

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

**PLANS FOR PROPOSED
STP-BRIDGE**

**TR 34A OVER FULFER CREEK
SECTION 02-15108-00-BR
PROJECT NO. BROS-0049(161)
WEST ROAD DISTRICT
EFFINGHAM COUNTY
JOB NO. C-97-036-13**



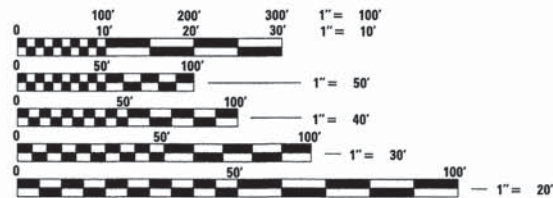
LOCATION OF SECTION INDICATED THUS:

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

HIGHWAY STANDARDS (SEE SPECIFICATIONS)
 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
 515001-03 NAME PLATE FOR BRIDGES
 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
 701901-02 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
 ADT₂₀₁₁ : 100
 DESIGN SPEED: 30 MPH

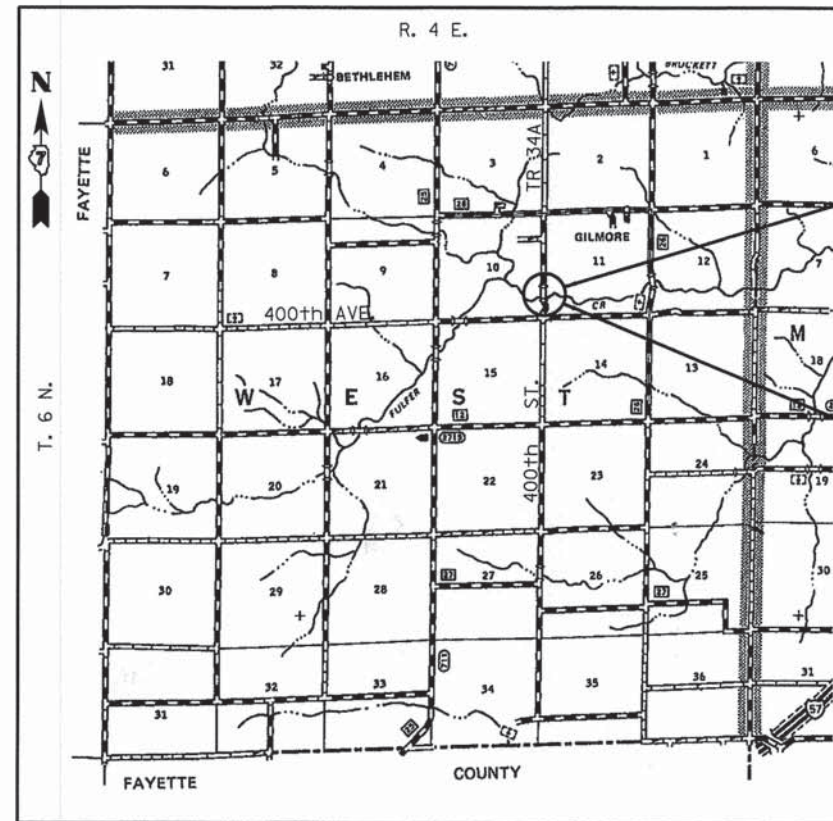


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES, REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES, IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

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



Gary L. Hahn 05-21-2013
 GARY L. HAHN
 CENTRALIA, ILLINOIS
 ILLINOIS LICENSED PROFESSIONAL
 ENGINEER NO. 62-42606
 EXPIRES NOV. 30, 2013



SECTION BEGINS STA. 7+12.19
 SECTION 02-15108-00-BR INCLUDES THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE CARRYING TR 34A OVER FULFER CREEK, 85'-0" BK. TO BK. ABUTMENTS X 24' WIDE, NO SKEW. EXISTING STRUCTURE NO. 025-3058 PROPOSED STRUCTURE NO. 025-3325
 SECTION ENDS STA. 13+59.56

LOCATION: NEAR THE NE CORNER, SE 1/4, SE 1/4, SECTION 10, T 6 N, R 4 E, 3rd P.M.
 NET LENGTH OF PROJECT: 647.37 FT. = 0.123 MI.

EFFINGHAM COUNTY
HIGHWAY DEPARTMENT

APPROVED *May 23, 2013*
[Signature]
 EFFINGHAM COUNTY, COUNTY ENGINEER

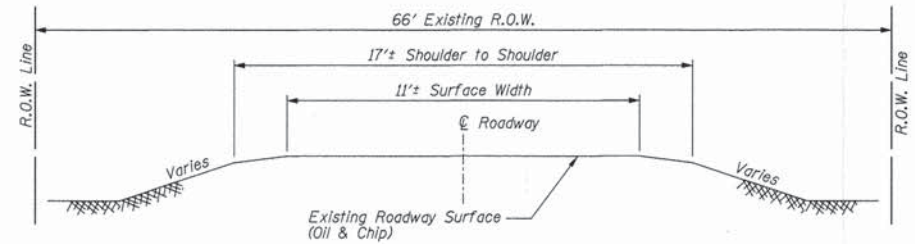
PASSED *6/4, 2013*
[Signature]
 DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID
 BASED ON LIMITED
 REVIEW *6/4, 2013*
[Signature]
 DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

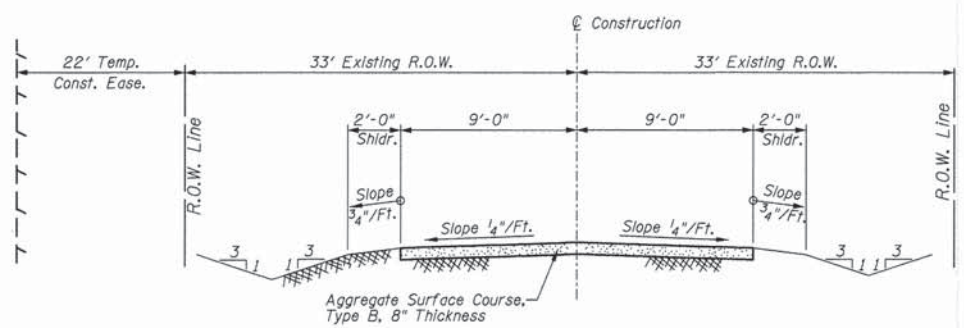
**PRINTED BY THE AUTHORITY
OF THE STATE OF ILLINOIS**

CONTRACT NO. 95713

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 34A	02-15108-00-BR	EFFINGHAM	11	1
			CONTRACT NO. 95713	
RAAI JOB NO. 52711 ILLINOIS FED. AID PROJECT				

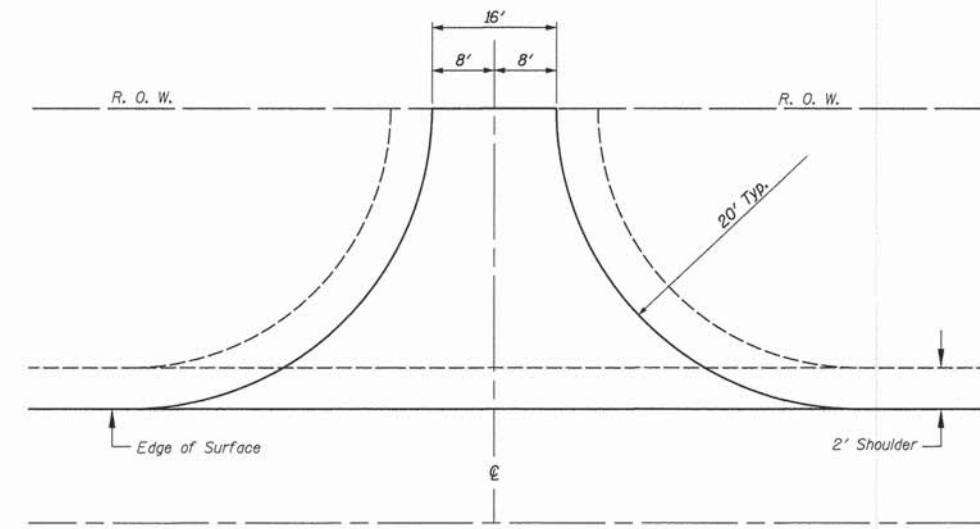


**TYPICAL SECTION
EXISTING APPROACH ROADWAY**



**TYPICAL SECTION
PROPOSED APPROACH ROADWAY**

Sta. 8+17.19 to Sta. 9+61.68
Sta. 10+46.68 to Sta. 12+54.56
Trans. Sta. 7+12.19 to Sta. 8+17.19
Trans. Sta. 12+54.56 to Sta. 13+59.56



