

# STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION

## PLANS FOR PROPOSED STP-BRIDGE

### TR 19 OVER TRIBUTARY TO LITTLE CREEK SECTION 14-12124-00-BR PROJECT NO. BROS-0051(099) RAMSEY ROAD DISTRICT FAYETTE COUNTY JOB NO. C-97-055-15

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 19	14-12124-00-BR	FAYETTE	11	1
RAAI JOB NO. 53814			CONTRACT NO. 95775	



FAYETTE COUNTY  
HIGHWAY DEPARTMENT

APPROVED: 10-2-2015  
*William A. Woff*  
FAYETTE COUNTY, COUNTY ENGINEER

PASSED: 11-4-2015  
*Manuel Casto*  
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID  
BASED ON LIMITED  
REVIEW: 11-4-2015  
*Robert A. Duell*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

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OF THE STATE OF ILLINOIS**

CONTRACT NO. 95775

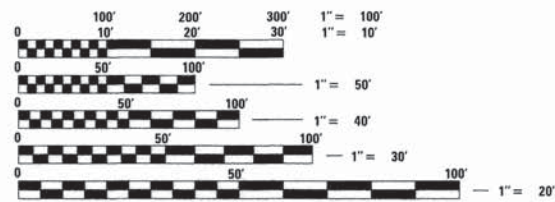
**INDEX OF SHEETS**

1. COVER SHEET
2. SUMMARY OF QUANTITIES, GENERAL NOTES, AND TYPICAL SECTIONS
3. PLAN AND PROFILE OF ROADWAY
4. GENERAL PLAN AND ELEVATION
- 5.-6. PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
7. STEEL RAILING, TYPE S1 DETAILS
8. ABUTMENT DETAILS
9. 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  
 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT  
 701901-04 TRAFFIC CONTROL DEVICES  
 BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

SOIL BORINGS (SEE SPECIFICATIONS)

DESIGN CLASSIFICATION: RURAL LOCAL ROAD  
 ADT<sub>2015</sub> : 50  
 DESIGN SPEED: 20 MPH

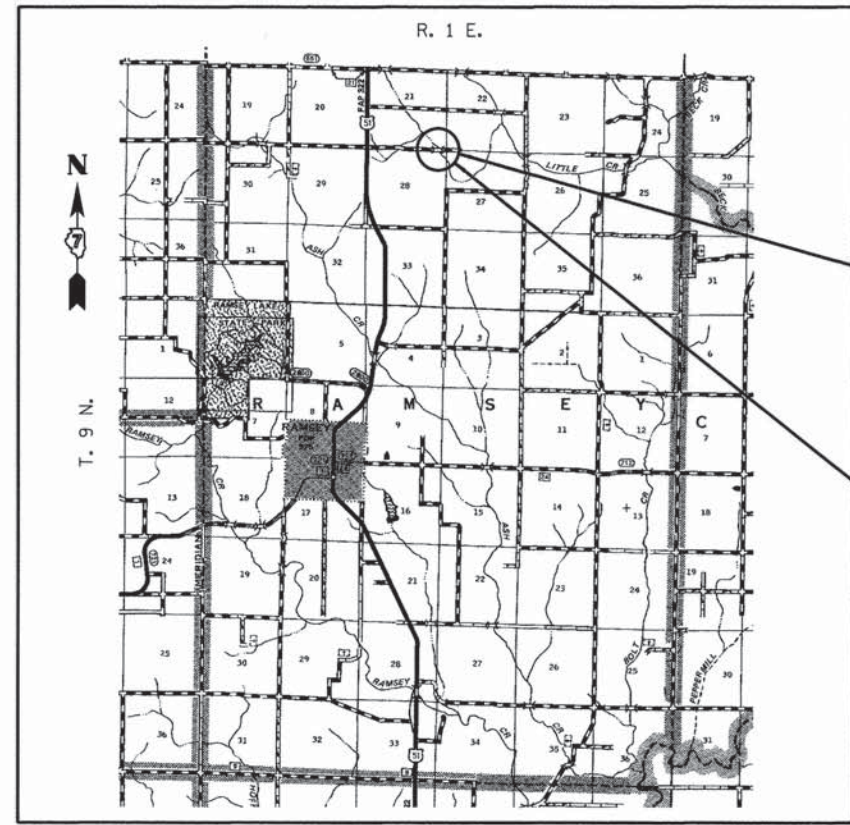


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES, REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES, IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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



*Gary L. Hahn* 10-01-2015  
 GARY L. HAHN  
 CENTRALIA, ILLINOIS  
 ILLINOIS LICENSED PROFESSIONAL  
 ENGINEER NO. 62-42606  
 EXPIRES NOV. 30, 2015

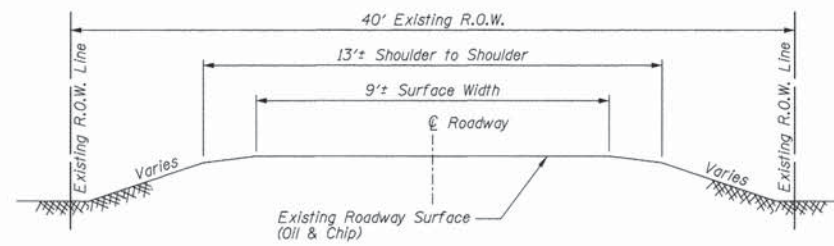


SECTION ENDS  
 STA. 51+89.10

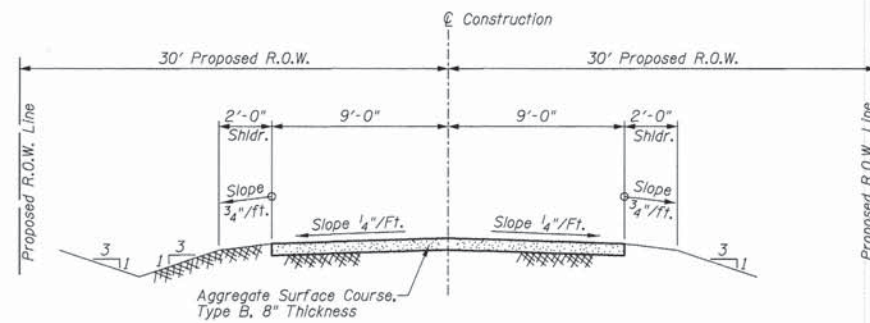
SECTION 14-12124-00-BR INCLUDES THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE CARRYING TR 19 OVER TRIBUTARY TO LITTLE CREEK, 57'-4" BK. TO BK. ABUTMENTS X 24' WIDE, NO SKEW. EXISTING STRUCTURE NO. 026-3042 PROPOSED STRUCTURE NO. 026-3465

SECTION BEGINS  
 STA. 47+25.75

LOCATION: NEAR THE SE CORNER OF SECTION 21, T9N, R1E, 3RD P.M.  
 NET LENGTH OF PROJECT: 463.35 FT. = 0.088 MI.

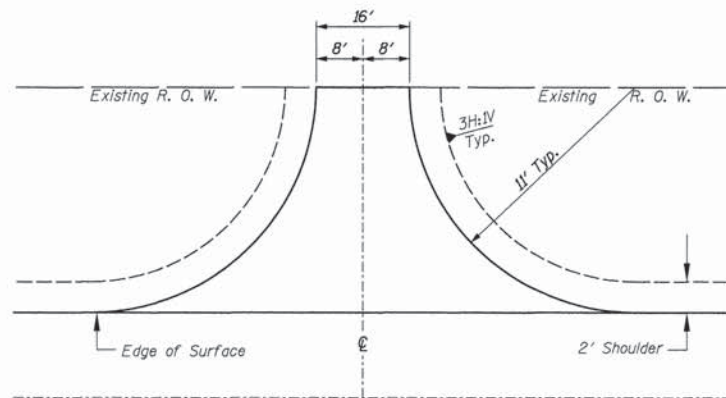


**TYPICAL SECTION  
EXISTING APPROACH ROADWAY**



**TYPICAL SECTION  
PROPOSED APPROACH ROADWAY**

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



**TYPICAL FIELD ENTRANCE**

Earth Surface [with Seeding,  
Class 2 (Special)]  
Lt., Sta. 47+61  
Rt., Sta. 48+35

**UTILITIES**

J.U.L.I.E.: Design Phase Locate  
Dig No.: X2091415

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

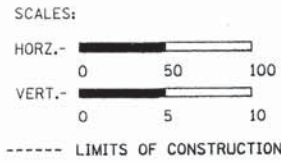
**SUMMARY OF QUANTITIES**

Code No.	Item	Unit	Quantity
20200100	EARTH EXCAVATION	CU YD	19
20300100	CHANNEL EXCAVATION	CU YD	180
20400800	FURNISHED EXCAVATION	CU YD	435
20700110	POROUS GRANULAR EMBANKMENT	TON	92
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	130
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	316
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	23.2
50300280	CONCRETE ENCASEMENT	CU YD	2.8
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1344
50800105	REINFORCEMENT BARS	POUND	3720
* 50900205	STEEL RAILING, TYPE S1	FOOT	115
51201600	FURNISHING STEEL PILES HP12X53	FOOT	244
51202305	DRIVING PILES	FOOT	244
51203600	TEST PILE STEEL HP12X53	EACH	1
51204650	PILE SHOES	EACH	8
51500100	NAME PLATES	EACH	1
67100100	MOBILIZATION	L SUM	1
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.2

\* Specialty Item

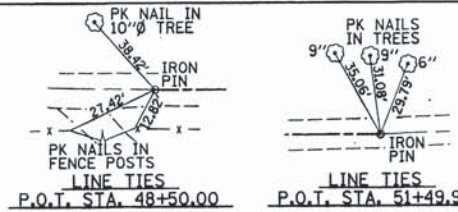
**GENERAL NOTES**

- This section shall be constructed according to the plans, the Special Provisions, and the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2012.
- 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.
- Commitments:  
Existing fence removal and replacement within the limits of construction will be done by others and will be coordinated by Ramsey Road District. The removal will be completed prior to the start of construction.  
  
All proposed construction activities shall be in accordance with Nationwide Permit No. 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. See Special Provisions for conditions.  
  
The County will notify the property owner at the end of the dead end road as well as the public service providers prior to the start of construction.

