

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

**PLANS FOR PROPOSED  
HIGHWAY BRIDGE PROGRAM**

**TR 304A (FORD ROAD)  
NORTH FORK  
SECTION 09-07116-00-BR  
PROJECT NO. BROS-0121(058)  
KINMUNDY ROAD DISTRICT  
MARION COUNTY  
JOB NO. C-98-334-11**

**INDEX OF SHEETS**

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7. STEEL RAILING, TYPE S1 DETAILS
8. ABUTMENT DETAILS
9. HP PILE DETAILS
- 10.-11. CROSS SECTIONS OF ROADWAY

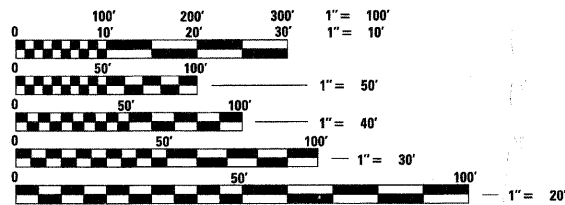
HIGHWAY STANDARDS (SEE SPECIFICATIONS)

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 280001-06 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATE FOR BRIDGES
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 701901-02 TRAFFIC CONTROL DEVICES
- B.L.R. 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- B.L.R. 27-1 TRAFFIC BARRIER TERMINAL TYPE 5A

SOIL BORINGS (SEE SPECIFICATIONS)

DESIGN CLASSIFICATION: RURAL LOCAL ROAD

ADT<sub>2010</sub> : 100  
ADT<sub>2030</sub> : 125  
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 Website: <http://www.illinois1call.com>

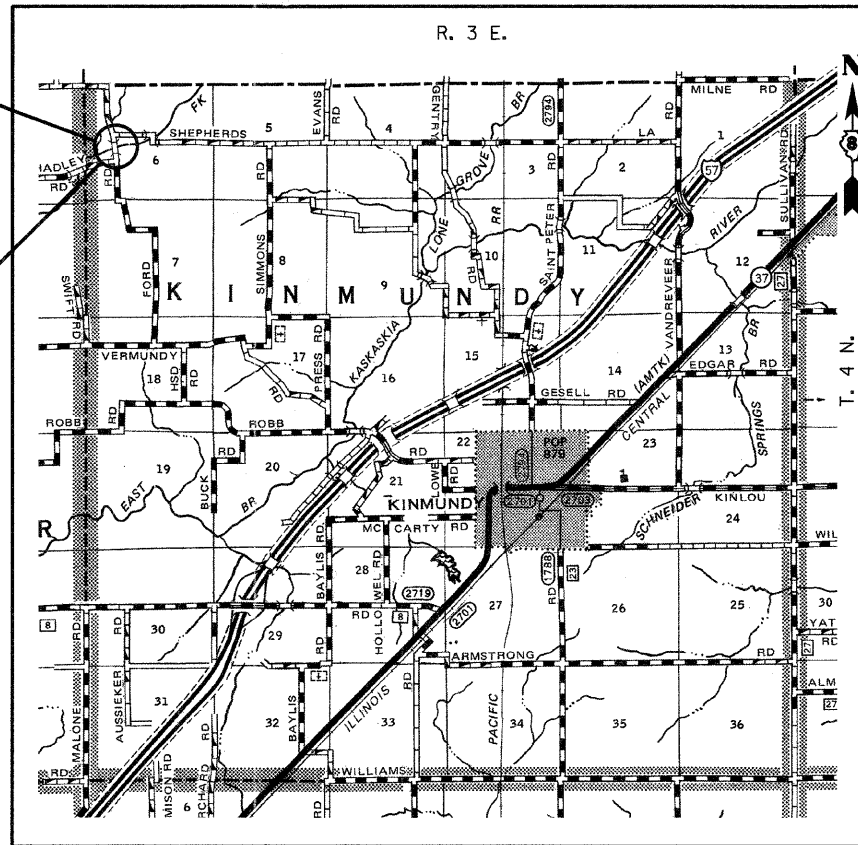
CONTRACT NO. 97491



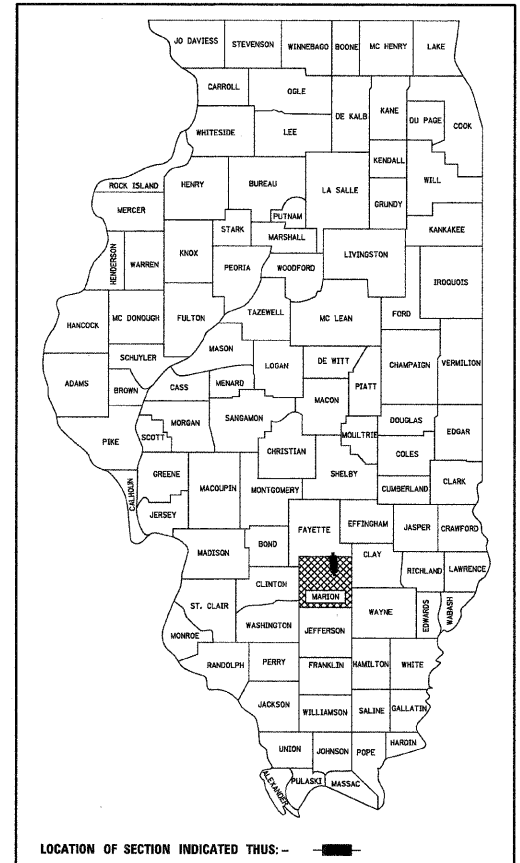
*Gary L. Hahn* 02.10.2012  
GARY L. HAHN  
CENTRALIA, ILLINOIS  
ILLINOIS LICENSED PROFESSIONAL  
ENGINEER NO. 62-42606  
EXPIRES NOV. 30, 2013

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

02/10/2012 RAAI #51509



LOCATION: NEAR THE NW CORNER, NE 1/4, SW 1/4, SECTION 6, T4N, R3E, 3RD P.M.  
NET LENGTH OF PROJECT: 647.52 FT. = 0.123 MI.



STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

APPROVED Feb 13, 2012  
*Rosa Leavelle*  
KINMUNDY ROAD DISTRICT COMMISSIONER

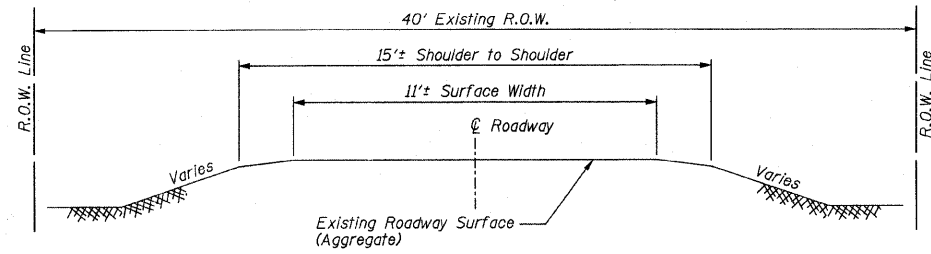
APPROVED FEB 13, 2012  
*William J. Hahn*  
MARION COUNTY, COUNTY ENGINEER

PASSED March 12, 2012  
*Debra J. ...*  
DISTRICT EIGHT ENGINEER OF LOCAL ROADS & STREETS

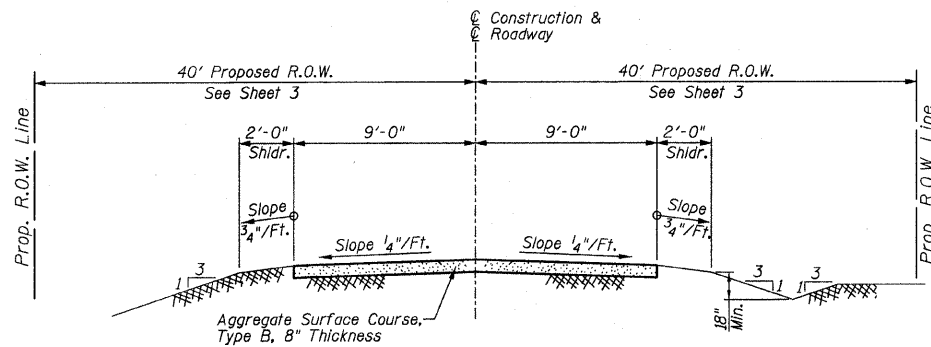
RELEASING FOR BID  
BASED ON LIMITED  
REVIEW March 12, 2012  
*Orna Osman*  
DEPUTY DIRECTOR OF HIGHWAYS, REGION FIVE ENGINEER

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OF THE STATE OF ILLINOIS**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 304A	09-07116-00-BR	MARION	11	1
CONTRACT NO. 97491				
ILLINOIS FED. AID PROJECT				



**TYPICAL SECTION  
EXISTING APPROACH ROADWAY**



**TYPICAL SECTION  
PROPOSED APPROACH ROADWAY**

**GENERAL NOTES**

1. 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.
2. 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](http://www.agr.state.il.us/eab).
3. Roadway Centerline profiles refer to the finished surface.
4. 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, or by direct contact with non-members of J.U.L.I.E.
5. 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.
6. 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.
7. 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.
8. Commitments: None of as January 31, 2012.

**SUMMARY OF QUANTITIES**

Location			
Code No.	Item	Unit	Quantity
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	162
20200100	EARTH EXCAVATION	CU YD	743
20300100	CHANNEL EXCAVATION	CU YD	142
20400800	FURNISHED EXCAVATION	CU YD	546
20700110	POROUS GRANULAR EMBANKMENT	TON	66
28000305	TEMPORARY DITCH CHECKS	FOOT	40
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	130
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	735
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50300225	CONCRETE STRUCTURES	CU YD	18.0
50300280	CONCRETE ENCASEMENT	CU YD	2.8
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1452
50800105	REINFORCEMENT BARS	POUND	3470
* 50900205	STEEL RAILING, TYPE S1	FOOT	124
51201600	FURNISHING STEEL PILES HP12X53	FOOT	273
51202305	DRIVING PILES	FOOT	273
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	0.6
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1

\* Specialty Item

**UTILITIES**

Telephone:  
AT&T  
Phone: 630-573-5450

Electric:  
Tri-County Electric Cooperative, Inc.  
Dennis Ivers  
Phone: 618-244-5151

Water:  
F.M.C. Water Company  
Gary Conant  
618-775-6339

02/10/2012 RAAI #51509

**RHUTASEL and ASSOCIATES, INC.**  
CONSULTING ENGINEERS • LAND SURVEYORS  
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS  
ILLINOIS DESIGN FIRM LICENSE NO. 04-000287

