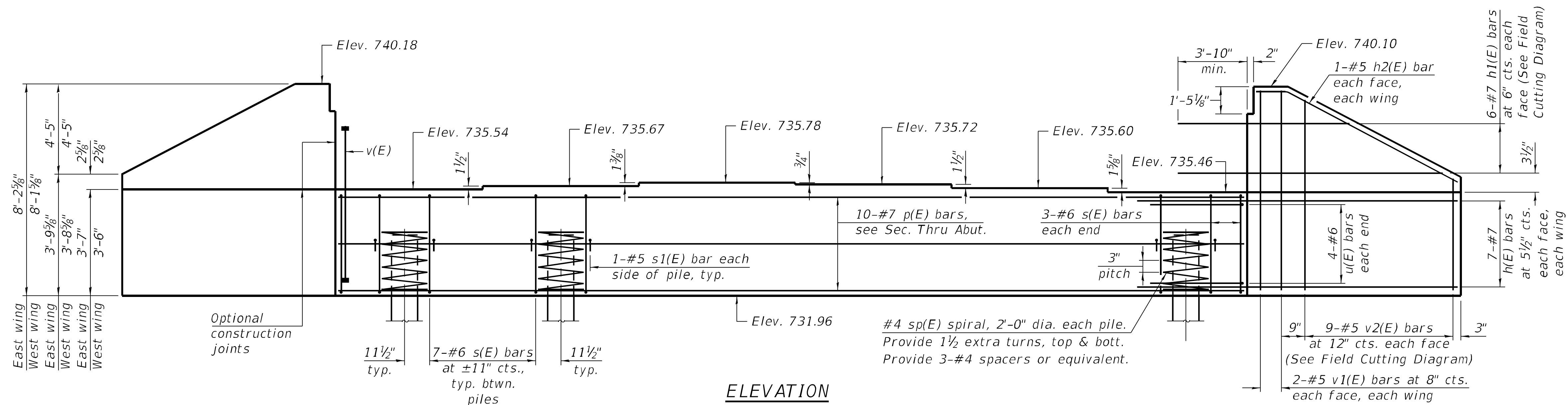
BILL OF MATERIAL

Item	Unit	Total
Elastomeric Bearing Assembly, Type I	Each	12
Anchor Bolts, 1"	Each	48
Anchor Bolts, 1 1/2"	Each	24

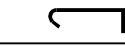
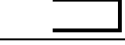
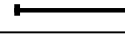
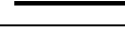
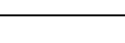
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BEARING DETAILS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	684
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

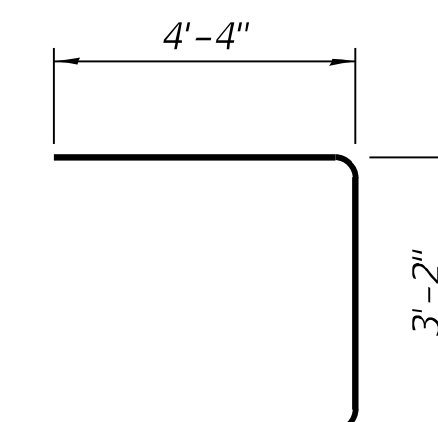
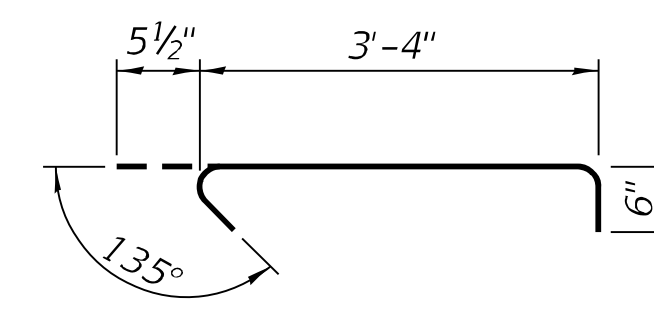
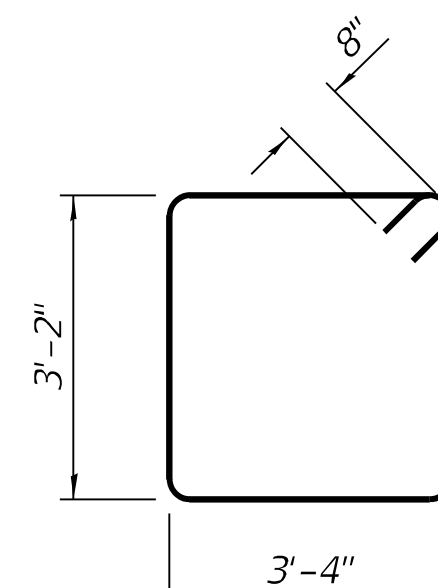
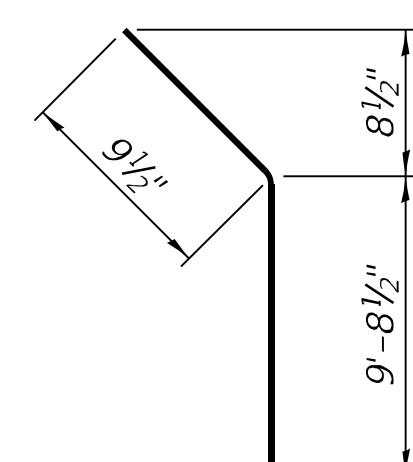
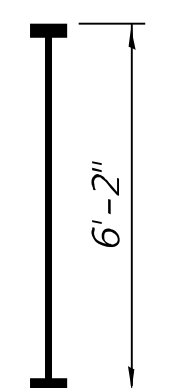
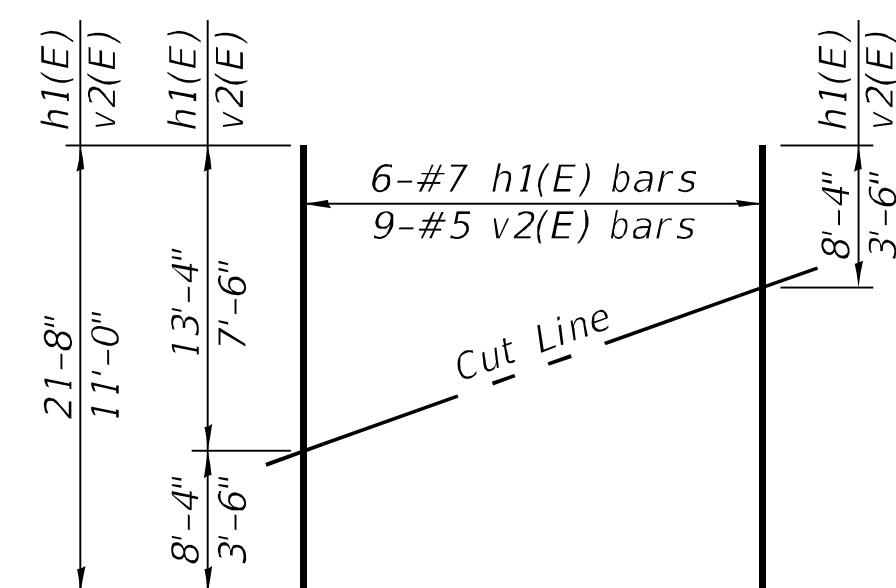
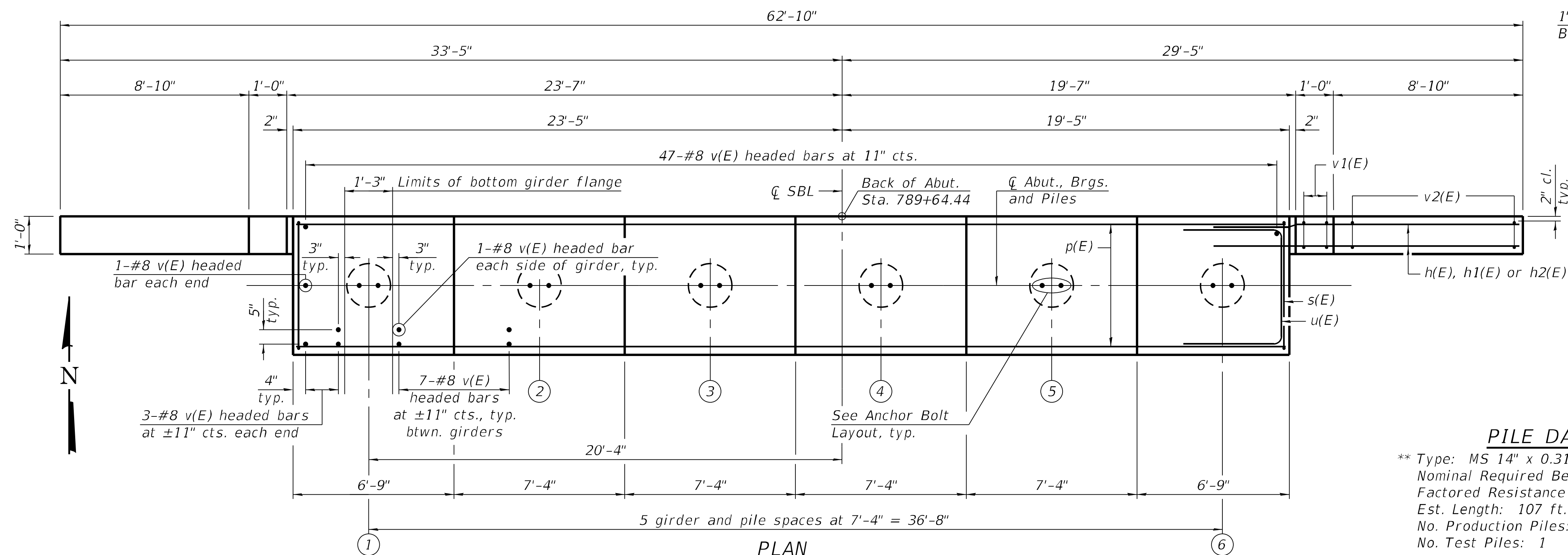
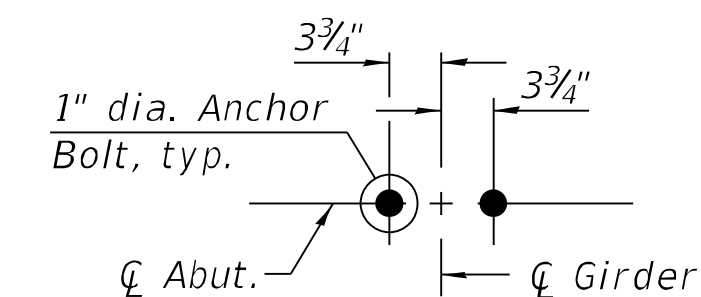
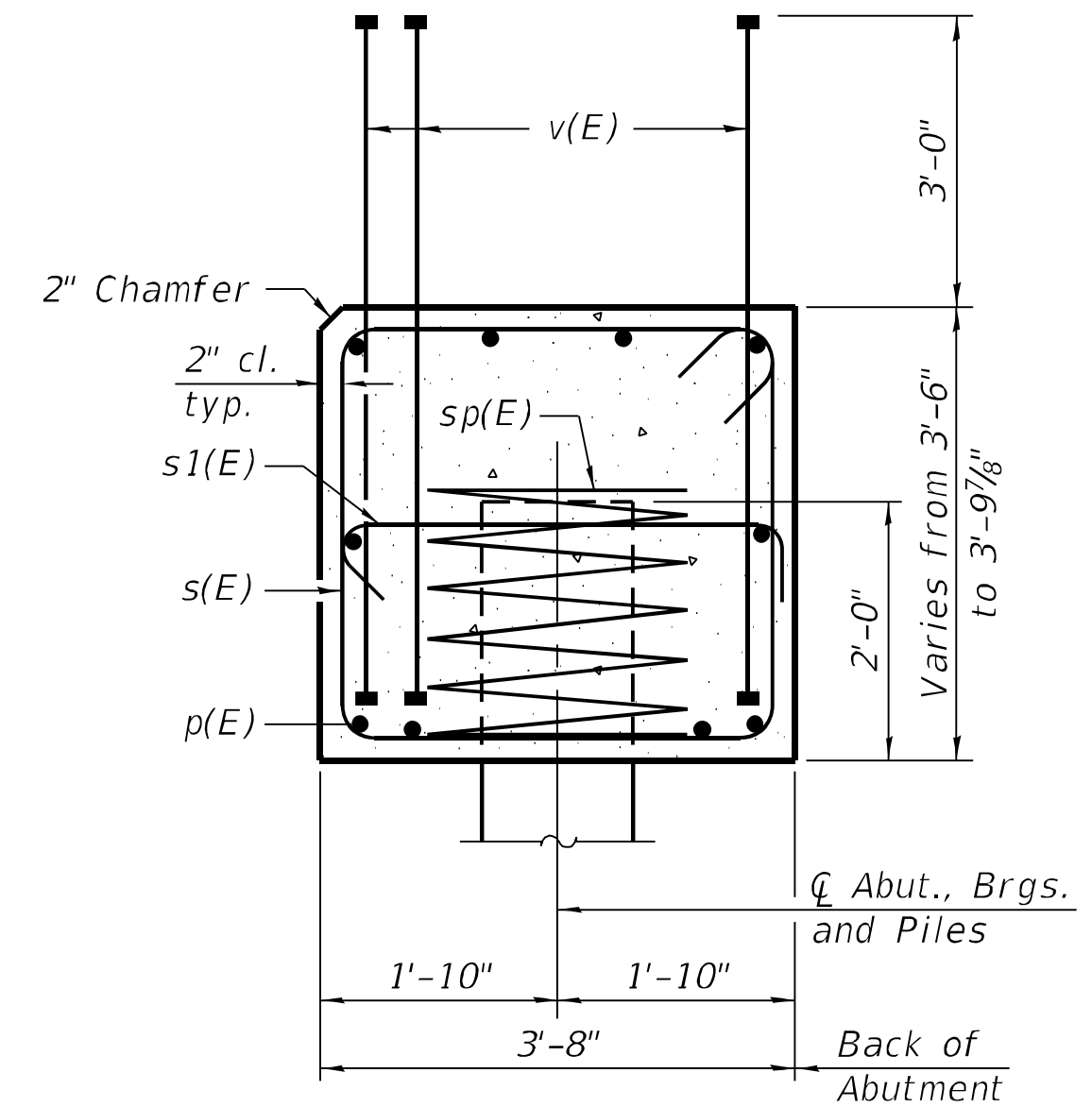
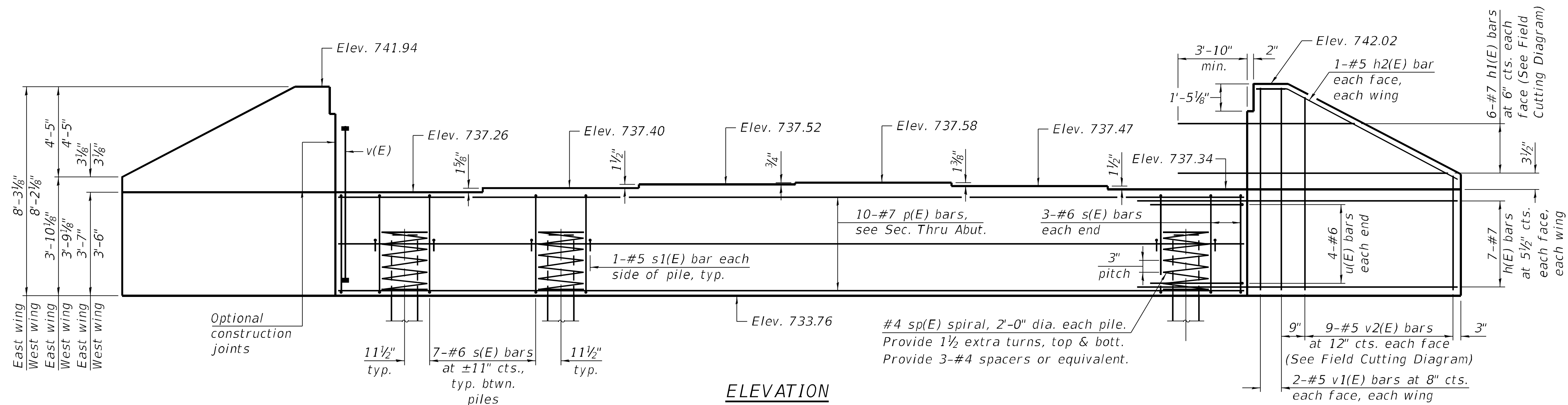


BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#7	13'-8"	
h1(E)	12	#7	21'-8"	
h2(E)	4	#5	10'-6"	
p(E)	10	#7	42'-6"	
s(E)	41	#6	14'-4"	
s1(E)	12	#5	4'-4"	
* sp(E)	6	#4	2'-0"	
u(E)	8	#6	11'-10"	
v(E)	102	#8	6'-2"	
v1(E)	8	#5	7'-10"	
v2(E)	18	#5	11'-0"	
Structure Excavation			Cu. Yd.	140
Concrete Structures			Cu. Yd.	25.5
Reinforcement Bars, Epoxy Coated			Pound	5,540
Furnishing Metal Shell Piles 14" x 0.312"			Foot	395
Driving Piles			Foot	395
Test Pile Metal Shells			Each	1

* Length is height of spiral.

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.
 For details of piles see sheet 33 of 41.



