

03-09-2018 LETTING ITEM 140

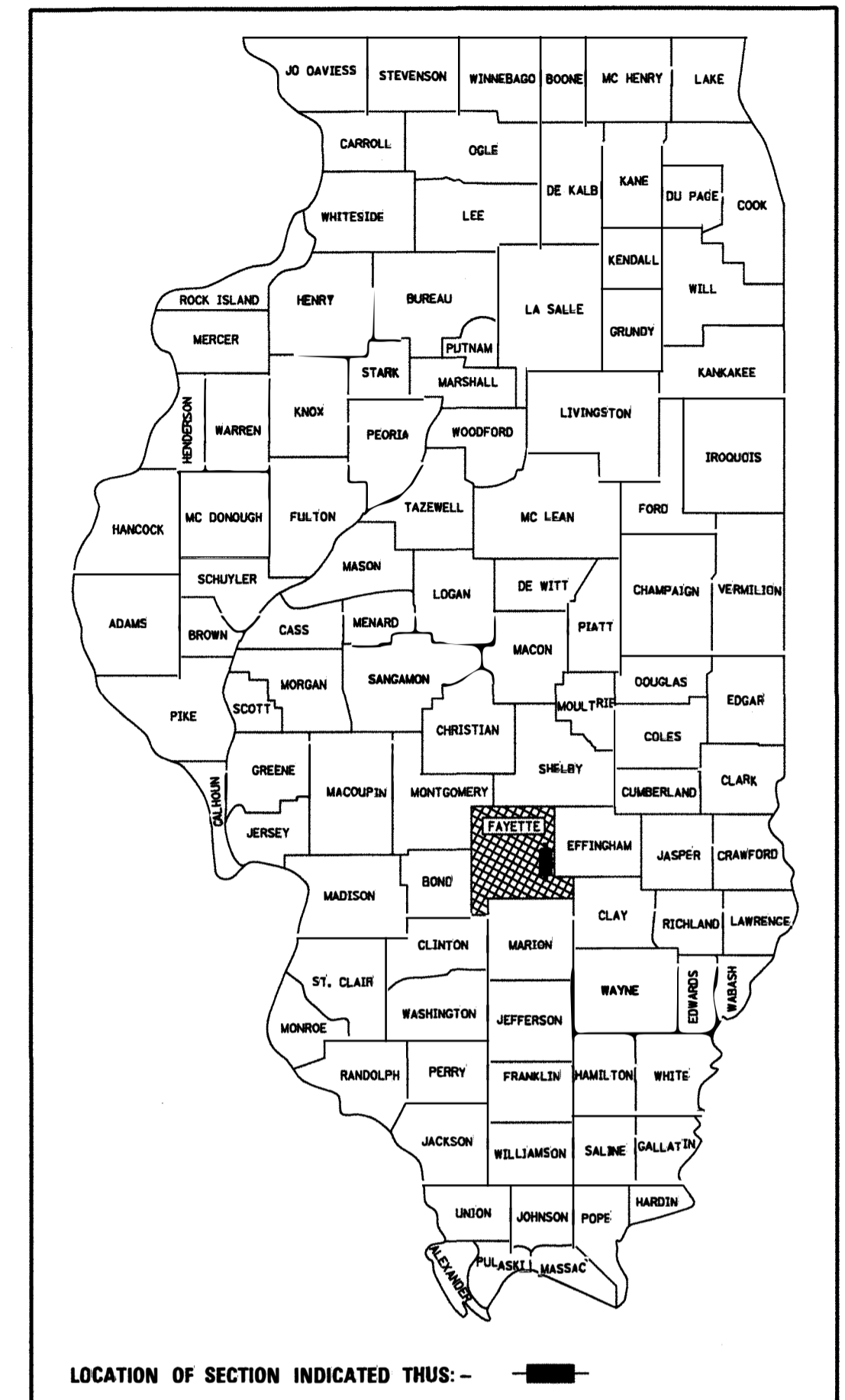
CONTRACT NO. 95820

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
STP OFF-SYSTEM BRIDGE FUNDING

TR 508A OVER
TRIBUTARY TO HICKORY CREEK
SECTION 14-19126-00-BR
PROJECT NO. XY6D(553)
WHEATLAND ROAD DISTRICT
FAYETTE COUNTY
JOB NO. C-97-006-18

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 508A	14-19126-00-BR	FAYETTE	11	1
CONTRACT NO. 95820				
RAAI JOB NO. 52216				



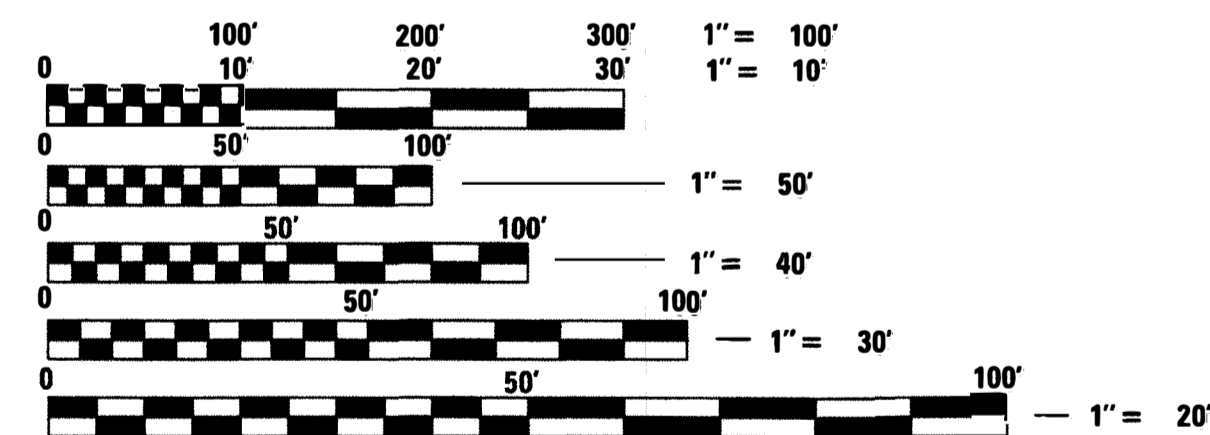
- INDEX OF SHEETS**
- COVER SHEET
 - SUMMARY OF QUANTITIES, GENERAL NOTES, AND TYPICAL SECTIONS
 - PLAN AND PROFILE OF ROADWAY
 - GENERAL PLAN AND ELEVATION
 - 5.-6. PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
 - STEEL RAILING, TYPE S1 DETAILS
 - ABUTMENT DETAILS
 - HP PILE DETAILS
 - 10.-11. CROSS SECTIONS OF ROADWAY

HIGHWAY STANDARDS (SEE SPECIFICATIONS)

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 515001-03 NAME PLATE FOR BRIDGES
- 701901-07 TRAFFIC CONTROL DEVICES
- 725001-01 OBJECT AND TERMINAL MARKERS
- BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

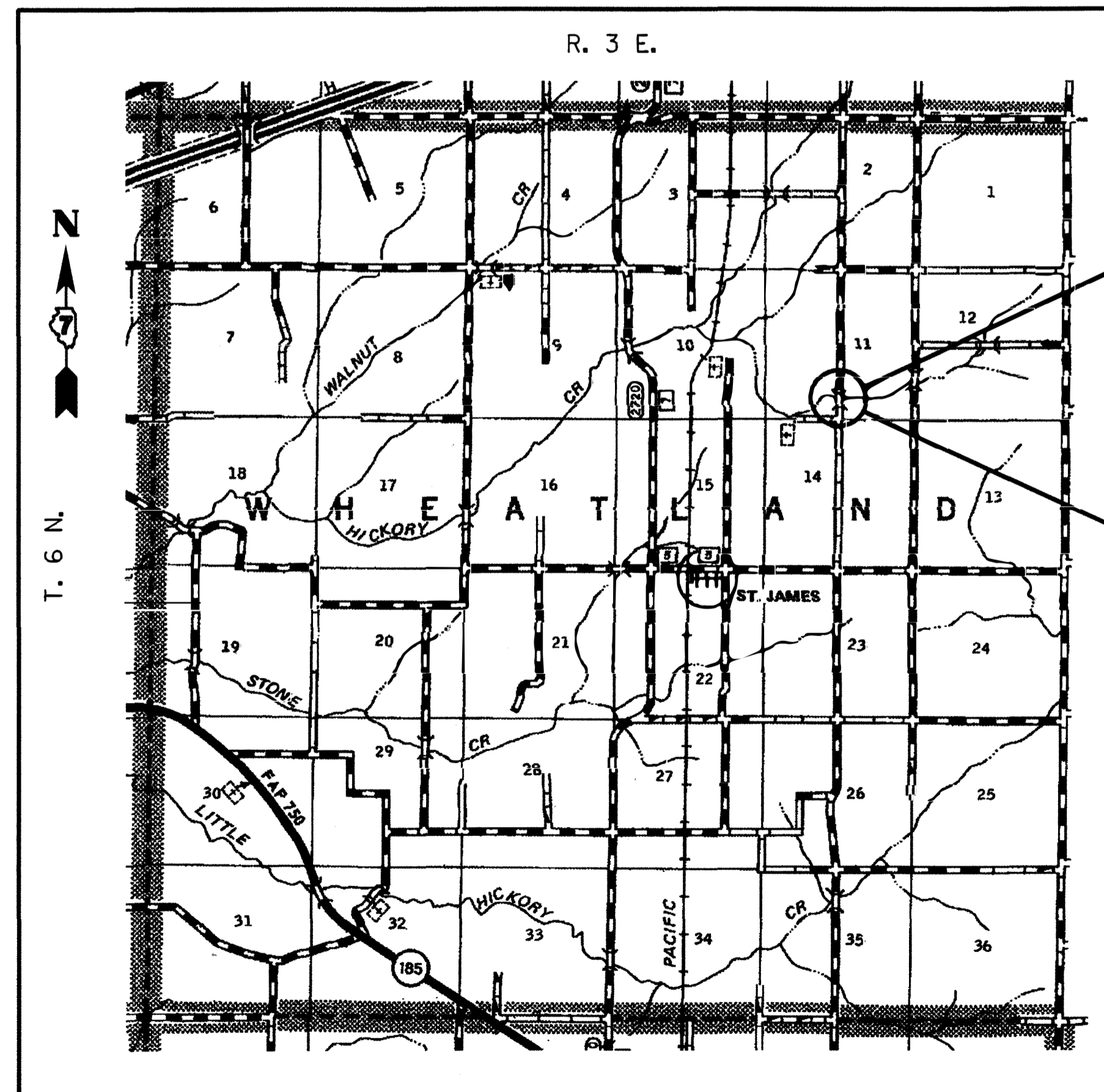
SOIL BORINGS (SEE SPECIFICATIONS)

DESIGN CLASSIFICATION: RURAL LOCAL ROAD
ADT₂₀₁₆ : 75
DESIGN SPEED: 30 MPH



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES, REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES, IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATING INFORMATION FOR EXCAVATORS
1-800-892-0123 or 811 Website: <http://www.illinois1call.com>



SECTION ENDS
STA. 52+00.00

SECTION 14-19126-00-BR INCLUDES THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE CARRYING TR 508A OVER A TRIBUTARY TO HICKORY CREEK, 54'-2" BK. TO BK. ABUTMENTS X 24' WIDE, NO SKEW. EXISTING STRUCTURE NO. 026-3229 PROPOSED STRUCTURE NO. 026-3469

SECTION BEGINS
STA. 48+00.00

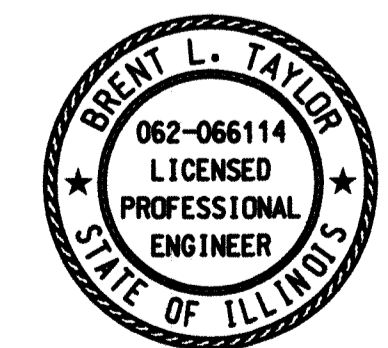
LOCATION: NEAR THE NW CORNER OF THE SW 1/4 OF THE SE 1/4, SECTION 11, T6N, R3E, 3RD P.M.
NET LENGTH OF PROJECT: 400.00 FT. = 0.076 MI.

APPROVED: 11-2, 20 17
Wm A. Wood
FAYETTE COUNTY, COUNTY ENGINEER

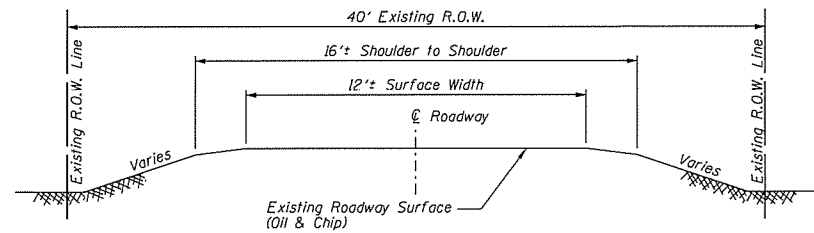
PASSED: 11-6, 20 17
DA Phillips
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW: 11-6, 20 17
Jeffrey M. South
REGION FOUR ENGINEER

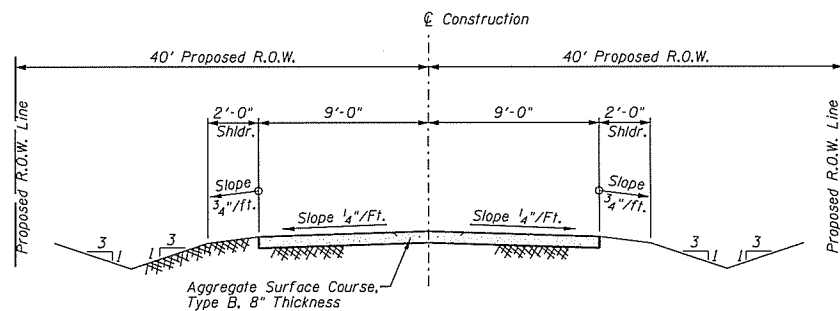
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OF THE STATE OF ILLINOIS



Brent L. Taylor 10/31/2017
BRENT L. TAYLOR
SALEM, ILLINOIS
ILLINOIS LICENSED PROFESSIONAL
ENGINEER NO. 062-066114
EXPIRES NOV. 30, 2019



TYPICAL SECTION
EXISTING APPROACH ROADWAY



TYPICAL SECTION
PROPOSED APPROACH ROADWAY

Looking North (Upstation)
See Sheet 3 for limits
of Proposed R.O.W.

UTILITIES

J.U.L.I.E.: Design Phase Locate
Dig No.: X1921816

Water: Fayette Water Company
Attn: Denny Vaughn
2371 E 1350 St
Brownstown, IL 62418
Phone: 618-347-2430

Telephone: Frontier Communications
Attn: Mr. Rod Eller
801 West Jackson Street
Altamont, IL 62411
Phone: 618-483-6205

Electric: Southwestern Electric Co-Op
Attn: Ms. Kim Jackson
525 U.S. Route 40
Greenville, IL 62246
Phone: 618-664-5922

SUMMARY OF QUANTITIES

Code No.	Item	Unit	Quantity
20100500	TREE REMOVAL, ACRES	ACRE	0.3
20200100	EARTH EXCAVATION	CU YD	323
20300100	CHANNEL EXCAVATION	CU YD	145
20400800	FURNISHED EXCAVATION	CU YD	871
20700110	POROUS GRANULAR EMBANKMENT	TON	128
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	224
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	295
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	30.2
50300280	CONCRETE ENCASEMENT	CU YD	2.8
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1268
50800105	REINFORCEMENT BARS	POUND	4500
* 50900205	STEEL RAILING, TYPE S1	FOOT	110
51201600	FURNISHING STEEL PILES HP12X53	FOOT	254
51202305	DRIVING PILES	FOOT	254
51203600	TEST PILE STEEL HP12X53	EACH	1
51500100	NAME PLATES	EACH	1
67100100	MOBILIZATION	L SUM	1
* 72501000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4

* Specialty Item

GENERAL NOTES

- This section shall be constructed according to the plans, the Special Provisions, and the "Standard Specifications for Road and Bridge Construction", adopted April 1, 2016.
- Any reference to a Standard in these plans shall be interpreted to mean the edition as indicated by the sub-number listed in the Index of Sheets or the copy of the Standard included in these plans.
- Roadway Centerline profiles refer to the finished surface.
- Existing utilities shown are located from surface observations or information provided by the respective utilities and must be considered approximate. There may be others, the exact location of which are unknown and not shown. The Contractor will be responsible for notifying the respective utilities before work is begun. Field marking of underground utilities may be obtained by providing a minimum of 48 hours advance notice through the J.U.L.I.E. system by calling 1-800-892-0123, 811, or by direct contact with non-members of J.U.L.I.E.
- The nominal thickness for surface course is shown on the Typical Sections, Standards, Schedules, or Special Details. The constructed thickness of the above item shall not be less than 90 percent of the nominal thickness at any location.
- Factors used for quantity calculations are as follows:
Porous Granular Embankment 2.1 tons/cu. yd.
Stone Dumped Riprap 130 pounds/cu. ft.
Aggregate Surface Course 2.1 tons/cu. yd.
- Areas to be seeded shall consist of all disturbed earth surfaces within the Right-of-way as directed by the Engineer.
- Commitments:
The removal and replacement of existing fence within the limits of construction will be done by others and will be coordinated by the Wheatland Road District. The removal will be completed prior to the start of construction.

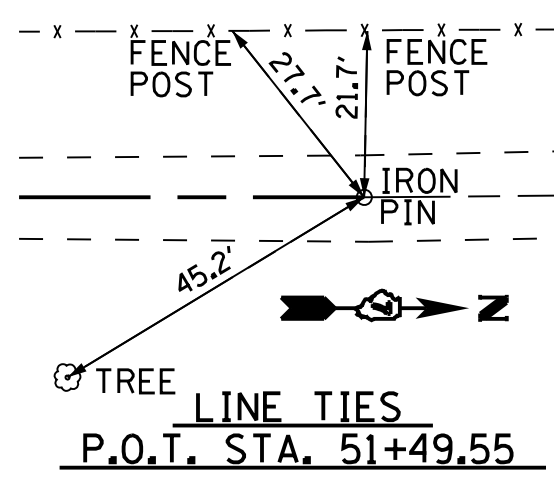
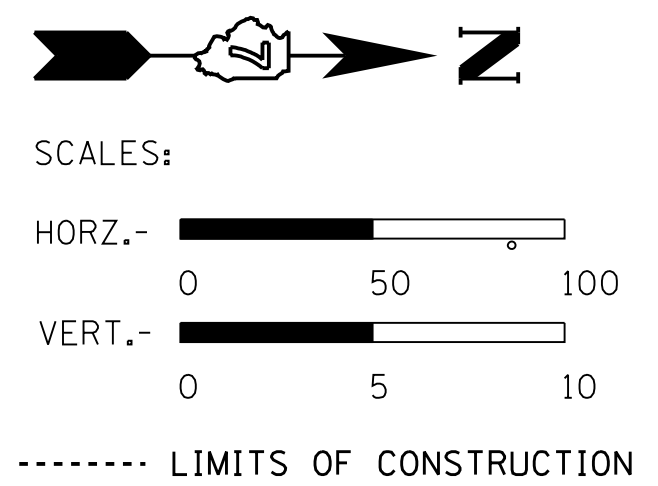
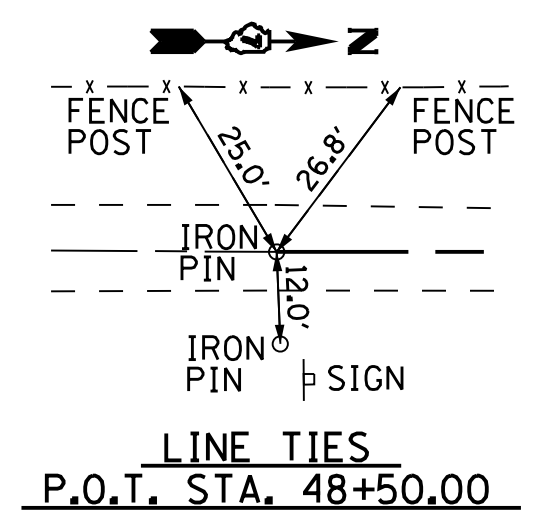
The Fayette County Engineer will perform a final inspection of the bridge for bats prior to construction. No tree clearing will be allowed or performed from April 1 through September 30 as part of the effort to conserve the Indiana and Northern Long-Eared bat.

The Fayette County Engineer will notify public service providers prior to the start of construction.

To date, no other commitments have been made.