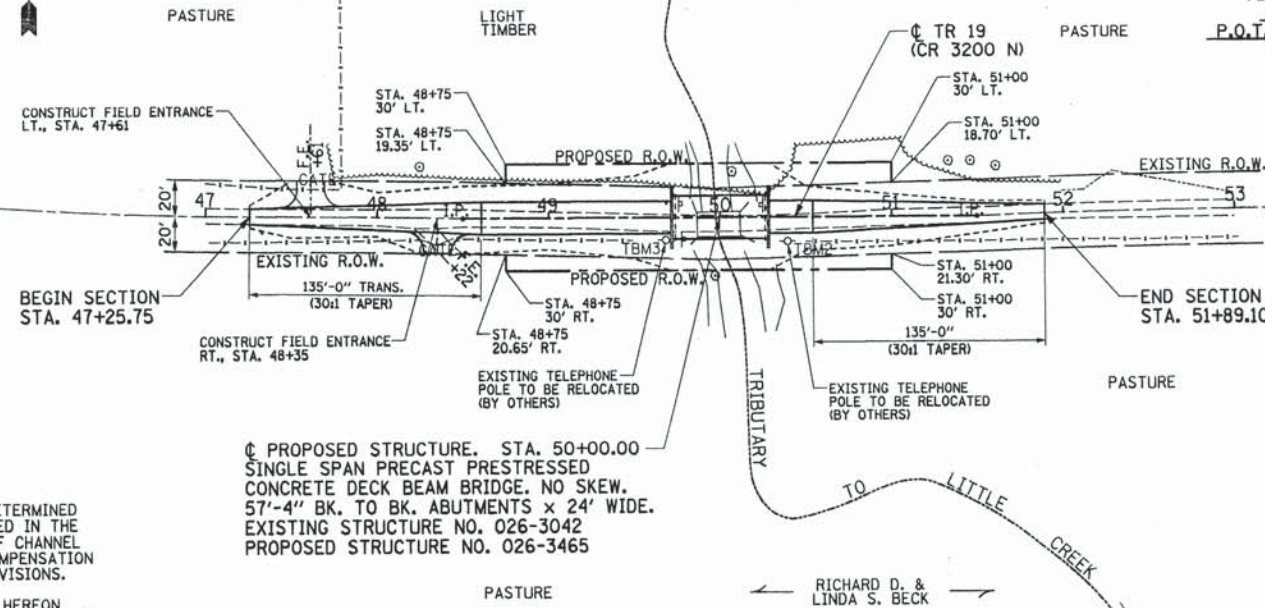


SECTION 21, T9N, R1E, 3rd P.M.

JERRY H. & CHRISTINE COTHERN



EXISTING STRUCTURE: STRUCTURE NO. 026-3042. SINGLE SPAN BRIDGE WITH TIMBER DECK ON STEEL BEAMS SUPPORTED ON CLOSED TIMBER PILE BENT ABUTMENTS. 25' L. x 14' W. TO BE REMOVED. SEE SPECIAL PROVISIONS.



PROPOSED STRUCTURE, STA. 50+00.00  
SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE, NO SKEW. 57'-4" BK. TO BK. ABUTMENTS x 24' WIDE. EXISTING STRUCTURE NO. 026-3042 PROPOSED STRUCTURE NO. 026-3465

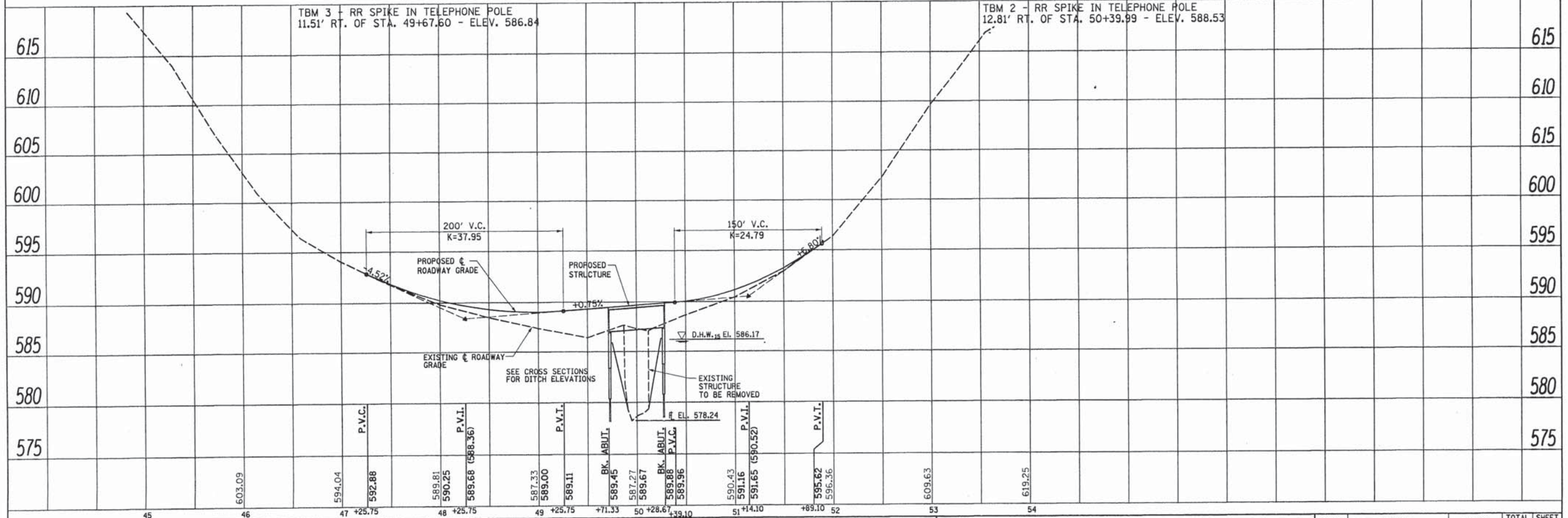
TREE REMOVAL AND TRIMMING, AS DETERMINED BY THE ENGINEER, SHALL BE INCLUDED IN THE CONTRACT UNIT PRICE PER CU YD OF CHANNEL EXCAVATION, AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED. SEE SPECIAL PROVISIONS.

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.

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. 47+25.75 TO STA. 49+71.33	15	11	367	-356
STA. 50+28.67 TO STA. 51+89.10	4	3	82	-79
TOTAL	19	14	449	-435

\*25% SHRINKAGE      \*\*FURNISHED EXCAVATION

SECTION 28, T9N, R1E, 3rd P.M.



**RHUTASEL and ASSOCIATES, INC.**  
CONSULTING ENGINEERS • LAND SURVEYORS  
CENTRALIA, ILLINOIS      FREEBURG, ILLINOIS  
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - GLH	REVISED -
DATE - 09/28/2015	REVISED -

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF ROADWAY

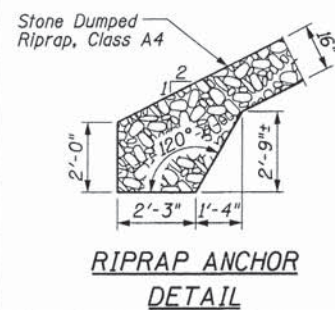
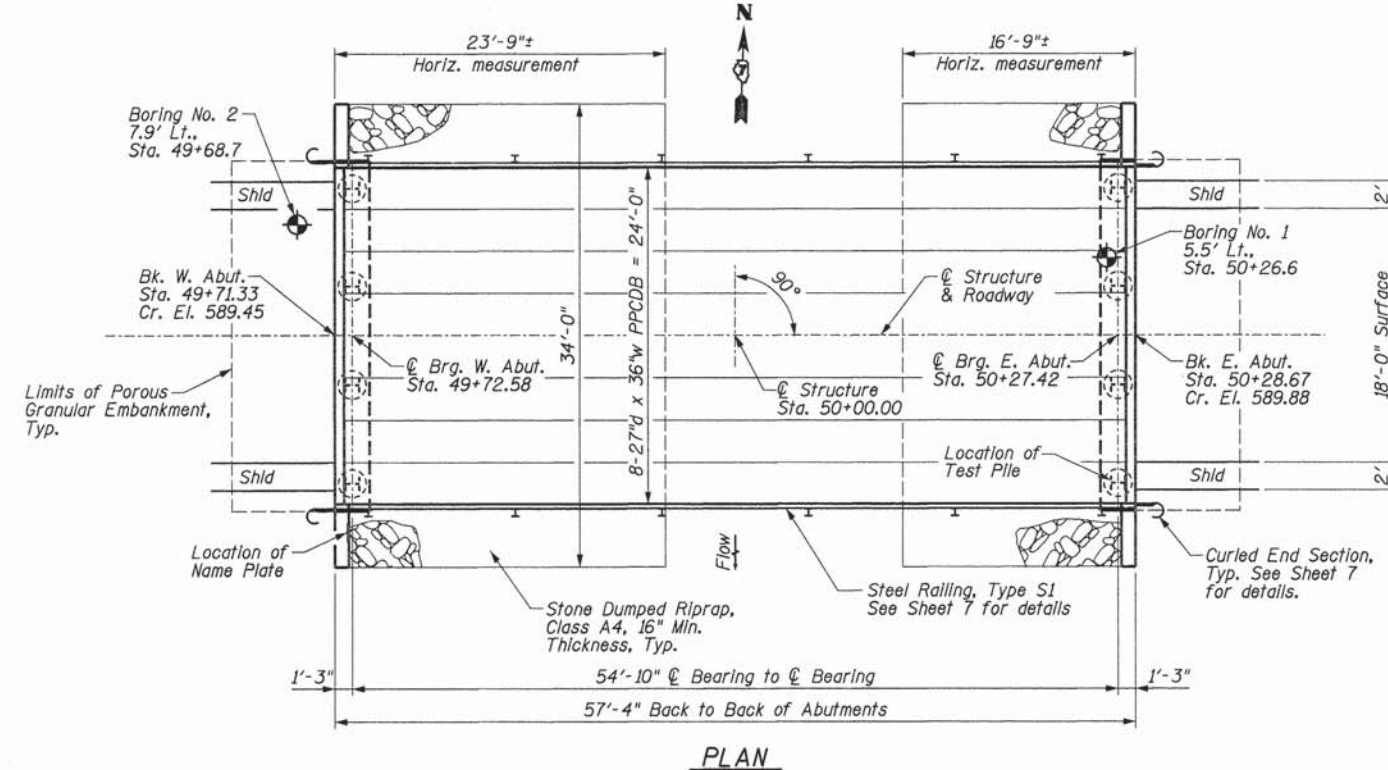
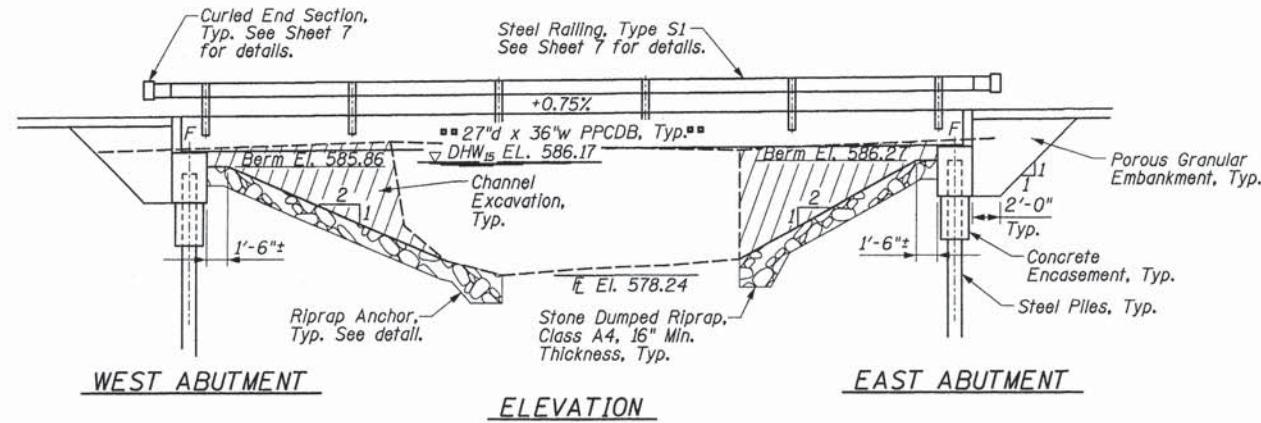
STA. 45+00 TO STA. 53+00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 19	14-12124-00-BR	FAYETTE	11	3
CONTRACT NO. 95775			RAAI JOB NO. 53814	