DESIGNED -	GLH	REVISED -	
DRAWN -	JN	REVISED -	
CHECKED -	GLH	REVISED -	
DATE -	01/31/2012	REVISED -	

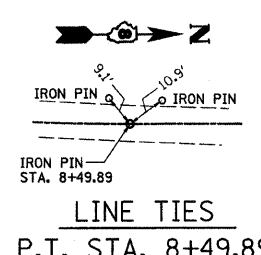
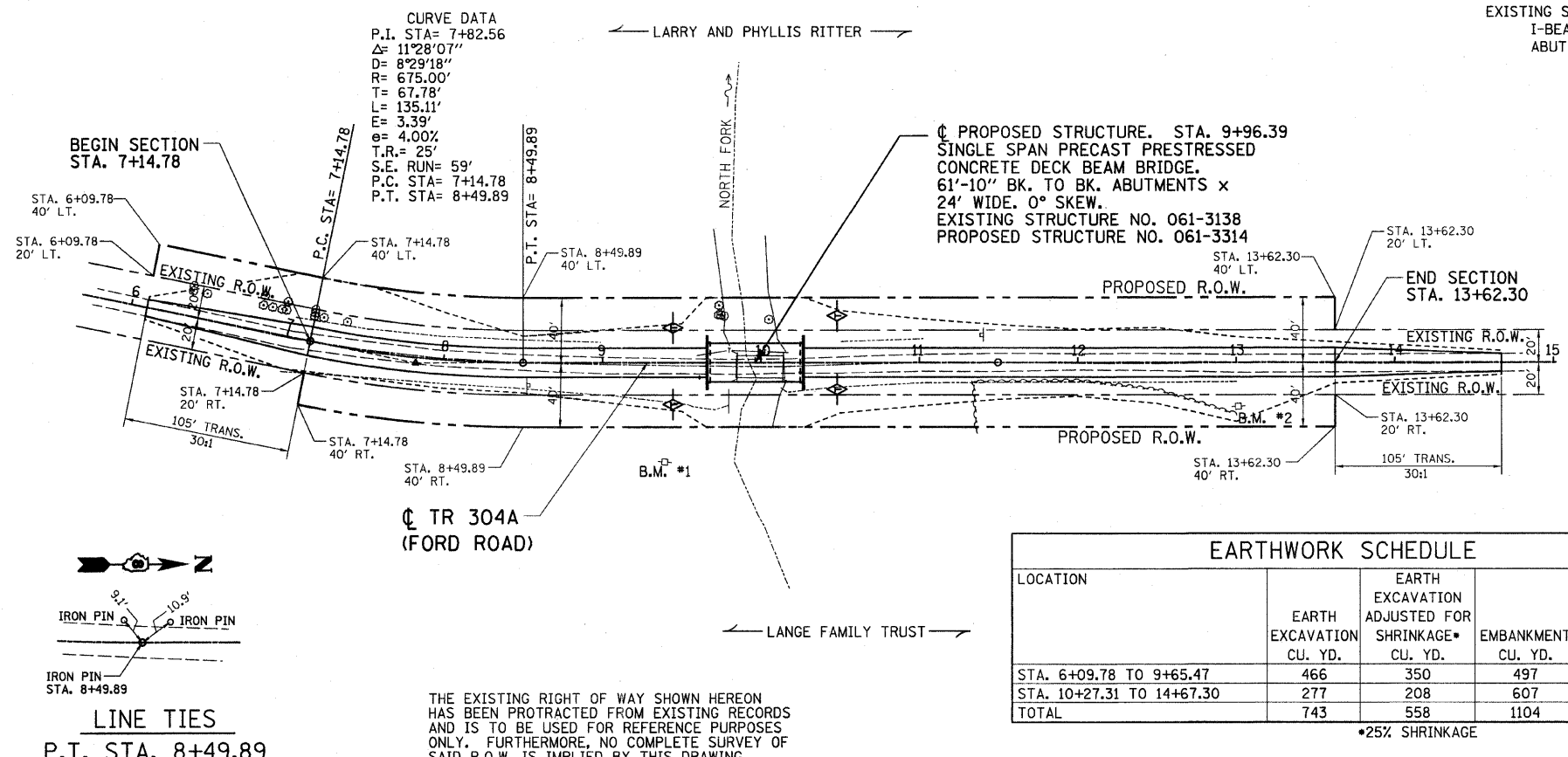
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**SUMMARY OF QUANTITIES, GENERAL NOTES, AND TYPICAL SECTIONS  
STRUCTURE NO. 061-3314**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 304A	09-07116-00-BR	MARION	11	2
			CONTRACT NO. 97491	
ILLINOIS FED. AID PROJECT				

**TREE REMOVAL  
(6 TO 15 UNITS DIAMETER)**

LOCATION	UNIT
STA. 6+35.2, 19.2' LT.	8"
STA. 6+36.5, 16.0' LT.	8"
STA. 6+45.5, 16.1' LT.	6"
STA. 6+81.4, 22.1' LT.	6"
STA. 6+81.5, 16.1' LT.	8"
STA. 6+87.5, 15.9' LT.	6"
STA. 6+93.5, 16.1' LT.	6"
STA. 6+96.4, 21.1' LT.	6"
STA. 6+96.5, 16.1' LT.	6"
STA. 7+14.3, 21.0' LT.	6"
STA. 7+14.5, 16.0' LT.	6"
STA. 7+14.6, 18.0' LT.	6"
STA. 7+20.5, 15.9' LT.	6"
STA. 7+35.5, 16.1' LT.	6"
STA. 9+73.4, 29.5' LT.	10"
STA. 9+73.6, 35.3' LT.	2 AT 8"
STA. 9+73.8, 35.1' LT.	3 AT 6"
STA. 9+74.9, 29.5' LT.	6"
STA. 9+76.9, 28.8' LT.	2 AT 8"
STA. 10+05.0, 26.7' LT.	6"
<b>TOTAL</b>	<b>162</b>

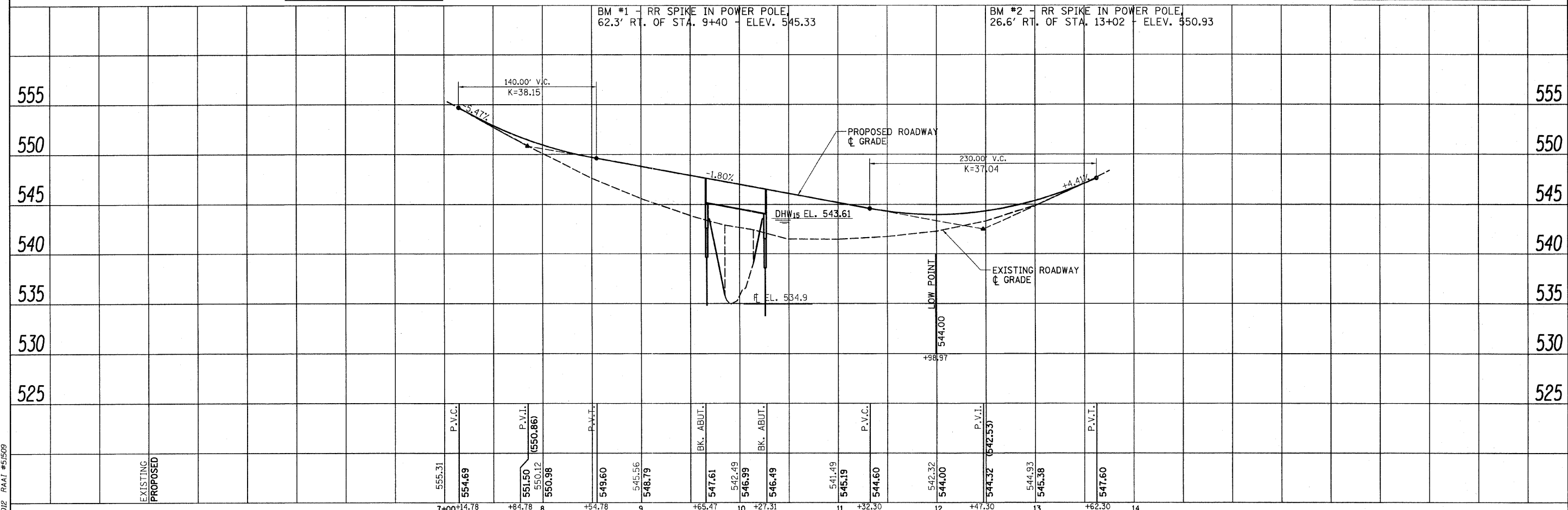


**EARTHWORK SCHEDULE**

LOCATION	EARTH EXCAVATION CU. YD.	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE* CU. YD.	EMBANKMENT CU. YD.	EARTHWORK BALANCE** WASTE (+) OR SHORTAGE (-) CU. YD.
STA. 6+09.78 TO 9+65.47	466	350	497	-147
STA. 10+27.31 TO 14+67.30	277	208	607	-399
<b>TOTAL</b>	<b>743</b>	<b>558</b>	<b>1104</b>	<b>-546</b>

\*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.



DESIGNED	GLH	REVISIED	
DRAWN	JN	REVISIED	
CHECKED	GLH	REVISIED	
DATE	01/31/2012	REVISIED	

**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**PLAN AND PROFILE OF ROADWAY  
STRUCTURE NO. 061-3314**

ROUTE: TR 304A    SECTION: 09-07116-00-BR    COUNTY: MARION    TOTAL SHEETS: 11    SHEET NO.: 3

STA. 6+00 TO STA. 15+00    ILLINOIS FED. AID PROJECT

PLAN

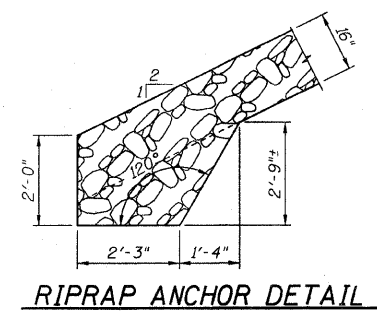
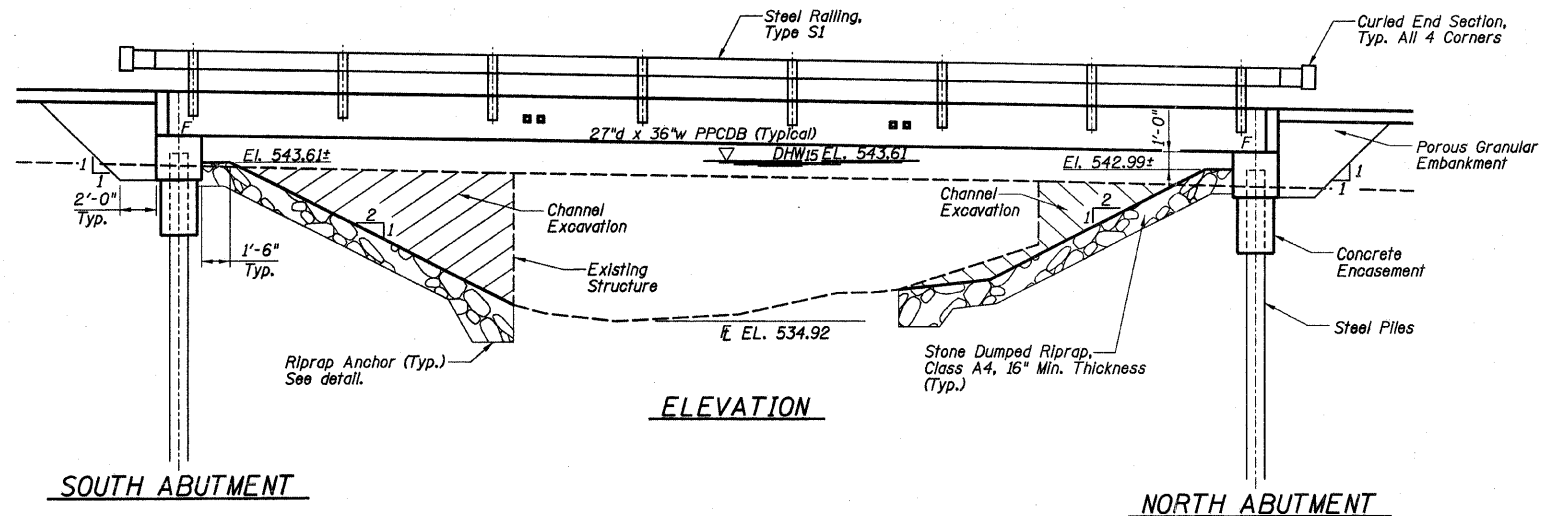
DATE	
BY	
REVISION	
NO.	