TYPICAL FIELD ENTRANCE - LT., STA. 8+82

Aggregate Surface Course, Type B 6" Depth - 22 Ton
(Included in Summary of Quantities)

SUMMARY OF QUANTITIES

Code No.	Item	Unit	Quantity
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	71
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	162
20200100	EARTH EXCAVATION	CU YD	120
20300100	CHANNEL EXCAVATION	CU YD	151
20400800	FURNISHED EXCAVATION	CU YD	655
20700110	POROUS GRANULAR EMBANKMENT	TON	92
28000305	TEMPORARY DITCH CHECKS	FOOT	40
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	172
28200200	FILTER FABRIC	SQ YD	199
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	520
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	21.6
50300280	CONCRETE ENCASEMENT	CU YD	2.8
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	2008
50800105	REINFORCEMENT BARS	POUND	3560
* 50900205	STEEL RAILING, TYPE S1	FOOT	170
51201600	FURNISHING STEEL PILES HP12X53	FOOT	358
51202305	DRIVING PILES	FOOT	358
51203600	TEST PILE STEEL HP12X53	EACH	1
51500100	NAME PLATES	EACH	1
67100100	MOBILIZATION	L SUM	1
* 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.4

* Specialty Item

UTILITIES

Design Phase Locate No. X0780520
Frontier Communications
Mark Burks
Phone: 217-854-2222
Southwestern Electric Co-op
Annette Brown
Phone: 618-664-1025 x5911
EJ Water Cooperative, Inc
Lee Beckman
Phone: 217-347-7262

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.
- Roadway Centerline profiles refer to the finished surface.
- If Ash trees are removed on the Project, the Contractor shall become familiar with and comply with measures specified by the Illinois Department of Agriculture (IDOA) to prevent the spread of the Emerald Ash Borer. The IDOA information for Ash tree removal can be found on the IDOA website at www.agr.state.il.us/eab.
- 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 Aggregate Surface Course, Type B gradation shall be CA 6 or CA 10. Only crushed stone will be approved for use on this project.
- 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: None as of April 1, 2013.

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 - 05/16/2013	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES, GENERAL NOTES, AND TYPICAL SECTIONS
STRUCTURE NO. 025-3325**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 34A	02-15108-00-BR	EFFINGHAM	11	2
RAAI JOB NO. 52711 ILLINOIS FED. AID PROJECT			CONTRACT NO. 95713	

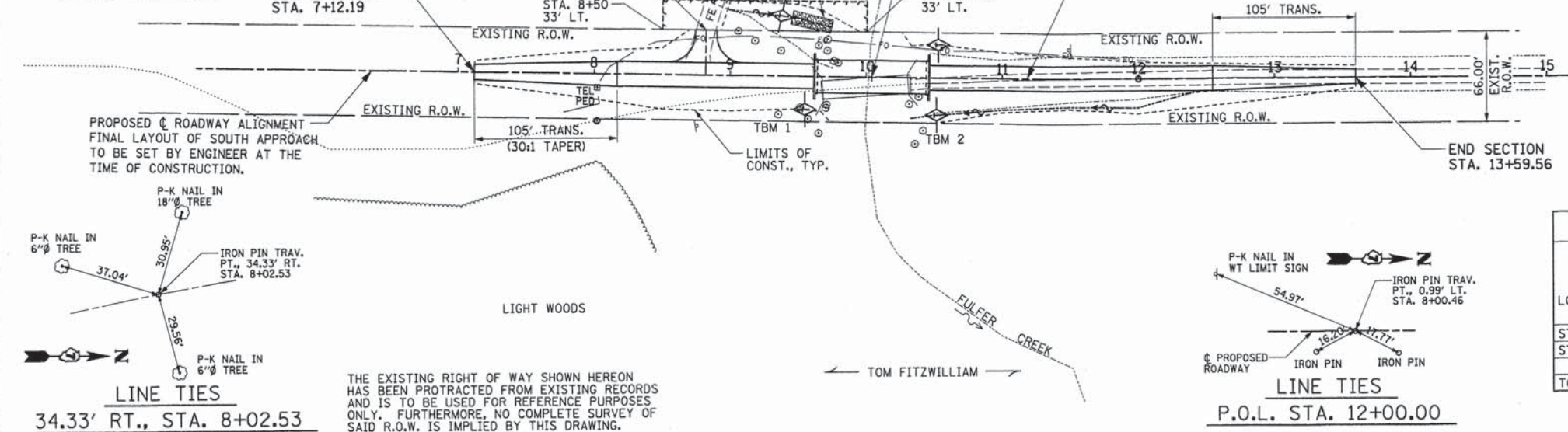


SCALES:



TEMPORARY DITCH CHECK (LOCATION AS DIRECTED BY THE ENGINEER)

--- LIMITS OF CONSTRUCTION



LINE TIES
34.33' RT., STA. 8+02.53

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.

EXISTING STRUCTURE: SINGLE SPAN PONY TRUSS BRIDGE WITH TIMBER DECK ON CLOSED STONE ABUTMENTS, TO BE REMOVED. 65'L. x 13.5'W. NO SKEW. SEE SPECIAL PROVISIONS FOR SALVAGE.

PROPOSED STRUCTURE. STA. 10+04.18
SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE. NO SKEW. 85'-0" BK. TO BK. ABUTMENTS x 24' WIDE. EXISTING STRUCTURE NO. 025-3058 PROPOSED STRUCTURE NO. 025-3325

TREE REMOVAL (6 TO 15 UNITS DIAMETER)

LOCATION	UNIT
STA. 9+17.9, 25.4' LT.	8
STA. 9+51.7, 22.8' RT.	10
STA. 9+71.1, 20.6' RT.	15
STA. 9+71.2, 18.9' LT.	8
STA. 9+71.5, 27.2' LT.	8
STA. 9+76.0, 11.5' LT.	12
STA. 9+79.2, 10.2' LT.	10
TOTAL	71

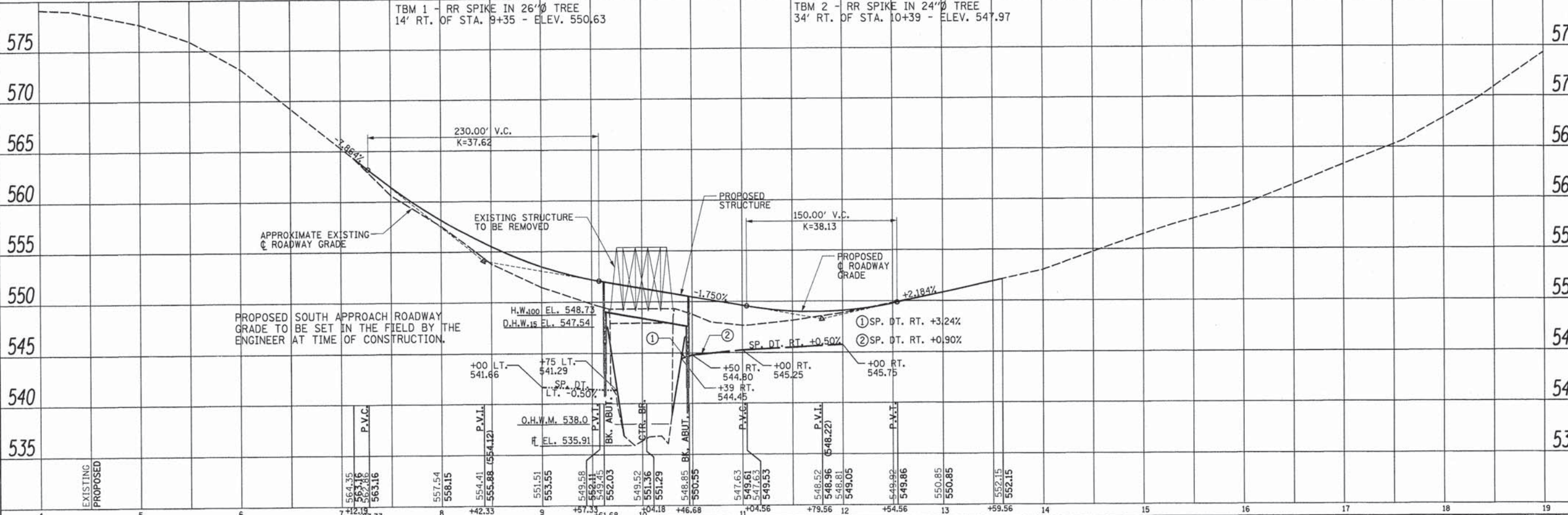
TREE REMOVAL (OVER 15 UNITS DIAMETER)