TBM #2: RR Spike in telephone pole  
12.81' Rt. of Sta. 50+39.99 - Elev. 588.53

TBM #3: RR Spike in telephone pole  
11.51' Rt. of Sta. 49+67.60 - Elev. 586.84

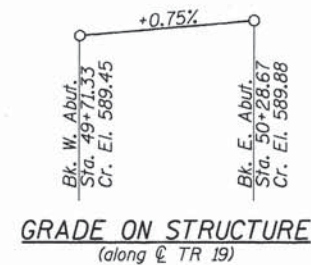
Existing Structure: S.N. 026-3042 Single span bridge with timber deck on steel beams supported on closed timber pile bent abutments. 25' L. x 14' W. To be removed. See Special Provisions.



**WATERWAY INFORMATION**

Drainage Area = 3.15 sq. mi. Existing Low Grade Elev. 586.37 @ Sta. 49+50.00  
Proposed Low Grade Elev. 589.00 @ Sta. 48+97.29

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Nat. H.W.E.	Head - Ft.	Headwater El.
			Exlst. Prop.	Exlst. Prop.	Exlst. Prop.	Exlst. Prop.
Design	15	1200	168 254	586.17 0.59	0.05	586.76 586.22
Base	100	1930	168 306	587.47 1.85	0.59	589.32 588.06
Base	500	2630	168 306	588.23 1.50	1.30	589.73 589.53



**LOADING HL-93**  
50#/sq. ft. Included in dead load for future wearing surface.

**DESIGN SPECIFICATIONS**  
2012 AASHTO LRFD Bridge Design Specifications

**DESIGN STRESSES**

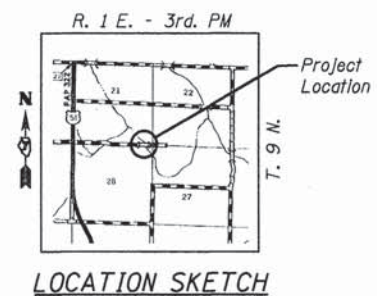
**FIELD UNITS**  
f'<sub>c</sub> = 3,500 psi  
f<sub>y</sub> = 60,000 psi (reinforcement)

**PRECAST PRESTRESSED UNITS**  
f'<sub>c</sub> = 6,000 psi  
f'<sub>cl</sub> = 5,000 psi  
f<sub>pu</sub> = 270,000 psi (1/2" φ low lax. strands)  
f<sub>psl</sub> = 201,960 psi (1/2" φ low lax. strands)  
f<sub>y</sub> = 60,000 psi (reinforcement)

**SEISMIC DATA**  
Seismic Performance Zone (SPZ) = 1  
Soil Site Classification = C  
S<sub>D1</sub> = 0.143 S<sub>ps</sub> = 0.336

**BILL OF MATERIALS (BRIDGE ONLY)**

ITEM	UNIT	TOTAL
Channel Excavation	Cu Yd	180
Porous Granular Embankment	Ton	92
Stone Dumped Riprap, Class A4	Ton	130
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	23.2
Concrete Encasement	Cu Yd	2.8
PPCDB (27" Depth)	Sq Ft	1344
Reinforcement Bars	Pound	3720
Steel Railing, Type S1	Foot	115
Furnishing Steel Piles HP12x53	Foot	244
Driving Piles	Foot	244
Test Pile Steel HP12x53	Each	1
Pile Shoes	Each	8
Name Plates	Each	1
Terminal Marker - Direct Applied	Each	4



**GENERAL NOTES**

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

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

See Section 502 of the Standard Specifications for Structural Excavation.

See Special Provisions for Soil Borings.

Do not scale these drawings.

The abutment bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, 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.

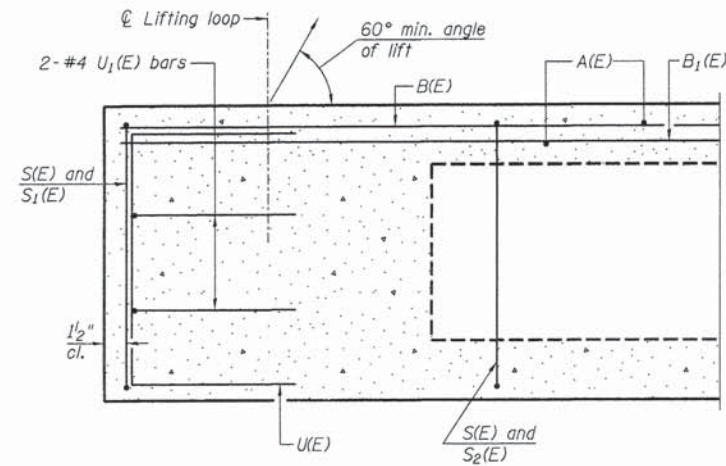
The Contractor is hereby advised that very stiff soils may be encountered prior to the location of anticipated nominal required bearing. See the soil borings for further information.

I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.

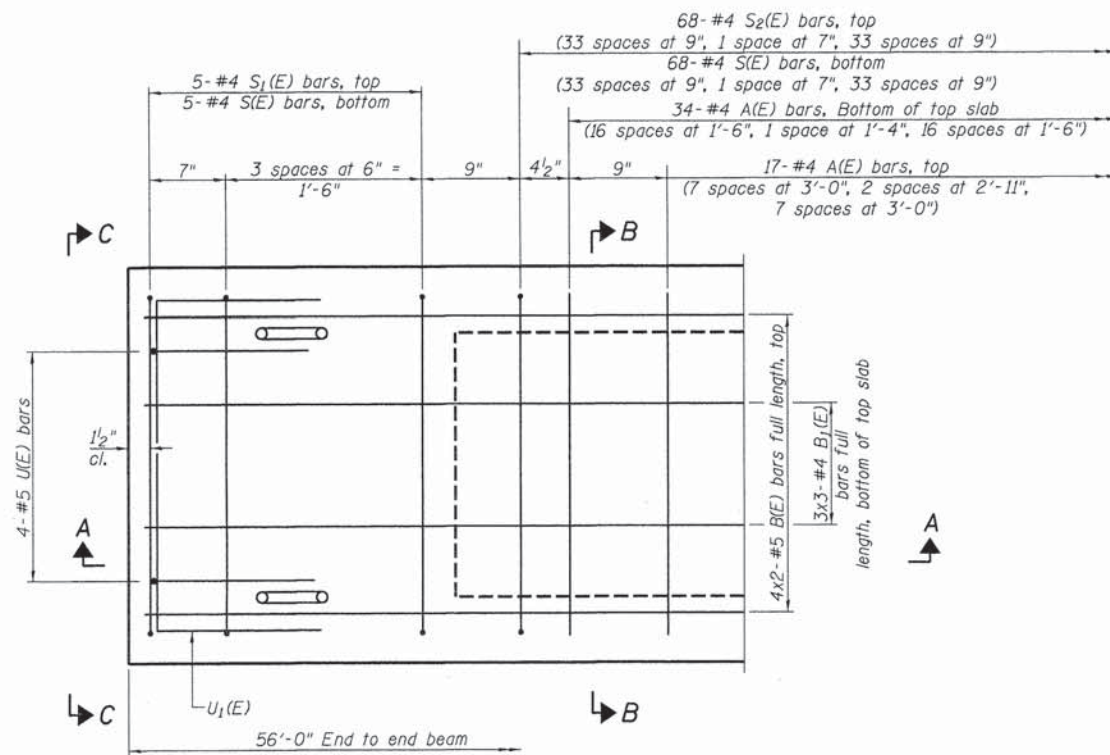
*William D. Lueking*  
William D. Lueking  
10/01/2015  
Date of Signing  
11/30/2016  
Date of License Expiration

**LITTLE CREEK  
BUILT 201\_ BY  
FAYETTE COUNTY  
SEC. 14-12124-00-BR  
TR 19 STA. 50+00.00  
LOADING HL-93  
STRUCTURE NO. 026-3465**

**NAME PLATE**  
See Std. 515001



**SECTION A-A**

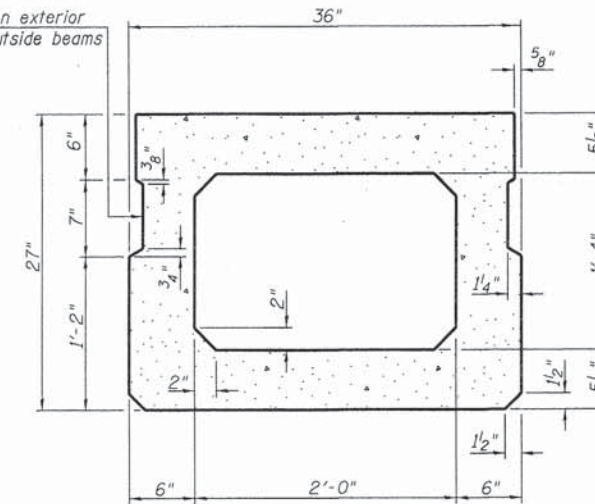


**PLAN VIEW**

Note: Spacing of S(E) and S<sub>2</sub>(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.