PROFILE

DATE	
BY	
REVISION	
NO.	

02/10/2012 RAAI #51509

BM #1 - RR spike in power pole,  
62.3' Rt. of Sta. 9+40 - Elev. 545.33  
BM #2 - RR spike in power pole,  
26.6' Rt. of Sta. 13+02 - Elev. 550.93



**NORTH FORK  
BUILT 201 BY  
MARION COUNTY  
SEC. 09-07116-00-BR  
LOADING HL-93  
STRUCTURE NO. 061-3314**

**BILL OF MATERIALS (BRIDGE ONLY)**

ITEM	UNIT	TOTAL
Channel Excavation	Cu Yd	142
Porous Granular Embankment	Ton	66
Stone Dumped Riprap, Class A4	Ton	130
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	18.0
Concrete Encasement	Cu Yd	2.8
PPCDB (27" Depth)	Sq Ft	1452
Reinforcement Bars	Pound	3470
Steel Ralling, Type S1	Foot	124
Furnishing Steel Piles HP12x53	Foot	273
Driving Piles	Foot	273
Test Pile Steel HP12x53	Each	1
Name Plates	Each	1
Terminal Marker - Direct Applied	Each	4

**NAME PLATE**

(See State Standard 515001 for details)

**LOADING HL-93**

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

**DESIGN SPECIFICATIONS**

2007 (4th Ed.) AASHTO LRFD Bridge Design Specifications, with 2008 & 2009 Interims.

**DESIGN STRESSES**

**FIELD UNITS**

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

**PRECAST PRESTRESSED UNITS**

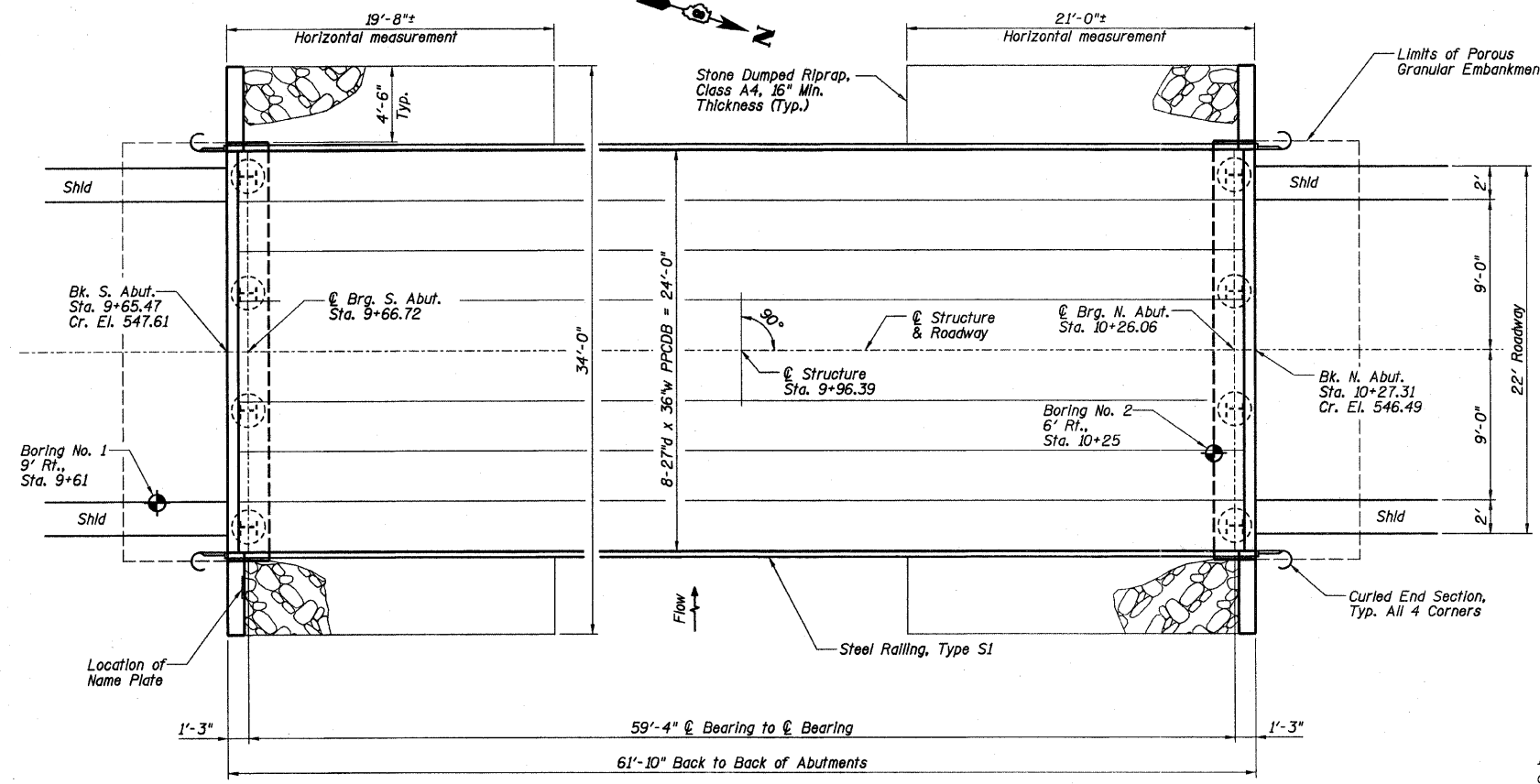
$f'_c = 6,000$  psi  
 $f'_{ci} = 5,000$  psi  
 $f_{pu} = 270,000$  psi ( $1/2$ "  $\phi$  low lax. strands)  
 $f_{pbt} = 201,960$  psi ( $1/2$ "  $\phi$  low lax. strands)  
 $f_y = 60,000$  psi (reinforcement)

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 2  
Soil Site Classification = D  
 $S_{D1} = 0.246$   $S_{D5} = 0.565$

**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,  $1/2$ " fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.



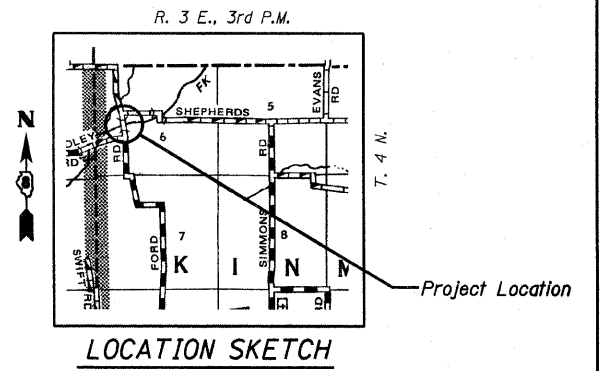
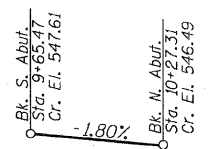
**PLAN**

**WATERWAY DATA**

Drainage Area = 7.49 Sq. Mi. Low Grade Elev. 541.49 @ Sta. 11+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural H.W.E.		Head - Ft.		Headwater El.	
			Exlst.	Prop.	Exlst.	Prop.	Exlst.	Prop.	Exlst.	Prop.
Design	15	1324	189	297	543.61	0.10	0.27	543.71	543.88	
Base	100	2250	189	344	544.52	0.08	0.85	544.60	545.37	
Max. Calc.	500	3010	189	345	545.18	0.07	1.51	545.15	546.59	

**PROFILE GRADE  
ACROSS STRUCTURE**



*Gary L. Hahn*  
Gary L. Hahn  
02-10-2012  
Date of Signing  
11-30-2012  
Date of License Expiration

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.

02/10/2012 RAAI #51509

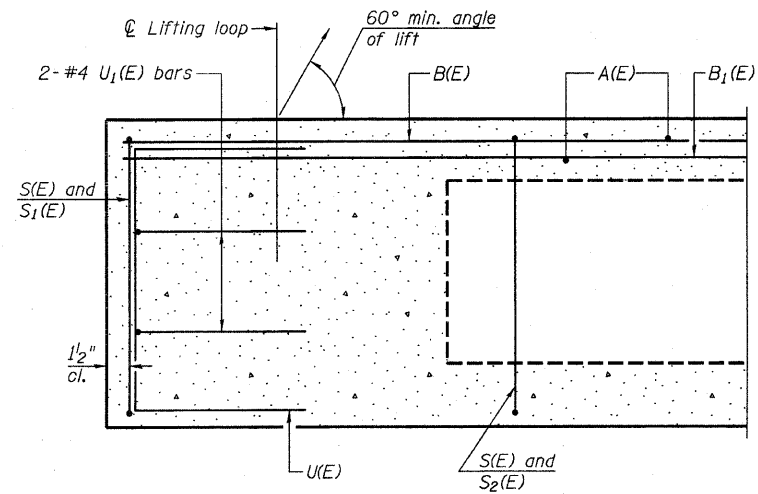
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CENTRALIA, ILLINOIS FREEBURG, ILLINOIS  
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED - GLH	REVISED -
DRAWN - JN	REVISED -
CHECKED - GLH	REVISED -
DATE - 01/31/2012	REVISED -