LOCATION	UNIT
STA. 9+05.5, 32.5' LT.	18
STA. 9+35.7, 28.1' RT. (TBM 1)	26
STA. 9+37.2, 18.4' LT.	26
STA. 9+57.4, 31.1' RT.	20
STA. 9+64.8, 22.8' LT.	18
STA. 9+70.5, 22.8' RT.	18
STA. 10+31.8, 19.4' RT.	18
STA. 10+38.7, 14.1' RT.	18
TOTAL	162

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION CU. YD.	EARTH ADJUSTED FOR SHRINKAGE* CU. YD.	EMBANKMENT CU. YD.	EARTHWORK BALANCE** WASTE (+) OR SHORTAGE (-) CU. YD.
STA. 7+12.19 TO STA. 9+61.68	51	39	481	-442
STA. 10+46.68 TO STA. 13+59.56	69	52	265	-213
TOTAL	120	91	746	-655

*25% SHRINKAGE **FURNISHED EXCAVATION



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 - 05/16/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF ROADWAY
STRUCTURE NO. 025-3325
STA. 4+00 TO STA. 19+00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 34A	02-15108-00-BR	EFFINGHAM	11	3
RAAI JOB NO. 52711			ILLINOIS FED. AID PROJECT	
			CONTRACT NO. 95713	

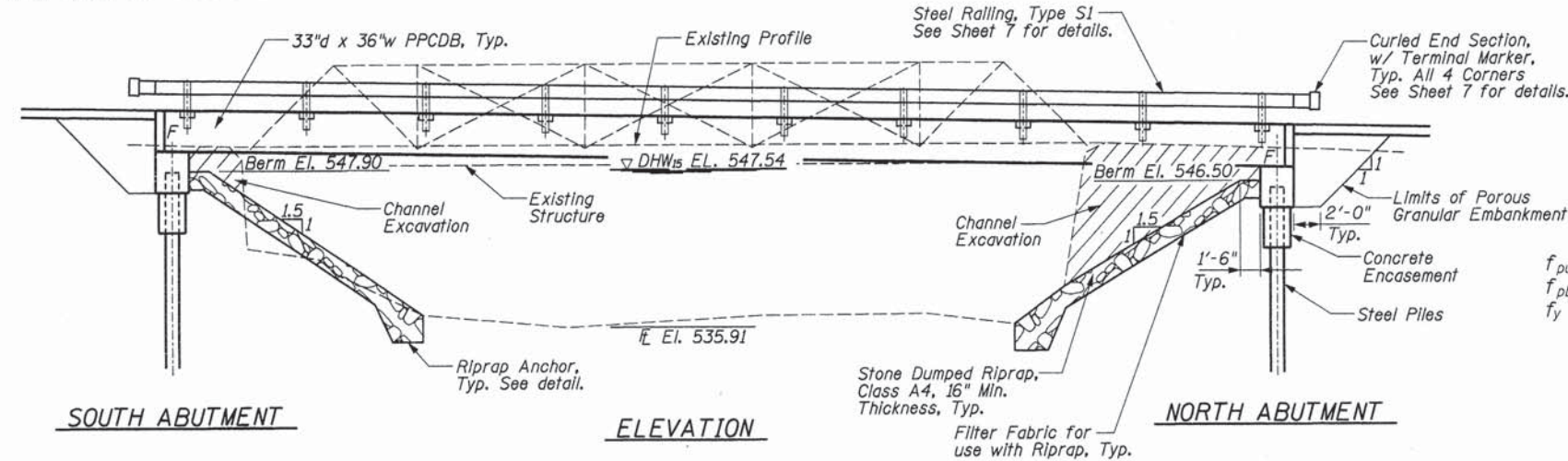
DATE		
BY		
REVISIONS		
NO. 1	DATE	DESCRIPTION
NO.		

DATE		
BY		
REVISIONS		
NO. 1	DATE	DESCRIPTION
NO.		

TBM 1 - RR spike in 26" tree,
14' Rt. of Sta. 9+35 - Elev. 550.63

TBM 2 - RR spike in 24" tree,
34' Rt. of Sta. 10+39 - Elev. 547.97

Existing Structure: Structure No.: 025-3058. Single span pony
truss bridge with timber deck on closed stone abutments.
65' L. x 13.5' W. No skew. To be removed.
See Special Provisions for salvage.



LOADING HL-93

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

DESIGN SPECIFICATIONS

2010 (4th ED.) AASHTO LRFD
Bridge Design Specifications.

DESIGN STRESSES

FIELD UNITS

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

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
 $S_{D1} = 0.163$ $S_{D5} = 0.406$

BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	TOTAL
Channel Excavation	Cu Yd	151
Porous Granular Embankment	Ton	92
Stone Dumped Riprap, Class A4	Ton	145
Filter Fabric	Sq Yd	164
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	21.6
Concrete Encasement	Cu Yd	2.8
PPCDB (33" Depth)	Sq Ft	2008
Reinforcement Bars	Pound	3560
Steel Railing, Type S1	Foot	170
Furnishing Steel Piles HP12x53	Foot	358
Driving Piles	Foot	358
Test Pile Steel HP12x53	Each	1
Name Plates	Each	1
Terminal Marker - Direct Applied	Each	4

GENERAL NOTES

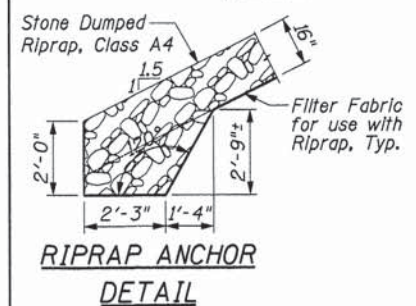
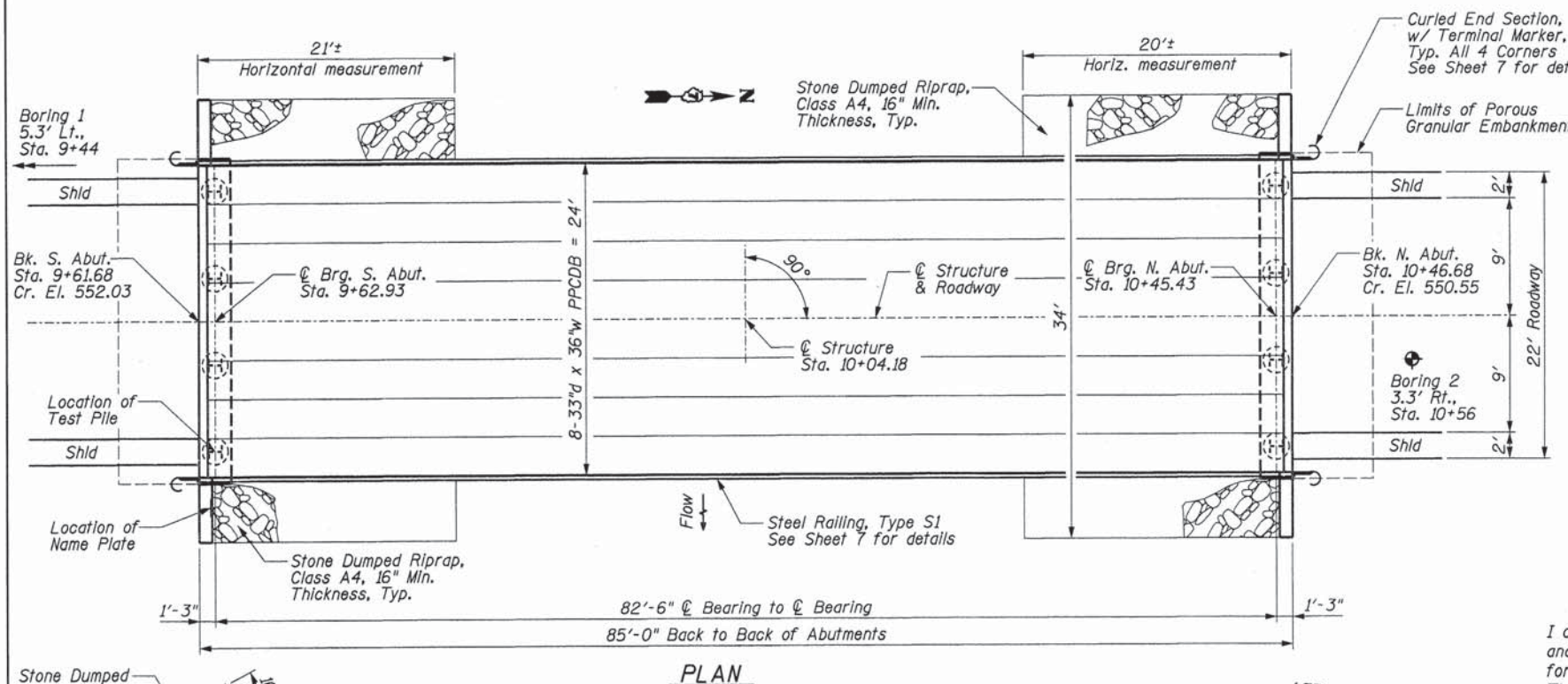
Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.