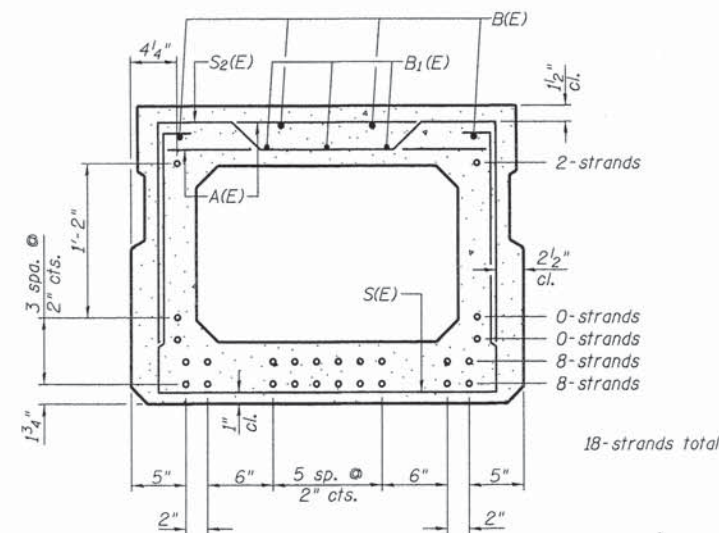
Bars indicated thus: 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.

Omit key on exterior face of outside beams



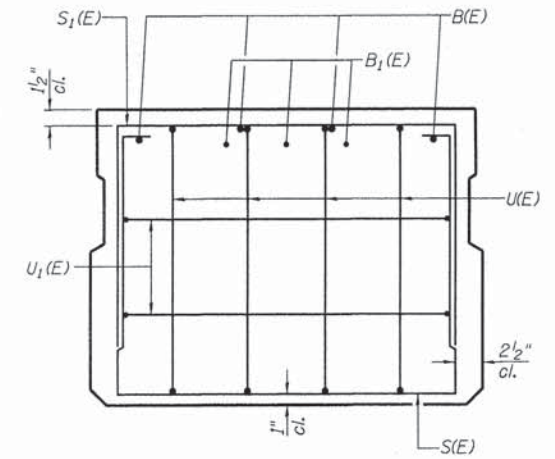
**SECTION B-B**  
(Showing dimensions)

Symmetrical about C-C



**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.



**VIEW C-C**

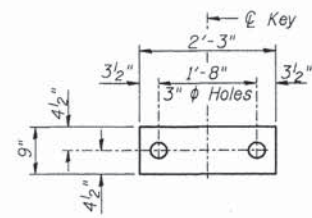
**BAR LIST**  
**ONE BEAM ONLY**  
(For Information Only)

Bar	No.	Size	Length	Shape
A(E)	51	#4	2'-7"	—
B(E)	8	#5	29'-2"	—
B <sub>1</sub> (E)	9	#4	19'-11"	—
S(E)	78	#4	7'-5"	⌈
S <sub>1</sub> (E)	10	#4	5'-11"	⌈
S <sub>2</sub> (E)	68	#4	6'-2"	⌈
U(E)	8	#5	4'-6"	⌈
U <sub>1</sub> (E)	4	#4	5'-0"	⌈

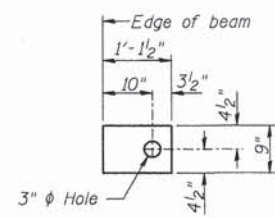
Note: See sheet 6 for additional details and Bill of Material.

**MINIMUM BAR LAP**

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

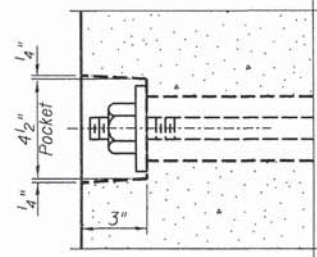


**FABRIC BEARING PAD**  
(Interior)

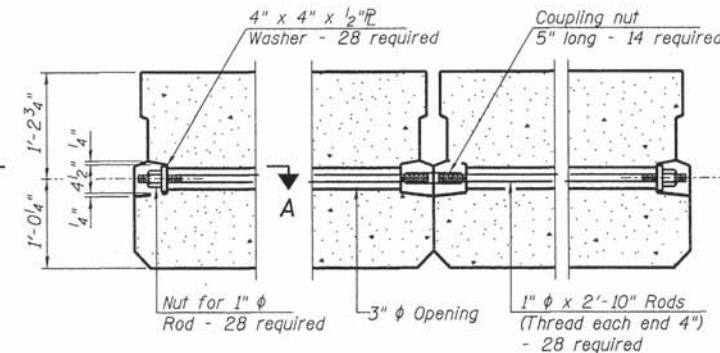


**FABRIC BEARING PAD**  
(Exterior)

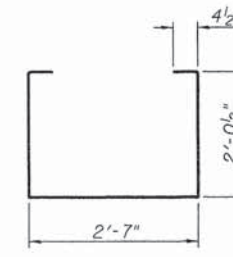
Notes: All bearing pads shall be 1" thick.