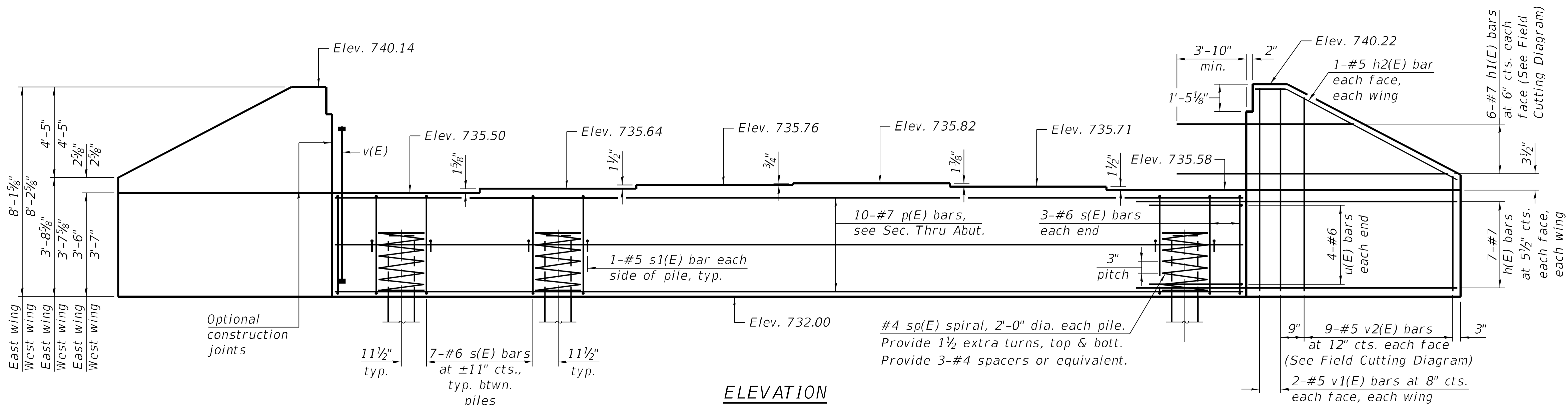
BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#7	13'-8"	
h1(E)	12	#7	21'-8"	
h2(E)	4	#5	10'-6"	
p(E)	10	#7	42'-6"	
s(E)	41	#6	14'-4"	
s1(E)	12	#5	4'-4"	
* sp(E)	6	#4	2'-0"	
u(E)	8	#6	11'-10"	
v(E)	102	#8	6'-2"	
v1(E)	8	#5	7'-10"	
v2(E)	18	#5	11'-0"	
Structure Excavation			Cu. Yd.	140
Concrete Structures			Cu. Yd.	25.5
Reinforcement Bars, Epoxy Coated			Pound	5,540
Furnishing Metal Shell Piles 14" x 0.312"			Foot	535
Driving Piles			Foot	535
Test Pile Metal Shells			Each	1

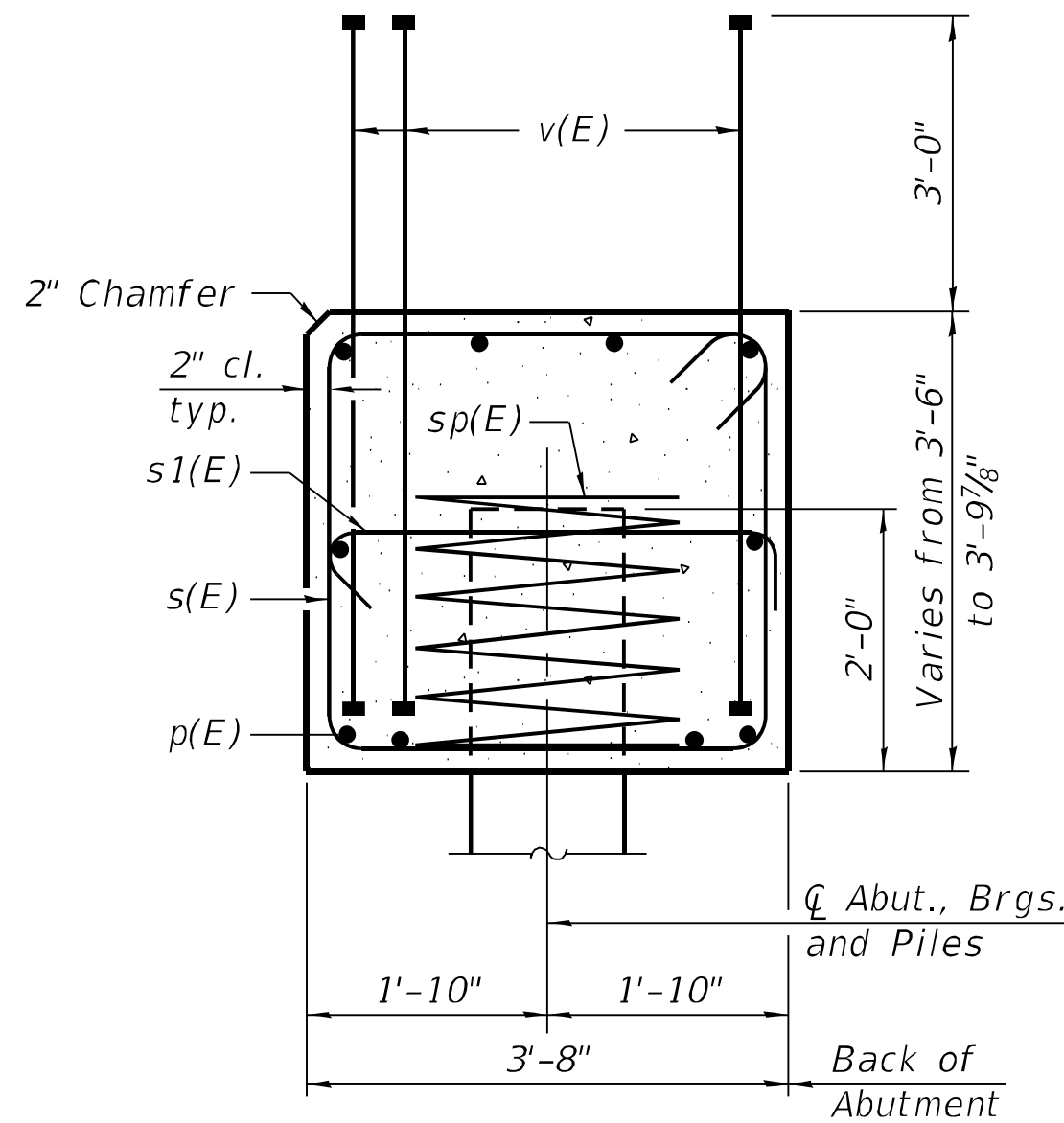
* Length is height of spiral.

Notes:
 Space reinforcement in cap to miss anchor bolts.
 Pour steps monolithically with cap.
 Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.
 For details of piles see sheet 33 of 41.

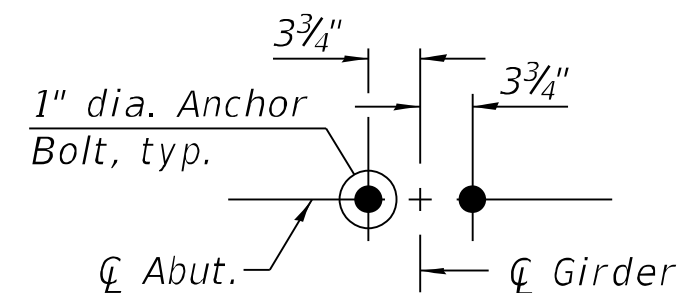
MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-27-SAbutNB.dgn



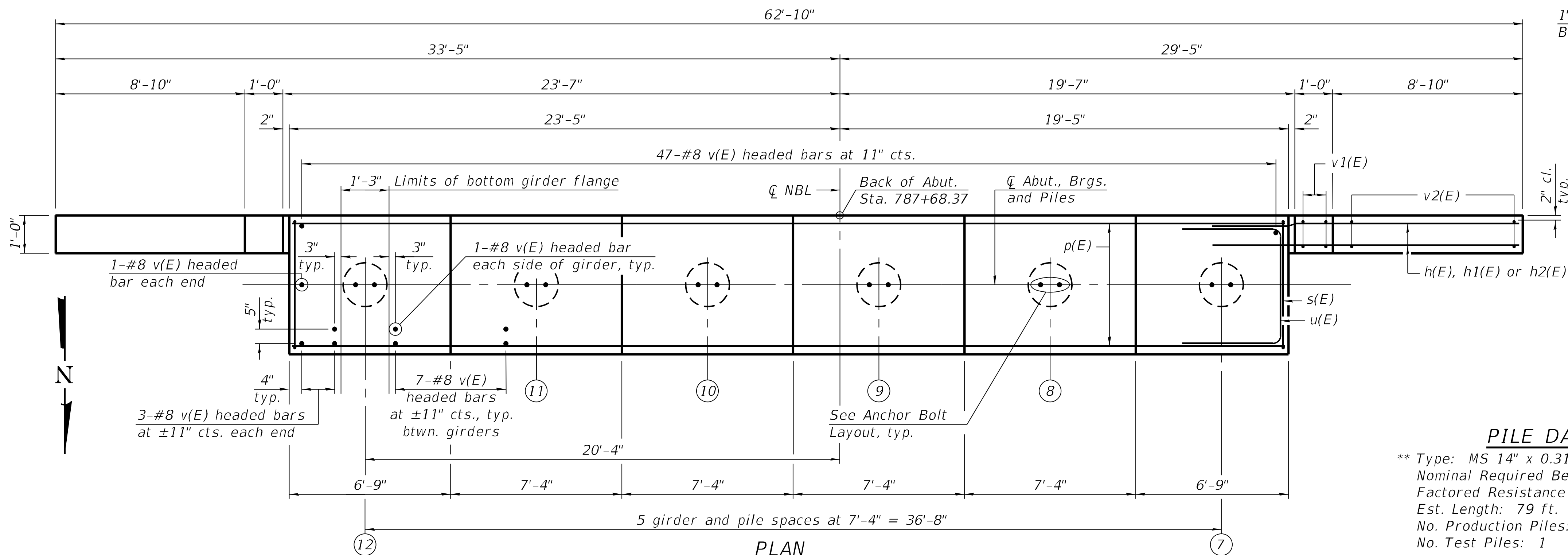
ELEVATION



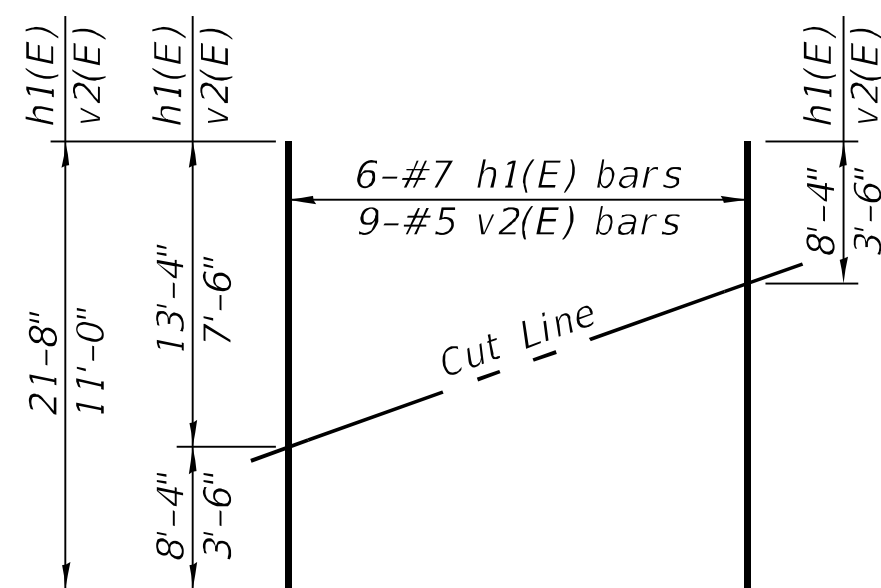
SEC. THRU ABUT.



ANCHOR BOLT LAYOUT

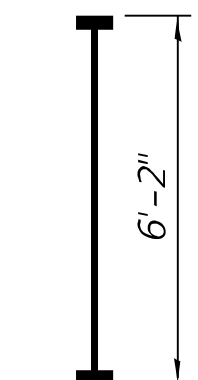


PLAN

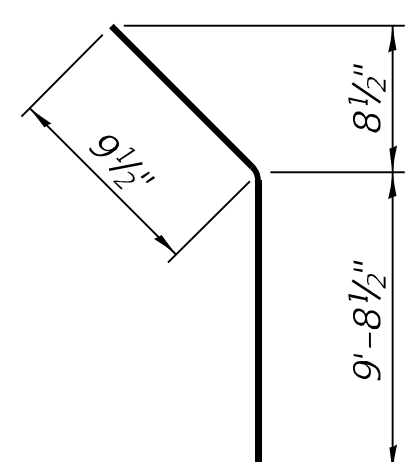


FIELD CUTTING DIAGRAM

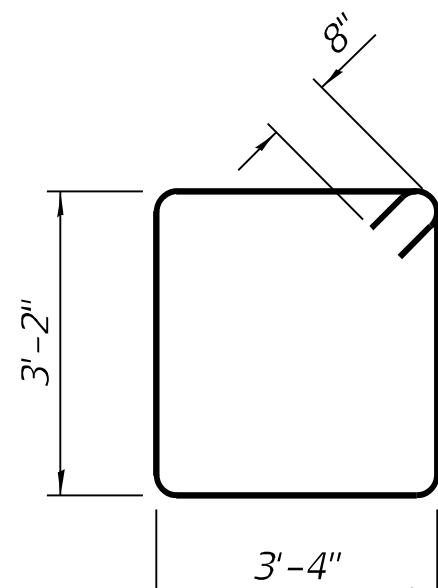
Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite wing.



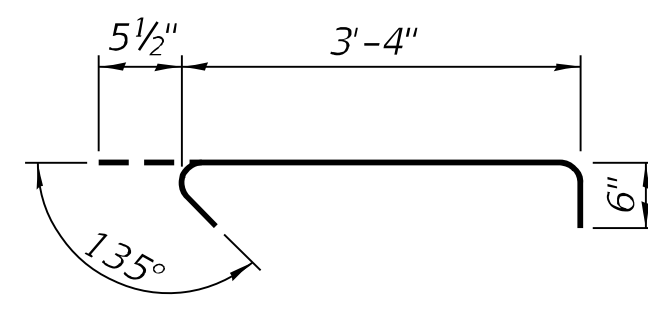
BAR v(E)
(Headed)



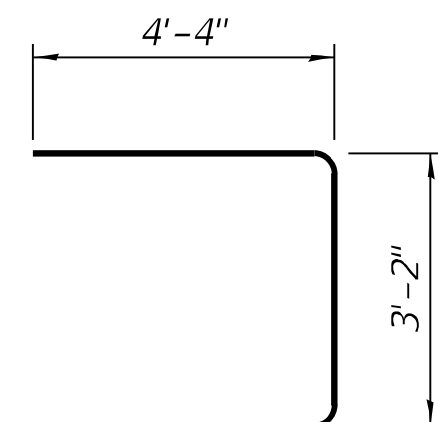
BAR h2(E)



BAR s(E)



BAR s1(E)



BAR u(E)

PILE DATA

** Type: MS 14" x 0.312"
Nominal Required Bearing: 520 kips
Factored Resistance Available: 286 kips
Est. Length: 79 ft.
No. Production Piles: 5
No. Test Piles: 1

** Piles shall be driven through 24 inch diameter precored holes extending to elevation 708.00 according to Article 512.09(c) of the Standard Specifications. Cost included in Driving Piles.

BILL OF MATERIAL

Bar	No.	Size	Length	Shape
h(E)	28	#7	13'-8"	
h1(E)	12	#7	21'-8"	
h2(E)	4	#5	10'-6"	
p(E)	10	#7	42'-6"	
s(E)	41	#6	14'-4"	
s1(E)	12	#5	4'-4"	
* sp(E)	6	#4	2'-0"	
u(E)	8	#6	11'-10"	
v(E)	102	#8	6'-2"	
v1(E)	8	#5	7'-10"	
v2(E)	18	#5	11'-0"	
Structure Excavation	Cu. Yd.	140		
Concrete Structures	Cu. Yd.	25.5		
Reinforcement Bars, Epoxy Coated	Pound	5,540		
Furnishing Metal Shell Piles 14" x 0.312"	Foot	395		
Driving Piles	Foot	395		
Test Pile Metal Shells	Each	1		

* Length is height of spiral.

Notes:
Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap.
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.
For details of piles see sheet 33 of 41.



USER NAME = nhc	DESIGNED - SHL 01/22	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - MTD 01/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