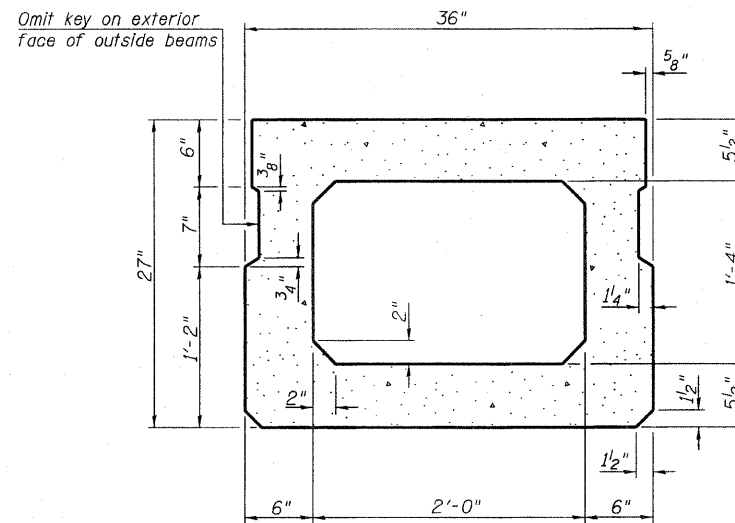
**STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION**

**GENERAL PLAN AND ELEVATION  
STRUCTURE NO. 061-3314**

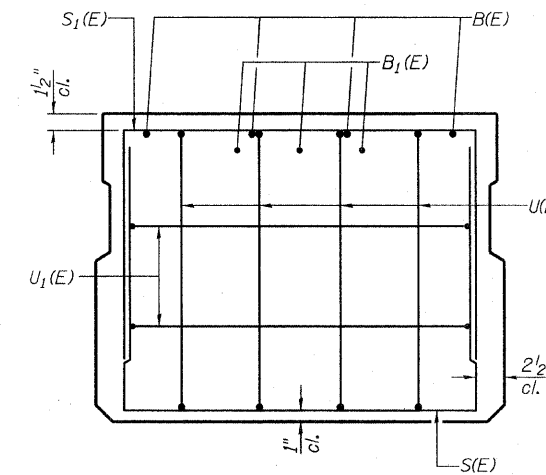
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 304A	09-07116-00-BR	MARION	11	4
CONTRACT NO. 97491				
ILLINOIS FED. AID PROJECT				



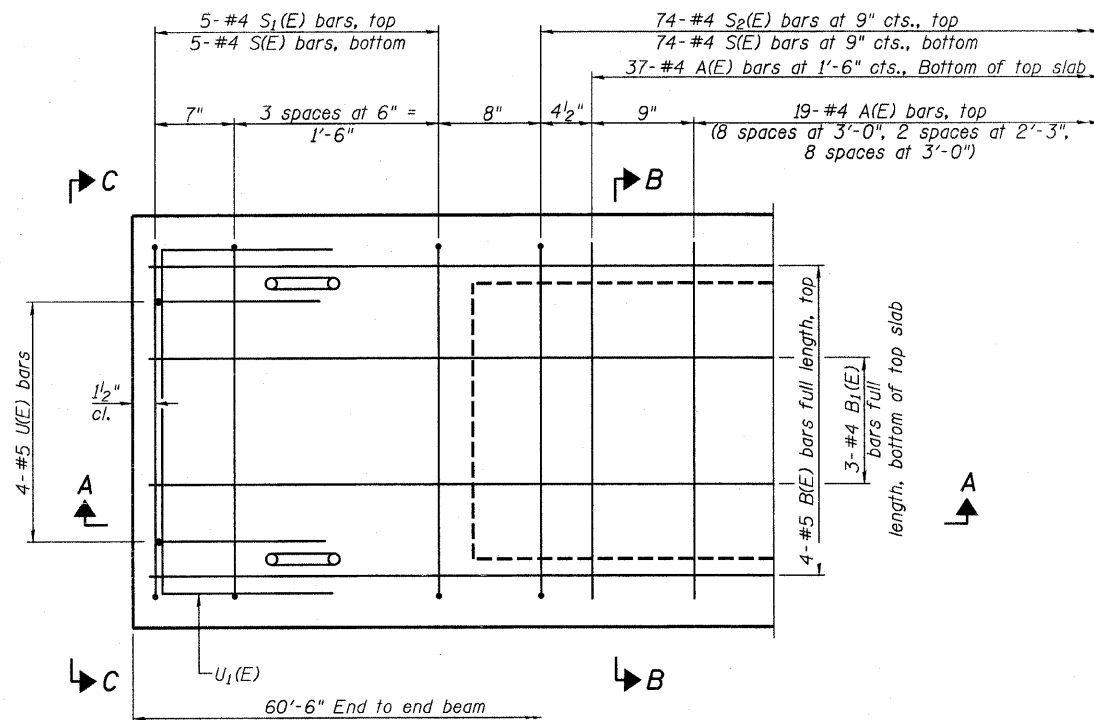
**SECTION A-A**



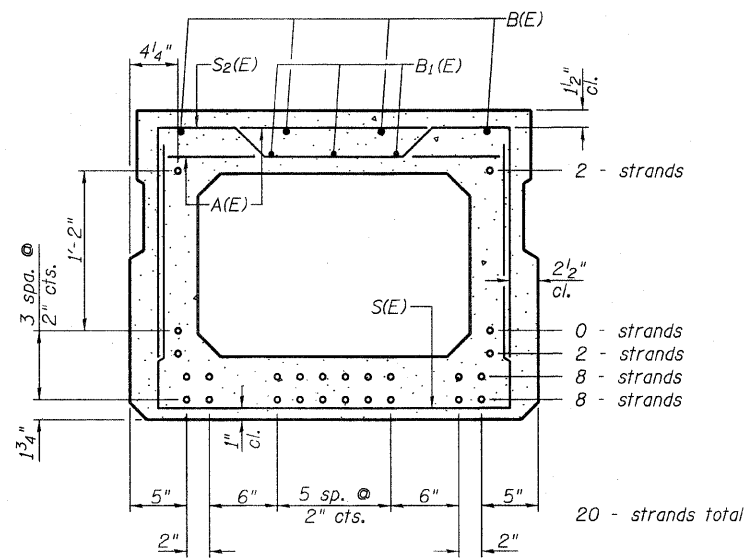
**SECTION B-B**  
(Showing dimensions)



**VIEW C-C**



**PLAN VIEW**



**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)	55	#4	2'-7"	—
B(E)	8	#5	31'-4"	—
B1(E)	9	#4	21'-5"	—
S(E)	84	#4	6'-5"	U
S1(E)	10	#4	5'-11"	U
S2(E)	74	#4	6'-2"	U
U(E)	8	#5	4'-6"	C
U1(E)	4	#4	5'-0"	C

Note: See Sheet 6 of 11 for additional details and Bill of Material.

**MINIMUM BAR LAP**

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

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.

02/10/2012 RAAI #51508

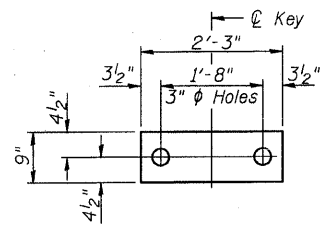
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CENTRALIA, ILLINOIS      FREEBURG, ILLINOIS  
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

DESIGNED -	GLH	REVISED -	
DRAWN -	JN	REVISED -	
CHECKED -	GLH	REVISED -	
DATE -	02/10/2012	REVISED -	

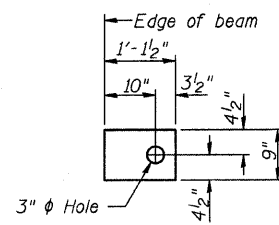
**STATE OF ILLINOIS**  
**DEPARTMENT OF TRANSPORTATION**

**PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS**  
**STRUCTURE NO. 061-3314**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 304A	09-07116-00-BR	MARION	11	5
CONTRACT NO. 97491				
ILLINOIS FED. AID PROJECT				



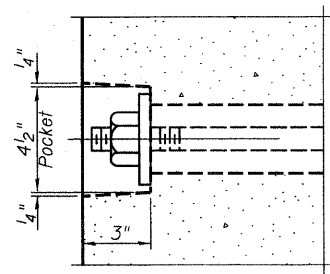
**FABRIC BEARING PAD**  
(Interior)



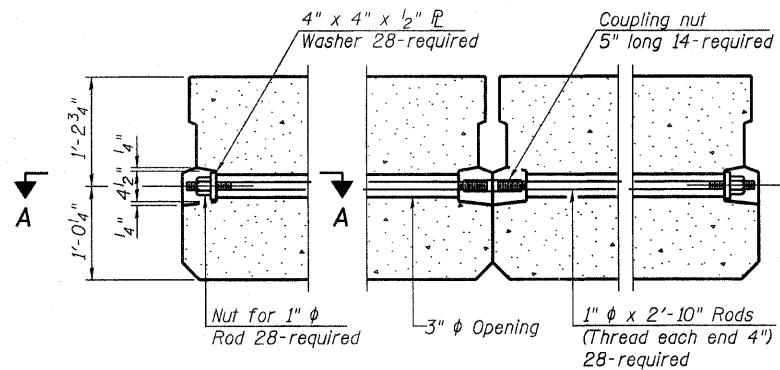
**FABRIC BEARING PAD**  
(Exterior)

**FIXED**

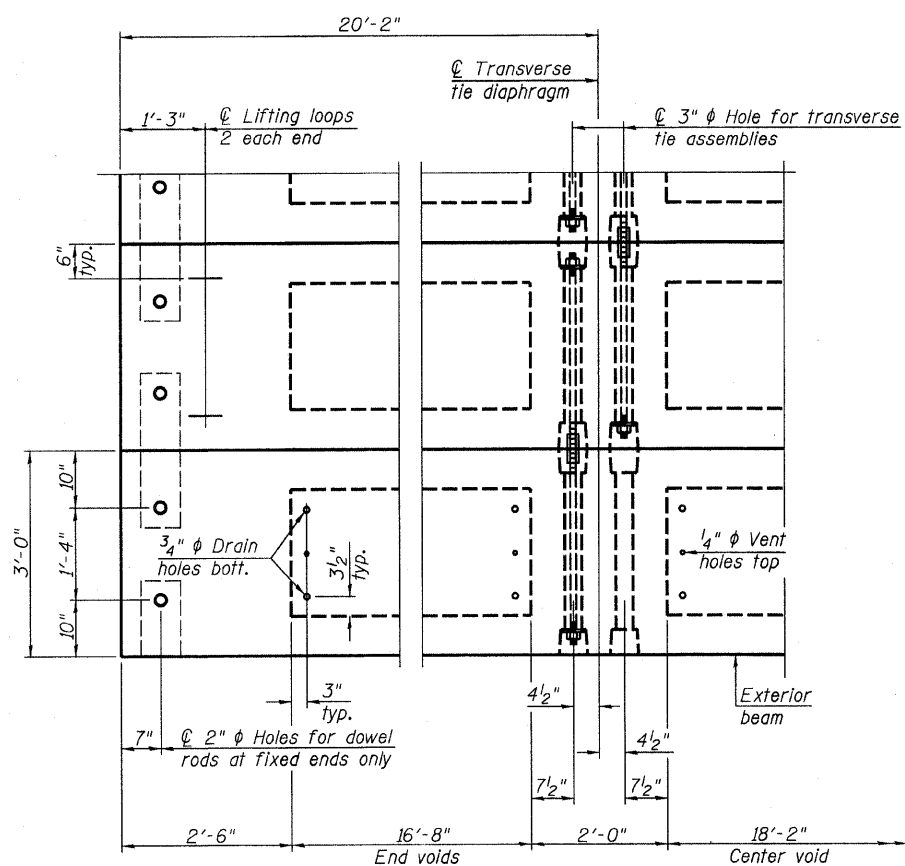
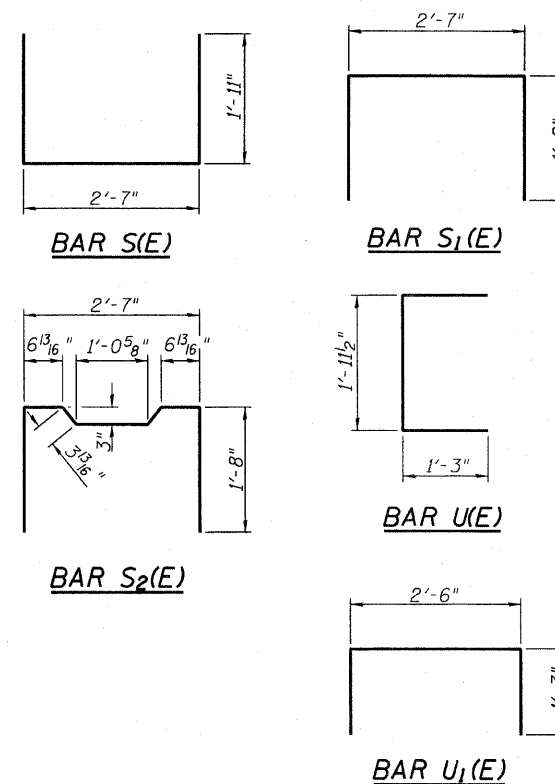
Note: All bearing pads shall be 1" thick.