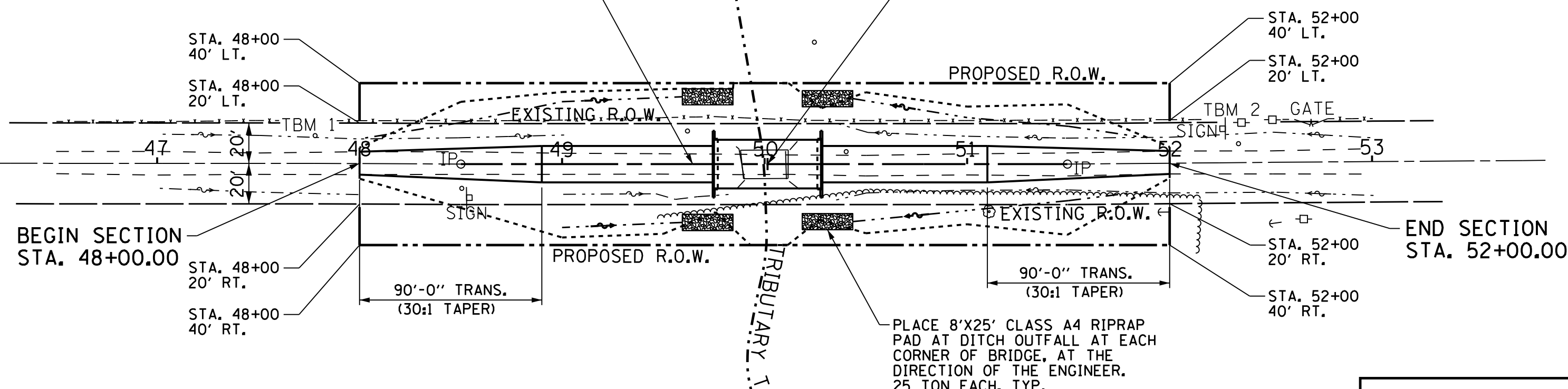
RAAI JOB NO. 52216

RHUTASEL and ASSOCIATES, INC. CONSULTING ENGINEERS • LAND SURVEYORS SALEM, ILLINOIS FREEBURG, ILLINOIS ILLINOIS DESIGN FIRM LICENSE NO. 184-000287	DESIGNED - BLT	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	SUMMARY OF QUANTITIES, GENERAL NOTES, AND TYPICAL SECTIONS	ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	DRAWN - JN	REVISED -			TR 508A	14-19126-00-BR	FAYETTE	11	2
	CHECKED - GLH	REVISED -			CONTRACT NO. 95820				
	DATE - 10/27/2017	REVISED -							



EXISTING STRUCTURE: STRUCTURE NO.: 026-3229, SINGLE SPAN BRIDGE WITH TIMBER DECK ON STEEL BEAMS ON CLOSED CONCRETE ABUTMENT (SOUTH) AND TIMBER PILE BENT ABUTMENT (NORTH), 24'±L. x 14'±W. TO BE REMOVED. SEE SPECIAL PROVISIONS.

PROPOSED STRUCTURE, STA. 50+01.44
SINGLE SPAN PRECAST PRESTRESSED
CONCRETE DECK BEAM BRIDGE, NO SKEW,
54'-2" BK. TO BK. ABUTMENTS x 24' WIDE.
EXISTING STRUCTURE NO. 026-3229
PROPOSED STRUCTURE NO. 026-3469



TREE REMOVAL, ACRES	
LOCATION	TREE REMOVAL ACRES
RT., STA. 48+00 TO STA. 52+00	0.3
TOTAL	0.3

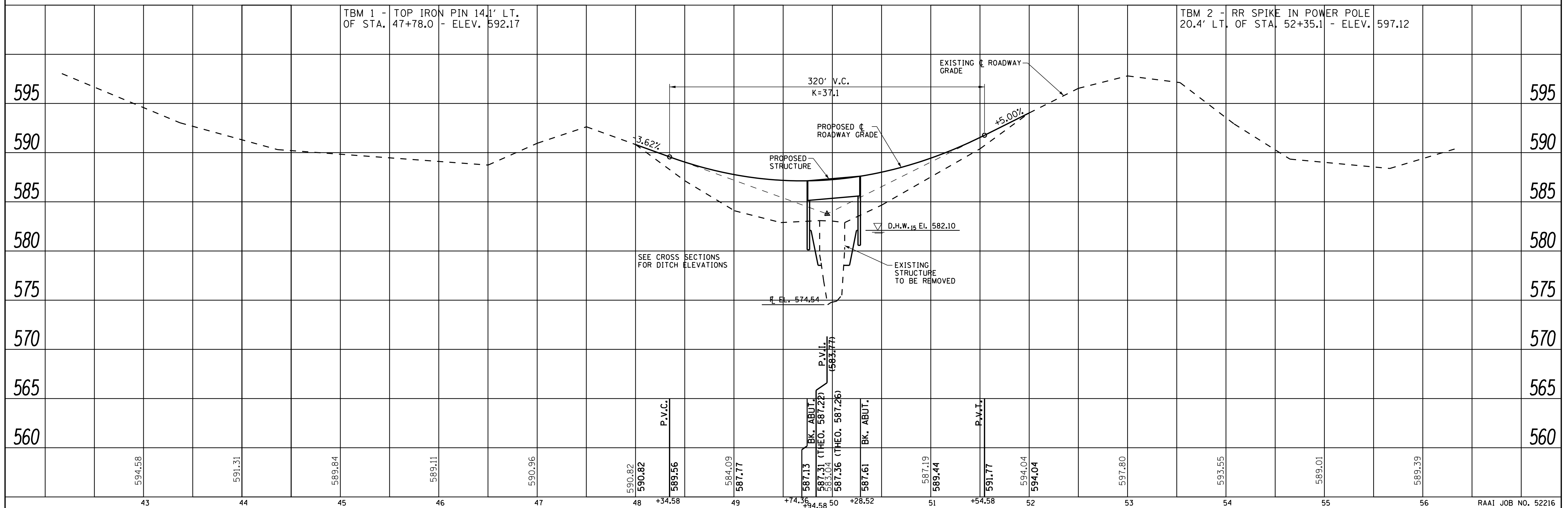
EARTHWORK SCHEDULE				
LOCATION	EARTH EXCAVATION CU. YD.	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE* CU. YD.	EMBANKMENT CU. YD.	EARTHWORK BALANCE** WASTE (+) OR SHORTAGE (-) CU. YD.
STA. 48+00.00 TO STA. 49+74.36	96	72	714	-642
STA. 50+28.52 TO STA. 52+00.00	227	170	399	-229
TOTAL	323	242	1113	-871

*25% SHRINKAGE **FURNISHED EXCAVATION

THE EXISTING RIGHT OF WAY SHOWN HEREON HAS BEEN PROTRACTED FROM EXISTING RECORDS AND IS TO BE USED FOR REFERENCE PURPOSES ONLY. FURTHERMORE, NO COMPLETE SURVEY OF SAID R.O.W. IS IMPLIED BY THIS DRAWING.

DATE	
BY	
REVISION	
NO.	
PLAN	
NOTE BOOK	
NO.	
NO.	

DATE	
BY	
REVISION	
NO.	
PROFILE	
GRADES CHECKED	
STRUCTURE	
NOTATIONS CHFD	
NO.	



DESIGNED - BLT	REVISED -	ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
DRAWN - JN	REVISED -	TR 508A	14-19126-00-BR	FAYETTE	11	3
CHECKED - GLH	REVISED -	STA. 46+00 TO STA. 53+00				CONTRACT NO. 95820
DATE - 10/27/2017	REVISED -					

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CONSULTING ENGINEERS • LAND SURVEYORS
SALEM, ILLINOIS FREEBURG, ILLINOIS
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

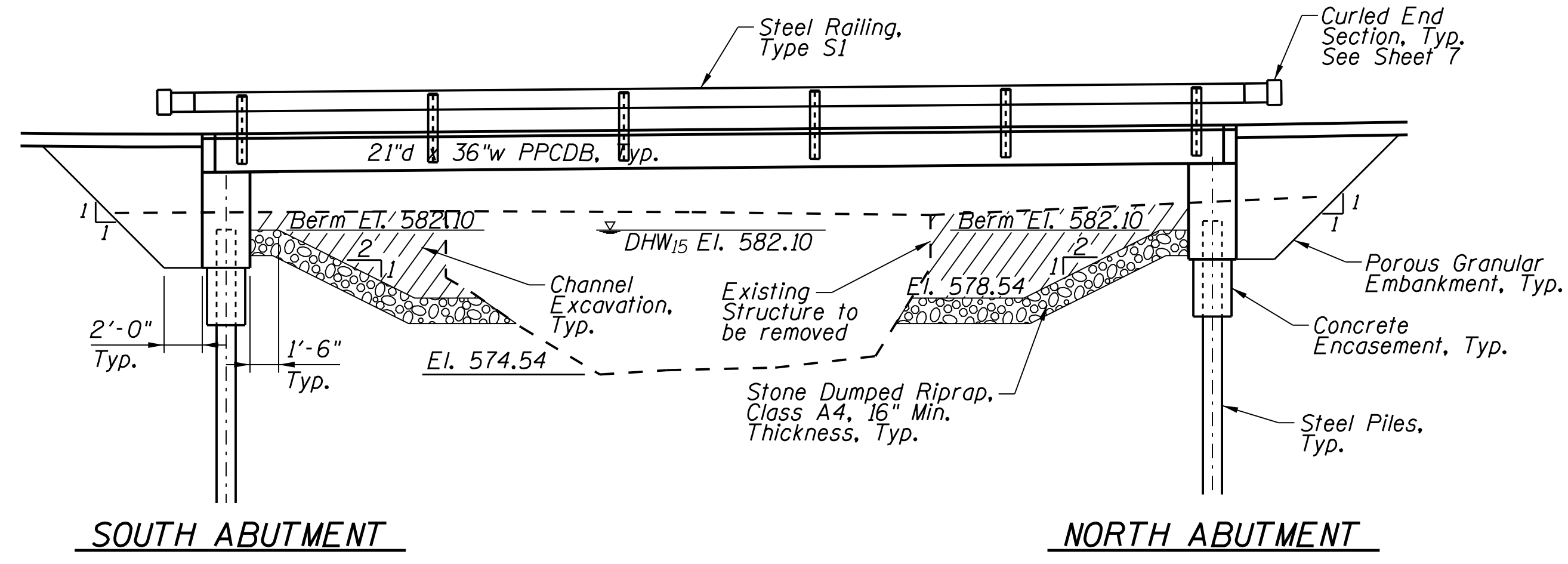
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF ROADWAY

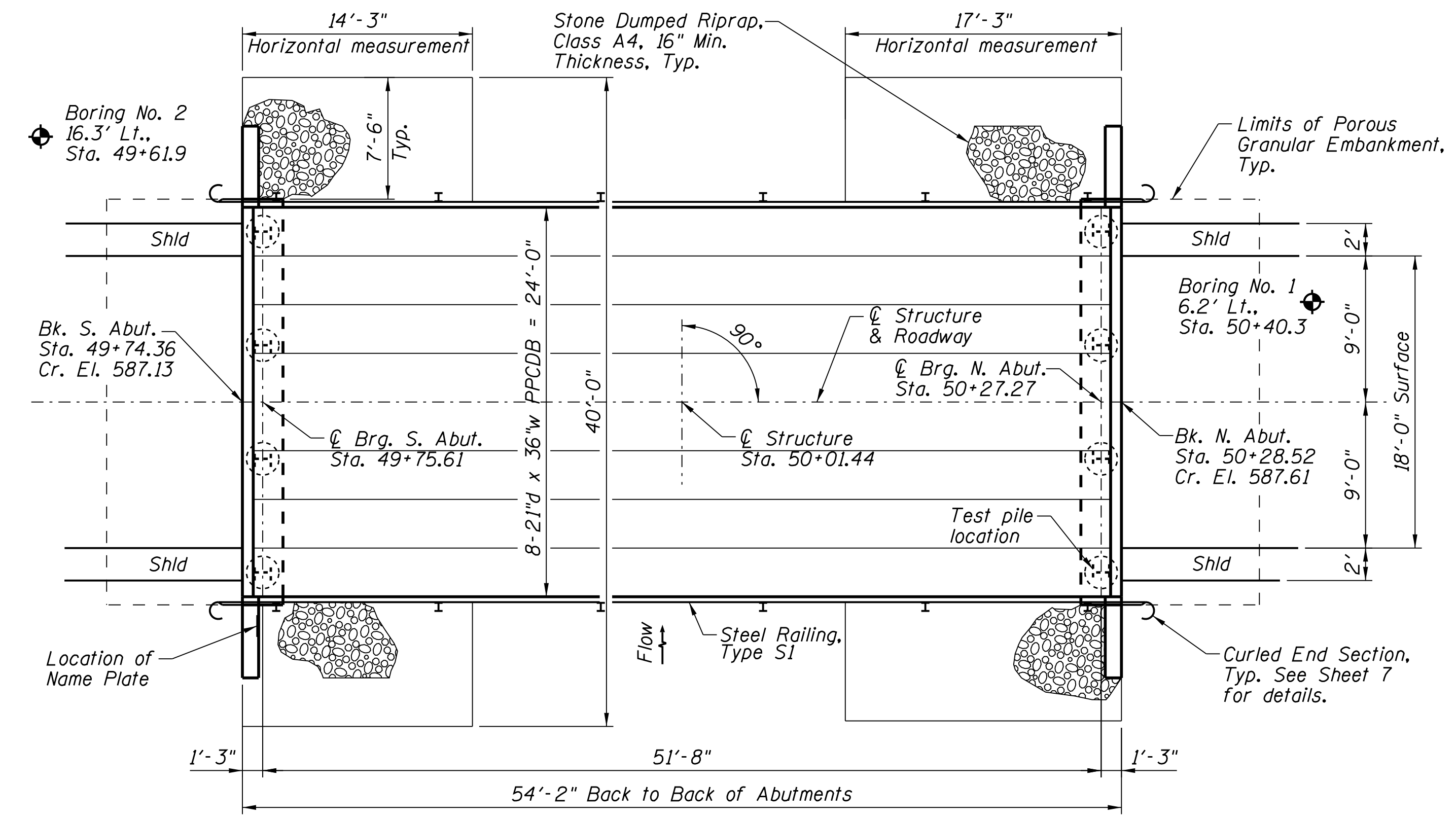
RAAI JOB NO. 52216

TBM 1 - Top of Iron Pin,
14.1' Lt. of Sta. 47+78.0 - Elev. 592.17

TBM 2 - RR spike in power pole,
20.4' Lt. of Sta. 52+35.1 - Elev. 597.12



ELEVATION



PLAN

WATERWAY DATA

Drainage Area = 3.68 Sq. Mi. Existing Low Grade Elev. 582.89 @ Sta. 49+50
Proposed Low Grade Elev. 587.13 @ Sta. 49+68.97

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural Head - Ft.		Headwater El.		
			Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	15	940	151	207	582.10	0.44	0.16	582.54	582.26
Base	100	1510	151	259	583.15	1.55	0.46	584.70	583.61
Max. Calc.	500	2030	151	293	583.85	2.41	0.74	586.26	584.59

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f_{ci} = 5,000$ psi
 $f_{pu} = 270,000$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_{pbt} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_y = 60,000$ psi (reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Soil Site Classification = C
 $S_{D1} = 0.164$ $S_{D5} = 0.407$

LOADING HL-93

50#/sq. ft. included in dead load for future wearing surface.

DESIGN SPECIFICATIONS

2014 (7th Ed. w/2015 & 2016 Revisions)
AASHTO LFRD
Bridge Design Specifications

DESIGN STRESSES

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

Existing Structure: Structure No. 026-3229. Single span bridge with timber deck on steel beams on closed concrete abutment (south) and timber pile bent abutment (north). 24'± L. x 14'± W. To be removed. See Special Provisions.

BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	TOTAL
Channel Excavation	Cu Yd	145
Porous Granular Embankment	Ton	128
Stone Dumped Riprap, Class A4	Ton	124
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	30.2
Concrete Encasement	Cu Yd	2.8
PPCDB (21" Depth)	Sq Ft	1268
Reinforcement Bars	Pound	4500
Steel Railing, Type S1	Foot	110
Furnishing Steel Piles HP12x53	Foot	254
Driving Piles	Foot	254
Test Pile Steel HP12x53	Each	1
Name Plates	Each	1

* Under bridge - See Plan and Profile for riprap ditches.

GENERAL NOTES

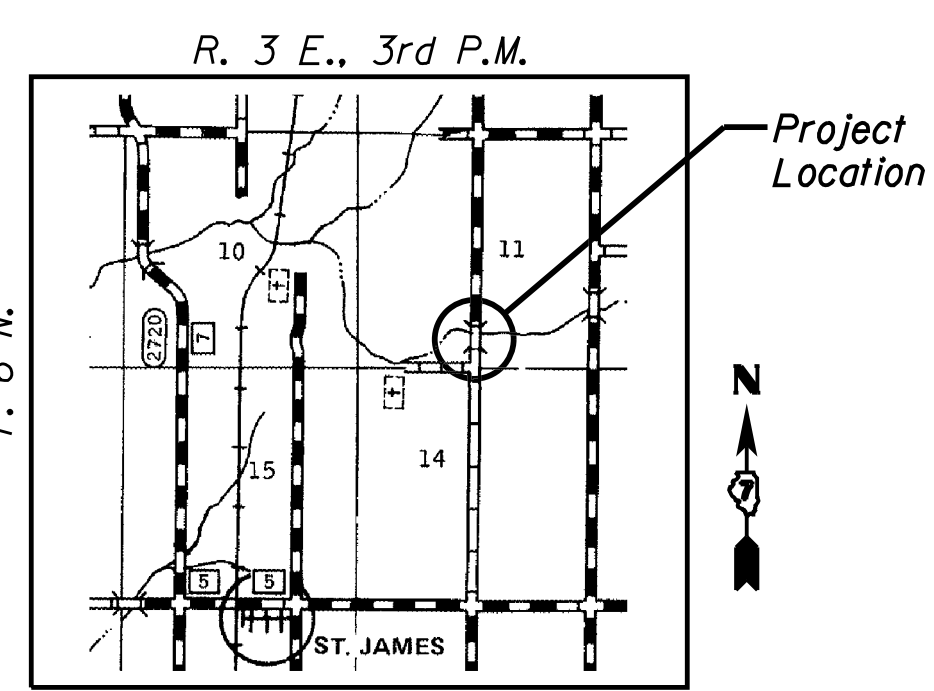
Channel excavation shall be excavated as shown within the limits of the proposed bridge, then tapered to the existing channel at the Right-of-Way line. If the Engineer deems the material satisfactory, it may be used to construct the roadway embankment.

Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

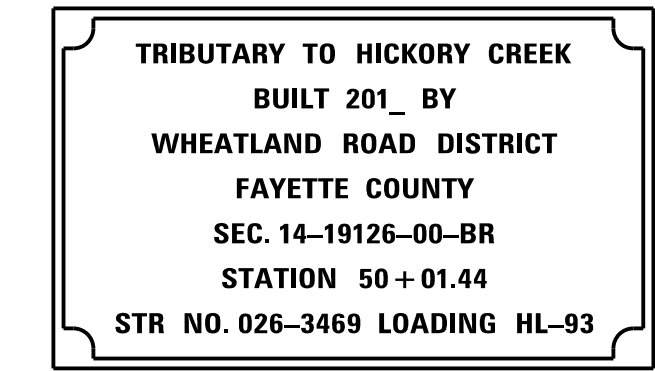
See Specifications for Soil Borings.

Do not scale these drawings.

The bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, $\frac{1}{8}$ " fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing. The top surface of the beams shall be finished according to the IDOT Manual for Fabrication of Precast Prestressed Concrete Products.

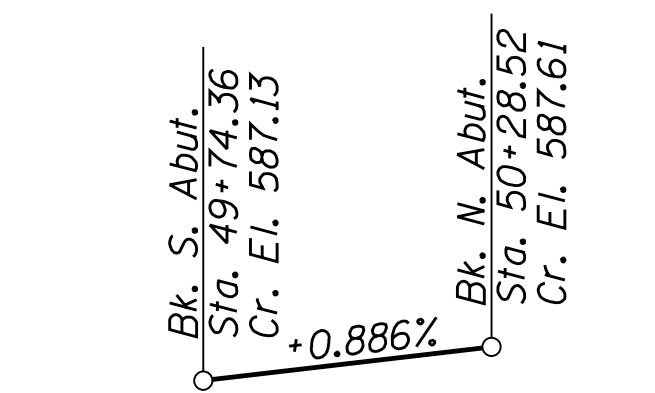


LOCATION SKETCH



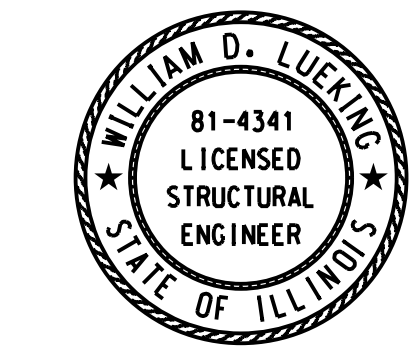
NAME PLATE

(See Standard 515001 for details)



PROFILE GRADE ACROSS STRUCTURE

Along \bar{C} Roadway



William D. Lueking 10/31/2017
William D. Lueking
Salem, Illinois
Illinois Licensed Structural Engineer No. 081-4341
Expires Nov. 30, 2018

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CONSULTING ENGINEERS • LAND SURVEYORS
SALEM, ILLINOIS FREEBURG, ILLINOIS
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - BLT	REVISED -
DRAWN - JUN	REVISED -
CHECKED - WDL	REVISED -
DATE - 10/27/2017	REVISED -