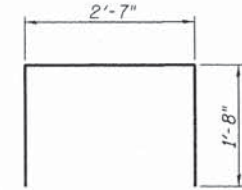
**SECTION A-A**



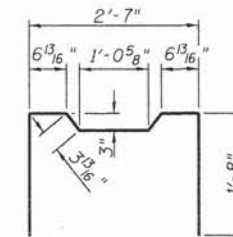
**TYPICAL TRANSVERSE TIE ASSEMBLY**



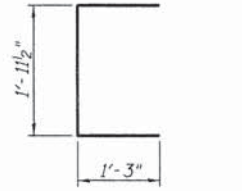
**BAR S1(E)**



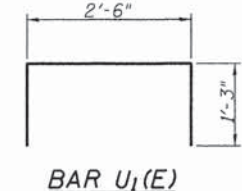
**BAR S1(E)**



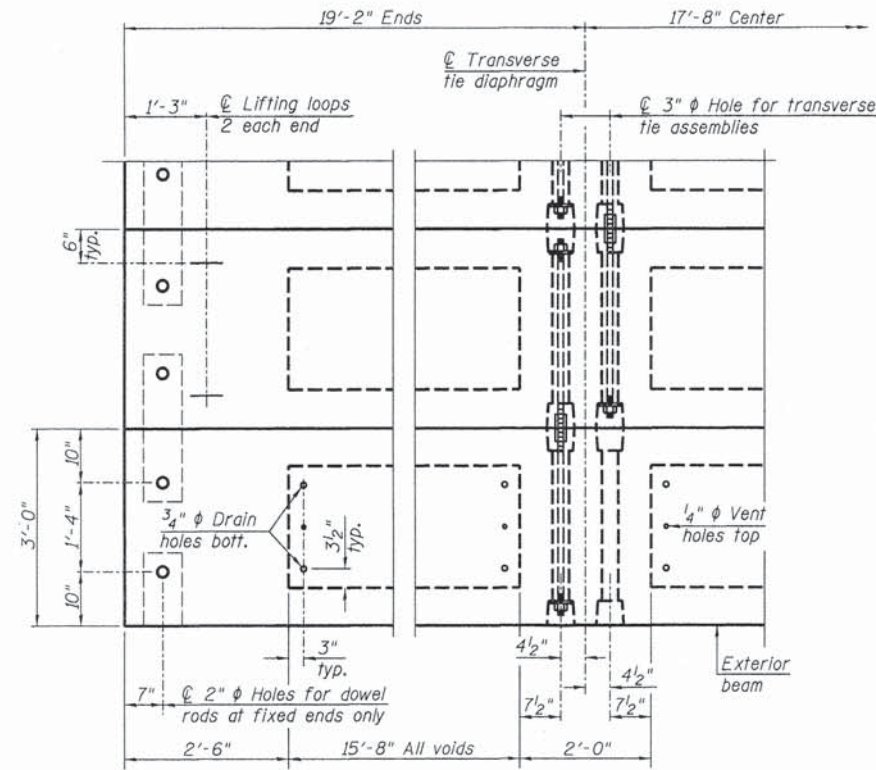
**BAR S2(E)**



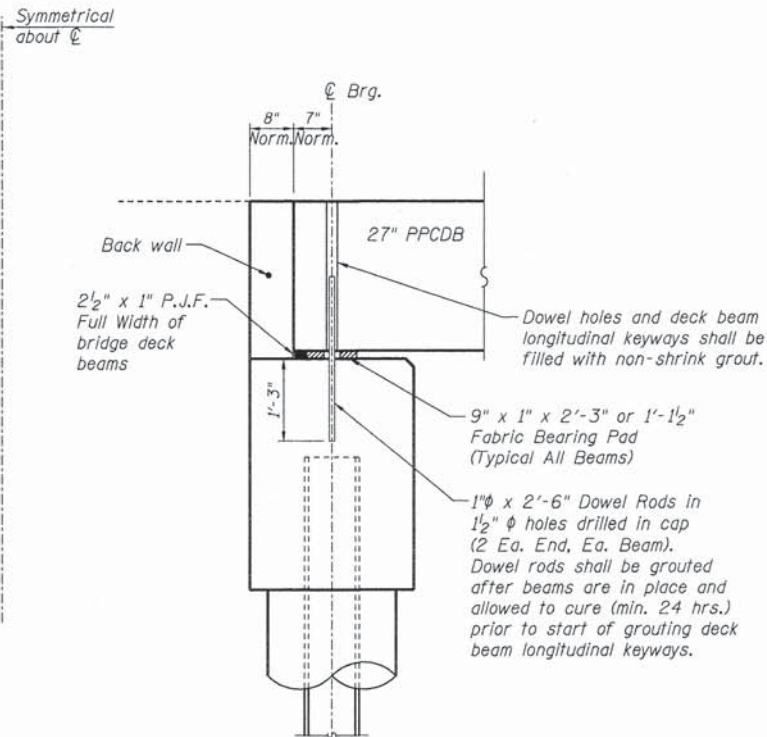
**BAR U1(E)**



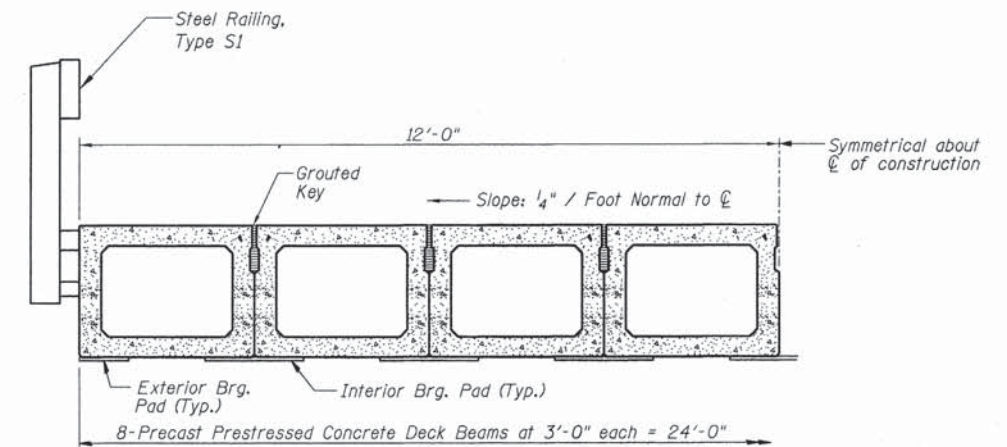
**BAR U1(E)**



**PLAN VIEW**



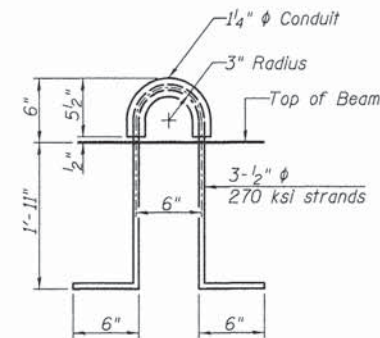
**FIXED BEARING ABUTMENT**  
(Normal to C)



**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. (IL 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 Conc. Deck Bms. (27" depth)	Sq. Ft.	1344
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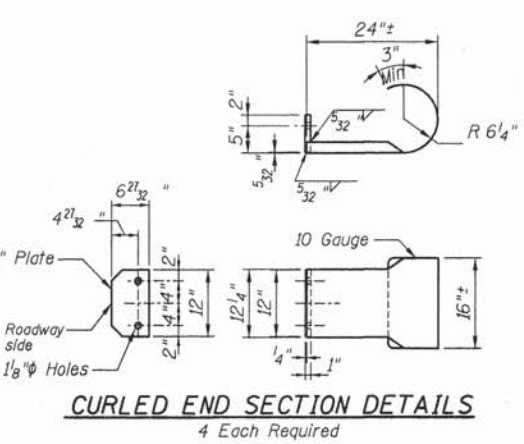
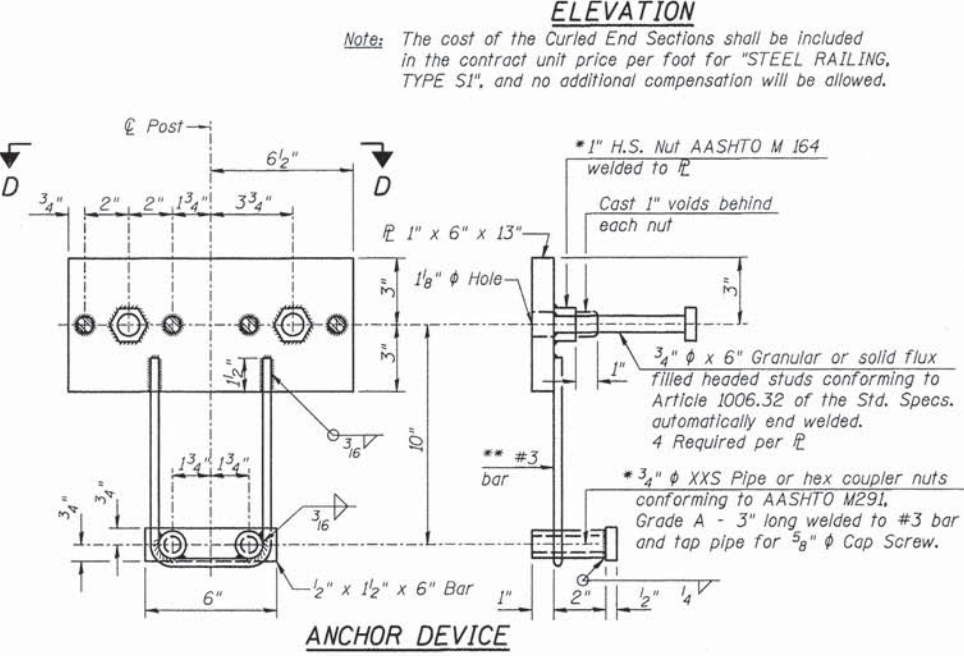
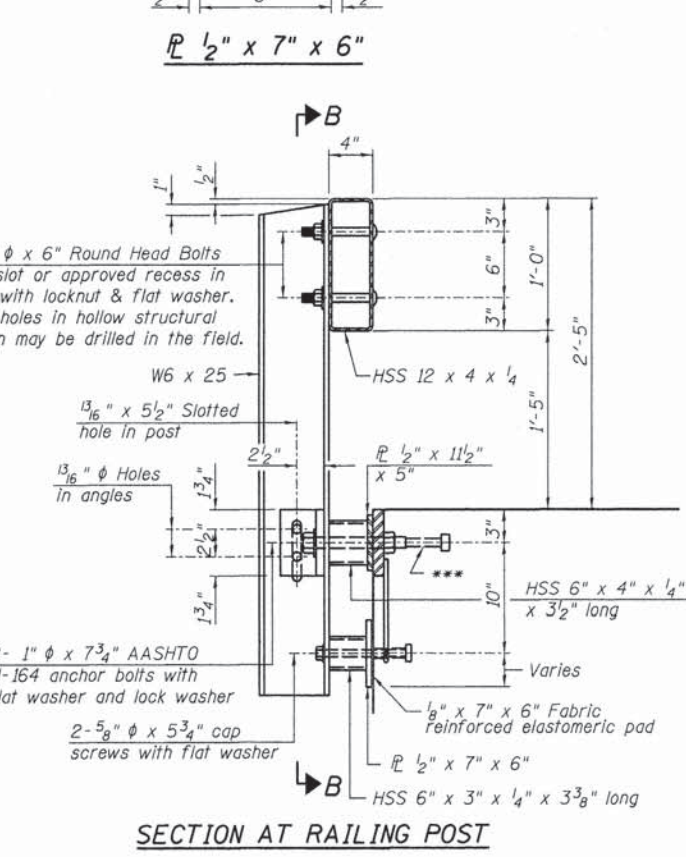
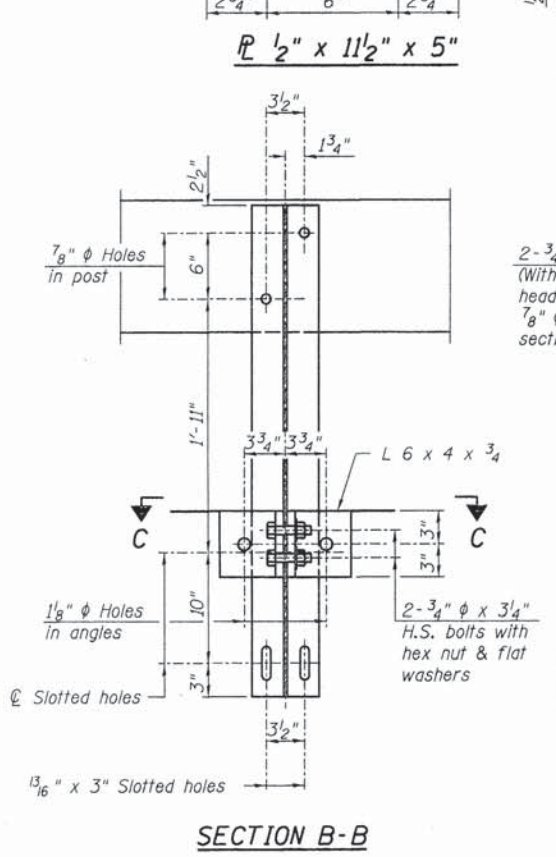
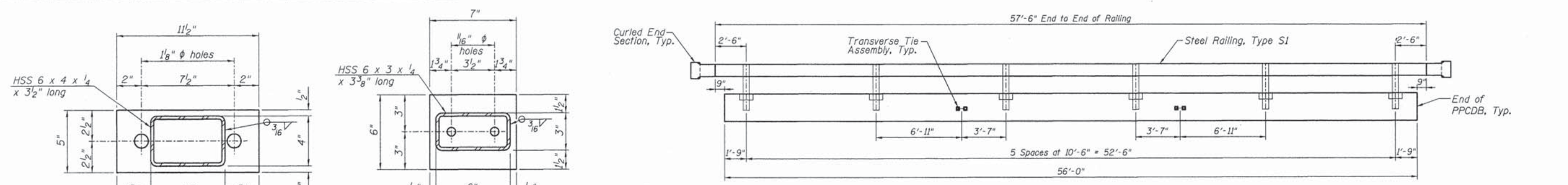
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CENTRALIA, ILLINOIS      FREEBURG, ILLINOIS  
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL	REVISED -
DATE - 09/28/2015	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 19	14-12124-00-BR	FAYETTE	11	6
RAAI JOB NO. 53814			CONTRACT NO. 95775	