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

See Specifications for Soil Borings.

Do not scale these drawings.

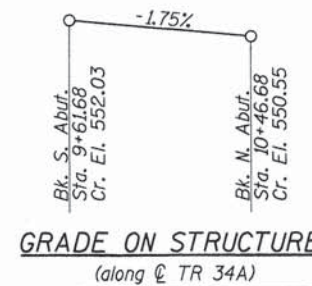
The abutment bearing seat surfaces for the precast prestressed concrete deck beams shall be adjusted by shimming to assure firm and even bearing. As required, $\frac{1}{8}$ " fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing. The top surface of the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



WATERWAY INFORMATION

Drainage Area = 22.73 sq. mi. Existing Low Grade Elev. 547.63 @ Sta. 11+00
Proposed Low Grade Elev. 548.95 @ Sta. 11+71.29

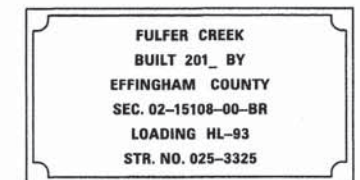
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	15	3800	635	677	547.54	0.10	0.04	547.64	547.58
Base	100	5690	657	734	548.73	0.64	0.60	549.37	549.33
Max. Calc.	500	7640	657	736	549.70	1.26	1.46	550.96	551.16



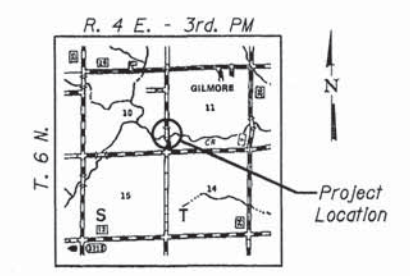
I certify that to the best of knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.



William D. Lueking
William D. Lueking
5-21-2013
Date of Signing
11/30/2014
Date of License Expiration



NAME PLATE
See Std. 515001



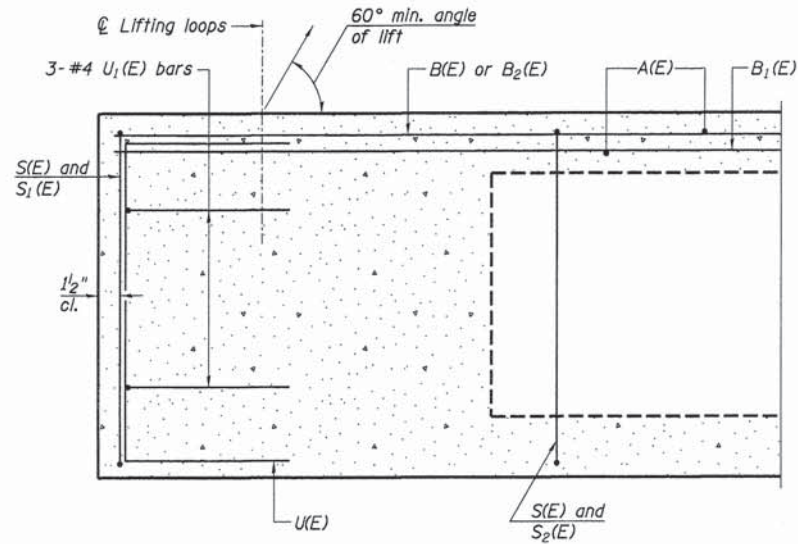
RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL	REVISED -
DATE - 05/16/2013	REVISED -

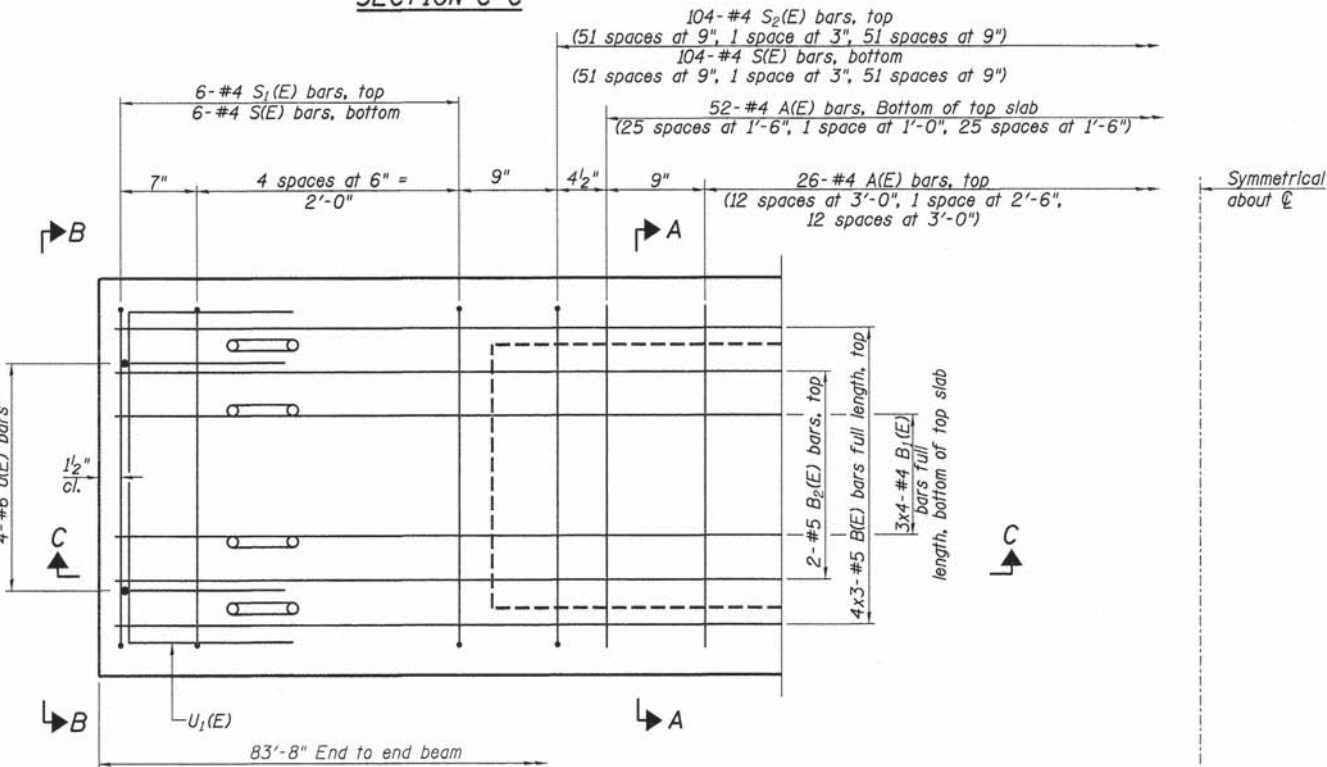
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GENERAL PLAN AND ELEVATION
STRUCTURE NO. 025-3325

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 34A	02-15108-00-BR	EFFINGHAM	11	4
CONTRACT NO. 95713				
RAI JOB NO. 52711		ILLINOIS FED. AID PROJECT		



SECTION C-C



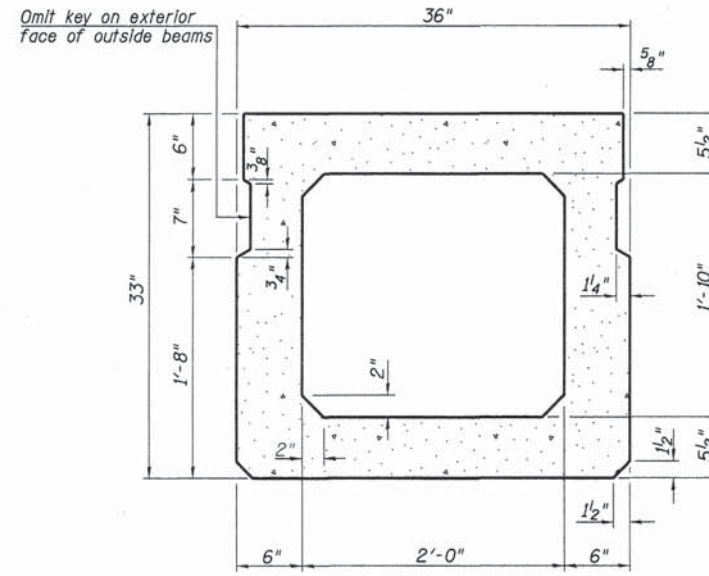
PLAN VIEW

Notes: 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.