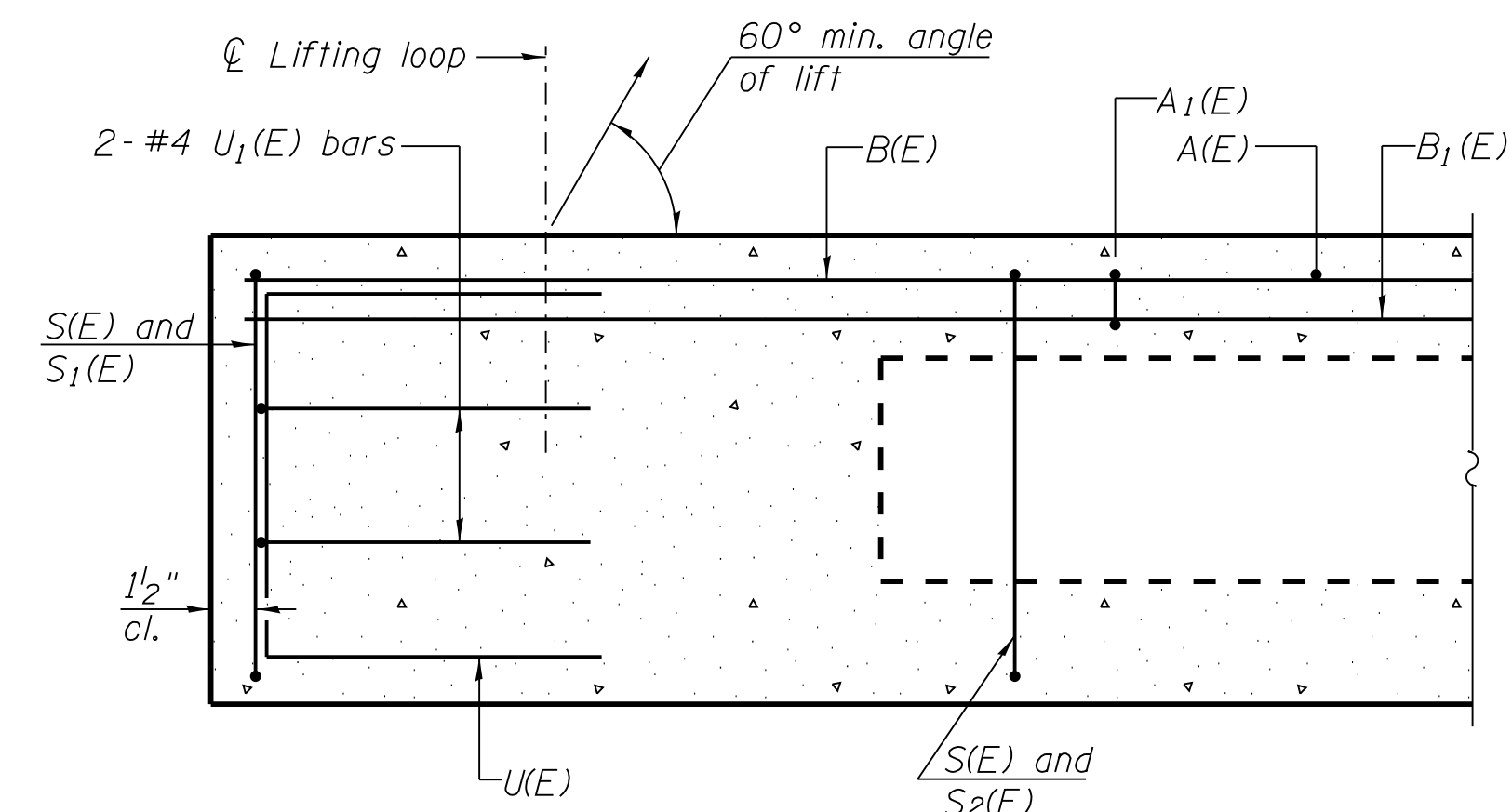
STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION

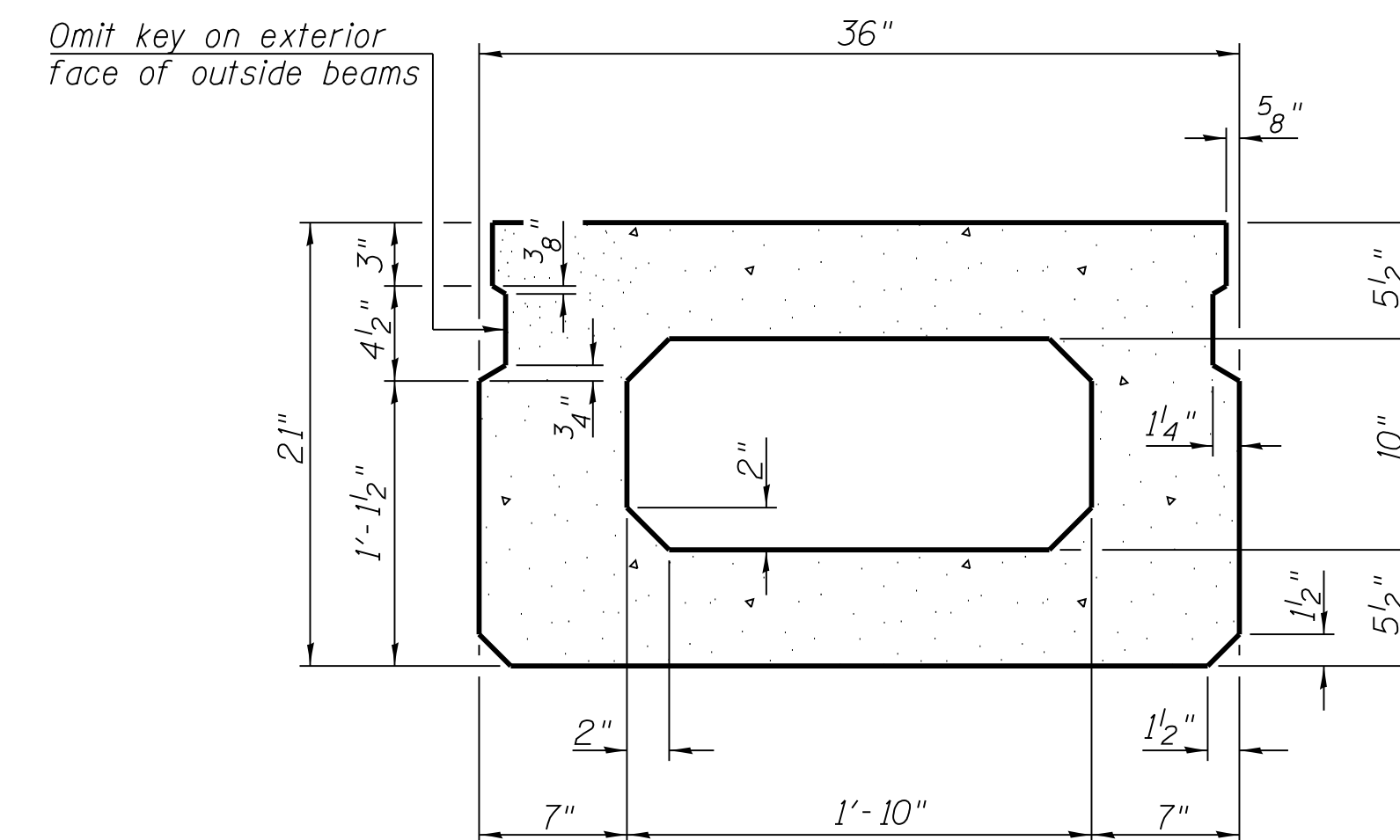
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TR 508A	14-19126-00-BR	FAYETTE	11	4

RAAI JOB NO. 52216

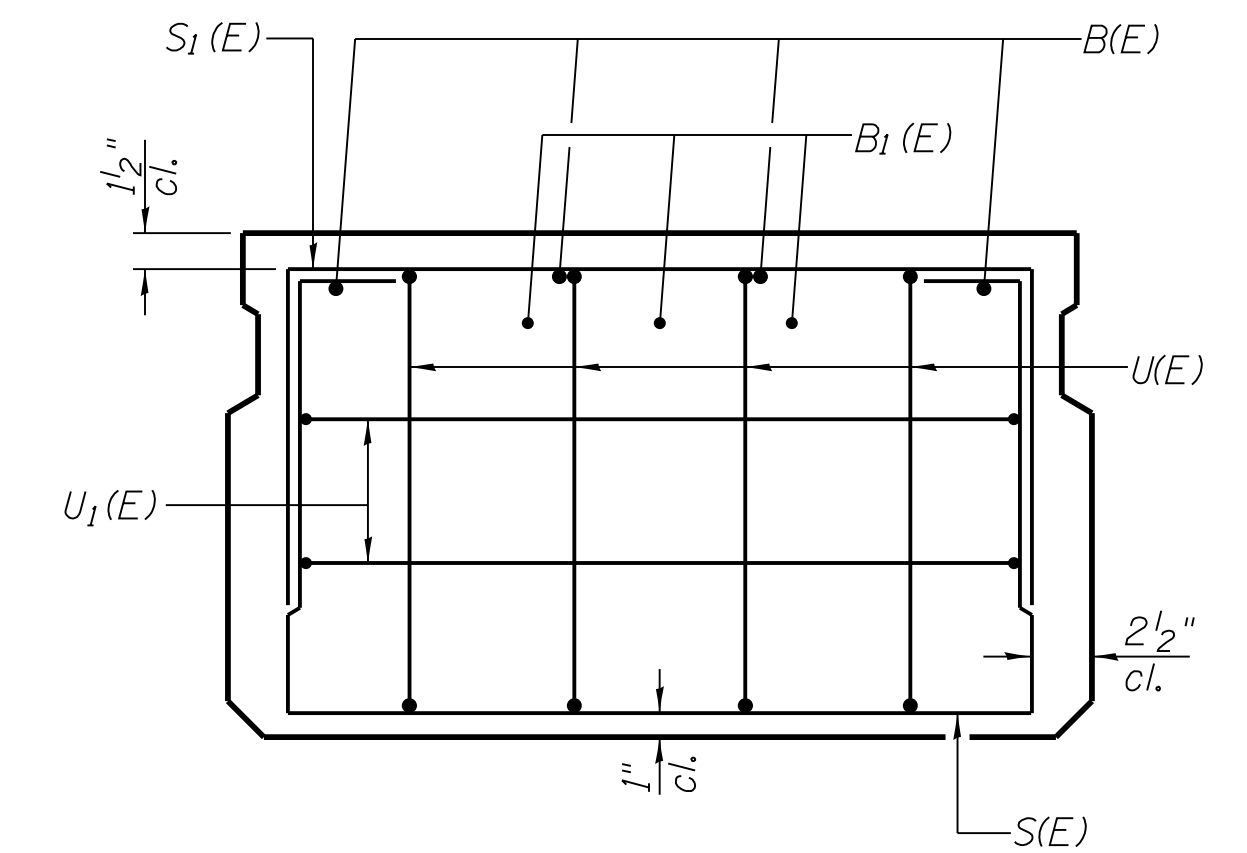
CONTRACT NO. 95820



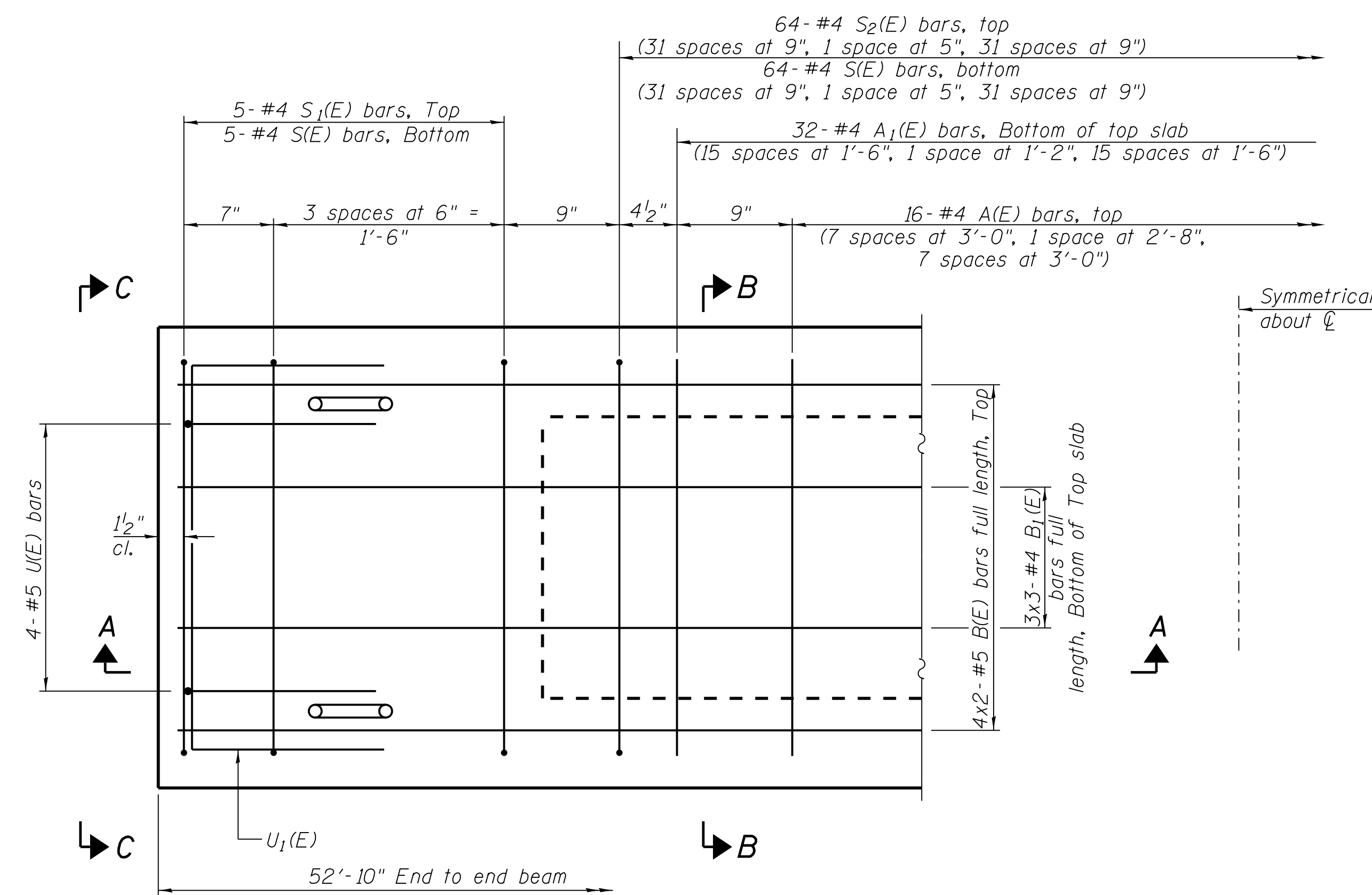
SECTION A-A



SECTION B-B
(Showing dimensions)



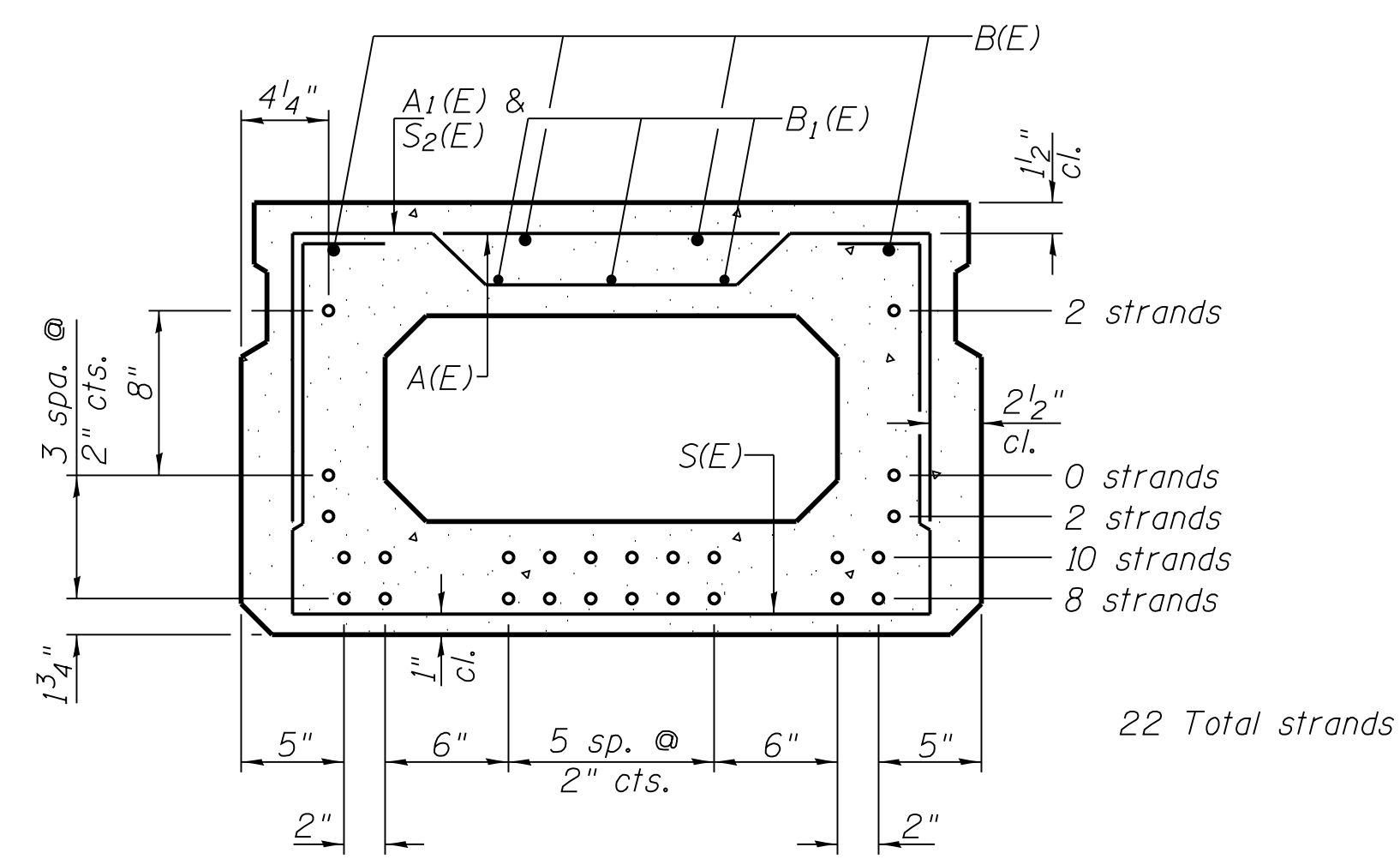
VIEW C-C



PLAN VIEW

Note: Spacing of S(E) and S₂(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

Bars indicated thus: 4x2-#5 etc. indicates 4 lines of bars with 2 lengths per line.



SECTION B-B
(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

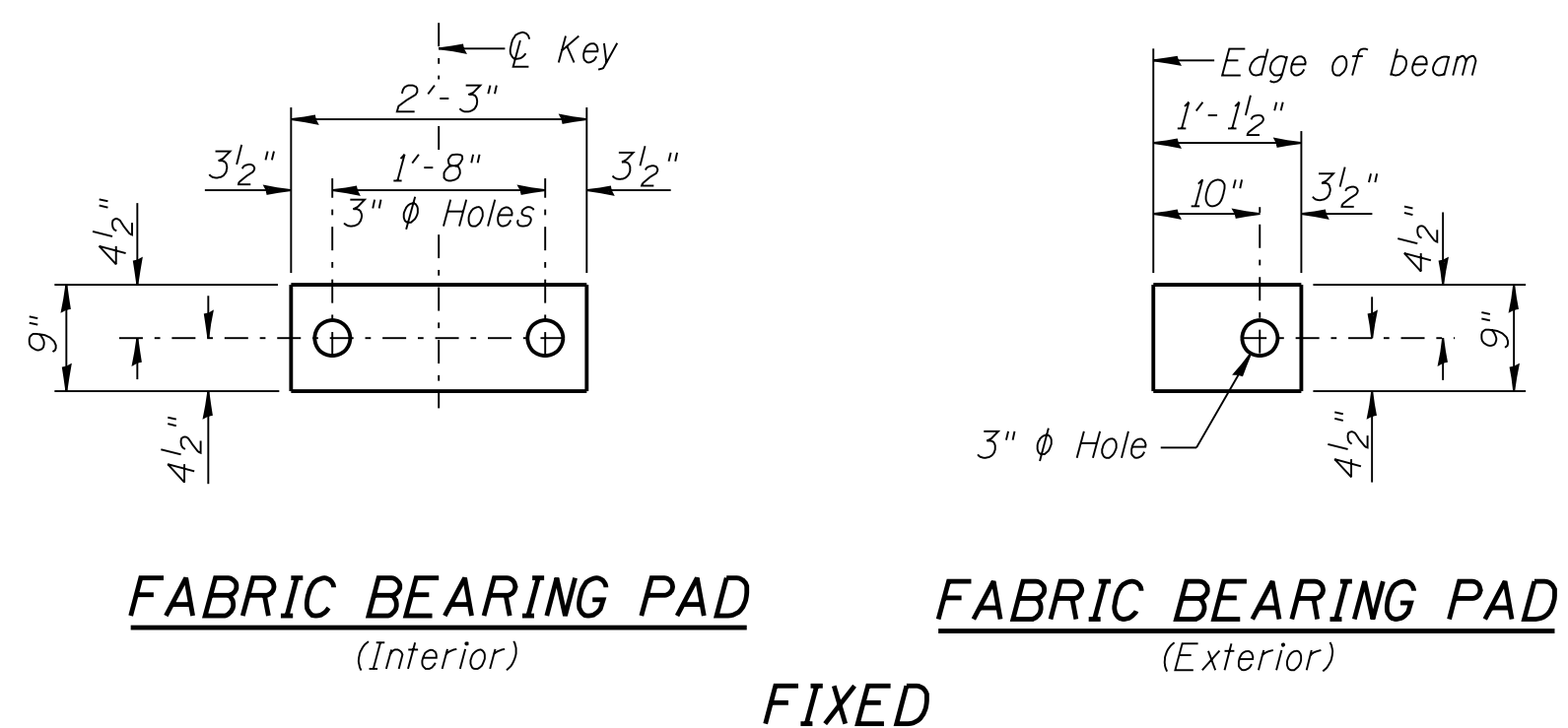
BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	16	#4	2'-7"	—
A ₁ (E)	32	#4	2'-10"	~
B(E)	8	#5	27'-7"	—
B ₁ (E)	9	#4	18'-11"	—
S(E)	74	#4	6'-5"	⌈
S ₁ (E)	10	#4	4'-11"	⌈
S ₂ (E)	64	#4	5'-2"	⌈
U(E)	8	#5	4'-0"	⌈
U ₁ (E)	4	#4	5'-0"	⌈

Note: See sheet 6 additional details and Bill of Material.