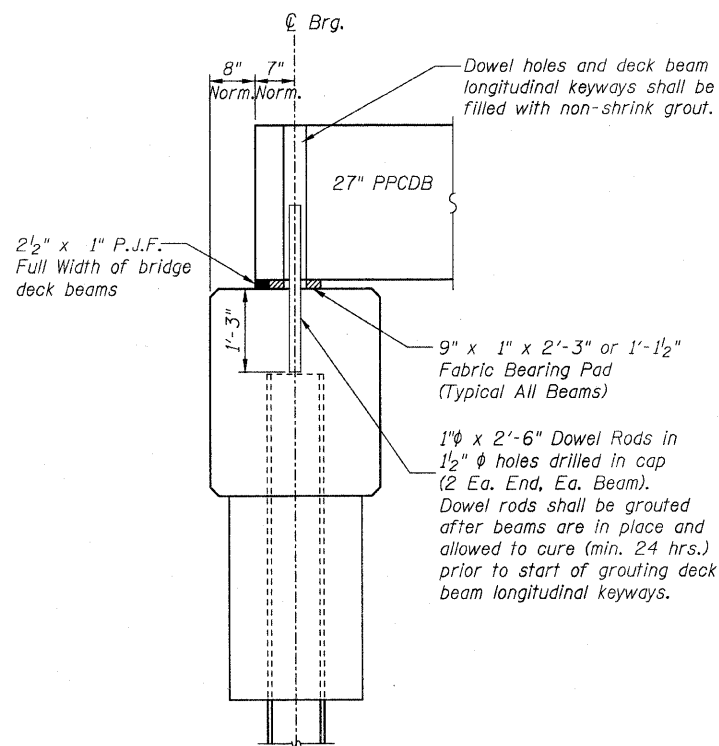
**SECTION A-A**



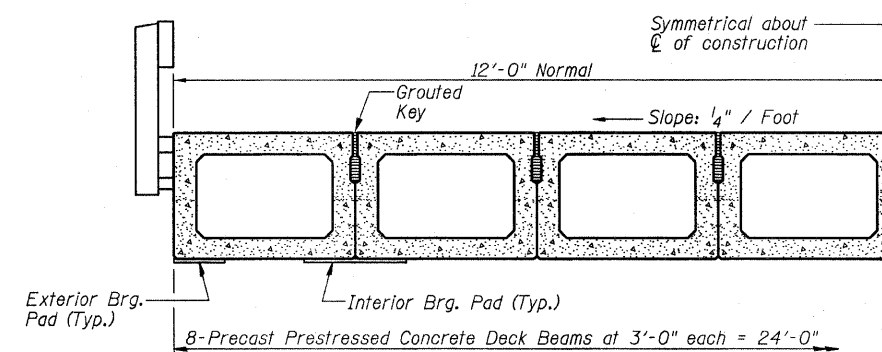
**TYPICAL TRANSVERSE TIE ASSEMBLY**



**PLAN VIEW**



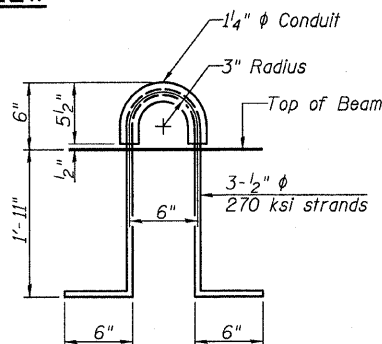
**FIXED BEARING ABUTMENT**



**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 inch and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" diameter 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 (IL Modified), Grade 60.
- 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.	1452
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ILLINOIS DESIGN FIRM LICENSE NO. 184-000287

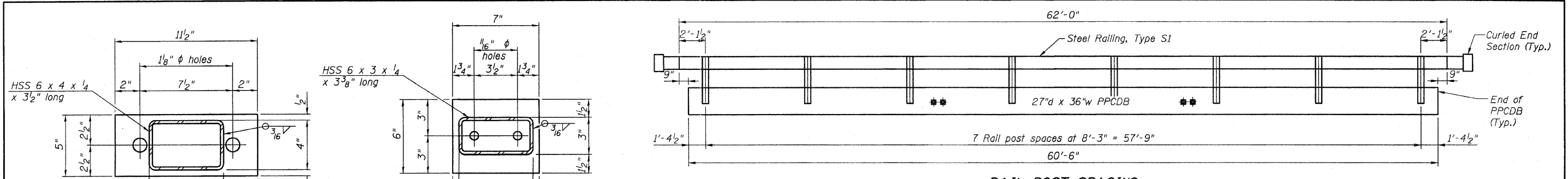
DESIGNED - GLH	REVISED -
DRAWN - JN	REVISED -
CHECKED - GLH	REVISED -
DATE - 02/10/2012	REVISED -

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

**PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS**  
**STRUCTURE NO. 061-3314**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 304A	09-07116-00-BR	MARION	11	6
CONTRACT NO. 97491				

ILLINOIS FED. AID PROJECT

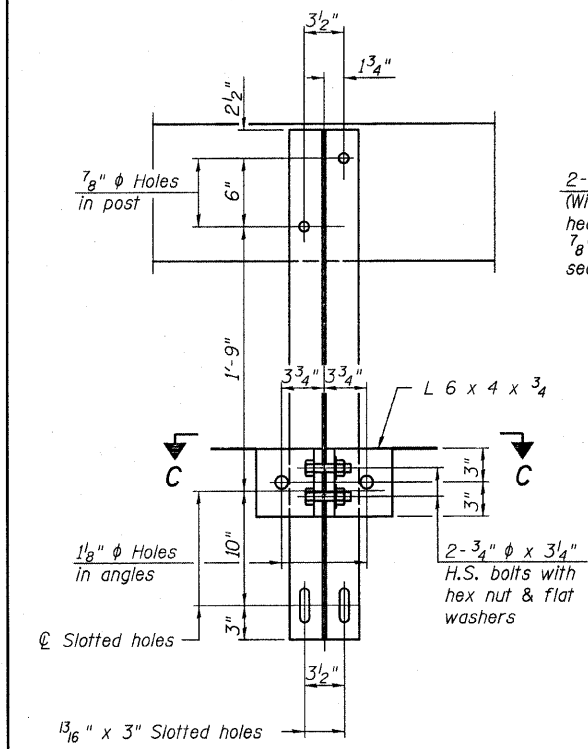


**RAIL POST SPACING**

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.

**P 1/2" x 11 1/2" x 5"**

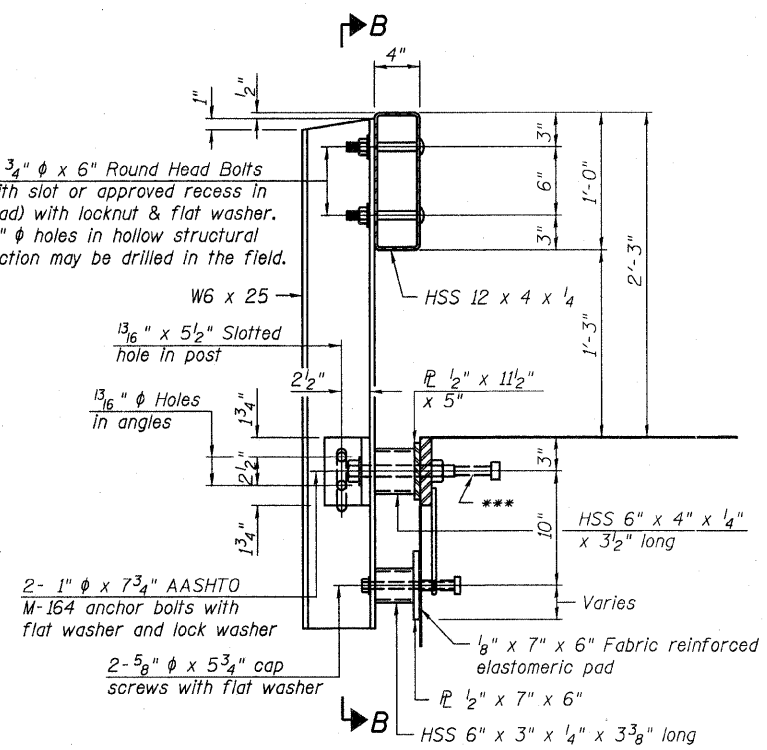
**P 1/2" x 7" x 6"**



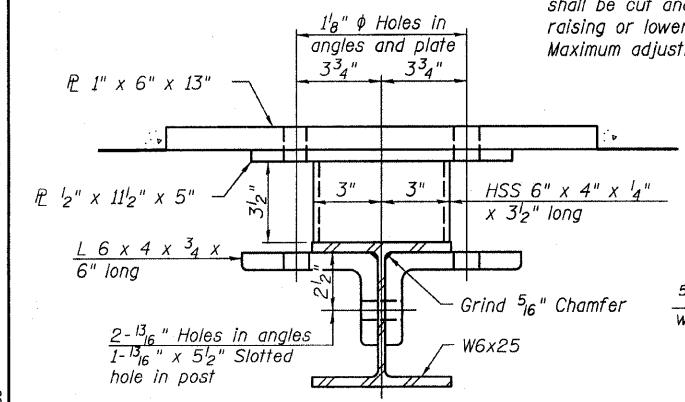
**SECTION B-B**

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.