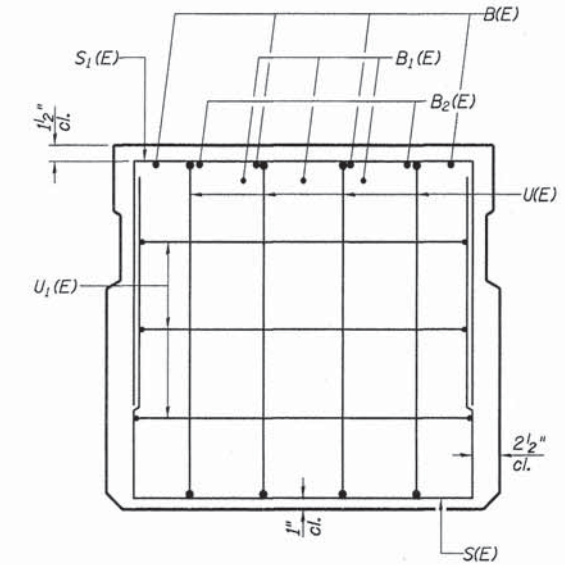
Bars indicated thus: 4x3-#5 etc. Indicates 4 lines of bars with 3 lengths per line.

MINIMUM BAR LAP

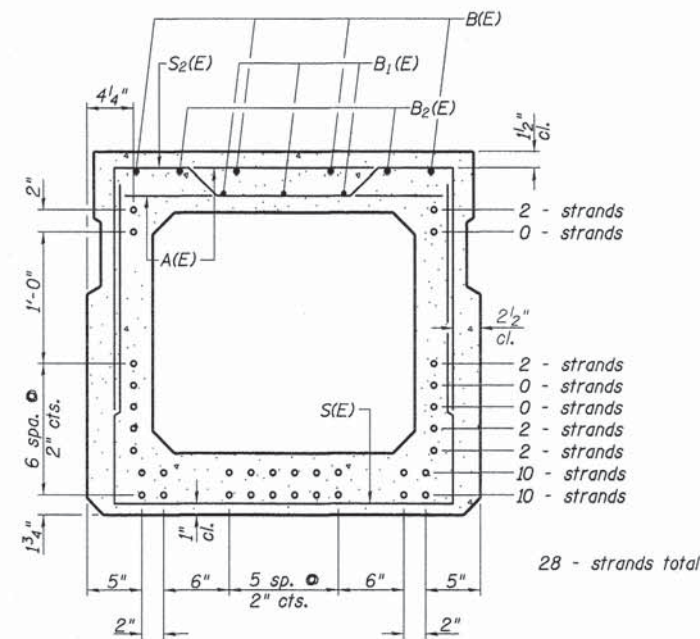
#4 bar = 2'-0"
#5 bar = 2'-6"



SECTION A-A
(Showing dimensions)



VIEW B-B



SECTION A-A

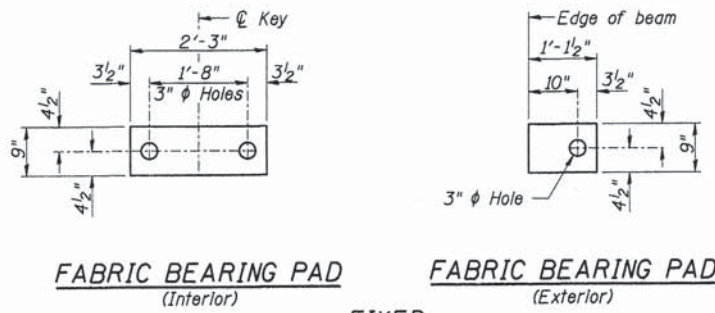
(Showing reinforcement and permissible strand locations)

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)	78	#4	2'-7"	—
B(E)	12	#5	29'-6"	—
B ₁ (E)	12	#4	22'-5"	—
B ₂ (E)	4	#5	10'-0"	—
S(E)	116	#4	7'-5"	U
S ₁ (E)	12	#4	6'-3"	U
S ₂ (E)	104	#4	6'-6"	U
U(E)	8	#6	5'-0"	C
U ₁ (E)	6	#4	5'-0"	U

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

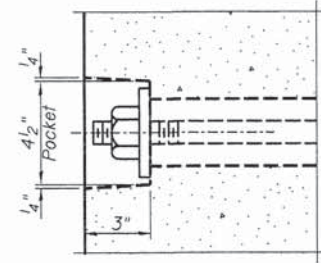


FABRIC BEARING PAD
(Interior)

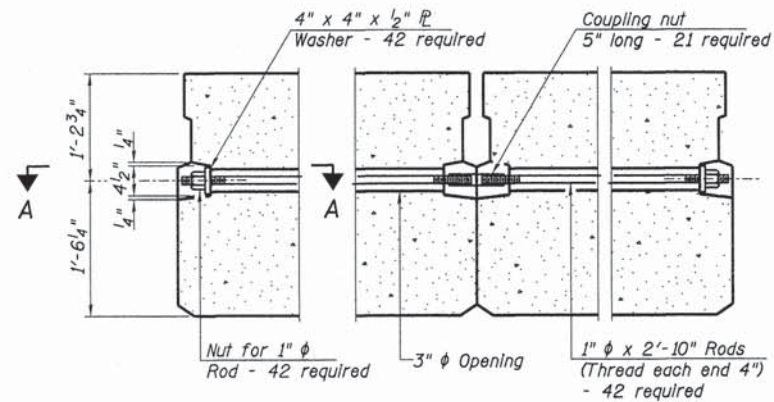
FABRIC BEARING PAD
(Exterior)

FIXED

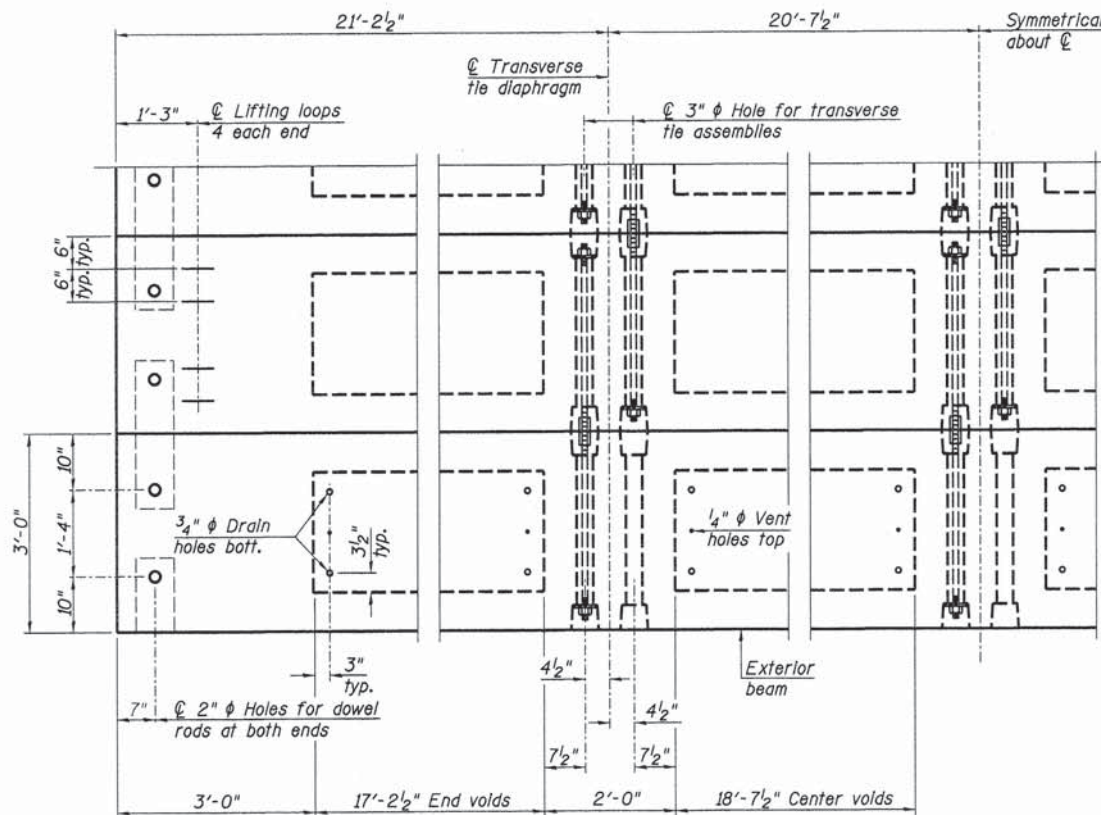
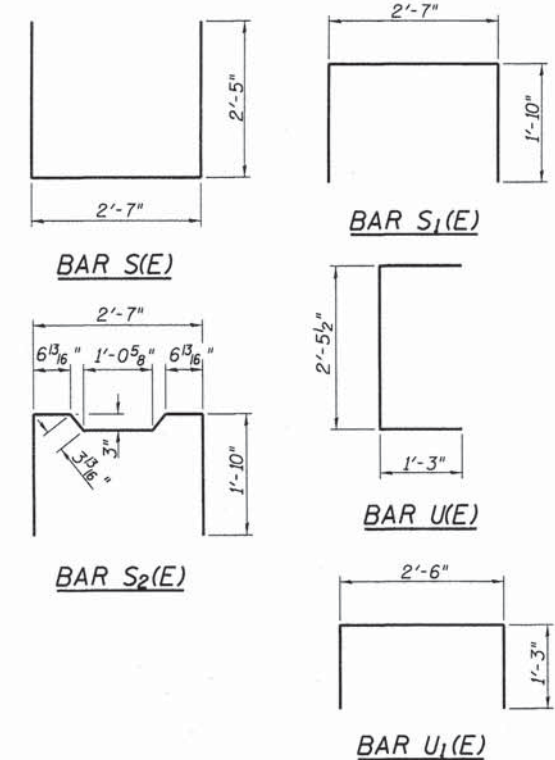
Note: All bearing pads shall be 1" thick.