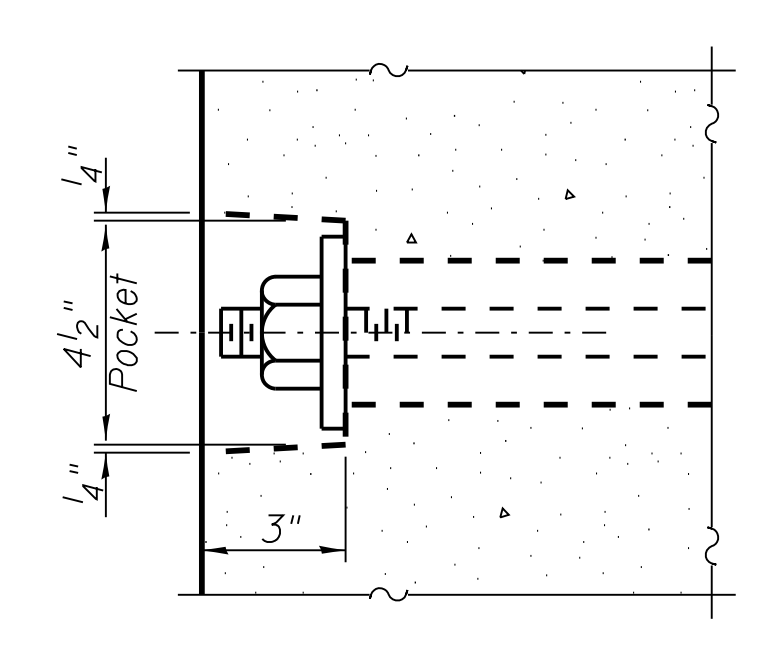
MINIMUM BAR LAP

#4 bar = 1'-11"
#5 bar = 2'-6"

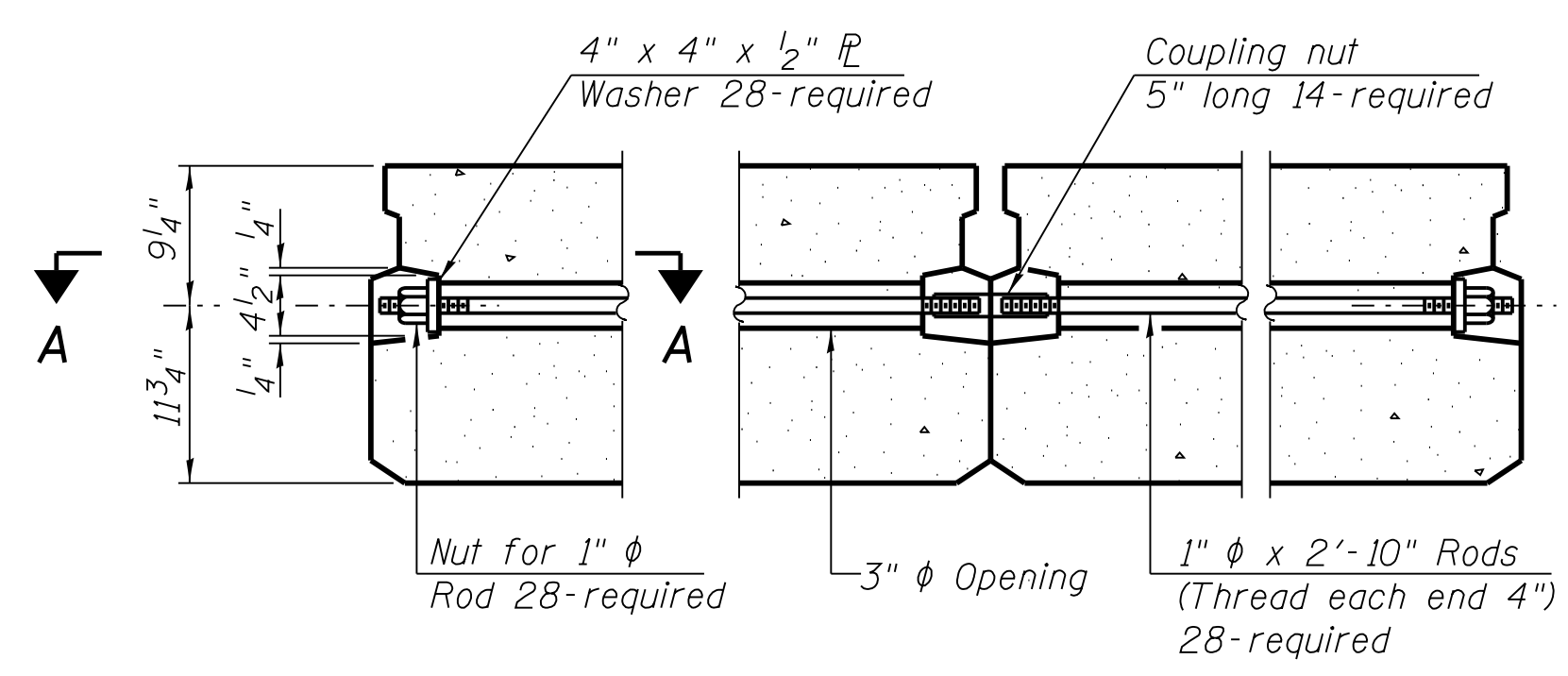


FABRIC BEARING PAD
(Interior) **FABRIC BEARING PAD**
(Exterior)

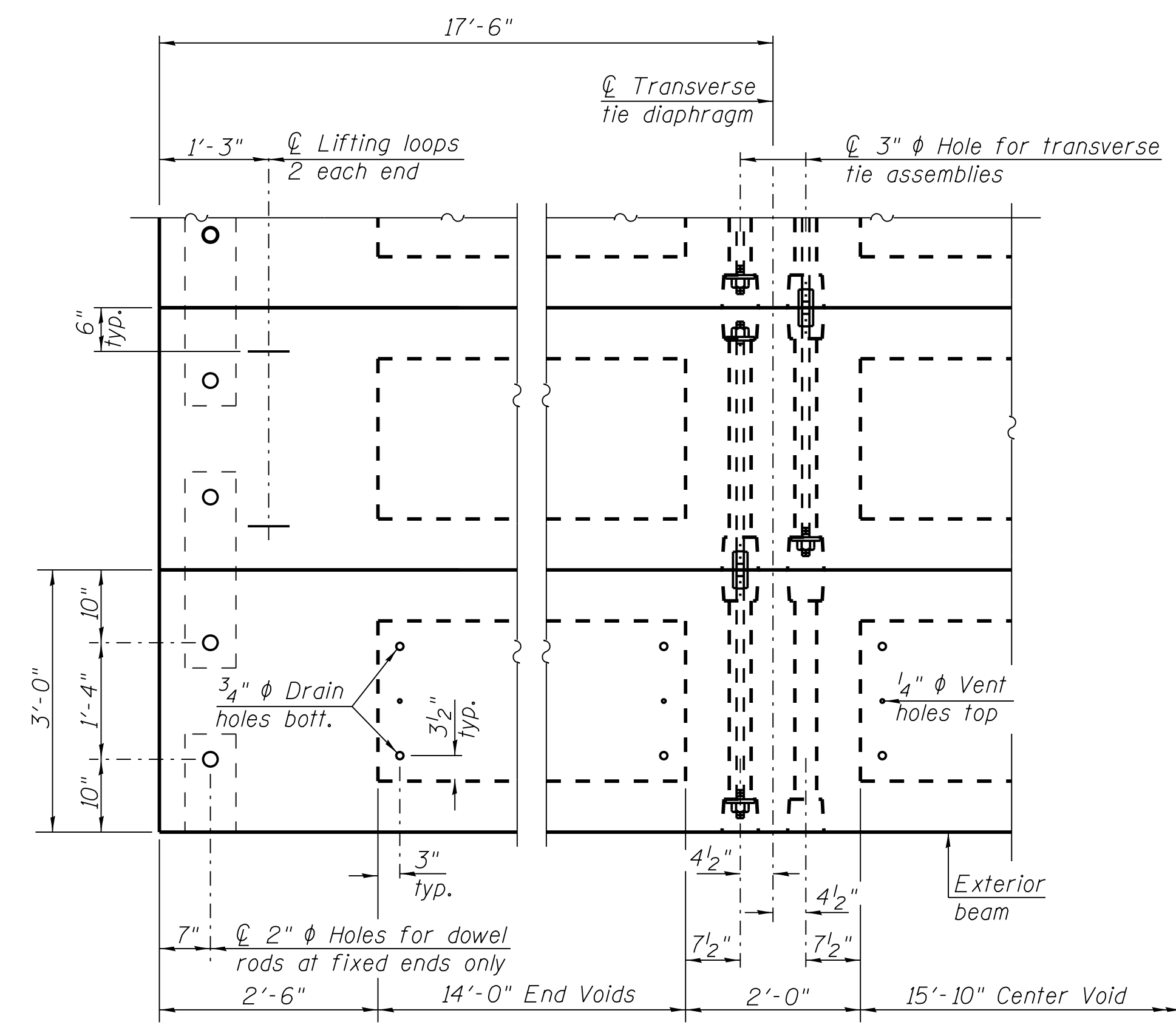
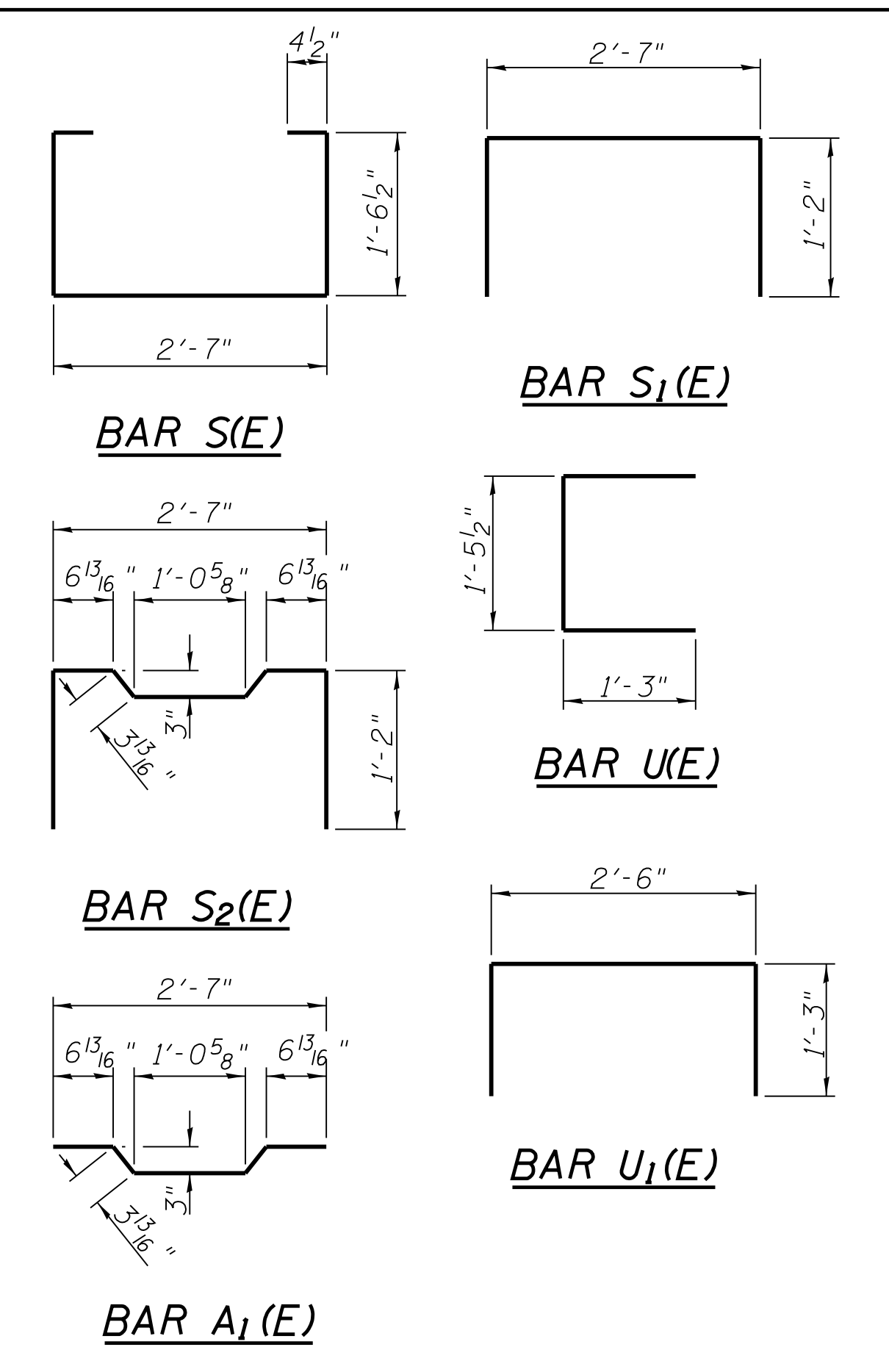
FIXED
Note: All bearing pads shall be 1" thick.



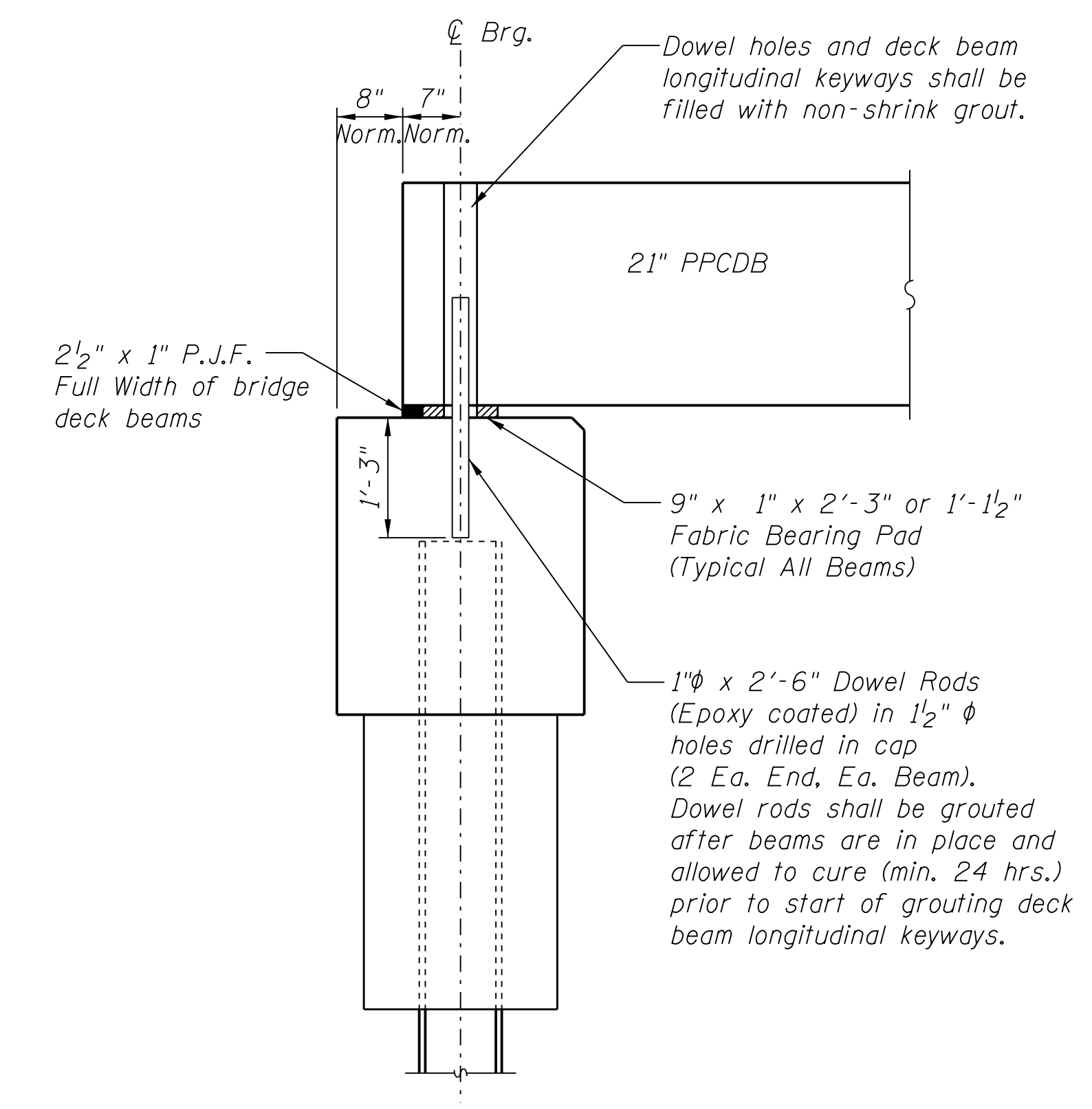
SECTION A-A



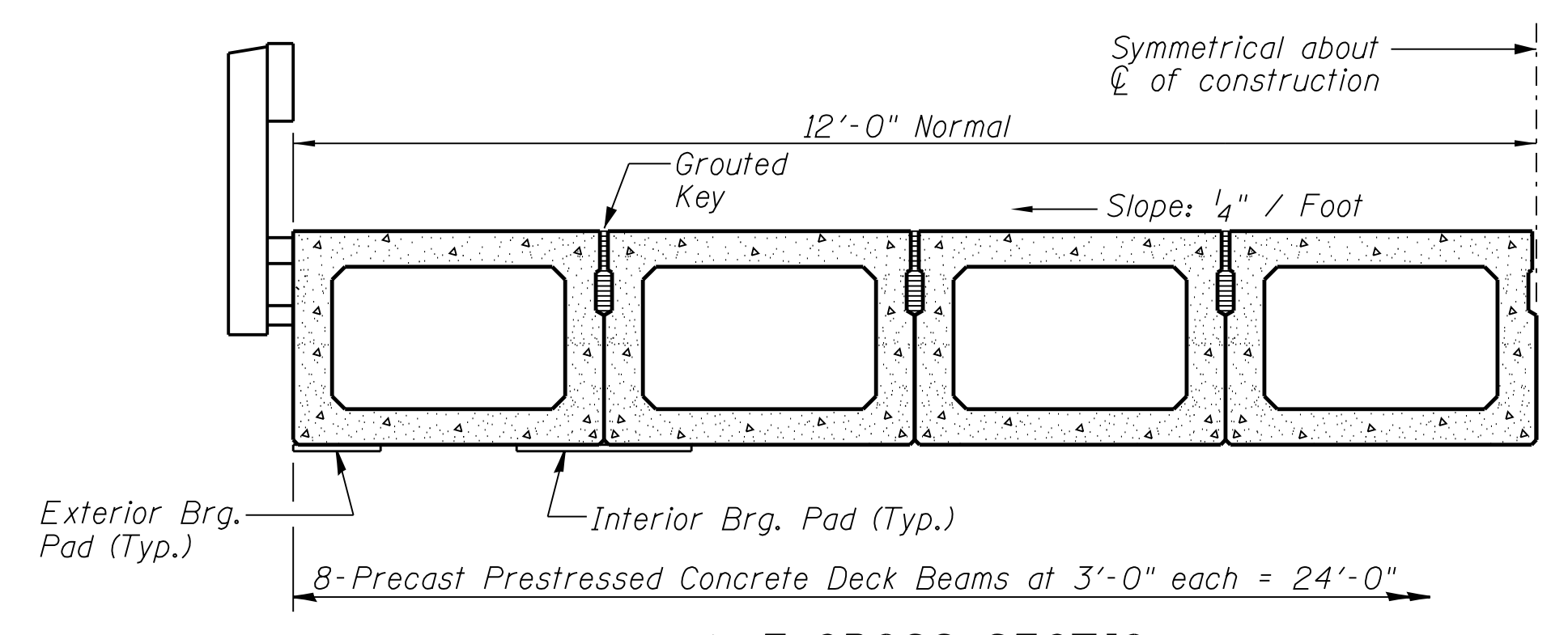
TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW



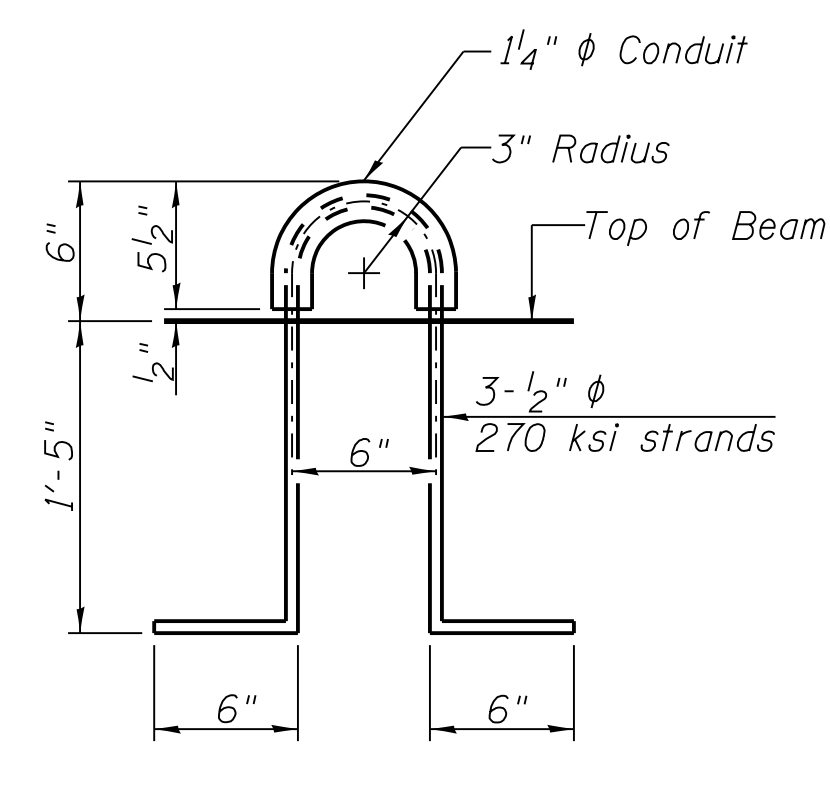
FIXED BEARING ABUTMENT



HALF CROSS SECTION

See Sheet 7 for the details showing the spacing and mounting of posts and rails to the PPCDB.