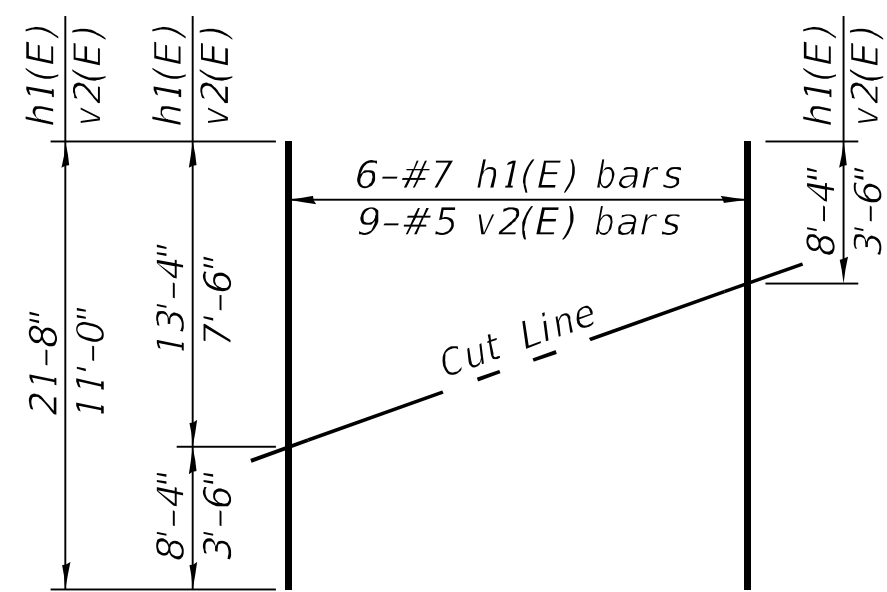
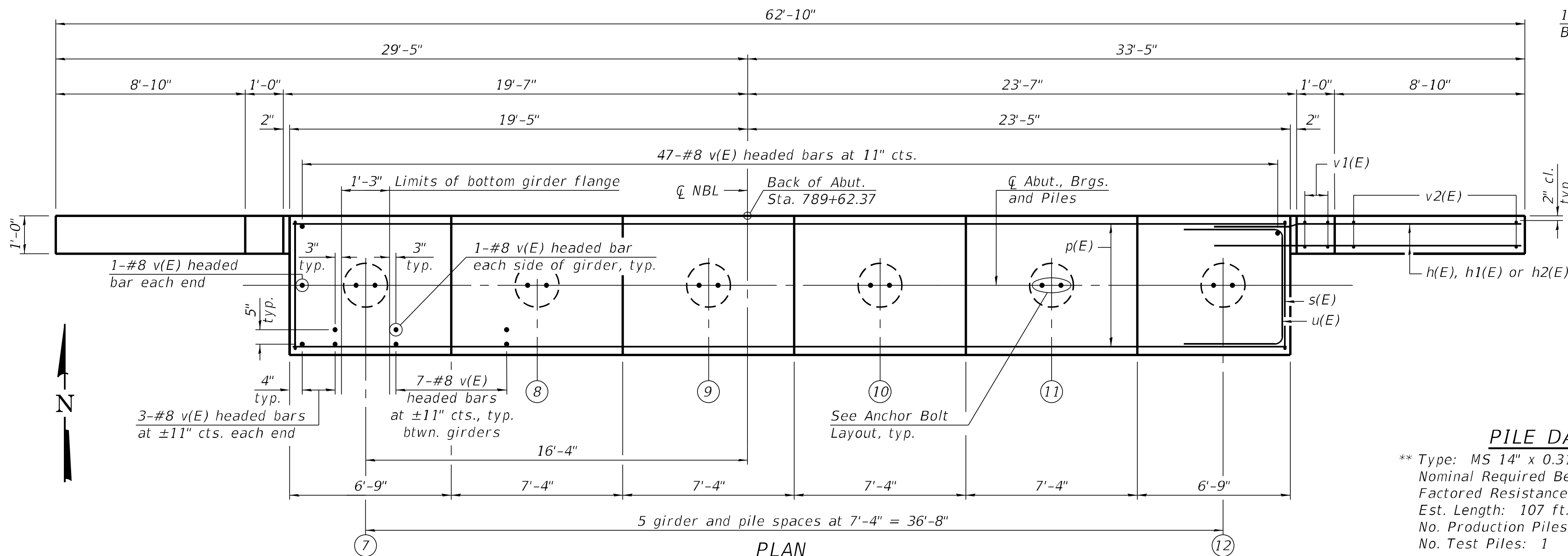
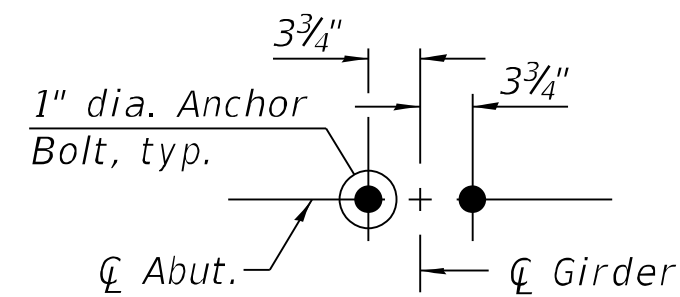
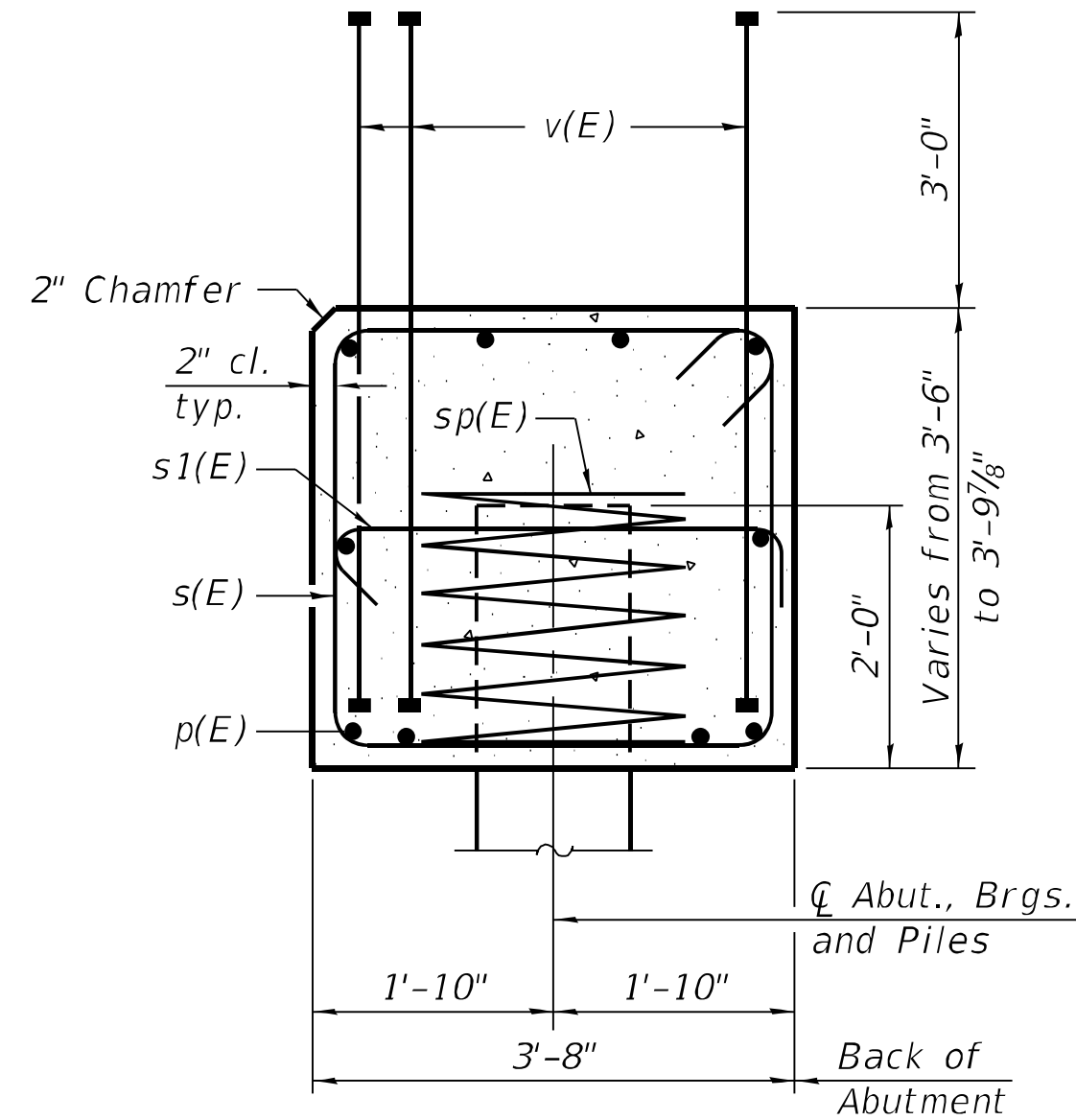
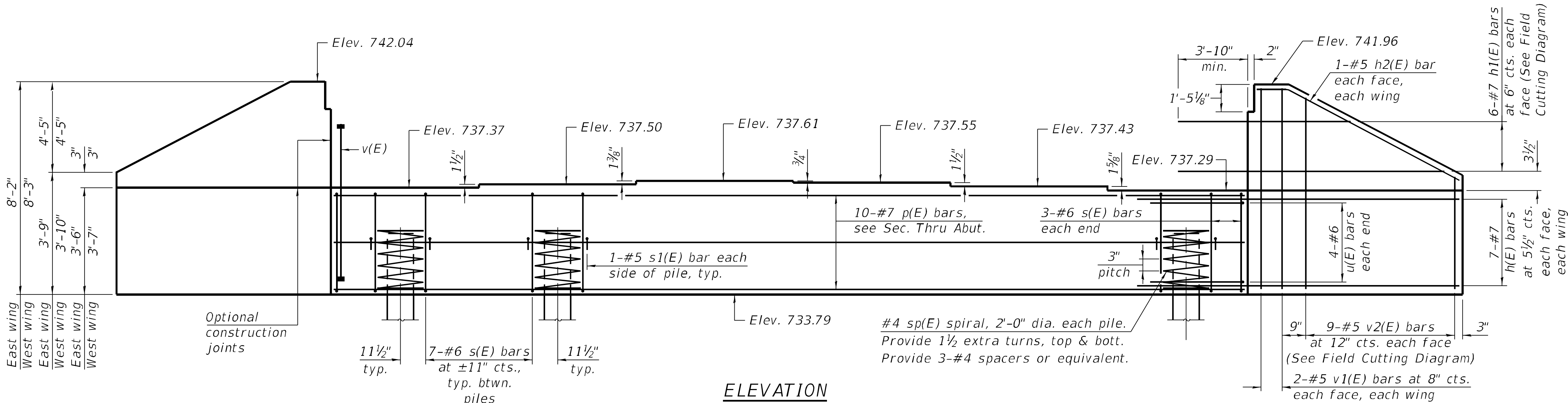
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SOUTH ABUTMENT (NB)
STRUCTURE NO. 015-0078 (NB)

SHEET 27 OF 41 SHEETS

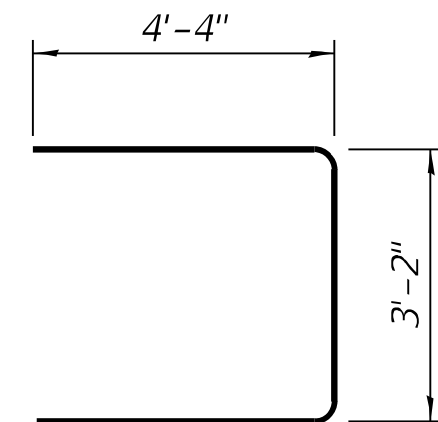
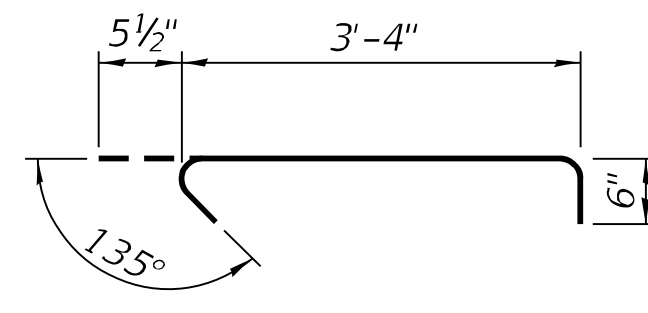
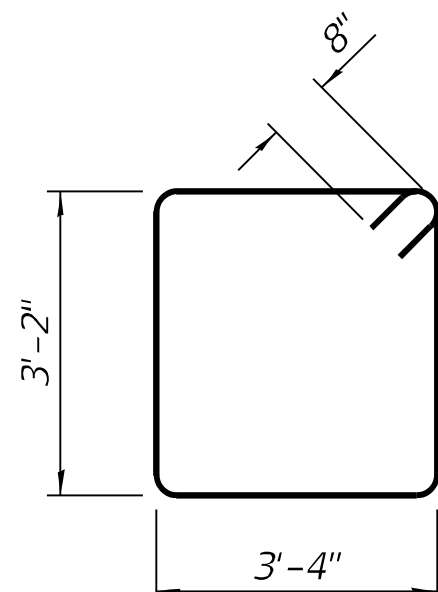
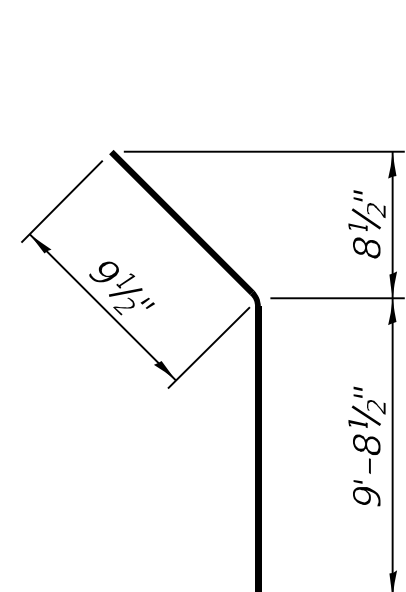
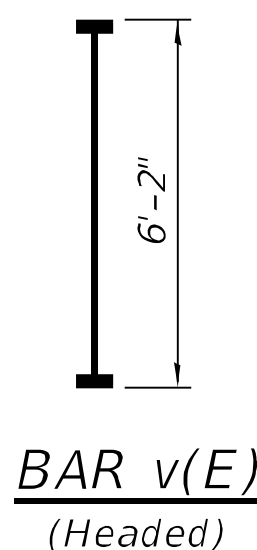
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	687
CONTRACT NO. 74435				
ILLINOIS		FED. AID PROJECT		

MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-28-NAButNB.dgn



FIELD CUTTING DIAGRAM

Order h1(E) and v2(E) full length. Cut as shown and use remainder of bars in opposite wing.



PILE DATA

** Type: MS 14" x 0.312"

Nominal Required Bearing: 520 kips

Factored Resistance Available: 286 kips

Est. Length: 107 ft.

No. Production Piles: 5

No. Test Piles: 1

** Piles shall be driven through 24 inch diameter precored holes extending to elevation 711.00 according to Article 512.09(c) of the Standard Specifications. Cost included in Driving Piles.

BILL OF MATERIAL				
Bar	No.	Size	Length	Shape
h(E)	28	#7	13'-8"	
h1(E)	12	#7	21'-8"	
h2(E)	4	#5	10'-6"	
p(E)	10	#7	42'-6"	
s(E)	41	#6	14'-4"	
s1(E)	12	#5	4'-4"	
* sp(E)	6	#4	2'-0"	
u(E)	8	#6	11'-10"	
v(E)	102	#8	6'-2"	
v1(E)	8	#5	7'-10"	
v2(E)	18	#5	11'-0"	
Structure Excavation			Cu. Yd.	140
Concrete Structures			Cu. Yd.	25.5
Reinforcement Bars, Epoxy Coated			Pound	5,540
Furnishing Metal Shell Piles 14" x 0.312"			Foot	535
Driving Piles			Foot	535
Test Pile Metal Shells			Each	1

* Length is height of spiral.

Notes:

Space reinforcement in cap to miss anchor bolts. Pour steps monolithically with cap.

Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.

For details of piles see sheet 33 of 41.



USER NAME = nhc	DESIGNED - SHL 01/22	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - MTD 01/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

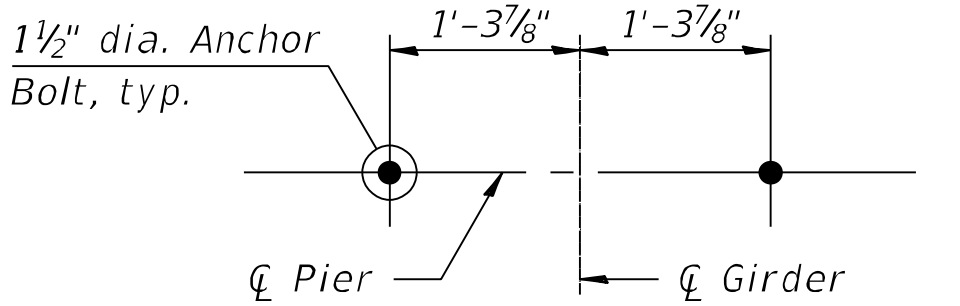
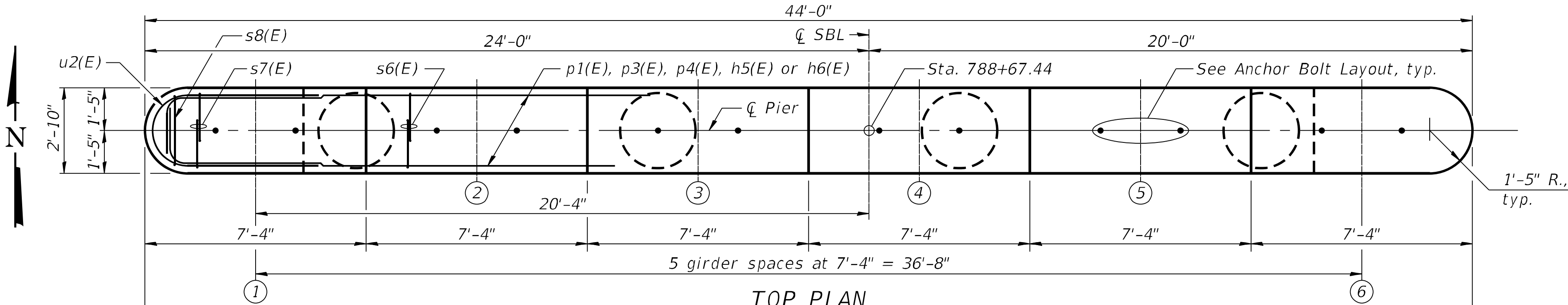
**NORTH ABUTMENT (NB)
STRUCTURE NO. 015-0078 (NB)**

SHEET 28 OF 41 SHEETS

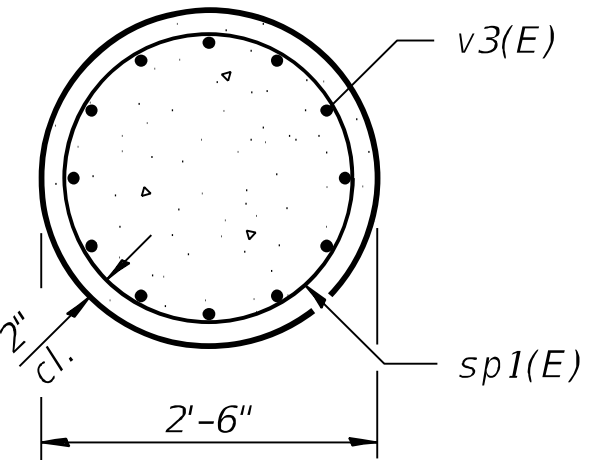
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	688
CONTRACT NO. 74435				
ILLINOIS		FED. AID PROJECT		

PILE DATA

Type: MS 14" x 0.312"
Nominal Required Bearing: 570 kips
Factored Resistance Available: 314 kips
Est. Length: 80 ft.
No. Production Piles: 11
No. Test Piles: 1