**NOTES**

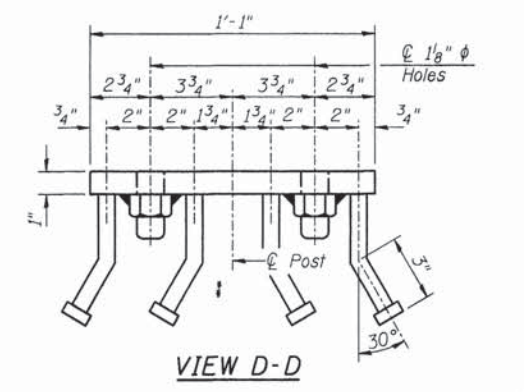
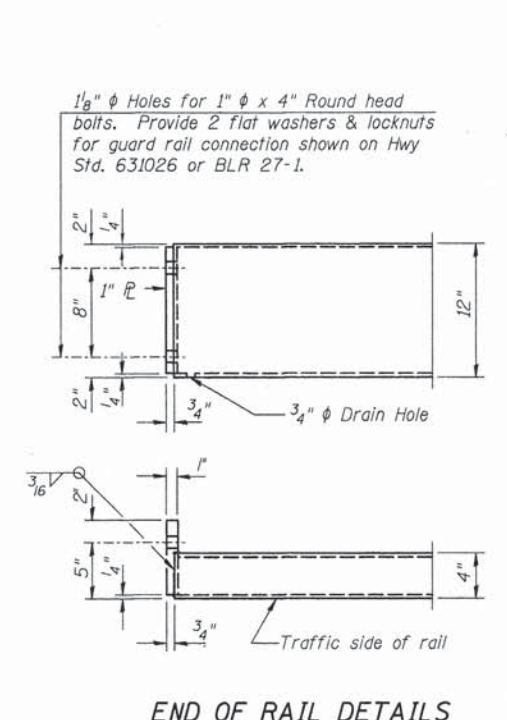
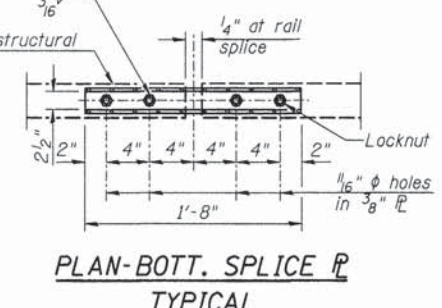
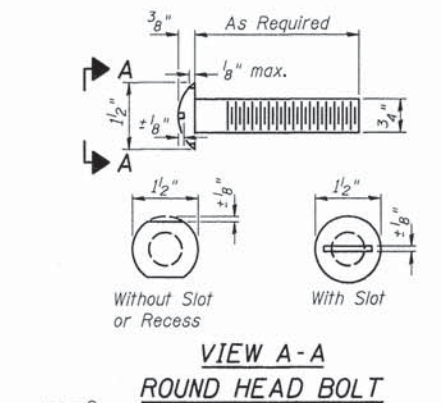
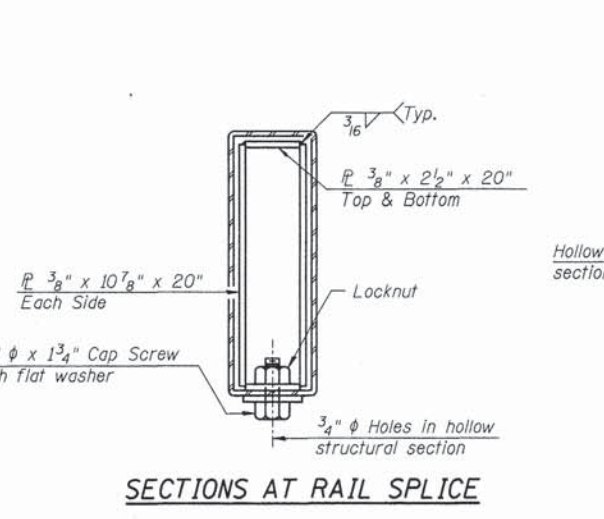
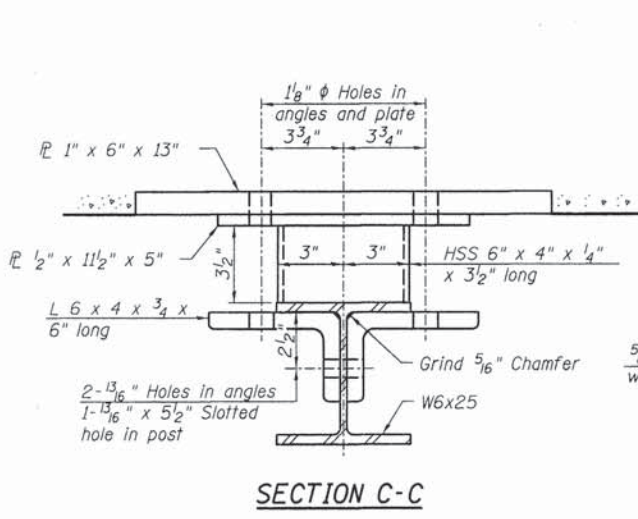
All field drilled holes shall be coated with an approved zinc rich paint before erection.

All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.

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

\*\* 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".

\*\*\* 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.



**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type S1	Foot	115

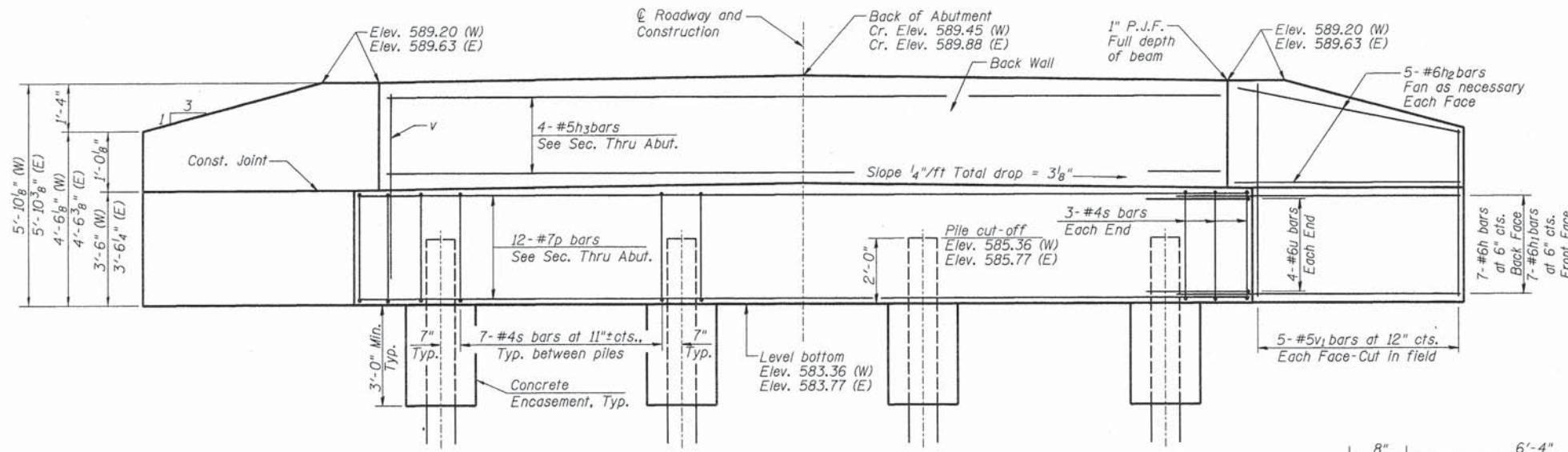
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 ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - BLT	REVISED -
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CHECKED - WDL	REVISED -
DATE - 09/28/2015	REVISED -

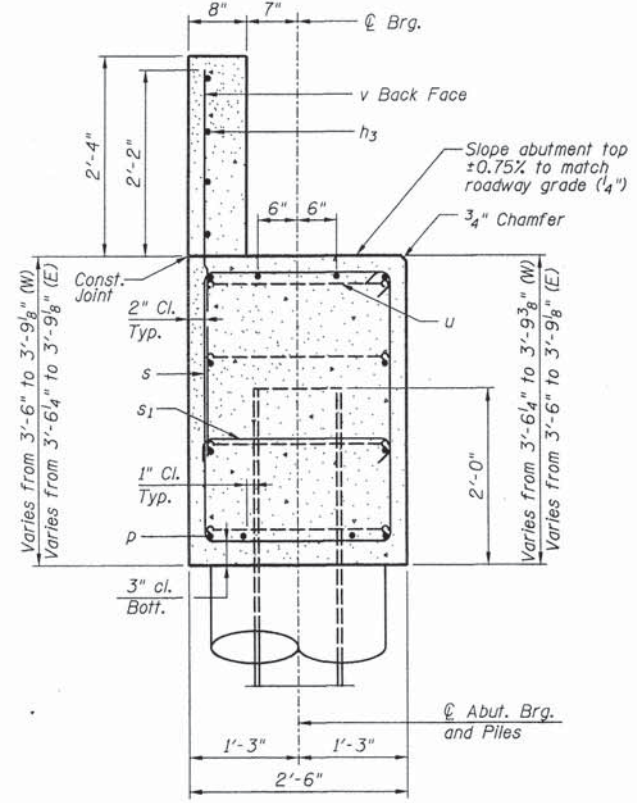
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**STEEL RAILING, TYPE S1 DETAILS**