Note: Connect beams in pairs with the transverse tie configuration shown.



LIFTING LOOP DETAIL

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place. Reinforcement bars shall conform to ASTM A 706, Grade 60 (Illinois Modified). Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams. Compressive strength of prestressed concrete, f'c, shall be 6000 psi. Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

BILL OF MATERIAL

Precast Prestressed Concrete Deck Beams (21" depth)	Sq. Ft.	1268
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RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
SALEM, ILLINOIS FREEBURG, ILLINOIS
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

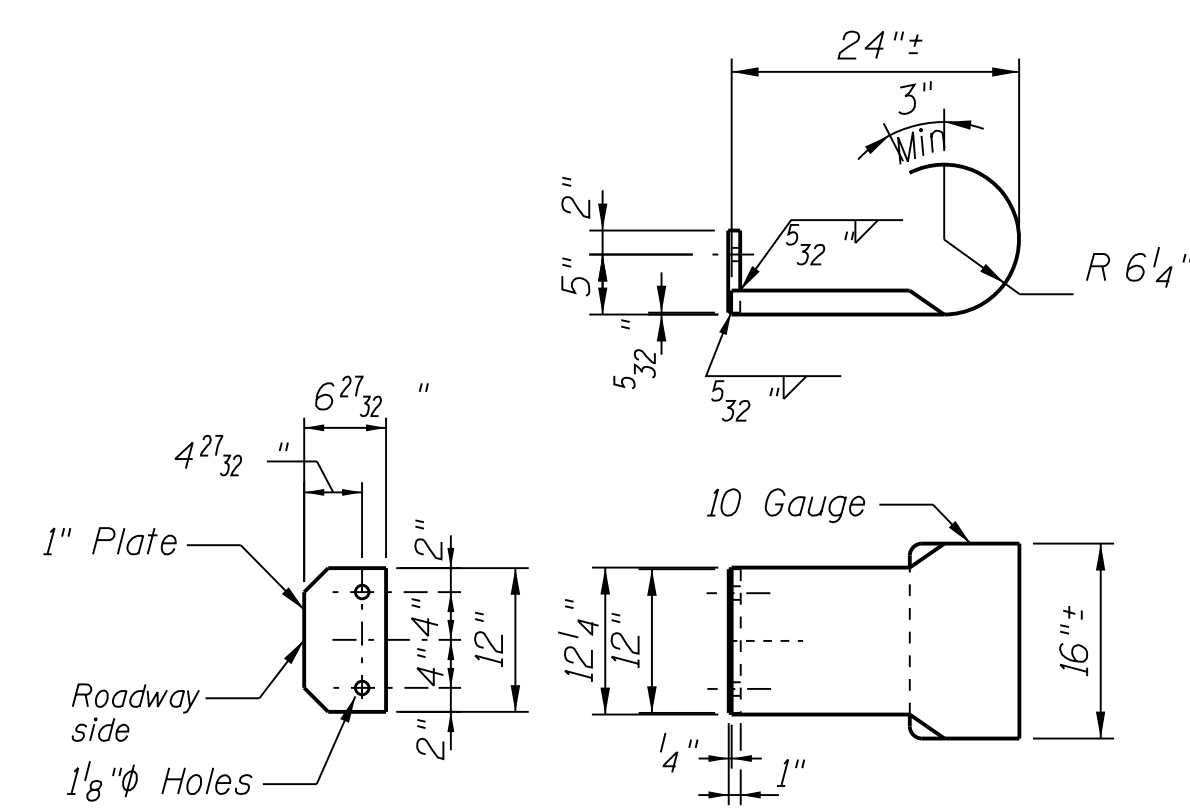
DESIGNED - BLT	REVISED -
DRAWN - JUN	REVISED -
CHECKED - WDL	REVISED -
DATE - 10/27/2017	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

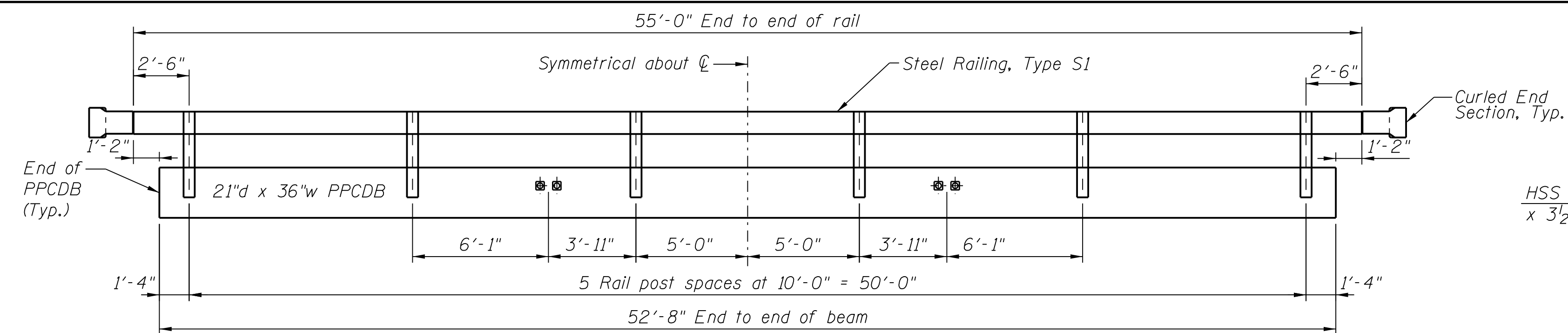
PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 508A	14-19126-00-BR	FAYETTE	11	6
CONTRACT NO. 95820				

RAAI JOB NO. 52216

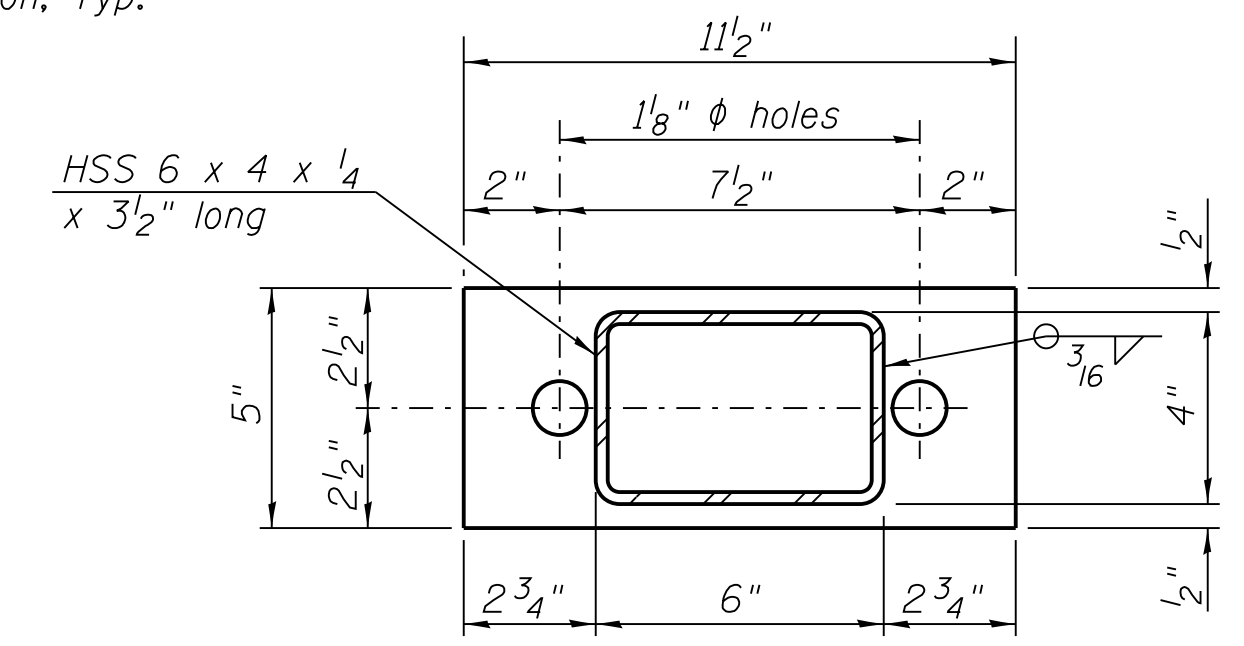


CURLLED END SECTION DETAILS
4 Each Required

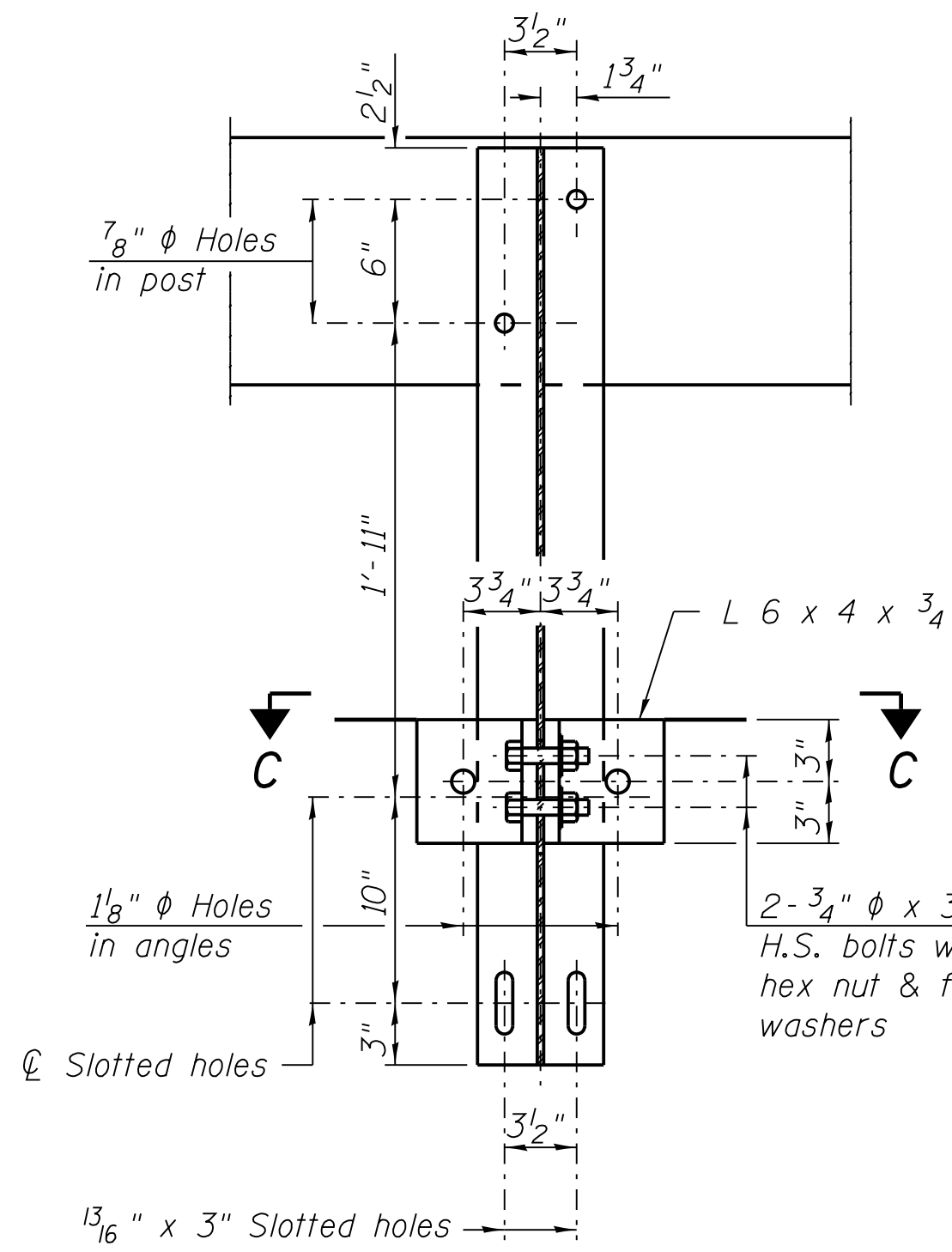


RAIL POST SPACING

Note: The cost of the Curled End Sections shall be included in the contract unit price per foot for "STEEL RAILING, TYPE S1", and no additional compensation will be allowed.

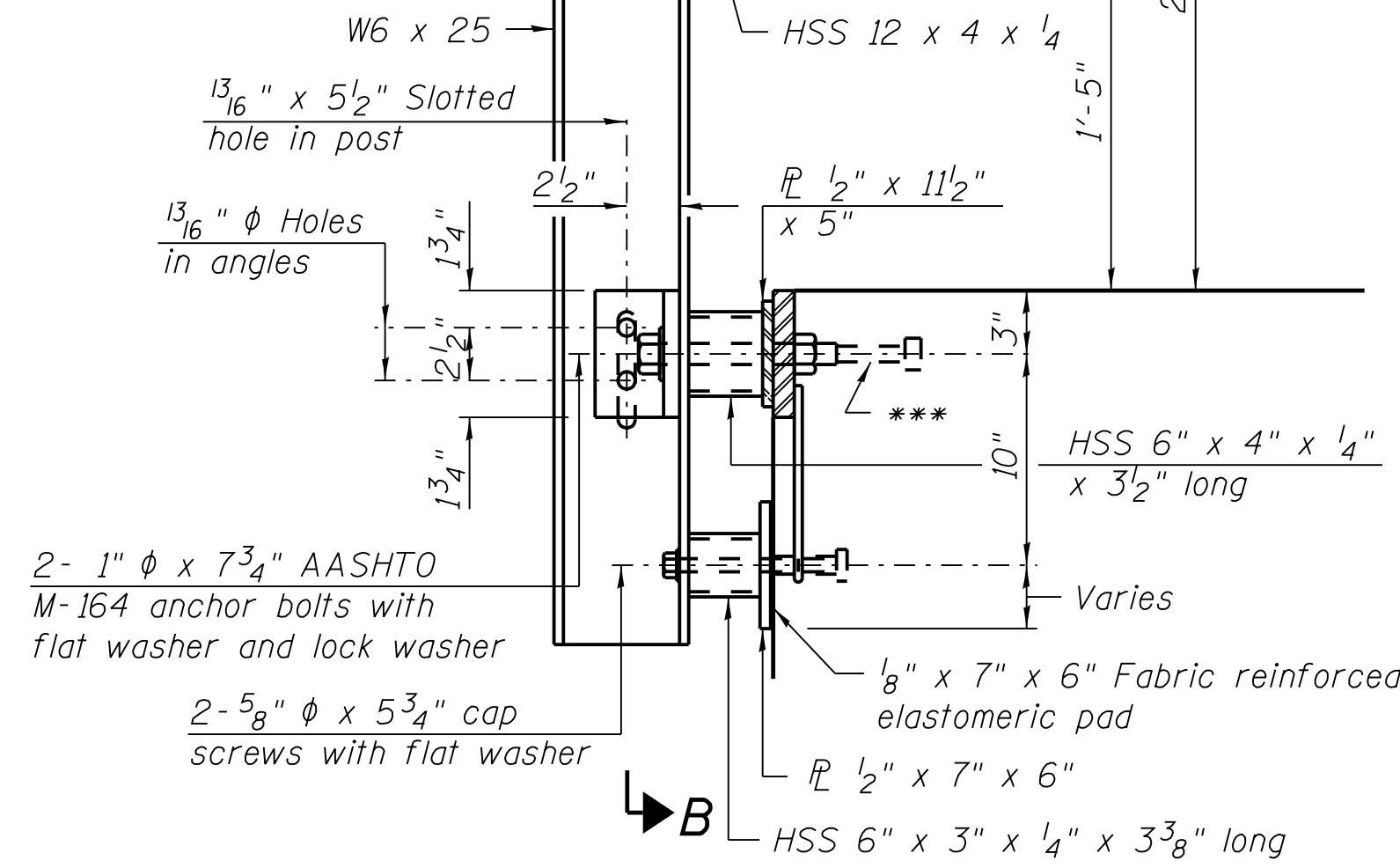


L 1/2" x 11 1/2" x 5"



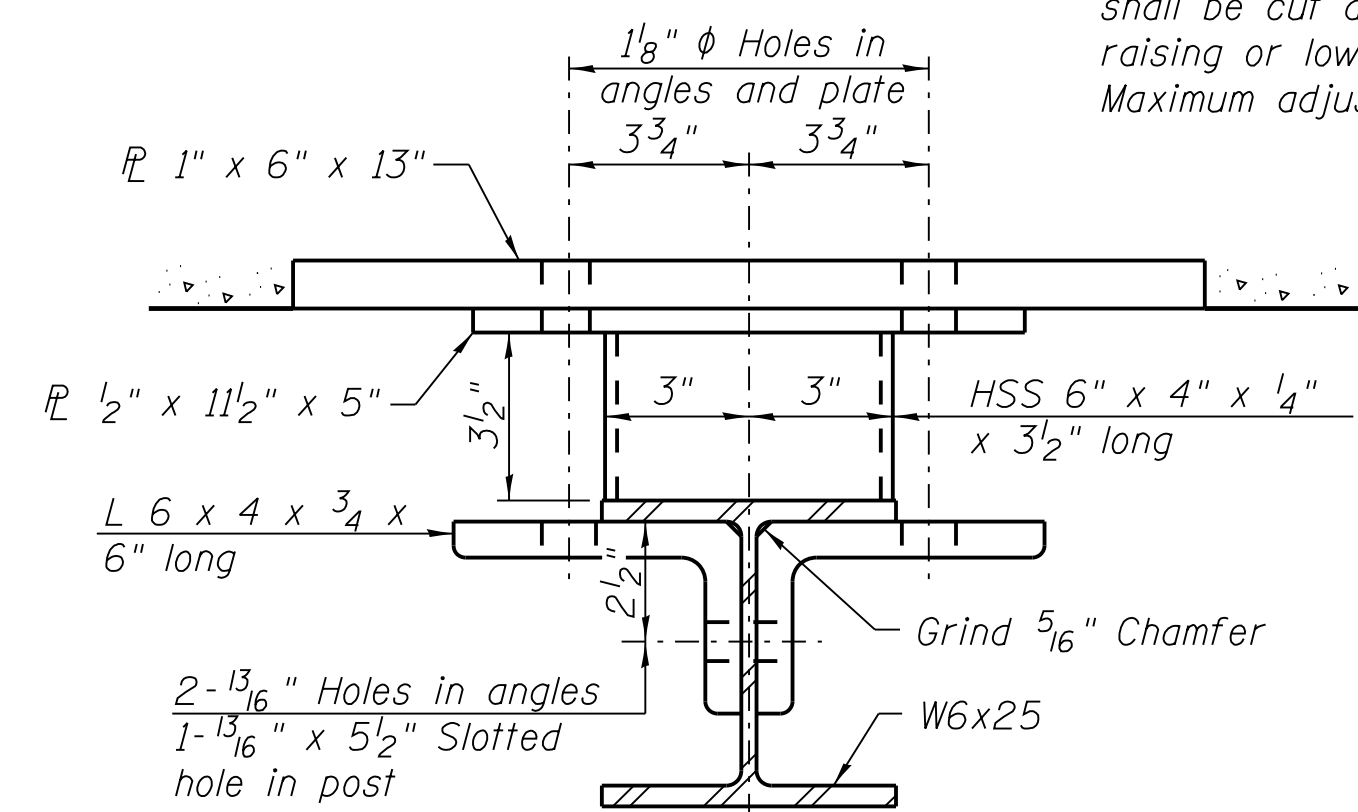
SECTION B-B

2- 3/4" ϕ x 6" Round Head Bolts (With slot or approved recess in head) with locknut & flat washer. 7/8" ϕ holes in hollow structural section may be drilled in the field.