ANCHOR BOLT LAYOUT

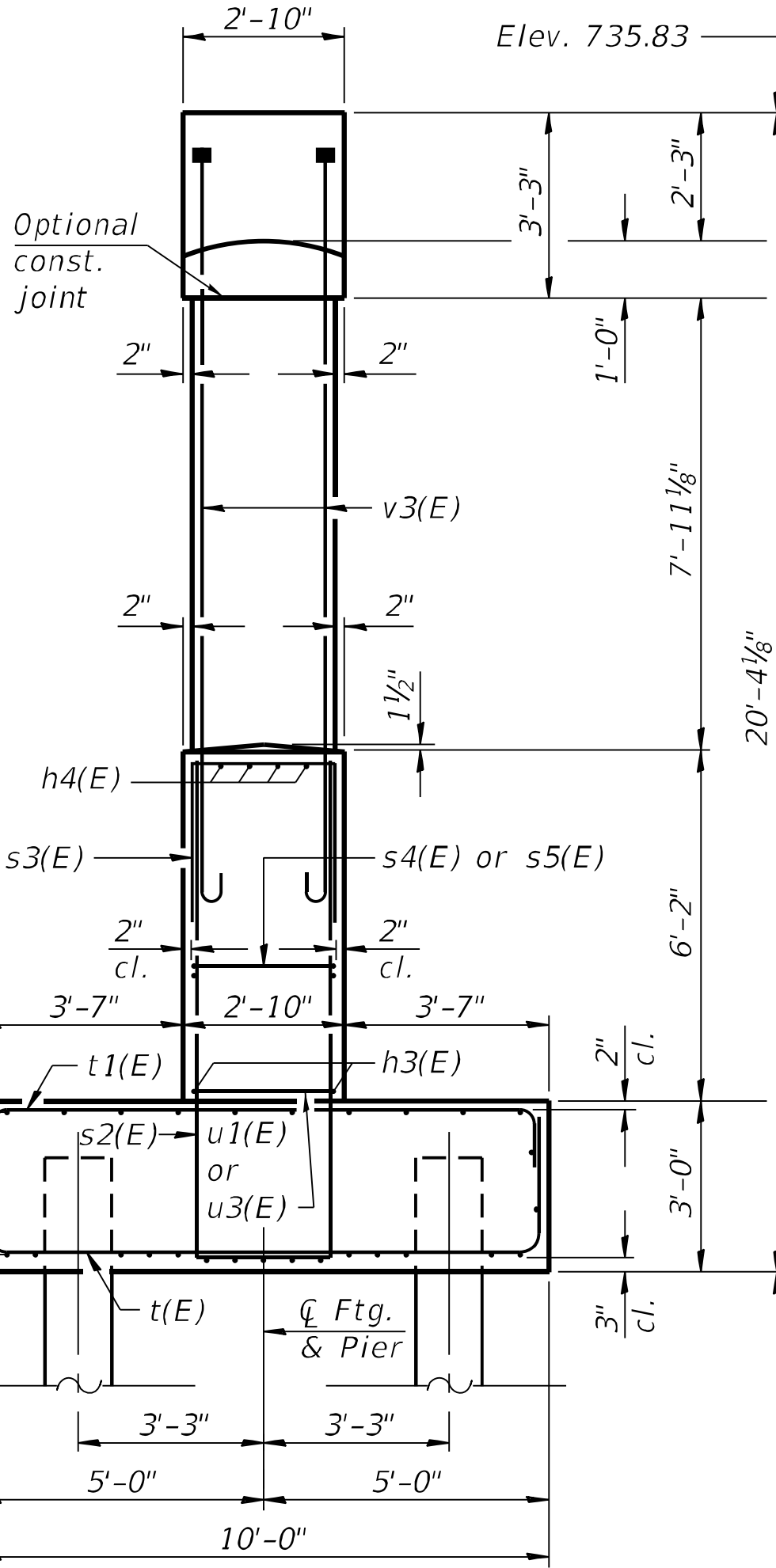


SEC. A-A

BILL OF MATERIAL

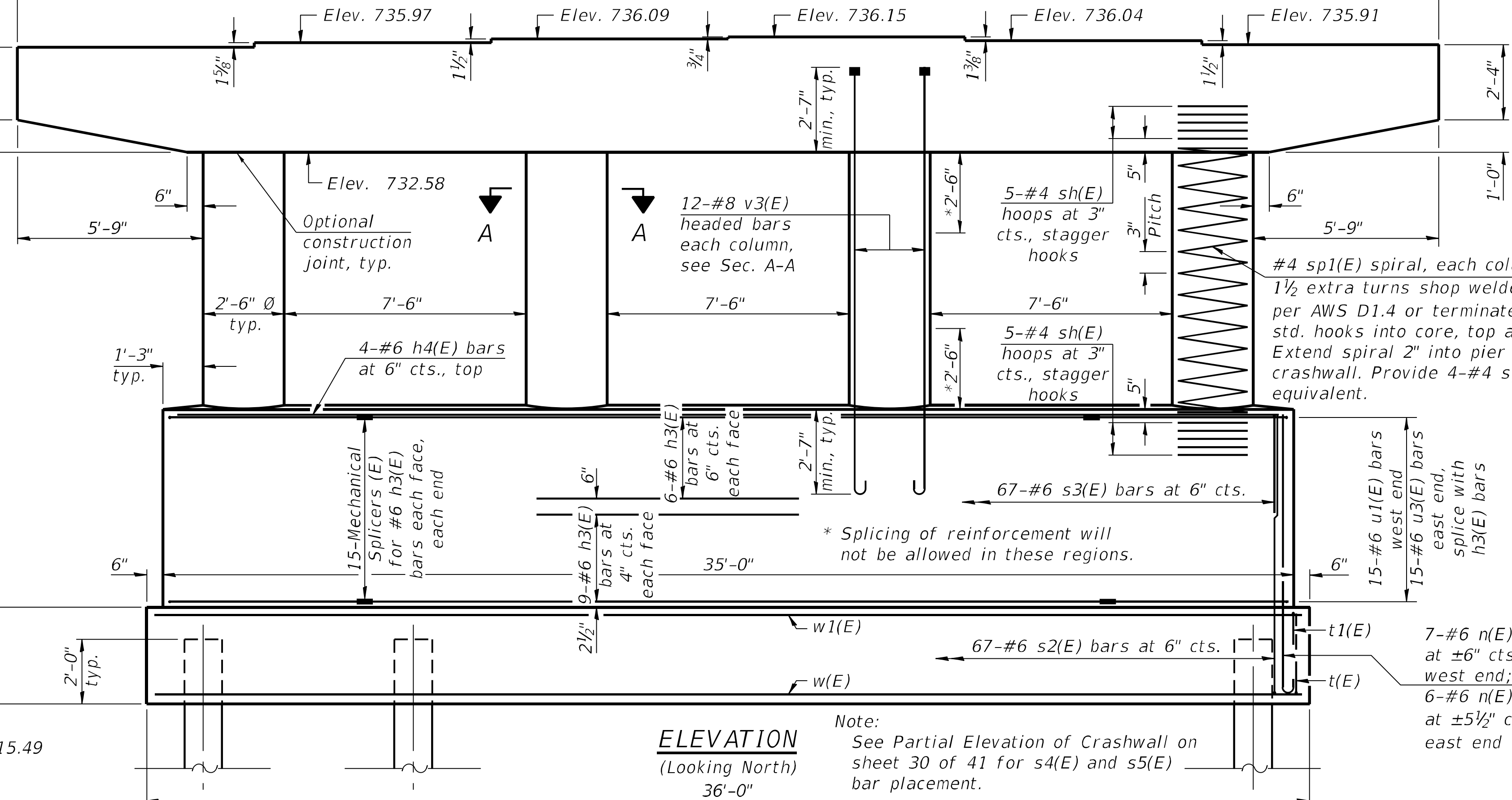
Bar	No.	Size	Length	Shape
h3(E)	30	#6	23'-6"	—
h4(E)	4	#6	34'-5"	—
h5(E)	2	#5	39'-1"	—
h6(E)	6	#5	41'-10"	—
n(E)	13	#6	9'-4"	U
p1(E)	6	#7	33'-7"	—
p2(E)	10	#7	5'-3"	—
p3(E)	6	#9	45'-0"	—
p4(E)	12	#9	29'-11"	—
s2(E)	67	#6	19'-9"	—
s3(E)	67	#6	8'-9"	—
s4(E)	444	#4	3'-3"	—
s5(E)	16	#4	3'-1"	—
s6(E)	160	#5	10'-0"	—
s7(E)	80	#5	7'-4"	—
s8(E)	2	#5	9'-7"	—
sh(E)	40	#4	9'-1"	—
sp1(E)	4	#4	8'-3"	—
t(E)	54	#9	14'-8"	—
t1(E)	72	#6	11'-8"	—
u1(E)	15	#6	12'-7"	—
u2(E)	8	#6	12'-5"	—
u3(E)	15	#6	13'-8"	—
v3(E)	48	#8	14'-1"	—
w(E)	19	#6	35'-8"	—
w1(E)	10	#5	35'-8"	—
Structure Excavation			Cu. Yd.	35
Concrete Structures			Cu. Yd.	82.5
Reinforcement Bars, Epoxy Coated			Pound	19,410
Furnishing Metal Shell Piles 14" x 0.312"			Foot	880
Driving Piles			Foot	880
Test Pile Metal Shells			Each	1
Concrete Sealer			Sq. Ft.	1,230

** Length is height of spiral.



END VIEW

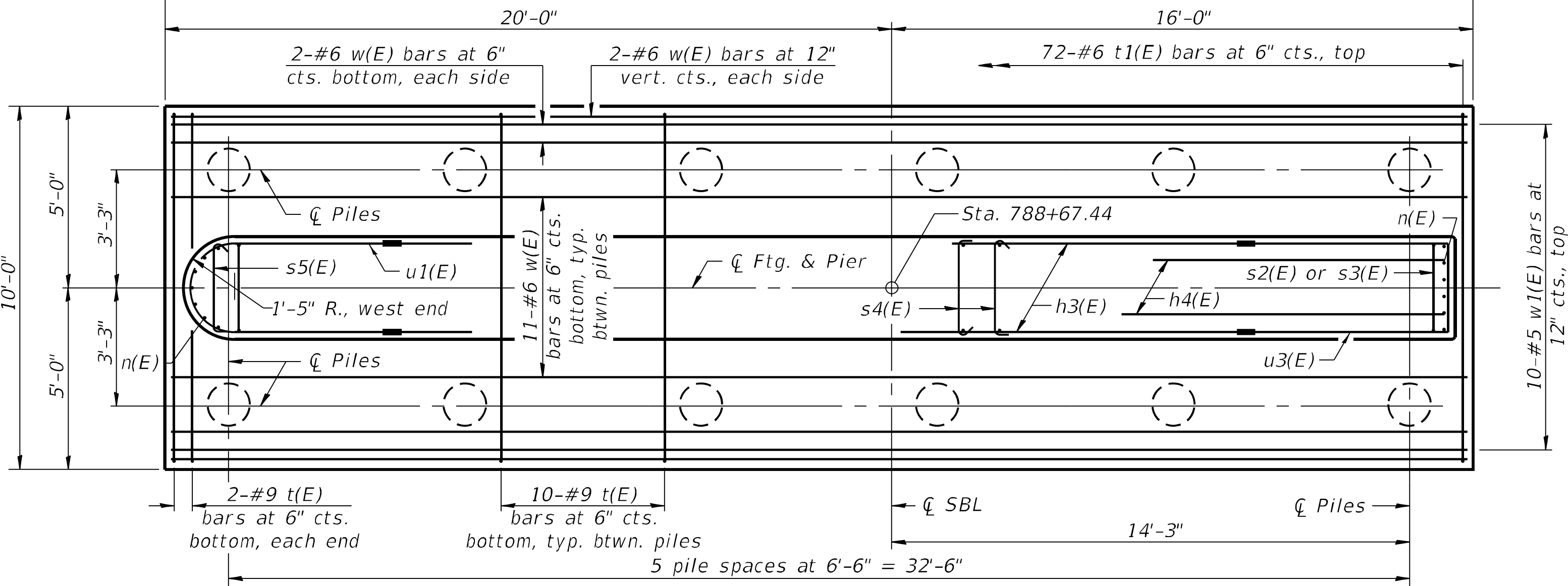
Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles see sheet 33 of 41.
Reinforcement shall be placed in the tops of all piles according to the details shown on sheet 33 of 41.
For details of Mechanical Splicers see sheet 34 of 41.
For pier cap reinforcement and additional details see sheet 30 of 41.
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.
Bars indicated thus 6x2-#9 etc. indicates 6 lines of bars with 2 lengths per line.
When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook into core.
Concrete Sealer shall be applied to all exposed surfaces above proposed grade.



ELEVATION

(Looking North)
36'-0"

Note:
See Partial Elevation of Crashwall on sheet 30 of 41 for s4(E) and s5(E) bar placement.



FOOTING PLAN

(Sheet 1 of 2)

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-29-Pier(SB).1.dgn



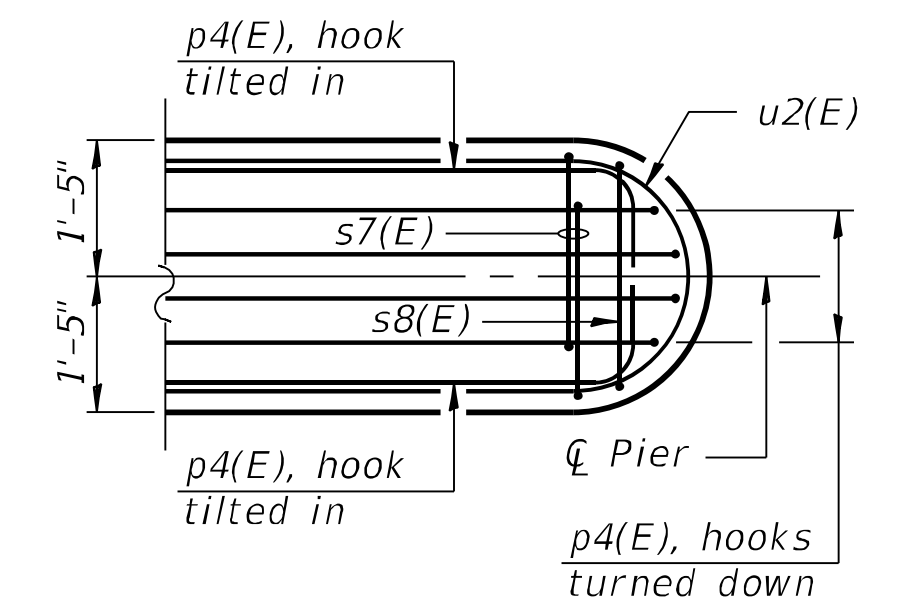
USER NAME = nhc	DESIGNED - SHL 01/22	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - MTD 01/22	REVISED -
PLOT SCALE	DRAWN - MTD/NHC 10/23	REVISED -
PLOT DATE = 8/21/2024	CHECKED - SHL/ELH 10/23	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER (SB)
STRUCTURE NO. 015-0079 (SB)

SHEET 29 OF 41 SHEETS

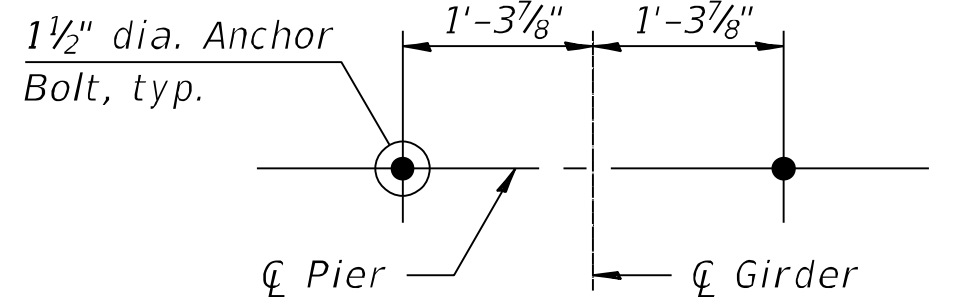
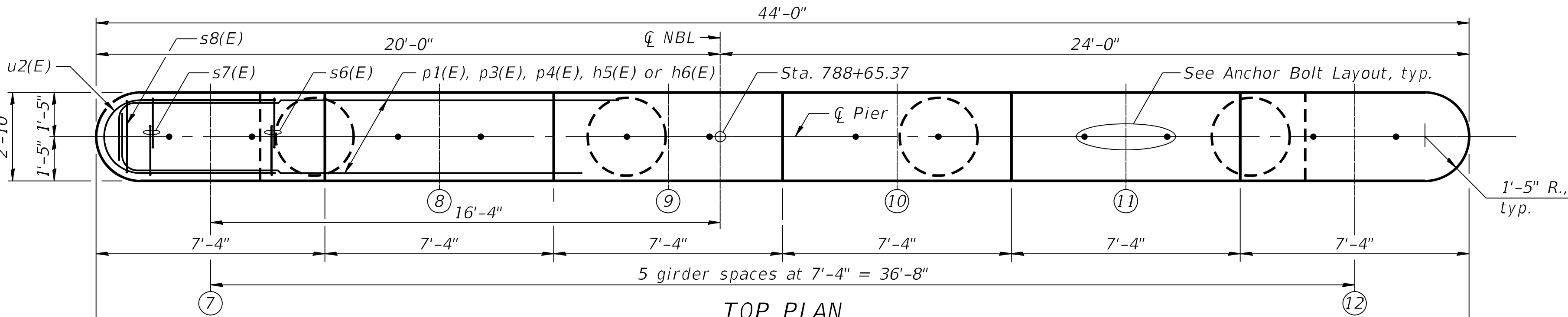
F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	689
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				



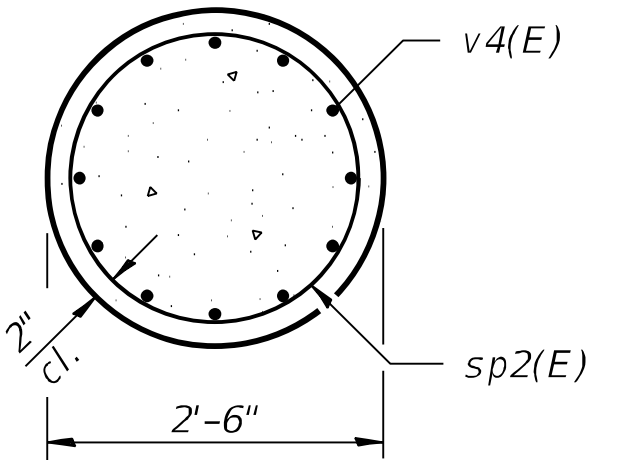
ILLINOIS	FED. AID PROJECT
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PILE DATA

Type: MS 14" x 0.312"
Nominal Required Bearing: 570 kips
Factored Resistance Available: 314 kips
Est. Length: 79 ft.
No. Production Piles: 11
No. Test Piles: 1