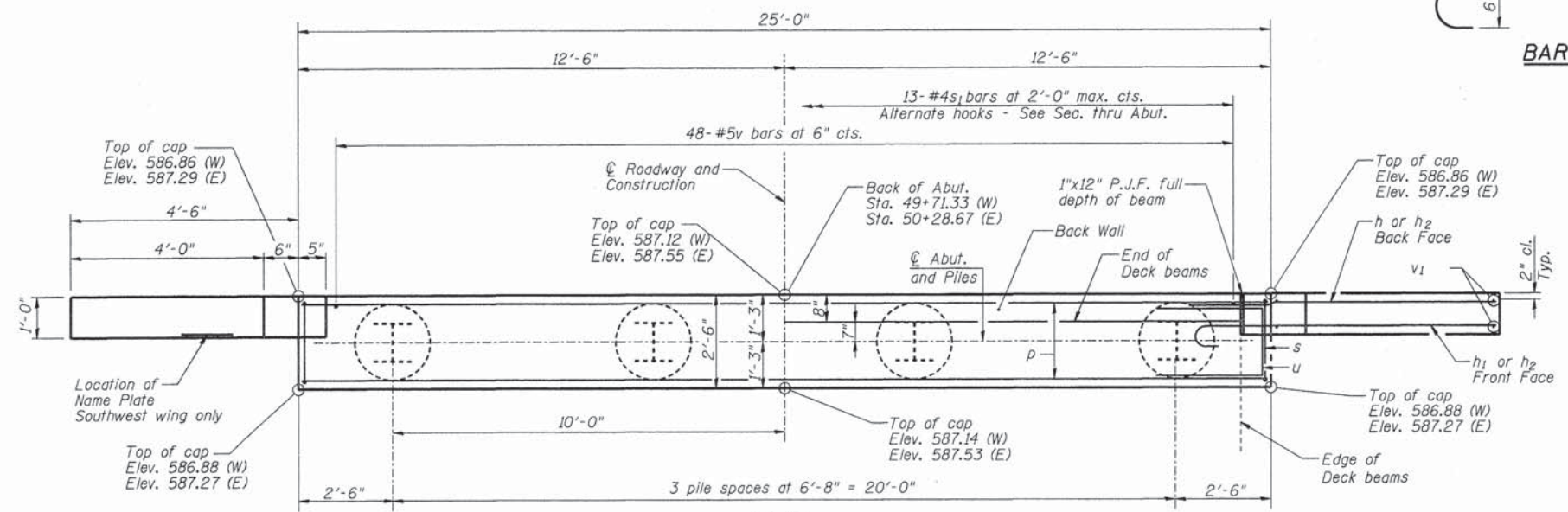
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 19	14-12124-00-BR	FAYETTE	11	7
RAAI JOB NO. 53814				CONTRACT NO. 95775



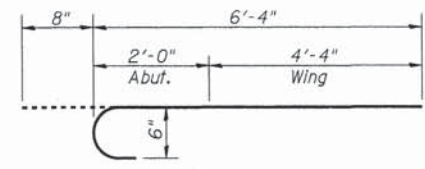
**ELEVATION**



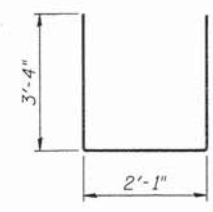
**SEC. THRU ABUT.**  
(Normal to  $\bar{C}$ )



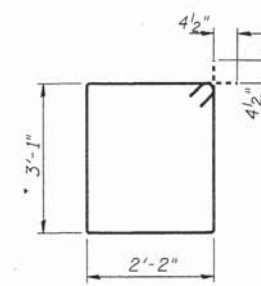
**PLAN**



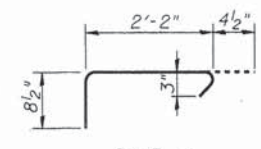
**BAR h<sub>1</sub>**



**BAR u**



**BAR s**



**BAR s<sub>1</sub>**

**PILE DATA WEST ABUTMENT**

Type: Steel HP12x53  
 Nominal Required Bearing: 418 kips  
 Factored Resistance Available: 230 kips  
 Estimated Length: 34'/pile  
 No. Production Piles w/Piles Shoes: 4  
 No. Test Piles w/Pile Shoes: 0

**PILE DATA EAST ABUTMENT**

Type: Steel HP12x53  
 Nominal Required Bearing: 418 kips  
 Factored Resistance Available: 230 kips  
 Estimated Length: 36'/pile  
 No. Production Piles w/Piles Shoes: 3  
 No. Test Piles w/Pile Shoes: 1

**GENERAL NOTES**

- Reinforcement bars shall conform to the requirements of ASTM A 706 Grade 60 (Illinois Modified).
- All exposed edges shall have standard 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 s<sub>1</sub> bar 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.
- The Contractor is hereby advised that very stiff soils may be encountered prior to the location of anticipated nominal required bearing. See the soil borings for further information.

**BILL OF MATERIAL FOR ONE ABUTMENT**

Bar	No.	Size	Length	Shape	
h	14	#6	7'-8"	—	
h <sub>1</sub>	14	#6	7'-0"	⌒	
h <sub>2</sub>	20	#6	4'-9"	—	
h <sub>3</sub>	4	#5	23'-8"	—	
p	12	#7	24'-8"	—	
s	27	#4	11'-3"	⊠	
s <sub>1</sub>	13	#4	3'-3"	⊠	
u	8	#6	8'-9"	⊔	
v	48	#5	5'-0"	—	
v <sub>1</sub>	20	#5	5'-6"	⊠	
Concrete Structures				Cu. Yd.	11.6
Concrete Encasement				Cu Yd	1.4
Reinforcement Bars				Pound	1860
Furnishing Steel Piles, HP12x53		Foot	W Abut	136	
			E Abut	108	
Driving Piles		Foot	W Abut	136	
			E Abut	108	
Test Pile, Steel HP12x53		Each	W Abut	0	
			E Abut	1	
Pile Shoes		Each	W Abut	4	
			E Abut	4	

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

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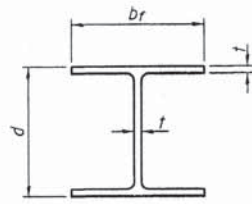
DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL	REVISED -
DATE - 09/28/2015	REVISED -

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**ABUTMENT DETAILS**

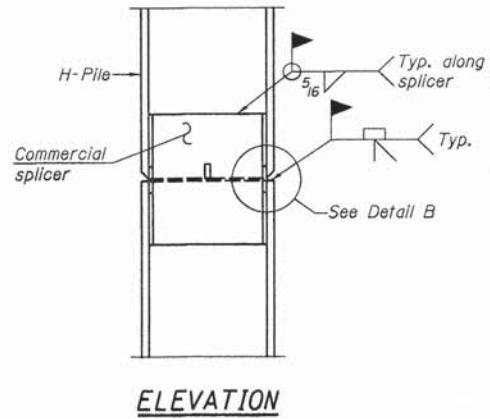
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 19	14-12124-00-BR	FAYETTE	11	8
CONTRACT NO. 95775				
RAAI JOB NO. 53614				



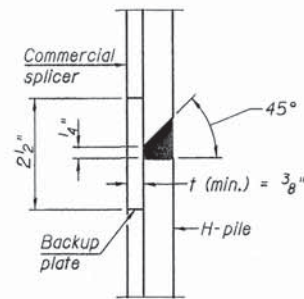


**STEEL PILE TABLE**

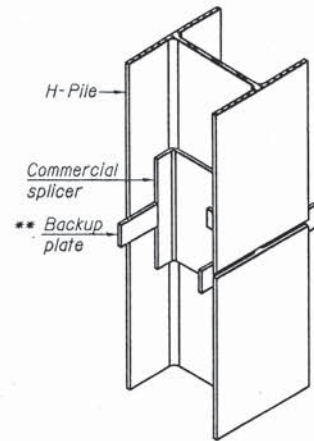
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 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**

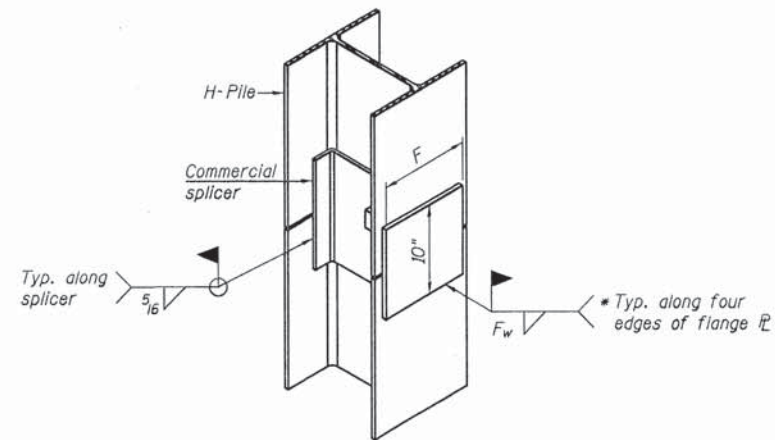


**DETAIL "B"**



**ISOMETRIC VIEW**

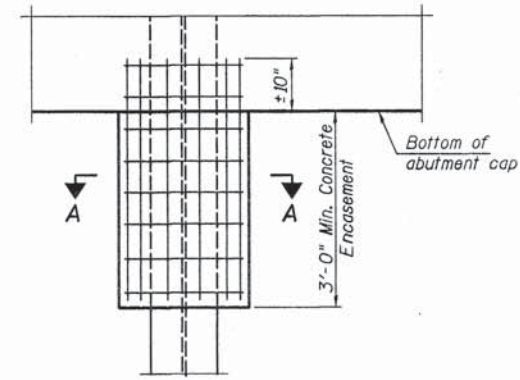
**WELDED COMMERCIAL SPLICE**



**ISOMETRIC VIEW**

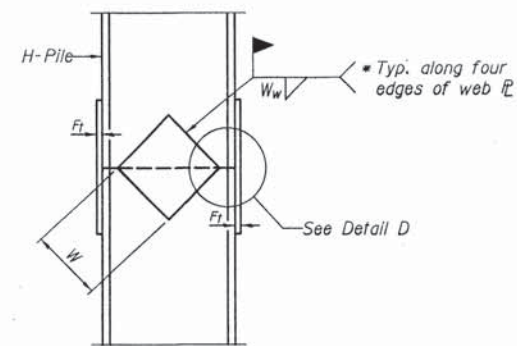
**WELDED COMMERCIAL SPLICE ALTERNATE**

- \* 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.).