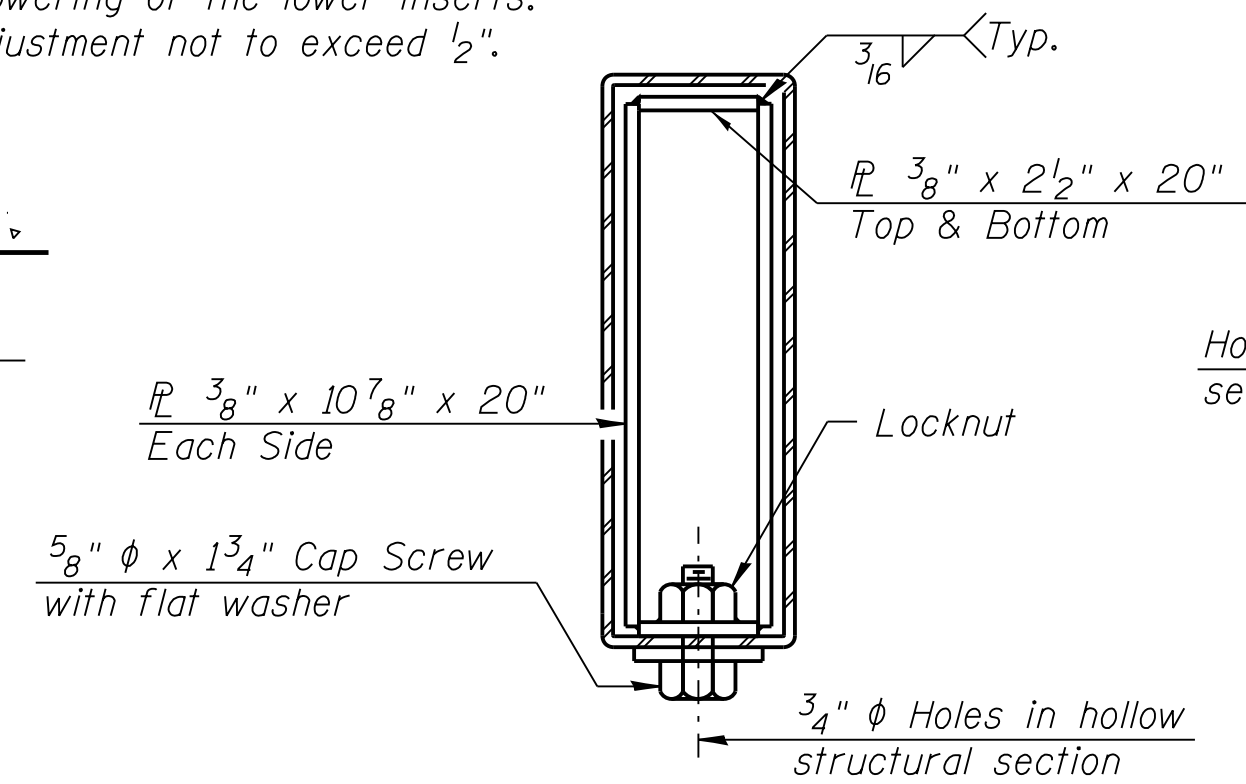


SECTION AT RAILING POST

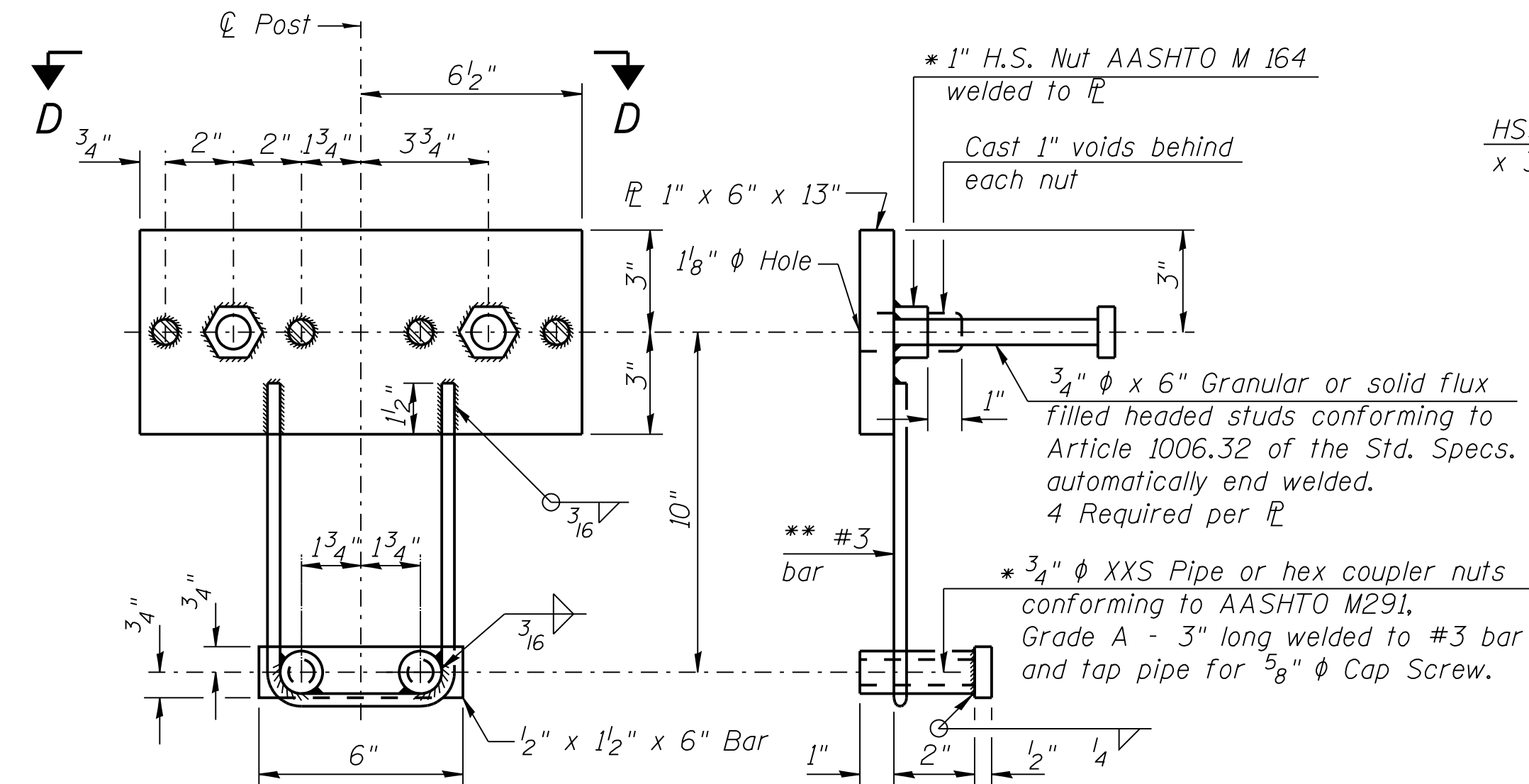
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



SECTION C-C

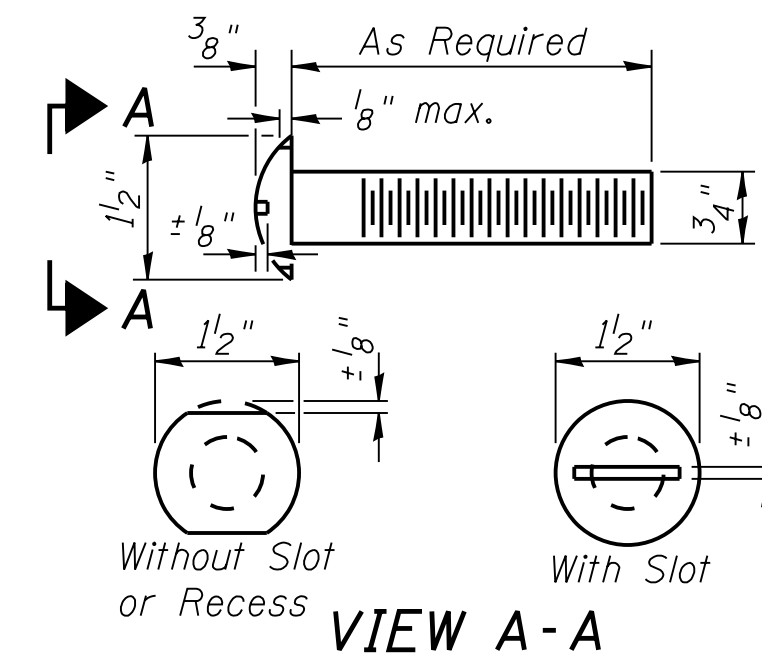


SECTIONS AT RAIL SPLICE

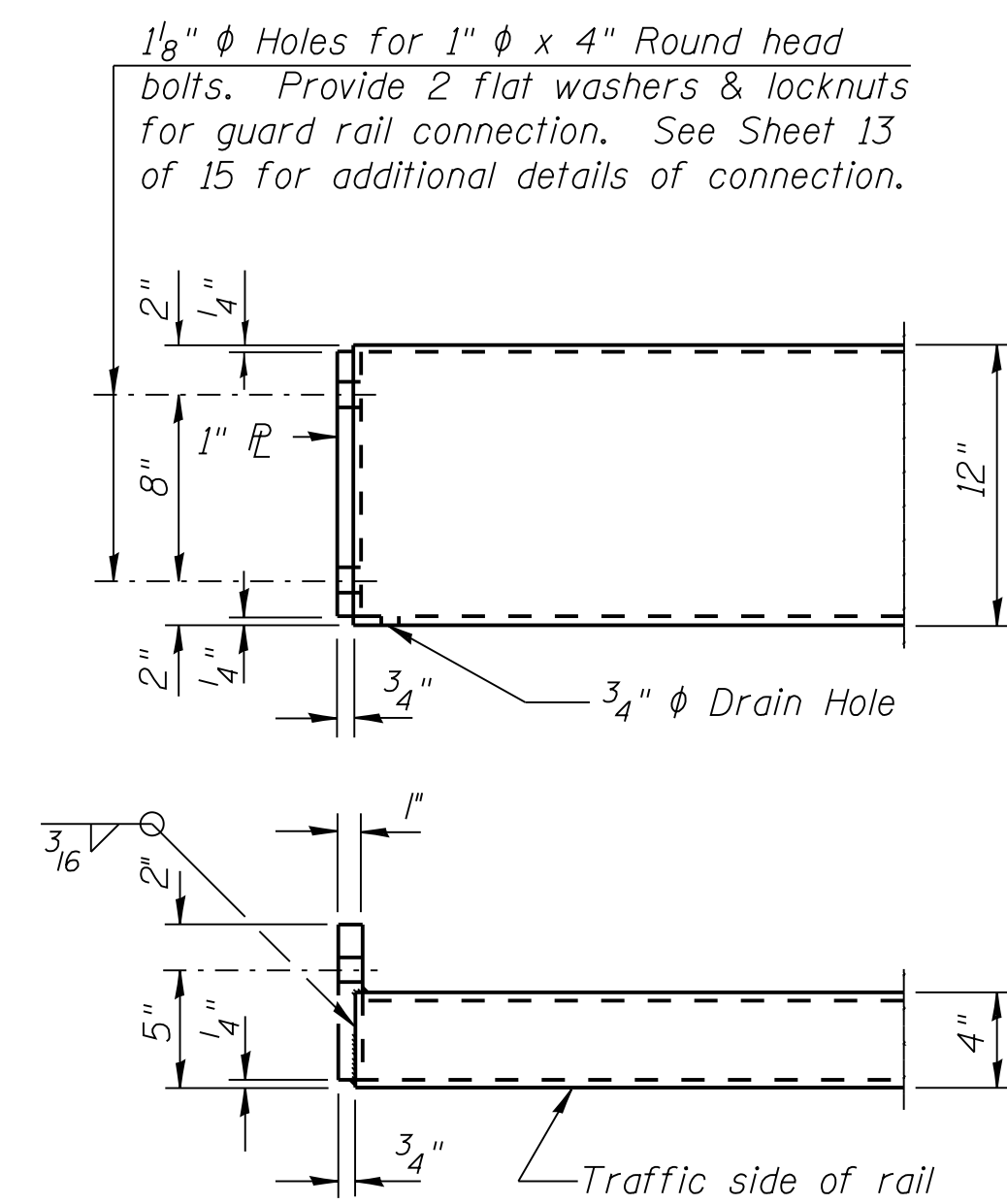


ANCHOR DEVICE

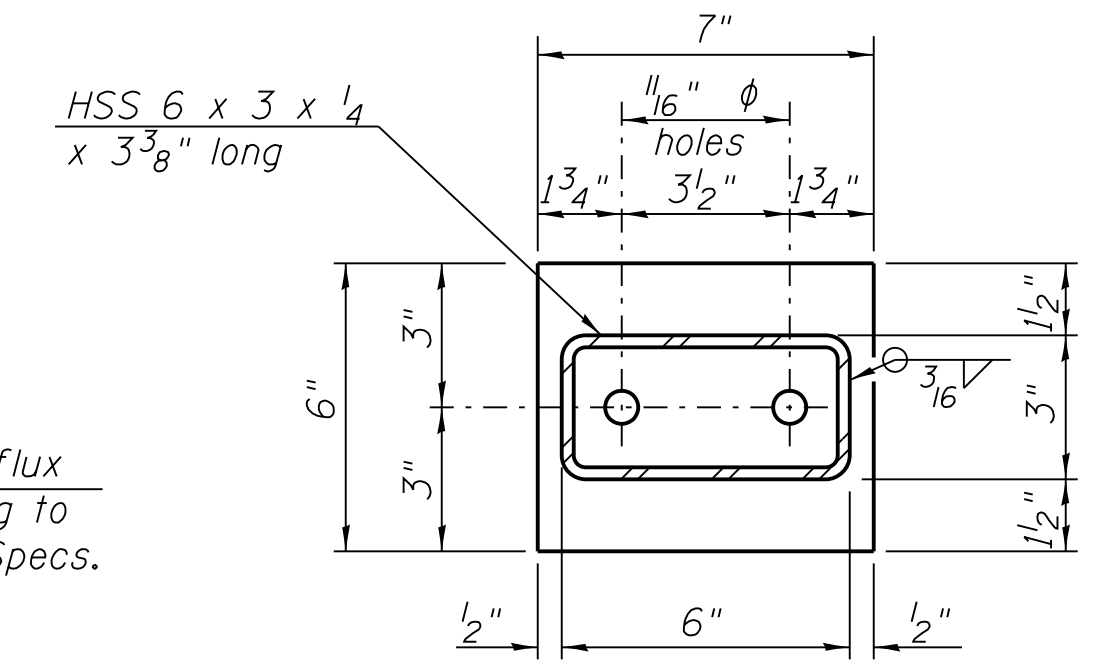
* Threaded areas shall be plugged or blocked off during casting of beam.



VIEW A-A ROUND HEAD BOLT

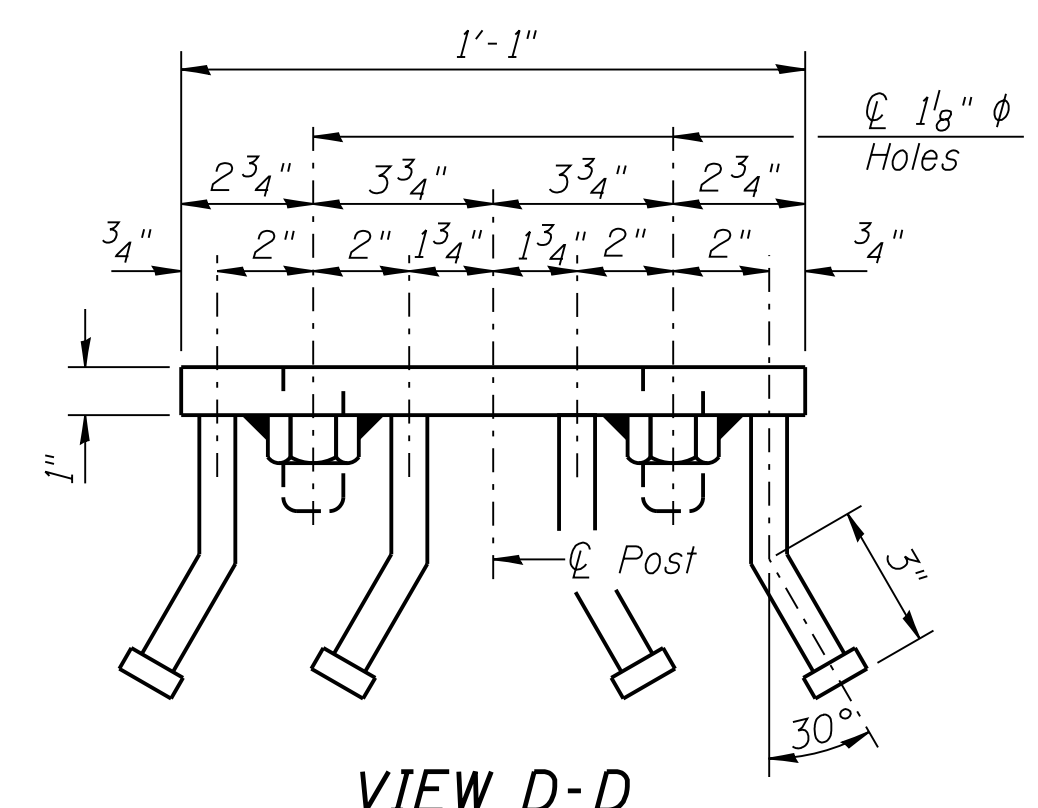


END OF RAIL DETAILS



L 1/2" x 7" x 6"

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S1	Foot	110

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DESIGNED - BLT	REVISED -
DRAWN - JUN	REVISED -
CHECKED - WDL	REVISED -
DATE - 10/27/2017	REVISED -

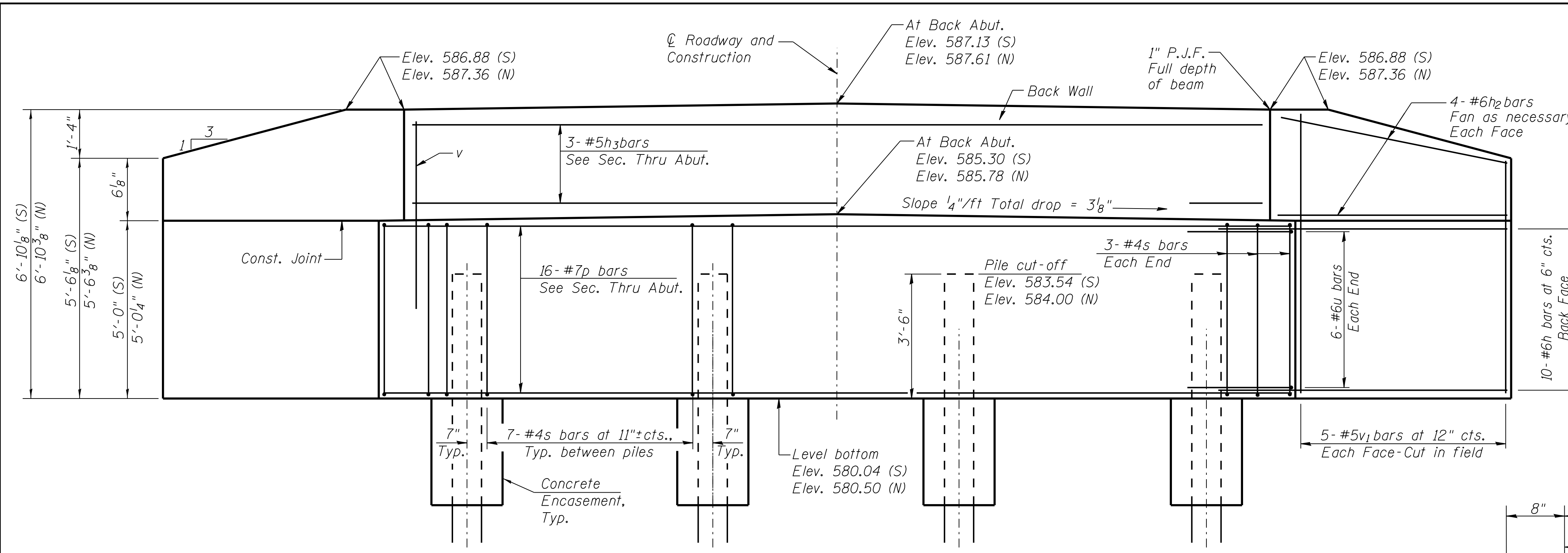
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

STEEL RAILING, TYPE S1 DETAILS

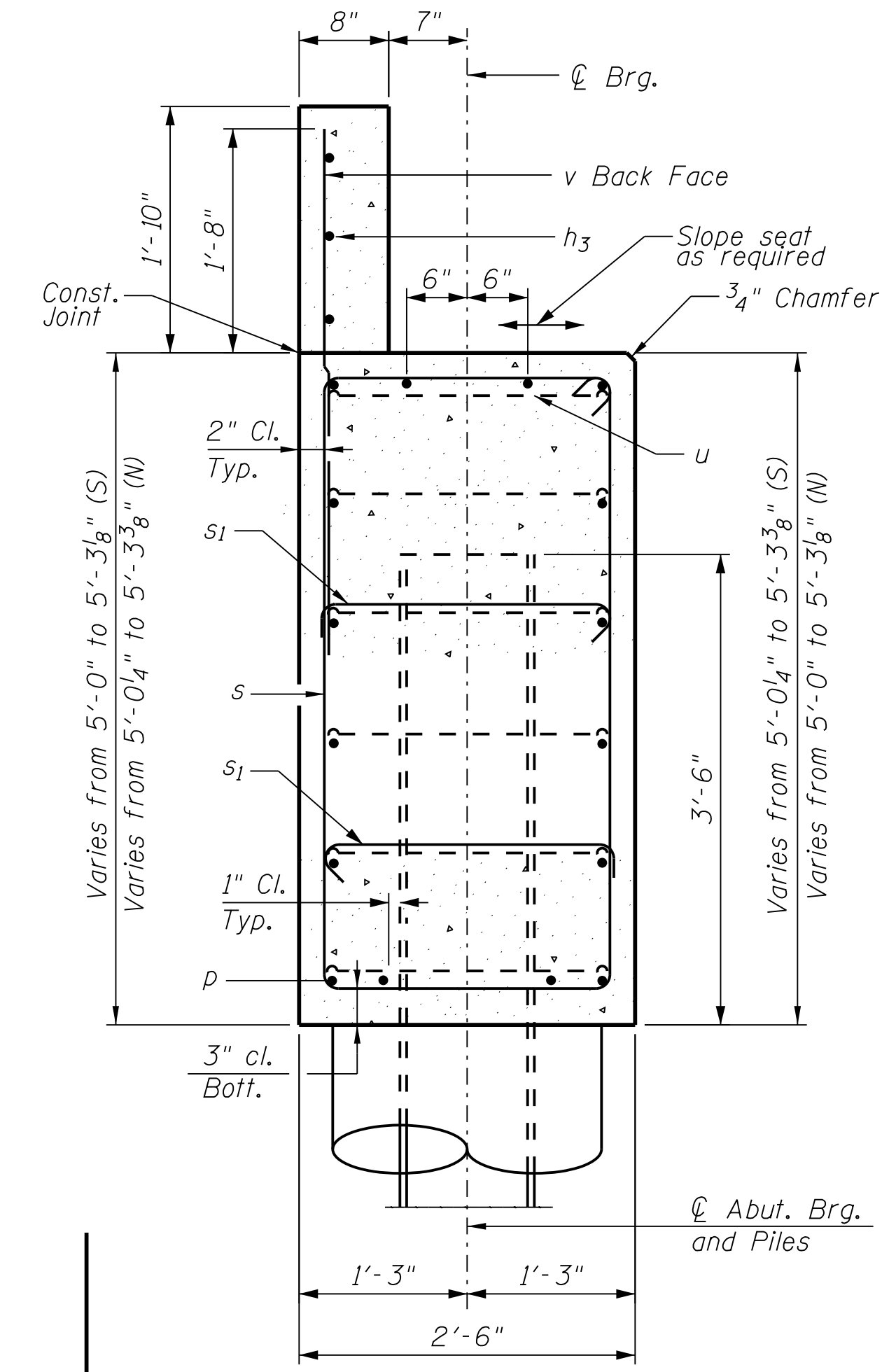
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 508A	14-19126-00-BR	FAYETTE	11	7