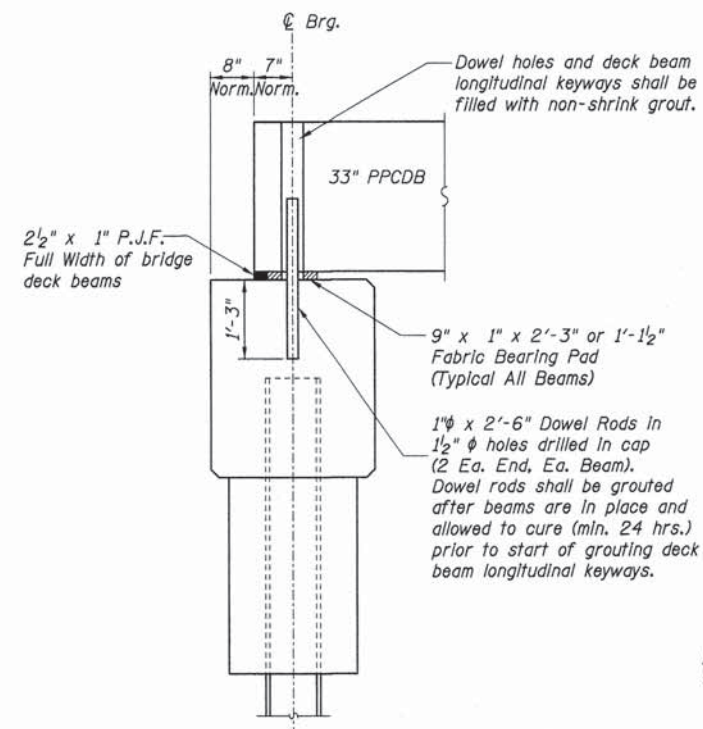
SECTION A-A



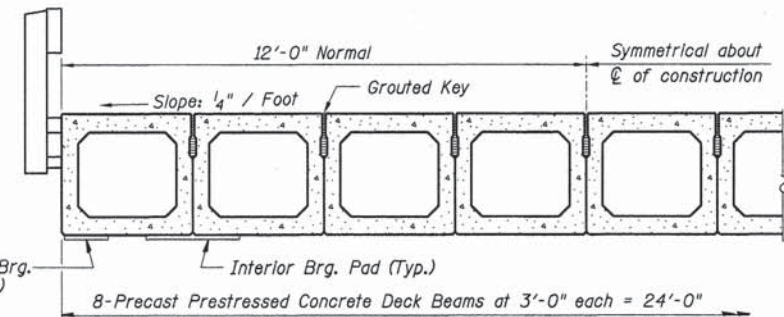
TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW



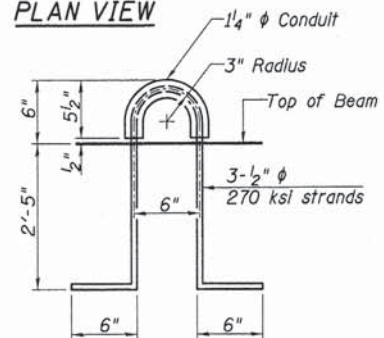
FIXED BEARING ABUTMENT



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" diameter 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 the requirements of 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.

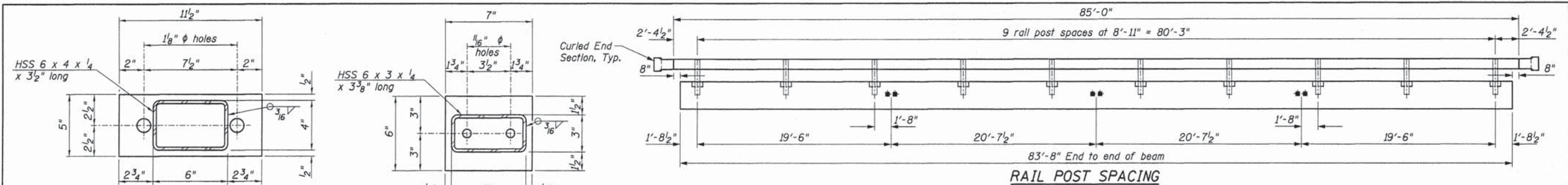
Compressive strength of prestressed concrete at release, f'cl, shall be 5000 psi.

BILL OF MATERIAL

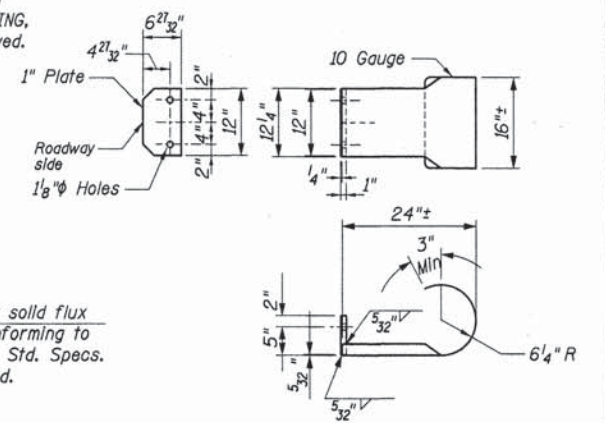
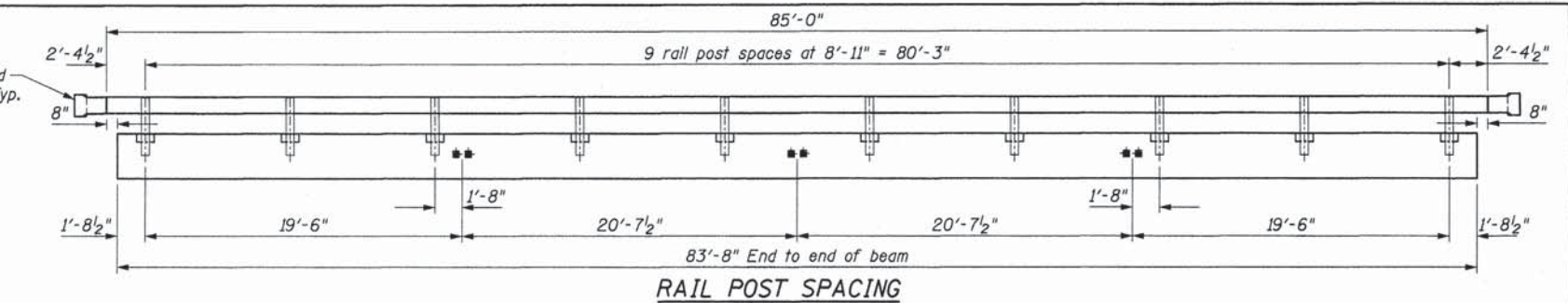
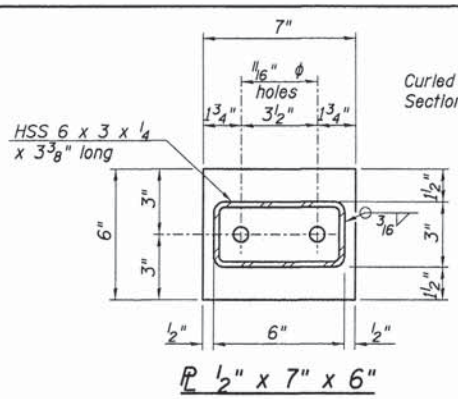
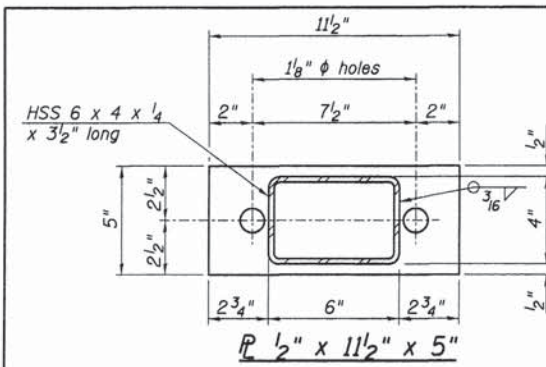
Precast Prestressed Conc. Deck Bms. (33" depth)	Sq. Ft.	2008
---	---------	------