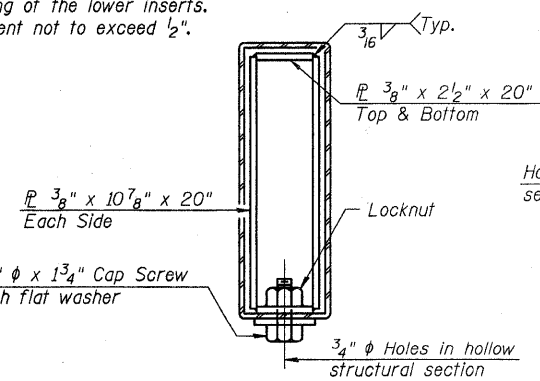
\*\* Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



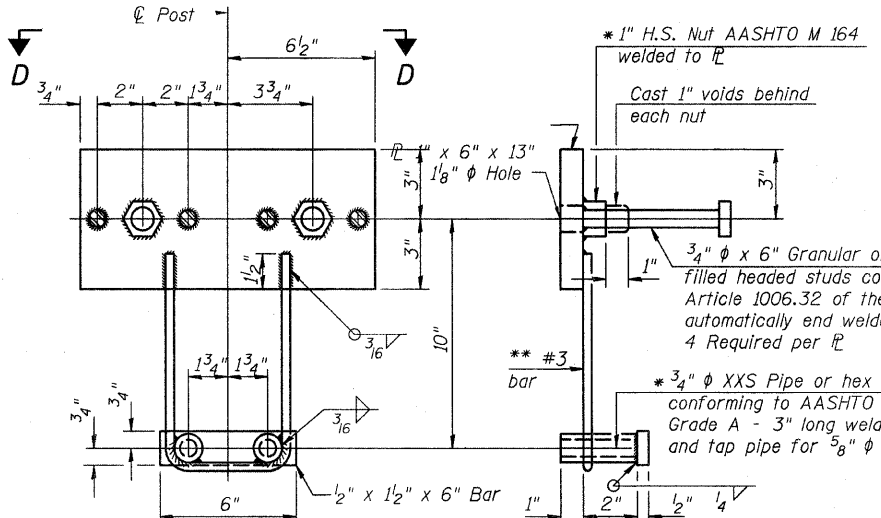
**SECTION AT RAILING POST**



**SECTION C-C**

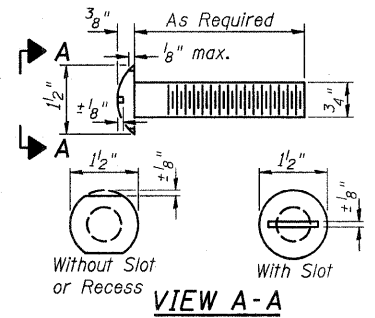


**SECTIONS AT RAIL SPLICE**

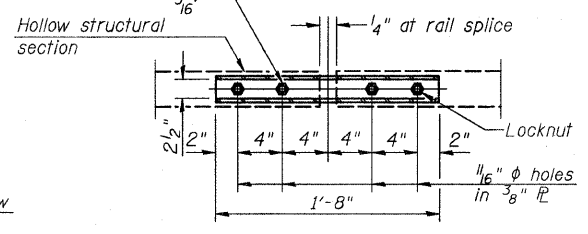


**ANCHOR DEVICE**

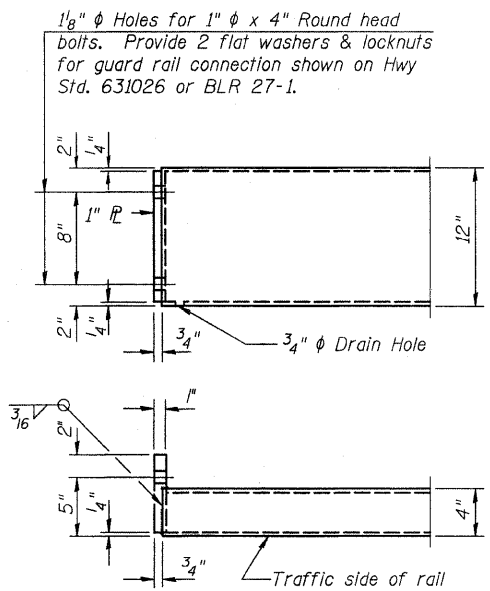
\* Threaded areas shall be plugged or blocked off during casting of beam.



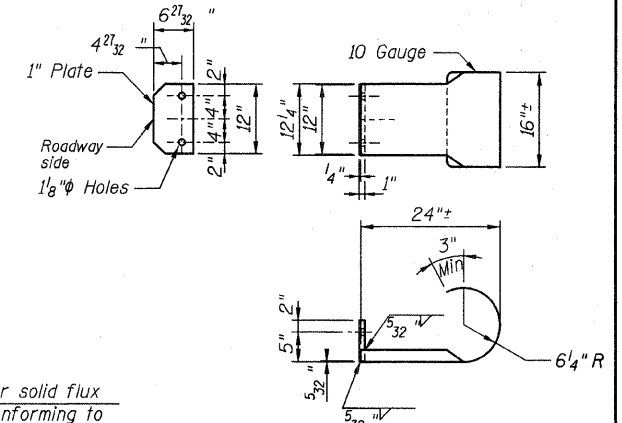
**VIEW A-A ROUND HEAD BOLT**



**PLAN-BOTT. SPLICE P TYPICAL**

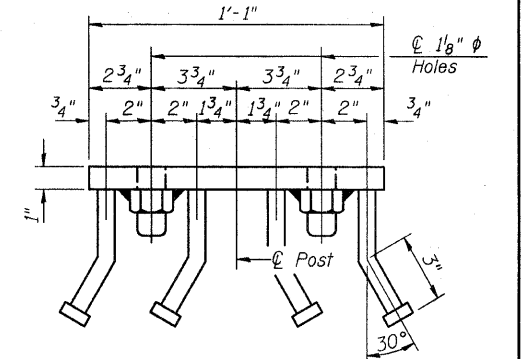


**END OF RAIL DETAILS**



**CURLED END SECTION DETAILS**

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	124

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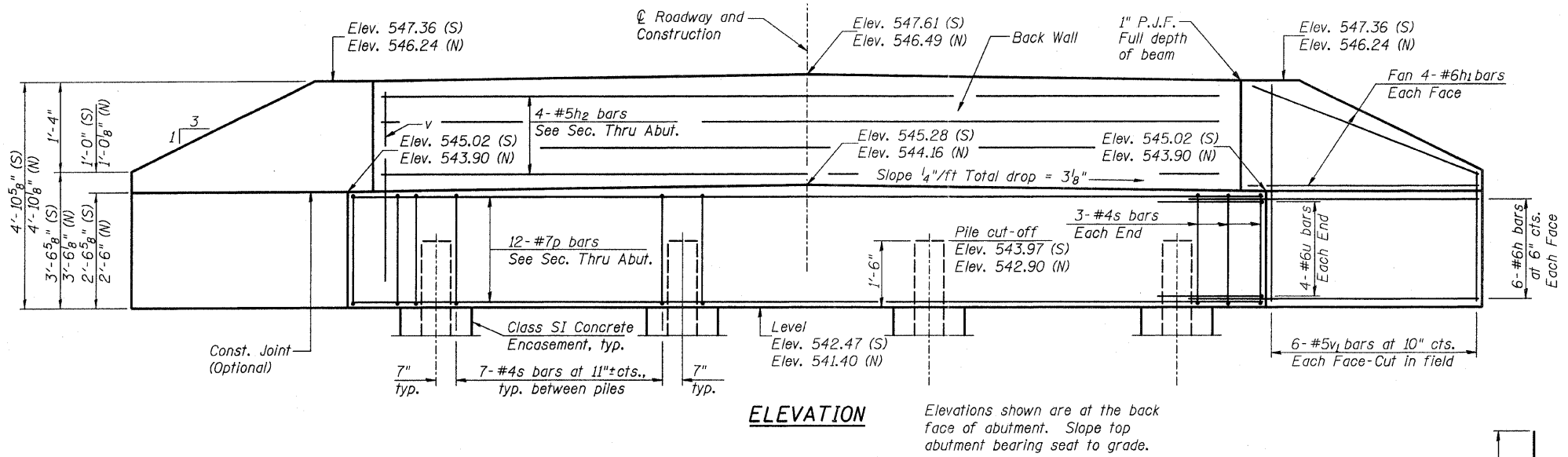
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DATE - 02/10/2012	REVISED -

**STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION**

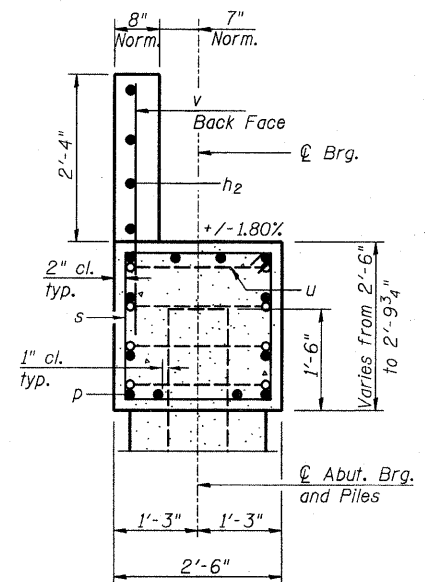
**STEEL RAILING, TYPE S1 DETAILS  
 STRUCTURE NO. 061-3314**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 304A	09-07116-00-BR	MARION	11	7
CONTRACT NO. 97491				
ILLINOIS FED. AID PROJECT				