ANCHOR BOLT LAYOUT

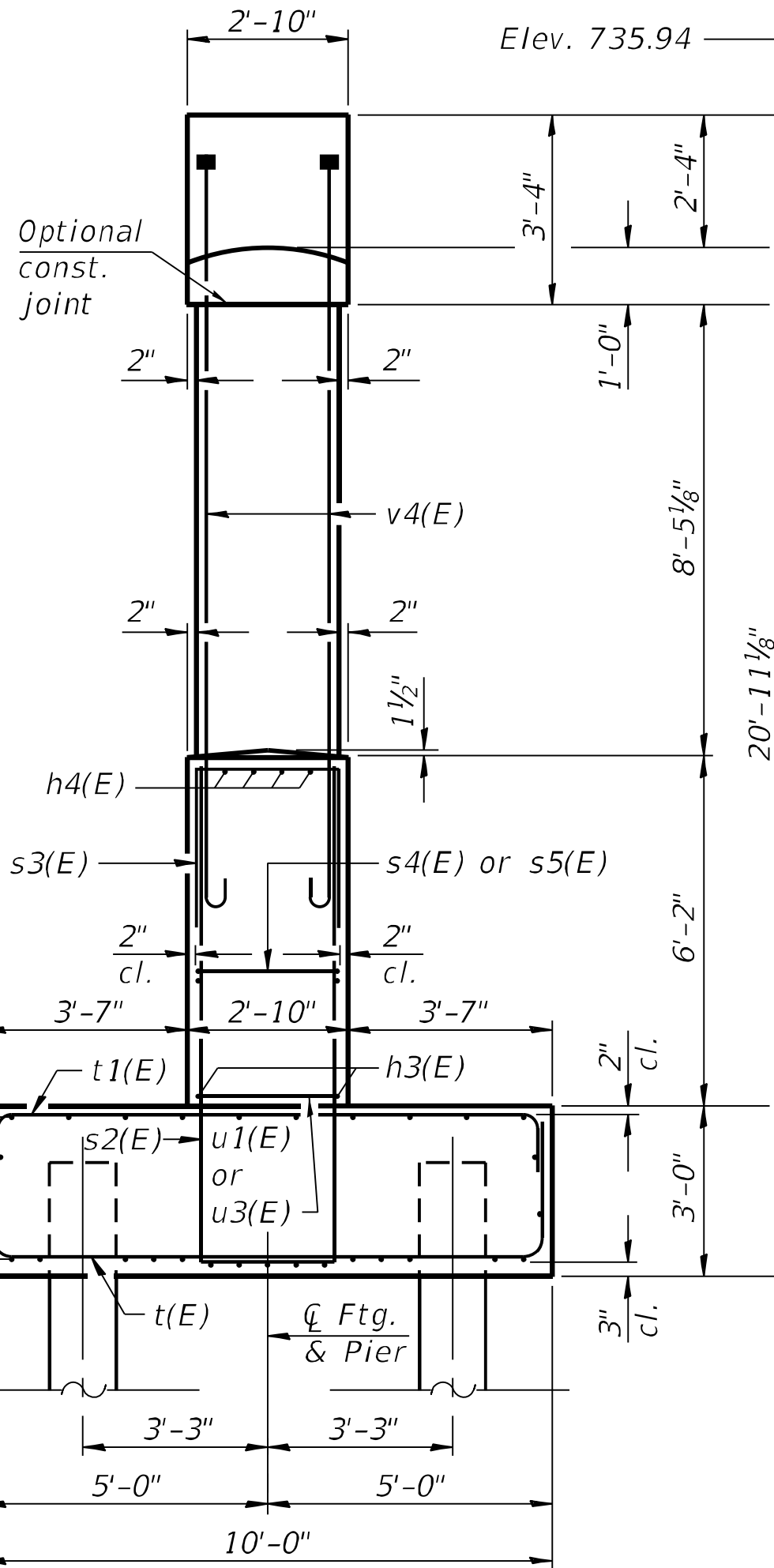


SEC. A-A

BILL OF MATERIAL

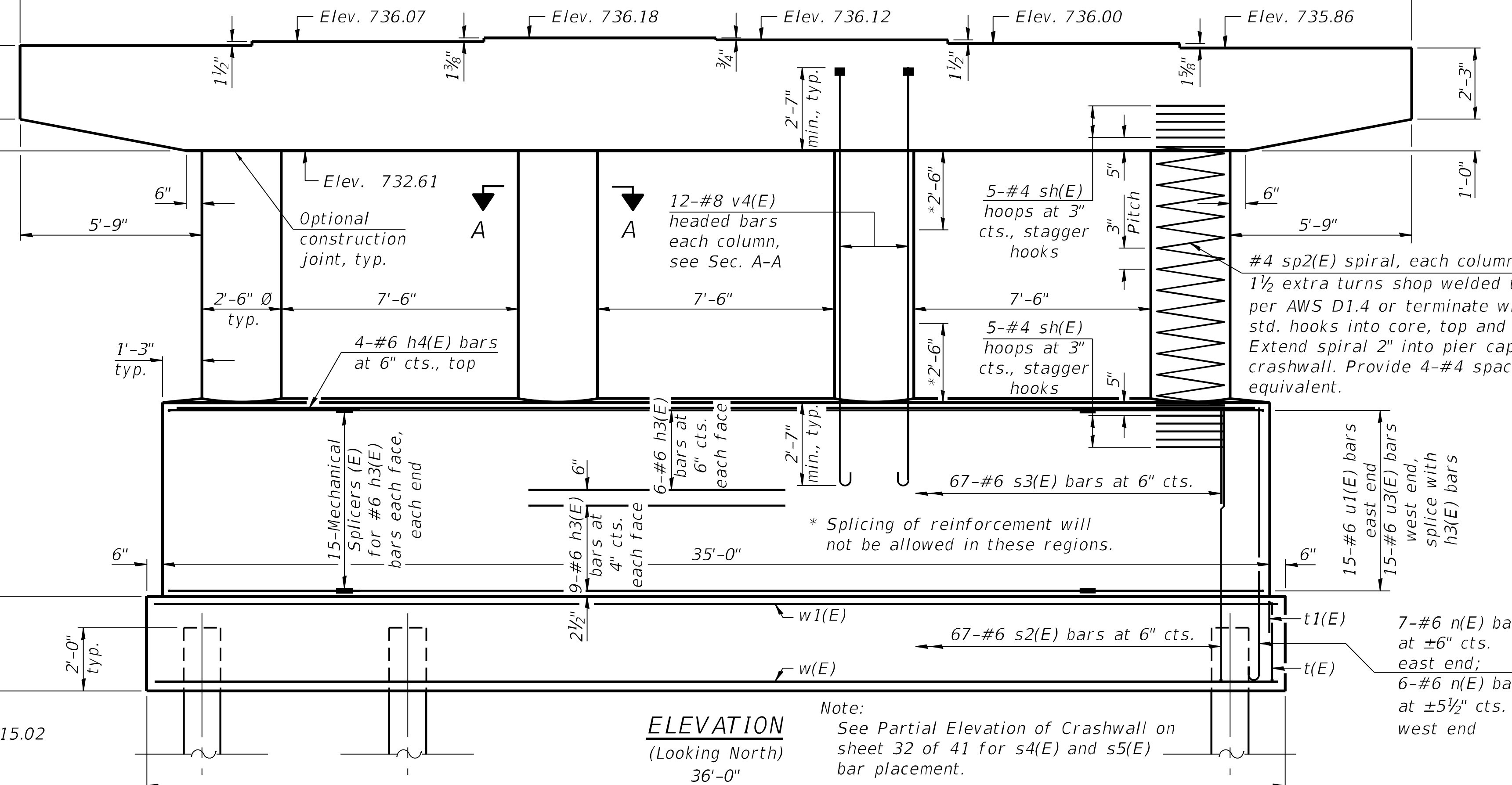
Bar	No.	Size	Length	Shape
h3(E)	30	#6	23'-6"	—
h4(E)	4	#6	34'-5"	—
h5(E)	2	#5	39'-1"	—
h6(E)	6	#5	41'-10"	—
n(E)	13	#6	9'-4"	U
p1(E)	6	#7	33'-7"	—
p2(E)	10	#7	5'-3"	—
p3(E)	6	#9	45'-0"	—
p4(E)	12	#9	29'-11"	—
s2(E)	67	#6	19'-9"	—
s3(E)	67	#6	8'-9"	—
s4(E)	444	#4	3'-3"	—
s5(E)	16	#4	3'-1"	—
s6(E)	160	#5	10'-0"	—
s7(E)	80	#5	7'-4"	—
s8(E)	2	#5	9'-7"	—
sh(E)	40	#4	9'-1"	—
sp2(E)	4	#4	8'-9"	—
t(E)	54	#9	14'-8"	—
t1(E)	72	#6	11'-8"	—
u1(E)	15	#6	12'-7"	—
u2(E)	8	#6	12'-5"	—
u3(E)	15	#6	13'-8"	—
v4(E)	48	#8	14'-7"	—
w(E)	19	#6	35'-8"	—
w1(E)	10	#5	35'-8"	—
Structure Excavation			Cu. Yd.	35
Concrete Structures			Cu. Yd.	82.9
Reinforcement Bars, Epoxy Coated			Pound	19,510
Furnishing Metal Shell Piles 14" x 0.312"			Foot	869
Driving Piles			Foot	869
Test Pile Metal Shells			Each	1
Concrete Sealer			Sq. Ft.	1,240

** Length is height of spiral.



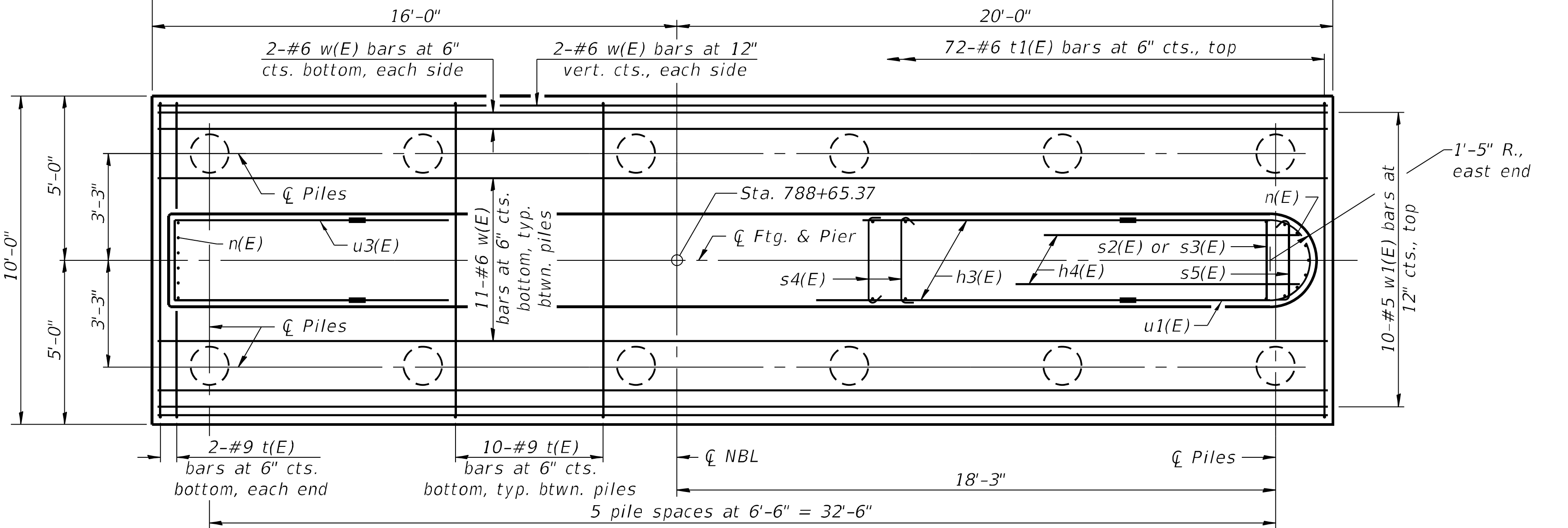
END VIEW

Notes:
Space reinforcement in cap to miss anchor bolts.
Pour steps monolithically with cap.
For details of piles see sheet 33 of 41.
Reinforcement shall be placed in the tops of all piles according to the details shown on sheet 33 of 41.
For details of Mechanical Splicers see sheet 34 of 41.
For pier cap reinforcement and additional details see sheet 32 of 41.
Headed bars shall conform to ASTM A970 with threaded attachment; Class HA; and reinforcement bars conforming to ASTM A706. Cost included with Reinforcement Bars, Epoxy Coated.
Bars indicated thus 6x2-#9 etc. indicates 6 lines of bars with 2 lengths per line.
When splicing of spiral reinforcement is necessary, the spirals shall be provided with 1 1/2 extra turns at the ends to be spliced. These additional turns shall either be welded together according to AWS D1.4, or shall both terminate with a 135° standard hook into core.
Concrete Sealer shall be applied to all exposed surfaces above proposed grade.



ELEVATION

(Looking North)
36'-0"



FOOTING PLAN

(Sheet 1 of 2)

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-31-Pier(NB).1.dgn



USER NAME = nhc	DESIGNED - SHL 01/22	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - MTD 01/22	REVISED -
PLOT SCALE	DRAWN - MTD/NHC 10/23	REVISED -
PLOT DATE = 8/21/2024	CHECKED - SHL/ELH 10/23	REVISED -

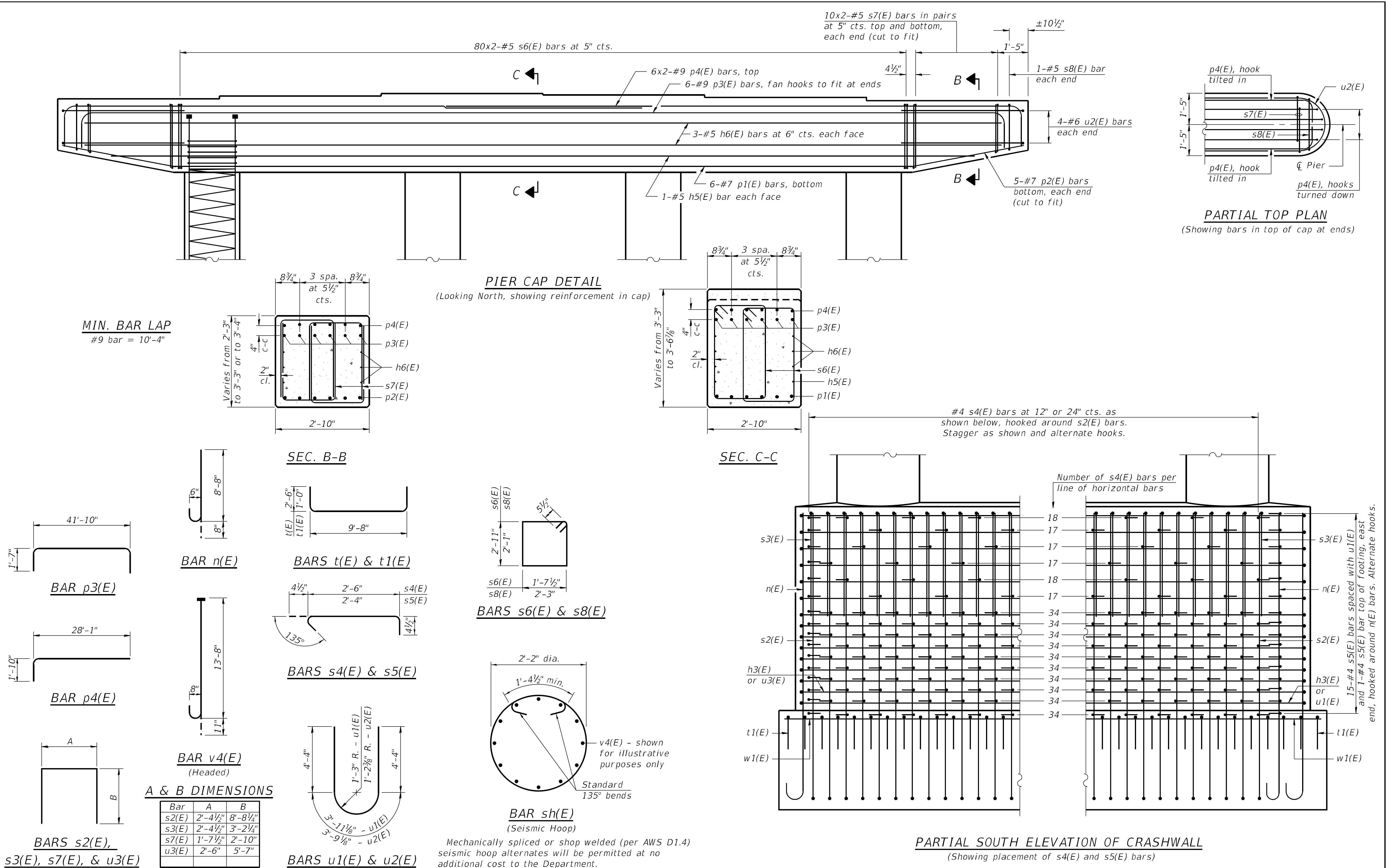
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER (NB)
STRUCTURE NO. 015-0078 (NB)

SHEET 31 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	691
				CONTRACT NO. 74435
				ILLINOIS / FED. AID PROJECT

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-32-Pier(NB).dgn



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ESCA PROJECT NO.	1343.08
PLOT SCALE	
PLOT DATE	= 8/21/2024

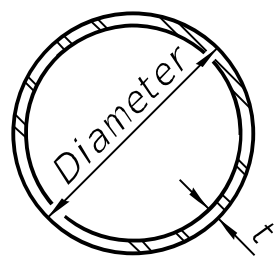
DESIGNED	- SHL	01/22	REVISED	-
CHECKED	- MTD	01/22	REVISED	-
DRAWN	- MTD/NHC	10/23	REVISED	-
CHECKED	- SHL/ELH	10/23	REVISED	-

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PIER (NB)
STRUCTURE NO. 015-0078 (NB)

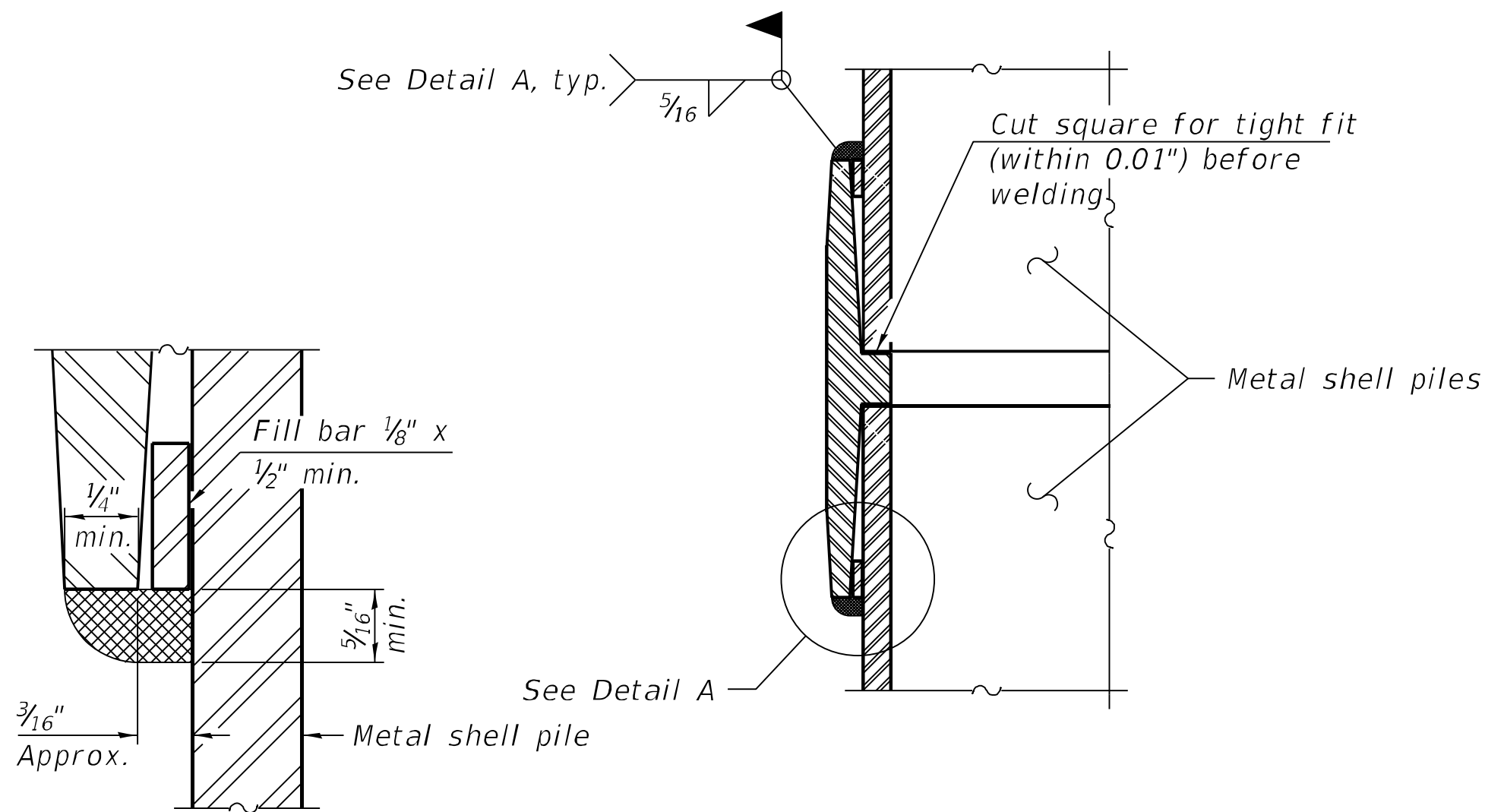
SHEET 32 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	692
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