CONTRACT NO. 95820

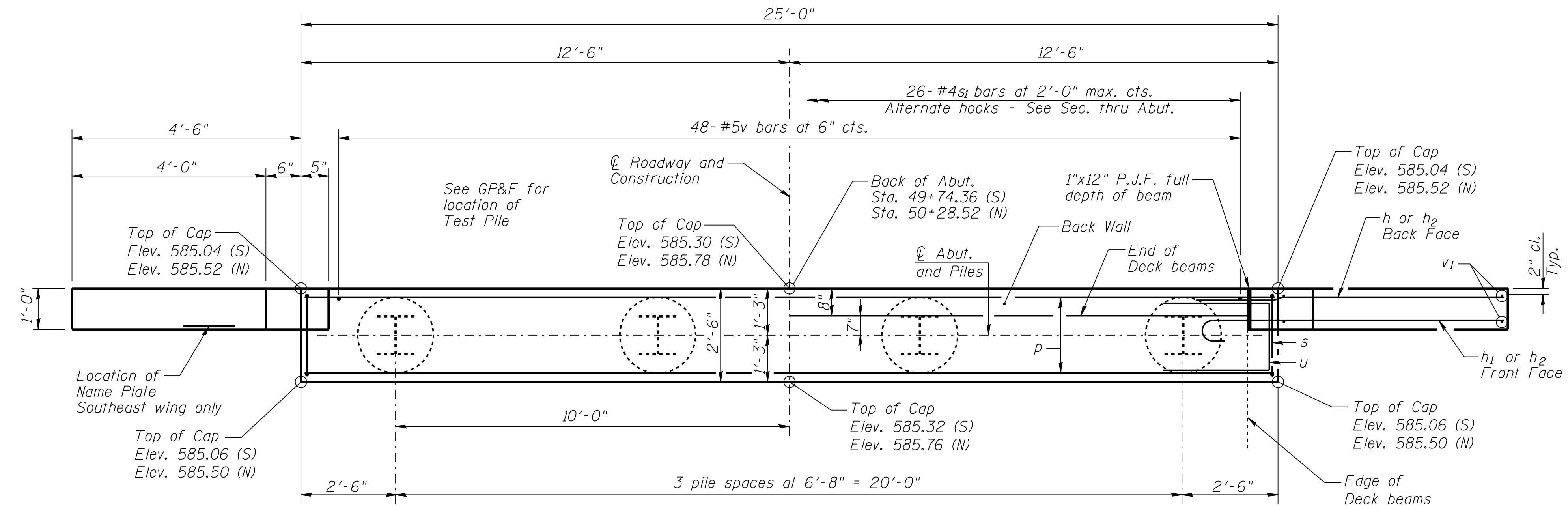
RAAI JOB NO. 52216



ELEVATION



SEC. THRU ABUT.
(Normal to \bar{C})



PLAN

**PILE DATA
SOUTH ABUTMENT**

Type: Steel HP12x53
 Nominal Required Bearing: 418 kips
 Factored Resistance Available: 230 kips
 Estimated Length: 35'/pile
 No. Production Piles: 4
 No. Test Piles: 0

**PILE DATA
NORTH ABUTMENT**

Type: Steel HP12x53
 Nominal Required Bearing: 418 kips
 Factored Resistance Available: 230 kips
 Estimated Length: 38'/pile
 No. Production Piles: 3
 No. Test Piles: 1

GENERAL NOTES

Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (Illinois Modified).

All exposed edges shall have standard $\frac{3}{4}$ " chamfer, unless otherwise noted or as directed by the Engineer.

All clearances between rebar and form surface shall be 2", unless otherwise noted.

Space reinforcement in cap to miss PPCDB dowel rods.

The position of the 90° & 135° hooked ends of the #1 bars shall be alternated between adjacent bars.

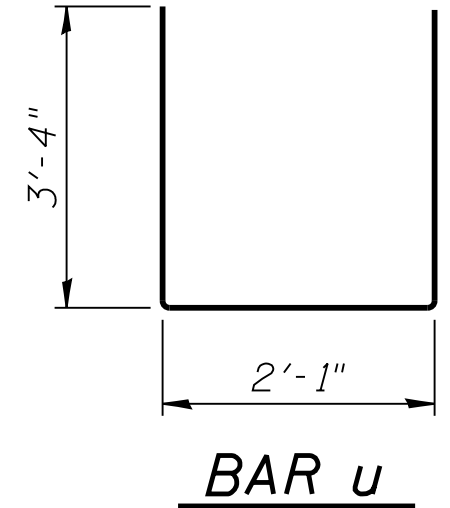
The back wall and portion of the wingwalls above the construction joint shall be cast against the in-place deck beams.

The Steel H-piles shall be according to AASHTO M270 Grade 50.

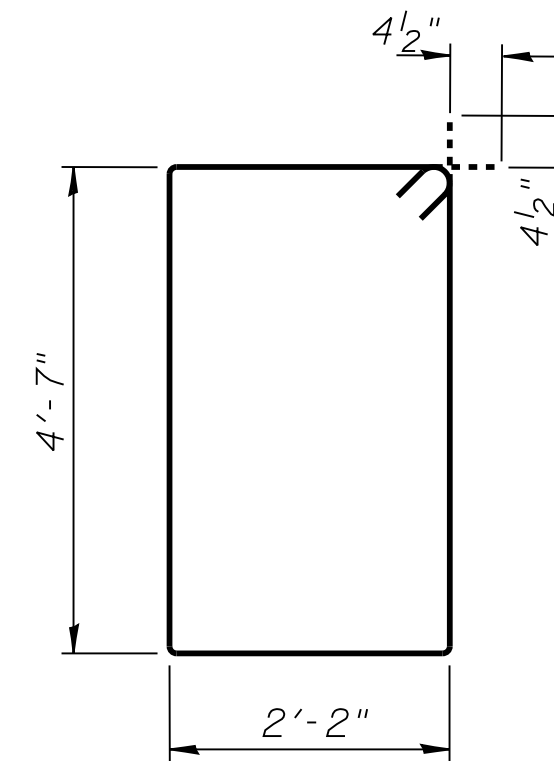
The Contractor shall drive one (1) Steel HP12x53 Test Pile in a production location as directed by the Engineer before ordering the remainder of the piles.

The Test Pile shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

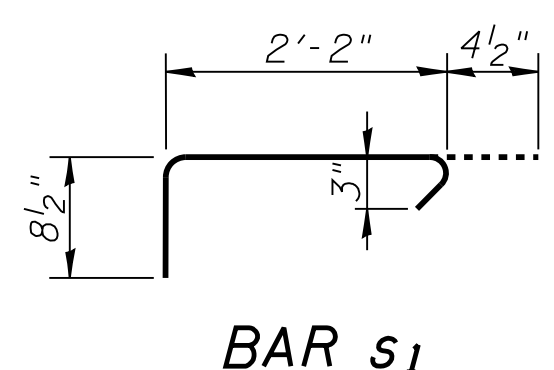
BAR h₁



BAR u



BAR s



BAR s₁

**BILL OF MATERIAL
FOR ONE ABUTMENT**

Bar	No.	Size	Length	Shape
h	20	#6	7'-10"	—
h ₁	20	#6	7'-0"	C
h ₂	16	#6	4'-8"	—
h ₃	3	#5	23'-8"	—
p	16	#7	24'-8"	—
s	27	#4	14'-3"	□
s ₁	26	#4	3'-3"	┌
u	12	#6	8'-9"	U
v	48	#5	4'-0"	—
v ₁	20	#5	6'-6"	CUT IN FIELD
Concrete Structures		Cu. Yd.	15.1	
Concrete Encasement		Cu Yd	1.4	
Reinforcement Bars		Pound	2250	
Furnishing Steel		S. Abut	140	
Piles, HP12x53		Foot	N Abut 114	
Driving Piles		Foot	S Abut 140	
			N Abut 114	
Test Pile, Steel HP12x53		Each	S Abut 0	
			N Abut 1	

For details of piles and Concrete Encasement, see Sheet 9.

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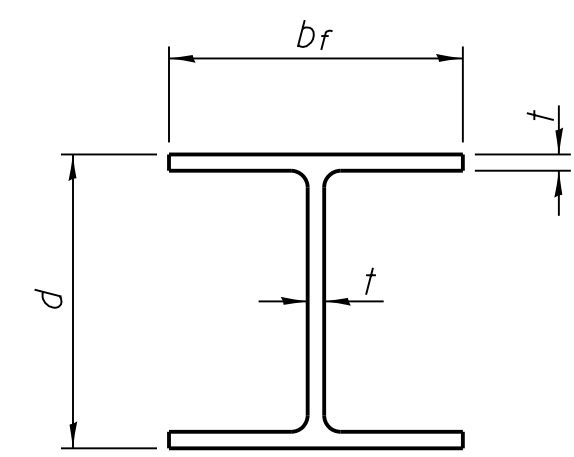
DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL	REVISED -
DATE - 10/27/2017	REVISED -

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DEPARTMENT OF TRANSPORTATION**

ABUTMENT DETAILS

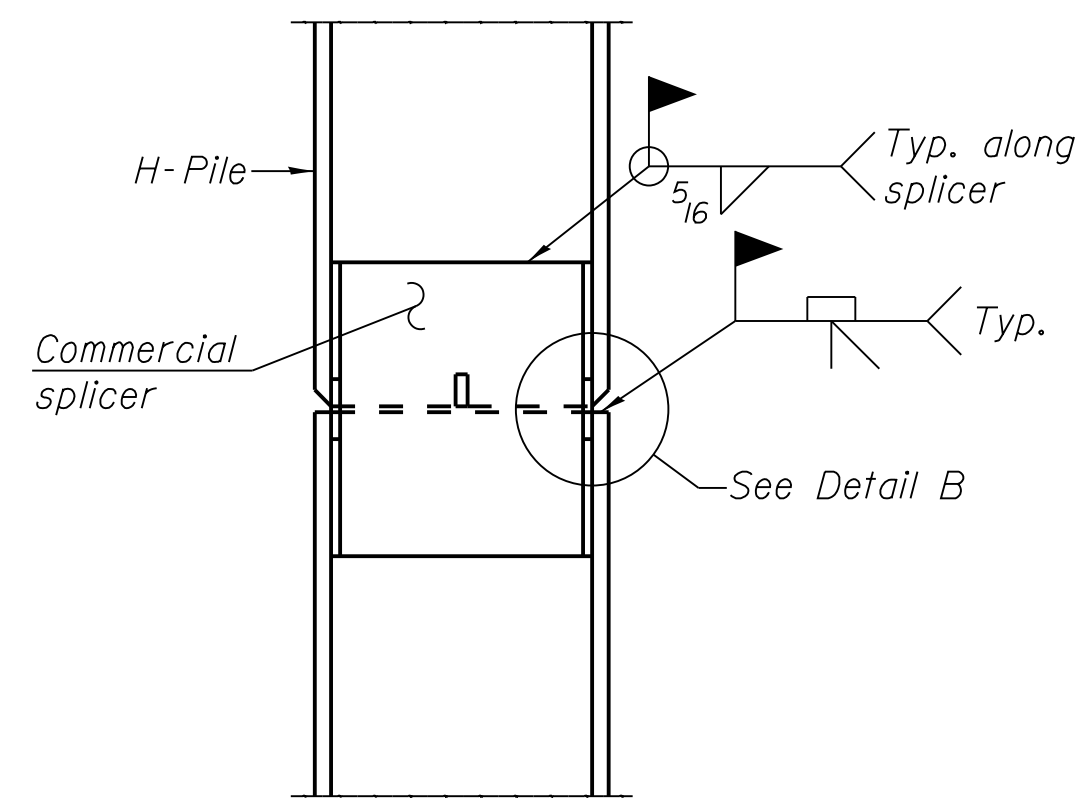
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 508A	14-19126-00-BR	FAYETTE	11	8

CONTRACT NO. 95820

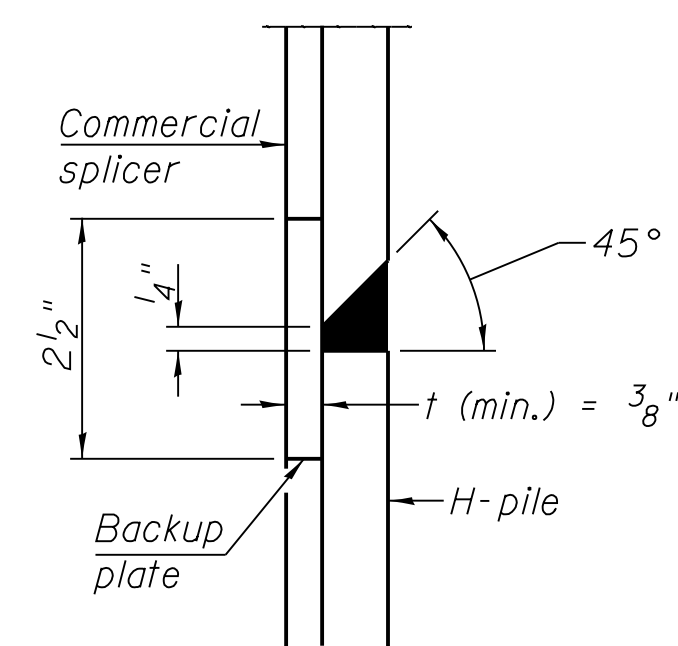


STEEL PILE TABLE

Designation	Depth d	Flange width b _f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 5/16"	30"
x102	14"	14 3/4"	1 1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"

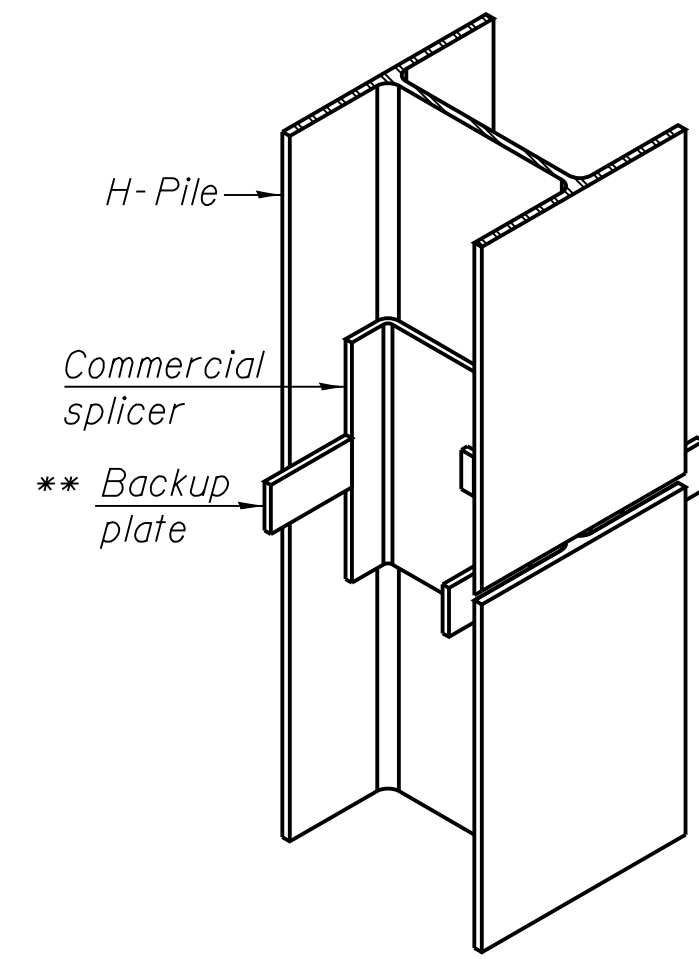


ELEVATION

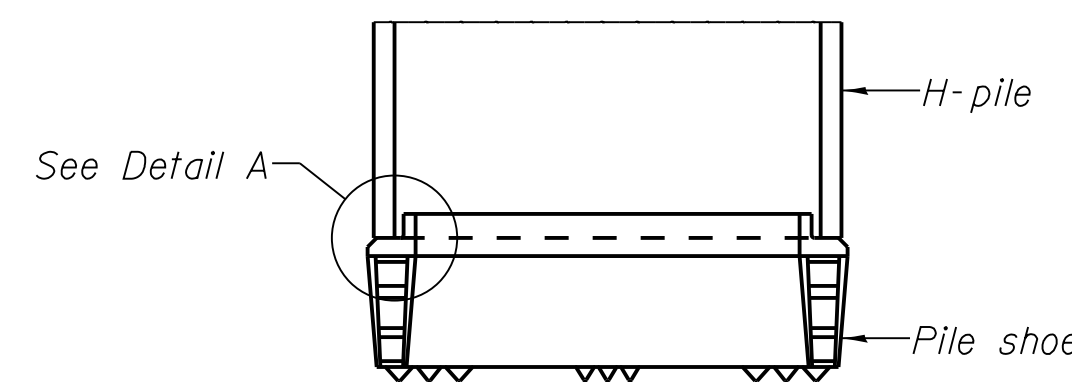


DETAIL "B"

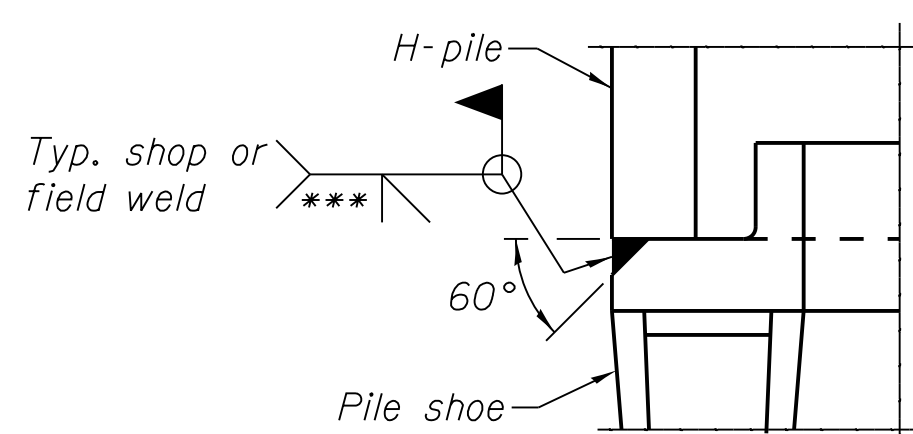
WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW