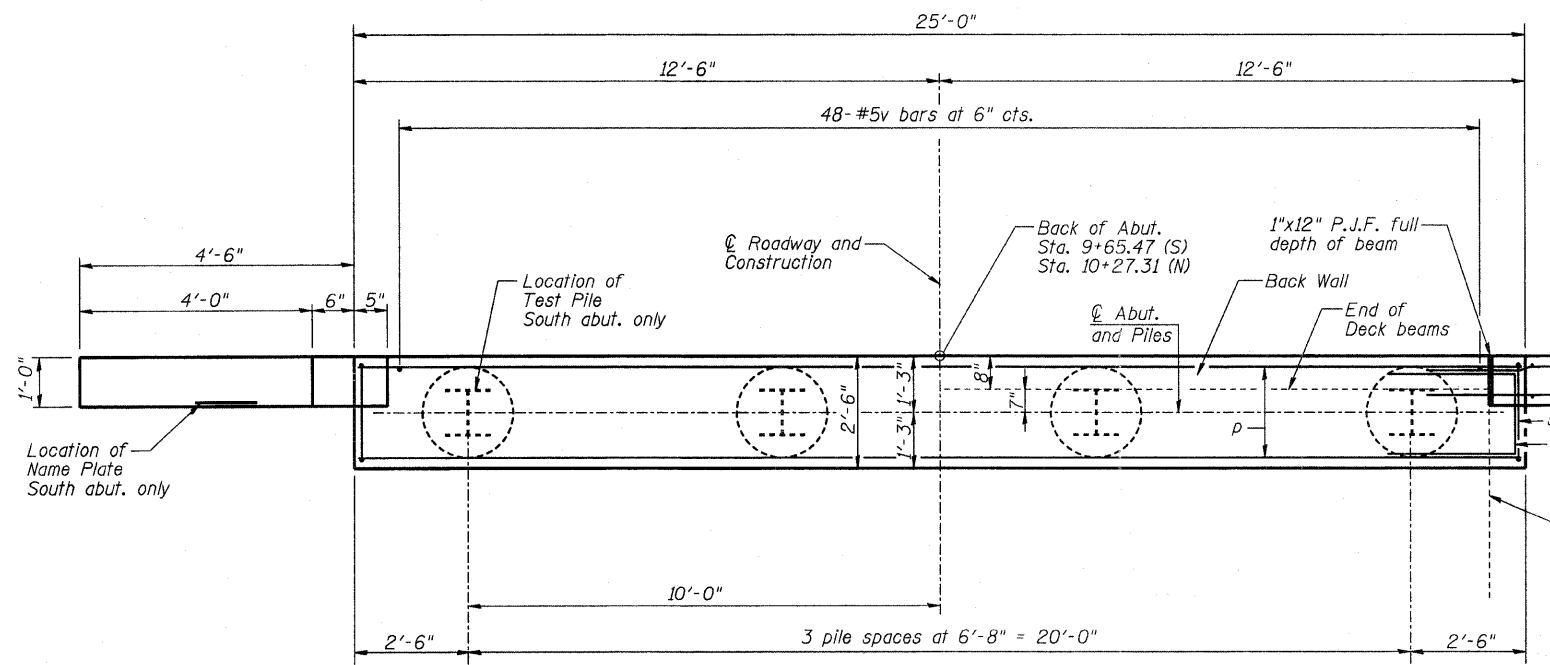


**ELEVATION**

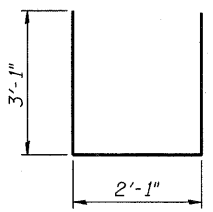
Elevations shown are at the back face of abutment. Slope top abutment bearing seat to grade.



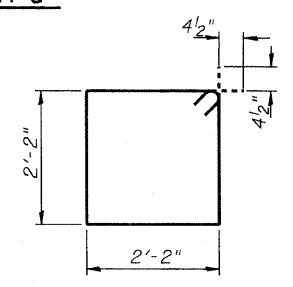
**SEC. THRU ABUT.**  
(Normal to  $\phi$ )



**PLAN**



**BAR u**



**BAR s**

**BILL OF MATERIAL FOR ONE ABUTMENT**

Bar	No.	Size	Length	Shape
h	24	#6	8'-0"	—
h1	16	#6	4'-9"	—
h2	4	#5	23'-8"	—
p	12	#7	24'-8"	—
s	27	#4	9'-5"	□
u	8	#6	8'-3"	—
v	48	#5	4'-3"	—
v1	24	#5	4'-6"	—
				CUT IN FIELD
Concrete Structures			Cu. Yd.	9.0
Reinforcement Bars			Pound	1700
Furnishing Steel			Foot	S. Abut. 117
Piles, HP12x53			Foot	N. Abut. 156
Driving Piles			Foot	S. Abut. 117
Test Pile, Steel HP12x53			Each	S. Abut. 1
Concrete Encasement			Cu Yd	1.4

For details of piles and Concrete Encasement, see Sheet 9 of 11.

**EXTRA BARS FOR TEST SAMPLES**

Bar	No.	Size	Length	Shape
s	1	#4	9'-5"	□
v	1	#5	4'-3"	—
h1	1	#6	4'-9"	—
p	1	#7	24'-8"	—
Reinforcement Bars			Pound	70

These bars shall be identical to and delivered with the bars of the same mark listed on the bridge sheets. One bar of each of these marks will be selected by the Engineer to be used as a test sample. This chart assumes that all bars of the same size on the job will have the same heat numbers. If bars of the same size on the job have different heat numbers, then the Contractor shall supply additional bars from other heat numbers for sampling by the Engineer at no additional cost.

The weight of these extra bars has been included in the Summary of Quantities for the project.

**PILE DATA SOUTH ABUTMENT**

Type: Steel HP12x53  
 Nominal Required Bearing: 418 kips  
 Allowable Resistance Available: 224 kips  
 Estimated Length: 39'/pile  
 No. Production Piles: 3  
 No. Test Piles: 1

**PILE DATA NORTH ABUTMENT**

Type: Steel HP12x53  
 Nominal Required Bearing: 418 kips  
 Allowable Resistance Available: 184 kips  
 Estimated Length: 39'/pile  
 No. Production Piles: 4  
 No. Test Piles: 0

**GENERAL NOTES**

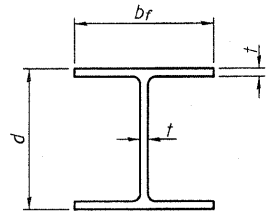
- All exposed edges shall have standard 3/4" chamfer, unless otherwise noted.
- Reinforcement bars shall conform to ASTM A 706 (IL Modified), Grade 60.
- All clearances between rebar and form surface shall be 2", unless otherwise noted.
- Space reinforcement in cap to miss PPCDB dowel rods.
- The Steel H-piles shall be according to AASHTO M270 Grade 50.
- The Contractor shall drive one (1) Steel HP12x53 Test Pile in a production location at the South abutment 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.

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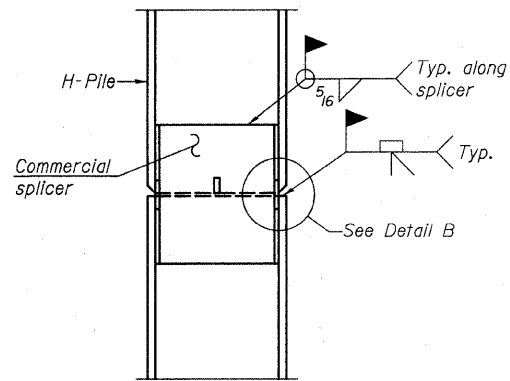
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 304A	09-07116-00-BR	MARION	11	8
CONTRACT NO. 97491				
ILLINOIS FED. AID PROJECT				



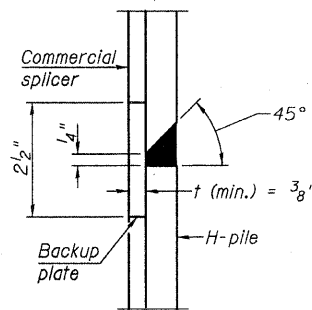


**STEEL PILE TABLE**

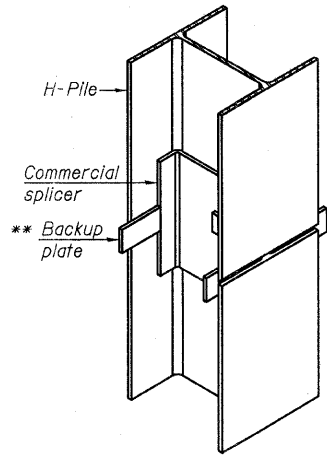
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11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

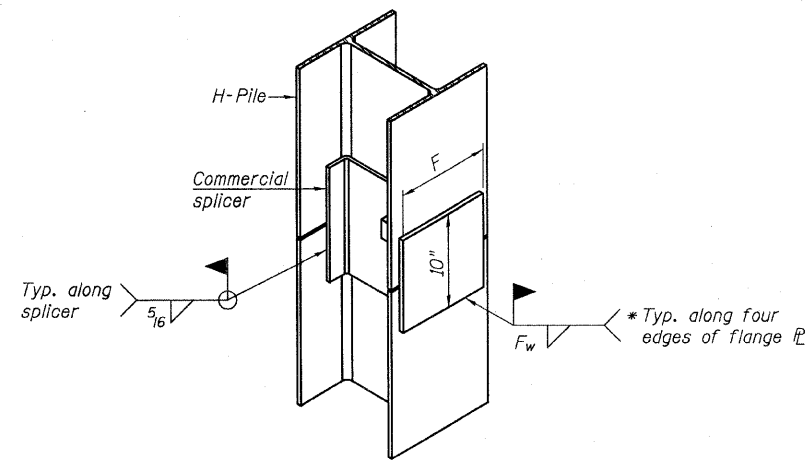


**DETAIL "B"**



**ISOMETRIC VIEW**

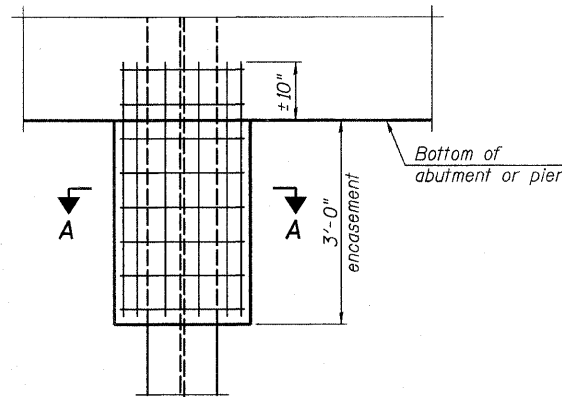
**WELDED COMMERCIAL SPLICE**



**ISOMETRIC VIEW**

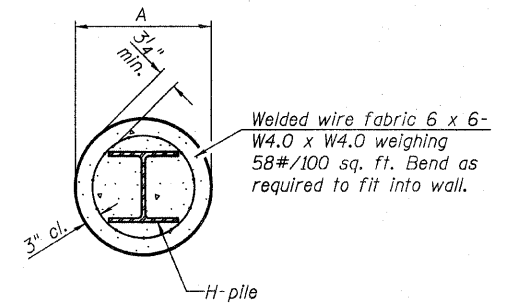
**WELDED COMMERCIAL SPLICE ALTERNATE**

- \* 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.).