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL	REVISED -
DATE - 05/16/2013	REVISED -

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 34A	02-15108-00-BR	EFFINGHAM	11	6
CONTRACT NO. 95713				
RAAF JOB NO. 52711 ILLINOIS FED. AID PROJECT				

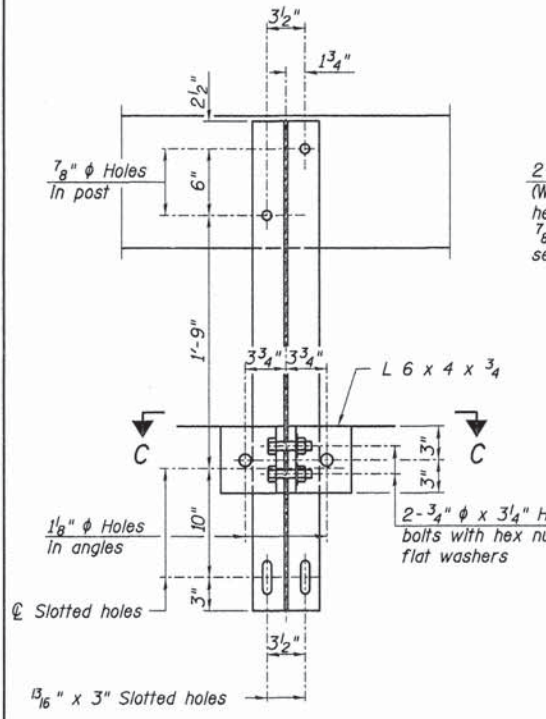


RAIL POST SPACING
 Note: The cost of the Curled End Sections shall be included in the contract unit price per foot for "STEEL RAILING, TYPE S1", and no additional compensation will be allowed.

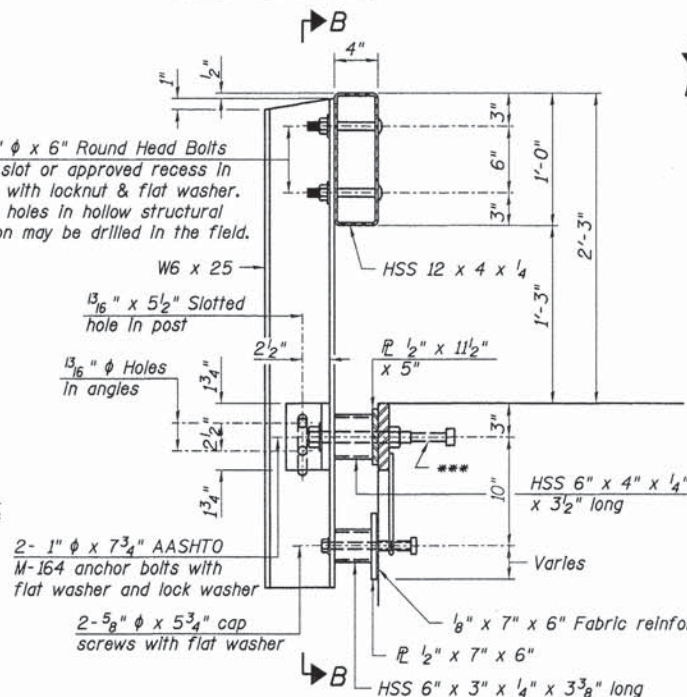


CURLLED END SECTION DETAILS

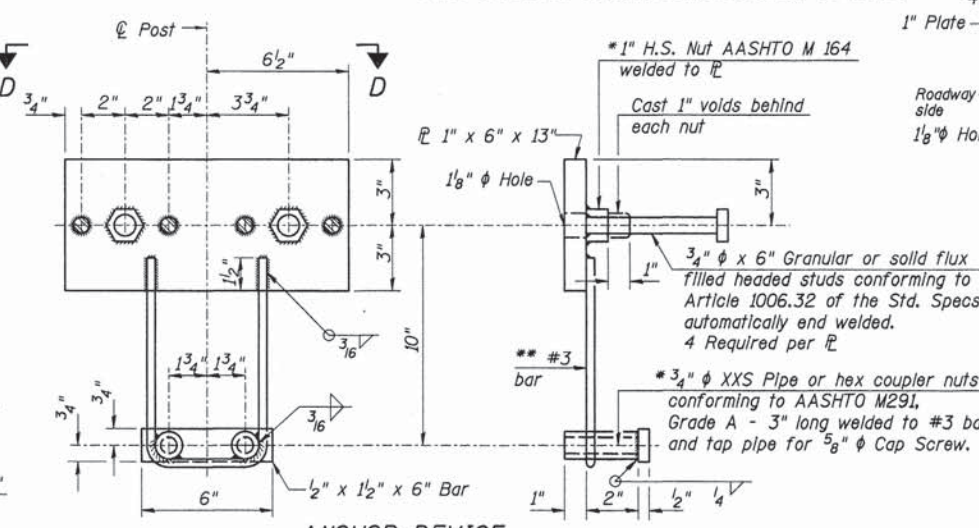
Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S1.
 All steel rail elements shall 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.



SECTION B-B

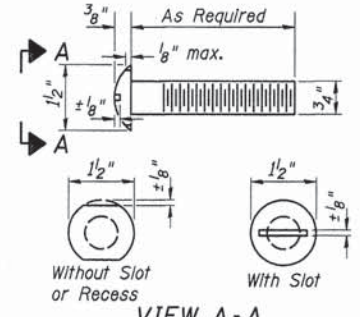


SECTION AT RAILING POST

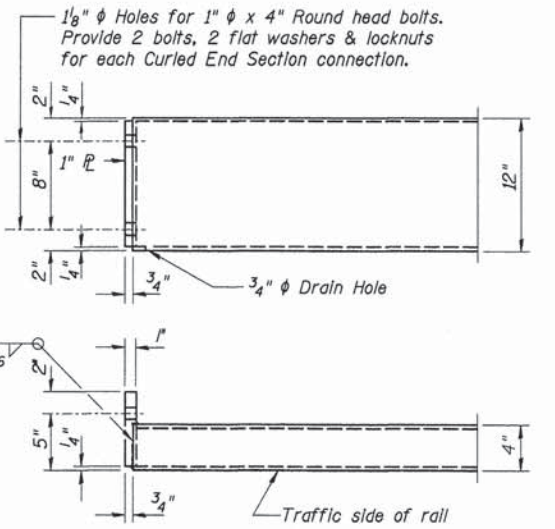


ANCHOR DEVICE

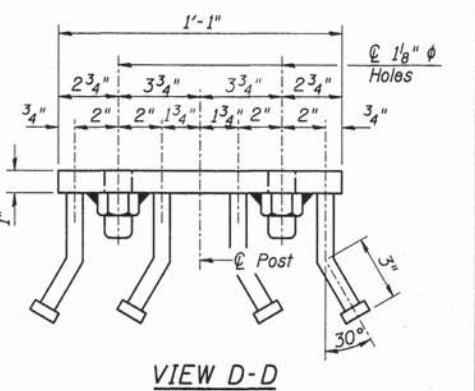
*** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".
 * Threaded areas shall be plugged or blocked off during casting of beam.