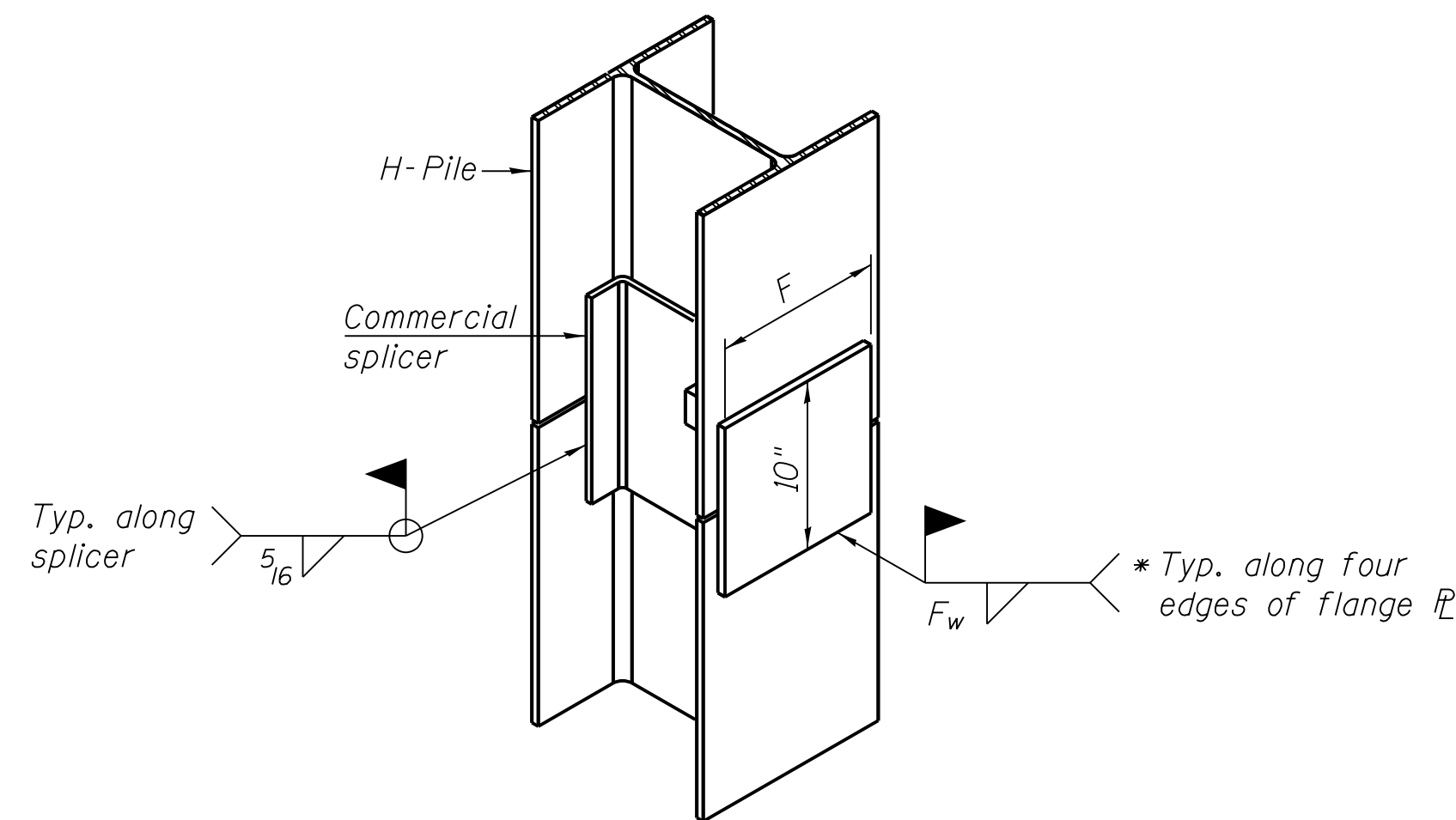


ELEVATION



DETAIL A

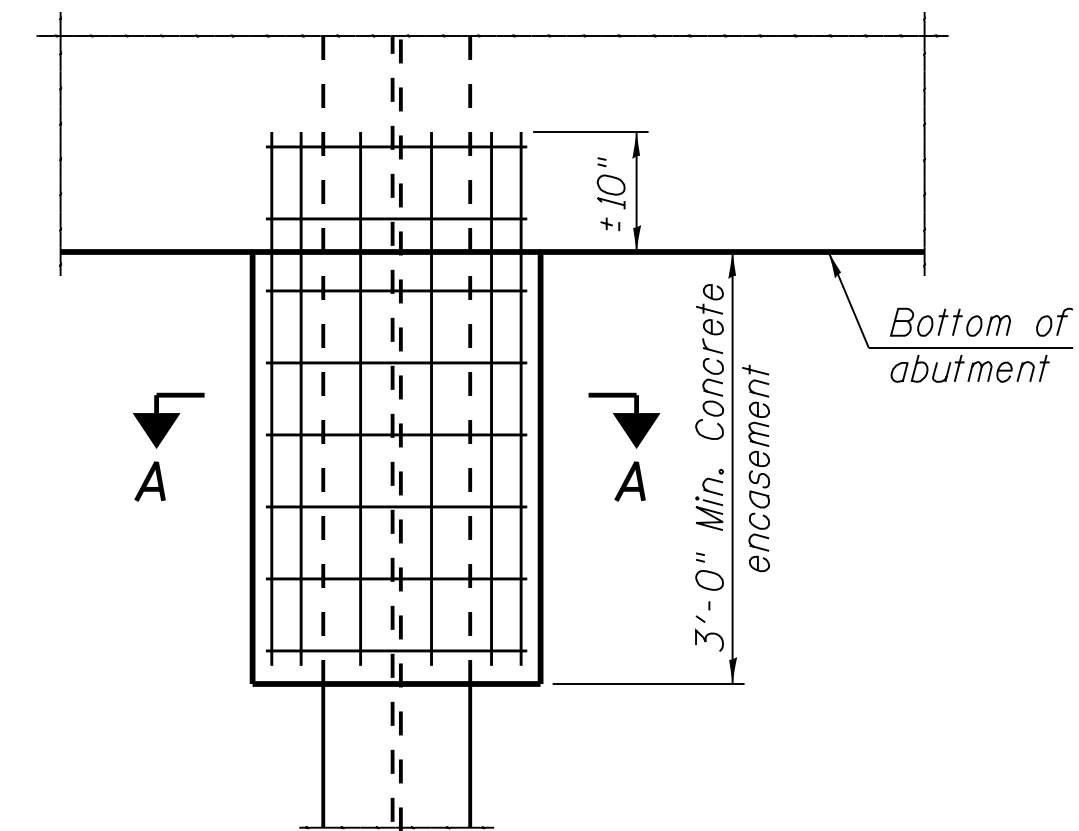
H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

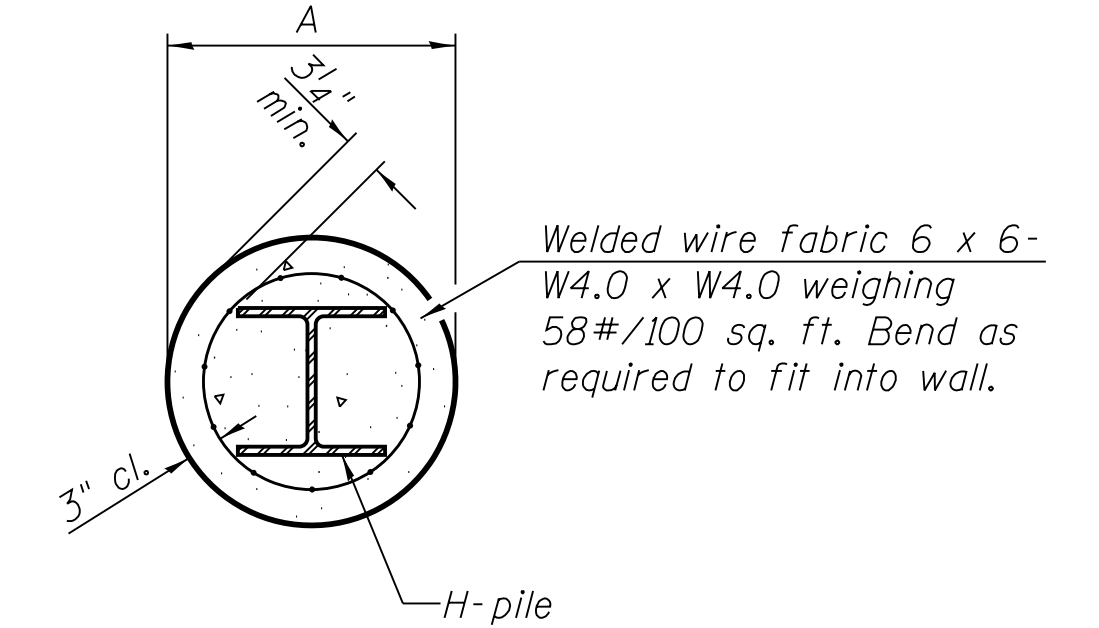
WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).



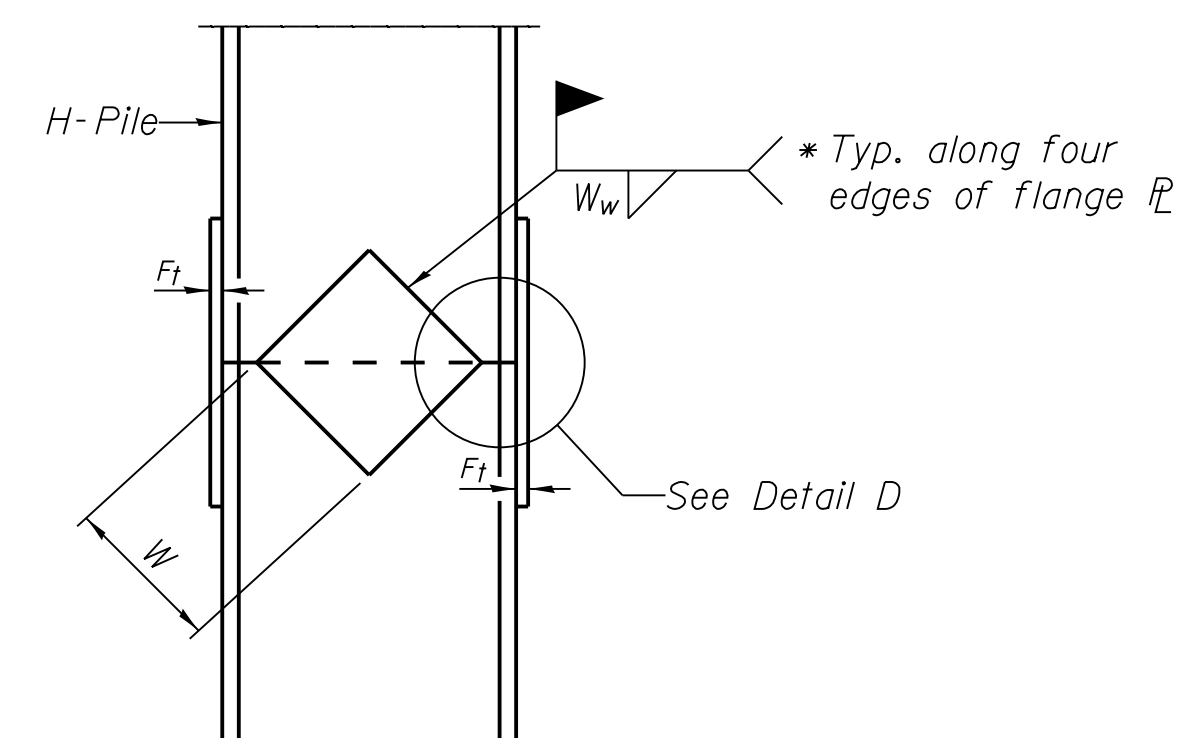
ELEVATION

PILE ENCASEMENT

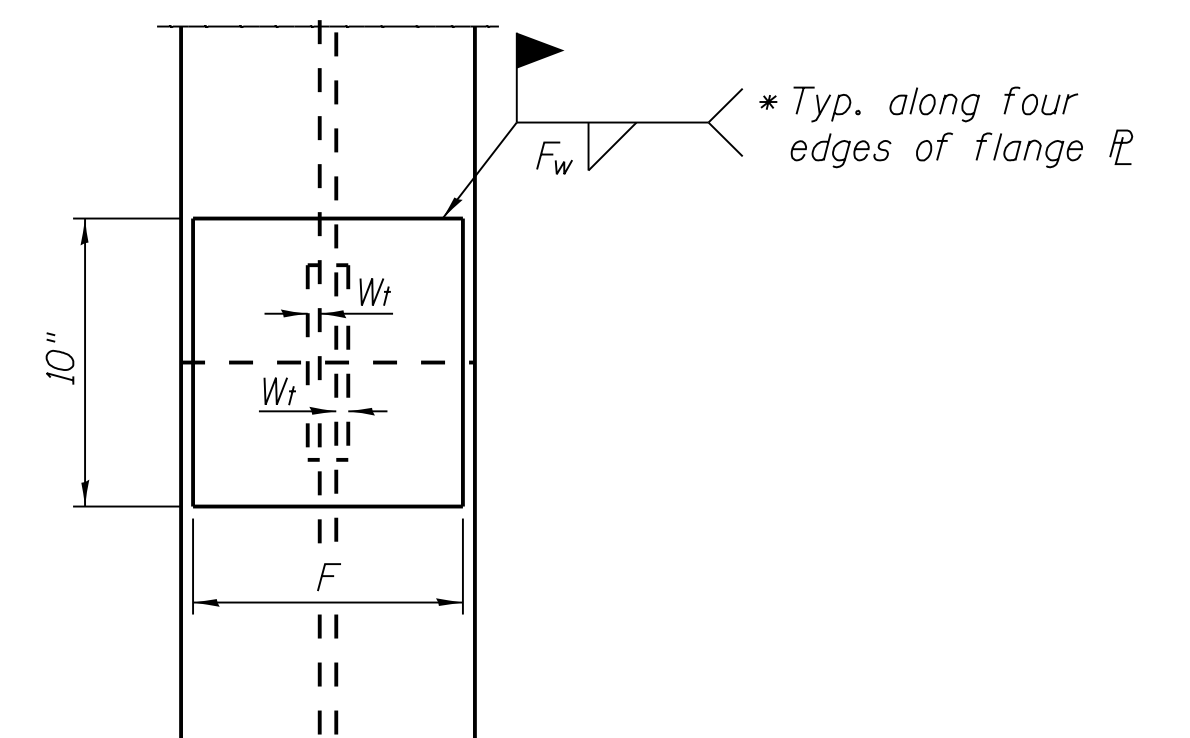


Note:
Forms for encasement may be omitted when soil conditions permit.

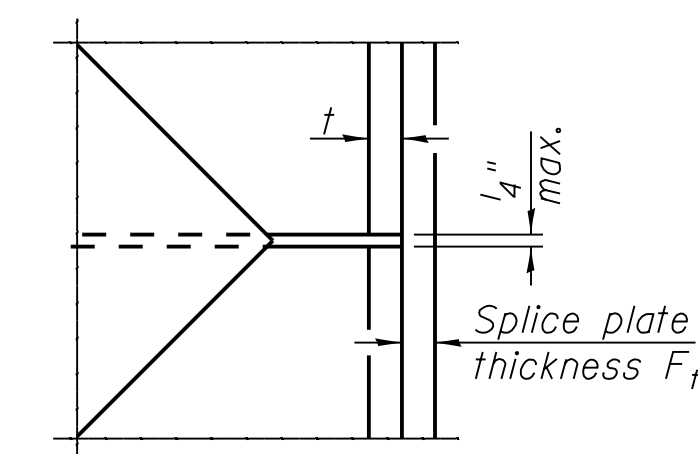
SECTION A-A



ELEVATION



END VIEW



DETAIL D

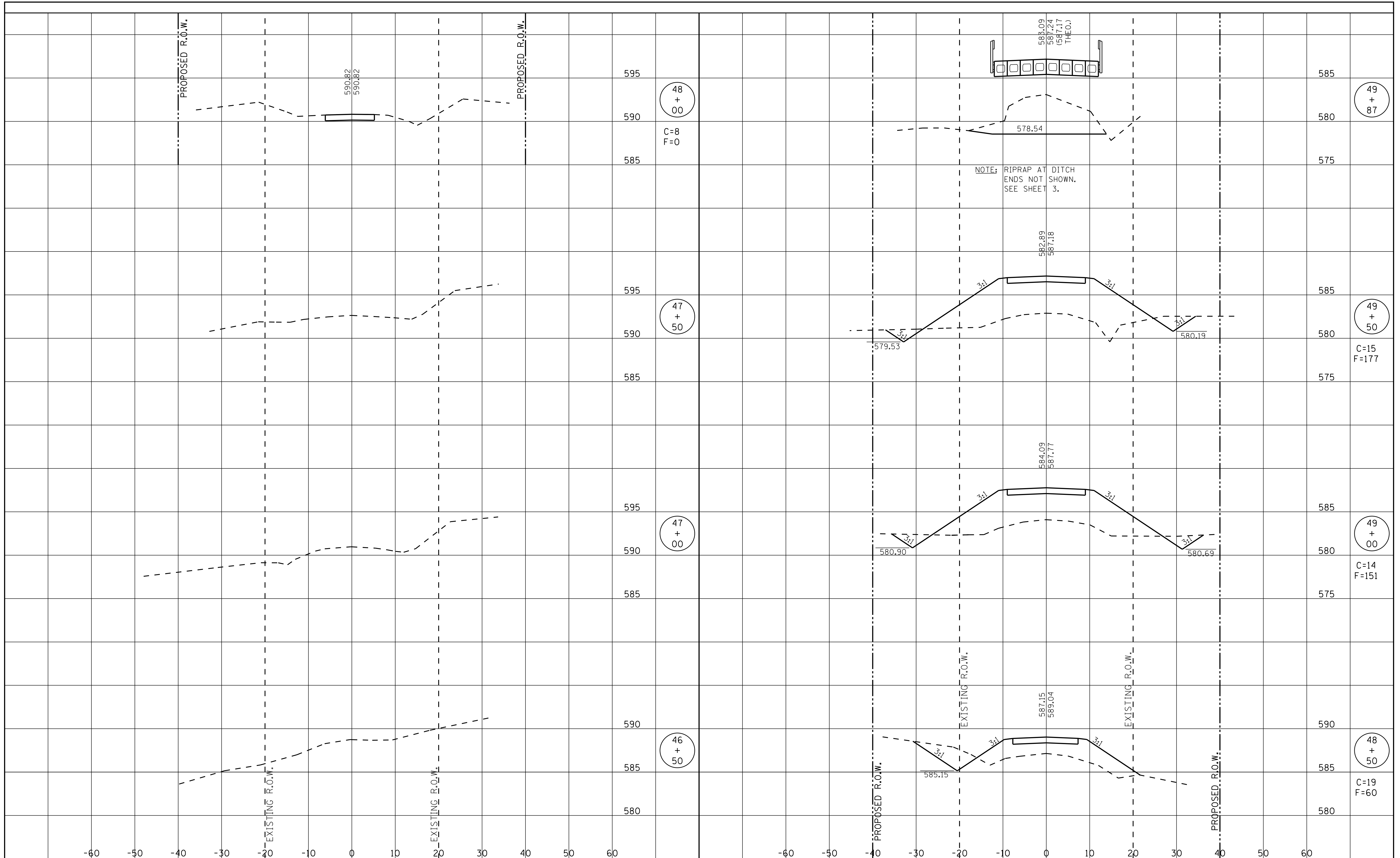
WELDED PLATE FIELD SPLICE

Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 1/2"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/2"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5 1/2"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/2"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5 1/2"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5 1/2"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

Note:
The steel H-piles shall be according to AASHTO M270 Grade 50.

FINAL SURVEY	SURVEYED	DATE
SHEET	PLOTTED	
NOTE BOOK	TEMPLATE	
NO.	AREAS CHECKED	

ORIGINAL SURVEY	SURVEYED	DATE
SHEET	PLOTTED	
NOTE BOOK	TEMPLATE	
NO.	AREAS CHECKED	



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DRAWN -	JN	REVISED -	
CHECKED -	GLH	REVISED -	
DATE -	10/27/2017	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

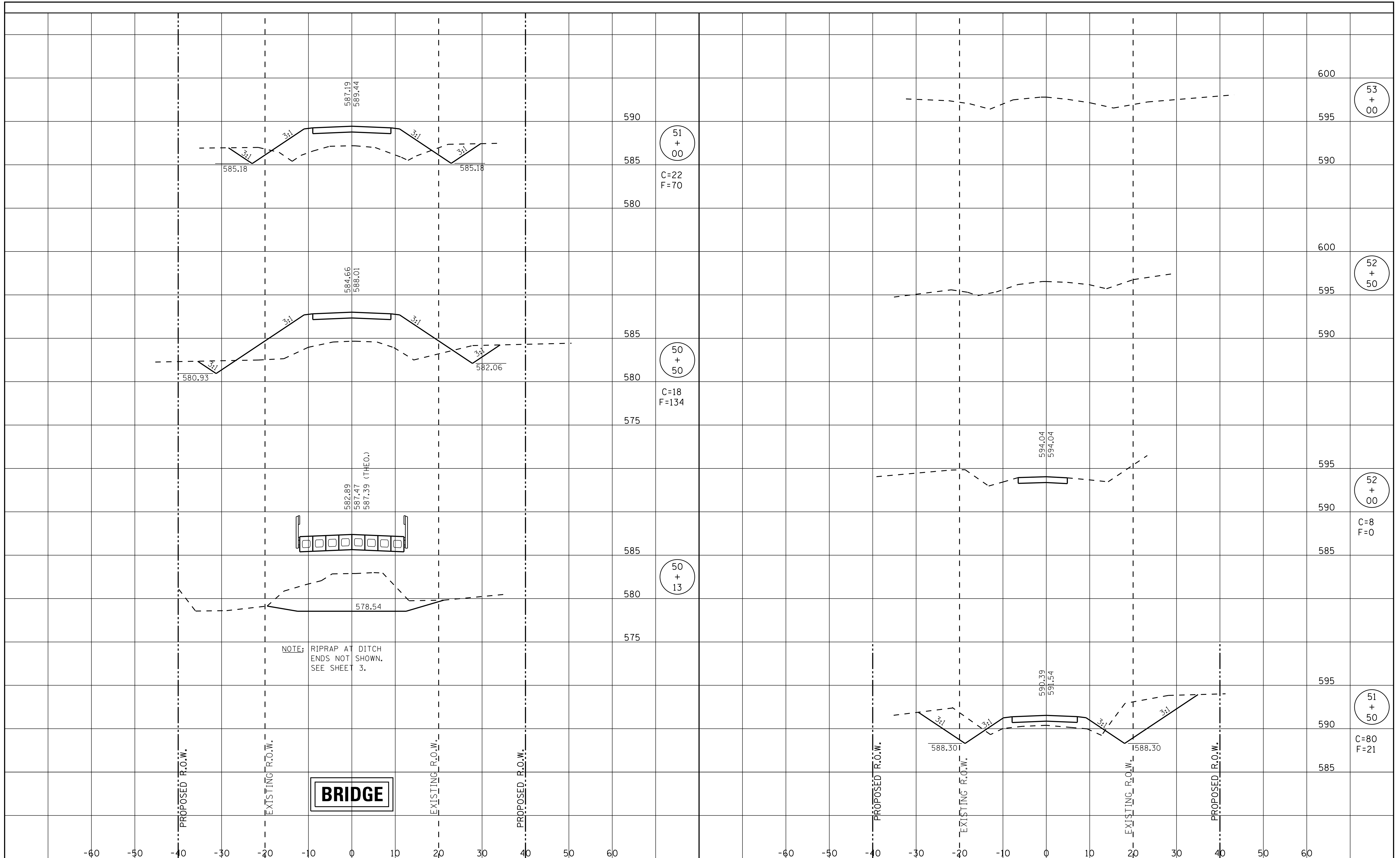
CROSS SECTIONS OF ROADWAY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 508A	14-19126-00-BR	FAYETTE	11	10
STA. 46+50 TO STA. 49+87			CONTRACT NO. 95820	

RAAI JOB NO. 52216

FINAL SURVEY	SURVEYED	DATE
SURVEY	PLOTTED	
NOTE BOOK	TEMPLATE	
NO.	AREAS CHECKED	

ORIGINAL SURVEY	SURVEYED	DATE
SURVEY	PLOTTED	
NOTE BOOK	TEMPLATE	
NO.	AREAS CHECKED	



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DESIGNED	-	BLT	REVISED	-
DRAWN	-	JN	REVISED	-
CHECKED	-	GLH	REVISED	-
DATE	-	10/27/2017	REVISED	-

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CROSS SECTIONS OF ROADWAY

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 508A	14-19126-00-BR	FAYETTE	11	11
STA. 50+13 TO STA. 53+00			CONTRACT NO. 95820	

RAAI JOB NO. 52216