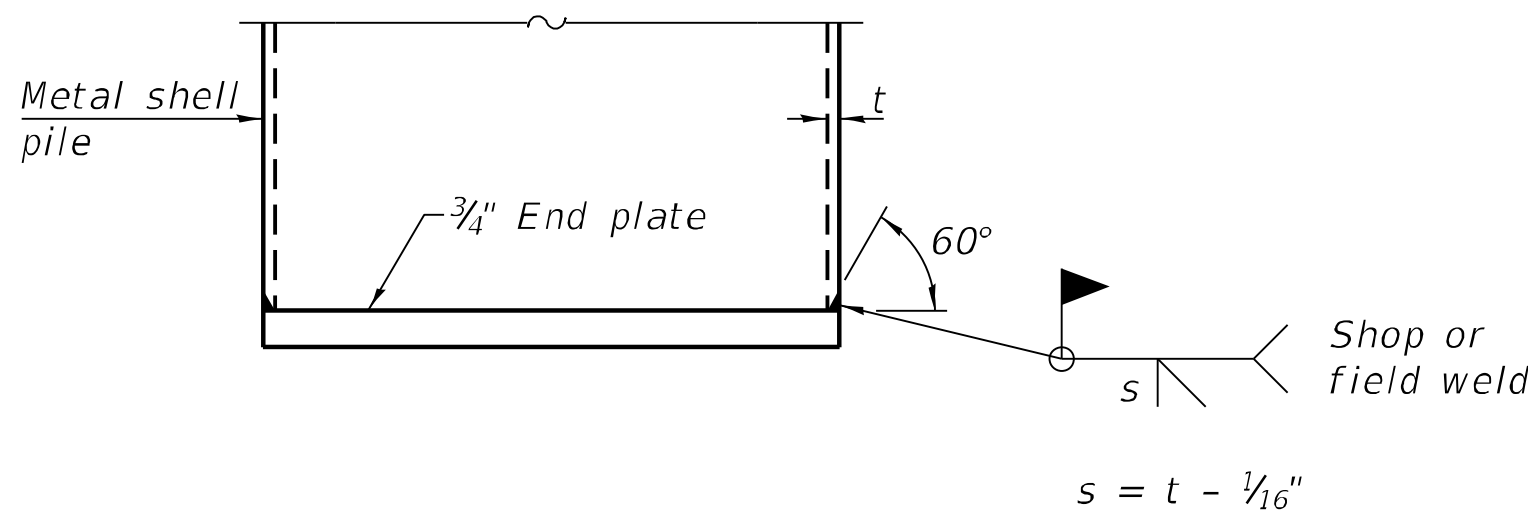


METAL SHELL PILE TABLE

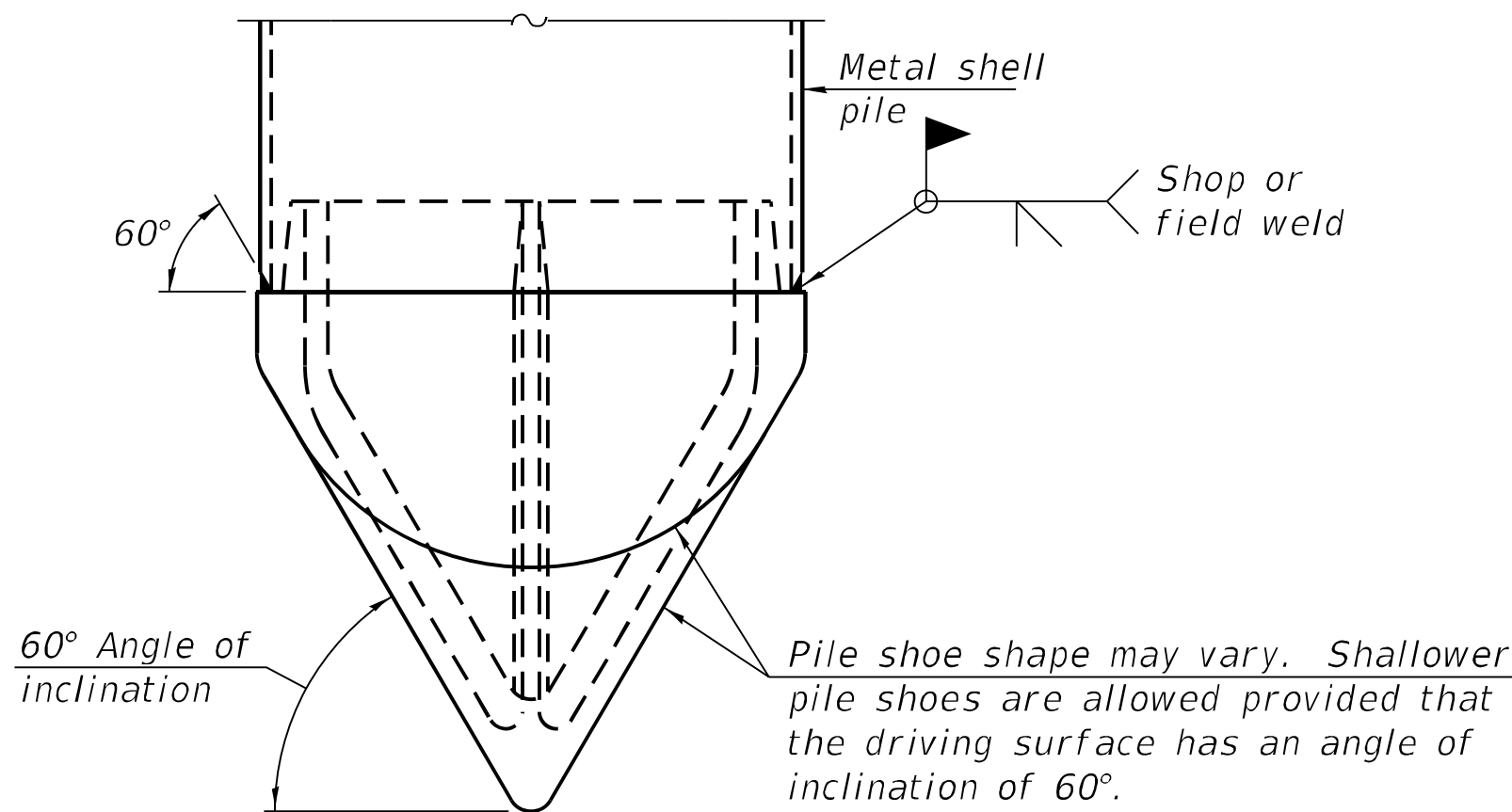
Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361
PP16	0.312"	52.32	0.0478
PP16	0.375"	62.64	0.0470



DETAIL A



END PLATE ATTACHMENT

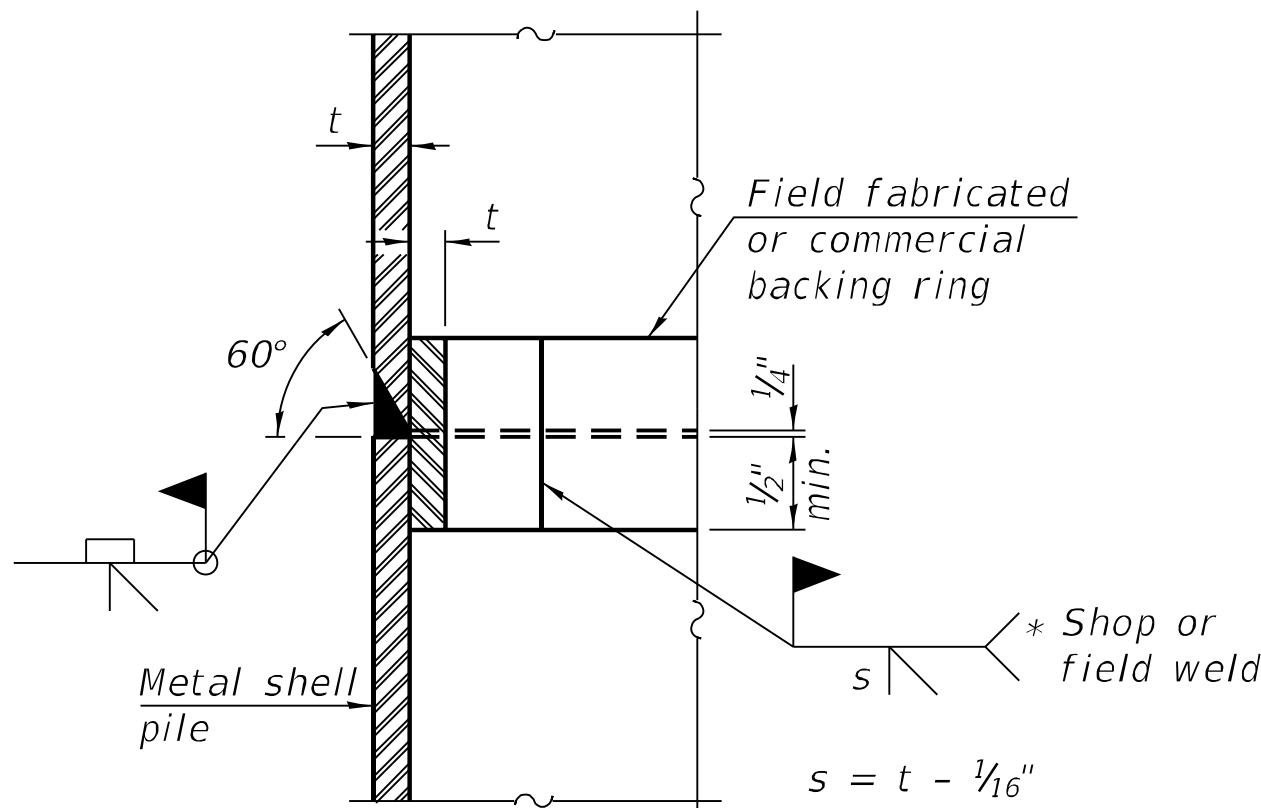


PILE SHOE ATTACHMENT

(When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 80-50 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld).

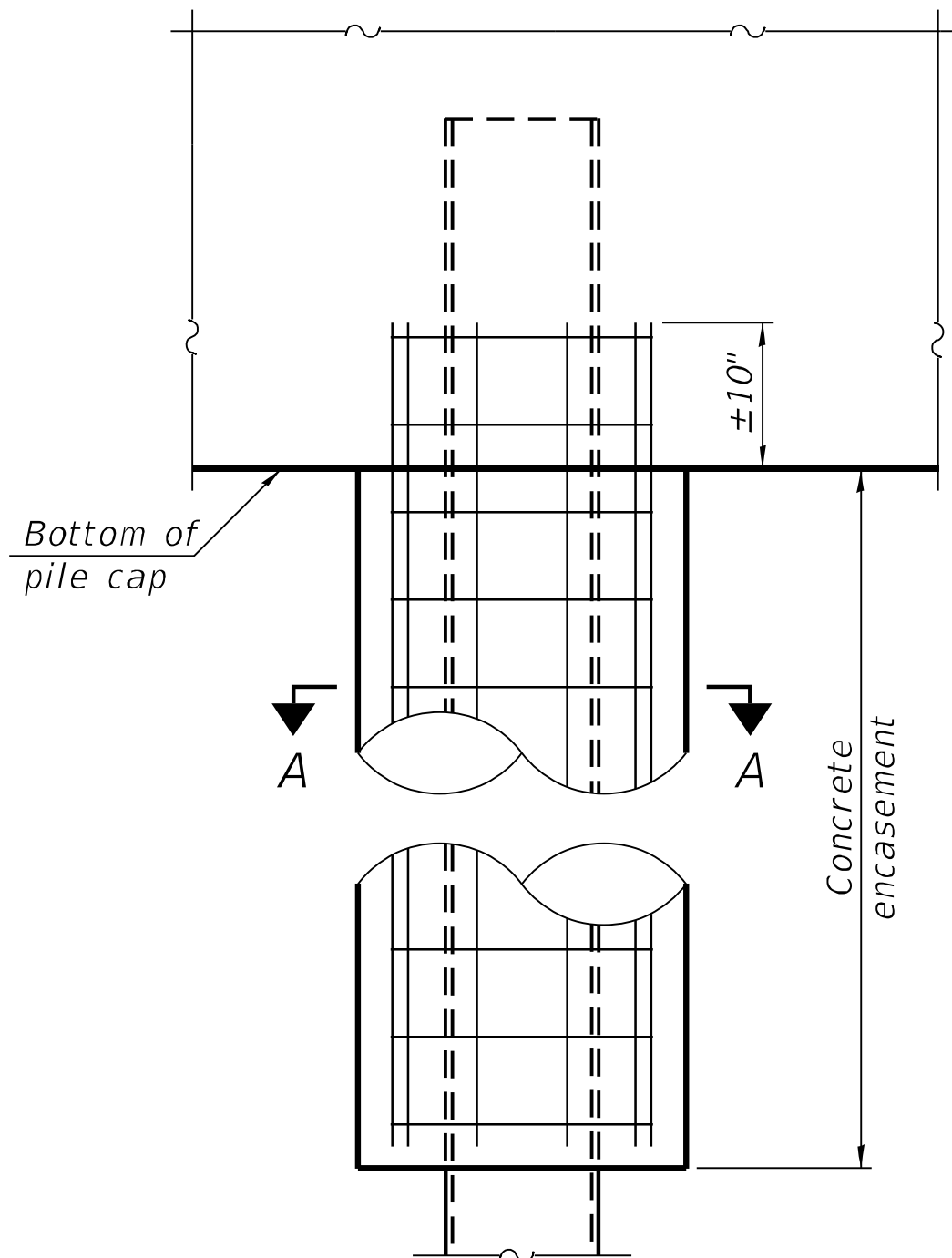
WELDED COMMERCIAL SPLICE

Notes:
The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

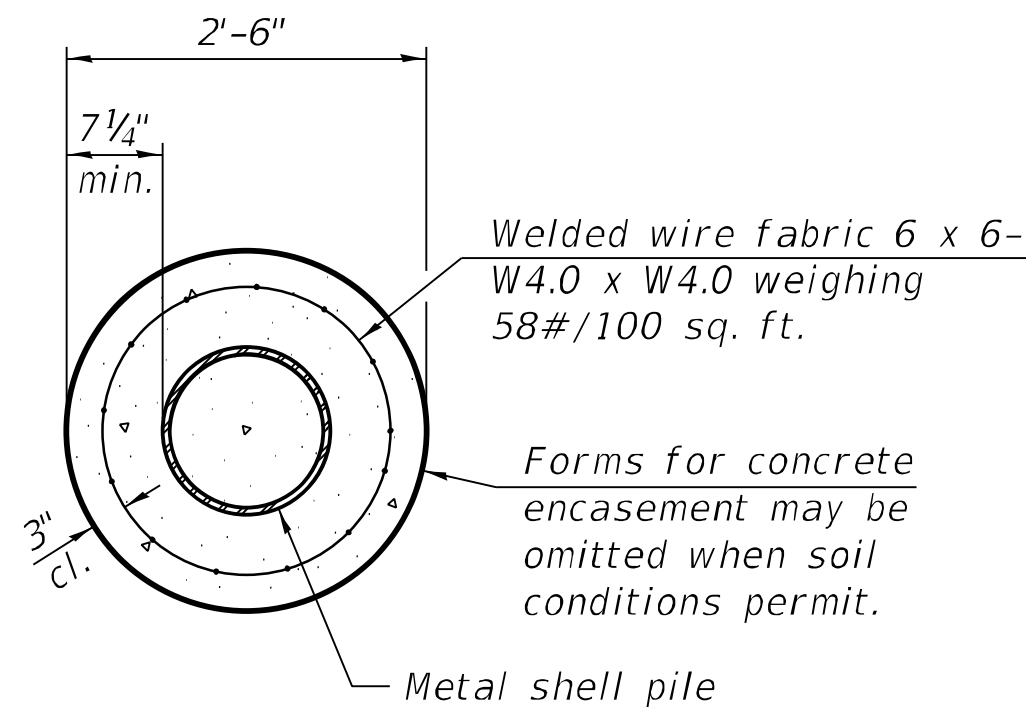


COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.

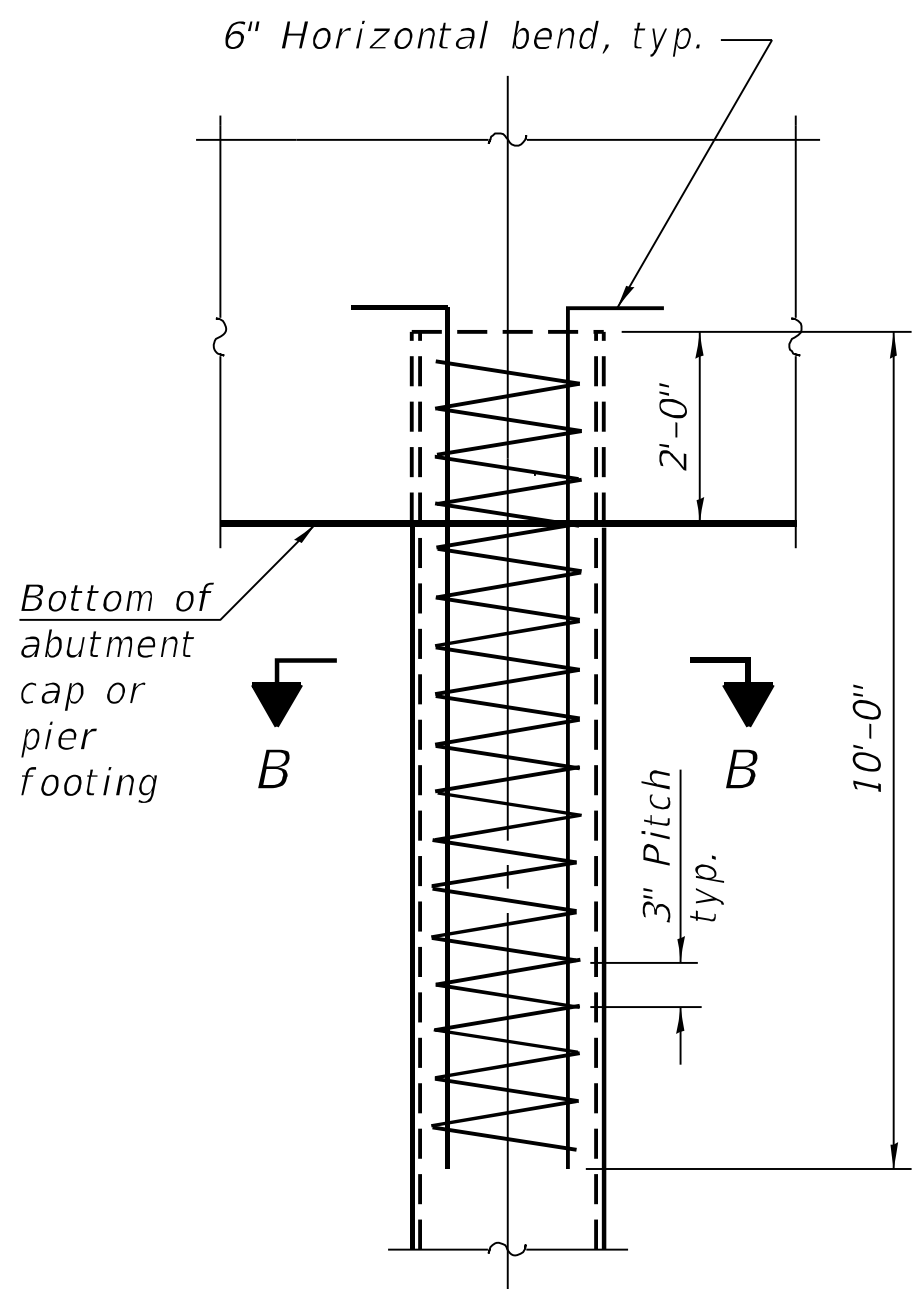


ELEVATION

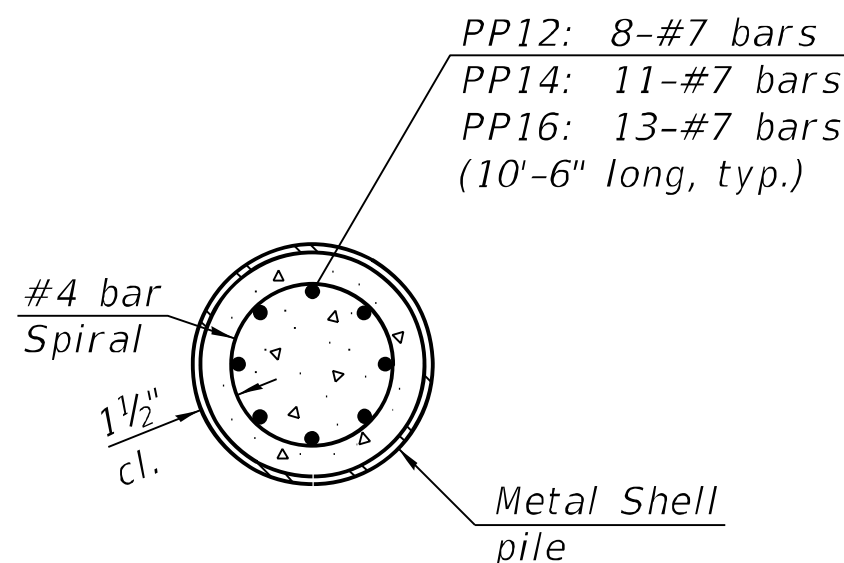


SECTION A-A

INDIVIDUAL PILE
CONCRETE ENCASEMENT
(When specified)



ELEVATION



SECTION B-B

REINFORCEMENT AT ABUTMENTS AND PIERS
(Omit when concrete encasement is specified)

Note:
The metal shell piles shall be according to Article 1006.05 of the Standard Specifications.