VIEW A-A ROUND HEAD BOLT



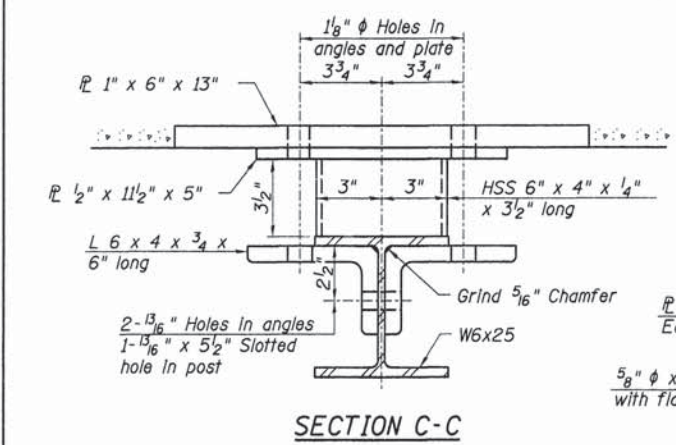
END OF RAIL DETAILS



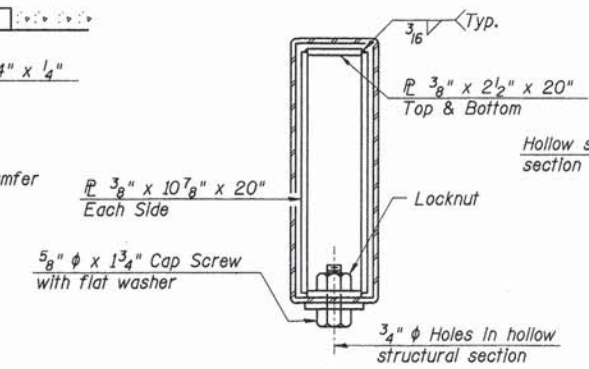
VIEW D-D

BILL OF MATERIAL

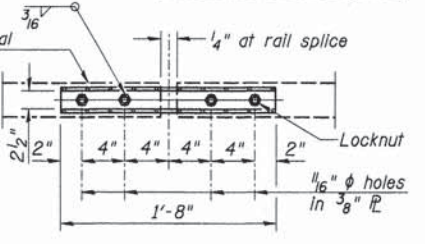
Item	Unit	Quantity
Steel Railing, Type S1	Foot	170



SECTION C-C



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE TYPICAL

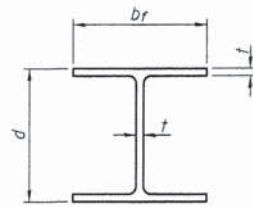
RHUTASEL and ASSOCIATES, INC.
 CONSULTING ENGINEERS • LAND SURVEYORS
 CENTRALIA, ILLINOIS FREEBURG, ILLINOIS
 ILLINOIS DESIGN FIRM LICENSE NO. 164-000287

DESIGNED - BLT	REVISED -
DRAWN - JN	REVISED -
CHECKED - WDL	REVISED -
DATE - 05/16/2013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

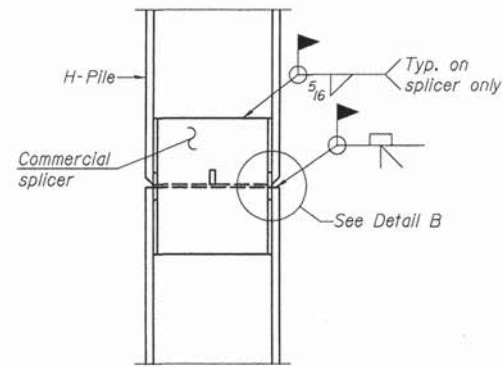
STEEL RAILING, TYPE S1 DETAILS
STRUCTURE NO. 025-3325

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 34A	02-15108-00-BR	EFFINGHAM	11	7
CONTRACT NO. 95713				
RAAI JOB NO. 52711		ILLINOIS FED. AID PROJECT		

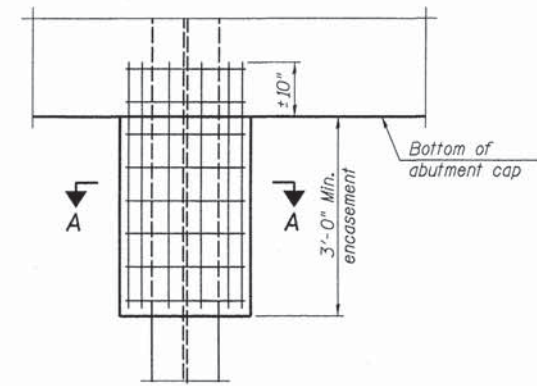


STEEL PILE TABLE

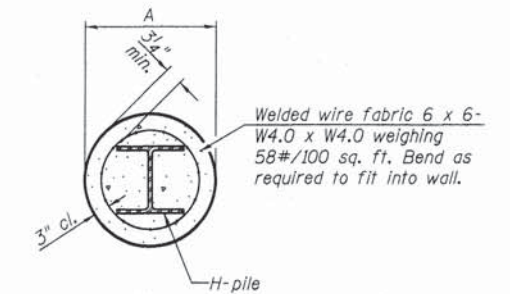
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11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



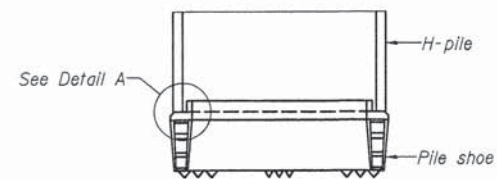
ELEVATION



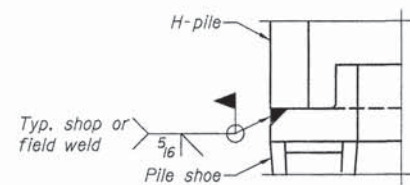
SECTION A-A

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

PILE ENCASEMENT

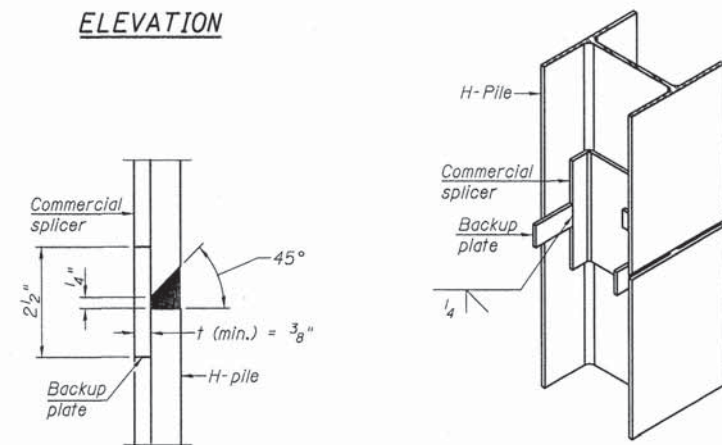


ELEVATION



DETAIL A

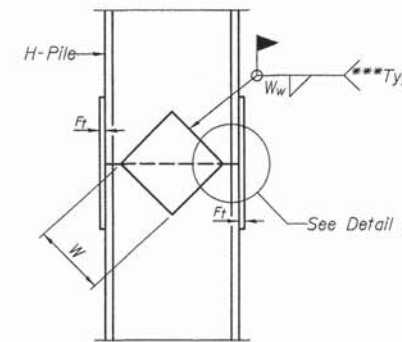
H-PILE SHOE ATTACHMENT



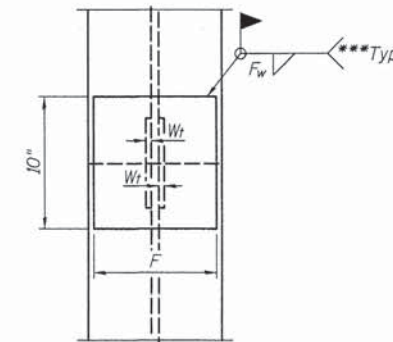
DETAIL "B"

ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



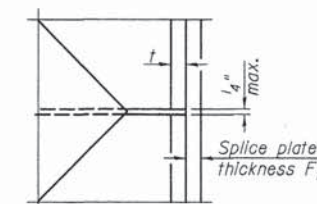
ELEVATION



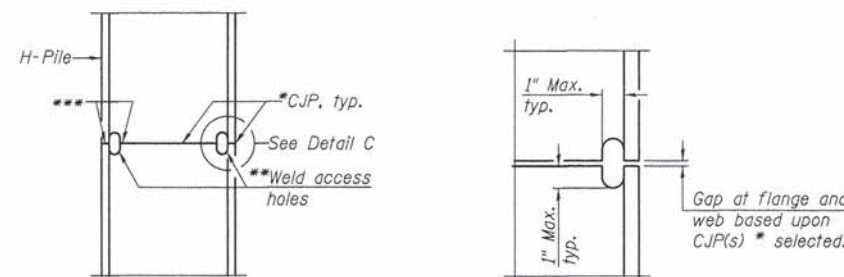
END VIEW

WELDED PLATE FIELD SPLICE

Designation	F	Ft	Fw	W	Wt	Ww
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"



DETAIL D



ELEVATION

DETAIL C

COMPLETE PENETRATION WELD SPLICE

- * Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.
- ** Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.
- *** Interrupt welds 1/4" from end of each pile.

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