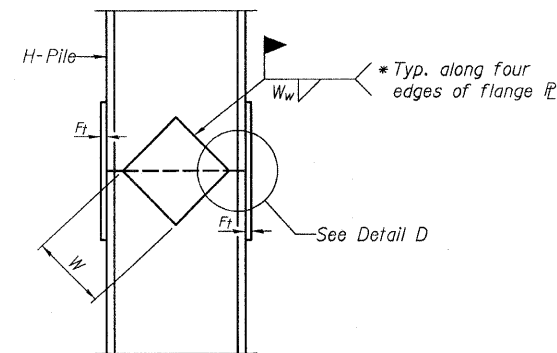
**ELEVATION**

**PILE ENCASEMENT**

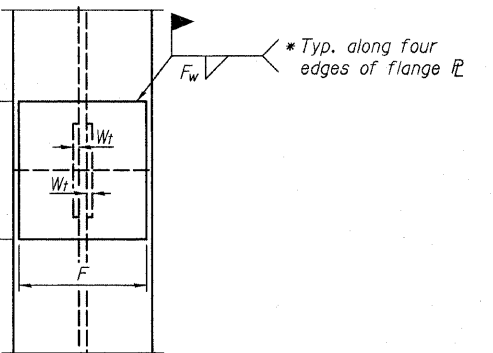


**SECTION A-A**

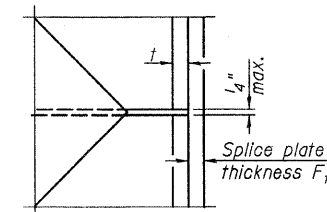
Note:  
Forms for encasement may be omitted when soil conditions permit.



**ELEVATION**



**END VIEW**

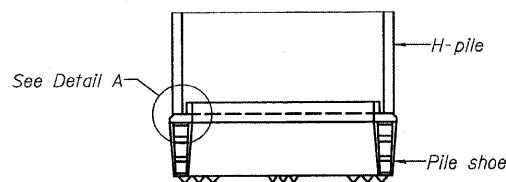


**DETAIL D**

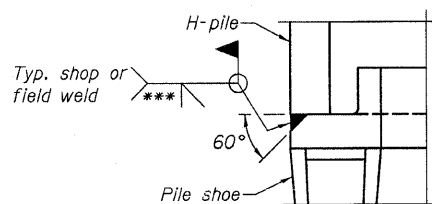
**WELDED PLATE FIELD SPLICE**

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"

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



**ELEVATION**



**DETAIL A**

**H-PILE SHOE ATTACHMENT**

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DRAWN - JN	REVISED -
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DATE - 02/10/2012	REVISED -

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

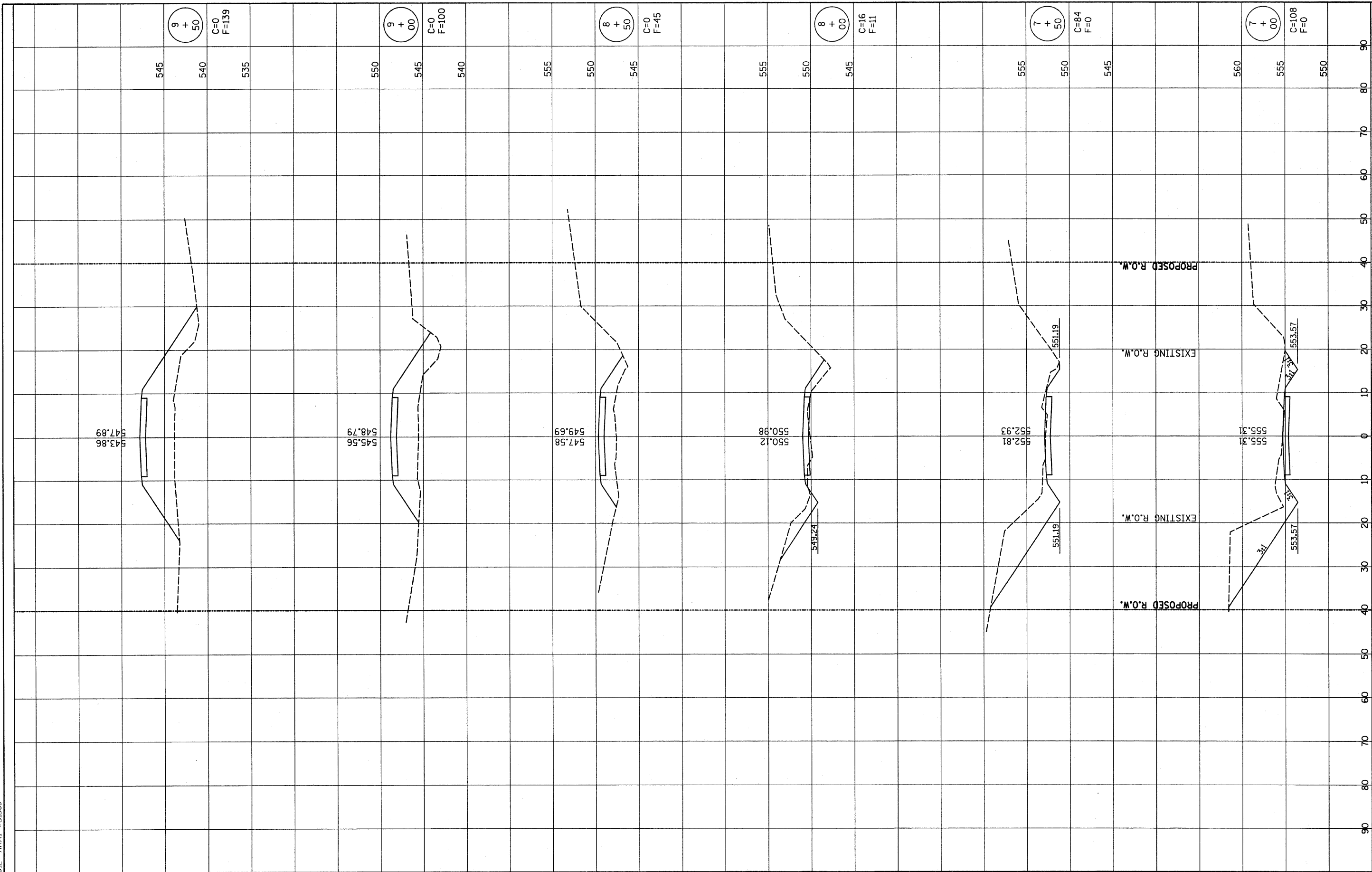
**HP PILE DETAILS**  
**STRUCTURE NO. 061-3314**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 304A	09-07116-00-BR	MARION	11	9
CONTRACT NO. 97491				
ILLINOIS FED. AID PROJECT				

FINAL SURVEY	SURVEYED	DATE
NOTE BOOK	BY	
NO.	DATE	
	AREAS CHECKED	

ORIGINAL SURVEY	SURVEYED	DATE
NOTE BOOK	BY	
NO.	DATE	
	AREAS CHECKED	

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CHECKED -	GLH	REVISED -	
DATE -	02/10/2012	REVISED -	

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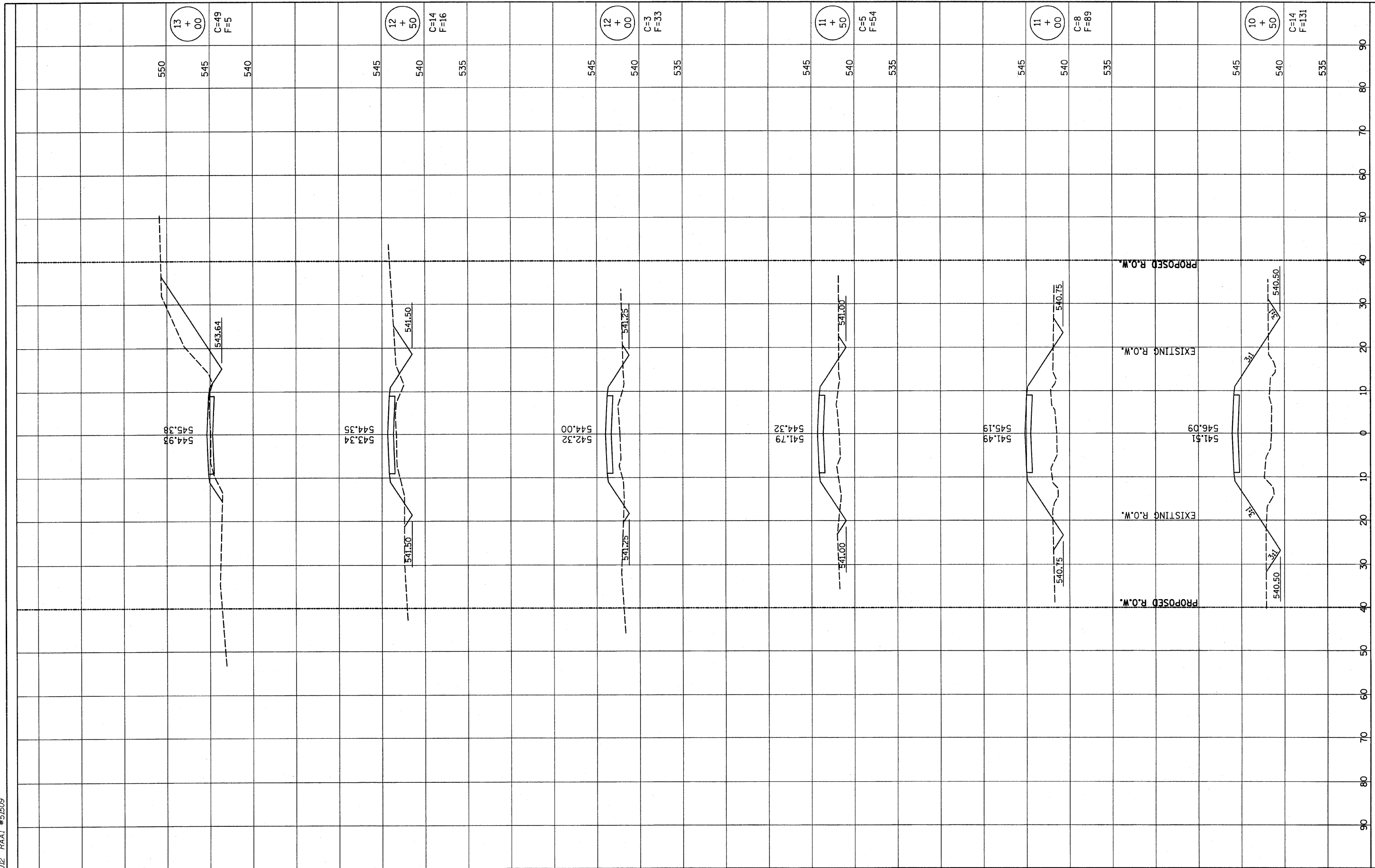
**CROSS SECTIONS OF ROADWAY**  
**STRUCTURE NO. 061-3314**  
 STA. 7+00 TO STA. 9+50

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 304A	09-07116-00-BR	MARION	11	10
CONTRACT NO. 97491				
ILLINOIS FED. AID PROJECT				

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

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

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DRAWN -	JN	REVISED -	
CHECKED -	GLH	REVISED -	
DATE -	02/10/2012	REVISED -	

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

**CROSS SECTIONS OF ROADWAY**  
**STRUCTURE NO. 061-3314**

STA. 10+50 TO STA. 13+00

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 304A	09-07116-00-BR	MARION	11	11
			CONTRACT NO. 97491	
ILLINOIS FED. AID PROJECT				