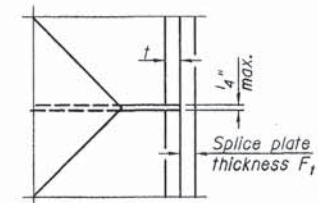


**ELEVATION**

**PILE ENCASEMENT**

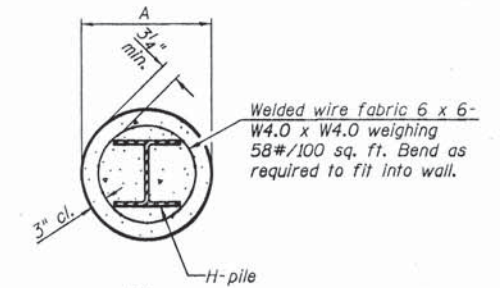


**ELEVATION**



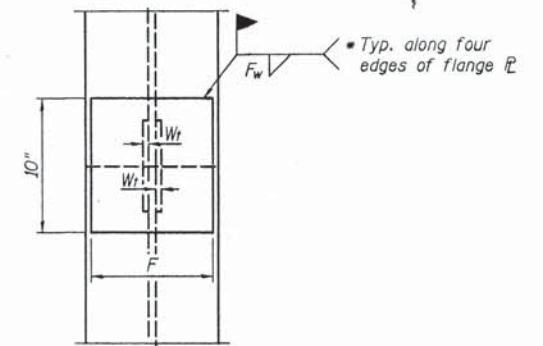
**DETAIL D**

**WELDED PLATE FIELD SPLICE**



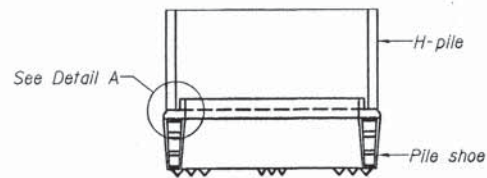
**SECTION A-A**

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

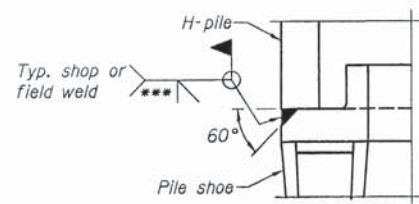


**END VIEW**

Designation	F	F <sub>t</sub>	F <sub>w</sub>	W	W <sub>t</sub>	W <sub>w</sub>
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5/8"	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"



**ELEVATION**



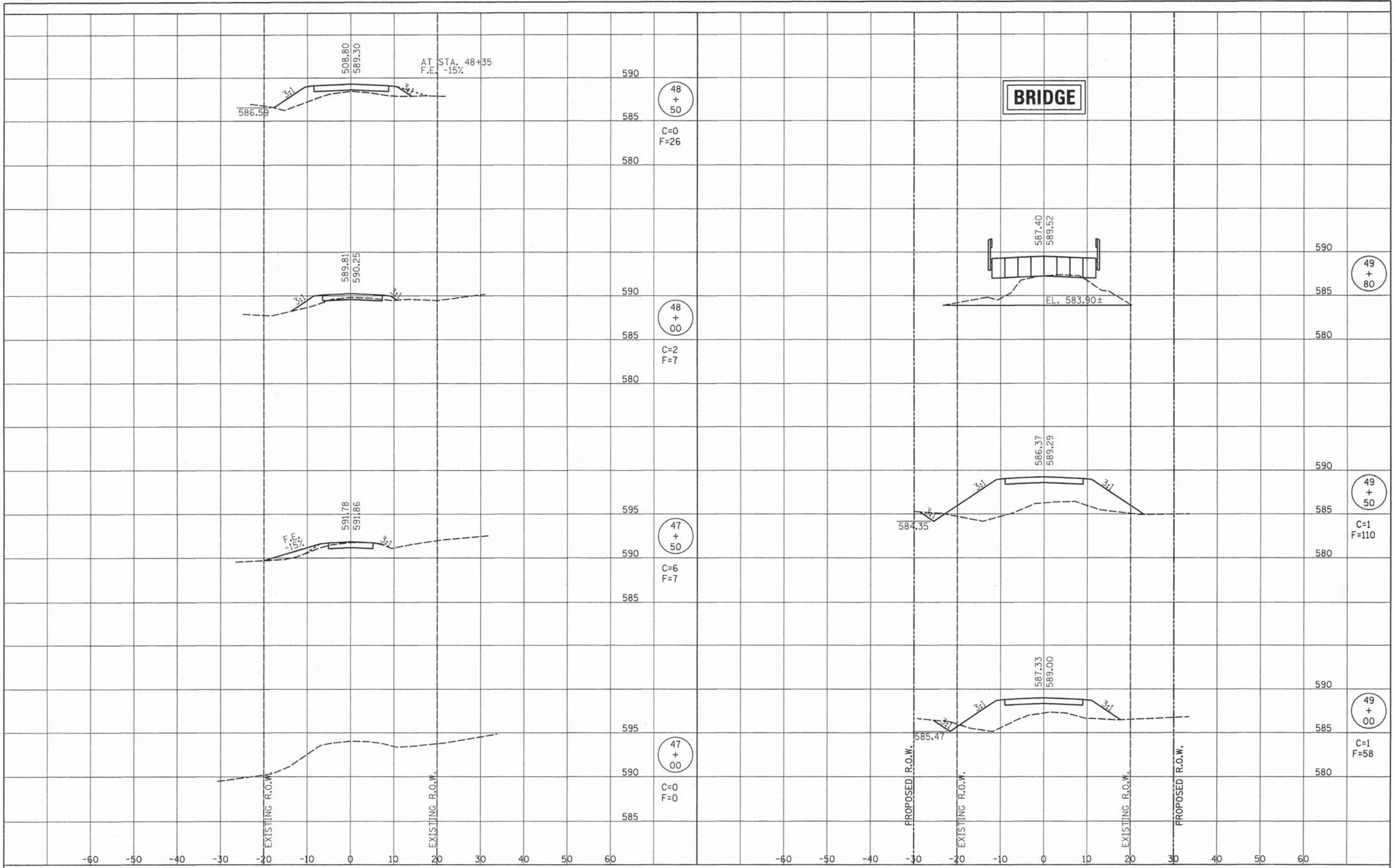
**DETAIL A**

**H-PILE SHOE ATTACHMENT**

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

DATE	
BY	
REVISIONS	
NO.	
ORIGINAL SURVEY	
NOTE BOOK	
NO.	
TEMPLATES	
AREAS CHECKED	

DATE	
BY	
REVISIONS	
NO.	
ORIGINAL SURVEY	
NOTE BOOK	
NO.	
TEMPLATES	
AREAS CHECKED	



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CHECKED -	GLH	REVISED -	
DATE -	09/28/2015	REVISED -	

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

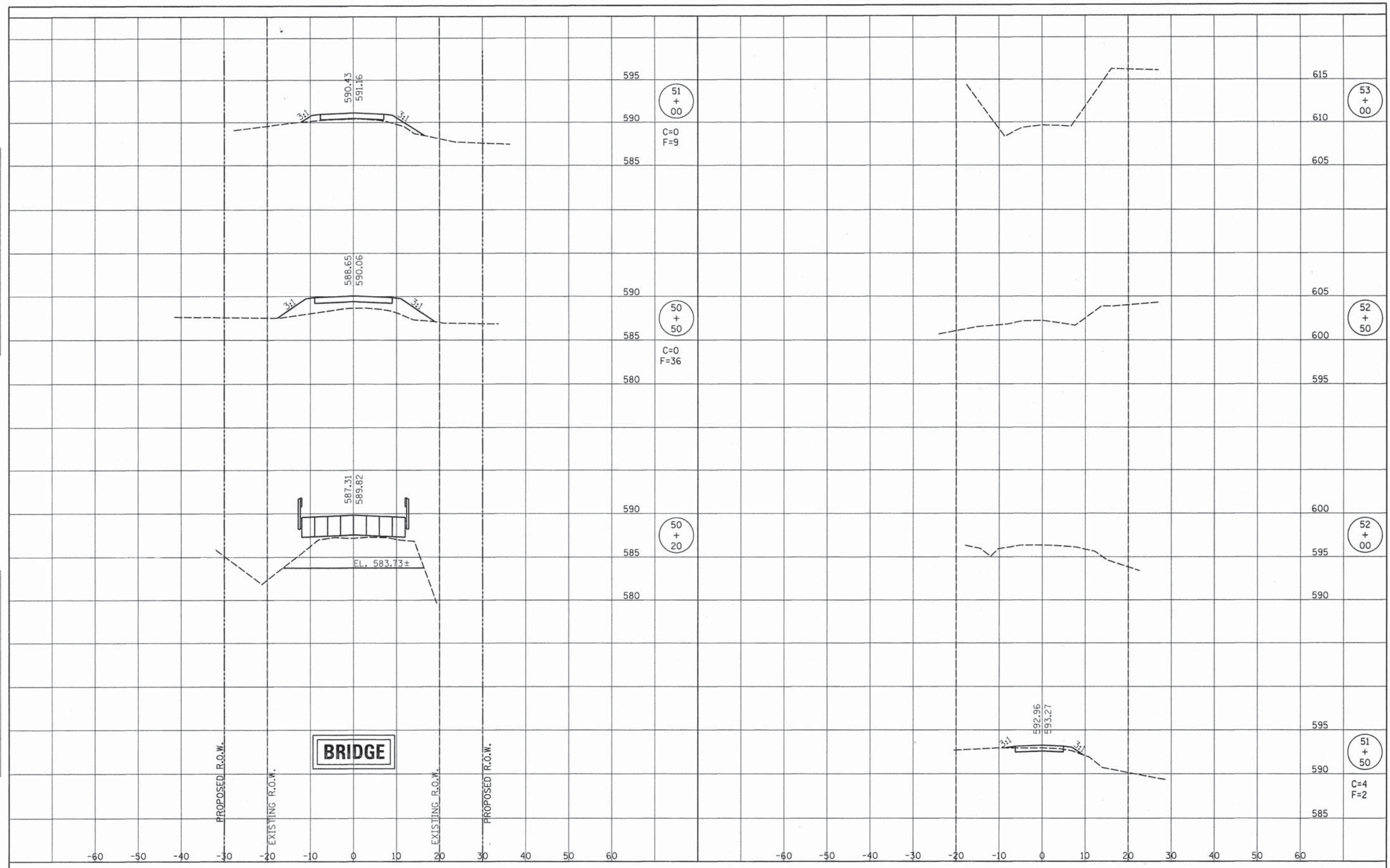
**CROSS SECTIONS OF ROADWAY**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 19	14-12124-00-BR	FAYETTE	11	10
CONTRACT NO. 95775			RAAI JOB NO. 53814	

STA. 47+00 TO STA. 49+80

DATE	
BY	
DESIGNED	
DRAWN	
CHECKED	
DATE	
NO.	

DATE	
BY	
DESIGNED	
DRAWN	
CHECKED	
DATE	
NO.	



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DRAWN	-	JN	REVISED	-
CHECKED	-	GLH	REVISED	-
DATE	-	09/28/2015	REVISED	-

**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**CROSS SECTIONS OF ROADWAY**

STA. 50+20 TO STA. 53+00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 19	14-12124-00-BR	FAYETTE	11	11
RAAI JOB NO. 53814			CONTRACT NO. 95775	