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-33-MHS\HDS.dgn



USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - PRH 01/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

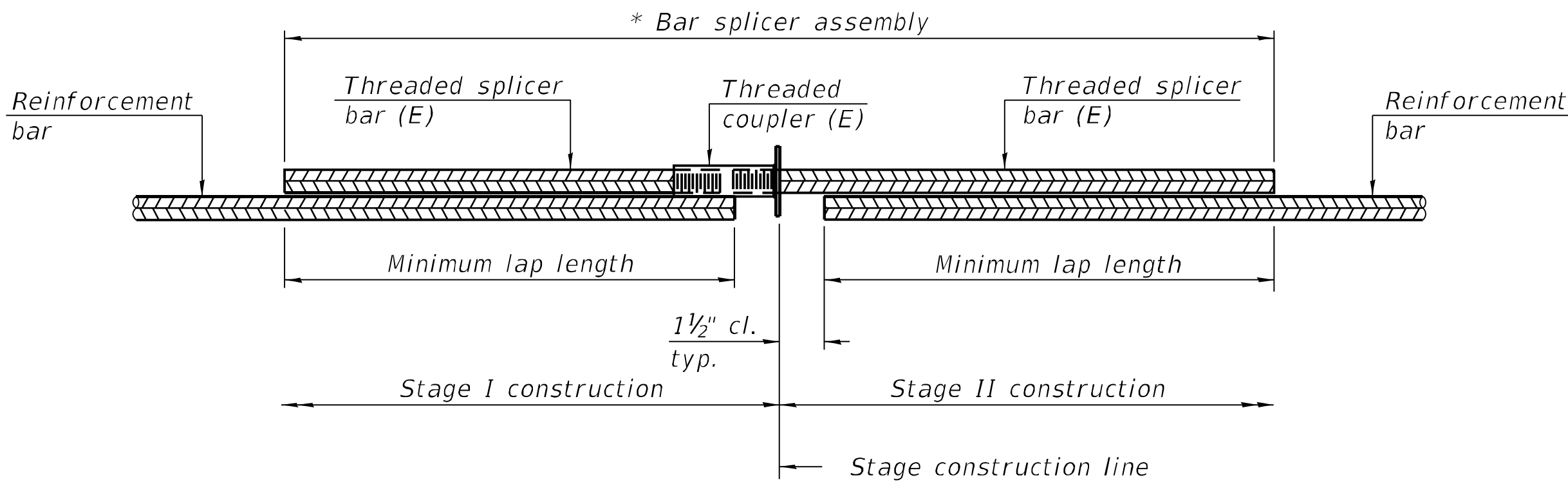
DESIGNED - MTD 12/21	REVISED -
CHECKED - PRH 01/22	REVISED -
DRAWN - KAH 12/21	REVISED -
CHECKED - MTD 01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

METAL SHELL PILE DETAILS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 33 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	693
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

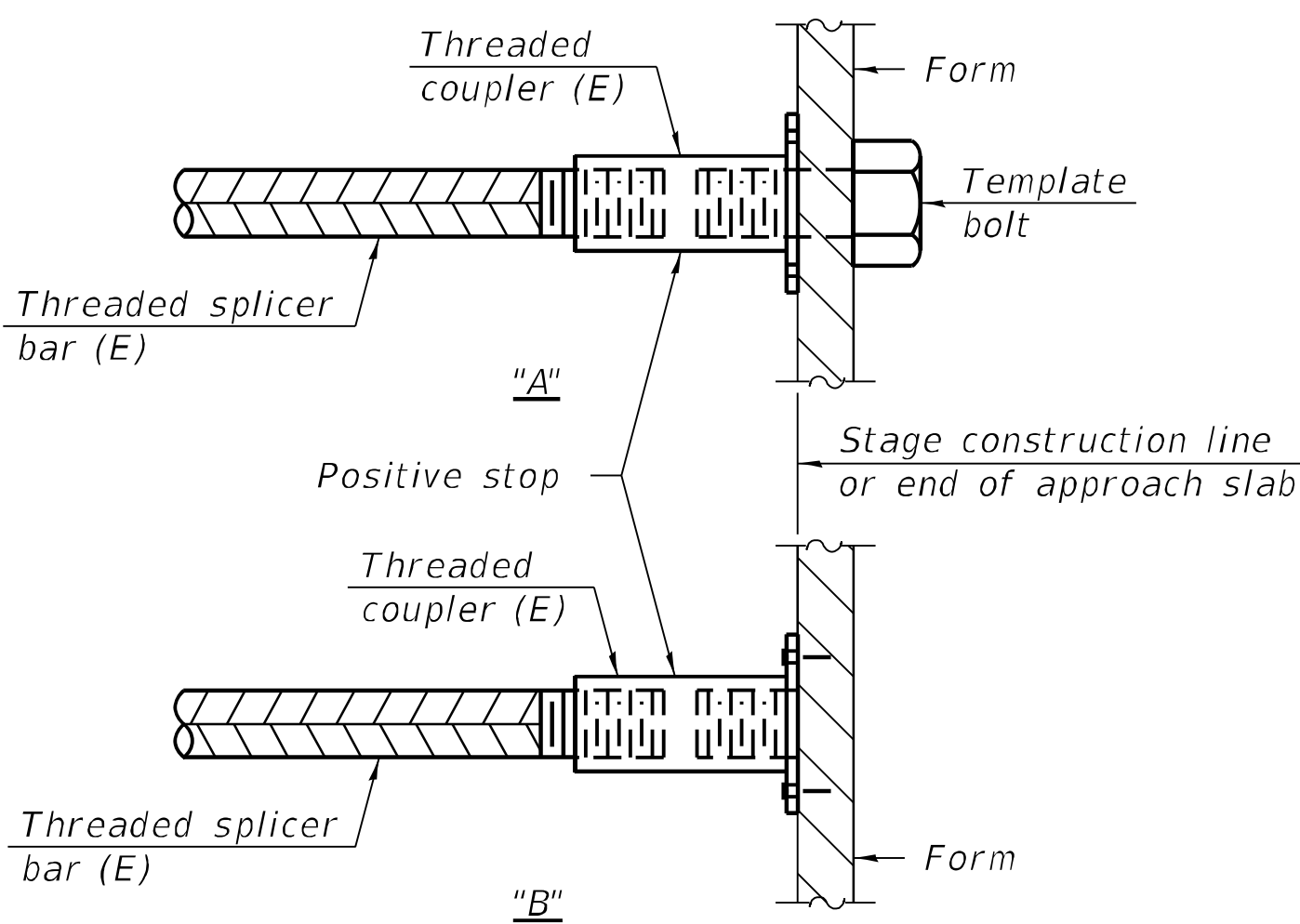


STANDARD BAR SPLICER ASSEMBLY PLAN
(All components shall be provided from one supplier)

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

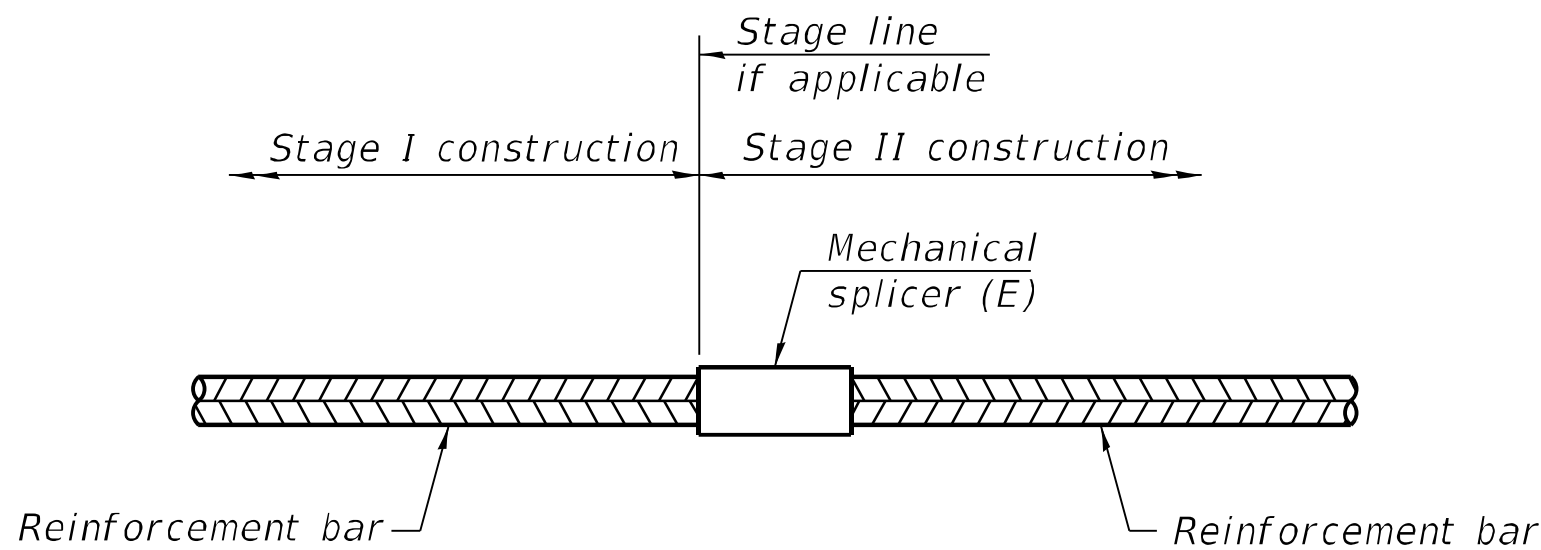
* Epoxy not required on Bar Splicer Assembly components used in conjunction with black bars.

Location	Bar size	No. assemblies required	Minimum lap length
NA			



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
Pier crashwall (SB)	#6	60
Pier crashwall (NB)	#6	60

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.

BSD-1

1-1-2020

MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-34-BarSplicDtls.dgn



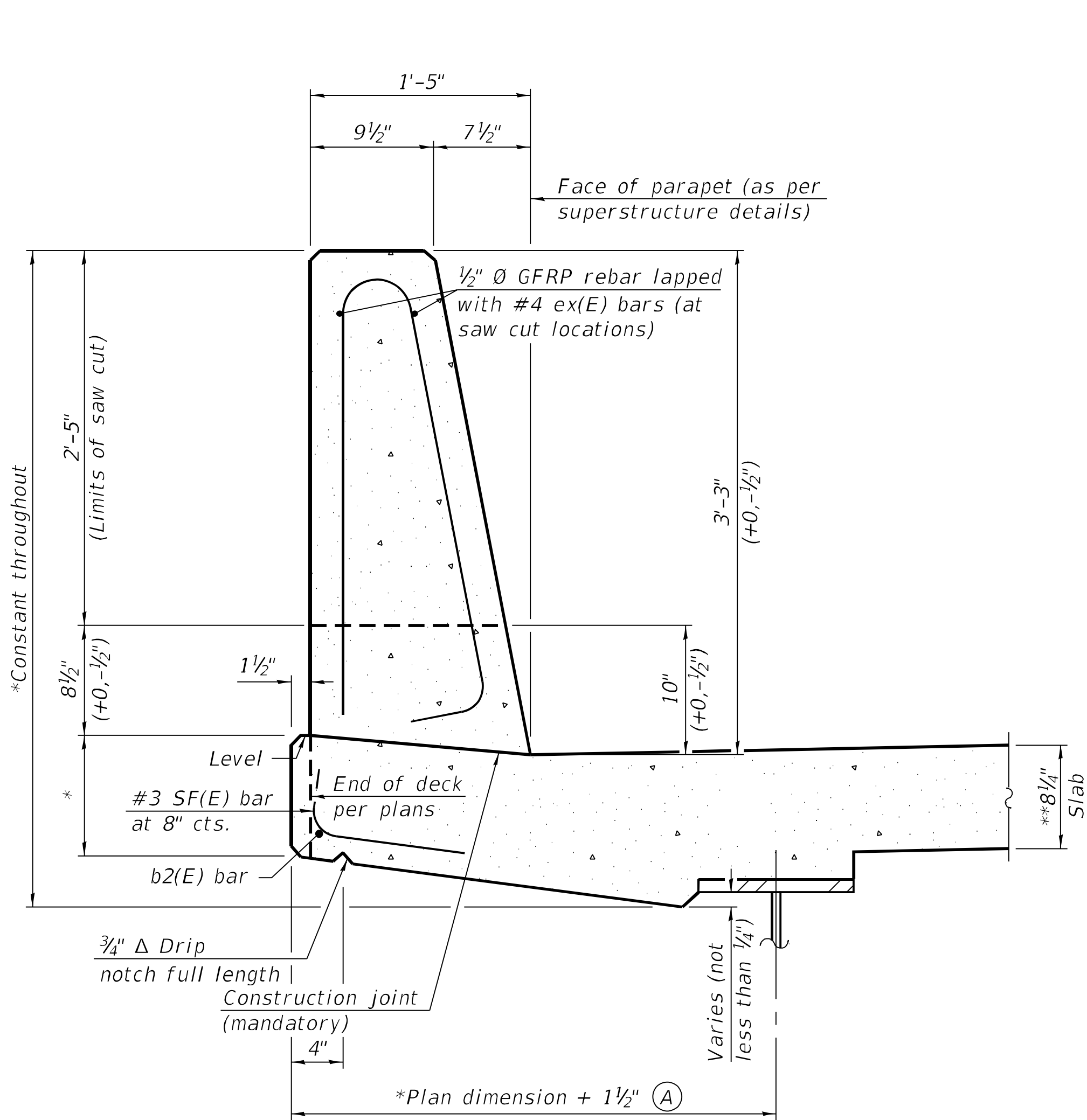
USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - PRH 01/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BAR SPLICER ASSEMBLY AND MECHANICAL SPLICER DETAILS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

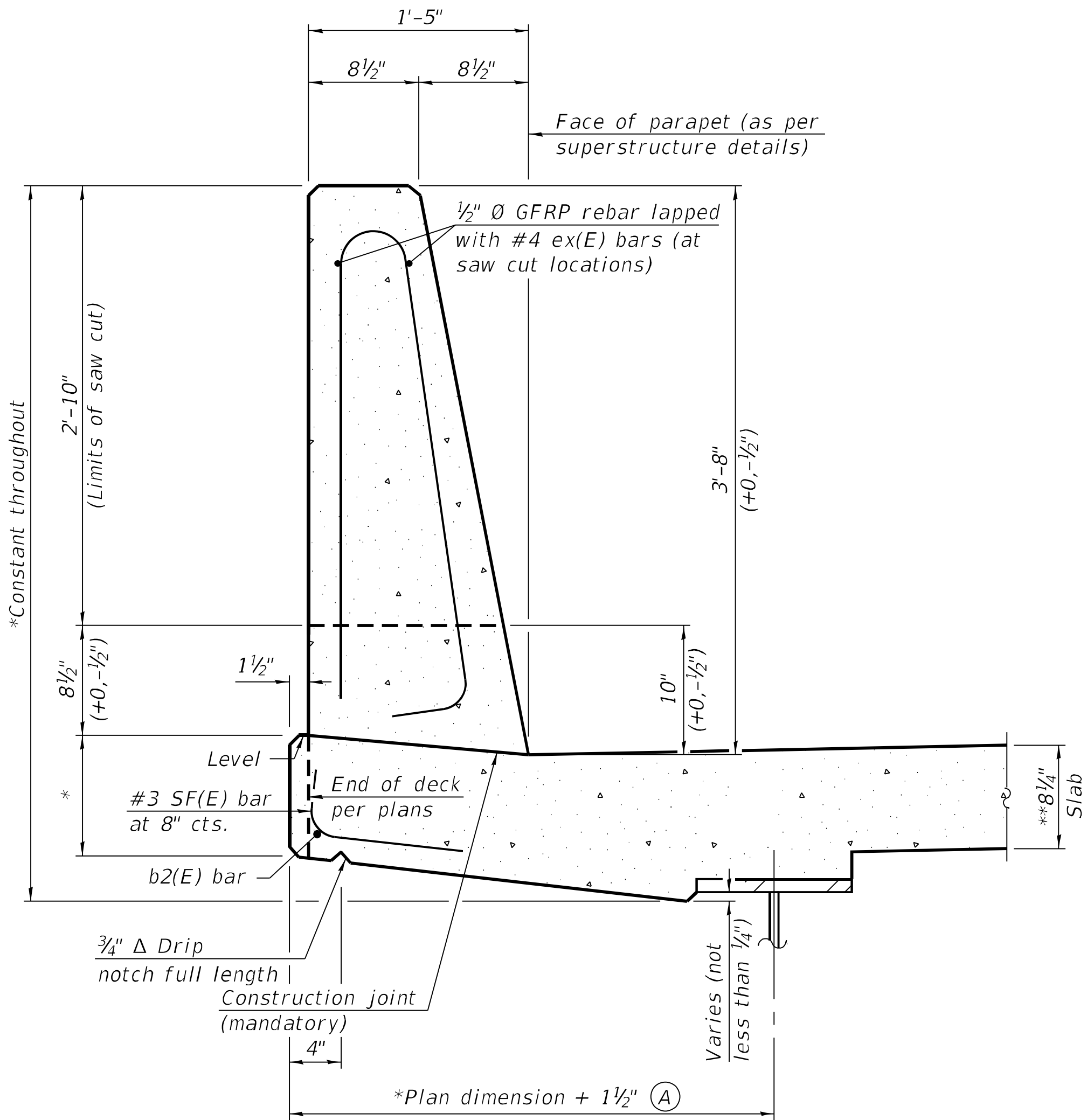
SHEET 34 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	694
				CONTRACT NO. 74435
		ILLINOIS	FED. AID PROJECT	



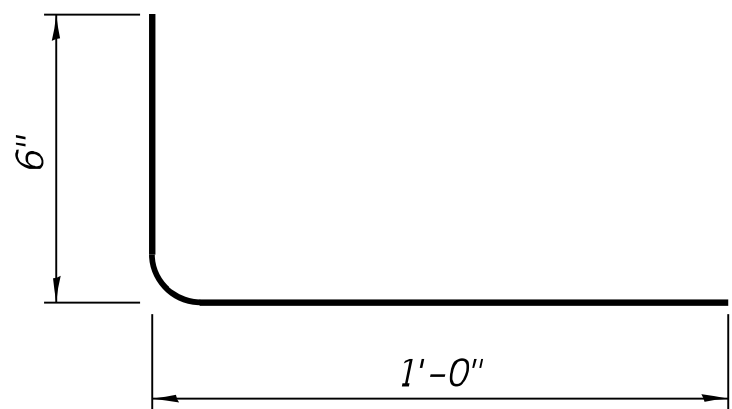
39" CONSTANT-SLOPE
PARAPET SECTION

(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)

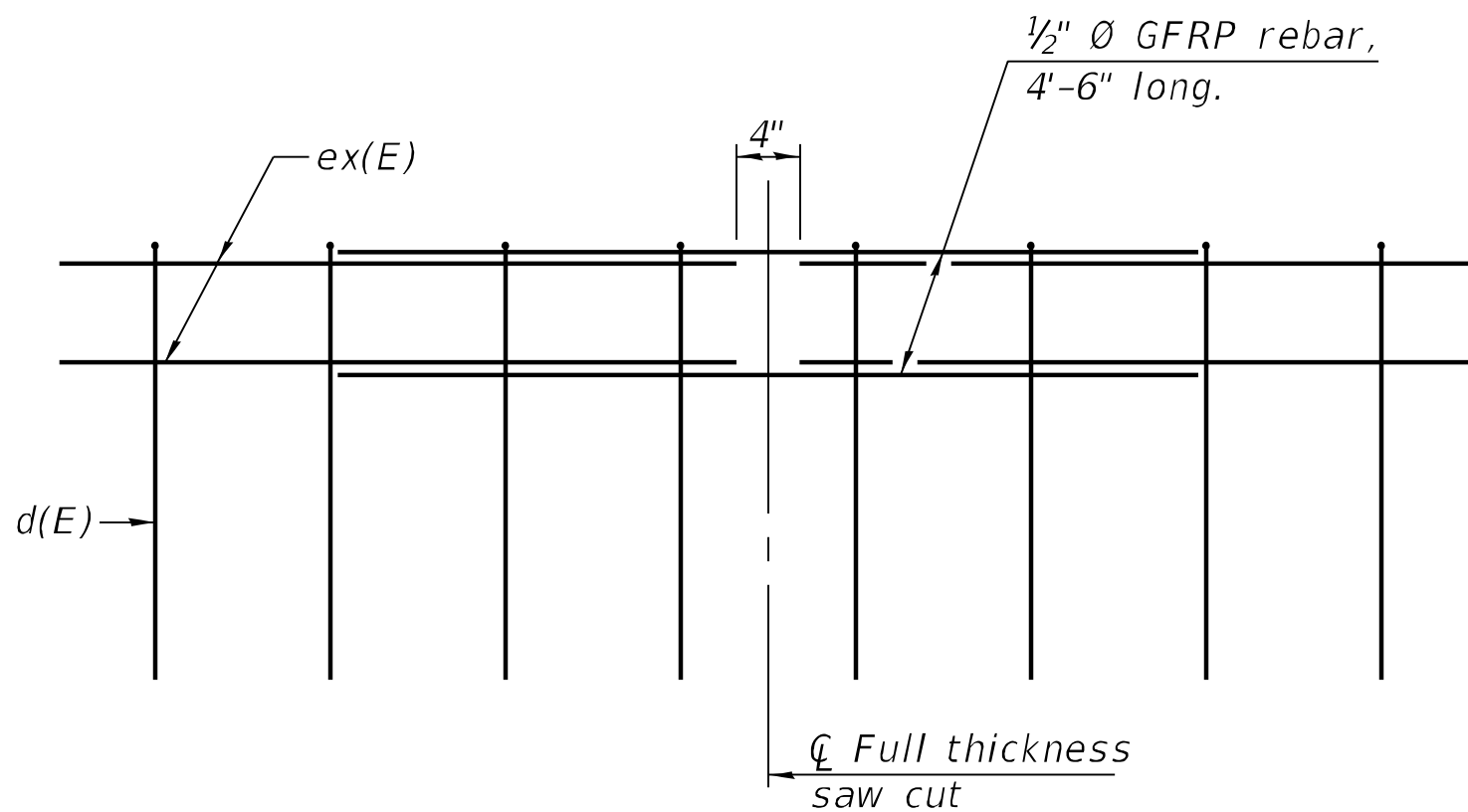


44" CONSTANT-SLOPE
PARAPET SECTION

(Showing dimensions, d(E), and 1/2" Ø GFRP rebar)



#3 SF(E) BAR



GFRP REBAR STIFFENING DETAIL

(Place as shown in parapet section
at each parapet joint location.)

Notes:
All dimensions shall remain the same as shown on superstructure details, except dimension A which is to be revised as shown. Additional concrete needed to revise dimension A = 0.00348 cu. yds./ft. for 39" and 44" parapets.
Place full depth aluminum sheets as shown on superstructure details.
Replace all cork joint filler locations with a full thickness saw cut.
Steel superstructure shown. Other superstructure types similar.

MODEL: PLOT
FILE NAME: Y:\IDOT\1343-08_74435\CADD\SP_SN_015-0078_0079\0150078-74435-35-ConcPrtSlpfrm.dgn

SFP 39-44

1-1-2020



USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - PRH 01/22	REVISED -
PLOT SCALE	DRAWN - KAH 12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -

DESIGNED - MTD 12/21	REVISED -
CHECKED - PRH 01/22	REVISED -
DRAWN - KAH 12/21	REVISED -
CHECKED - MTD 01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

CONCRETE PARAPET SLIPFORMING OPTION
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 35 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	695
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				

Page 1 of 3Date 10/17/19

ROUTE	FAI Route 57	DESCRIPTION	I-57 over IL 16 (Mattoon Interchange)	LOGGED BY	Sandschafer
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SECTION 15-22HB-4 LOCATION NW 1/4, SEC. 16, TWP. 12N, RNG. 8E, 3rd PM,

COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 015-0005, -0006(E) &
015-0078, -0079(P)
Station 788+65.76

BORING NO. 1 (South Abutment)
Station 787+07
Offset 1.0 ft West | CL M
Ground Surface Elev. 735.43

3" - Topsoil		735.16		Stiff, moist, grey, CLAY (Embankment)		2		1.7		18	
Brown, CLAY (Embankment)						713.43		1			
		2						3		B	
Very stiff, moist (Embankment)		4		3.1		16					
		6		B				2		0.8	
								3		B	
(Embankment)		-5		2				710.9		1	
		4		2.7		13		-25		4	
		5		B						4	
										1.8	
										B	
Stiff, dark brown (Embankment)		2						708.03		2	
		3		2.0		23				3	
		4		B						4	
										1.4	
										B	
Brown and Grey, marbled (Embankment)		-10		2				-30		2	
		3		1.7		19				3	
		4		B				▽		5	
										1.4	
										B	
Very stiff, brown (Embankment)		1									
		3		2.7		17					
		5		B							
		-15		2				-35		1	
Grey (Embankment)		4		2.9		24				2	
		7		B						4	
										1.6	
										B	
(Embankment)		▽		2							
		3		2.5		24					
		5		B							
		715.43		-20		1		695.43		-40	
										1	

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

Page 2 of 3

Date 10/17/19

ROUTE	FAI Route 57	DESCRIPTION	I-57 over IL 16 (Mattoon Interchange)	LOGGED BY: Sandschafe
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SECTION 15-22HB-4 LOCATION NW 1/4, SEC. 16, TWP. 12N, RNG. 8E, 3rd PM,

COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO.	015-0005, -0006(E) & 015-0078, -0079(P)
Station	788+65.76

BORING NO. 1 (South Abutment)
Station 787+07
Offset 1.0 ft West CL Me
Ground Surface Elev. 735.43

[illegible]

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T205)

Page 3 of 3

Date 10/17/19

ROUTE	FAI Route 57	DESCRIPTION	I-57 over IL 16 (Mattoon Interchange)	LOGGED BY	Sandschaf
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SECTION 15-22HB-4 LOCATION NW 1/4, SEC. 16, TWP. 12N, RNG. 8E, 3rd PM,

COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

STRUCT. NO. 015-0005, -0006(E) & 015-0078, -0079(P)
Station 788+65.76

BORING NO. 1 (South Abutment)
Station 787+07
Offset 1.0 ft West CL
Ground Surface Elev. 735.43

[illegible]

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

BBS, form 137 (Rev. 8-99)

(Sheet 1 of 6)

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	696
		CONTRACT NO. 74435		
ILLINOIS		FED. AID PROJECT		

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08 74435\CADD\SP SN 015-0078 0079\0150078-74435-36-Soil.dgn



USER NAME = nhc	DESIGNED - MTD	12/21	REVISED -
ESCA PROJECT NO. 1343.08	CHECKED - PRH	01/22	REVISED -
PLOT SCALE	DRAWN - KAH	12/21	REVISED -
PLOT DATE = 8/21/2024	CHECKED - MTD	01/22	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 36 OF 41 SHEETS

8/21/2024 1:22:33 PM



Page 1 of 3
Date 10/23/19

COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

D E P T H	B L O W S	U C S Qu	M O I S T
(ft)	(/6")	(tsf)	(%)

Surface Water Elev.	<u>N/A</u>	ft
Stream Bed Elev.	<u>N/A</u>	ft
Groundwater Elev.:		
First Encounter	<u>647.0</u>	ft
Upon Completion	<u>691.5</u>	ft
After 24 Hrs.	<u>707.5</u>	ft

First Encounter	647.0	ft
Upon Completion	691.5	ft
After 24 Hrs.	707.5	ft

BBS, form 137 (Rev. 8-99)



Page 2 of 3
Date 10/23/19

COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

D E P T H	B L O W S	U C S Qu	M O I S T
(ft)	(/6")	(tsf)	(%)

Surface Water Elev.	N/A	ft
Stream Bed Elev.	N/A	ft
Groundwater Elev.:		
First Encounter	647.0	ft
Upon Completion	691.5	ft
After 24 Hrs.	707.5	ft

T	W		S
H	S	Qu	T
(ft)	(/6")	(tsf)	(%)

BBS, form 137 (Rev. 8-99)



Page 3 of 3
Date 10/23/19

COUNTY Coles DRILLING METHOD Hollow stem auger & split spoon HAMMER TYPE Auto 140#

D E P T H	B L O W S	U C S Qu	M O I S T
(ft)	(/6")	(tsf)	(%)

Surface Water Elev.	<u>N/A</u>	ft
Stream Bed Elev.	<u>N/A</u>	ft
Groundwater Elev.:		
First Encounter	<u>647.0</u>	ft 
Upon Completion	<u>691.5</u>	ft 
After 24 Hrs.	<u>707.5</u>	ft 

T	W		S
H	S	Qu	T
(ft)	(/6")	(tsf)	(%)

BBS, form 137 (Rev. 8-99)

BORING LOGS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 37 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	697
CONTRACT NO. 74435				
	ILLINOIS	FED. AID PROJECT		

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08_74435\CADD\SP SN 015-0078_0079\0150078-74435-37-Soil.dgn



USER NAME	= nhc
ESCA PROJECT NO.	1343.08
PLOT SCALE	
PLOT DATE	= 8/21/2024

DESIGNED - MTD	12/21
CHECKED - PRH	01/22
DRAWN - KAH	12/21
CHECKED - MTD	01/22

REVISED	-
REVISED	-
REVISED	-
REVISED	-

8/21/2024 1:22:39 PM



Page 1 of 3
Date 9/11/19

SECTION	15-22HB-4	LOCATION	NW 1/4, SEC. 16, TWP. 12N, RNG. 8E, 3 rd PM. Latitude N 39.484793, Longitude W 88.321843		
COUNTY	Coles	DRILLING METHOD	Hollow stem auger & split spoon	HAMMER TYPE	Auto 140#

015-0005, -0006(E) &
015-0078, -0079(F)
Station 788+65.76

BORING NO. 4 (North Abutment)
Station 790+04
Offset 45.0 ft West CL NBL
Ground Surface Elev. 738.67 ft

DEP
T
H

B
L
O
W
S

U
C
S

Q
u

M
O
I
S
T

(ft)

(/ft)

(tsf)

(%)

4" Topsoil
Dark brown, CLAY (Embankment)

Very stiff, moist, brown/black (Embankment)

734.17
Hard, moist, brown, CLAY LOAM (Embankment)

731.67
Very stiff, moist, brown, CLAY (Embankment)

Grey (Embankment)

Stiff (Embankment)

-15
Very stiff, moist, brown, CLAY LOAM (Embankment)

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The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



Page 2 of 3

Date 9/11/19

SECTION	15-22HB-4	LOCATION	NW 1/4, SEC. 16, TWP. 12N, RNG. 8E, 3 rd PM, Latitude N 39.484793, Longitude W 88.321843		
COUNTY	Coles	DRILLING METHOD	Hollow stem auger & split spoon	HAMMER TYPE	Auto 140#

[illegible]

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)



Page 3 of 3

Date 9/11/19

SECTION	15-22HB-4	LOCATION	NW 1/4, SEC. 16, TWP. 12N, RNG. 8E, 3 rd PM, Latitude N 39.484793, Longitude W 88.321843		
COUNTY	Coles	DRILLING METHOD	Hollow stem auger & split spoon	HAMMER TYPE	Auto 140#

[illegible]

The Unconfined Compressive Strength (UCS) Failure Mode is indicated by (B-Bulge, S-Shear, P-Penetrometer, E-Estimated)
The SPT (N value) is the sum of the last two blow values in each sampling zone (AASHTO T206)

(Sheet 4 of 6)

MODEL: PLO-1 FILE NAME: Y1	ESCA CONSULTANTS, INC. ENGINEERS & ARCHITECTS 	USER NAME = nhc	DESIGNED - MTD 12/21	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	BORING LOGS					F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		ESCA PROJECT NO. 1343.08	CHECKED - PRH 01/22	REVISED -		STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)					57	(15-22HB-4)BR(15-22)R	COLES	1086	699
		PLOT SCALE	DRAWN - KAH 12/21	REVISED -							CONTRACT NO. 74435				
		PLOT DATE = 8/21/2024	CHECKED - MTD 01/22	REVISED -		SHEET 39 OF 41 SHEETS					ILLINOIS FED. AID PROJECT				

MODEL: PLOT
FILE NAME: Y:\DOT\1343-08 74435\CADD\SP SN 015-0078 0079\0150078-74435-39-Soil.dgn

8/21/2024 1:22:52 PM

FOUNDATION INVESTIGATION

ROUTE FAI-04 STRUCTURE Twin bridges over DATE 9-3-57
SECTION 15-22 HB-4 FA Route 17 near WEATHER clear
COUNTY Coles Station 788+60 ENGINEER Woods
BORING NO. 1 BORING NO. _____
PILING No PILING _____

	Elev per Foot	qu-tens per sq.ft.	% Moisture	Elevation	Elevation	% Moisture	qu-tens per sq.ft.	Blows per Foot	PILING
44 feet Right Station 788+60									
Ground elev.				721.0	690.0	11.8	2.7	15	
Brown SiC Firm				719.0		12.7	3.2	16	
Brown Mottled Clay Firm				717.0		12.9	3.2	16	
Brown Gray Mottled Clay stiff	5	2.2	12.8	714.0	680.0	16.3	3.2	17	
Brown Gray Mottled Clay Till	7	2.4	12.1	714.0					
Very Stiff	10	2.7	14.1	708.0	673.0	12.5	3.9	14	
	13	2.7	13.1						
	13	3.9	12.6						
	13	3.4	12.4	700.0					
	20	3.4	13.7						
	12	2.7	13.3						
	12	2.4	13.3						
				690.0					

Vertical Scale: 1 inch = 5 feet
Weight of Hammer 170 lbs. Drop 2'-0"

Penetrometer Split-Spoon 33

Gray Clay Till Very Stiff

Water elev. 24 hours after boring.

Limit of boring

FOUNDATION INVESTIGATION

ROUTE FAI-04 STRUCTURE Twin bridges over DATE 9-3-57
SECTION 15-22 HB-4 FA Route 17 near WEATHER clear
COUNTY Coles Station 788+60 ENGINEER Woods
BORING NO. 2 BORING NO. _____
PILING No PILING _____

	Elev per Foot	qu-tens per sq.ft.	% Moisture	Elevation	Elevation	% Moisture	qu-tens per sq.ft.	Blows per Foot	PILING
44 feet Left Station 788+60									
Ground elev.				720.5	690.0	13.0	3.9	16	
Brown SiC Firm				719.0		13.2	3.2	15	
Brown Mottled Clay Firm				716.0		12.6	3.4	21	
Brown Gray Mottled Clay Till	7	2.9	14.9	710.5	676.0	16.2	3.2	20	
Very Stiff	10	3.2	14.5						
	13	3.9	12.6						
	15	2.7	13.2						
	13	3.9	12.7	702.5					
	16	4.2	12.5	700.0					
	16	4.4	12.2						
	14	4.1	12.7						
	15	3.6	12.9	690.0					

Vertical Scale: 1 inch = 5 feet
Weight of Hammer 170 lbs. Drop 2'-0"

Penetrometer Split-Spoon 33

Gray Clay Till Very Stiff

Water elev. 24 hours after boring.

Limit of boring

FOUNDATION INVESTIGATION

ROUTE FAI-04 STRUCTURE Twin Bridges over DATE 9-4-57
SECTION 15-22 HB-4 FA Route 17 near WEATHER clear
COUNTY Coles Station 788+60 ENGINEER Woods
BORING NO. 3 BORING NO. _____
PILING _____ PILING _____

	Elev per Foot	qu-tens per sq.ft.	% Moisture	Elevation	Elevation	% Moisture	qu-tens per sq.ft.	Blows per Foot	PILING
44 feet Right Station 789+42									
Ground elev.				721.0	690.0	13.8	2.2	14	
Brown SiC Firm				719.5		12.9	2.7	14	
Brown Mottled Clay Firm				717.0		13.0	3.9	18	
Brown Gray Mottled Clay stiff to Firm	8	2.7	16.8	714.0	680.0	13.2	2.7	16	
	4	1.0	22.1	711.0					
Brown Gray Mottled Clay Till	9	2.3	15.4	711.0					
stiff	9	2.7	14.2	708.0	673.0	13.3	2.4	17	
	10	3.1	12.8						
	11	2.4	13.7	700.0					
	10	2.2	14.0						
	11	2.7	13.8						
	11	2.2	14.2						
				690.0					

Vertical Scale: 1 inch = 5 feet
Weight of Hammer 170 lbs. Drop 2'-0"

Penetrometer Split-Spoon 33

Gray Clay Till stiff & Very Stiff

Water elev. 24 hours after boring.

Limit of boring

(Sheet 5 of 6)



USER NAME = nhc
ESCA PROJECT NO. 1343.08
PLOT SCALE
PLOT DATE = 8/21/2024

DESIGNED - MTD 12/21
CHECKED - PRH 01/22
DRAWN - KAH 12/21
CHECKED - MTD 01/22

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

BORING LOGS
STRUCTURE NO. 015-0078 (NB) & 015-0079 (SB)

SHEET 40 OF 41 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(15-22HB-4)BR(15-22)R	COLES	1086	700
CONTRACT NO. 74435				
ILLINOIS FED. AID PROJECT				